



Universiteit
Leiden
The Netherlands

Liko phonology and grammar : a Bantu language of the Democratic Republic of the Congo

Wit, G. de

Citation

Wit, G. de. (2015, November 5). *Liko phonology and grammar : a Bantu language of the Democratic Republic of the Congo*. LOT dissertation series. LOT, Utrecht. Retrieved from <https://hdl.handle.net/1887/36066>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/36066>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/36066> holds various files of this Leiden University dissertation

Author: Wit, Gerrit de

Title: Liko phonology and grammar : a Bantu language of the Democratic Republic of the Congo

Issue Date: 2015-11-05

Liko Phonology and Grammar

**A Bantu language
of the Democratic Republic of the Congo**

Published by

LOT

Trans 10

3512 JK Utrecht

The Netherlands

phone: +31 30 253 6111

e-mail: lot@uu.nl

<http://www.lotschool.nl>

Cover illustration: *Emile Tinda Nangaa and Lydie Bisiabu Nema* (Gerrit de Wit)

ISBN: 978-94-6093-192-5

NUR 616

Copyright © 2015: Gerrit de Wit. All rights reserved.

Liko Phonology and Grammar

A Bantu language of the Democratic Republic of the Congo

Proefschrift
ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op donderdag 5 november 2015
klokke 16:15 uur
door

Gerrit de Wit

geboren te Ridderkerk, Nederland
in 1963

Promotores

Promotor Prof. dr. M.P.G.M. Mous

Co-promotor Dr. C. Kutsch Lojenga

Promotiecommissie

Prof. dr. M.A.F. Klamer

Dr. J. Maniacky

Prof. dr. A. Motinga Mangulu

Table of Contents

Acknowledgements

Symbols and Abbreviations

1	Introduction	1
1.1	Language and speakers	1
1.2	Linguistic context	4
1.3	Dialects	6
1.4	Language use and attitudes	9
1.5	Research context	10
1.6	Previous studies	11
1.7	This book	14
1.8	Conventions	19
2	Phonological Structure	21
2.1	Introduction	21
2.2	Consonants	22
2.2.1	Inventory of consonants	22
2.2.2	Consonantal contrasts	25
2.2.3	Airstream mechanisms	37
2.2.4	Manner of articulation	38
2.2.5	Place of articulation	40
2.2.6	Complex consonants	40
2.3	Vowels	44
2.3.1	Inventory of vowels	44
2.3.2	Vocalic contrasts	45
2.4	Syllable structure	48
2.5	Word structure	54
2.5.1	Nouns	54
2.5.2	Verbs	55
2.5.3	Restrictions on consonants and vowels	57
3	Vowel Harmony and Phonological Processes	65
3.1	Introduction	65
3.2	ATR vowel harmony	66

3.2.1	ATR contrast in roots	67
3.2.2	[+ATR] dominance	68
3.2.2.1	[+ATR] spreading from roots	68
3.2.2.2	[+ATR] spreading from suffixes	72
3.2.2.3	The domain of [+ATR] spreading	76
3.2.2.4	[+ATR] and loanwords	86
3.2.3	The vowel /a/	87
3.2.3.1	The vowel /a/ in [+ATR] noun stems	87
3.2.3.2	The vowel /a/: opaque and transparent?	89
3.2.3.3	The vowel /a/ in noun-class prefixes	90
3.2.4	[−ATR] enclitics	93
3.2.4.1	Negative -gu and Supplicative -no	93
3.2.4.2	The Insistive enclitic -tɔ́	96
3.2.4.3	Noun-class enclitics	102
3.2.5	Conclusion	106
3.3	Vowel Sandhi	108
3.3.1	V ₁ -elision	109
3.3.2	Height coalescence: low + high	114
3.3.3	Height coalescence: high + low	116
3.3.4	Heterosyllabification	116
3.3.5	Desyllabification	118
4	Tone	121
4.1	Introduction	121
4.2	Tone inventory	123
4.3	Tone contrasts	125
4.3.1	Lexical tone contrasts	126
4.3.2	Grammatical tone contrasts	128
4.4	Tone patterns	129
4.4.1	Tone patterns on nouns	129
4.4.2	Tone patterns on verbs	134
4.5	Depressor consonants	135
4.6	Tone rules	141
4.6.1	H-tone spreading	142
4.6.2	Reassociation of LH tones	148
4.6.3	Association of floating tones	149

4.6.4	L-tone deletion	153
4.6.5	Non-automatic downstep	154
4.6.6	Repairing would-be violations of the OCP	164
4.6.7	Polar tone	168
4.7	Conclusion	169
5	Nouns, Adjectives, Nominal Modifiers and Numerals	173
5.1	Nouns	173
5.1.1	Noun classes	173
5.1.2	Noun-class enclitics	200
5.1.3	Noun-class pairing	205
5.1.4	Noun-class mergers and near mergers	210
5.1.5	Noun classes and semantic domains	211
5.1.6	Loanwords	212
5.1.7	Noun-to-noun derivation	216
5.1.8	Compounds	217
5.2	Adjectives	219
5.2.1	Adjectives and adjective prefixes	219
5.2.2	Derivation to other word classes	226
5.3	Nominal modifiers	227
5.3.1	Nominal modifiers	227
5.3.2	Associative constructions	233
5.3.3	Derivation to nouns and verbs	234
5.4	Numerals	235
5.4.1	Numerals which take enumerative prefixes	235
5.4.2	Numerals without enumerative prefixes	238
5.4.3	Ordinals	238
5.4.4	Gestures for numbers	239
5.4.5	Quantifiers	241
6	Pronominal Forms, Invariables and Expressions	245
6.1	Pronominal substitutes and demonstratives	245
6.1.1	Pronominal substitutes and participant pronouns	245
6.1.2	Demonstratives	249
6.1.2.1	Underlying and surface tone	250
6.1.2.2	Semantics and use	256

6.2	Possessive pronouns and genitival constructions	263
6.2.1	Possessive pronouns	263
6.2.2	Genitival constructions	264
6.3	Invariables	265
6.3.1	Prepositions	266
6.3.2	Question words	269
6.3.3	Adverbials	271
6.3.4	Ideophones	279
6.3.4.1	Use of ideophones as modifiers	284
6.3.5	Interjections and exclamations	286
6.4	Expressions of time, location and manner	287
7	Verbs	293
7.1	Introduction	293
7.2	The structure of the verb form	294
7.3	Verb radical (root)	295
7.4	Subject prefix (SM position)	297
7.5	Object and reflexive prefixes (OM position)	300
7.5.1	Object prefixes	300
7.5.2	Reflexive prefix	306
7.6	TAM (tense/aspect/mood) melodies	309
7.7	Tense and Aspect	317
7.7.1	Post-verbal time adverbials	317
7.7.2	TA position	320
7.7.3	Final vowel	323
7.7.4	Post-FV position	329
7.7.5	Auxiliaries	338
7.8	Negation (NEG, final vowel and post-FV position)	342
7.9	Subjunctive, Imperative and Hortative	344
7.9.1	Subjunctive	344
7.9.2	Imperative	348
7.9.3	Hortative	353
7.9.4	Negative Subjunctive	353
7.10	Conditional	356
7.11	Extensions	362
7.11.1	Causative extension -is-	363

7.11.2	Applicative extension -i-	368
7.11.3	Benefactive extension -ɫi-	370
7.11.4	Resultative extension -ɫi-	373
7.11.5	Neuter extension -tk-	374
7.11.6	Associative extension -an-	375
7.11.7	Pluractional extension -ag-	377
7.11.8	Combinations of extensions	382
7.11.9	Expansion	385
7.12	Derivation to nouns, adjectives and adverbs	386
7.12.1	Verb-to-noun derivation	386
7.12.2	Verb-to-adjective derivation	392
7.12.3	Verb-to-adverb derivation	394
7.13	To be	395
8	Topics in Syntax	399
8.1	Introduction	399
8.2	Verb valency and object agreement	400
8.2.1	One-place verbs	401
8.2.2	Two-place verbs	402
8.2.3	Three-place verbs	403
8.2.4	Derived two and three-place verbs	404
8.2.5	Object agreement	407
8.2.6	Passive	410
8.2.7	Locatives	414
8.3	Word order	415
8.3.1	Clause structure	415
8.3.2	Non-verbal clauses	421
8.4	Relative clauses	425
8.5	Interrogative sentences	433
8.6	Information structure	443
8.6.1	New information	444
8.6.2	Contrast	450
8.6.3	Left-dislocation for participant activation	456
8.6.4	External topicalization	460
8.7	Comparison	462
8.8	Complex sentences	465

8.8.1	Coordinate clauses	466
8.8.2	Subordinate object clauses	467
8.8.3	Subordinate adverbial clauses	470
8.8.4	Infinitives	473
Appendix 1 - Texts		479
1.1	Stories (oral origin)	479
1.1.1	The chief of the animals (<i>T2006.3</i>)	479
1.1.2	Dingopoyo, the frightening beast (<i>T2006.1</i>)	484
1.1.3	Mbwoko (<i>T2006.2</i>)	489
1.2	History	493
1.2.1	Circumcision (<i>T2006.4</i>)	493
1.3	Technical instruction	497
1.3.1	Palm-nut pit body oil (<i>T2006.6</i>)	497
1.3.2	The soap bar "agbagi" (<i>T2006.5</i>)	500
1.4	Moral instruction	505
1.4.1	A good girl (<i>T2006.9</i>)	505
1.4.2	A good boy (<i>T2006.8</i>)	508
1.4.3	The advice of chief Ogiyatu and chief Bamuka (<i>T2006.7</i>)	509
1.5	New story (written)	512
1.5.1	Ikoḅu (<i>T2009.21</i>)	512
Appendix 2 - Verb Paradigms		523
2.1	Tense	524
2.1.1	Past (specific)	524
2.1.2	Past	529
2.1.3	Future	531
2.1.3.1	Negative Future 'past inability'	536
2.2	Aspect	537
2.2.1	Anterior aspect	537
2.2.1.1	Anterior 'not yet'	541
2.2.2	Inchoative aspect	544
2.2.3	Perfective aspect	546
2.2.3.1	Based on Past (specific)	546
2.2.3.2	Perfective aspect based on Anterior aspect	548
2.2.4	Progressive aspect	550

2.3	Conditional, Subjunctive, Imperative	553
2.3.1	Conditional	553
2.3.2	Subjunctive	557
2.3.3	Imperative and Hortative	562
	References and Selected Bibliography	567
	Samenvatting in het Nederlands	573
	Curriculum vitae	579

Acknowledgements

It was in June 1995 that the Liko language committee organized a bicycle tour for my wife, Alida, and me to visit the main communities in the Liko area. The vision of the Liko people to hear the Word of God in their own language and to use their language in new domains has motivated me to contribute to the analysis of the Liko language. I am greatly indebted to Professor Maarten Mous for guiding this study, for his encouragement and expertise. I have also been very privileged in having Dr. Constance Kutsch Lojenga as co-promotor of this study. Thanks to her for giving advice and for reading the drafts with so much attention for detail.

In addition to the two people mentioned above, my warm thanks to the members of my thesis committee: Professor Marian Klamer, Dr. Jacky Maniacky and Professor André Motingea Mangulu, whose comments and suggestions have helped me to clarify and improve the description of the language.

Thanks to the Liko language committee and the members of the Liko language team. They built a house for me in the village where the team was located, offered hospitality and generously committed their time during the periods of fieldwork. Thanks to Gabriël Engama Magbangbau and the Liko team of translators and literacy staff, directed by André Ndagba Ambinende and, during his studies at USB, by Dominique Banotanea Bapokanzo. For reasons of space, other Liko people who contributed to this thesis are named in section 1.7. Here, representing them all, I mention with deep gratitude Rev. Emile Tinda Nangaa, the late president of the Liko language committee.

Thanks also to CECCA/16, SIL-ECG, CITBA, USB and MAF for helping with visa requirements and transportation. To colleagues of SIL International and friends, in particular Maryanne Augustin, Claertje Frieke, Corien Nederveen, Patrick Rietveld and Joanne van der Vlist. To Marten van Willigen for his help in balancing responsibilities. To Infor and Mprise for allowing part-time contracts and periods of unpaid leave.

Thanks to my parents who transmitted the value of the Bible and the importance of study. To our children, Andreas, Mathilde and Nadine, for their interest in this

work and their stamina during the periods of fieldwork when communication was absent or scarce. To Alida, my wife and longtime companion, I express enormous gratitude. Without her commitment, friendship and love, this thesis would never have "seen the light of day".

Symbols and Abbreviations

Symbols

ˊ	High tone
ˋ	Low tone
ˊˋ	surface LH tone
◦	floating tone
↓	non-automatic downstep
~	nasalization
[]	phonetic representation
//	phonological representation
{ }	orthographic representation
→	'becomes'
→	'pairs with'
<	borrowed/originating/derived from
-	morpheme boundary
+	combination of morphological units
:	merger or association of two morphemes
.	A full stop represents a syllable division within a word, syllable string or tone string
*	a prohibited form or a Proto-Bantu reconstructed form
??	reduced acceptability
∅	zero marker
3	class number (indicating nominal concordance)
H	High tone
L	Low tone
LH	LowHigh tone
C	consonant
N	nasal consonant
NC	nasal-plus-consonant combination
V	vowel
G	glide
B	implosive /ɓ/, capital
D	implosive /ɗ/, capital

Symbols and Abbreviations

Abbreviations for subject and object prefixes

1SG	1 st person singular subject prefix
2SG	2 nd person singular subject prefix
3SG	3 rd person singular subject prefix (singular subject in all noun classes)
3SG/3PL	3 rd person singular subject prefix (plural subject in all noun classes except class 2)
1PL	1 st person plural subject prefix
2PL	2 nd person plural subject prefix
3PL	3 rd person plural subject prefix (plural subjects of class 2)
1SG.O	1 st person singular object prefix
2SG.O	2 nd person singular object prefix
1.O	class 1 object prefix
1PL.O	1 st person plural object prefix
2PL.O	2 nd person plural object prefix
2.O	class 2 object prefix

Other abbreviations

ADDR	Plural Addressee marker in Imperatives
ADJ	adjective
ADV	adverb
ANT	Anterior aspect
APPL	Applicative extension
ASS	i. associative prefix ii. Associative extension
ATR	Advanced Tongue Root
ATT	discourse marker to draw attention
BEN	Benefactive extension
CAUS	Causative extension
CL	noun class
COMP	complementizer ḃé
COND	Conditional
CONJ	conjunction
CONN	connecting clitic (-ná after DEM.II)
COP	copula
DEM.I	demonstrative, first series, also used as relative pronoun

Symbols and Abbreviations

DEM.II	demonstrative, second series (referent is present)
DEM.III	demonstrative, third series (exclusive referent)
DIR	Directional
F ₁	time reference, later today
F ₂	time reference, from tomorrow to the next few weeks
F ₃	time reference, later than the next few weeks
FV	verb-final vowel
FV.ANT	final vowel of Anterior aspect with the Anterior TAM melody
FV.IMP	final vowel of Imperative with the Imperative TAM melody
FV.INST	final vowel of the Instructive with a H tone on the subject prefix
FV.NEG	final vowel of the negative Conditional
FV.SUBJ	final vowel of the affirmative Subjunctive
GEN	genitive prefix
IDEO	ideophone
IMP	Imperative
INF	Infinitive
INS	Insistive
INST	Instructive
INTERJ	interjection or exclamation
INTERR	question word
MOD	prefix of bi -modifier
NEG	negative
NEGSUBJ	negative Subjunctive
NEUT	Neuter extension
NP	noun phrase
NUM	enumerative prefix
OM	object-marker position
^P	Past TAM H tone, the notation follows the subject prefix, e.g. 1SG ^P , and the final vowel, e.g. FV ^P .
P ₁	time reference, hodiernal or hesternal
P ₂	time reference, a few days earlier than hesternal
P ₃	time reference, earlier than about a week ago
PFV	Perfective
pl.	plural
PLUR	Pluractional extension

Symbols and Abbreviations

POSS	possessive
post-FV	post-final vowel position
PREP	general preposition
PRO	pronominal / pronoun
REFL	reflexive
RES	Resultative extension
sg.	singular
SM	subject marker position
s.o.	someone
s.th.	something
SUBJ	Subjunctive
SUPP	Supplicative
TA	tense/aspect position
TAM	tense/aspect/mood
TBU	tone-bearing unit
T2006.1	coding for texts: Text < year > . < sequence number >
vs.	versus

1 Introduction

1.1 Language and speakers

Liko is the name of one of the languages in the Oriental Province in the northeastern part of the Democratic Republic of the Congo. Liko is spoken in the Balika-Toriko Chiefdom in the Wamba Territory within the Haut-Uélé District. The Balika-Toriko Chiefdom¹ is 1.149 km² large, and is geographically located between 2.34 and 1.94 latitude north and between 27.42 and 27.84 longitude². Travelling by road going south, the Liko-speaking area is about 80 km away from the town of Isiro. The Liko area is adjacent to the approximate west boundary of the Ituri rainforest. The *Ethnologue* has 60,000 Liko speakers. This figure is based on census data from 1988 which is reported by Boone (1989): 56,911 Liko in the Wamba Territory and several thousand to the north in the Rungu Territory. Local government statistics of 2006 have 68,212 inhabitants of the Balika-Toriko Chiefdom (Ndagba 2008).

The language has been called Lika by the (colonial) administration and most researchers, including some Liko authors. The *Ethnologue* has Lika, with Liko as one of the alternative names. Liko speakers themselves call their language **lilikó**, which consists of the class 5 prefix **li-** and the [+ATR] root **-likó**. This name, without the prefix, has been adopted in this book to refer to the language. Liko speakers in the Wamba Territory refer to themselves as **Bolikó ko Toliko** 'the Liko of Toliko', their forefather.

¹ A Chiefdom, "Chefferie" in French, is part of the administrative hierarchy of political subdivisions in rural areas in the Democratic Republic of the Congo (DRC), which contains, from the largest to the smallest unit (using the DRC names): District, Territoire, Chefferie, Groupement, Village.

² In a straight line, the greatest distances across the Liko area, from north to south and from west to east, are approximately 45 km and 47 km.

The Liko people occur in Moeller's research on migrations of Bantu people in Congo in the section on populations of the Uélé (Moeller calls them "Malika"), together with the Bua people (called "Ababua") and the Bali people (called "Babali"): "La tradition veut que les Malika se soient séparés des Ababua dans la région de Bambili." (...) "Ils se reticèrent vers l'Est, dans la région de Poko." "Les Toriko descendent le Nepoko, (...) s'installèrent à l'embouchure de la Maika et du Nepoko."³ Ndagba (2008:4) says: "Les sources orales racontent que Boa et Likangwe étaient des frères germains et vivaient à Bambili." Ndagba has recorded the story told by an old man, Ngandopey, about the separation of two brothers (Ndagba 2008:4):⁴

"Boa had two sons: Lika and Boa. Lika was an outstanding farmer and was the owner of a big banana plantation. When he felt threatened by repeated stealing of bunches of bananas from this field, his father advised him to keep watch over the plantation so that he would find out who the prowler was. That same night, Lika saw the thief and shot a poisoned arrow at close range at him. But he was horrified when he noticed that the victim was his own nephew, the son of Boa, his brother. His father Boa asked him (Lika) to flee, because he was afraid of the uncles of the deceased. Lika took with him Bukimi, his wife, and three brothers: Nyakpa, Bali and Yenga. With others who joined him he went eastwards to explore new suitable areas for agriculture."

In what is presently the Wamba Territory, the "Bolikó ko Toliko" managed to resist the attacks by the Mangbetu (Moeller 1936:262). The Liko stopped the migration of the Budu in this area (Moeller 1936:35), or invaded part of Budu and Ndaka territories, which they lost again when the Zanzibari raiders and traders arrived (Van Geluwe 1960:13), in the second half of the 19th century (Vansina 1990:240). The pocket of Liko speakers who presently live in the Rungu Territory

³ Geographical location of Bambili: lat: 3.653, long: 26.125, Poko lat: 3.136, long: 26.8969, Isiro lat: 2.7722, long: 27.6083, Bafwabaka at the Nepoko river: lat. 2.117, long: 27.667. In a straight line, the distances are: Bambili - Poko: 103 km, Poko - Isiro: 89 km, Isiro - Bafwabaka: 73 km.

⁴ Interview with NGANDOPEY, September 19, 2007, à Obongoni; my translation to English.

are mentioned in Moeller (1936:262) as "Les Malika du Nord, battus et desorganisés par les Madjo⁵, sollicitent l'alliance des Mangbetu."

The Liko area consists of a rainforest-derived mosaic of dry, swamp, and secondary forest, with cultivated fields. Most Liko are farmers living in villages with some husbandry, mainly goats and chickens, some raise pigs (adopted from Budu, with whom the Liko have a lot of shared culture⁶ and intermarriage). Some men go hunting to supplement the staple menu of plantains, rice, beans and maize; women and children gather insects and condiments. Palm oil is produced for cooking and other usages. Villagers along the rivers practise fishery.

Production of goods is limited to small-scale crafts and enterprises like carpentry, the making of hunting material, tailoring, the weaving of hats, nets, mats, etc., pottery, smithy, the making of traditional soap bars, the making of thumb pianos, etc. With the arrival of bicycles and motorbikes, some people have specialized in repair jobs. There are a few small rice-hulling machines. People build their own rectangular houses facing the road. Some men have specialized in producing wooden tiles or placing them on roofs. Paid professions are limited to primary and secondary school teachers, medical staff, civil servants and some clergy in churches.

Most traders in the Liko area come from outside, some (often Nande) carry their stock on bicycles all the way from towns in the east of the country, like Beni or Butembo. Babonde, one of the major villages in the Liko area, has a big market every week. Gold has been found in the southwest of the Balika-Toriko Chiefdom. The village of Bole-bole has become the centre of gold-digging activity, which has attracted many non-Liko speakers. The impact on the Liko language to date is limited, in part due to the (lack of good) infrastructure. The Liko live in the Ituri rainforest; there are no paved roads in the Balika-Toriko Chiefdom nor major transit roads. In a period of four weeks in the Liko area in 2010, the only car I saw

⁵ Also referred to as Medje, a Mangbetu dialect.

⁶ Van Geluwe (1960:13): "Les Lika ont adopté la culture des Budu."

was at the Catholic Parish of Babonde. About half of the population is Christian (the majority being Catholic). Many practise traditional religion as well.

The Liko people in the Balika-Toriko Chiefdom consist of twenty clans. The present Chief comes from the Bavamasyé clan⁷. The residence of the Chief is in Likási, the main centre of the Bovopiyé clan. Table 1 in 1.3 lists the clans, with the main centre and their Liko varieties.

1.2 Linguistic context

Languages of three language families are spoken in the Oriental Province of the Democratic Republic of the Congo: Bantu, Adamawa-Ubangi and Nilo-Saharan. Liko is one of the Bantu languages in this Province. Liko is part of the so-called Bantu borderland Languages.⁸ To the north, east and part of the south, it borders to Budu, another Bantu borderland language, to the west and part of the south to Mangbetu, a Nilo-Saharan language. All of these languages are spoken in the Wamba Territory. Budu speakers are reported to represent about 72% of the population in this territory, Liko speakers about 25%, the rest (the Mangbele and Mabyeru clans) are speakers of Mangbetu (Edema 2004, p.c.). Liko speakers express that their language has more linguistic affinity to Bali and Bua, languages spoken further to the south and west respectively, than to Budu.

Liko has been classified as Niger-Congo, Narrow Bantu, Central, D, Lega-Kalanga (D.20) (Voegelin and Voegelin 1977:62)⁹. Edema (1979) has also classified Liko together with the Bantu-D languages. Maho (2003:646) gives Liko the classification D.201. Budu has been classified as D.332, with as closest relatives Ndaka (D.333), Mbo (D.334), Nyali (D.33) and Vanuma (D.331) (*The Ethnologue* and Kutsch Lojenga 1994:127, 2003:452 and 2008:64). Bali is classified as D.21. Bryan (1959:88) lists Liko in his Bali group and Bua (C.44) in the Bantu-C Ngombe group. Moeller reports that part of the Liko people, in particular "les

⁷ All clan names have initial implosive /ɓ/.

⁸ *Linguistic Survey of the Northern Bantu Borderland*. Ed. Daryll Forde, Oxford University Press for the International African Institute, London. Vol. 3.

⁹ Liko does not appear in Guthrie's classification.

Toriko parlent une langue très rapprochée de celle des Ababua ou pré-Ababua" (1936:260) and that the Bali "sont communément considérés comme étroitement apparentés aux Ababua." (1936:262).



Figure 1: Language map of the Liko language area.^{10 11}

Figures published by Boone and Olson after a survey of Bua languages in 1994 show 57% lexical similarity between Liko and Bua, 52% between Liko and Bali, 49% between Liko and Komo (D.23) and 28% between Liko and Budu (1995:69). For Kango (C.403)¹², a language spoken in the Bas-Uélé district, along the river banks of the Uélé river, Boone and Olson report a lexical similarity with both Bua and Liko of 65% (*ibid.*:73). Liko and Bua share the presence of noun-class enclitics, "a distinctive of Bua bloc languages" (*ibid.*:9).¹³ The question with which

¹⁰ Lewis M.P. et al. 2014. *Ethnologue: Languages of the World, Seventeenth edition*. Used by permission.

¹¹ In this map, the name of the Bua language is Bwa.

¹² Not to be mistaken for the Kango spoken to the north of the Bali area in the Bafwasende Territory.

¹³ Liko has noun-class enclitics in classes 7, 13, 15 and 19 (and some isolated cases in classes 3, 5, 6, 8 and 9). Motingea reports noun suffixes for Bua in classes 1, 2, 3, 4, 5, 6

languages Liko would be best grouped together remains unresolved. The language has developed a number of interesting and unusual features. Boone and Olson conclude that: "At present, Lika and Bali cannot confidently be attached either to the "Bua Group", or the "Komo Group", nor to a new group on their own." (*ibid.*: 7). Engama is currently working on a comparative study on Liko, Bali and Bua.¹⁴ His and other future research is needed to gain more insight into the linguistic relationship between these three languages.

1.3 Dialects

Liko has three dialects in the Balika-Toriko Chiefdom with a very high degree of lexical similarity, i.e. more than 95% between any of them. Liko speakers refer to the dialects with the word used to express 'water', *líbó*, *íbó* and *líbá* respectively. The Liko community considers the *líbó* variety to be the main dialect, because it is most widely spoken and it is geographically central in the Liko language area. The Liko language committee has chosen the *líbó* variety as the one in which language development, e.g. the making of an orthography, the production of literacy material and the translation of the Bible should take place. The *líbó* variety is the dialect described in this book.

The *íbó* variety is spoken in the east and southeast of the Liko language area (as far as the Nepoko river). The main difference between *líbó* and *íbó* is phonological and concerns the systematic absence of the [l] and [s] sound of the noun-class 5 prefix **li-** and noun-class 7 prefix **si-** in the *íbó* dialect, e.g. *líbó* **li-tíndí** '5-heel' vs. *íbó* **i-tíndí**. Intervocalic /l/ in *líbó* often is absent in *íbó*, e.g. *líbó* **li-kálu** '5-ember' vs. *íbó* **i-kálu** and *líbó* **ma-líli** '6-food' vs. *íbó* **ma-íli**.¹⁵ The *líbá* variety is spoken to the northwest of the Balika-Toriko Chiefdom and by Liko of the Balika-Kpongo clan, with Nduka as the main village, who live in the Mongomasi Chiefdom, Rungu Territory, surrounded by Mangbetu speakers.¹⁶ The *líbá* dialect has more

and 7 (2005:36, 43).

¹⁴ The subject of his masters thesis was also a comparison of the Liko and Bua languages (Engama 1991).

¹⁵ I would like to thank Gabriël Engama Magbangbau for these examples.

¹⁶ There is still a lot of contact between the Liko in the Chiefdoms Baliko-Toriko and

lexical items that differ from *líbó* than *íbó*, but still relatively few.¹⁷ A phonological difference is that in many words *líbó* has /o/ where *líbá* has /a/, which is the case with, for instance, the final vowel of [+ATR] verbs in *líbó*.¹⁸

Table 1 lists the Liko clans in the Balika-Toriko Chiefdom with their dialect and their geographical neighbours.

Table 1 Liko clans and dialects and geographical neighbours

Clan	Main centre ¹⁹	Located in the Chiefdom	Neighbours speaking other languages
líbó dialect:			
Bavamasyé	Gbaegbae	central	²⁰
Baḃúndí	Babonde	north	²¹
Bovopiyé	Likasi	north	Budu ²²
Bovombili	Bovombili	north	²³
Bakpélé	Bakpele	north	Mangbetu ²⁴
Bapé	Gatoa	west	Mangbetu ²⁵

Mongomasi, for instance with circumcision rituals and marriages.

¹⁷ Boone (1989:1) reports that during the 1989 survey, a speaker from the Mongomasi Collectivity was present and that it appeared that his dialect was essentially no different from one of those spoken in the main Liko area.

¹⁸ I suspect that the *líbá* vowel system differs from the *líbó* dialect with respect to the [ATR] mid vowels, e.g. *líbó mukwé* '9.salt' and *ngbíngó* '1a.time' vs. *líbá mukwa* and *ngbíngó*.

¹⁹ The main centres are written with their official names. The {b} and {d} are implosive, except the one in Obongoni.

²⁰ Liko neighbours: Baḃúndí, Bovopiyé, Bapé, Bevendéname, Bevegukú, Bovombili, Bakpélé, Bavasamba, Bavágbaka.

²¹ Liko neighbours: Bavamasyé, Bovopiyé, Bakpélé.

²² And Liko neighbours: Bavamasyé, Baḃúndí, Bevesyéni, Bovoḃondóni.

²³ Liko neighbours: Baḃúndí, Bevendéname, Bapé, Bavamasyé, Bavaḃazwa.

²⁴ And Liko neighbours: Bovopiyé, Baḃúndí, Bavamasyé.

²⁵ And Liko neighbours: Bavamasyé, Boḃiyó, Baḃídiká.

Clan	Main centre	Located in the Chieftdom	Neighbours speaking other languages
Boḡiyó	Bobiyo	west	26
Bavaḡazwa	Yambenda	west	27
Bevendéname	Fungula	west	28
Bevegukú	Beveguku	west	29
Bovotúkusyángwe	Bovotukusyangwe	west	Budu ³⁰
Badidiká	Badidika	southwest	Mangbetu ³¹
Bangómbo	Gbonzunzu	south	Budu ³²
íḡḡ dialect:			
Bavasamba	Obongoni	east	Budu ³³
Bevesyéni	Mabende	east	Budu ³⁴
Bavágbaka	Bafwabaka	southeast	³⁵
Bavaḡangbá	Bavadangba	south	Budu ³⁶
Bevengéni	Bevengeni	west	towards Bali ³⁷
íḡḡ dialect:			
Bovoḡondóni	Bovobondoni	north	Budu, Mangbetu ³⁸
Bamaká	Bamoka	north	Budu, Mangbetu ³⁹

²⁶ Liko neighbours: Bapé, Bangómbo, Bevengéni.

²⁷ Liko neighbours: Bovoḡondóni, Bapé, Boḡiyó, Badidiká.

²⁸ Liko neighbours: Bangómbo, Bavamasyé, Bovombili, Boḡiyó.

²⁹ Liko neighbours: Bavamasyé, Bevendéname, Bovotúkusyángwe, Bavágbaka.

³⁰ And Liko neighbours: Bevegukú, Bavágbaka, Bangómbo, Bevendéname.

³¹ And Liko neighbours: Bapé, Bevengéni.

³² And Liko neighbours: Bevengéni, Bovotúkusyángwe, Bevendéname.

³³ And Liko neighbours: Bavamasyé, Bavágbaka, Bavaḡangbá, Bevesyéni.

³⁴ And Liko neighbours: Bavasamba, Bovopiyé.

³⁵ Liko neighbours: Bavamasyé, Bavasamba, Bavaḡangbá, Bovotúkusyángwe.

³⁶ And Liko neighbours: Bavágbaka, Bavasamba.

³⁷ Liko neighbours: Boḡiyó, Bangómbo.

³⁸ And Liko neighbours: Bovopiyé, Bamoká.

³⁹ And Liko neighbours: Bovoḡondóni, Badidiká, Bovopiyé.

1.4 Language use and attitudes

Liko is used at home and in meetings where only Liko speakers are present. Wives from neighbouring languages are expected to learn Liko and many do. Liko people are proud of their language. In 1989 representatives of all religious denominations in the Baliko-Toriko Chiefdom produced a document stressing the importance of the language and the need to develop and use it in more domains through the normalization of the orthography, the creation of literacy and teaching materials and the translation of the Bible. Young people are said to speak Liko well, even though the ones who have contacts outside the Liko are (through education or travel) introducing more loanwords in their speech than older people. A reading proficiency contest involving Liko secondary school students in Gbaegbae showed that these students were able to read texts in Liko well, without prior literacy classes in Liko orthography. On the other hand, young people know less specific flora and fauna terms than the older generation.

Swahili is the language used predominantly by the government in the area, in medical clinics and in courts. Chiefs, medical staff and judges repeat in Liko if the interlocutor does not understand Swahili well enough. Chiefs of smaller entities ("groupements"⁴⁰ and villages) usually speak Liko. In church services Swahili and Liko are the main languages which are used. Scripture reading is in Swahili (the Bible is not yet available in Liko), sermons and prayers are partly in Swahili and partly in Liko, singing is in Liko, Swahili, Lingala (or the Eastern-Congo variety Bangala) and sometimes in the neighbouring Bantu languages Budu or Bali. Announcements are often in Liko. Most clergy in the Protestant churches is Liko. In the Catholic church lower clergy is mostly Liko, the majority of the priests come from outside and they generally do not learn Liko.

At the market and in shops, a combination of Liko and Swahili is used when both the vendor and the buyer are Liko. Products that are not produced locally are usually referred to by Swahili words. Counting is in Swahili, except for numbers under ten.

⁴⁰ A number of villages.

French is the language of instruction in secondary schools and in primary schools from the third year (both have a curriculum of six years). In the first two years of primary school, teaching is in Swahili. Liko is occasionally used in the first years to give explanation, because the majority of the children do not speak (a Congolese variety of) Swahili when they first go to school. There are no institutions of higher education in the Liko area. Two Liko teachers have just finished their studies in Education at University of Kisangani. The objective is that they will develop teaching materials in the Liko language for use in primary schools.

Bilingualism in Liko and Swahili is higher among men than among women, due to the high drop-out rate of girls in primary school. Proficiency in French, the official language in the Democratic Republic of the Congo, is generally limited to people who have had at least four years of secondary education.

1.5 Research context

In 1989, the Eastern Congo Group of SIL International conducted an entrance survey for the Liko language. Participants were Douglas Boone and Bettina Gottschlich⁴¹ (SIL) and the members of the Lika language committee at the time as well as two observers⁴². In 1995, the "Projet de la Traduction de la Bible et d'Alphabétisation en langue lika" was started. Translation of the Bible began in 2004 and literacy booklets have been published since 2006. A few years ago, a Congolese organization, "Centre Interconfessionnel de la Traduction de la Bible et d'Alphabétisation" took over the responsibility for and management of this project from SIL. The present study is a contribution to the literacy and translation objectives of this project.

⁴¹ Now Modibale-Gottschlich.

⁴² Listed in Boone (1989:15) are: Tinda Nangaa (president), Banagabwa Gbaoli (vice-president), Embobo (secretary), Abakwedu, Alowa, Asebeangwe, Bambama, Bavalengo, Bondomiso, Bulodanga, Dupo, Engama, Gili, Iguku, Ingwabundo, Kakome, Kesena, Kokyakake, Mangbukele, Mombito and Opumo; as observers Babiti and Bakunguo.

1.6 Previous studies

Four Liko speakers wrote a "travail de fin d'études" about their language as part of college graduation requirements (the three year "graduat" level at an "Institut Supérieure Pédagogique" or university):

- Banane, NG. 1979. *Esquisse grammaticale de la langue liliko*.
- Edema, Atibakwa K⁴³. 1979. *Aspects phonologiques de la langue lika (D.20)*.
- Asebeangwe Bakesa. 1988. *Esquisse phonologique et morphologique de langue lika*.
- Engama Magbangbau, G. 1988. *Essai d'une grammaire générative et transformationnelle de la langue lika*.

In 1989, at the time that Boone and Gottschlich did a Liko entrance survey for SIL, the last three works were presented to them while they were in the village of Djuba in the Liko area. Unfortunately, only the work by Edema was available to me.⁴⁴ Boone (1989) quotes from the theses in his survey report. It is a great loss that Edema suddenly passed away in 2007.

None of these authors, Edema, Asebeangwe and Engama, mention complex consonants that involve a nasal: prenasalized /^mb, ⁿd, ^ŋg, ⁿz, ^mv, ^{ŋm}gb/, except Edema who claimed that /^ŋg/ is a contrastive consonant.

All list seven vowels representing four vowel heights. Edema, however, states in his conclusion (1979:24):

"Nous avons simplifié le vocalisme. Il existe des i et u plus ouverts que les i et u mais qui sont plus fermés que e et o. Ce qui peut laisser croire que le liliko présente 9 voyelles. Mais comme ils n'entrent pas dans une opposition phonologique, nous les avons simplement classés sous i et u."

⁴³ Also Edema, Atibakwa Baboya.

⁴⁴ I would like to thank Constance Kutsch Lojenga for scanning her copy and sending it to me.

Boone (1989:6) believes that Edema had reason to believe that Liko has nine vowels.⁴⁵ Kutsch Lojenga (1999) presents evidence for a nine-vowel system in Liko. Chapter 2 in this book gives support for this analysis by giving more examples of phonological contrast between /i/ vs. /u/ and /u/ vs. /u/.

With respect to tone, Edema (1979:21-22) has posited two level underlyingly contrastive tones (High and Low) and one complex tone (rising). Asebeangwe has five surface tones: three level tones, plus rising and falling (1988:22-23, in Boone 1989:6). Asebeangwe's third level surface tone may be his interpretation of non-automatic downstepped High. Surface falling tones on one syllable have not been attested in the language. Kutsch Lojenga (2000) showed that certain rising surface tones are the result of a preceding voiced consonant, a so-called "depressor" consonant.

Kutsch Lojenga worked with Embobo and Engama for several weeks in 1999 with the aim of setting up a provisional orthography. From 2000 until 2002, De Wit and Engama worked on an initial corpus of about 2,000 items. In 2002 Engama wrote a morphology of the Liko language (12 pp), treating nominal and verbal morphology. He lists the following noun classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15 and 19, pairing as 1/2, 3/4, 5/6, 7/8, 9/2 and 15/6. His class 7 has noun-class prefix **t-** and class 19 has **st-**. A slightly modified analysis of the Liko noun-class system is presented in 5.1.1. De Wit, Engama and Nederveen wrote a first phonology of the language in 2002 as a basis for the Liko orthography guide (both in French). In 2008, Williams and Beattie made a Liko-French picture dictionary with a lot of cultural information. A trial edition of a Liko-French/French-Liko dictionary (de Wit, 2010b) was printed for the Liko community.

With a corpus of recordings of about 1550 Liko lexical items, mainly nouns and verbs, recorded by Augustin and phonetically transcribed by Augustin, De Wit and Kutsch Lojenga, Casali (2004) prepared *A Phonology Sketch of Lika* in the context

⁴⁵ He comments: "It is probable that since Lika is a Bantu language, the students were not expecting to find $\pm$ ATR distinctions (characteristic of Sudanic languages), nor more than the seven vowels more normally found in Bantu languages."

of the SIL Bantu Initiative project. His phonetic analysis of the consonants and vowels has inspired further research into the phonological structure of the language and vowel harmony. Areas of interest mentioned were among others the status of palatal plosives and fricatives, the glottal fricative, labialization and palatalization, labialized labial-velar stops, [ATR] vowel harmony and the tone system. I made an updated and enlarged version of the 2002 *Phonologie de la langue Lika* available to French-speaking students and linguists, through the *Lika phonologie* in the SIL Electronic Working Paper series (de Wit 2010a).

Kutsch Lojenga (2009) addressed [ATR] vowel harmony in Liko in 'Nine vowels and ATR vowel harmony in Lika, a Bantu language in D.R. Congo', published in *Africana Linguistica*. Earlier she presented a paper on the vowel /a/ in a [+ATR] environment (Kutsch Lojenga 2002) and a paper on ATR vowel harmony in the northern Bantu borderland with data of Budu and Liko (Kutsch Lojenga 2005). In the 2009 article, Kutsch Lojenga discussed the nine-vowel system, unusual for Bantu languages, which Liko shares with Bali, Budu, Bila, Nyali and Vanuma (2009:65). Kutsch Lojenga analysed the ATR vowel harmony system in Liko as [+ATR] dominant, bidirectional and the vowel /a/ as being transparent. She posited the [–ATR] noun-class enclitics as an idiosyncratic case of dominance reversal, extending one syllable to the left. The analyses in this article have been helpful in researching ATR vowel harmony in Liko again with more language data, see 3.2.

In 2010, Augustin submitted her MA thesis *Selected features of syntax and information structure in Lika (Bantu D.20)*⁴⁶, a sketch of Liko morphology and syntax as well as a description of the syntactic means to indicate topic and focus. The sketch of morphology and syntax is based on the *Phonology Sketch of Lika* and the *Lika phonologie* mentioned above, and on my fieldwork notes (2006) shared with Augustin, as well as on Augustin's own analysis of an existing collection of Liko texts. The analysis of topic and focus follows the framework of Lambrecht (1994). Unfortunately, tone marking is generally absent in the examples. The choice to research one element of a largely undocumented language from a particular theoretical framework has led to the identification of type I

⁴⁶ Also published by SIL in 2012 as eBook 36.

demonstrative **nɔ̃** (which agrees with noun class 1) as the focus particle. A different analysis of information structure in Liko is presented in Chapter 8.

Liko data featured regularly in presentations at a Colloquium of African Languages and Linguistics, University of Leiden. Between 1999 and 2014, the following papers were presented: 'The Vowel System of Lika: first impressions' (Kutsch Lojenga 1999) in which she also showed ATR vowel harmony in the language, 'Adjectives in Lika' (de Wit 2004), 'Noun class suffixes in Lika' (Nederveen 2004), 'ATR vowel harmony effects in writing' (de Wit 2006), 'High tone noun prefixes in Lika' (de Wit 2009), 'The behaviour of Lika depressor consonants' (de Wit 2010c) and 'Word Order and Information Structure in LIKO' (de Wit 2014).

1.7 This book

A Phonology and Grammar of Liko presents a detailed description of a language which is until now largely undocumented. The first three chapters treat the phonological structure, the main phonological processes, and tone and tone rules. The morphology of nouns, adjectives, nominal modifiers, and of minor word classes is presented in the following two chapters. A separate chapter is devoted to the verb, the structure of the verb form, its morphology, the semantics of verbal conjugations and verbal derivation. The final chapter describes a selection of syntactic topics, including information structure. A collection of ten texts is offered in the first Appendix and verb paradigms can be found in the second. I have taken examples from non-elicited natural speech as much as possible. They serve to support the descriptive nature of this work and to provide language material for future research of specific topics.

The first visit to the Liko people was in 1995, when my wife and I made a two-week bicycle tour in the area with members of the Liko language committee, staying at a different village almost every night. The initial corpus of rough language data was collected using a 2,000 item French wordlist provided by me to Engama. These data were checked for phonetic segments and tone during sessions of three weeks in Nairobi in 2001 and 2002; in 2001 with the Liko consultants Bodokobuni and Engama, in 2002 with Banotanea, Engama and Ndagba. I stayed in the Bavamasyé village of Gbaegbae [gbàìgbàì] in 2004, 2005, 2007, 2008 and

2010. These fieldwork trips lasted for three to four weeks at a time. Liko consultants were Asumani, Bakaato, Banotanea, Bodokobuni, Engama, Kamenabake, Ndagba and Ndimu. During each visit, parts of the phonology, tone system or grammar analysed earlier were presented to the Liko consultants in the form of training sessions with the aim of improving the quality and depth of their reflection on their language. In 2013, I worked with Liko consultants in Isiro for four weeks.

Apart from data checking during these visits, a final check of all Liko data in this book has been done with Liko consultants Kamenabake, Ndagba and Ndimu from February until December 2014 by means of data files of 15 to 20 pages A4 each. The Liko consultants received a financial contribution for their work. Each file deliberately contained about ten known segmental, supra-segmental as well as orthographical and French translation errors to ascertain the quality of the corrections. In most files, all these errors were corrected, including cases of non-automatic downstep.

The main Liko consultants I worked with in the period from 2000 to 2015 are:⁴⁷

- Dominique Banotanea Bapokanzo (*libó*)
- Gabriël Engama Magbangbau (*libó*)
- Jean-Pierre Kamenabake Ndukoni (*libó*)
- André Ndagba Ambinende (*ibó*)
- Rigobert Ndimu Natambise (*ibó*)

Other main Liko consultants between 2000 and 2009 are:

- Thérèse Asumani Ingbou (*ibó*)
- Edouard Bakaato Bogyonokoli (*ibó*)
- Lazare Bodokobuni Bosisi (*ibó*)

The data used for this book consist of 3,500 main lexical items and over 1,000 subentries, 86 texts, most of which are printed and used as literacy material, the translation of part of the Bible in Liko (Genesis and the New Testament), as well

⁴⁷ The names of the Liko consultants are given as they write them. In most cases, the "B" is implosive.

as recordings of texts and wordlists, field notes and material collected through elicitation.

Liko is a Bantu language with several characteristics which made it interesting to do research and to describe it. In Chapter 2, "Phonological Structure", the nine-vowel system is presented, as well as complex consonants like labial-velar plosives, which are followed in some words by a bilabial trill.

The pervasive ATR Vowel-Harmony system and the widespread occurrence of Vowel Sandhi are described in Chapter 3, "Vowel Harmony and Phonological Processes". The vowel harmony system is [+ATR] dominant, but there are several verbal and noun-class [–ATR] enclitics in the language which have impact on preceding non-high vowels.

Liko is a tone language with two underlyingly contrastive tones: High and Low and both lexical and grammatical tone contrasts. Certain voiced obstruents (so-called "depressor consonants") have influenced and to some extent may still influence the realization of a following H tone. Liko has automatic as well as non-automatic downstep.⁴⁸ The tone system, depressor consonants and the tone rules are described in Chapter 4. Being familiar with the content of Chapter 3 and 4 will help the reader to read the subsequent chapters.

The Liko noun-class system contains 14 noun classes; classes 1 and 9 have several subclasses. Apart from nominal agreement, the language has concord sets for adjectives, numerals and associative constructions including a specific set of nominal modifiers. Nouns, adjectives, nominal modifiers and numerals (including pictures of counting) are presented in Chapter 5. This chapter also contains the derivations from nouns, adjectives and nominal modifiers to nouns or other word classes.

⁴⁸ In Stewart's terminology (1983). Automatic downstep is also referred to as 'downdrift'. 'Downstep' is often used for non-automatic downstep.

In Chapter 6, "Other Pronominal Forms and Invariables", two other agreement systems are presented, for pronominal substitutes and demonstratives. Genitival constructions, different from associative constructions in which a nominal modifier, a noun or a quantifier is used attributively, use a single prefix, only subject to ATR vowel harmony when it occurs within the domain of [+ATR] spreading. Also of interest in this chapter are ideophones.

Verbal agreement with the noun-class system is very limited in Liko. To encode tense/aspect/mood, the language uses time adverbials as well as segmental morphemes and tone melodies. They are described in Chapter 7, "Verbs". The seven productive extensions are exemplified: Causative, Applicative, Benefactive, Resultative, Neuter, Associative and Pluractional. This chapter also presents the possibilities to derive nouns, adjectives and adverbs from verbal bases.

Chapter 8, "Topics in Syntax", pays attention to verb valency and object agreement, word order, relative clauses, information structure, comparison and complex sentences, including the use of Infinitives. Liko is a language with strict SVO word order. Focus, for instance, is not expressed by putting the element in focus at the beginning the clause. Relativization and left-dislocation reveal a syntactic means to differentiate between objects and adjuncts in this language.

The collection of texts in Appendix 1 includes: oral stories, history (former circumcision rites), technical and moral instruction and a new story, written for literacy classes.

The following word classes are distinguished in this book: noun, verb, adjective, nominal modifier, numeral, quantifier, substitutive, participant pronoun, possessive pronoun, demonstrative, preposition, interrogative question word, adverbial, complementizer, conjunction, ideophone, interjection and exclamation.

Nouns in Liko consist of a noun-class prefix, a stem and - for a number of nouns - a noun-class enclitic. Each noun is assigned to a class. A class is determined by the noun-class prefix and the concords with adjectives, nominal modifiers, numerals and demonstratives. Nouns function as head of noun phrases and as complement of prepositional phrases. Noun phrases function as subject and object of clauses.

Verbs consist of a stem preceded by bound morphemes. Morphemes preceding the verb stem are the subject prefix, the negative prefix, the Conditional and aspect prefixes and the object prefix. A verb stem includes the verbal base and a final vowel. The verbal base may be simple, consisting only of a verb root, or extended, consisting of a verb root followed by one or more extensions. By means of a combination of tone and segmental morphemes, a verb can be inflected for tense, aspect and mood.

Adjectives in Liko are a closed class of eight adjectival stems. Adjectives take an adjective prefix, which agrees with the noun on which they syntactically depend or to which they refer.

A large group of words occurs as part of a noun phrase and modifies the head noun. They do not take a nominal or adjective prefix, but take an associative prefix, which agrees with the class of their head noun. They are referred to as "nominal modifiers".

The numeral stems for 'one' to 'four' take enumerative prefixes, which agree with the head of the noun phrase in which they occur. Other numerals are invariable. Ordinals and quantifiers are not preceded by an enumerative prefix. They occur in associative constructions.

Pronominal substitutes are forms which agree with the class of the noun they refer to. Substitutes and participant pronouns function to fill the position of a noun phrase in a clause. Liko has three types of demonstratives different in form and semantic properties. Demonstratives agree with the noun on which they syntactically depend or to which they refer. Possessive pronouns consist of the genitive prefix **ka-** and (part of) a participant pronoun or substitutive.

Prepositions are a closed set of three invariable stems. They precede a noun and are the head of a prepositional phrase. Liko has question words belonging to the word class of nouns and invariable question words. Adverbials in Liko are a heterogeneous group comprising invariable free or bound morphemes referring to time, location or manner, words specifying the action of the verb, particles in information structure, and other elements. Many adverbials referring to manner or

specifying the action of the verb are bound morphemes, preceded by the general modifier prefix **ḡ-**. The complementizer **ḡḡ** and conjunctions are invariable and function to relate two clauses.

Ideophones are invariably free or bound morphemes with specific phonetic characteristics. Bound ideophones are preceded by the general modifier prefix **ḡ-**. The characteristics found in ideophones also are attested in interjections and exclamations.

1.8 Conventions

The segmental representation of consonants and vowels in this book is given in 2.2.1 (consonants) and 2.3.1 (vowels). Prenasalized consonants are represented as /mb/, /nd/, /ng/, /ngb/, /nv/ and /nz/. The representation of the palatal nasal sonorant [ɲ] is /ny/. The representation of the palatal oral sonorant [j] is /y/. Glides resulting from desyllabification are represented as /y/ or /w/. In this book, [ɪ] is used instead of [i] because it is easier for the reader to distinguish [ɪ] from [i] when the vowel bears tone marking.

Surface High tone (H tone) is indicated by means of an acute accent on any tone-bearing unit (TBU). A combined LowHigh surface tone (LH) is represented as an inverted circumflex on a TBU. Surface Low tone (L tone) is represented by the absence of a diacritic. In the chapter on Tone and in phonetic representations, surface L tone is marked by means of a grave accent. Non-automatic downstep is represented as a superscript arrow facing downwards. A floating tone is indicated by a raised o preceding the tone symbol, e.g. °L.

With respect to glosses, a number represents a noun class or a person. A number in a gloss of a noun-class, adjective, enumerative or associative prefix, in an object prefix, or in a gloss of a substitutive or demonstrative form indicates the noun class. Roman I, II or III represent the type of demonstrative. A number in a gloss of a subject prefix indicates person (1SG, 2SG, 1PL, 2PL) or noun class. Subject prefixes do not agree with noun classes, except for class 2. In the case of a plural subject that does not belong to class 2, the subject prefix is glossed with 3SG/3PL. Otherwise, the gloss of the subject prefix is simply 3SG. The gloss of the time-

reference adverbials represents Past or Future and the relative distance from the deictic centre, e.g. F_1 represents a point in time in the future, later today, and P_3 indicates a point in time in the past, earlier than about a week ago. Verb forms for Past and Future are distinguished only by means of a difference in tone on the TBU of the subject prefix: Past is marked with a H tone. In the gloss, this is represented by means of a raised P, e.g. 1SG^P-throw-FV. To indicate that the time reference is specifically to the past, a H tone is associated with the final vowel (FV) of a verb form. I will refer to it as "Past (specific)". Past (specific) is represented by a raised P following the FV, e.g. 1SG^P-throw-FV^P.

The verb-final vowel in combination with a tonal melody indicates negation or certain kinds of aspect and mood. If this is the case and if other glosses of the verb form do not represent it, the gloss of the final vowel is extended, e.g. FV.NEG for negation, FV.ANT for Anterior aspect or FV.SUBJ for Subjunctive mood.

2 Phonological Structure

2.1 Introduction

This chapter describes the phonological structure of the Liko language, its consonant and vowel systems, syllable structure and word structure. Syllable structure will be presented after the interpretation of surface glides and sequences of two identical vowels.

The inventory of Liko consonants comprises the places and manners of articulation common in Bantu languages and includes prenasalized plosives and fricatives, implosives and plosives with double articulation. The consonants are presented and contrasted, with remarks about their distribution in roots. An analysis of complex consonants is given after the contrasts.

I will describe syllable structure after consonants and vowels, because it depends on the analysis of sequences of identical vowels in the section on vowels. Syllable structures within roots in Liko are: CV, V and CGV, where CV and V are the most common. The presentation of these structures is followed by the analysis of the phonetic nature of "G" in CGV structures. A description of glides and an account of the changes imposed on loanwords are given at the end of the section on syllable structure.

The structure of words in terms of sequences of syllables is presented in the section on Word Structure, for nouns and verbs separately. Liko has few consonant constraints as far as the position in the word is concerned. As for vowel constraints, there are a number of restrictions on the co-occurrence of vowels within -CVCV noun stems. Only five of the nine vowels in Liko are frequently found in verb roots, namely the four high vowels /ɪ, i, u, u/ and the low vowel /a/.

Liko has a nine-vowel system with ATR (Advanced Tongue Root) harmony. There are four high and four mid vowels contrastively; the low vowel /a/ occurs in roots with high and mid vowels. The vowels are presented and contrasted, along with

comments about their distribution. Vowel harmony changes caused by ATR are explained where they occur in the data in this chapter. Liko has [+ATR] roots as well as [+ATR] dominant suffixes (including one verbal extension). I refer the reader to Chapter 3 "Phonological Processes" for a description of ATR harmony in the language.

Liko is a tone language with two underlyingly contrastive tones, High and Low. Low and High can be combined on a short syllable. The syllable is the tone-bearing unit (TBU) in the language. In situations in which there are two tones and only one TBU available, a sequence of Low and High are associated together to form a surface LH tone on a monosyllable, if Low or High does not merge with an adjacent identical tone. A TBU can thus have a H or a L tone, or a combined LowHigh. A HL tone on a TBU is not permitted. Sequences of High and Low where one TBU is available result in association of High or Low with an adjacent identical tone, or in non-automatic downstep caused by a delinked L tone. Because of its important role in the language, a separate chapter is devoted to tone (Chapter 4).

2.2 Consonants

2.2.1 Inventory of consonants

The consonants of the Liko consonant system are presented in the following charts. They both represent the inventory of contrastive consonants in the language, the first one in the IPA⁴⁹, the second one in the consonant symbols used in this book. Contrastive consonants are written between forward slashes. In the text, phonetic representations use IPA symbols in square brackets.

⁴⁹ I have used the version of the International Phonetic Alphabet that was revised in 2005. <http://www.langsci.ucl.ac.uk/ipa/>, April 28, 2011.

Table 2 Liko consonant chart in IPA

		Labial	Alveolar	Palatal	Velar	Glottal	Labial-Velar
implosive		ɓ	ɗ				
plosive	voiceless	p	t		k		kp
	voiced	b	d		g		gb
	prenasalized	^m b	ⁿ d		^ŋ g		^{ŋm} gb
fricative	voiceless	f	s			h	
	voiced	v	z				
	prenasalized	^m v	ⁿ z				
nasal sonorant		m	n	ɲ			
oral sonorant			l	j			w

Prenasalized plosives and fricatives are underlyingly contrastive consonants in Liko. Interestingly, in some labial-velar plosives, the labial part is realized as a bilabial trill (see 2.2.4).

Table 3 Liko consonant chart with the consonant symbols used in this book

		Labial	Alveolar	Palatal	Velar	Glottal	Labial-Velar
implosive		ɓ	ɗ				
plosive	voiceless	p	t		k		kp
	voiced	b	d		g		gb
	prenasalized	mb	nd		ng		ngb
fricative	voiceless	f	s			h	
	voiced	v	z				
	prenasalized	nv	nz				
nasal sonorant		m	n	ny			
oral sonorant			l	y			w

The phonetic description of the contrastive consonants in Table 2 is:

Ingressive pharynx air sounds

[ɓ] voiced bilabial plosive with ingressive pharynx air

[ɗ] voiced alveolar plosive with ingressive pharynx air

Plosives

- [p] voiceless unaspirated bilabial plosive⁵⁰
- [b] voiced bilabial plosive
- [t] voiceless unaspirated alveolar plosive
- [d] voiced alveolar plosive
- [k] voiceless unaspirated velar plosive
- [g] voiced velar plosive
- [k̠] voiceless unaspirated labial-velar plosive
- [g̠] voiced labial-velar plosive

Fricatives

- [f] voiceless labio-dental fricative
- [v] voiced labio-dental fricative
- [h] voiceless glottal fricative
- [s] voiceless alveolar grooved fricative
- [z] voiced alveolar grooved fricative

The apical part of the tongue makes contact for both [s] and [z].

Prenasalized consonants

- [^mb] prenasalized voiced bilabial plosive
- [ⁿd] prenasalized voiced alveolar plosive
- [^ŋg] prenasalized voiced velar plosive
- [^{ŋ^m}g̠] prenasalized voiced labial-velar plosive
- [^mv] prenasalized voiced labio-dental fricative
- [ⁿz] prenasalized voiced alveolar grooved fricative

Nasal sonorants

- [m] voiced bilabial nasal
- [n] voiced alveolar nasal
- [ɲ] voiced palatal nasal

⁵⁰ 'With egressive lung air', unless indicated otherwise.

Oral sonorants

[l] voiced alveolar lateral approximant

[j] voiced palatal approximant

[w] voiced labial-velar approximant

2.2.2 Consonantal contrasts

This section gives examples that show evidence of the contrastiveness of each of the consonants in Table 2. Whenever possible, I have given monomorphemic examples for contrasts in root-initial position in order to avoid variation at morpheme boundaries. This means that these contrasts are often exemplified by singular or plural nouns from classes with no noun-class prefix. In case there is no such noun in my data to show a contrast in the root-initial position, I have used a noun with a noun-class prefix or occasionally a singular Imperative form. Although these Imperative forms are not monomorphemic, because the verb root is followed by the final vowel **-a**, the initial consonant of the verbal base is not preceded by a subject prefix. Words that are, by my knowledge, loanwords, compounds and derived forms are avoided or marked as such.

The presentation of the consonantal contrasts is structured as follows: firstly, the contrasts are given for consonants sharing the same place of articulation, but differing in the manner of articulation, moving from labial to glottal and finishing with labial-velar; secondly, the consonants having the same manner of articulation are contrasted for place of articulation.

A few consonants in the Liko system have distributional constraints with respect to the position in a root (see 2.5.3). Other occurrence constraints are noted in the text.

a. Same place of articulation**Labial consonants**

Labial plosives and the labial nasal consonants occur in all positions in the root, whereas labial fricatives have some restrictions. The examples below are given in four sets. The first two sets show labial consonants in root-initial position preceding low and high vowels respectively. The second two sets have labial consonants as the onset of the final syllable of the root in frames of low and high round vowels.

(2.1) Contrasts involving labial consonants in root-initial position preceding a low vowel:

ɓ	ɓáɓa	[ɓáɓà]	'1a.swallow' ⁵¹
p	pápá	[pápá]	'1a.shrew'
b	babă	[bàbă]	'1a.father'
mb [ᵐb] ⁵²	mbămba	[ᵐbăᵐbà]	'9.plants, sp.'
f	fá	[fá]	'dry:FV.IMP'
v	li-vă	[vă] ⁵³	'5-piece of meat'
nv [ᵐv]	nvá	[ᵐvâ]	'1a.dog'
m	mamá	[mâmá]	'1a.mother'

(2.2) Contrasts involving labial consonants in root-initial position preceding a high vowel:

ɓ	ɓúku	[ɓúkù]	'9.quivers'
p	puká	[pùkâ]	'9.banana trees, sp.'
b	bukú-to	[bùkù]	'13.shrub, drug-13'
mb [ᵐb]	mbúku	[ᵐbúkù]	'1a.antelope' & '9.grave'
f	fulú	[fùlù]	'9.small bow nets'
v	vukúl-á	[vùkùlá]	'sit down-FV.IMP' ⁵⁴
nv [ᵐv]	ɓí-nvudũnvudũ	[ᵐvùdũᵐvùdũ]	'MOD-fat' ⁵⁵
m	mǔ	[mǔ]	'3:head'

Labial fricatives /f v nv/ are relatively rare. The distribution of /v nv/ is generally limited to root-initial position. Another example of /v/ root-initially is **mu-vanzíɓɓ** [vânzíɓɓ] '1-small ant, sp.'. The only example of /v/ as the onset of the final syllable of a root in my data is **ku-kuvĩ-ko** '15-mushroom, sp.-15'. Other cases in which /v nv/ occur in root-medial position are due to reduplication. An example of reduplication is **nvínvínvĩ** [ᵐvĩᵐvĩᵐvĩ] '1a.bird, sp.'. This distributional restriction to

⁵¹ Classes 1a and 9 do not have a noun-class prefix.

⁵² In the tables presenting contrasts, the phonetic transcription is added in square brackets.

⁵³ Only the root is given in the phonetic forms in this section.

⁵⁴ This verb refers to a specific way of sitting down, i.e. the way a chief takes a seat.

⁵⁵ **ɓí-** is the general modifier prefix, see Chapter 6.

root-initial position does not hold for the voiceless labial fricative /f/, for example **li-kófi** [kófi] '5-blow with the fist' and **ɗafɗafɗi** [ɗáfɗáfɗi] 'IDEO, walking awkwardly'.

Labial fricatives have restrictions with respect to the following vowel: /v nv/ are not followed by the [+ATR] mid vowels /e o/. Occurrence in conjunction with the low vowel /a/ is rare for /f/ and /nv/: the only examples in my data are given in (2.1).

With respect to **pápá** '1a.shrew' and other frequent sequences of voiceless plosive onsets, notice that Dahl's law is not active in Liko. Dahl's law states that "when two successive syllables in a stem each begin with a voiceless plosive, then the first of these becomes voiced" (Schadeberg 1999:391).

Meinhof's law, in its basic form stating that a nasal + voiced consonant becomes a geminate nasal when the next syllable also begins with a nasal, is not found in Liko, cf. **mbám̩ba** above and **ngámá** '1a.chief' in the following examples. An initial nasal-plus-consonant is not simplified by the deletion of the oral plosive.

(2.3) Contrasts involving labial consonants in the final syllable of the root between low vowels using the frame [a_a]:

ɓ	ɪ-baɓá	[bàɓá]	'9a-marsh'
p	pápá	[pápá]	'1a.shrew'
b	mabá	[màɓá]	'9.strap'
mb [ᵐb]	li-kámbá	[káᵐbá]	'5-upper arm'
f	-		
v	-		
nv [ᵐv]	-		
m	ngámá	[ᵐgámá]	'1a.chief'

(2.4) Contrasts involving labial consonants in the final syllable of the root between high vowels using the frame [ɔ_ɔ] or [u_u]:

ɓ	mɔ-nzɔɓú	[ᵐzòɓú]	'3-vine, sp.'
p	ndɔpú	[ᵐdùpú]	'1a.buffalo'
b	li-kúbu	[kúbù]	'5-umbilical cord, navel'

mb [ᵐb]	nzumbú	[ⁿzùᵐbú]	'9.edible leaf, sp.'
f	bí-kpǔfu	[kpǔfũ]	'MOD-short'
v	-		
nv [ᵐv]	-		
m	má-pumú	[pùmú]	'6-family need, assistance'

Alveolar consonants

There are no distributional restrictions for alveolar consonants, they occur in all positions in the root. The examples below are given in four sets. The first two sets show alveolar consonants in root-initial position preceding low and high vowels respectively. Contrasts between alveolar consonants in the onset position of the final syllable of the root between either low or high round vowels are presented in the last two sets.

(2.5) Contrasts involving alveolar consonants in root-initial position preceding a low vowel:

ɖ	lí-dǎdǎ	[dǎdǎ]	'5-flame'
t	takpá	[tǎkpá]	'9.forearm'
d	dǎ	[dǎ]	'1a.friend'
nd [ⁿd]	ndǎta	[ⁿdǎtà]	'9.rope, sp.'
s	sáka	[sákà]	'9.armpit'
z	li-zagasá	[zàgàsá]	'5-maraca'
nz [ⁿz]	nzǎ	[ⁿzǎ]	'9.hunger'
n	mu-nama	[nàmà]	'1-siren' ⁵⁶
l	lakí	[làkí]	'9.bush, sp.'

(2.6) Contrasts involving alveolar consonants in root-initial position preceding a high vowel:

ɖ	ɖúlú	[ɖúlú]	'9.heap of leaves'
t	tutú	[tùtú]	'9.forest'
d	dudǔ	[dùdǔ]	'9.rest, remains'

⁵⁶ Spirit in the form of a woman living in the water.

nd [ⁿd]	nduḅó	[ⁿdùḅó]	'1a.fish, sp.'
s	sukó	[sùkó]	'1a.dove, sp.'
z	zukó	[zùkó]	'9.scar'
nz [ⁿz]	nzúki	[ⁿzúkì]	'9.honey'
n	li-nungu	[nùᵑgù]	'5-termite hill'
l	luḅú	[lùḅú]	'1a.debt'

(2.7) Contrasts involving alveolar consonants in the final syllable of the root between low vowels using the frame [a_a]:

ḁ	gáḁá	[gáḁá]	'9.traditional knife'
t	ma-ngatá	[ᵑgátá]	'6-hair'
d	baláda	[bàládà]	'9.home distillery'
nd [ⁿd]	lɪ-gǎnda	[gǎⁿdà]	'5-balance'
s	lɪ-zagasá	[zàgàsá]	'5-maraca'
z	lɪ-ḁambáza	[ḁàᵐbázà]	'5-post'
nz [ⁿz]	mu-ganzá	[gàⁿzá]	'1-blood brother'
n	tana	[tànà]	'1a.small monkey, sp.'
l	ḅú-galá	[gàlá]	'14-tomorrow'

(2.8) Contrasts involving alveolar consonants in the final syllable of the root between high vowels using the frame [u_u] or [u_u]:

ḁ	guḁú	[gùḁù]	'1a.barricade'
t	lɪ-tutú	[tùtù]	'5-termite mound'
d	a-buḁḁ	[bùḁḁ]	'1b-fish, sp.'
nd [ⁿd]	gundu	[gùⁿdù]	'9.midnight'
s	mu-súsú	[sùsù]	'3-bud'
z	úzu	[úzù]	'9.island'
nz [ⁿz]	kúnzú	[kùⁿzù]	'9.plant, sp.'
n	mbúnú	[ᵐbùnù]	'9.band around a braid'
l	lɪ-dulú	[dùlù]	'5-post'

Palatal consonants

Liko has two palatal consonants that occur in all positions in the root. Data to exemplify the contrasts between palatal consonants is given in five sets. In the first

three sets, the palatal consonants precede low, high round and high unrounded vowels respectively. The examples in the second set have a vowel prefix. The third set with the high unrounded vowels /ɪ i/ is added, because it shows that /ny/ can be followed by these vowels. This is significant because /ny/ differs from obstruent-palatal oral sonorant sequences in this respect: the latter do not precede high unrounded vowels in Liko. Set four has palatal consonants as the onset of the final syllable of the root in a frame of two low vowels and set five has them between a high unrounded and a low vowel.

(2.9) Contrasts involving palatal consonants in root-initial position preceding a low vowel:

ny [ɲ]	nyǎsɪ	[ɲǎsɪ]	'9.thatch'
y [j]	yángba	[jǎ ^{am} gbà]	'1a.bird, sp.'

(2.10) Contrasts involving palatal consonants in root-initial position preceding a high round vowel:

ny [ɲ]	ɪ-nyúkú	[ɲúkú]	'9a-dirtiness'
y [j]	a-yúngú	[jú ^o gú]	'1b-whistle, hiss'

(2.11) Contrasts involving palatal consonants in root-initial position preceding a high unrounded vowel:

ny [ɲ]	nyɪk-á	[ɲìk]	'avoid-FV.IMP'
ny [ɲ]	nyíkísó	[ɲíkísó]	'9.ridicule'
y [j]	yínga	[jĩ ^o gà]	'9.feast'
y [j]	yĩmbó	[jĩ ^m bó]	'INTERJ, surprise!'

(2.12) Contrasts involving palatal consonants in the final syllable of the root between low vowels using the frame [a_a]:

ny [ɲ]	nganyá	[^o gàɲá]	'1a.fish, sp.'
y [j]	yayá	[jàjá]	'1a.older sibling'

(2.13) Contrasts involving palatal consonants in the final syllable of the root between a high and a low vowel using the frame [ʊ_a]:

ny [ɲ]	mbunyá	[^m bùɲá]	'1a.husband'
y [j]	mbuyá	[^m bùjá]	'9.leaf, sp.'

Restrictions with respect to the following vowel are that the palatal nasal /ny/ does not occur preceding the [+ATR] round vowels /u o/ in roots. In addition, when /ny/ is not in root-initial position, it is not followed by any high vowel. The other palatal consonant /y/ does not have such a restriction, e.g. **iyú** [ijú] '9.PRO' and **bu-buyú** [bùjú] '14-tree, sp. (teak)'.

Velar and glottal consonants

Velar consonants occur in all positions in the root, whereas the distribution of the glottal consonant /h/ is limited to the root-initial position. The first two sets of examples below include the velar and glottal consonants in root-initial position preceding low and high vowels. The last two sets show contrasts for the velar consonants in the onset position of the final syllable of the root between either low or high round vowels.

(2.14) Contrasts involving velar and glottal consonants in root-initial position preceding a low vowel:

k	li-kánda	[ká ⁿ dà]	'5-unhusked grain'
g	li-gǎnda	[gǎ ⁿ dà]	'5-balance'
ng [ŋg]	li-ngándá	[ŋgá ⁿ dá]	'5-plant, sp.'
h	-		

(2.15) Contrasts involving velar and glottal consonants in root-initial position preceding a high vowel:

k	kúḃa	[kúḃà]	'1a.turaco'
g	guḃá	[gùḃá]	'1a.monkey, sp.'
ng [ŋg]	nguḃó	[ŋgùḃó]	'9.tree, sp.'
h	yá-hǔ	[hǔ]	'9.ADJ-large area'

The glottal consonant /h/ is relatively rare. Apart from its distributional restriction it also has a limitation on the vowels it precedes. /h/ is not followed by the low vowel /a/ or the [−ATR] high and mid unrounded vowels /ɪ ɛ/. Examples of /h/

with [+ATR] high and mid unrounded vowels /i e/ are **ḡí-hisi** [hìsì] 'MOD-blurred' and **heee ḡí-teee** [hè: ḡítè:] 'INTERJ, exclamation of surprise'.

(2.16) Contrasts involving velar and glottal consonants in the final syllable of the root between low vowels using the frame [a_a]:

k	sáka	[sákà]	'9.armpit'
g	ngága	[^ŋ gágà]	'9.chin'
ng [^ŋ g]	lu-kpánga	[kḡpá ^ŋ gà]	'5-cassava paste'
h	-		

(2.17) Contrasts involving velar and glottal consonants in the final syllable of the root between high vowels using the frame [u_u]:

k	mbúku	[^m búkù]	'1a.antelope' & '9.grave'
g	búgu	[búgù]	'9.plantain, sp.'
ng [^ŋ g]	mbungú	[^m bù ^ŋ gú]	'1a.elephant'
h	-		

Labial-velar consonants

Labial-velar consonants have no distributional restrictions. The examples in the first three sets show the contrasts in root-initial position preceding low, high unrounded and high round vowels. The third set is added in order to show the constraint on the labial-velar oral sonorant /w/ with a following high vowel. The last two sets have labial-velar consonants as the onset of the final syllable of the root between low vowels or preceding the vowel /ɛ/⁵⁷.

(2.18) Contrasts involving labial-velar consonants in root-initial position preceding a low vowel:

kp [kḡp]	kpánga	[kḡpá ^ŋ gà]	'9.cassava paste'
gb [gḡb]	gbandá	[gḡbà ^ŋ dá]	'9.game (play)'

⁵⁷ The frame with two high round vowels cannot be used here because of a restriction with respect to the following vowel for /w/. The alternative frame shows that /w/ is contrastive in root-medial position.

ngb [ᵐgb]	ngbángá	[ᵐgbáᵑgá]	'1a.accusation'
w	wánd-á	[wáᵑdáj]	'plan-FV.IMP'

(2.19) Contrasts involving labial-velar consonants in root-initial position preceding a high unrounded vowel:

kp [kp̩]	kpíndi	[kpíᵑdì]	'ADV, early'
gb [gb̩]	li-gbító	[gbítò]	'5-prison'
ngb [ᵐgb̩]	ngbínɡó	[ᵐgbíᵑɡó]	'1a.time, period'
w	windí	[wíᵑdí]	'1a.buzzard, sp.'

(2.20) Contrasts involving labial-velar consonants in root-initial position preceding a high round vowel:

kp [kp̩]	kpúngbú	[kpúᵐgbú]	'1a.hornbill, sp.'
gb [gb̩]	gbundú	[gbùᵑdú]	'1a.forest'
ngb [ᵐgb̩]	ngbundű	[ᵐgbùᵑdű]	'9.mud'
w	-		

Restrictions with respect to the following vowel concern the labial-velar oral sonorant /w/ and the high vowels. In root-initial position, /w/ does not occur before high round vowels. When /w/ is the onset of the final syllable of the root, it does not precede any high vowel.⁵⁸

(2.21) Contrasts involving labial-velar consonants in the final syllable of the root between low vowels using the frame [a_a]:

kp [kp̩]	tákpá	[tákpá]	'9.forearm'
gb [gb̩]	kágbá	[kágbá]	'9.foot'
ngb [ᵐgb̩]	a-kágbá	[káᵐgbá]	'1b-tree, sp.'
w	á-gawa	[gàwà]	'1b-wild sugar cane'

(2.22) Contrasts involving labial-velar consonants in the final syllable of the root between non-low unrounded vowels:

⁵⁸ That is, in non-derived nouns. **mu-tíwí** [tíwì] 'advice' is derived from **-tíw-** [tíw] 'give advice', see 7.12.1.

kp [kp̄]	dɛlɛkpé	[dɛlɛkp̄é]	'9.mushroom, sp.'
gb [gb̄]	a-tígbe	[tígbe]	'1b-sparrowhawk'
ngb [ṁgb̄]	kpéngbé	[kp̄ṁgb̄é]	'1a.finger'
w	ɪwe	[ɪwè]	'2SG.PRO'

b. Same manner of articulation

In order to show contrasts of consonants with the same manner of articulation, but a different place of articulation, examples are given in two sets for consonants in root-initial position preceding a low and a high vowel.

Implosives

(2.23) Contrasts involving implosives in root-initial position preceding a low vowel:

ɓ	ɓak-á	[ɓàk]	'sharpen-FV.IMP'
ɗ	ɗak-á	[ɗàk]	'go up-FV.IMP'

(2.24) Contrasts involving implosives in root-initial position preceding a high vowel:

ɓ	ɓíky-á	[ɓíki] ⁵⁹	'speak-FV.IMP'
ɗ	ɗíky-á	[ɗíki]	'start-FV.IMP'

Voiceless plosives

(2.25) Contrasts involving voiceless plosives in root-initial position preceding a low vowel:

p	pángá	[pá ⁰ gá]	'9.cheek'
t	táng-á	[tá ⁰ g]	'count-FV.IMP'
k	kangá	[ká ⁰ gá]	'9.bed'
kp [kp̄]	kpang-á	[kp̄à ⁰ g]	'kiss-FV.IMP' ⁶⁰

⁵⁹ The final vowel of a verb root is desyllabified between a consonant and verb-final **-a**. For the tone on the final vowel of the verb root, see 4.4.2 and 7.6.

⁶⁰ Lovers: give a kiss, others: embrace with arms around the other.

(2.26) Contrasts involving voiceless plosives in root-initial position preceding a high vowel:

p	pik-ó	[pìk]	'build-FV.IMP'
t	tíko	[tíko]	'9.field'
k	lí-kíkó	[kíkó]	'5-dike'
kp [kp̚]	kpik-ó	[kpìk]	'write-FV.IMP'

Voiced plosives

(2.27) Contrasts involving voiced plosives in root-initial position preceding a low vowel:

b	bă	[bă]	'enlarge:FV.IMP'
d	dă	[dă]	'1a.friend'
g	li-gă	[gă]	'5-epilepsy'
gb [gb̚]	gbă	[gbă]	'reduce:FV.IMP'

(2.28) Contrasts involving voiced plosives in root-initial position preceding a high vowel:

b	bum-á	[bùm]	'hit-FV.IMP'
d	duma	[dùmà]	'1a.lyre'
g	gum-á	[gùm]	'pass again-FV.IMP'
gb [gb̚]	gbum-á	[gbùm]	'forbid-FV.IMP'

Prenasalized voiced plosives

(2.29) Contrasts involving prenasalized voiced plosives in root-initial position preceding a low vowel:

mb [ᵐb]	mbángáná	[ᵐbáᵑgáná]	'1a.fish, sp.'
nd [ᵐd]	ndambú	[ᵐdàᵐbú]	'9.tree, sp.'
ng [ᵑg]	ngángá	[ᵑgáᵑgá]	'9.time, occasion'
ngb [ᵑᵐgb̚]	ngbángá	[ᵑᵐgbáᵑgá]	'1a.accusation'

(2.30) Contrasts involving prenasalized voiced plosives in root-initial position preceding a high vowel:

mb [ᵐb]	mbuyá	[ᵐbùjá]	'9.leaf, sp.'
nd [ᵐd]	ndúyá	[ᵐdújá]	'1a.infertile person'
ng [ᵑg]	nguyá	[ᵑgùjá]	'1a.wild boar'

ngb [ᵐgb] ngbundũ [ᵐgbũᵐdũ] '9.mud'

Voiceless and voiced fricatives

Because of the sparsity of words with /f/, /h/ or /v/ only one set of examples is given for voiceless and one for voiced fricatives.

(2.31) Contrasts involving voiceless fricatives in root-initial position preceding a high vowel:

f	fúkúm-á	[fúkúm]	'shove with a stick-FV.IMP'
s	sukúḏ-á	[súkúḏ]	'try in vain to dig-FV.IMP'
h	huky-á	[húkí]	'strive for honour-FV.IMP'

(2.32) Contrasts involving voiced fricatives in root-initial position preceding a high vowel:

v	vukúl-á	[vúkúl]	'sit down-FV.IMP'
z	zúkúl-á	[zúkúl]	'shake-FV.IMP'

Prenasalized voiced fricatives

(2.33) Contrasts involving prenasalized voiced fricatives in root-initial position preceding a low vowel:

nv [ᵐv]	ı-nvá	[ᵐvá]	'1c-dog'
nz [ᵐz]	nzá	[ᵐzá]	'9.hunger'

(2.34) Contrasts involving prenasalized voiced fricatives in root-initial position preceding a high vowel:

nv [ᵐv]	nvunvú	[ᵐvũᵐvú]	'9.down, fluff'
nz [ᵐz]	nzunzú	[ᵐzũᵐzú]	'9.swarm'

Nasal sonorants

(2.35) Contrasts involving nasals in root-initial position preceding a low vowel:

m	mamá	[mámá]	'1a.mother'
n	nála	[nálà]	'9.braids, sp.'
ny [ɲ]	nyamá	[ɲámá]	'1a.animal, beast'

(2.36) Contrasts involving nasals in root-initial position preceding a high vowel:

m	míkí	[míkí]	'1a.child'

n	níné	[níné]	'1a.aunt' ⁶¹
ny [ɲ]	nytk-á	[ɲìk]	'avoid-FV.IMP'

Oral sonorants

(2.37) Contrasts involving oral sonorants in root-initial position preceding a low vowel:

l	lakí	[làkí]	'9.bush, sp.'
y [j]	yáɲ	[jáɲ]	'INTERR, where'
w	waní	[wàɲ]	'INTERR, 1a.who'

(2.38) Contrasts involving oral sonorants in root-initial position preceding a high vowel:

l	lind-ó	[lì ⁿ d]	'sink-FV.IMP'
y [j]	yĩmbó	[jĩ ^m bó]	'INTERJ, surprise!'
w	windí	[wì ⁿ dí]	'1a.buzzard, sp.'

2.2.3 Airstream mechanisms

All Liko consonants are produced by means of the pulmonic egressive airstream mechanism except two contrastive voiced consonants at the labial and alveolar places of articulation, which are produced by means of glottalic ingressive airstream, /b/ and /d/. They are both voiced. I refer to them as 'implosives'. The way they are produced in Liko is as Maddieson formulates (2003:28):

"The segments labeled as implosives are sometimes described as if a glottal constriction is characteristic of their production. In Bantu, this is typically not the case; the vocal folds are in the normal position for voicing. Rather, what is critical is that the larynx is lowering during their production, so that the size of the supralaryngeal cavity is being enlarged while the oral closure is maintained. This may have two principle effects - first, it allows the amplitude of vocal fold vibration to increase during the closure, giving a particularly strong percept of voicing at the time of the release, and second, it may mean that the intra-oral pressure is relatively low at the time when the closure is released so that at the moment of release the initial airflow is ingressive."

⁶¹ I.e. father's sister.

2.2.4 Manner of articulation

The consonants produced with egressive airstream are divided according to their manner of articulation: plosives, fricatives, nasal and oral sonorants. Plosives and fricatives are further subdivided into voiced and voiceless sets - there is no such contrast with nasals and oral sonorants. The voiceless plosives /p t k kp/ are unaspirated. Prenasalization is only found with voiced plosives and voiced fricatives. The nasal is homorganic to the following consonant with respect to place of articulation.

The alveolar trill [r] has not been included in Table 2 with Liko contrastive consonants, because it does not occur in nouns, verbs, adverbs or adjectives. It is found exclusively in some ideophones and interjections:

(2.39) Alveolar trill [r]:

ḡí-rrr	[ḡír:]	'MOD-shiver'	<i>ideophone</i>
ḡí-byerrr	[ḡíbjèr:]	'MOD-ripe'	<i>ideophone</i>
arurr	[àrùr:]	'ouch!'	<i>interjection</i>
rígo	[rígò]	'hurrah!' ⁶²	<i>interjection</i>
irryá	[ír:já]	'pull!'	<i>interjection</i>

Ameka (2001:30) notes that in general, deviations from canonical phonological patterns - in this case the [r] - as well as lengthening for expressive purposes are characteristics of ideophones and interjections. All words with an alveolar trill fall into one of these categories. There is one reported Mangbetu loanword in my data which is pronounced with an alveolar trill: **á-trabá** [átràbá] '1b-small pottery tool'. If Congo Swahili or French words with a rhotic consonant are borrowed, the rhotic consonant is usually rendered with the lateral sonorant /l/ in Liko.

(2.40) Loanwords from Congo Swahili or French with rhotic consonant:

li-dilísa	[dilísà]	'5-window'	<i>dirisha</i> (Congo Swahili)
balúwa	[bàlúwà]	'1a.letter'	<i>barua</i> (Congo Swahili)
gilípe	[gilípè]	'9.flu'	<i>grippe</i> (French)
kaltéle	[kàlìjélè]	'9.quarry' (gold)	<i>carrière</i> (French)

⁶² A slogan used in circumcision rites.

If the lateral sonorant /l/ occurs root-initially, it is always produced as a lateral, but when it occurs intervocalically, in particular between two identical vowels, it has the alveolar lateral flap [ɭ] (or perhaps the alveolar flap [ɾ]) as allophone, e.g. **ká-al-á** [káàlá] / [káàɭá] '9b-chop-FV'⁶³, **a-bála** [àbálà] / [àbálɭà] '1b-concubine, mistress' and **ɿ-ngbóɭ** [ɿ^{̃m}gbóɭ] / [ɿ^{̃m}gbóɭ] '1c-dugout'.

Labial-velar plosives /kp gb ngb/ constitute a special case: the labial part of the consonant may be realized as voiceless or voiced bilabial trill. I have analysed these sounds as labialized labial-velar plosives. Since this phenomenon is not found very often in Bantu languages⁶⁴, I have listed all examples in my data (almost all of them are expressive, more than half are ideophones, some may be repeated):

(2.41) Bilabial trill [B]:

ɸí-kpwaaa	[kɸà:]
'IDEO, MOD-sound of small hard objects hitting the ground'	
ɸí-kpwě	[kɸě]
'IDEO, MOD-s.th. breaks with a snap'	
kpwíngi	[kɸí [̃] gì]
'1a.lion'	
kó-kpwit-ó	[kɸìt]
'9b-jump down from high-FV'	
-kpwǎ	[kɸǎ]
'ADJ, narrow, closed (e.g. a bag)'	
ɸí-kpwú	[kɸú]
'IDEO, MOD-difficult entry'	
gbwaaa	[gbà:]
'IDEO, sound of wood breaking'	

⁶³ Infinitive forms are analyzed as verbal nouns, in noun-class 9b.

⁶⁴ Probably words with the bilabial trill and the bilabial trill as a sound are borrowed from Mangbetu. Several of these words were recognized by a Mangbetu speaker, M. Lokpari Philippe, Professeur des langues africaines at the ISP in Isiro in 2013, with similar or different meaning. In Liko, the bilabial trill is stronger compared to Mangbetu. Mangbetu has /pw/, /bw/ and /mbw/, Lombi, a language spoken to the southwest of the Liko area, has /pw/, /kpw/, /bw/, /gbw/, /mbw/ and /ngbw/, Kutsch Lojenga, p.c.

gbwanga6a	[gbà ^ɔ gà6à]
'INTERJ, "I caught s.th.!" '	
ɪ-gbwégbwɛ	[gbégbè]
'9a-twig'	
6í-gbwengebɛgbwengebe	[gbè ^ɔ gèbègbè ^ɔ gèbè]
'IDEO, MOD-hobble along'	
6í-gbwua-gbwua	[gbùàgbùà]
'IDEO, MOD-hurts the teeth when chewing'	
nă-gbwua	[gbùà]
'na:1-rope for harvesting mangos'	
gbwu	[gbù]
'IDEO, sound of a drum: "war!" '	
ó-gbwuo-gbwúó	[gbùògbúó]
'1b-withered maize on the field'	
6í-ngbwí	[^m gbí]
'IDEO, MOD-disorderly'	

2.2.5 Place of articulation

The place of articulation of a consonant is generally named for the passive articulator. To account for the Liko underlyingly contrastive consonants, the more usual designations for places of articulation are used: labial, alveolar, palatal and velar. In addition, the Liko consonant chart has a column "glottal" for the glottal fricative /h/ and a column "labial-velar" for the double plosives /kp, gb, ngb/ and the oral sonorant /w/.

The consonants /d/ and /l/, although produced somewhat more backwards than the alveolar ridge, are listed with the consonants realized at the alveolar ridge, because there is no contrast between consonants produced at and behind the alveolar ridge.

2.2.6 Complex consonants

Several kinds of complex consonants occur as syllable onsets: labial-velar plosives and prenasalized obstruents. They are analysed as multiple articulations linked to a single C-slot, based on simultaneity of articulation in the case of labial-velar plosives and on homorganic behaviour in the case of prenasalized obstruents. Articulation differs between labial-velar plosives on the one hand and prenasalized

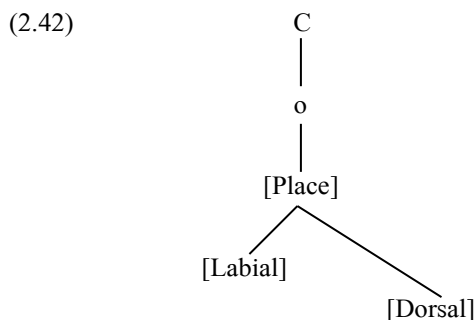
obstruents on the other in that articulation is simultaneous for the first plosives and sequential for the latter. The prenasalized labial-velar plosive [$\widehat{\text{mgb}}$] has both simultaneous and sequential articulation.

Within the framework of autosegmental phonology, it is possible to represent multiple articulations within a segment by many-to-one associations to a single timing unit. In the representations of these consonants, the following feature specifications are used: [Labial], [Coronal] and [Dorsal] for place of articulation (i.e. labial, alveolar and velar⁶⁵ respectively, generalized where applicable as [Place]) and a primitive feature [nasal] for the initial element of prenasalized obstruents. Features that are the same for the different articulators are not overtly specified in the representations.

a. Simultaneous Articulation

There are two consonants with simultaneous articulation within a single C-slot: the voiced and the voiceless labial-velar plosives [$\widehat{\text{kp}}$, $\widehat{\text{gb}}$]. The two simultaneous articulations differ in their place of articulation only, while they are the same for manner of articulation and for voicing.

The representation for labial-velar plosives is:



⁶⁵ Dorsal can refer to both the palatal and the velar places of articulation; in Liko it is not necessary to further specify Dorsal in [$\pm$ back] because Liko does not have palatal obstruents.

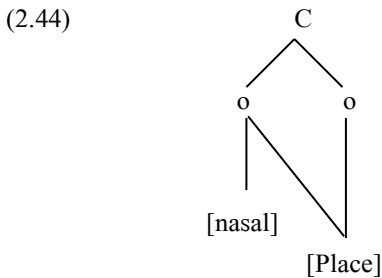
Examples include:

(2.43)	kpáká	[kpáká]	'9.trap'
	kpíḃa	[kpìḃà]	'9.joke'
	kpúkú	[kpúkú]	'9.handcuffs for a madman'
	gbángítá	[gbá ^ᵛ gítá]	'9.thick forest'
	li-gbitókú	[gbìtókú]	'5-proverb'
	gbundú	[gbù ⁿ dú]	'1a.forest'

b. Sequential Articulation

Prenasalized consonants in Liko are homorganic and voiced. Prenasalization is found exclusively with voiced obstruents. Most frequent are combinations of a nasal and the voiced plosives, i.e. [ᵐb, ᵐd, ᵐg] or with the voiced fricative [ᵐz]. Combinations with the voiced labial fricative [ᵐv] are rare. The nasal is unspecified for place of articulation. Its feature specification is obtained through spreading from the place of articulation of the obstruent.

The prenasalized obstruents are analysed as complex consonants, represented as follows:



The segmental status of NC sequences is hard to resolve when a language does not have a phonological contrast between intervocalic prenasalized segments and NC clusters. The obstruent in /mb nd ng ngb nv nz/ in most cases does not cause a following H tone to be realized LH (see 4.5). This means that prenasalized obstruents have to be treated as complex consonants. Examples of nouns stems in which /mb nd ng ngb nv nz/ are the onset of a syllable with a H tone include:

(2.45)a.	mbígo	[ᵐbígò]	'9.drill'
	ndúmbú	[ᵐdúᵐbú]	'9.nudity'

b.	ndúyá	[ⁿ dúyá]	'1a.infertile person'
	pándá	[pá ⁿ dá]	'9.scabies'
c.	bu-ngámá	[bù ⁿ gámá]	'14-wealth, kingdom'
	lóngú	[ló ⁿ gú]	'1a.duiker'
d.	ngb́ngó	[^{nm} gb́ ⁿ gó]	'1a.time, moment'
	súngbú	[sú ^{nm} gbú]	'1a.uninhabited area'
e.	nvínvínví	[^m ví ^m ví ^m ví]	'1a.bird, sp.'
f.	nzénzè	[ⁿ zè ⁿ zè]	'1a.bat'
	mu-mbánzú	[mù ^m bá ⁿ zú]	'1-person'

In verb roots, the voiced obstruents /b d g gb v z/ are never followed by a H tone if they occur as the first consonant of the root. Examples of verbs (in Infinitive forms) in which prenasalized consonants are the onset of the first syllable of the verb root with a H tone include:

(2.46)a.	kó-mbímb-ó	[kó ^m bí ^m bó]	'9b-throw-FV'
b.	ká-ndúng-á	[ká ⁿ dú ⁿ gá]	'9b-discover-FV'
c.	ká-ngát-á	[ká ⁿ gátá]	'9b-ripen-FV'
d.	ká-ngbát-á	[ká ^{nm} gbátá]	'9b-play an instrument-FV'
e.	ká-nvínvily-á	[ká ^m ví ^m vílyá]	'9b-suck-FV'
f.	ká-nzúď-á	[ká ⁿ zúďá]	'9b-despise-FV'

Additional support comes from the observation that N is not a noun-class prefix synchronically and from the distribution of NC sequences. Liko does not have nasal prefixes, for instance, the plural form of **mbungú** [^mbùⁿgú] '1a.elephant' is **6a-mbungú**, not ***6a-bungú**, and the plural of **ndumbí** [ⁿdù^mbí] '9.fight' is **6a-ndumbí**, not ***6a-dumbí**. The distribution of prenasalized consonants is not limited to root-initial position, they also occur root-medially or as the onset of the final syllable, e.g. **pambálá** [pà^mbálá] '9.eruption', **gbóndúká** [gbúⁿdúká] '1a.clay jar', **mu-vanzí66** [vàⁿzí66] '1-small ant', **gbǒnguló** [gbǒⁿgùló] '9.drying rack' and **kpángbála** [kpá^{nm}gbála] '9.wall of a house'.

The prenasalized labial-velar plosive [^{nm}gb] consists of simultaneous articulation of the [Labial] and [Dorsal] articulators, preceded by a nasal. The underlyingly unspecified nasal receives its specification for place of articulation from the labial-velar plosive, and is therefore homorganic to it. The labial-velar plosive is a

As mentioned above, Liko has a type of vowel harmony based on ATR, displaying both root-internal [ATR] agreement and harmony at the word level. [+ATR] is the dominant feature within its domain. There is no low [+ATR] vowel, but the low [−ATR] vowel /a/ can co-occur with [+ATR] vowels in root morphemes. In contexts in which /a/ undergoes vowel harmony triggered by a dominant [+ATR] value, it has the [−low, +round] vowel /o/ as its [+ATR] counterpart. For a treatment of ATR vowel harmony, I refer the reader to the next chapter on Phonological Processes.

An impression of Liko vowel-formant means shows that the [+round] vowels /u/ and /o/ are perceptually very close; they have almost the same F1 values. Each point in the chart represents the mean of ten tokens of vowels in the penultimate position in words spoken by a male speaker. Recordings are from Jean-Pierre Kamenabake in 2010, measurements are done by me.

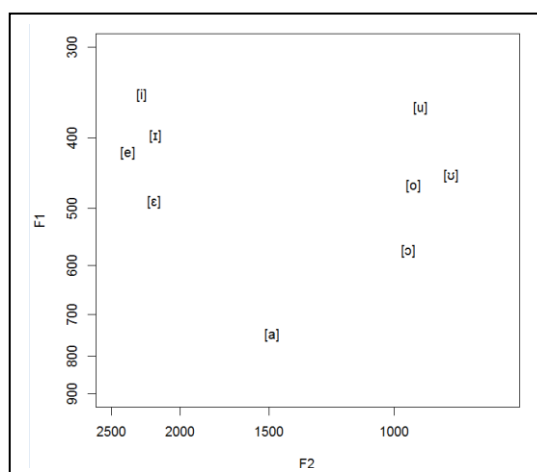


Figure 2: Liko vowel-formant means

2.3.2 Vocalic contrasts

The following sets exemplify the contrasts between the vowels. The first set shows contrasts between [−ATR] vowels, and the second between [+ATR] vowels (and the [−ATR] vowel /a/), while in the third set vowels with a different [ATR] value are contrasted.

(2.49) Contrasts involving [–ATR] vowels /ɪ ɛ ɔ ʊ/:

ɪ - ʊ	mu-mbanzí	[^m bà ⁿ zɪ]	'3-rib'
	mu-mbánzú	[^m bá ⁿ zú]	'1-person'
ɪ - ɛ	títu	[títɪ]	'1a.bird, sp.'
	títé	[títɛ]	'1a.grandparent'
ɪ - ɔ	něki	[někì]	'ADV, therefore'
	nékɔ	[někò]	'1a.fetish'
ɪ - a	kángɪ	[ká ^ɔ gì]	'1a.snake, sp.'
	kánga	[ká ^ɔ gà]	'1a.guinea-fowl'
ʊ - ɛ	a-mbú	[^m bú]	'1b-bush, sp.'
	a-mbé	[^m bɛ]	'1b-fish, sp.'
ʊ - ɔ	bí-gbu	[gbù]	'IDEO, MOD-full'
	bí-gbo	[gbò]	'IDEO, MOD-fetid'
ʊ - a	lɪ-ɖagú	[ɖàgú]	'5-kick with the foot'
	lɪ-ɖagǎ	[ɖàgǎ]	'5-hole'
ɛ - ɔ	lɪ-kě	[kě]	'5-tree, sp.'
	lɪ-kɔ	[kò]	'5-spring'
ɛ - a	mu-balá	[bàlá]	'3-curse'
	mu-bele	[bɛlɛ]	'1-big monkey, sp.'
ɔ - a	lɪ-gǔ	[gǔ]	'5-cola nut'
	lɪ-gǎ	[gǎ]	'5-epilepsy'

(2.50) Contrasts involving [+ATR] vowels /i e o u/ and the [–ATR] vowel /a/:

i - u	li-bí	[bí]	'5-group, clan'
	li-bú	[bú]	'5-ashes'
i - e	i-wíli	[wíli]	'9a-area, courtyard'
	í-welé	[wɛlé]	'1c-edible snail, sp.'
i - o	ɖu-likí	[líkí]	'14-seat'
	ɖu-likó	[líkó]	'14-tree, sp.'
i - a	ngíngí	[^ɔ gí ^ɔ gí]	'1a.stupid person'
	ngángá	[^ɔ gá ^ɔ gá]	'9.time, occasion'
u - e	i-bombú	[bò ^m bú]	'9a-pond, lake'
	i-bembé	[bè ^m bé]	'1c-tree, sp.'
u - o	bí-kpǔ	[kpǔ]	'IDEO, MOD-close firmly'
	bí-kpǒ	[kpǒ]	'IDEO, MOD-pouring water'

u - a	ngundú	[ⁿ gù ⁿ dú]	'9.emptiness'
	ngandá	[ⁿ gà ⁿ dá]	'9.placenta'
e - o	i-ngbé	[^m gbé]	'9a-pole'
	i-ngbo	[^m gbò]	'1c-aardvark'
e - a	li-kembé	[kè ^m bé]	'5-thumb piano'
	lu-kámbá	[ká ^m bá]	'5-upper arm'
o - a	bóbo	[bóbo]	'1a.dumb man'
	bába	[bába]	'1a.swallow, sp.'

(2.51) Contrasts involving vowels with a different [ATR] value:

ɪ - i	ma-lílí	[lílí]	'6-food'
	mólílí	[mólílí]	'1a.bird, sp.'
ʊ - u	mʊ-ɓungú	[bù ^ɔ gú]	'3-clay block'
	mu-ɓungú	[bù ^ɔ gú]	'3-back side of a house'
ɛ - e	li-senzé	[sè ⁿ zé]	'5-tree, sp.'
	li-sénzé	[sé ⁿ zé]	'5-flute'
ɔ - o	bí-bó	[bó]	'IDEO, MOD-very good'
	bí-bó	[bó]	'ADV, MOD-at daybreak'

The following words in my data have free variation of the high vowel in the root (the [+round] variant is most common)⁶⁶:

(2.52)	kó-pútút-ó	[kópútútó]	[kópútútó]	'9b-hug-FV'
	mu-úzi ⁶⁷	[mùúzi]	[mùízi]	'3-cord, thread'
	(s)ɪ-bukú-sɔ ⁶⁸	[ìbùkúsɔ]	[sìbikúsɔ]	'19-shrub, drug-19'

⁶⁶ In these examples, I have included the prefixes and the suffixes in the phonetic representation.

⁶⁷ From Congo Swahili *uzi* 'thread, cord'.

⁶⁸ The prefix-initial /s/ is optional.

2.4 Syllable structure

Liko syllable structures are listed and exemplified below:

Table 5 Liko syllable structures

Syllable	Example		
V	úzu	[ú.zù] ⁶⁹	'9.island'
CV	díkídĩ	[dì.kí.dĩ]	'9.secret'
CGV	nasyagí	[nà.sjà.gí]	'1a.edible mushroom, sp.'

The most common syllable structures within roots in the language are CV and V. CV-, V- and CGV-syllables occur in all positions in the word.

CV-syllables in word-initial, word-medial and word-final position:

- (2.53) pǔ [pǔ] '1a. rat, sp.' & '9.edible mushroom'
 púku [pú.kù] '9.cloud'
 bǒpuwó [bǒ.pù.wó] '1a.adult man who will be circumcised'
 bǒkolopú [bǒ.kò.lò.pú] '9.parasite (plant), sp.'

Liko does not have syllabic nasals. Prenasalized consonants are analysed as single complex stem-initial consonants (see 2.2.6). They form the onset of the syllable, which is confirmed by Liko-speakers' intuitions about the syllables of their language. Words with a prenasalized consonant like **mbóku** [ʰmbókù] '1a.adult' and **i-zǒmbu** [izǒʰmbù] '9a-vine, sp.' are judged by the Liko consultants I worked with to be best syllabified as [ʰmbókù] and [izǒʰmbù], not as *[m.bókù] or *[i.zǒm.bù]. This also applies to the prenasalized labial-velar plosives, e.g. **ngbínɡó** [ŋʰmbínɡó] '9.time, moment' and **ɗungbú** [dù.ŋʰgbù] '1a.slit drum'.

V-syllables in word-initial, word-medial and word-final position:

- (2.54) ópé [ó.pé] '1a.taboo food'
 maďáaní [mà.ďá.à.ní] '1a.parasite (plant), sp.'
 í-gbukúu [í.ɡbù.kú.ù] '1c-carp'

⁶⁹ I follow the IPA where syllables are shown by separating them with a period as boundary symbol.

In the last two examples, the vowels in **dáa** and **kóu** are analysed as a sequence of two short vowels, not as a long vowel. Firstly, there is no process in Liko in which a short vowel becomes a long vowel. Secondly, when V_1 -elision or height coalescence applies in the environment of two vowels across a morphological boundary, it results in one short vowel (see 3.3.1, 3.3.2 and 3.3.3).

Other examples of CV-syllables followed by a V-syllable include:

(2.55)	i-wíí	[i.wí.í]	'9a-dance'
	mádíí	[má.dí.ì]	'6-banana tree, sp.'
	i-kwíí	[i.kwí.ì]	'9a-eyelash'
	sít-sít	[sít.sí.ì]	'1a.bird, sp.'
	ɪ-kwíí	[ì.kwí.ì]	'9a-eyelid'
	kuú	[kù.ú]	'9.publicity, announcement'
	mu-túu	[mù.tú.ù]	'3-advice'
	ngóo	[^h gó.ò]	'1a-buzzard, sp.'
	sóko	[sò.ó.kò]	'1a.bean'
	másáá	[má.sá.á]	'ADV, three times'

The first two slots of the verb root are repeated when a noun is derived, e.g.

-bungusi- [bù.ngù.sì] 'repair', **li-bubungusyó** '5-arrangement, preparation'. If a noun is derived from a verb root in which the second syllable is a V-syllable, only the consonant and the first vowel are repeated: **-búuli-** [bú.ù.ì] 'look after, protect', **li-búbuulyó** 'protection'.

In my data there are two verb roots with VV root-initially, **ká-út-á** [ká.ì.í.tá] '9b-change-FV' and **kó-uús-ó** [kó.ù.ú.só] '9b-ask-FV'. The first vowel does not belong to the root, because it does not bear the primary tone (see 4.4.2), as is clear from the Future verb form **núta** 'I will change'. In Liko, the primary tone is linked to the first tone-bearing unit (TBU) of the verb root, which is the second syllable in this case.⁷⁰

⁷⁰ The first vowel is probably an inherent reflexive prefix, see 7.3.

The examples in (2.56) show CGV in word-initial, word-medial and word-final position, (2.56a) the palatal oral sonorant, (2.56b) the labial-velar oral sonorant:⁷¹

(2.56)a.	lɪ-ɸyɛ	[lɪ.ɸjɛ]	'5-hole'
	kyɛ	[kjɛ]	'CONJ, because'
	pyekúmá	[pjɛ̃.kú.má]	'1a.monkey, sp.'
	syogbú	[sjò.ɡbú]	'1a.hunting spear'
	mu-ngizyö	[mù. ^ɳ gì.zjǒ]	'1-ant, sp.'
b.	pw-á	[pwá]	'pick-FV.IMP'
	ɸwálí	[ɸwà.lí]	'14:sperm'
	ɸa-na-kwálí	[ɸà.nà.kwá.lí]	'2-na:1-sparrowhawk'
	mu-sókwá	[mù.sú.kwá]	'1-caterpillar'

The consonant and the palatal or labial-velar oral sonorant form a branching onset. With respect to the distribution of branching onsets with an oral sonorant, there are some restrictions on the first consonant. Labial fricatives [f, v, ^ɱv] hardly ever occur as the first consonant of a branching onset, neither in roots nor at morphological boundaries.⁷² Labial-velar plosives [kp, gb, ^ɱgb] are never followed by a palatal oral sonorant. Examples of labialized labial-velar plosives are given above, in (2.41).

Branching onsets with a palatal or labial-velar oral sonorant are rarely followed by a high vowel. The only cases in my data with the palatal oral sonorant are **ɸu-kyóngǔ** [kjú.^ɳgǔ] '14-vine, sp.' and **ɸyĩ** [ɸjĩ] 'ADV, far'. For the labial-velar oral sonorant, a following high vowel is limited to branching onsets with a velar plosive, e.g. **ká-gwĩ** [gwĩ] '9b-grab, hold s.o.-FV', **mu-kwíno** [kwínò] '1-orphan'. Other examples of CGV-syllables, with different consonants, are given below.

(2.57) G is the palatal oral sonorant [j] in:

pyekúmá	[pjɛ̃.kú.má]	'1a.monkey, sp.'
mbyémbyɛ	[^ɱ bjɛ̃. ^ɱ bjɛ̃]	'1a.fish with red belly'

⁷¹ The lateral oral sonorant never occurs as the second consonant.

⁷² The only exceptions in my data are **kó-fy-ó** '9b-hiss, wheeze-FV' and the ideophones **ɸɸ-fwaaa** 'sound of s.th. pulled over a surface' and **ɸɸ-fwaka-fwaka** 'sound of dry leaves'.

li-buđya	[li.bù.đjá]	'5-modern time or behaviour'
li-syɔgɔ	[li.sjə̌.gɔ]	'5-unripe palm nut'
zulyá	[zù.ljá]	'1a.bird, sp.'
kyɔkyɔ́ɔ	[kjə̌.kjə̌.ɔ]	'1a.bird, sp.'
li-nyéngye	[li.ᵑgje.ᵑgje]	'5-pebble'

(2.58) G is the labial-velar oral sonorant [w] in:

pwáyɪ	[pwá.jì]	'9.wound'
mu-mbwogɔ	[mù.ᵐbwò.gɔ]	'1-edible caterpillar'
li-ndwáɪ	[li.ᵑdwá.li]	'5-plant, sp.'
ɪ-swé	[ì.swé]	'9a-hoof'
bugwé	[bù.gwé]	'1a.uncle'
mɪ-kwá	[mù.kwá]	'1-enemy'
móngwɔ	[mó.ᵑgwɔ]	'1a.arrow'

The phonetic nature of the palatal or labial-velar oral sonorant in CGV-syllables

Liko has a series of phonetically palatalized and labialized consonants which are in surface contrast with their plain counterparts, but which are either historically or synchronically the product of desyllabification of underlyingly high vowels.⁷³ Spectrograms show a separate voiced segment between the consonant and the [–high] vowel which lasts several tens of milliseconds.

In **mázyá** '9.malaria', for example, the F2 value in the middle of this interval of time is 2092 Hz (F2 baseline values for the same male speaker are 2164 for [ɪ] and 1485 for [a]), which gives phonetic support for an analysis as /mázíá/ instead of /mázyá/. An analysis as [zyá] would be feasible if F2 would have a low value at

⁷³ In his first analysis of the Liko phonology Casali (2004:5) commented: "Since a case can be made that palatalized consonants arise from underlying prevocalic /Ci/ and /Cɪ/ sequences, and since palatalized velar plosives do not contrast in Liko with palatal plosives (the two to some extent being in free variation), palatal plosives might plausibly be analysed as deriving via glide formation from underlying /CV/ sequences in which C is a velar plosive and V a high front vowel." In Bantu languages, Hyman (2003:55) says that the "post-consonant glides [y] and [w] are typically derived from underlying vowels."

the release of the oral sonorant and would move more or less immediately toward to the value of [a]. This is not what happens in Liko.⁷⁴

Likewise, in **ḥú-ḥwá** '14-size', the F2 value in the middle of the segment between [ḥ] and [á] is 686 Hz (F2 baseline value of [u] for the same male speaker is 830), hence [ḥúḥwá].

Compare the length of the voiced segment between the consonant and the length of the vowel in the following spectrograms:

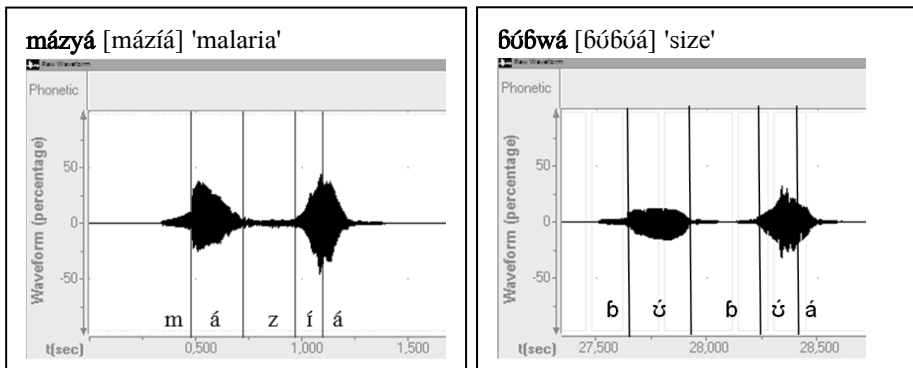


Figure 3: Spectrograms of **mázyá** and **ḥú-ḥwá**.

In the environment between a consonant and a vowel, the vowel following the consonant is desyllabified (see 3.3.5), resulting in a branching syllable onset.

Other possible analyses, as palatal consonants, or as secondary articulation conflict in one way or another with the phonetic data. The sequences of a consonant and a palatal oral sonorant are not analysed as palatal consonants, because spectrograms suggest that these sequences consist of two separate segments, the consonant and a voiced segment. The analysis of the voiced segment, being secondarily articulated to the onset, thus forming a complex segment (C^vV or C^wV), lacks contrasts in Liko between consonants with and without this secondary articulation (e.g. C^wV vs. CwV).

⁷⁴ I would like to thank Rod Casali, p.c., for his ideas to investigate the phonetics of glides.

Glides

The phonological status of glides is ambiguous. In some cases, a glide is clearly consonantal, as can be seen in the contrasts between the palatal and labial-velar oral sonorants in root-initial position (see 2.2.2). In other cases, the glide is derived from an underlying vowel as in disyllabic verb roots by desyllabification of the root-final vowel (see 3.3.5), or the glide is a vowel phonetically, but part of a branching onset as in the above CGV sequences.

If, in a certain context, the glide is not homorganic with either of its adjacent vowels, it is analysed as inherent, i.e. having contrastive consonant status.

Examples are **-wawă** [wàwă] 'ADJ, biting (wound)', **yayá** [jàjá] '1a.older sibling', **ɪ-wayá** [ìwàjá] '9a-dried banana leaf', **á-gawa** [ágàwà] '1b-wild sugar cane', **ká-táy-á** [kátáyá] '9b-put the hand in s.th.-FV', **ká-sáw-á** [kásáwá] '9b-carry s.th. by strap over the shoulder-FV', **mu-poyó** [mùpòjò] '1-mysterious creature', **mu-goyó** [mùgòjò] '1-flea', **mu-buyó** [mùbùyó] '1-caterpillar, sp.'. Examples of sequences of non-high vowels of different vowel height with an intervening oral sonorant are: **kpóya** [kpójà] '9.dance', **a-gángeya** [àgá^hgèjà] '1b-tree, sp.', **í-kawé** [íkàwé] '9a-scabies', **bákayo** [bákàjò] 'like that (conclusion)'.

Loanwords

Loanwords are adapted to the Liko phonology and syllable structures. Consonant clusters and consonants in word-final position in the source language conflict with the Liko system, which does not have closed syllables. Liko speakers add an epenthetic vowel between the consonants of a cluster and after a word-final consonant, or they delete a word-final consonant. The epenthetic vowel is often a high unrounded vowel.

Examples include:

(2.59)	li-bilíki	[lìbilíki]	'5-brick'	<i>brique</i> (French)
	pastéle	[pàsítélè]	'1a.pastor'	<i>pasteur</i> (French)
	sáki	[sáki]	'1a.bag'	<i>sac</i> (French)
	masě	[màsě]	'1a.nun'	<i>ma soeur</i> (French)

2.5 Word structure

2.5.1 Nouns

Nouns consist of a stem, a prefix and, for some nouns, an enclitic. The predominant and basic syllable pattern for noun stems in Liko is -CVCV, accounting for over half of the noun stems, followed by -CVCVCV at a distance. A sizeable minority of noun stems, over 100 in my data, has a monosyllabic -CV structure. A V-syllable in noun stems is rare. Noun-class prefixes have the shape CV- or V-. Noun-class enclitics have the structure -CV.

Noun stems of more than three syllables exist, with a maximum length of five CV-syllables in my data. Four-syllable noun stems are about as frequent as monosyllabic CV-roots, but the majority of nouns with more than three syllables consist of reduplicated forms of various types (mostly without existing corresponding non-reduplicated form).

The following words are examples of nouns with four syllables without reduplication:

- (2.60) kúmbélendú [kú^mbélèⁿdú] '1a.small house'
 mu-ndongongbíli [mùⁿdò^ŋgò^mgbíli] '3-tendon'

Examples of four-syllable noun stems with some type of reduplication:

- (2.61) kúyakúya [kújàkújà] '1a.calao, sp.'
 mu-bíðébidé [mùbídēbídē] '3-top of a tree'
 gbagbăsyangí [gbàgbăsjà^ŋgí] '9.tree, sp.'
 mángbéngbetú [má^mgbé^mgbètú] '1a.small fish, sp.'
 si-gogobé [sì-gògòbé] 'sr:1-squirrel, bird, sp.'

A few five-syllable noun stems occur in my data without apparent reduplication or apparent traces of compounding, e.g. **tíndílígbutí** [tíⁿdílígbití] '9.plant, sp.', **a-mbílímásùká** [m^mbílímásùká] '1b-snake, sp.' and **tákálágbumu** [tákálágbòmù] '1a.insect, sp.'. Other five-syllable noun stems are likely to have reduplication, e.g. **li-didiyapadá** [dìdìyàpàdà] '3-vine, sp.' and **mu-fofokótíbí** [fòfòkótìbì] '3-vine, sp.',

or they are compounds with an associative prefix, e.g. **mu-lípyómándugá** [lípyómándùgá] '3-vine, sp.'.

2.5.2 Verbs

The most common structure of a verb root in Liko is -CVC-. Consonants constitute the onset of a syllable. Grammatical verb morphemes often do not fit syllable structure. For example, the syllable and morpheme boundaries never coincide in the following example: **Ø-in-is-on-og-o** 3SG-see-CAUS-ASS-PLUR-FV, [i.nì.sò.nò.gò] 'he will often appear'.⁷⁵ In all verb forms, a morpheme-final consonant syllabifies with a following vowel, either the final vowel or the vowel of a suffix or verb extension. All examples in this section are given with the class 9b prefix **ká-**, the final vowel **-a** of the Infinitive.⁷⁶

Examples of -CVC- verb roots include:

- (2.62) **ká-kúḁ-á**⁷⁷ [kákúḁá] '9b-hit-FV'
kó-muk-ó [kómùkó] '9b-pull out-FV'

Other common structures are -CVCVC-, -CV- and -CVCV-. In -CVCVC- verb roots, the vowels are identical in about two thirds of the roots, e.g.:

- (2.63) **ká-mbukúḁ-á** [ká^mbùkúḁá] '9b-dig using fingers-FV'
kó-pilíng-ó [kópilí^ŋgó] '9b-twist-FV'

Longer structures do exist, but they involve one or more derivational suffixes, e.g. the Pluractional extension **-ag-** as in **-dingon-og-** [dì^ŋgònòg] 'nid-nod', or the derivation **-man-** which conveys the idea of coming into a state and which is primarily attested in derivations from nominal modifiers or adjectives to verbs, e.g. **-kédě** [kédě] 'small', **-kídi-man-**⁷⁸ [kídì^màn] 'become small'.

⁷⁵ **-in-** 'see', **-inis-** 'cause to see' ([+ATR] vowel harmony applied, changing the vowel of the verb root and the final vowel to a [+ATR] value), **-inison-** 'appear', **-inisonog-** 'appear repetitively'.

⁷⁶ The affix vowels assimilate to the [+ATR] value of the verb roots.

⁷⁷ The TAM melody of Infinitive is final-vowel High: a H tone on final vowel **-a**.

⁷⁸ The vowel of the verb root is high unrounded. Mid unrounded vowels do not occur in

As for -CV- and -CVCV- verb roots, the root-final vowel either merges with a following vowel or it is desyllabified, yielding the structure -(CV)CGV.

Examples of -CV- and -CVCV- verb roots (in Infinitive forms):

(2.64)		<u>root</u>		
	ká-kpă	/kpa/	[kákpă]	'9b-hit-FV'
	kó-my-õ	/mi/	[kómjõ]	'9b-pull out-FV'
	ká-kuly-á	/kult/	[kákùljá]	'9b-cut back-FV'
	kó-húkw-ó	/húku/	[kóhúkwó]	'9b-open-FV'

There are three -CVCVCV- verb roots in my data: **-gbukumi-** [gbùkùmì] 'lay down face downwards', **-gbukumi-** [gbùkùmì] 'brood' and **-kukumi-** [kòkùmì] 'hold tight'.⁷⁹

Relatively rare are verb roots with the structure -VC(VC)(VC)-, especially the longer forms. In some cases, the initial V-syllable is the (reflexive) prefix **ĩ-**, as in **ká-ig-á** [káìgá] '9b-bend-FV' or **ká-ib-ó**⁸⁰ [káìbó] '9b-know-FV'. Here are some examples of -VC- verb roots (in Infinitive forms):

(2.65)	ká-al-á	[káàlá]	'9b-chop, cleave-FV'
	ká-íkít-á	[káìkítá]	'9b-enter-FV'
	ká-ib-ó	[káìbó]	'9b-steal-FV'
	ká-ul-á	[káùlá]	'9b-break-FV'
	ká-up-ó	[káùpó]	'9b-rest-FV'

Verb roots with -VCVC(VC)- structure are rare. Examples include:

(2.66)	ká-ukán-á	[káùkáná]	'9b-hear-FV'
	ká-angány-á	[káà ^h gáñá]	'9b-refuse-FV'
	ká-idífúf-ó	[káìdífúfó]	'9b-try hard-FV'
	kó-uúbúkón-ó ⁸¹	[kóùbúkónó]	'9b-writhe-FV'

verb roots.

⁷⁹ I do not know whether it is a coincidence that they are quite similar.

⁸⁰ The [-ATR] vowel quality of the class 9b prefix shows the presence of the reflexive prefix, see 3.2.2.3.

⁸¹ These last two examples are the only -VCVCVC- verb roots in my data.

Verb roots with a V-syllable are also rare. Examples of -CVV-, -CVVC- and -CVVCV- structures include:⁸²

(2.67)	<u>root</u>		
ká-syé	/sú/	[kásjé]	'9b-follow:FV'
ká-saán-á	/saan/	[kásàáná]	'9b-quarrel-FV'
kó-ǂúúly-ó	/búuli/	[kóǂúúljó]	'9b-protect-FV'
kó-buúkón-ó	/buukon/	[kóǂùúkónó]	'9b-turn o.s. upside down, tumble town-FV'

2.5.3 Restrictions on consonants and vowels

Like many Bantu languages, Liko has restrictions on the (co)occurrence of consonants and vowels in words and affixes.

With respect to frequency of occurrence of vowels, the most frequent are the high and low vowels /i u a/, followed by the mid round vowel /o/. The [–ATR] mid vowels /ɛ ɔ/ occur less frequently. Least frequent is the mid unrounded vowel /e/.

a. Consonant constraints

As far as consonants are concerned, the distribution of /v, ^ɱv/ is generally limited to root-initial position, unless there is reduplication. The fricative /h/ occurs only in root-initial position. Labial-velar and prenasalized consonants do not occur in affixes. Apart from probably accidental gaps (i.e. in ideophones /m/ and /n/ are missing, in adverbs /h/ and /z/ do not occur, and there is no nominal modifier with an initial /n/ in my data), there are no distributional restrictions with respect to consonants, including prenasalized plosives⁸³.

b. Vowel constraints in nouns

In vowel-initial noun stems, every vowel occurs in initial position except the mid unrounded vowels /ɛ e/.

⁸² Apart from **ká-syé**, they probably contain a petrified extension.

⁸³ I mention prenasalized plosives because Hyman remarks (2003:50): "In PB, noun and verb roots did not begin with NC."

Table 6 shows the co-occurrences of vowels in disyllabic noun stems. An attempt has been made to exclude loanwords, derivations and reduplicated stems.⁸⁴

Table 6 Combinations of vowels in disyllabic noun stems

ɪ-ɪ	ndímu	'1a.animal, sp.'	i-i	li-tíndí	'5-heel'
ɪ-ɛ	mbíkɛ́	'9.clay pot'	i-e	li-tíke	'5-banana, sp.'
ɪ-a	li-píla	'5-guava'	i-a	mu-píla	'3-scarification'
ɪ-ɔ	píyɔ	'1a.viper'	i-o	li-píko	'5-side'
ɪ-u	-		i-u	-	
ɛ-ɪ	mu-nzekí	'1-termite, sp.'	e-i	nédí	'1a.small rat, sp.'
ɛ-ɛ	li-léke	'5-pelvis'	e-e	ngbezě	'1a.bird, sp.'
ɛ-a	-		e-a	-	
ɛ-ɔ	mébo	'1a.insect, sp.'	e-o	-	
ɛ-u	kpemú	'1a.hornbill'	e-u	dembú	'1a.mammal, sp.'
a-ɪ	li-bálí	'5-stomach'	a-i	ndáki	'1a.road'
a-ɛ	mu-bǎdɛ	'3-maize'	a-e	-	
a-a	mu-balá	'3-curse'	-		
a-ɔ	-		a-o	-	
a-u	bu-tambú	'14-shrub, sp.'	a-u	li-badú	'5-hole'
ɔ-ɪ	ngondí	'1a.crocodile'	o-i	mu-tónzi	'3-shrub, sp.'
ɔ-ɛ	-		o-e	koǎé	'9.cave'
ɔ-a	-		o-a	kpóya	'9.dance'
ɔ-ɔ	kpólɔ	'1a.side'	o-o	gbóngo	'1a.bird, sp.'
ɔ-u	mu-sɔpú	'3-intestine'	o-u	mboǎú	'1a.rodent, sp.'
u-ɪ	ndumbí	'9.fight'	u-i	mu-pumbí	'3-ladle'
u-ɛ	mu-nugbé	'1-caterpillar, sp.'	u-e	li-buté	'5-unripe fruit'

⁸⁴ Nouns with a vowel which is underlyingly different from its surface realization have not been included, i.e. **i-bikýá-su** [ɪbikjásù] '19-fury, madness-19', **i-dumá-su** [ɪdùmásù] '7-mourning-7', **(s)i-kú'bá-su** [ikú'básù] '19-chest-19', **ku-káká-ku** [kùkákákù] '15-housekeeping-15'. The underlying vowel in these roots is not /a/ but /o/.

u-a	kúgba	'1a.game bag'	u-a	đúnga	'9.winnowing basket'
u-ɔ	mú-dǔkpɔ	'3-walking stick'	u-o	mbúnzo	'9.fallow land'
u-u	lɪ-ngúku	'5-bald head'	u-u	gbulú	'9.vine, sp.'

General remarks

The gaps in Table 6 of vowel co-occurrences in disyllabic noun stems are to some extent related to the low frequency of /ɛ e/ and to the apparent preference in Liko for V_1 and V_2 to be either identical (about half of the disyllabic nouns) or to have a different value for [high]. Vowel-height dissimilation may be the reason behind the sparsity of examples in which one vowel is low and the other one is mid or when both are mid. There are no gaps when the vowels differ maximally in vowel height (high vs. low), or when one vowel is high and the other is mid.

high vowels: /ɪ-u/ and /i-u/

In underived disyllabic nouns, a high round vowel does not occur as V_2 if V_1 is high unrounded. This does not indicate a phonetic constraint, because there are many examples in which a high round vowel is preceded by a high unrounded vowel, e.g. **ɪ-gbǔ** [ɪgbǔ] '9a-small branch' and **i-ɓulú** [iɓulú] '1c-black snake, sp.'. Other examples are **bibú** [bìbú] '9.story', a nominalization from **-bɪb-** 'tell', or roots with a high round vowel, preceded by a modifier prefix with a high unrounded vowel, as **ɓi-ngbú** [ɓi^{nm}gbú] 'MOD, red', **ɓi-tú** [ɓítú] 'MOD, bright, white'.

mid vowels: /ɛ-ɔ/ and /e-o/, /ɔ-ɛ/ and /o-e/

Co-occurrence of mid vowels in a root is rare and for one of these combinations it is absent. If a combination does exist, there are only a few examples. The list is: for /ɛ-ɔ/, **méɓo** [méɓò] '1a.insect, sp.', **ku-ngbéko** [kù^{nm}gbékò] '15-tree, sp.' and **néko** [nékò] '1a.fetish'⁸⁵, for /ɔ-ɛ/, **ɔpé** [ópé] '1a.taboo food', **á-gómé** [ágómé] '1b-treaty', for /o-e/, **a-yómbé** [àyómbé] '1b-heron', **á-yopé** [ájòpé] '1b-land crab', **koɓé** [kòɓé] '9.cave' and **si-gogoɓé** [sìgògòɓé] 'sr:1-squirrel, bird, sp.'. The combination /e-o/ does not occur in roots, but only in cases with initial **nV-**, like **né-kokí** [nékòkí] 'na:1-bracelet'.

⁸⁵ **néko** is reported to be a loanword from Budu.

mid unrounded vowels and the low vowel: /a-ε/ and /a-e/, /ε-a/ and /e-a/

When a low vowel precedes a mid unrounded vowel, there is no restriction for the combination /a-ε/, e.g. **mu-bǎḍe** [mùbǎḍɛ] '3-maize', **í-mangé** [ímà^ɲgɛ́] '1c-starling'. For /a-e/ however, the only examples in my data are borrowings, e.g. **ḡu-sitafélì** [ḡùsitàfélì], '14-fruit tree, sp.'.

In disyllabic noun stems, a mid unrounded vowel is not followed by a low vowel. Nouns with initial **nV-** show that this is not a phonetic constraint, e.g. **négbǎ** [négbǎ] '1a.lizard' and **némbala** [né^mbàlà] '1a.tree, sp.'. ⁸⁶ In plural forms with prefix **ḡa-**, height coalescence of /a/ and /ɪ i/ to a mid vowel is not prevented by a constraint, as can be seen in the plural forms **ḡe-dǎ** [ḡédǎ] '2+9:9a-spot, stain', sg. **ɪ-dǎ** [ídǎ] '9a-spot, stain' and **ḡe-danga** [ḡédà^ɲgà] '2:1c-insect, sp.', sg. **í-danga** [ídà^ɲgà] '1c-insect, sp.'.

mid round vowels and the low vowel: /a-ɔ/ and /a-o/, /ɔ-a/ and /o-a/

Disyllabic nouns with an /a-ɔ/ or /a-o/ sequence are very rare. The only such noun stems attested are **mádɔ** [mádɔ] '1a.vine, sp.' and **madó** '1a.privateer'. A noun with initial **nV-** and /a-ɔ/ is **nǎ-ḡo** [nǎḡò] 'nǎ:1-fish, sp.'. The combination /a-ɔ/ does occur in trisyllabic nouns, e.g. **kaḡoḡɪ** [kàḡòḡɪ] '1a.vine, sp.'.

Combinations of a [−ATR] mid round vowel /ɔ/ and the low vowel are absent in my data. ⁸⁷ For the [+ATR] mid round vowel /o/, there are only two examples, the one given in Table 6 and the other being **ndóya** [n^ɲdójà] '9.chicken pox'.

c. Vowel constraints in verbs

The great majority of -CVC- verb roots have vowels that are maximally distinct in terms of vowel height, i.e. either low or high, /a/ or /ɪ i u u/. In disyllabic verb roots, the second vowel is always low or high.

⁸⁶ Both words are reported to be loanwords from Mangbetu.

⁸⁷ The only exception is a compound based on Swahili loanwords for a type of vine named 'to die (Congo Swahili **kufa**) and to get better (**kupona**)' (flowers droop when someone pulls at the vine and raise their leaves some time later) **kúfa-na-kupóna** [kúfànàkùpónà]. Congo Swahili /o/ is usually realized as /ɔ/ in Liko.

[+ATR] mid vowels occur only as V_1 in verb roots. The [+ATR] mid unrounded vowel /e/ occurs only in one verb root in my data, **-bedul-** [bèdùl] 'surpass'. The [+ATR] mid round vowel /o/ does occur, but not frequently, e.g. in -CVC- roots like **-bos-** [bòs] 'please' and **-kóng-** [kó⁹g] 'roast', in the -CVCVC- roots **-sósuw-** [sósùw] 'yawn' and **-zotul-** [zòtùl] 'be surprised' and in the -CVCV- roots **-gbodi-** [gbòdì] 'coat' and **-tókú-** [tókú] 'chew'.

Surface [−ATR] mid vowels occur only in case of -CV- and -CVV- verb roots. Here is an exhaustive list of the Infinitive forms of the relevant verbs in my data:

(2.68)	surface		underlying	
a.	ká-tě	[kátě]	/tɪ-a/ ⁸⁸	'9b-put aside:FV'
b.	ká-ḡḡ	[káḡḡ]	/ḡu-a/	'9b-deceive:FV'
	ká-kó	[kákó]	/kú-a/	'9b-pick fruit/vegetables:FV'
	ká-kḡ	[kákḡ]	/ku-a/	'9b-cut:FV'
	ká-kpḡ	[kákpḡ]	/kpɔ-a/	'9b-dig:FV'
	ká-nyḡ	[kánpḡ]	/ɲu-a/	'9b-pull up, pull out:FV'
	ká-pḡ	[kápḡ]	/pu-a/	'9b-rot:FV'
	ká-sḡ	[kásḡ]	/su-a/	'9b-weed:FV'
c.	ká-ḡyě	[káḡjě]	/ḡu-a/	'9b-follow:FV'
	ká-pyě	[kápjě]	/pu-a/	'9b-burn:FV'
	ká-syé	[kásjě]	/sú-a/	'9b-pass (time), sleep:FV'
d.	ká-mwó	[kámwó]	/móu-a/	'9b-kill:FV'
	ká-wḡ	[káwḡ]	/wu-a/ ⁸⁹	'9b-row:FV'
e.	ká-dwě	[kádwe]	/duɪ-a/	'9b-arrive:FV'
	ká-ɪkwě	[káɪkwě]	/ɪkui-a/	'9b-look:FV'

As shown in these examples, I have analysed these surface [−ATR] mid vowels as underlyingly high. The [+high, α round] vowel of the verb root and the [+low] verb-final vowel result in a vowel with features [−high, −low, α round]. Evidence

⁸⁸ The H tone on the final vowel of the Infinitive TAM melody becomes LH if a -CV- verb root has a primary L tone.

⁸⁹ Positing the underlying form as */wu-a/ would cause a problem with the constraint on /w/ followed by a high vowel in noun stems.

for positing an underlying high vowel comes from longer verb forms with inflectional or derivational suffixes with a high vowel. In (2.69a), the vowel of the verb root is followed by the Anterior aspect final vowel **-i**, in (2.69b, c) by the Causative extension **-is**, in (2.69d) by the Applicative extension **-ɪ** and in (2.69e) by the Subjunctive final vowel **-ɪ**. In (2.69f), the initial CV of the verb root is repeated (**-ɪu-** → **-ɪɪu-**) as can be seen in the Infinitive form **káɪɪɪyá** (***káɪɪɪyɛ**).

(2.69)	<u>surface</u>		<u>underlying</u>
a.	ǎǎǎni	[ǎǎǎni]	/ǎǎ- [̃] -ɪu- ^H i-ní/ ⁹⁰
	'they have deceived him'		3PL-1.O-deceive-FV.ANT-PFV
b.	kópusó	[kópùsó]	/ká-pu-is-á/
	'to cause to rot'		9b-rot-CAUS-FV
c.	udwiso	[ùdwìso]	/u-dɪu-is-o/
	'he will let you arrive'		3SG:2SG.O-arrive-CAUS-FV
d.	íkpuɪyá	[íkpuɪljá]	/í-kpu-ɪɪ-á/
	'he dug for himself'		3SG ^P :REFL-dig-RES-APPL-FV ^P ⁹¹
e.	asyító na ɪɪúsú	[àsɟítò]	/a-sú-í-tɔ/
	'that he stay with us'		3SG-stay-FV.SUBJ-INS
f.	nɪɪɪya	[nòɪɪjà]	/na-u-ɪɪɪ-a/ ⁹²
	'I follow you'		1SG:2SG.O-follow-FV

d. Consonant and vowel constraints in affixes

In prefixes, the consonant inventory is restricted to /b t k s m n l j w/. In suffixes only /t k g s m n l j/ occur. This means that voiced obstruents, labial-velar plosives, prenasalized consonants and fricatives except /s/ do not occur in prefixes. The same applies to suffixes, with the exception of /g/. In addition, implosives do not occur in suffixes.

⁹⁰ The H tone of the Perfective aspect suffix **-ní** is changed into a L tone if the final vowel **-i** of Anterior aspect is High.

⁹¹ Superscript "P" is used as notation for a High TAM tone which has a time reference to the past.

⁹² Reduplication, Infinitive **káɪyɛ** 'to follow'.

Affix vowels are underlyingly maximally distinct in terms of vowel height, i.e. either high /i u/ or low /a/. Mid vowels /ɛ e ɔ o/ do not occur as an underlying vowel in prefixes and suffixes.⁹³ Surface mid unrounded vowels are the result of height coalescence (see 3.3.2 and 3.3.3). The surface [+ATR] mid round vowel is an assimilated /a/ in a [+ATR] context.

Underlying /ɔ/ occurs in noun-class enclitics and in verbal enclitics, i.e. the Insistive enclitic **-tɔ** and the Supplicative enclitic **-nɔ**. The negative enclitic **-gu** has a high vowel.

⁹³ It would be unusual to have a suffix with a mid vowel, as suffixes in Bantu languages generally have either high or low vowels. Steriade 1995:156: "(...) mid vowels are underlyingly disallowed in Bantu suffixes, as well as most Bantu prefixes."

3 Vowel Harmony and Phonological Processes

3.1 Introduction

The main part of this chapter consists of a presentation of ATR vowel harmony, which is pervasive in the language. The analysis presented here is based primarily on the theory of autosegmental phonology. In autosegmental phonology, assimilation processes are represented by spreading rules.⁹⁴ The second part of this chapter describes Vowel Sandhi.

[+ATR] dominance is widespread and reported for many Niger-Congo languages and [+ATR] dominant suffixes are widely attested in languages with an [ATR] contrast in the high vowels, i.e. where /i/ alternates with /i/ and /u/ with /u/.⁹⁵ The following researchers have published data or given papers on vowel harmony in Liko, in chronological order: Kutsch Lojenga (1999), Casali (2002), Nederveen (2004), De Wit (2007) and Kutsch Lojenga (2009). The subject is of interest because in Liko, where [+ATR] is the dominant feature, underlying [–ATR] enclitics influence preceding [+ATR] vowels.

The data gathered during my latest field-research visits to the Liko people in 2010 and 2013 contain several new elements that were not available at the time when the analyses of the Liko vowel system mentioned above were made. These new elements include: data on three [–ATR] dominant verbal enclitics, data on the domain of [ATR] spreading and data relevant for the analysis of the transparency of the low vowel /a/. [–ATR] verbal enclitics provide contexts in which ATR harmony can be shown with new verb forms, in contrast to [–ATR] noun-class enclitics. ATR vowel harmony is the subject of 3.2.

⁹⁴ According to Archangeli and Pulleyblank (1994), the four parameters of autosegmental rules are: Function: insert / delete, Type: path / F-element, Direction: left to right / right to left and Iteration: iterative / noniterative.

⁹⁵ Casali (2008:515, 520), who refers to Hall et al. 1974; Kaye et al. 1985.

Section 3.3 on Vowel Sandhi presents vowel elision, height coalescence, heterosyllabification and desyllabification. The section aims to give an overview of where these processes occur, but does not envisage describing the verb forms in detail. The reader is referred to Chapter 7 "Verbs" for more information on verb morphology.

3.2 ATR vowel harmony

Liko is a nine-vowel language with an [ATR] contrast in the high and mid vowels. The language has an ATR harmony system with five [–ATR] vowels /ɪ ɛ a ɔ u/ and four [+ATR] vowels /i e o u/. In this harmony system, /ɪ/ alternates with /i/, /u/ with /u/, /ɛ/ with /e/, /ɔ/ with /o/ and /a/ with /o/. The vowel /o/ functions as the [+ATR] counterpart of /a/.⁹⁶ Morphemes have either [+ATR] or [–ATR] vowels. The exceptions involve the [–ATR] /a/: Liko has root morphemes with both [+ATR] vowels and /a/.

Liko has [+ATR] dominant suffixes (including one verbal extension). [+ATR] suffixes have one of the high vowels /i u/. With the presence of [+ATR] dominant suffixes⁹⁷, this type of language is commonly referred to as an ATR-dominant harmony language. In the ATR literature summarized in Casali (2008:514), two types of harmony are distinguished: (1) root-controlled harmony: the [ATR] values of affix vowels harmonize with those of the root; the [ATR] value of root vowels do not change; (2) dominant harmony: affixes (predominantly suffixes) which do not alternate in their [ATR] value, but are invariantly [+ATR], and which cause [–ATR] root vowels to become [+ATR]. Affixes which are associated with the word will typically become [+ATR] as well. Liko has a [+ATR] dominant harmony system.

⁹⁶ Kutsch Lojenga (2009:66) comments that there are no non-Bantu languages anywhere near Liko which exhibit this particular pair in their vowel-harmony processes. She adds that one of the neighbouring Bantu languages, Budu, has /a/ → /o/ changes, but only in left-to-right processes.

⁹⁷ Casali (2008:515): "Although root-controlled harmony is characteristic of Niger-Congo languages of West Africa, there are also Niger-Congo languages with at least one or two potential [+ATR] dominant affixes."

Remarkably, the language has several [−ATR] enclitics which either resist assimilation in a [+ATR] context or show [−ATR] dominant properties. [−ATR] enclitics have either /ʊ/ or /ɔ/.⁹⁸

This section on ATR vowel harmony in Liko starts by giving evidence for [ATR] contrast in roots (3.2.1). Section 3.2.2 focusses on [+ATR] spreading and the domain of [+ATR] spreading. In 3.2.3, the status and surface realizations of the low vowel /a/ are presented. Section 3.2.4 describes the enclitics which are [−ATR] dominant. In environments with some [−ATR] enclitics, vowel-height dissimilation occurs. The findings are summarized in 3.2.5.

3.2.1 ATR contrast in roots

Liko roots exhibit underlying contrast between [+ATR] and [−ATR] in roots with high or mid vowels. If a root is underlyingly linked to a [+ATR] value, then the [+ATR] feature is linked within the root domain to all non-low vowels. In my data about 40% of the disyllabic noun stems are [+ATR] and almost 30% of the -CVC-verb roots are [+ATR].

ATR contrast of disyllabic noun stems with high and mid vowels is exemplified in the following two sets:

(3.1) [−ATR] high vowels		[+ATR] high vowels	
ɡɪní	'9.ripe bananas'	ɡɪní	'9.stories'
tĩti	'1a.bird, sp.'	mu-tĩti	'1-swelling'
ʒungú	'9.clay blocks'	ʒungú	'9.back sides (of houses)'
kúkú	'1a.fish, sp.'	kúkũ	'1a.parrot'
(3.2) [−ATR] mid vowels		[+ATR] mid vowels	
li-senzé	'5-tree, sp.'	li-sénzé	'5-flute'
beze	'9.stupidity'	ngbezě	'1a.bird, sp.'
dɔngó	'9.rows'	dɔngó	'9.distance'
li-mbǎmbó	'5-tree, sp.'	ʒu-mbombó	'14-slowness (to react)'

⁹⁸ The enclitics are: negative **-gu**, Supplicative **-no**, Insistive **-tɛ** and noun-class enclitic **-Co**.

In trisyllabic noun stems, all high and mid vowels are either [+ATR] or [−ATR] vowels:⁹⁹

(3.3)	lɪ-kúlúgbé	'5-gourd'	[−ATR]
	mɪ-ngímbólí	'1-insect'	
	li-gwolípo	'5-cross eyes'	[+ATR]
	mu-lúkutú	'3-bundle of leaves'	

Contrasts of verb roots with high vowels are:¹⁰⁰

(3.4)	<u>[−ATR] high vowels</u>	<u>[+ATR] high vowels</u>
	-lík-	'set traps'
	-pík-	'swing, sway'
	-gum-	'iron'
	-pup-	'blow'
	-lík-	'dry'
	-pík-	'build'
	-gum-	'crawl'
	-pup-	'come out'

Examples of ATR contrast in adverbs include:

(3.5)	<u>[−ATR] high vowels</u>		<u>[+ATR] high vowels</u>	
	ǂí-ǂǂ	'very good'	ǂí-ǂǂ	'very early, at daybreak'
	ǂí-ǂúku-ǂúku	'fat, plump'	ǂí-ǂúku-ǂúku	'busy with work'

3.2.2 [+ATR] dominance

Liko has roots and suffixes that are underlyingly [+ATR]. [+ATR] spreads to [−ATR] vowels, causing them to assimilate to the [+ATR] value. First, [+ATR] spreading from roots is described, followed by [+ATR] spreading from suffixes. The domain of [+ATR] spreading is investigated at the end of this section.

3.2.2.1 [+ATR] spreading from roots

All prefixes are [−ATR]. When they precede [+ATR] roots, the prefix vowel assimilates to the [+ATR] value of the root.

⁹⁹ There are virtually no examples in my data, where one high or mid vowel is [+ATR] and the other is [−ATR]. The only exceptions are probably compounds or may have a petrified enclitic: **pómbáyɪ** '1a.monkey, sp.', **sómbwáyɪ** '1a.antelope, sp.' and **mu-nzikabú** '1-man without mercy'.

¹⁰⁰ There are no -CVC(V)-verbs with mid [−ATR] vowels in the language.

Noun-class, adjective and enumerative prefixes are given in order to show [+ATR] spreading. When [+ATR] is associated with a root, it spreads to the prefix vowel, as can be seen in the examples in (a) in the three sets below. The prefixes in the examples in (3.6-8b) precede a [−ATR] root morpheme.

Noun-class prefixes preceding [+ATR] and [−ATR] noun stems:

- (3.6)a. 6o-ndindĩ '2-insect, sp.'
 li-kúbu '5-umbilical cord, navel'
 mu-pumí '3-door'
- b. 6a-kótu 2-ant, sp.'
 lĩ-sísí '5-oil palm tree'
 mu-tíwĩ '3-advice'

Adjective prefixes preceding [+ATR] and [−ATR] adjectives:

- (3.7)a. mu-kúďú '3.ADJ-short'
 yí-dingĩ 9.ADJ-big'
- b. mu-kédě '3.ADJ-small'
 yĩ-kúngú '9.ADJ-tall, high'

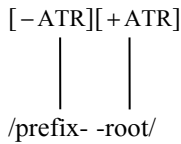
Enumerative prefixes preceding a [+ATR] and a [−ATR] numeral stem:

- (3.8)a. mĩ-motí '3.NUM-one'
 mĩ-6ă '3.NUM-two'

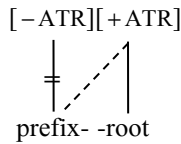
Modifier prefix **6ĩ-** precedes manner adverbs, ideophones and nominal modifiers and it assimilates to the [+ATR] value of the following root. As with the above examples, (3.9a) shows [+ATR] spreading and (3.9b) the prefix preceding a [−ATR] root:

- (3.9)a. 6ĩ-tidi 'MOD-completely'
 6ĩ-kukuku 'MOD-heavy rain with storm, pounding strongly (heart)'
 6ĩ-nzengé 'MOD-scattered'
- b. 6ĩ-6ulu 'MOD-silently'
 6ĩ-ďaluuu 'MOD-viscous'
 6ĩ-ngbú 'MOD-red'

[+ATR] spreading can be visualized as follows:

(3.10) Underlying structure

→

[+ATR] spreading

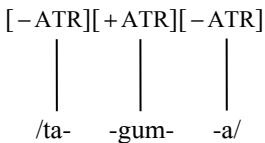
Spreading from [+ATR] roots does not affect the [ATR] value of other roots. In compounds, noun stems of either value may co-occur, e.g. **li-gombomóya** '5-branch used for roof support' and **fo-twómabúsyá** '2-star constellation'.

Verb forms consist of roots and affixes. All verb prefixes are underlyingly $[-ATR]$. The verb suffixes with underlyingly a [+ATR] association are listed in Table 7 in the next section. Other verb suffixes are underlyingly $[-ATR]$.

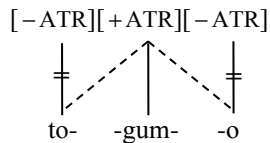
I start by looking at simple verb forms with a subject prefix and a final vowel. In the verb forms below, the verb roots in (3.11a) are underlyingly [+ATR] and the ones in (3.11b) are $[-ATR]$. In (3.11a), the subject prefix and the final vowel **-a** assimilate to the [+ATR] value:

- (3.11)a. to-lík-o 1PL-dry-FV¹⁰¹ 'we will dry'
 to-gum-o 1PL-crawl-FV 'we will crawl'
- b. ta-lík-a 1PL-set a trap-FV 'we will set a trap'
 ta-gũm-a 1PL-iron-FV 'we will iron'

[+ATR] spreading in **togumo** 'we will crawl' can be visualized as follows:

(3.12) Underlying structure

→

[+ATR] spreading

¹⁰¹ The Low surface tone on the subject prefix and on the final vowel indicate that time reference is to the future. Tone melodies on verb forms are described in 7.6.

Baković proposes that the preferred direction of spreading is universally 'root-outward' (in Casali 2008:534), also called bi-directional (anticipatory and progressive). Other languages with bidirectional [+ATR] spreading include Akan (Clements 1981) and Nkengo (Leitch 1996). Because Liko does not have a root-controlled ATR vowel harmony system, it is not necessary to specify directionality.

The subsequent examples illustrate the assimilation of high vowels. In the first set, the verb root is preceded by the reflexive prefix *ĩ-*, and in the second set by the class 2 object prefix *ũ-*, while in the third set, the verb root is followed by the Subjunctive final vowel *-i*.

Reflexive prefixes harmonize preceding roots linked to [+ATR] (3.13a) or surface with their [-ATR] value (3.13b):

- (3.13)a. *ĩ-dĩng-o* 3SG:REFL-paint-FV 'she¹⁰² will put on make-up'¹⁰³
 ĩ-sumb-o 3SG:REFL-burn-FV 'he will burn himself'
 b. *ĩ-bũnk-a* 3SG:REFL-carry-FV 'he will boast'¹⁰⁴
 ĩ-busy-a 3SG:REFL-wash-FV 'he will wash himself'

The final vowel harmonizes as well. The vowel of the subject prefix in (3.13) and (3.14) is elided because of *V₁*-elision in the context of a sequence of two vowels across a morpheme boundary (see 3.3.1).

The class 2 object prefix and the final vowel assimilate to the [+ATR] value of the root as in (3.14a) or surface with their [-ATR] value as in (3.14b):

- (3.14)a. *ũ-vid-o* 6o-mbofú 'he will flay small rodents'
 3SG:2.O-peel-FV 2-small rodent
 b. *ũ-pun-a* 6a-súkwá 'he will gather caterpillars'
 3SG:2.O-gather-FV 2-caterpillar

¹⁰² For reasons of space, third person singular subjects and class 1 objects are translated with the general masculine form 'he'/'him', unless the context or the action of the verb implies a female referent or the subject is indefinite.

¹⁰³ Literally, 'she will paint or draw lines on herself'.

¹⁰⁴ Literally, 'he will carry or lift himself'.

In the third set, the vowel of the subject prefix and the final vowel of the Subjunctive assimilate to the [+ATR] value of the root (3.15a) or surface with their [−ATR] value (3.15b):

- (3.15)a. nó-sil-í 1SG-arrive-FV.SUBJ 'that I arrive'
 b. ná-ptk-í 1SG-sway-FV.SUBJ 'that I sway'

3.2.2.2 [+ATR] spreading from suffixes

Liko has non-root morphemes that are underlyingly linked to a [+ATR] value. They invariably surface with a [+ATR] value.

Table 7 [+ATR] suffixes

-i	Anterior aspect final vowel (FV position) ¹⁰⁵
-í	negative Conditional final vowel (FV position)
-ni	Plural Addressee suffix (post-FV position)
-ní	Perfective aspect suffix (post-FV position)
-ní	negative Subjunctive suffix (post-FV position)
-kú	Directional suffix (post-FV position)
-is-	Causative extension (extension position)

[+ATR] spreading in verb forms in which these morphemes occur is illustrated by the following examples of [−ATR] verb roots. Spreading from the [+ATR] suffixes affects both roots and affixes. The verb forms are given in pairs, the Infinitive form of a verb (the class 9b prefix **ká-** and final vowel **-a**, with the H tone of the Infinitive TAM melody on the final vowel, see 4.3.2 and 7.6), followed by an inflected form of the same verb with the [+ATR] dominant morpheme. For clarity, the underlying form is given for the first verb.

The Anterior aspect final vowel **-i**:

- (3.16) ká-lál-á 9b-sleep-FV
 nolóli 'I slept'
 /na-lál-i/
 1SG-sleep-FV.ANT

¹⁰⁵ For the positions in the verb structure, see 7.2.

kábíká	'to despise'	noḃíki	'I despised'
kákpudǎ	'to approach'	nokpuḃí ¹⁰⁶	'I approached'
kábángá	'to fear'	noḃóngi	'I feared'

The negative Conditional final vowel **-í**:

(3.17)	ká-gbít-á		9b-fell (tree), bite-FV	
	wákógbítí		'if you do not fell (the tree)'	
	/wá-ká-gbít-í/			
	2SG-COND-fell-FV.NEG			
	kábumá	'to hit'	wákóbumí	'if you do not hit'
	káundá	'to go'	wákí'ndí ¹⁰⁷	'if you do not go'
	kályá	'to eat'	wákólyí	'if you do not eat'

The negative Conditional forms have two prefixes, the subject prefix and the Conditional prefix. The Conditional prefix **ka-** assimilates to the [+ATR] value, whereas the second person singular subject prefix **wa-** does not. The same phenomenon can be seen with the negative Subjunctive below. More information on the left boundary of the domain of [+ATR] spreading will be provided in the next section.

The Plural Addressee suffix **-ni**:

(3.18)	ká-pík-á		9b-prepare (a field) for sowing-FV	
	pík-ó-ni		'prepare (a field) for sowing (pl)!' ¹⁰⁸	
	/pík-á-ni/			
	prepare for sowing-FV.IMP-ADDR			
	kásíká	'to insult'	usíkóni ¹⁰⁹	'insult (pl) them!'
	kákpulá	'to rummage in'	kpulóni	'search (pl)!'
	kásámá	'to open (mouth)'	sómóni	'open the mouth (pl)!'

¹⁰⁶ In the case of -CVC- verbs with a L primary tone, the vowel of the verb root remains Low and the floating H tone of the Anterior aspect TAM melody is linked to the final vowel, see 7.6.

¹⁰⁷ Preceding a vowel-initial verb, the vowel of the Conditional prefix undergoes V₁-elision.

¹⁰⁸ **-pík-** can also mean 'sway'.

¹⁰⁹ u-sík-ó-ni 2.O-insult-FV.IMP-ADDR. The H tone of the third person plural object prefix **ǔ** is reassociated with the following H, see 4.6.2 and 7.5.

The Perfective aspect suffix **-ní**:

(3.19)	ká-gbang-á	9b-curse-FV		
	nógbongóní		'I have cursed'	
	/ná-gbang-á-ní/			
	1SG ^P -curse-FV ^P -PFV ¹¹⁰			
	kábíkyá	'to say'	nóbíkyóní	'I has said'
	kádundá	'to touch'	nódundóní	'I has touched'
	kákalyá	'to pay'	nókolyóní	'I has paid'

The negative Subjunctive suffix **-ní**:

(3.20)	ká-gbang-á	9b-curse-FV		
	nakogbongonító		'that I do not curse'	
	/na-ka-gbang-a-ní-tó/ ¹¹¹			
	1SG-NEG-curse-FV-NEGSUBJ-INS			
	kábíkyá	'to say'	nakoíbíkyonító	'that I not say'
	kádundá	'to touch'	nakodundonító	'that I not touch'
	kákalyá	'to pay'	nakokolyonító	'that I not pay'

The Directional suffix **-kú**:¹¹²

(3.21)	ká-matíl-á	9b-add, increase-FV		
	omotilokú		'he will add (speaking to s.o.)'	
	/a-matíl-a-kú/			
	3SG-add-FV-DIR			
	kábíníká	'to carry'	ābinikokú ¹¹³	'he will carry s.o.'
	kákpudǎ	'to approach'	ākpudókú	'he will approach s.o.'
	kánaná	'to stretch'	ononokú ¹¹⁴	'he will stretch'

¹¹⁰ Superscript "P" is used as notation for a High TAM tone which indicates time reference to the past.

¹¹¹ Insistive enclitic **-tó** is one of the [−ATR] enclitics. In these examples, it assimilates to the [+ATR] value of the suffix. See 3.2.4 for a description of [−ATR] enclitics.

¹¹² In the examples in this set, 'towards someone or some place' is understood.

¹¹³ With respect to the third person singular subject prefix /a/, which does not assimilate in **abinikokú** and **akpudókú**, see 3.2.2.3.

¹¹⁴ The verb form **ononokú** can be used when someone sees a person stretching his/her arm.

The Causative extension **-is-**:

- (3.22) *ká-ɖak-á* 9b-climb-FV
kóɖokísó 'to cause to climb'
/ká-ɖak-ís-á/
 9b-climb-CAUS-FV
kákítílá 'to block the road' *kókítílísó* 'to cause to block the road'
kábumá 'to hit' *kóbumísó* 'to cause to hit'
kágbatá 'to spread out' *kógbotísó* 'to cause to spread out'

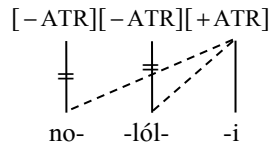
The Causative extension does not occur word-finally. It is followed by the verb-final vowel or another extension. Affixes following the Causative extension also assimilate to the [+ATR] value. In (3.22) and in (3.23b), the final vowel **-a** assimilates and in (3.23c), the Pluractional extension **-ag-** and the final vowel **-a** assimilate.

- (3.23)a. *mu-kó* *a-ɓúkut-a*
 1-woman 3SG-produce-FV
 'The woman will give birth.'
- b. *mu-kó* *ã-ɓúkut-is-o*
 1-woman 3SG:1.O-produce-CAUS-FV
 'The woman will cause her to give birth.', i.e. one time
- c. *mu-kó* *yi ní-nʒ¹¹⁵ o-ɓúkut-is-og-o*
 1-woman 1.DEM.III COP-1.DEM.I 3SG-produce-CAUS-PLUR-FV
 'the midwife', literally, 'The woman who will cause someone to give birth repeatedly.'

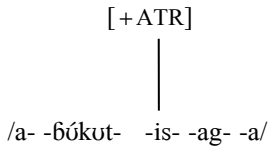
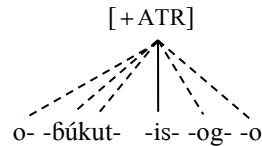
[+ATR] spreading from underlyingly [+ATR] suffixes can be visualized as follows, using (3.16) **no-lól-i** 1SG-sleep-FV.ANT, 'I slept', from **ká-lál-á** 9b-sleep-FV, 'to sleep', and (3.23c) **o-ɓúkut-is-og-o** 3SG-produce-CAUS-PLUR-FV from **ká-ɓúkut-á** 9b-give birth-FV, 'to give birth'.

In this case, there is no class 1 object prefix ²-, see 7.5.1.

¹¹⁵ Demonstratives of type I also function as relative pronouns, see 8.4.

(3.24) Underlying structure[+ATR] spreading

In the visualization below, the $[-ATR]$ value is left out and only $[+ATR]$ spreading is shown. All morphemes which are not associated with a $[+ATR]$ value are $[-ATR]$, and all are delinked from their $[-ATR]$ value by $[+ATR]$ spreading.

(3.25) Underlying structure[+ATR] spreading

3.2.2.3 The domain of $[+ATR]$ spreading

Casali (2008:501) remarks that ATR harmony languages may limit the domain of $[ATR]$ agreement to an identifiable span of segments or morphemes that is smaller than the entire word. Verb forms may have multiple affixes occurring on both sides of the root, which provides a suitable context to investigate the left and right boundary of the domain of $[+ATR]$ spreading. In all examples presented thus far, $[+ATR]$ spreads to the end of the word. As for the left boundary of $[+ATR]$ spreading, (3.17), (3.20), (3.21) and (3.23b) illustrate that $[+ATR]$ does not always spread to the beginning of the word.

Compare (a), (b), (c) and (d) in the next three sets. One prefix precedes the verb root in (a) and (c). The forms in (c) show that the subject prefix is within reach of $[+ATR]$ spreading if the verb root is linked to a $[+ATR]$ value. In (c), where the verb is $[+ATR]$, the vowel of the subject prefix assimilates. Two prefixes precede the verb root in (b) and (d): the first person plural subject prefix **ta-** followed by a prefix in the TA position or by an object prefix. When there is more than one prefix present, as in (b) and (d), only the prefix adjacent to the root harmonizes with the $[+ATR]$ value.

- (3.26)a. ta-ngbút-a 1PL-sulk-FV 'we will sulk'
 b. ta-ka-ngbút-á 1PL-COND-sulk-FV 'if we sulk'
 c. to-ḡín-o 1PL-dance-FV 'we will dance'
 d. ta-ko-ḡín-ó 1PL-COND-dance-FV 'if we dance'
- (3.27)a. ta-púk-a 1PL-leave-FV 'we will leave (quietly)'
 b. ta-ná-¹¹⁶púk-a 1PL-INCH-leave-FV 'we are about to leave'
 c. to-pím-o 1PL-measure-FV 'we will measure'
 to-pup-o 1PL-come out-FV 'we will come out'
 d. ta-nó-¹¹⁶pím-o 1PL-INCH-measure-FV 'we are about to measure'
 ta-nó-pup-ó 1PL-INCH-come out-FV 'we are about to come out'
- (3.28)a. ta-dünd-a 1PL-touch-FV 'we will touch'
 b. ta-mú-dünd-a 1PL-2PL.O-touch-FV 'we will touch you (pl.)'
 c. to-gbusy-o 1PL-curse-FV 'we will curse'
 d. ta-mú-gbusy-o 1PL-2PL.O-curse-FV 'we will curse you (pl.)'

Notice how vowel height is not involved in determining the left boundary: in (3.28d), the vowel of the subject prefix does not assimilate to [+ATR] when it precedes a prefix with a high vowel.

In the above examples of verb roots with a [+ATR] value, the left boundary of [+ATR] spreading is the prefix adjacent to the [+ATR] root. The prefix adjacent to the suffix is not the left boundary for underlying [+ATR] suffixes. The following examples, with a [+ATR] and a [−ATR] verb root, have several [−ATR] suffixes between the verb root and the word-final [+ATR] suffix:

- (3.29)a. 6ólutónógóní 'they have pulled at e.o. repeatedly'
 /ḡá-lut-án-ág-á-ní/
 3PL^P-pull-ASS-PLUR-FV^P-PFV
- b. 6óḡítónógóní 'they have slapped e.o. repeatedly'
 /ḡá-ḡít-án-ág-á-ní/
 3PL^P-slap-ASS-PLUR-FV^P-PFV

¹¹⁶ The second floating L tone of Inchoative aspect prefix -¹ná^L- causes non-automatic downstep if the verb root has a primary H tone, see 4.6.5.

In (a), the vowel of the prefix adjacent to the [+ATR] verb root and all vowels between the verb root and the [+ATR] suffix assimilate. In (b), where the verb root does not have a [+ATR] value, all vowels assimilate to the [+ATR] value as well: not only the final vowel which is adjacent to the [+ATR] suffix, but also the vowels of the extensions, the vowel of the verb root **-fɛt-** and the vowel of the subject prefix.

In order to determine the left boundary of spreading from [+ATR] suffixes, verb forms with more than one prefix should be included. In the following examples, the verb roots **-gbɛt-** 'fell' and **-dɛm-** 'labour' are preceded by two prefixes:

- (3.30)a. wá-kó-gbɛt-í
2SG-COND-fell-FV.NEG
'If you do not fell (the tree) ...'
- b. ɓo-míkí ɓá-kó-dɛm-í ɓo-tíko, nzǎ ik-a-tú
2-child 3PL-COND-labour-FV.NEG 2+9-field 9.hunger 3SG:be-FV-INS
'If the children do not cultivate the fields, there will be hunger.'

[+ATR] spreading does not reach the left word boundary. The left boundary of the domain of [+ATR] spreading is the prefix adjacent to the verb root.

The left boundary for [+ATR] spreading which is seen in verbs can also be observed in nominals that have more than one morpheme preceding the root. Noun class 1a contains nouns with a **nV-** proclitic. The plural takes the class 2 prefix **ɓa-**, which precedes the proclitic. The vowel of the proclitic assimilates to the [+ATR] value in (3.31b, d), but the class 2 prefix does not:

- (3.31)a. na-pɔnzɔ 'na:1-vine, sp.' ɓa-na-pɔnzɔ '2-na:1-vine, sp.'
na-kwálí 'na:1-sparrowhawk' ɓa-na-kwálí '2-na:1-sparrowhawk'
- b. nǒ-dingbo 'na:1-water snail' ɓa-nǒ-dingbo '2-na:1-water snail'
no-kpódóku 'na:1-toad' ɓa-no-kpódóku '2-na:1-toad'
- c. né-kuta 'na:1-tree, sp.' ɓa-né-kuta '2-na:1-tree, sp.'
né-lungyá 'na:1-chameleon' ɓa-né-lungyá '2-na:1-chameleon'
- d. ne-kulé 'na:1-insect, sp.' ɓa-ne-kulé '2-na:1-insect, sp.'
népúmúkyó 'na:1-weed, sp.' ɓa-né-púmúkyó '2-na:1-weed, sp.'

The noun-class prefix of class 17 is **kú-** which harmonizes with the [ATR] value of the noun. It is retained in plural forms where it is preceded by the class 2 prefix **ḡa-**. As can be seen in the examples below, the vowel of the class 2 prefix does not assimilate to the [+ATR] value of the root:

(3.32)	kú-ḡǔ	'17-top'	ḡa-kú-ḡǔ	'2-17-top'
	kú-bi	'17-riverside'	ḡa-kú-bi	'2-17-riverside'
	kú-bumǔtí	'17-side'	ḡa-kú-bumǔtí	'2-17-side'
	kú-syokoto	'17-bottom' ¹¹⁷	ḡa-kú-syokoto	'2-17-bottom'

In associative constructions, the associative prefix **Ca-** precedes the noun which modifies the head noun of the NP, see 5.3.2. Associative prefixes agree with the noun class of the preceding head noun. Liko nouns in classes 1a or 9 do not have a noun-class prefix, which makes it possible to compare constructions of an associative prefix immediately preceding a noun stem with those where a noun-class prefix is present between an associative prefix and a noun stem.

Examples of class 1 associative prefix **wa-** and class 5 **lá-** preceding a noun are:

(3.33)a.	nyamá	wo-tutú	'animal of the forest'
	1a.animal	1.ASS-1a.forest	
b.	li-syé	ló-dumó	'day of the feast'
	5-day	5.ASS-1a.feast	
c.	kpóló-kpóló	wa-mu-ḡí	'environment of the village'
	1a.border	1.ASS-3-village	
d.	li-gubó	lá-li-lólómbí	'work of preparing (food)'
	5-work	5.ASS-5-preparing	

In (a) and (b), the vowel of the associative prefix is adjacent to the noun stem and it assimilates to the [+ATR] value of the noun. If a noun-class prefix intervenes as in (c) and (d), the vowel of the noun-class prefix assimilates and the vowel of the associative prefix surfaces with its [−ATR] value.

¹¹⁷ I.e. of a bed.

In genitival constructions, the vowel of the genitive prefix **ka-** is changed into [+ATR] only when it occurs adjacent to the noun stem (3.34a, b), otherwise, it does not assimilate and remains [–ATR] (3.34c, d):

(3.34)a.	línó	ko-míkí	'name of the child'
	5:name	GEN-1a.child	
b.	ǎángú	ko-gbungúlu	'blood of the billy goat'
	9.blood	GEN-1a.billy goat	
c.	ɪ-vanza	ka-mu-súnzú	'family of the slave'
	9a-family	GEN-1-slave	
d.	ma-lílí	ka-fo-bikó	'food of the visitors'
	6-food	GEN-2-visitor	

Based on these data, it can be concluded that the left side of the domain of [+ATR] spreading is determined morphologically and that the prefix adjacent to the root constitutes the left boundary.¹¹⁸ It is remarkable that speakers of the language are somehow aware of the number of morphemes preceding a root.

Liko uses vowel elision, vowel-height coalescence, heterosyllabification and desyllabification to deal with a sequence of two prefix vowels. For a description of phonological processes in the context of Vowel Sandhi, I refer the reader to 3.3. In height coalescence, two vowels of opposite vowel height result in a single short vowel. In the cases relevant for the domain of [+ATR] spreading, the first prefix happens to have a low vowel and the second consists of a high vowel. In the examples below, of verbal prefixes, the first prefix is the subject prefix **(C)a-**, negative **ka-**, Conditional **ka-**, Inchoative aspect **-^Lná^L-** and Infinitive **ká-**¹¹⁹. The second prefix is the first person singular object prefix **ɪ-**.

(3.35)a.	ǎé-gbody-ó	3PL ^P :1SG.O-smear-FV ^P	'they smeared me'
b.	ǎá-ké-gbody-i-gu ¹²⁰	3PL-NEG:1SG.O-smear-FV-NEG	'they will not smear me'

¹¹⁸ The prefixes which are outside of the domain of [+ATR] spreading all have a low vowel. A prefix with a non-low vowel, which precedes another prefix, does not occur.

¹¹⁹ I.e. the class 9b prefix, also referred to in this book as Infinitive prefix.

¹²⁰ The negative enclitic **-gu** is invariably [–ATR], see 3.2.4.1.

c.	ḡa-ke-gbody-ó	3PL-COND:1SG.O-smear-FV	'if they smear me'
d.	ḡá- ^h né-gbody-ó	3PL-INCH:1SG.O-smear-FV	'they are about to smear me'
e.	ḡá ^h ké-gbody-ó	3PL:be 9b:1SG.O-smear-FV	'they are smearing me'

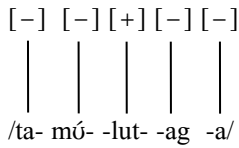
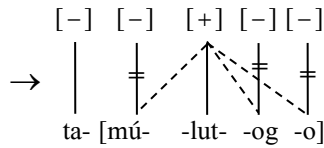
These examples give further evidence for the existence of the left boundary of [+ATR] spreading within the word: the third person plural subject prefix **ḡá-** does not assimilate when a syllable with a vowel resulting from height coalescence is adjacent to a [+ATR] verb root.

Two of the environments in which V₁-elision takes place are verb forms where the Conditional prefix **ka-** or the negative prefix **ka-** is followed by a vowel-initial verb root. In (3.36a), the vowel of the Conditional prefix **ka-** undergoes V₁-elision preceding the vowel-initial verb root **-und-** 'go' and in (3.36b), V₁-elision applies to the vowel of the negative prefix **ka-** preceding **-ingi-** 'enter, go to bed'. The [+ATR] suffix in (3.36) is the negative Conditional final vowel **-i**.

(3.36)a.	wákí ^h ndí	'if you do not go'
	/wá-ká-und-í/	2SG-COND:go-FV.NEG
b.	má-kíngy-i-gu	'you (pl) will not enter'
	/ma-ka-ingy-i-gu/	2PL-NEG:enter-FV-NEG

After the process of V₁-elision has taken place, the subject prefixes **wa-** and **má-** are adjacent to the (surface) [+ATR] vowel of the root in the above verb forms, but they do not harmonize. Another morpheme, which is adjacent to the root but has lost its vowel, still counts for [+ATR] spreading. This provides further evidence that the left boundary is sensitive to morphological structure.

I now turn to the right boundary of [+ATR] spreading. The right boundary of [+ATR] spreading in **ta-mú-lut-og-o** 1PL-2PL.O-pull-PLUR-FV 'we will pull you (pl)' is the end of the word. This can be visualized as follows (square brackets indicate the domain boundaries and, for reasons of space, [–] represents [–ATR] and [+] represents [+ATR]):

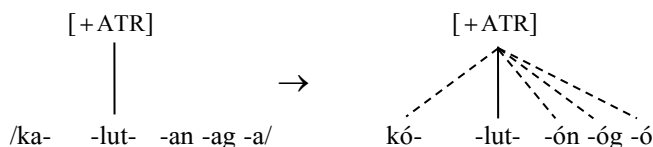
(3.37) Underlying structure[+ATR] spreading

Liko verb forms can have multiple extensions (see 7.11), which follow the verb root. Extensions, except the Causative, and the final vowel are underlyingly [−ATR]. The function of the extensions **-an-**, **-ut-** and **-ag-** in the examples below is: Associative, Benefactive and Pluractional respectively. In (3.38a), with verb root **-bít-** 'slap', all extensions and the final vowel surface with their [−ATR] value. In (3.38b), with [+ATR] verb root **-lut-** 'pull', [+ATR] spreading causes the class 9b prefix **ká-** of the Infinitive, the vowels of the extensions and the verb-final vowel all to assimilate to the [+ATR] value.

- (3.38)a. **ká-bít-á** 9b-slap-FV 'to slap'
 ká-bít-ág-á 9b-slap-PLUR-FV 'to slap repeatedly'
 ká-bít-án-á 9b-slap-ASS-FV 'to slap each other'
 kǎ-¹²¹bít-íly-á 9b:1.O-slap-BEN-FV 'to slap for someone'
 ká-bít-án-ág-á 9b-slap-ASS-PLUR-FV 'to slap each other repeatedly'
- b. **kó-lut-ó** 9b-pull-FV 'to pull'
 kó-lut-óg-ó 9b-pull-PLUR-FV 'to pull repeatedly'
 kó-lut-ón-ó 9b-pull-ASS-FV 'to pull at each other'
 kǎ-lut-íly-ó 9b:1.O-pull-BEN-FV 'to pull for someone'
 kó-lut-ón-óg-ó 9b-pull-ASS-PLUR-FV 'to pull at each other repeatedly'

Spreading of [+ATR] to the end of the word as in the last verb form of (3.38b), **kólutónógó** 'to pull at each other repeatedly', can be visualized as follows:

¹²¹ In this case, the class 1 object prefix is **ǎ-**. The nasalisation of the preceding vowel occurs when the class 1 object is not expressed. Otherwise, the form of the class 1 object prefix is **mð-** in Imperative forms, or **ǎ-**, see 7.5.1.

(3.39) Underlying structure[+ATR] spreading¹²²

In the visualization above, [−ATR] associations are not represented. All morphemes which are not associated with a [+ATR] value are [−ATR], and all are delinked from their [−ATR] value by [+ATR] spreading.

Defining the right end of the domain of [+ATR] spreading is problematic, because some enclitics do not assimilate. In (3.35b) and (3.36b), the surface vowel of the negative enclitic **-gu** is [−ATR]. The Supplicative enclitic **-no** also remains unaffected. However, the Insistive enclitic **-tɔ** assimilates in the same context of a preceding [+ATR] /i/:

(3.40)a.	ná-kó-bín-í-gu	1SG-NEG-sulk-FV.ANT-NEG	'I did not dance'
b.	wĩ-gwi-nɔ li-mbengi	2SG:REFL-hold:FV-SUPP 5-heart	'take heart!'
c.	no-bín-i-tɔ	1SG-dance-FV.ANT-INS	'I certainly danced'

The [−ATR] enclitics are described in 3.2.4, where I will return to this difference in behaviour with respect to [+ATR] spreading. Leaving aside enclitics, the domain of [+ATR] spreading can be defined as follows:

- (3.41) The domain of [+ATR] spreading in Liko ranges from the prefix adjacent to the left of the root up to the end of the word.

The class 1 object prefix **mù-** / [̂]- / [̃]- counts as a prefix for the domain of [+ATR] spreading.¹²³ An object prefix is obligatory when the object of a verb is first or second person singular or plural, or belongs to class 1 (including subclasses of class 1) or class 2, see 8.2.5. In (3.42a), there is no object prefix, whereas in (3.42b), the class 1 object prefix [̂]- is present.

¹²² With Infinitive TAM melody, see 7.6.

¹²³ In Imperative forms, the class 1 object prefix is **mù-**, see 7.9.2.

- (3.42)a. to-gbusy-o 1PL-curse-FV 'we will curse'
 to-bud-o 1PL-smear-FV 'we will smear'¹²⁴
 b. tã-gbusy-o 1PL:1.O-curse-FV 'we will curse him'
 tã-bud-o 1PL:1.O-smear-FV 'we will smear her'

In (b), surface **tã-** is underlyingly /ta-[˜]-/ '1PL-1.O'. Only the class 1 object prefix [˜]- is within the domain of [+ATR] spreading.

In the examples below, the class 1 object prefix [˜]- occurs between the Infinitive prefix **ká-** and a [+ATR] verb root. Its presence prevents the vowel of the Infinitive prefix from assimilating to the [+ATR] value of the verb root:

- (3.43)a. na ká-dĩng-ó mu-kó 'I am making a woman up.'
 1SG:be 9b:1.O-make up-FV 1-woman
 b. na ká-kos-ĩly-ó¹²⁵ mu-kó 'I am pouring out s.th. for a woman.'
 1SG:be 9b:1.O-pour out-BEN-FV 1-woman

The presence of the class 1 object prefix [˜]- is not only made manifest by the fact that the vowel of a preceding prefix does not assimilate, but also by the non-automatic downstep of the H tone of a verb root in environments in which the object prefix L tone is delinked (see 4.6.5). This can be seen, for instance, in **na ká^ˈḡká mulókú** (/na ká-[˜]-ḡk-á mu-lókú/, 1SG:be 9b-1.O-despise-FV 1-man) 'I am despising the man'. Other examples include:

- (3.44)a. álutílyóní ngámá 'He has pulled for the chief.'
 /á-[˜]-lut-ílí-á-ní/
 3SG^P-1.O-pull-BEN-FV^P-PFV 1a.chief
 b. á^ˈḡtílyóní ngámá 'He has slapped for the chief.'
 /á-[˜]-ḡt-ílí-á-ní/
 3SG^P-1.O-slap-BEN-FV^P-PFV 1a.chief

In both (a) and (b), the third singular subject prefix **a-** is associated with the H tone of the Past TAM melody, see 4.3.2 and 7.6. In (a), there is no non-automatic downstep, because the floating L tone of the object prefix is merged with the L tone of the verb, but in (b), the floating Low causes a non-automatic downstep.

¹²⁴ Usually to give a colour.

¹²⁵ The object prefix refers to the Beneficiary.

Two more sets are given below. In the first one, the first person singular subject prefix **na-** harmonizes in (3.45b) only, because the class 1 object prefix ʼ- is absent:

- (3.45)a. ná-kís-á ndi p̃si
 1SG^P-look for-FV^P P₃ 9.road
 'I looked for the road.'
- b. no-kís-i p̃si
 1SG-look for-FV.ANT 9.road
 'I looked for the road.'
- c. na-kís-i mu-mbánzú
 1SG:1.O-look for-FV.ANT 1-person
 'I looked for a man.'

In (3.46a) there is no class 1 object prefix, because the object is in class 9. That means that the vowel of the first person singular subject prefix **na-** is within the domain of [+ATR] spreading and thus it assimilates. This does not happen in (3.46b), because of the presence of the class 1 object prefix ʼ-:

- (3.46)a. nó-gbody-ó¹²⁶ ndi pwáyı na mo-lingó
 1SG^P-smear-FV^P P₃ 9.wound with 6-oil
 'I smeared¹²⁷ the wound with oil.'
- b. ná-gbody-ó ndi míkí na mo-lingó
 1SG^P:1.O-smear-FV^P P₃ 1a.child with 6-oil
 'I smeared the child with oil'

An underlying sequence of two low vowels does not explain the non-assimilation of the prefix vowel. The verb **-am-** 'stop' is preceded by the first person singular subject prefix **na-** in (3.47a, b). In (3.47b), the [+ATR] suffix causes all vowels to assimilate, including the merged vowel of the subject prefix and the verb root. Hence a sequence of two low vowels does not constitute a [-ATR] domain. In (3.47c), where the class 1 object prefix ʼ- is present, the vowel /a/ of the subject prefix does not assimilate:

¹²⁶ The final vowel does not assimilate and surfaces as **-a** when ^hndi cliticises to the verb form, see below, (3.68b).

¹²⁷ **-gbody-** is the general verb for 'smear'.

- (3.47)a. nam-a li-gubó kămɪ
 1SG:stop-FV 5-work 1SG.POSS
 'I will finish my work.'
- b. nom-os-o¹²⁸ ɫ-tá-lu
 1SG:stop-CAUS-FV 5-stone-5
 'I will put a stone [in a position].'
- c. nam-om-os-o mu-lókú
 1SG:1.O-stop-CAUS-FV 1-man
 'I will put the man [in a position].'

3.2.2.4 [+ATR] and loanwords

Most loanwords are in classes 1a or 9 and do not have a noun-class prefix. Plurals are formed in classes 2, 6 or 2 + 9 with prefix **Ca-**. The great majority of loanwords with [+ATR] surface vowels have plural prefixes in which the vowel does not assimilate to [+ATR].¹²⁹ In loanwords from the Congo variety of Swahili, the complete plural form (including the prefix) may have been borrowed. Examples of loanwords from Congo Swahili and French are:

(3.48)	gúndi	'9.eraser'	6a-gúndi	'2 + 9-eraser'	Congo Swahili <i>gundi</i> ¹³⁰
	kikó	'9.pipe'	6a-kikó	'2 + 9-pipe'	Congo Swahili <i>kiko</i>
	púnda	'1a.donkey'	6a-púnda	'2-donkey'	Congo Swahili <i>punda</i>
	foní	'9.radio'	6a-foní	'2 + 9-radio'	French <i>phonie</i>
	kílo	'9.scale'	6a-kílo	'2 + 9-scale'	French <i>kilo</i>
	sizó	'1a.scissors'	6a-sizó	'2-scissors'	French <i>ciseaux</i>

Examples of verb borrowings from Congo Swahili are:

(3.49)	kó-líp-ó	9b-pay-FV	'to pay'	Congo Swahili <i>kulipa</i>
	kó-tumík-ó	9b-work-FV	'to work'	Congo Swahili <i>kutumika</i>
	kó-túng-ó	9b-invent a story-FV	'to invent a story'	Congo Swahili <i>kutunga</i>

¹²⁸ With some verbs, the Causative extension is **-os-** instead of **-is-**, see 7.11.1.

¹²⁹ In a number of loanwords, the prefix vowel does assimilate, e.g. **6o-zípó** 'skirts' (French *jupe*), **6o-fúlu** 'ovens' (French *four*), **6o-kíti** 'chair' (Congo Swahili *kiti*) and **6o-súpa** 'bottles' (Congo Swahili *chupa*).

¹³⁰ The meaning is 'gum paste'.

The vowel of the class 9b prefix and the final vowel always assimilate to the [ATR] value of the verb root. The reflex of borrowed Congo Swahili vowel /o/ of verb roots is /u/ in Liko, e.g. **ká-súm-á**, 9b-read-FV, 'to read', Congo Swahili *kusoma*.

3.2.3 The vowel /a/

In this section, the status and surface realizations of the low vowel /a/ are investigated. In the Liko nine-vowel system, /a/ lacks a [+ATR] counterpart. Phonologically, /a/ is a [−ATR] vowel as can be seen from the behaviour of noun-class prefixes that surface with their [−ATR] value, if all vowels in the stem are low:

(3.50)	băga	'9.big basket'	6a-băga	'2 + 9-big basket'
	kangá	'9.bed'	6a-kangá	'2 + 9-bed'
	lɪ-pála	'5-wooden roofing tile'	ma-pála	'6-wooden roofing tile'
	mu-wanzá	'1-young person'	6a-wanzá	'2-young person'

In the first two sections, the occurrence of /a/ in noun stems with [+ATR] vowels is presented, followed by more data with /a/ in noun-class prefixes.

3.2.3.1 The vowel /a/ in [+ATR] noun stems

I start with a list of disyllabic nouns in which /a/ co-occurs with [+ATR] vowels. These nouns amount to about 6% of all disyllabic [+ATR] nouns in my data. The first set contains nouns with /a/ as V₁, the second set has nouns in which /a/ occurs as V₂. If it exists, the other member of the gender is given as well. Disyllabic nouns with /a/ as V₁ and a [+ATR] vowel as V₂ include:

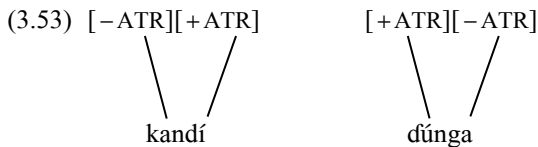
(3.51)	<u>Singular</u>	<u>Plural</u>
	kandí '1a.hevea'	6a-kandí '2-hevea'
	maḃu '1a.leaf-stalk'	6a-maḃu '2-leaf-stalk'
	maḃó '1a.privateer'	6a-maḃó '2-privateer'
		ma-káli '6-mix of water and ashes'
	mapí '1a.adventurous person'	6a-mapí '2-adventurous person'
	mbali '1a.chance'	6a-mbali '2-chance'
	ndáki '1a.road'	6a-ndáki '2-road'
	ngbabi '1a.big drum'	6a-ngbabi '2-big drum'
	wayí '1a.friend'	6a-wayí '2-friend'

The noun-class prefixes in the third column surface with their underlying [−ATR] value. They do not assimilate to the [+ATR] value of the root. If a [+ATR] noun stem has /a/ as V₁, then the [+ATR] feature does not spread across /a/ to the prefix. This means that /a/ in [+ATR] noun stems should be analysed as underlyingly [−ATR] and opaque to [+ATR] spreading.

Disyllabic nouns with a [+ATR] vowel as V₁ and /a/ as V₂ include:

(3.52) <u>Singular</u>		<u>Plural</u>	
mǔma	'1a.male'	6o-mǔma	'2-male'
ďúnga	'9.winning basket'	6o-ďúnga	'2 + 9-winning basket'
mu-píla	'3-scarification'	píla	'9.scarification'
mu-sísa	'3-plant, sp.'	sísa	'9.plant, sp.'
kpóya	'9.dance'		
ndóya	'9.chickenpox'		
i-dumá-su	'7-mourning-7'	6e-dumá	'2 + 9:9a-mourning'

The /a/ in [+ATR] noun stems is underlyingly [−ATR]. This can be visualized as follows:



Verb roots with both a [+ATR] vowel and /a/ are not attested. Here is an exhaustive list of cases from other word classes in my data with /a/ as well as [+ATR] vowels:

(3.54)	6í-kinyaaa	'IDEO, people or objects who are being scattered'
	6í-líya	'IDEO, cry'
	6í-siya-siya	'ADV, supple, sporty'
	-ďabú-ďabú	' <i>nominal modifier</i> , bad' (for behaviour)
	-dapulu	' <i>nominal modifier</i> , insipid'
	íba	'CONJ, it means that'
	mísa	'ADV, towards'
	píma	'ADV, accurately'

Two of these words, the nominal modifiers, have /a/ as V_1 . Nominal modifiers take an associative prefix, which is within the domain of [+ATR] spreading. As the following examples show, the vowel /a/ of the associative prefix is not affected by [+ATR] spreading:

- (3.55)a. $y\acute{g}ya^{131}$ $y\acute{a}-\acute{d}ab\acute{u}-\acute{d}ab\acute{u}$
 9a:custom, habit 9.ASS-bad
 'a bad habit'
- b. $ma-l\acute{I}l\acute{I}$ $m\acute{a}-ndapul\acute{u}$
 6-food 6.ASS-insipid
 'tasteless food'

3.2.3.2 The vowel /a/: opaque and transparent?

In the previous section, the noun-class prefixes of noun stems with /a/ in the first syllable and a [+ATR] vowel in the second one, all have a low vowel. Liko also has noun-class prefixes with high vowels. Examples in which they precede a [+ATR] noun stem with /a/ as V_1 include:

(3.56) <u>Singular</u>		<u>Plural</u>	
li-badú	'5-hole'	ma-badú	'6-hole'
li-bagwé	'5-plant, sp.'	ma-bagwé	'6-plant, sp.'
li-láki	'5-bean'	ma-láki	'6-bean'
li-sási	'5-bullet'	ma-sási	'6-bullet'
mu-kadú	'3-cooking pot'	kadú	'9.cooking pot'
mu-zabibu	'1-grape'	6a-zabibu	'2-grape'

It is remarkable that [+ATR] spreads across /a/ in the cases in the first column, especially since the noun-class prefixes of classes 2 and 6 surface with their [−ATR] value. These cases are typologically interesting:

"In a given harmonic system, neutral vowels may have the active value of the harmonic feature, i.e., the value that spreads, or the passive value, i.e., the value that is assigned by default rule. Van der Hulst and Smith (1986) argue that in the former case the invariant vowel acts as transparent, and that in the latter

¹³¹ The H tone of the LH contour on $y\acute{g}y\acute{a}$ merges with the following High.

case they act opaquely, regardless of whether these vowels appear in a stem or an affix." (Van der Hulst and Van de Weijer 1995:499)

However, in Liko, high vowels of noun-class prefixes assimilate to the [+ATR] value of a noun stem whereas the low prefix vowel does not in an identical context, i.e. preceding an /a/ as V₁ in a [+ATR] noun stem.

These cases are problematic for autosegmental theory, because crossing association lines is not permitted. An underlying [−ATR] vowel constitutes a boundary for [+ATR] spreading. Yet in Liko, a high prefix vowel is able to "see" the [+ATR] feature across a [−ATR] vowel and it assimilates accordingly.¹³² In the sections on noun-class prefixes with /a/ (see 3.2.3.3) and [−ATR] enclitics (see 3.2.4) the language shows additional indications of a relation between [ATR] and vowel height.

3.2.3.3 The vowel /a/ in noun-class prefixes

Noun-class prefixes with /a/ are expected to assimilate to the [+ATR] value of a harmonic noun stem. The prefixes concerned are class 1b **a-**, 2 **6a-**, 6 **ma-**, 9b **ká-** and 2+9 **6a-**. In many cases, they do assimilate. In the examples, I give both members of the singular/plural pair, if they exist:

(3.57)	<u>Singular</u>		<u>Plural</u>	
	o-dulú	'1b-weevil'	6o-dulú	'2:1b-weevil'
	o-língi	'1b-tree, sp.' ¹³³	6o-língi	'2:1b-tree, sp.'
	mu-kingó	'1-bloodsucker'	6o-kingó	'2-bloodsucker'
	mu-ndindĩ	'1-insect, sp.'	6o-ndindĩ	'2-insect, sp.'
	li-dukú	'5-pile, heap'	mo-dukú	'6-pile, heap'
	li-lúngo	'5-breast'	mo-lúngo	'6-breast'
	nzunzú	'9.swarm'	6o-nzunzú	'2+9-swarm'
	zigõ	'9.mane'	6o-zigõ	'2+9-mane'

The vowel of class 9b **ká-** always assimilates, e.g. **kó-hum-ó** '9b-invade-FV' and **kó-póbó** '9b-chatter-FV'.

¹³² Trying to resolve this problem is outside the scope of this book.

¹³³ A tree used to make musical instruments, **6o-língi** means also '2-wooden xylophone'.

There are, however, cases in which the prefix vowel does not assimilate and the percentage of cases depends on the quality of the first vowel of the noun stem. Almost all noun-class prefixes with /a/ assimilate to the [+ATR] value of the noun when V₁ is a high vowel. In the above examples, all nouns have a high vowel as V₁ and all noun-class prefixes assimilate. Here is an exhaustive list of disyllabic [+ATR] nouns in my data, where a noun-class prefix with /a/ does not assimilate before a high vowel (17 out of 177, or 9.7%).

(3.58) <u>Singular</u>		<u>Plural</u>	
mu-kpúdú	'1-s.th. new and expensive'	6a-kpúdú	'2-s.th. new and expensive'
mu-túgbǔ	'1-rat, sp.'	6a-túgbǔ	'2-rat, sp.'
kúkpe	'1a-termite, sp.'	6a-kúkpe	'2-termite, sp.'
		6a-kukpé	'2-dental plaque'
kupé	'1a-one-room house'	6a-kupé	'2-one-room house'
ndútú	'1a-rat, sp.'	6a-ndútú	'2-rat, sp.'
a-6útú	'1b-palm tree, sp.'	6a-6útú	'2:1b-palm tree, sp.'
a-budí	'1b-infertile land'	6a-budí	'2:1b-infertile land'
á-búlá	'1b-monkey, sp.'	6ǎ-búlá	'2:1b-monkey, sp.'
á-dúgbá	'1b-alcohol'		
a-dula	'1b-leprosy'		
a-kúpé	'1b-hardwood tree'	6a-kúpé	'2:1b-hardwood tree'
a-nviyó	'1b-one-bedroom house'	6a-nviyó	'2:1b-one-bedroom house'
a-pí6ú	'1b-cushion of leaves'	6a-pí6ú	'2:1b-cushion of leaves'
		6a-sikpí	'2 + 9-jokes'
li-silí	'5-hemp'	ma-silí	'6-hemp'
li-simó	'5-inheritance'	ma-simó	'6-inheritance'

Most noun-class prefixes with /a/ assimilate to the [+ATR] value of the noun if V₁ is the mid round vowel /o/. Examples include:

(3.59) <u>Singular</u>		<u>Plural</u>	
mu-goyó	'1-flea, sp.'	6o-goyó	'2-flea, sp.'
mu-nzyogǔ	'1-caterpillar, sp.'	6o-nzyogǔ	'2-caterpillar, sp.'
o-wóngo	'1b-tree, sp.'	6o-wóngo	'2:1b-tree, sp.'

li-kwóbo	'5-joke'	mo-kwóbo	'6-joke'
ḡu-tónzi	'14-tree, sp.'	mo-tónzi	'6-tree, sp.'
yokó	'9.grudge'	ḡo-yokó	'2 + 9-grudge'

In the next set, V_1 is mid round and [+ATR], but the low vowel of the noun-class prefix does not assimilate (in my data 9 out of 42, or 21.4%):

(3.60) <u>Singular</u>		<u>Plural</u>
gbóngo	'1a.bird, sp.'	ḡa-gbóngo '2-bird, sp.'
movú	'1a.friend'	ḡa-movú '2-friend'
á-yóko	'1b-good dancer'	ḡǎ-yóko '2:1b-good dancer'
a-yómbé	'1b-heron'	ḡa-yómbé '2:1b-heron'
á-yopé	'1b-land crab'	ḡǎ-yopé '2:1b-land crab'
ḡu-ḡombú	'14-fruit tree, sp.'	ma-ḡombú '6-fruit tree, sp.'
bolú	'9.clearing'	ḡa-bolú '2 + 9-clearing'
koḡé	'9.cave'	ḡa-koḡé '2 + 9-cave'
nzoyí	'9.desire'	ḡa-nzoyí '2 + 9-desire'

There are no noun-class prefixes with /a/ in my data that assimilate to the [+ATR] value of the noun if V_1 is the mid unrounded vowel /e/. Examples of cases in which the low vowel noun-class prefix does not assimilate are:

(3.61) <u>Singular</u>		<u>Plural</u>
kéú	'1a.insect, sp.'	ḡa-kéú '2-insect, sp.'
dembú	'1a.large mammal'	ḡa-dembú '2-large mammal'
ngbezě	'1a.bird, sp.'	ḡa-ngbezě '2-bird, sp.'
li-sénzé	'5-flute'	ma-sénzé '6-flute'
li-kembé	'5-thumb piano'	ma-kembé '6-thumb piano'
nzéde	'9.special meal'	ḡa-nzéde '2 + 9-special meal'

The presence of the [+ATR] mid unrounded vowel /e/ as V_2 in a noun stem seems to influence the assimilation of the low vowel of the noun-class prefix. In the above examples of non-assimilation, there are several cases in which /e/ occurs as V_2 . The only example in my data of a disyllabic noun with final /e/ and assimilation of a low prefix vowel is **ngúde** '1a.white rock', **ḡo-ngúde** '2-white rock'.

3.2.4 [–ATR] enclitics

Liko has underlyingly [–ATR] noun-class enclitics **-Cɔ** and underlyingly [–ATR] verbal enclitics. The noun-class enclitics are described in 5.1.2.

Table 8 [–ATR] verbal enclitics

-nɔ	Supplicative
-gu	negative
-tɔ	Insistive

First, the negative enclitic **-gu** and the Supplicative enclitic **-nɔ** are described, followed by the Insistive enclitic **-tɔ** and the [–ATR] noun-class enclitics **-Cɔ**. The Insistive enclitic **-tɔ** and the noun-class enclitics have in common that the vowel of the enclitic is subject to vowel-height dissimilation, whereas the vowel of the negative enclitic **-gu** or the Supplicative enclitic **-nɔ** does not change. The other difference between the negative and the Supplicative enclitic on the one hand and the Insistive and the noun-class enclitics on the other is that only the latter are subject to [+ATR] spreading.

Apart from tone, the noun-class enclitics are similar in behaviour and surface form to the Insistive enclitic **-tɔ**. The vowel harmony processes involved with these two kinds of enclitics will be investigated, starting with the Insistive enclitic **-tɔ**. The Insistive enclitic **-tɔ** is productive, whereas it is not possible to add noun-class enclitics to new nouns. In nouns with a noun-class enclitic, irregularities are found that do not occur in verb forms with the Insistive enclitic.

3.2.4.1 Negative **-gu** and Supplicative **-nɔ**

The negative enclitic **-gu** and the Supplicative enclitic **-nɔ** cliticise to the end of the verb form (see 7.7.4).

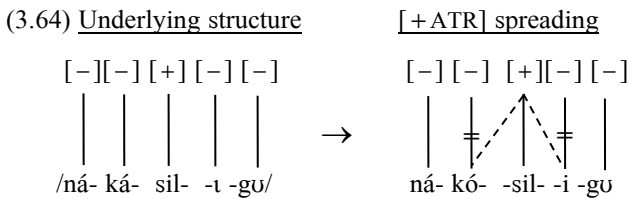
- (3.62)a. ná-ká-ngbút-t-gu 1SG-NEG-sulk-FV-NEG 'I will not sulk'
 ná-ká-ptk-t-gu 1SG-NEG-sway-FV-NEG 'I will not sway'
- b. bíky-á-nɔ say-FV.IMP-SUPP 'please say'
 t-ptl-t-á-nɔ 1SG.O-be immobile-APPL-FV.IMP-SUPP 'please forgive me'

In (3.63), enclitics **-gu** and **-no** follow a [+ATR] verb. All affix vowels within the domain of [+ATR] spreading assimilate, but the vowels of the enclitics remain [−ATR]:

- (3.63)a. ná-kó-ḃín-i-gu 1SG-NEG-dance-FV-NEG 'I will not dance'
 ná-kó-sil-i-gu 1SG-NEG-arrive-FV-NEG 'I will not arrive'
 b. ó-pup-í-no 3SG-leave-FV.SUBJ-SUPP 'that he please leave'
 ḃó-kpummy-í-no 3PL-chase away-FV.SUBJ-SUPP 'that they please chase s.th. away'

In (a), the vowel of the negative prefix **ka-** and the negative Future final vowel **-i** are changed to the [+ATR] value. In (b), [+ATR] spreading causes the vowel of the subject prefix and the Subjunctive final vowel **-i** to assimilate.

[+ATR] spreading in the second verb form in (3.63a), **nákósiligu** 'I will not arrive', can be visualized as follows:



The examples in (3.63) also show that [−ATR] enclitics do not prevent [+ATR] spreading to a high vowel in the suffixes.

When these [−ATR] enclitics occur following a [+ATR] suffix, the vowel of the enclitic still surface with the [−ATR] value, e.g.:

- (3.65)a. Ø-kó-tígól-ó-kú-gu 3SG^P-NEG-stay-FV^P-DIR-NEG 'he did not stay with us'
 b. tí-pó-kú-no 1PL.O-give:FV.IMP-DIR-SUPP 'please give towards us'

In (a), the verb **-tígól-** 'stay' and the Directional suffix **-kú** are underlyingly [+ATR]. In (b), the vowel of the verb **-pá-** 'give' assimilates to the [+ATR] value of the Directional suffix.

In the cases thus far, a high vowel precedes the enclitics **-gu** and **-no**. In many verb forms, the final vowel is the low vowel /a/. In a [+ATR] context, the final vowel is changed into the [+ATR] counterpart of /a/, i.e. /o/. In environments in which the

vowel /a/ is within the domain of [+ATR] spreading, but followed by a [−ATR] enclitic, it does not assimilate to the [+ATR] value, as can be seen in (3.66b, c):

- (3.66)a. nó-bín-ó 1SG^P-dance-FV^P 'I danced'
 b. bín-á-nó dance-FV.IMP-SUPP 'please dance!'
 *bín-ó-nó
 c. ná-kó-bín-á-gu 1SG^P-NEG-dance-FV^P-NEG 'I did not dance'
 *ná-kó-bín-ó-gu

The verb **-bín-** 'dance' is underlyingly [+ATR]. In (a), [+ATR] spreading causes the vowel of the subject prefix and the final vowel to assimilate to the value of [+ATR]. In (b) and (c) however, that does not happen to the final vowel.

Other examples of [+ATR] verbs where the final vowel does not assimilate preceding the [−ATR] negative enclitic are:

- (3.67) ø-kó-sil-á-gu 3SG^P-NEG-arrive-FV^P-NEG 'he did not arrive'
 ø-kó-kúmb-á-gu 3SG^P-NEG-carry-FV^P-NEG 'he did not carry'¹³⁴
 ø-kó-yúkúmb-á-gu 3SG^P-NEG-breathe-FV^P-NEG 'he did not breathe'

The same phenomenon can be observed when the monosyllabic post-verbal time adverbial ^H**ndi** 'earlier than about a week ago' (see 7.7.1) cliticises to the end of the verb form. The vowel of the cliticised time adverbial is invariably [−ATR] /ɪ/ and a preceding low final vowel does not assimilate in the domain of [+ATR] spreading. For example:

- (3.68)a. ó-dim-ó-ní-ndi tíko
 3SG^P-clear-FV^P-PFV-P₃ 9.field
 'He has cleared a field.'
 b. ó-dim-ís-á-ndi tíko
 3SG^P-clear-CAUS-FV^P-P₃ 9.field
 'He cleared a field.'

In (a), ^H**ndi** follows a high [+ATR] vowel, but its vowel does not assimilate. In (b), the final vowel, which is preceded by a [+ATR] suffix and followed by ^H**ndi**, surfaces as /a/.

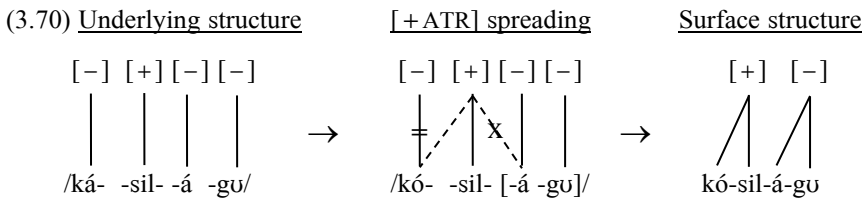
¹³⁴ I.e. on one's back.

The effect of [−ATR] enclitics is not limited to the vowel adjacent to the enclitic, as can be seen in the following verb forms of **-bín-** 'dance' with the Pluractional extension **-ag-**:

- (3.69)a. nó-bín-óg-ó
 1SG^P-dance-PLUR-FV^P
 'I danced repeatedly'
- b. ná-kó-bín-ág-á-gu
 1SG^P-NEG-dance-PLUR-FV^P-NEG
 'I did not dance repeatedly'

In (a), [+ATR] spreading continues to the end of the word. In (b), the vowel of the Pluractional extension and the final vowel surface as /a/ preceding the negative enclitic **-gu**.

The first example of (3.67), **kósilágu** 'he did not arrive', can be visualized as follows:



For the low vowel, anticipatory assimilation to the following [−ATR] value prevails over [+ATR] spreading. In Liko, a sequence of one or more non-high¹³⁵ vowels and a [−ATR] enclitic constitutes a [−ATR] domain, indicated by square brackets in the above visualization, which cannot be affected by [+ATR] spreading.

3.2.4.2 The Insistive enclitic **-tɔ̃**

The Insistive enclitic occurs in post-FV position in the verb form. The vowel of the Insistive enclitic surfaces as /ɔ̃/, /o/ and /u/, as in:

- (3.71)a. na-ko-dikit-o-ní ¹³⁶tɔ̃-gu 1SG-NEG-throw-FV- 'that I not throw'
 NEGSUBJ INS-NEG

¹³⁵ The effect of [−ATR] enclitics on mid vowels will be shown in the next section.

¹³⁶ When the Insistive enclitic **-tɔ̃** is followed by enclitic **-gu**, it forms a unit.

- In (a), the negative prefix **ka-**, the verb root **-dikit-** 'throw' and the final vowel **-a** assimilate to the [+ATR] value of the negative Subjunctive suffix **-ní**, but the vowel of the Insistive enclitic does not assimilate. In (b), the preceding subject prefix and the verb root as well as the following Insistive enclitic assimilate to the [+ATR] value of the Anterior aspect final vowel **-i**. In (c), following the low final vowel, the vowel of the Insistive enclitic is changed into a high vowel.

(3.72)a.	no-b́ín-i-tó	1SG-dance-FV.ANT-INS	'I certainly danced'
	ã-búkut-is-a-tú	3SG:1.O-produce-CAUS-FV-INS	'she will certainly cause to give birth'
b.	no-do-kú-to	1SG-come:FV-DIR-INS	'I will certainly come'
	nó-b́ín-á-tu	1SG ^P -dance-FV ^P -INS	'I certainly danced'

Surface realization of the vowel of the Insistive enclitic is /ɔ/ or /o/ following a high vowel and /u/ following a low vowel. The fourth potential surface vowel, /u/, does not occur. For /u/ to surface, it would require a preceding [+ATR] non-high vowel. There is no environment in which this is the case: Liko does not have a [+ATR] suffix with a non-high vowel. Surface realization as /ɔ/ is only found in negative Subjunctive forms, such as:

- (3.73)a. Ø-ko-pik-o-ní 'tɔ̌-ɡu
3SG-NEG-sway-FV.SUBJ-NEGSUBJ INS-NEG
'that he not sway'
- b. Ø-ka-kúl-o-ní 'tɔ̌-ɡu mémí
3SG-NEG:1.O-untie-FV.SUBJ-NEGSUBJ INS-NEG 1a.goat
'that he not untie the goat'

Suppose that the vowel of the Insistive enclitic were underlyingly /u/. To affect the vowel-height change, a rule of vowel-height dissimilation would be needed to realize /ɔ/ following /t/ and /o/ following /i/. However, although /t-u/ and /i-u/ do not occur in disyllabic noun stems, Liko has no co-occurrence restrictions on /t-Cu/ and /i-Cu/ sequences that occur across morpheme boundaries, for both prefixes and suffixes or enclitics:

- (3.74)a. lt-ḥúgu '5-plantain'
 li-ḥúki '5-parcel'
- b. ná-ká-ngbút-t-gu 'I will not sulk'
 1SG-NEG-sulk-FV-NEG
- a-mbímb-i-kú 'he threw recently towards s.o.'
 3SG:1.O-throw-FV.ANT-DIR

This means that there is no phonological reason for /u/ to change into a mid vowel.

If the vowel of the Insistive enclitic would be underlyingly /u/, it would be expected that it would assimilate to a [+ATR] value like the other high vowel /u/. The final vowel of the negative Future, **-t**, for instance, assimilates to a [+ATR] value, even preceding the underlying [-ATR] enclitic **-gu** in (3.63a). In (3.73), the Insistive enclitic follows the [+ATR] negative Subjunctive suffix **-ní**. The vowel of the Insistive enclitic does not assimilate, neither to ***kopikoni'túgu** nor to ***kopikoni'tógu** (after vowel-height dissimilation).

If the underlying vowel of the Insistive enclitic were /u/, it would be problematic to explain why it is not [+ATR] dominant like the other [+ATR] suffixes with a high vowel. There would also be no apparent reason why a [+ATR] vowel would change into [-ATR] in a [+ATR] dominant language, i.e. why **-tú** would surface as as **-tu** in **nóḥínátu** 'I certainly danced'. Underlying /o/ is also problematic for at least the last reason.

To sum up the discussion, /ɔ/ is posited as the underlying vowel of the Insistive enclitic. The rule of vowel-height dissimilation as formulated below is required to produce the surface realization of the high vowel /u/ following /a/.

$$\begin{bmatrix} +\text{syllabic} \\ +\text{round} \\ -\text{high} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{syllabic} \\ +\text{round} \\ +\text{high} \end{bmatrix} / \begin{bmatrix} +\text{syllabic} \\ -\text{high} \end{bmatrix} + -$$

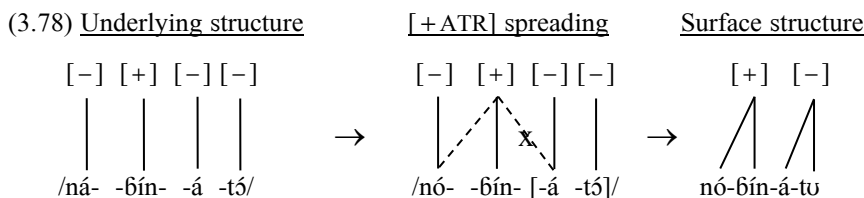
The Vowel-Height Dissimilation rule does not operate globally in Liko.¹³⁷ It operates within the context of a morpheme boundary, and it is only found to apply to the Insistive and the noun-class enclitics.

(3.76) no-bín-i-tó 1SG-dance-FV.ANT-INS 'I certainly danced'
no-díkit-i-tó 1SG-throw-FV.ANT-INS 'I certainly threw'
no-do-kú-to 1SG-come:FV-DIR-INS 'I will certainly come'

- As seen with the [–ATR] negative and Supplicative enclitics, a sequence of one or more non-high vowels and a [–ATR] enclitic constitutes a [–ATR] domain, which cannot be affected by [+ATR] spreading. As a result, [+ATR] spreading is unable to change the final vowel in (3.77).

¹³⁷ In other environments /a-ɔ/ sequences are attested, e.g. **ba-sódu** '2-cricket, sp.', **sil-á-no**, arrive-FV.IMP-SUPP, 'please arrive!'.

The [ATR] harmony process in the first example of (3.77), **nóǫínátu** 'I certainly danced', can be visualized as follows (the square brackets indicate the [–ATR] domain):



The examples below show that multiple syllables with non-high vowels preceding the [–ATR] Insistive enclitic are included in the [–ATR] domain. All non-high [–ATR] vowels within the domain surface with their [–ATR] value:

- (3.79)a. nó-ǫín-ág-á-tu 1SG^P-dance-PLUR-FV^P-INS 'I certainly danced'
 b. no-yúkum-ag-a-tǫ 1SG-breathe-PLUR-FV-INS 'I will certainly breathe'

The surface tone of the Insistive enclitic is High, Low or non-automatic downstepped High. Relevant examples for the non-automatic downstep are the negative Subjunctive forms in (3.71a), (3.73a, b) and the following examples:

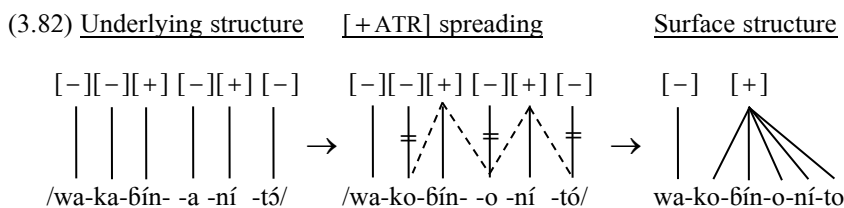
- (3.80)a. wa-ko-ngbút-o-ní ⁴tǫ-gu
 2SG-NEG-sulk-FV-NEGSUBJ INS-NEG
 'that you (sg) would not sulk' / 'Do not sulk!'
 b. wa-ko-ǫín-o-ní ⁴tǫ-gu
 2SG-NEG-dance-FV-NEGSUBJ INS-NEG
 'that you (sg) would not dance' / 'Do not dance!'

The [–ATR] domain formed by the non-high vowel and the [–ATR] enclitic provides a rationale for the failure of the vowel of the Insistive enclitic to assimilate to the preceding [+ATR] suffix. In negative Subjunctive forms, the negative enclitic **-gu** is optional. When this [–ATR] enclitic **-gu** is absent, the vowel of the Insistive enclitic assimilates to the [+ATR] value of the preceding suffix and the tone on the Insistive enclitic is Low:

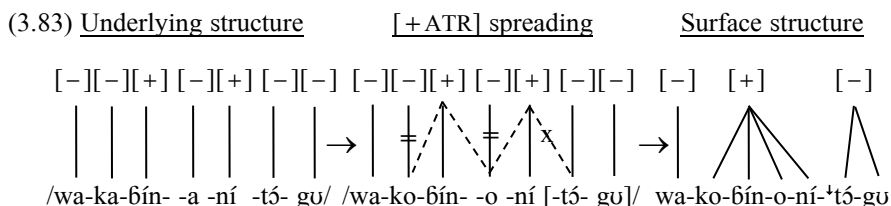
- (3.81)a. wa-ko-ngbút-o-ní-to
 2SG-NEG-sulk-FV-NEGSUBJ-INS
 'that you (sg) would not sulk' / 'Do not sulk!'

- b. wa-ko-ḡín-o-ní-to
 2SG-NEG-dance-FV-NEGSUBJ-INS
 'that you (sg) would not dance' / 'Do not dance!'

Here is a visualization of (3.81b); adjacent identical [ATR] values are merged through the 'obligatory contour principle' (OCP):



[ATR] spreading and the [-ATR] domain in (3.80b), **wakoḡínóní** **ṡṡgu** 'that you (sg) would not dance' / 'Do not dance!', can be visualized as follows:



The second person singular subject prefix **wá-** is beyond the left boundary of the domain of [+ATR] spreading.

Several processes distinguish the verbal enclitics **-gu** and **-no** from **-tṡ**: firstly, vowel-height dissimilation (3.75) applies only to **-tṡ**, secondly, the tone on the Insistive enclitic is changed into a L tone in the environment of a preceding H tone (see 4.6.6) and thirdly, [+ATR] spreading causes **-tṡ** to assimilate unless the Insistive enclitic forms a [-ATR] domain with a preceding non-high vowel. These processes mark the Insistive enclitic **-tṡ** as being part of the word, at least to a greater extent than the other verbal enclitics.

The polysyllabic complex of two enclitics, **tṡgu**, has created an environment which is different from cases in which **-tṡ** occurs word-finally. When a H tone occurring

on a word-final syllable is preceded by another H tone across a morpheme boundary, the sequence of two H tones surfaces as H.H or H.L, not as H.⁴H. If, however, the second H tone is linked to the first syllable of a word, a floating L tone causes non-automatic downstep of the second H in at least one other environment, i.e. an auxiliary followed by an Infinitive, see 4.6.5.

3.2.4.3 Noun-class enclitics

A characteristic of the Liko noun-class system is the existence of noun-class enclitics in addition to noun-class prefixes. The vowel of the enclitic surfaces as /ɔ/, /o/ and /u/ in noun classes 7, 13, 15 and 19, where most nouns with a noun-class enclitic are found. In other noun classes, some of these realizations are attested. A few nouns in class 9 have an enclitic form with /u/ in addition to /ɔ/, /o/ and /u/. For details, I refer the reader to 5.1.2. Table 9 presents the realizations attested by noun class:

Table 9 Noun-class enclitics - surface forms

Class	Enclitic
3	-mʊ
5	-lʊ
6	-mo, -mʊ
7	-sɔ, -so, -sʊ
9	-yɔ, -yo, -yʊ, -yt
13	-tɔ, -to, -tʊ
15	-kɔ, -ko, -kʊ
19	-sɔ, -so, -sʊ

Examples of surface realizations of the vowels of noun-class enclitics following high or low vowels include:

- (3.84)a. kǔnzɪŋɪ-kɔ '15:sweet potato-15'
(s)ɪ-bukú-sɔ '19-shrub, drug-19'
- b. sukú-so '7:burning piece of wood-7'
ku-tíli-ko '15-ear-15'
- c. kʊ-bɪsyá-kʊ '15-smithy-15'
ɪ-ɓalá-sʊ '19-stool-19'

Here are some examples of surface realizations of the vowel of noun-class enclitics following mid vowels:

- (3.85)a. st-bě-su '7-thigh-7'
 kū-nzě¹³⁸nzé-kū '15-leaf, sp.-15'
 b. kū-ḥḥḥ-kū '15-lie-15'
 ɪ-kpŋgǝ-su '19-bed frame-19'

The realization of the vowel of a noun-class enclitic is determined by the values of the preceding vowel for [ATR] and [high]. Surface /ɔ/ follows [–ATR] high vowels as in (3.84a), /o/ follows [+ATR] high vowels as in (3.84b) and /u/ follows [–ATR] non-high vowels as in (3.84c) and (3.85). A noun-class enclitic following a surface [+ATR] non-high vowel does not occur in the language.

If /ɔ/ is posited as the underlying vowel, then the change to /u/ can be accounted for by vowel-height dissimilation (3.75) and the change to /o/ by [+ATR] spreading. The Insistive enclitic also has surface realizations /ɔ/, /o/ and /u/. The argumentation for /ɔ/ as the underlying vowel of the Insistive enclitic, given in the previous section, also applies in the case of noun-class enclitics. Noun-class enclitics may originate from type I demonstratives indicating 'near'. The vowel of this type of demonstratives is /ɔ/.

[+ATR] spreading causes the vowel of a noun-class enclitic to assimilate to the value of the root, see (3.84b). It is only attested in cases in which a high [+ATR] vowel precedes the enclitic.

Other examples include:

- (3.86)a. ku-sí¹³⁸ngí-ko '15-shoulder strap-15'
 si-kpí-so '19-hat-19'
 b. ku-lulú-ko '15-shadow-15'
 i-bokú-so '19-skin, bark-19'

The second example in (3.86b), **i-bokú-so** '19-skin, bark-19', can be visualized as:

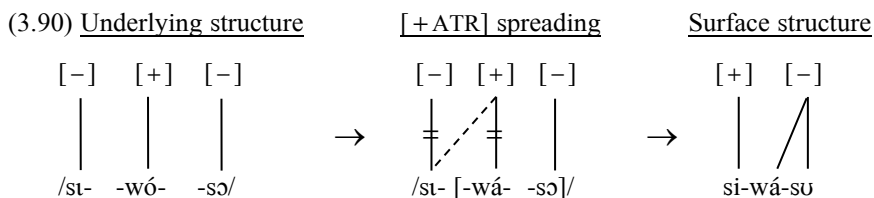
¹³⁸ This leaf is used as a plate.

This must be the case in (3.89) (listing all cases in my data), where [+ATR] noun stems have a plural form with /o/ and a singular with /a/.

(3.89)	ku-kwá-ku	'15-death-15'	mo-kwó	'6-death'
	ku-kpukú'má-ku	'15-cassava-15'	kpukúmo	'9.cassava'
	kú'wá-ku	'15:thorn-15'	mówo	'6:thorn'
	ku-yá-ku	'15-fishing net-15'	mo-yó	'6-fishing net'
	sílosí'lá-su	'7:burnt log-7'	ǂíloǂílo	'8:burnt log'
	sí'ngá-su	'7:neck-7'	ǂíngo	'8:neck'
	si-wá-su	'7-bell for a hound-7'	ǂi-wó	'8.bell for a hound'

The reduplicated noun **sí-losí'lá-su** has both surface vowels: /o/ in the first part is not affected by the noun-class enclitic.

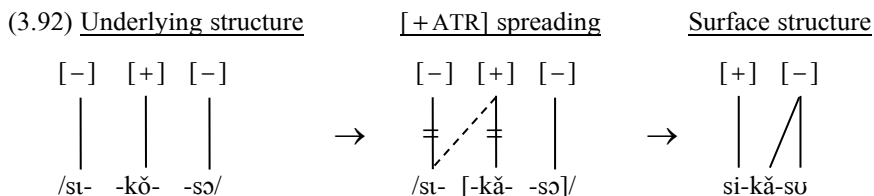
The data in the above set show that the [−ATR] noun-class enclitics are able to create a [−ATR] domain with any preceding non-high vowel, even if there is a [+ATR] value associated with the noun. The [+ATR] value of a non-high vowel can be delinked by a following [−ATR] enclitic. [ATR] association in the case of **si-wá-su** '7-bell for a hound-7' can be visualized as follows (square brackets indicate the [−ATR] domain):



In (3.91), [+ATR] nouns do not surface with a [+ATR] vowel, but only with /a/. The [+ATR] value is evident by looking at the vowel of the noun-class prefix, which is [+ATR]:

(3.91)	si-kǎ-su	'7-drying shed-7'	ǂi-kǎ-tu	'8-drying shed-8'
	kú'ǂá-ku	'15:theft-15'	-	
	ku-káká-ku	'15-housekeeping-15'	-	
	kú'má-ku	'15:greed-15'	-	

[ATR] association can be visualized as follows, using the first example (square brackets indicate the [−ATR] domain):



3.2.5 Conclusion

ATR vowel-harmony processes occur across morpheme boundaries of all word classes in Liko, in noun-class prefixes and enclitics, in verbal inflectional and derivational affixes as well as enclitics, in noun-class concords of adjectives, numerals, associative constructions and **ḡi-** modifiers.

In the dominant ATR vowel harmony system in Liko, [+ATR] is the active value, but [−ATR] enclitics can create a [−ATR] domain with preceding non-high vowels. Underlyingly, [+ATR] is linked to roots and suffixes (including one verbal extension). They do not alternate in their [ATR] value, but are invariably [+ATR]. Affixes with a [−ATR] value surface with a [+ATR] vowel when they are within the domain of [+ATR] spreading. Verb roots are subject to [+ATR] vowel harmony as well. In affixes and verb roots, /a/ harmonizes with a [+ATR] value if /a/ occurs within the domain of [+ATR] spreading. When /a/ assimilates to [+ATR], it surfaces as the mid round vowel /o/.

The low vowel /a/ is opaque in [+ATR] noun stems. There is a problem for autosegmental theory with respect to its opaqueness, because in Liko, a high prefix vowel is changed into a [+ATR] value preceding noun stems where /a/ occurs as V₁ and a [+ATR] vowel as V₂.

Three verbal [−ATR] enclitics, negative **-ḡu**, Supplicative **-no** and Insistive **-tḡ**, as well as the [−ATR] noun-class enclitics, **-Ḥo**, may form a [−ATR domain] consisting of the [−ATR] enclitic and one or more preceding non-high vowels.

Typologically interesting is the occurrence of [+ATR] dominance together with the establishment of a [−ATR] domain, including delinked [+ATR] non-high vowels. There has been a lot of debate on the question whether [−ATR] can function as the regularly dominant value in a language. Some theories claim that only [+ATR] dominance should normally be possible (e.g. Van der Hulst 1988) and others state that only either [+ATR] or [−ATR] functions as the systematically dominant value in a language (Archangeli and Pulleyblank 1994, Leitch 1996). Kutsch Lojenga (1999), Baković (2000) and Kutsch Lojenga (2009) among others have proposed the idea of "dominance reversal": following [+ATR] assimilation, [−ATR] dominant enclitics restore the original [−ATR] value.

In the ATR system in the Liko language, vowel height is an important feature. The [+ATR] "strength" of high vowels is greater than that of non-high vowels. The only vowels in [+ATR] dominant suffixes are the high vowels /i u/. [+ATR] spreading to noun-class prefixes with /a/ is much more successful when the first vowel of the noun stem is a high vowel than when it is a non-high vowel (see 3.2.3.3). In the presence of a [−ATR] enclitic, preceding low vowels form a [−ATR] domain with the enclitic, and a preceding [+ATR] non-high vowel /o/ loses its ATR association and becomes part of the [−ATR] domain as well.¹⁴⁰ Only in the case of [+ATR] high vowels does [+ATR] spread to the [−ATR] Insistive and noun-class enclitics.

[+ATR] dominance can be reformulated as follows:

- (3.93) [+ATR] spreads within its domain, which ranges from the prefix adjacent to the left of the root up to the end of the word or to a [−ATR] domain.

In autosegmental analysis, values on the [ATR] tier spread within their domain. The [ATR] domain in Liko is established before spreading.

¹⁴⁰ Dominance of [−ATR] vowels is reported to be a characteristic property of languages with no [ATR] contrast in the high vowels (Casali 2008:520).

3.3 Vowel Sandhi

The following factors contribute to the widespread occurrence of Vowel Sandhi in Liko. Liko has only open syllables CV and V. The reflexive prefix, frequently used object prefixes (1SG, 2SG, class 2) and the prefixes of the noun-classes 1b, 1c, 9a and 19 consist of a single vowel. A number of verbs and nouns are vowel-initial, and the verb-final vowel may follow a verb with an open syllable root-finally or a V-type verbal extension.

A sequence of two vowels generally has to be resolved. I refer to them as V_1 and V_2 in this section. V_1 represents the vowel of the first morpheme and V_2 the vowel of the following morpheme. The language uses the following strategies in case of adjacent prefix vowels or a sequence of a prefix vowel and a root-initial vowel: V_1 -elision, height coalescence and heterosyllabification. In the case of vowel-initial suffixes following a root-final vowel, two identical vowels merge, V_1 is desyllabified, or height coalescence takes place. No strategy dealing with a sequence of two vowels leads to the formation of a long vowel. The resulting vowel after vowel elision, height coalescence or desyllabification is the nucleus of a short syllable. Vowel elision, height coalescence or desyllabification may lead to surface tonal changes, e.g. a L tone on V_1 and a H tone on V_2 may result in a LH contour tone on V_2 after V_1 -elision or desyllabification, see Chapter 4 "Tone".

Elision of V_1 leads to re-syllabification to recreate a well-formed syllable. The syllabification conventions in Liko are:

(3.94)

- CV-syllables: every vowel forms a syllable together with the consonant to its left;
- V-syllables: a vowel without consonantal onset forms a syllable in itself.

When a vowel is elided by V_1 -elision, the syllable has lost its nucleus and the first convention applies: V_2 is linked to the consonantal onset on its left.

How the hiatus resolution takes place is a matter of morphophonology: it depends on the morphemes involved and on the vowel height. Noun-class prefixes of classes 2 and 2+9 preceding either V-syllable noun-class prefixes or vowel-initial

nouns, for instance, exemplify the effect of vowel height. The noun-class prefixes of noun classes 1b, 1c and 9a, i.e. **a-**, **ɪ-** and **ɪ-** respectively, are retained in plural forms. If the prefix vowel is **a-**, then the vowel of class 2 plural prefix **6a-** is subject to V₁-elision. If the prefix is the high unrounded vowel **ɪ-**, height coalescence takes place, resulting in a mid unrounded vowel. Classes 2 or 2 + 9 plural prefix **6a-** preceding a vowel-initial noun with /ɔ/ surface as **6ɔ-** after V₁-elision.

In the description and the examples, I have given an overview of all relevant morphemes in my data. Vowel Sandhi in Liko is rare post-lexically, which is probably due to word structure: the overall majority of words begin with a CV-syllable.

In the sections below, V₁-elision is presented first, followed by height coalescence, heterosyllabification and desyllabification. Interestingly, Liko has, to some extent, symmetric height coalescence, which applies not only to a sequence of a low and a high vowel (see 3.3.2), but, in one context, also to a sequence of a high and a low vowel (see 3.3.3).

3.3.1 V₁-elision

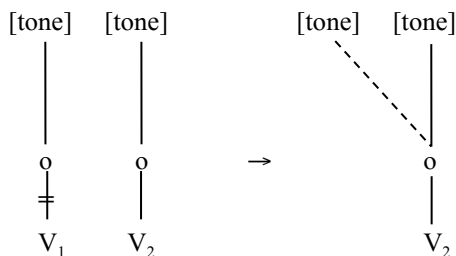
The following set of verbal prefixes lose their morpheme-final vowel when they precede a vowel-initial verb root or a V-syllable verbal prefix:

- the subject prefix **(C)a-**
- the Conditional prefix **ka-**
- the negative prefix **ka-**
- the Inchoative aspect prefix **-^Lná^L-**

The V-syllable verbal prefixes involved are the reflexive prefix **ɣ-** and the object prefixes second person singular **u-** and class 2 **ǃ-**. In order to facilitate the understanding of the examples, I have added footnotes with underlying morphemes. The vowel of a noun-class prefix is elided preceding a V-syllable noun-class prefix or a vowel-initial noun.

V₁-elision removes the vowel and the vowel position; the duration of the resulting vowel is the same as for a single vowel. The association line with [ATR] is also deleted, but not the tone of V₁.

(3.95) V₁-elision



a. V₁-elision preceding a vowel-initial verb root

The vowel of vowel-initial verbs is either high /ɪ i u/ or low /a/. The examples show that the vowel of the prefix is elided when it precedes a vowel-initial verb.

(3.96)a. *subject prefix (C)a-*

/ná + ɪná/ ¹⁴¹	→ níná	'I saw'
/ná + ulá/	→ núlá	'I broke'
/ná + alá/	→ nálá	'I cleaved'

b. *negative prefix ka-*

/ná-ká + ulágu/ ¹⁴²	→ nákulágu	'I did not break'
/ná-ká + alágu/	→ nákalágu	'I did not cleave'

c. *Conditional prefix ka-*

/na-ka + ulá/ ¹⁴³	→ nakulá	'if I break'
/na-ka + alá/	→ nakalá	'if I cleave'

d. *Inchoative aspect prefix -^Lná^L-*

/na- ^L ná ^L + undá/ ¹⁴⁴	→ naní ^t ndá	'I am about to go'

¹⁴¹ /ná-ɪn-á/ 1SG^P-see-FV^P.

¹⁴² /ná-ká-ul-á-gu/ 1SG^P-NEG-break-FV^P-NEG.

¹⁴³ /na-ka-ul-á/ 1SG-COND-break-FV.

¹⁴⁴ /na-^Lná^L-und-á/ 1SG-INCH-go-FV.

/na- ^L ná ^L + úlá/	→ nanó ^L lá	'I am about to break'
/na- ^L ná ^L + alá/	→ naná ^L lá	'I am about to cleave'

Notice the tone on the initial vowel of the verb in (3.96a, b and c). Verb roots have either a primary H tone or L tone. The verbs in the above examples have a H tone, apparent by the H tone on the final vowel (otherwise, it would have been a rising tone). The initial vowel in these examples does not carry the primary tone of the verb. All verbs except one in my data with a root-initial vowel have a surface L tone on that vowel.¹⁴⁵

b. V₁-elision preceding the reflexive prefix ĭ-

The following examples show that the vowel of the verbal prefix is elided when it precedes the reflexive prefix ĭ-. The reflexive prefix assimilates to a [+ATR] value, but the vowel of a preceding verbal prefix as in (3.97d) does not, because it is outside the domain of [+ATR] spreading.

(3.97)a. *subject prefix (C)a-*

/ná + ĭ- <i>sumbó</i> / ¹⁴⁶	→ ní <i>sumbó</i>	'I burned myself'
/ná + ĭ- <i>kúlá</i> /	→ ní <i>kúlá</i>	'I untied myself'

b. *negative prefix ka-*

/ká + ĭ- <i>sumbigu</i> / ¹⁴⁷	→ kí <i>sumbigu</i>	'he will not burn himself'
/ká + ĭ- <i>kúlgú</i> /	→ kí <i>kúlgú</i>	'he will not untie himself'

c. *Conditional prefix ka-*

/ka + ĭ- <i>sumbó</i> / ¹⁴⁸	→ kí <i>sumbó</i>	'if he burns himself'
/ka + ĭ- <i>kúlá</i> /	→ kí <i>kúlá</i>	'if he unties himself'

d. *Inchoative aspect prefix -^Lná^L-*

/a- ^L ná ^L + ĭ- <i>sumbó</i> / ¹⁴⁹	→ aní <i>sumbó</i>	'he is about to burn himself'
/a- ^L ná ^L + ĭ- <i>kúla</i> /	→ aní <i>kúla</i>	'he is about to untie himself'

¹⁴⁵ The exception is -*ók-* 'heal'.

¹⁴⁶ /ná-ĭ-*sumb-á*/ 1SG^P-REFL-burn-FV^P.

¹⁴⁷ /Ø-ká-ĭ-*sumb-t-gu*/ 3SG-NEG-REFL-burn-FV-NEG.

¹⁴⁸ /Ø-ka-ĭ-*sumb-á*/ 3SG-COND-REFL-burn-FV.

¹⁴⁹ /a-^Lná^L-ĭ-*sumb-á*/ 3SG-INCH-REFL-burn-FV.

With respect to the three different surface tones on the reflexive prefix: LowHigh is realized if the preceding prefix and the verb have a L tone; High is realized if the preceding prefix has a H tone (L-tone deletion in the context of HLH → H, see 4.6.4); and Low is realized if the preceding prefix is Low and the verb is High (in which case LowHigh breaks up). For more information, I refer the reader to 4.6.2 and 7.5.2.

c. V₁-elision preceding the object prefixes 2SG u- and class 2 ũ-

The following examples show that the vowel of the verbal prefix is elided when it precedes the second person singular object prefix **u-** or class 2 **ũ-**. The object prefixes assimilate to a [+ATR] verb root.

(3.98)a. *subject prefix (C)a-*

/bá + u-sumbó/ ¹⁵⁰	→ búsumbó	'they burned you (sg)'
/bá + u-kúlá/	→ bú'kúlá	'they untied you (sg)'
/bá + ũ-sumbó/ ¹⁵¹	→ búsumbó ¹⁵²	'they burned them'
/bá + ũ-kúlá/	→ búkúlá	'they untied them'

b. *negative prefix ka-*

/tá-ká + u-gbodyigu/ ¹⁵³	→ tákúgbodyigu	'we will not smear you (sg)'
/tá-ká + u-lúmbigu/	→ tákú'lúmbigu	'we will not bury you (sg)'
/tá-ká + ũ-gbodyigu/ ¹⁵⁴	→ tákúgbodyigu	'we will not smear them'
/tá-ká + ũ-lúmbigu/	→ tákúlúmbigu	'we will not bury them'

c. *Conditional prefix ka-*

/ta-ka + u-gbodyó/ ¹⁵⁵	→ takugbodyó	'if we smear you (sg)'
/ta-ka + u-lúmbó/	→ takulúmbó	'if we bury you (sg)'
/ta-ka + ũ-gbodyó/ ¹⁵⁶	→ takũgbodyó	'if we smear them'

¹⁵⁰ /bá-u-sumb-á/ 3PL^P-2SG.O-burn-FV^P.

¹⁵¹ /bá-ũ-sumb-á/ 3PL^P-2.O-burn-FV^P.

¹⁵² The verb forms with 2SG or class 2 object prefixes are identical in several environments.

¹⁵³ /tá-ká-u-gbody-ɪ-gu/ 1PL-NEG-2SG.O-smear-FV-NEG.

¹⁵⁴ /tá-ká-ũ-gbody-ɪ-gu/ 1PL-NEG-2.O-smear-FV-NEG.

¹⁵⁵ /ta-ka-u-gbody-á/ 1PL-COND-2SG.O -smear-FV.

¹⁵⁶ /ta-ka-ũ-gbody-á/ 1PL-COND-2.O -smear-FV.

- d. *Inchoative aspect prefix* -^Lná^L-
- | | | |
|--|---------------------------|----------------------------------|
| /ta-ka + ũ-lúmbó/ | → takulúmbó | 'if we bury them' |
| /ta- ^L ná ^L + u-gbodyo/ ¹⁵⁷ | → tanúgbodyó | 'we are about to smear you (sg)' |
| /ta- ^L ná ^L + u-lúmbo/ | → tanú ⁴ lúmbo | 'we are about to bury you (sg)' |
| /ta- ^L ná ^L + ũ-gbodyo/ ¹⁵⁸ | → tanúgbodyó | 'we are about to smear them' |
| /ta- ^L ná ^L + ũ-lúmbo/ | → tanúlúmbo | 'we are about to bury them' |

In the examples above, the second person singular object prefix **u-** has either a Low or a High tone at the surface. If the preceding prefix has a L tone or if the following verb root has a L tone, the L tone of the object prefix **u-** merges with the adjacent L tone, leaving no trace. In the absence of an adjacent L tone, the Low tone of the object prefix **u-** causes non-automatic downstep. The tone on the class 2 object prefix **ũ-** surfaces as LowHigh, High or Low, like the surface tone of the reflexive prefix **ĩ-**. Detailed information can be found in 4.6.2 and 7.5.

d. V₁-elision preceding a V-syllable noun-class prefix or a vowel-initial noun stem

The following examples show V₁-elision when the class 2 prefix **6a-** precedes the class 1b prefix **a-** or a noun with an initial vowel /ɔ/.

(3.99) *class 2 prefix 6a-*

/6a + a-bulí/	→ 6a-bulí	'2:1b-fish, sp.'
/6a + o-ngútu/	→ 6o-ngútu	'2:1b-bracelet'
/6a + ɔgũ/	→ 6ɔgũ	'2:fish, sp.'

V₁-elision occurs when class 5 prefix **l-** or class 6 **ma-** precede a noun with a root-initial vowel:

(3.100) *class 5 prefix l- and class 6 prefix ma-*

/l + akí/	→ lakí	'5:egg'
/l + íno/	→ líno	'5:name'

¹⁵⁷ /ta-^Lná^L-u-gbody-á/ 1PL-INCH-2SG.O-smear-FV.

¹⁵⁸ /ta-^Lná^L-ũ-gbody-á/ 1PL-INCH-2.O-smear-FV.

/ma + akí/	→ makí	'6:egg'
/ma + íno/	→ míno	'6:name'

V₁-elision also occurs when class 7 prefix **si-** or class 8 **bi-** precedes a noun with a root-initial high vowel:

(3.101) *class 7 prefix si- and class 8 prefix bi-*

/si + íngo-su/	→ sí'ngásu	'7:neck, throat-7'
/bi + íngo/	→ bíngo	'8:neck, throat'
/si + úkwá-su/	→ sukwásu	'7:yam (generic)-7'
/bi + úkwá/	→ búkwá	'8:yam (generic)'

3.3.2 Height coalescence: low + high

In the following instances of a sequence of a low prefix vowel and a high prefix vowel, the process of height coalescence results in a single mid vowel.

(3.102) Coalescence of low + high vowel-height features of prefix vowels

$$\left[\begin{array}{c} +\text{syllabic} \\ +\text{low} \end{array} \right] + \left[\begin{array}{c} +\text{syllabic} \\ +\text{high} \\ -\text{round} \end{array} \right] \rightarrow \left[\begin{array}{c} +\text{syllabic} \\ -\text{high} \\ -\text{low} \\ -\text{round} \end{array} \right]$$

Coalescence of a low prefix vowel and a high unrounded prefix vowel results in a mid unrounded vowel.

a. verbal prefixes: V₁ low and V₂ high

The first person singular object prefix **ɪ-** can be preceded by subject prefix **(C)a-**, negative **ka-**, Conditional **ka-**, Inchoative aspect **-^lná^l-** and Infinitive **ká-**. The following examples show that the [+ high] feature of V₂ is lost, whereas its position feature is retained.

(3.103)a. *subject prefix (C)a- and 1SG object prefix ɪ-*

/bá + i-gbodyó/ ¹⁵⁹	→ bégbodyó	'they smeared me'
/bá + i-lúmbó/	→ bɛ ^l lúmbó	'they buried me'
/bá + ɪ-kúlá/	→ bɛ ^l kúlá	'they untied me'

¹⁵⁹ /bá-ɪ-gbody-á/ 3PL^P-1SG.O-smear-FV.

- b. *negative prefix ka- and 1SG object prefix ɪ-*
 /ḃá-ká+i-gbodyigu/¹⁶⁰ → ḃákégbodyigu 'they will not smear me'
 /ḃá-ká+i-lúmbigu/ → ḃáké⁴lúmbigu 'they will not bury me'
 /ḃá-ká+ɪ-kúlugu/ → ḃáké⁴kúlugu 'they will not untie me'
- c. *Conditional prefix ka- and 1SG object prefix ɪ-*
 /ḃa-ka+i-gbodyó/¹⁶¹ → ḃakegbodyó 'if they smear me'
 /ḃa-ka+i-lúmbó/ → ḃakelúmbó 'if they bury me'
 /ḃa-ka+ɪ-kúlá/ → ḃakekúlá 'if they untie me'
- d. *Inchoative aspect prefix -^Lná^L- and 1SG object prefix ɪ-*
 /ḃá-^Lná^L+i-gbodyó/¹⁶² → ḃá⁴négbodyó 'they are about to smear me'
 /ḃá-^Lná^L+i-lúmbo/ → ḃá⁴né⁴lúmbo 'they are about to bury me'
 /ḃá-^Lná^L+ɪ-kúla/ → ḃa⁴né⁴kúla 'they are about to untie me'
- e. *Infinitive prefix ká- and 1SG object prefix ɪ-*
 /ḃá ^Lká+i-gbodyó/¹⁶³ → ḃá ⁴kégbodyó 'they are smearing me'
 /ḃá ^Lká+i-lúmbó/ → ḃá ⁴ké⁴lúmbó 'they are burying me'
 /ḃá ^Lká+ɪ-kúlá/ → ḃá ⁴ké⁴kúlá 'they are untying me'

b. noun-class prefixes: V₁ low and V₂ high

The noun-class prefix ɪ- of classes 1c or 9a can be preceded by the noun prefix ḃa- of classes 2 or 2+9. The following examples show that the [+high] feature of V₂ is lost, whereas its position feature is retained.

- (3.104) *classes 2 or 2+9 prefix ḃa- and classes 1c or 9c ɪ-*
- | | | | |
|------------|---|----------|---------------------|
| ḃa+ɪ-mbúbú | → | ḃe-mbúbú | '2:1c-civettes' |
| ḃa+í-bőko | → | ḃe-bőko | '2:1c-pigeons, sp.' |
| ḃa+ɪ-duma | → | ḃe-duma | '2+9:9a-lake' |
| ḃa+i-dúlu | → | ḃe-dúlu | '2+9:9a-big noise' |

¹⁶⁰ /ḃá-ká-ɪ-gbody-ɪ-gu/ 3PL-NEG-1SG.O-smear-FV-NEG.

¹⁶¹ /ḃá-ka-ɪ-gbody-á/ 3PL-COND-1SG.O-smear-FV.

¹⁶² /ḃá-^Lná^L-ɪ-gbody-á/ 3PL-INCH-1SG.O-smear-FV.

¹⁶³ /ḃá ^Lká-ɪ-gbody-á/ 3PL:be 9b-1SG.O-smear-FV.

3.3.3 Height coalescence: high + low

In the instance of a sequence of a high vowel and a low suffix vowel, the process of height coalescence results in a single mid vowel.

(3.105) Coalescence of high + low vowel-height features

$$\begin{bmatrix} +\text{syllabic} \\ +\text{high} \\ \alpha \text{ round} \end{bmatrix} + \begin{bmatrix} +\text{syllabic} \\ +\text{low} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{syllabic} \\ -\text{high} \\ -\text{low} \\ \alpha \text{ round} \end{bmatrix}$$

Coalescence of a high vowel and a low vowel results in a mid vowel, while preserving the value for roundness of the former.

Constraint: applies only to the [−ATR] vowel of a -CV- verb root and the verb-final vowel.¹⁶⁴

A high vowel of a [−ATR] -CV- verb root is followed in the Infinitive form by the verb-final vowel **-a**. This process of height coalescence causes the verb root [−ATR] high vowels /ɪ/ and /ʊ/ to lose their [+high] feature. The feature for roundness of the first vowels in the sequence is retained. The resulting vowels are /ɛ/ and /ɔ/ respectively. Examples include:

- (3.106)a. /ká-tɪ-á/ → ká-tě '9b-put aside:FV'
 /ká-sɪ-á/ → ká-syé '9b-pass (time), sleep:FV'
 b. /ká-pʊ-á/ → ká-pǒ '9b-rot:FV'
 /ká-mʊ-á/ → ká-mwó '9b-kill, cut down:FV'

When the final vowel of a verb root is [+ATR], it is realized as a glide preceding a suffix vowel: /i/ is desyllabified to /y/ and /u/ to /w/.

3.3.4 Heterosyllabification

In a number of morphological contexts, neither V₁-elision nor height coalescence take place to resolve the vowel hiatus. The vowel sequence is left unchanged and

¹⁶⁴ The difference between height coalescence and desyllabification in monosyllabic verbs can be attributed to the lack of a [+ATR] low vowel in the Liko vowel system. The [+ATR] counterpart of /a/ is /o/, which is not a low vowel, hence the conditions for height coalescence are not met.

the two vowels are syllabified into separate syllables. The morphological contexts include:

- vowel-initial verb roots preceded by the Infinitive prefix;
- the reflexive prefix or an object prefix preceded by the Infinitive prefix;
- nouns with stem-initial high round vowels.

Examples of vowel-initial verb roots preceded by the Infinitive prefix:

(3.107) *Infinitive prefix ká-*

/ká + uná/ ¹⁶⁵	→ [káuná]	'to see'
/ká + ulá/	→ [káulá]	'to break'
/ká + alá/	→ [káalá]	'to cleave'

Examples of the reflexive prefix or an object prefix preceded by the Infinitive prefix:

(3.108)a. *Infinitive prefix ká- and reflexive prefix ĭ-*

/ta ká + ĭ-gbodyó/ ¹⁶⁶	→ [ta káĭgbodyó]	'we are smearing ourselves'
/ta ká + ĭ-lúmbó/	→ [ta káilúmbó]	'we are burying ourselves'
/ta ká + ĭ-kúlá/	→ [ta káukúlá]	'we are untying ourselves'

b. *Infinitive prefix ká- and 2SG object prefix u-*

/ta ká + u-gbodyó/ ¹⁶⁷	→ [ta káu-gbodyó]	'we are smearing you (sg)'
/ta ká + u-lúmbó/	→ [ta kaulúmbó]	'we are burying you (sg)'
/ta ká + u-kúlá/	→ [ta káukúlá]	'we are untying you (sg)'

c. *Infinitive prefix ká- and class 2 object prefix ů-*

/ta ká + ů-gbodyó/ ¹⁶⁸	→ [ta káuġgbodyó]	'we are smearing them'
/ta ká + ů-lúmbó/	→ [ta kaulúmbó]	'we are burying them'
/ta ká + ů-kúlá/	→ [ta káukúlá]	'we are untying them'

Examples of nouns with root-initial high round vowels /u u/ preceded by classes 2 or 2 + 9 prefix **ba-** include:

¹⁶⁵ /ká-ın-á/ 9b-see-FV.

¹⁶⁶ /ta ká-ĭ-gbody-á/ 1PL:be 9b-REFL-smear-FV.

¹⁶⁷ /ta ká-u-gbody-á/ 1PL:be 9b-2SG.O-smear-FV.

¹⁶⁸ /ta ká-ũ-gbody-á/ 1PL:be 9b-2.O-smear-FV.

(3.109) *classes 2 or 2 + 9 prefix 6a-*

/6a + úmbó/ → [6aúmbó] '2-squirrel, sp.'

/6a + úzu/ → [6oúzu] '2 + 9-island'

Examples of nouns with root-initial high round vowels /u u/ preceded by the class 5 prefix **h-** include:

(3.110) *class 5 prefix h-*

/h + úgu/ → [húgu] '5-charm'

/h + úwa/ → [húwa] '5-coloured leaf'

3.3.5 Desyllabification

When a morphological process creates a CV₁ + V₂ sequence where V₁ is a high vowel and V₂ is mid or low, the process of desyllabification changes V₁ into a palatal or labial-velar oral sonorant, depending on the [round] value of V₁. This is a frequent process in monosyllabic [+ATR] -CV- verb roots, as well as in disyllabic -CVCV- verb roots. For example, **-đu-** 'move' in the Infinitive form with final vowel **-a** is realized as **kódwǎ** 'to move', **-mi-** 'swallow' as **kómyǎ** 'to swallow'¹⁶⁹ and **-mísi-** 'have one child after the other' as **kámísyá**.

(3.111) Desyllabification

$$\left[\begin{array}{c} +\text{syllabic} \\ +\text{high} \\ \alpha \text{ back} \end{array} \right] \rightarrow \left[\begin{array}{c} -\text{syllabic} \\ +\text{oral sonorant} \\ +\text{high} \\ \alpha \text{ back} \end{array} \right] / [+ \text{consonantal}] - \left[\begin{array}{c} +\text{syllabic} \\ -\text{high} \end{array} \right]$$

A high vowel between a consonant and a vowel becomes a palatal or labial-velar oral sonorant while keeping its feature specification for roundness.

In [−ATR] high vowel -CVV- verbs such as **-stú-** 'pass (time), sleep', the second vowel is subject to height coalescence with the final vowel **-a** of the Infinitive and the first vowel is desyllabified, resulting in **ká-syé**.

Desyllabification does not take place when the vowel of the verb suffix, V₂, is identical in height to the final vowel of the root, V₁, as in the following examples

¹⁶⁹ /a/ assimilates to /o/ in this [+ATR] context.

(**ká-** is the Infinitive prefix, **-ɪ-** the Resultative extension, **-ɪk-** the Neuter extension). Instead, two identical high vowels are reduced to a single vowel.

(3.112)	<u>root</u>	<u>suffix</u>	<u>Infinitive</u>	
	/-kɪŋɪ-/	/-a/	kákingyá	'to taste, to try'
		/-ɪl-a/	kákingílá	'to learn'
	/-misi-/	/-a/	kómisýó	'to sow'
		/-ɪk-an-a/	kómisíkonó	'to be spread'

As for the Benefactive extension **-ɪl-**, final /ɪ/ is desyllabified preceding the verb-final **-a**:

(3.113)	<u>root</u>	<u>suffix</u>	<u>Infinitive</u>	
	/-ɬɪmɪ-/	/-a/	káɬɪmyá	'to spy'
		/-ɪl-a/	káɬɪmɪlyá	'to spy for s.o.'
	/-misi-/	/-a/	kómisýó	'to sow'
		/-ɪl-a/	kámisílyó	'to sow for s.o.'

In some verb forms, the glide is assumed to be lexicalized, e.g. **ká-ɬɪky-á** [káɬɪkjá] 9b-declare-FV, 'to declare', **ká-ɬɪky-ɪly-á** [káɬɪkjɪljá], 9b:1.O-declare-BEN-FV, 'to plead for s.o.' and **ká-ɬɪky-ís-ó** [káɬɪkjísó], 9b:1.O-declare-CAUS-FV, 'to make s.o. talk after torture'.

In the case of vowel-initial classes 7 or 8 nouns, the vowel of the noun-class prefix is desyllabified preceding /a/. Examples include:

(3.114)	<i>class 7 prefix</i> sɪ- <i>and class 8 prefix</i> ɬɪ-	
	/sɪ + angí-sɔ /	→ [syangísɔ] '7-shelter, den, lair-7'
	/sɪ + á'ngá-su /	→ [syǎ'ngásu] '7-dry season, year-7'
	/ɬɪ + angító /	→ [ɬyangító] '8.shelter, den, lair'
	/ɬɪ + ánga /	→ [ɬyǎnga] '8.dry season, year'

Notice how the vowel sequence does not lead to height coalescence (see 3.3.3). The difference compared to (3.106a) is that the second vowel in the sequence in (3.114) is a stem vowel.

4 Tone

4.1 Introduction

This chapter aims to describe the main characteristics of the tone system of the Liko language. The description uses concepts of the theory of autosegmental phonology. With respect to downstep phenomena, it will be shown that a Tone tier and a Register tier are necessary to adequately describe tonal behaviour in Liko.

Liko is a tone language with two underlying tones, High (H) and Low (L). A tone is associated with a tone-bearing unit (TBU). A Low and a High tone can be combined on one TBU. Tone in Liko has a distinctive function, both in the lexicon and in the grammar. In this book, 'primary' tone is used to refer, roughly, to H and L tones on verb roots specified in the lexicon. In this chapter, L tone is marked by means of a grave accent, H tone by means of an acute accent and LowHigh (LH) by an inverted circumflex. Elsewhere in this book, L tone is not marked, except in phonetic representations in square brackets.

TBUs in Liko have constraints on the number of associations and on the sequence of H and L tones: a constraint against triple linking to a single TBU and a constraint against a HL contour linked to a single TBU. A HL contour tone is not permitted on a single vowel in any environment.

The syllable is the TBU in Liko. The language has only short open syllables containing one vowel. A vocalic segment in a syllable nucleus does not consist of more than one mora, which implies that it is not necessary to posit the mora as the TBU.

Morpheme types in Liko are:

- morphemes consisting of both segment(s) and tone(s), e.g. noun and verb roots;
- morphemes consisting only of segment(s), e.g. certain verbal affixes;
- morphemes consisting only of tone(s), e.g. TAM (tense/aspect/mood) melody.

The tonal domain in Liko extends to more than one word in certain syntactic contexts, for instance:

- verb + object immediately to the right;
- noun + demonstratives of type I.

The tonal domain contains both the verb form and the first object. This can be seen in the case of non-automatic downstep. When non-automatic downstep occurs in the verb form, the register is not reset until after the object. In **á'kólá mémí** 'he untied the goat', the pitch of the first H tone of the object **mémí** is at the same level as the non-automatic downstepped High **kólá** of the verb form.¹⁷⁰ Examples of a noun and a demonstrative of type I are **li-ndímó ló**, 5-birdlime 5.DEM.I, 'this birdlime' and **ngága yó**, 9.chin 9.DEM.I, 'this chin', where the tone of the demonstrative depends on the final tone of the noun.

This chapter is structured as follows. After the inventory of tones and presentation of automatic downstep in the language in 4.2, it is shown that tone has a contrastive function both lexically and grammatically in 4.3. Tone patterns are presented in 4.4. Certain voiced obstruents, commonly called depressor consonants, affect or have affected the pitch realization of tone on the following TBU. The consonants concerned and their effects are presented in 4.5. In 4.6, separate sections are devoted to the following tone rules and phenomena: H-tone spreading, Reassociation of LH tones, Association of floating tones, L-tone deletion, Non-automatic downstep, Repairing would-be violations of the OCP and Polar tone. Low is assumed to be the default tone in the Liko system, which is assigned to any TBU that, after all phonological processes and tone rules have been applied, still lacks a tone. At the end of this chapter, section 4.7 evaluates the main similarities and differences of the Liko tone system with tone in Bantu (using Kisseberth and Odden 2003).

Tone levels cannot be defined in absolute Hz figures. Actual frequency varies

¹⁷⁰ The second underlying H tone of **mémí** surfaces as a L tone. At the end of an uninterrupted sequence of H tones on the verb and on the object, the final TBU of the object is changed to Low.

along the lines of many factors, e.g. gender of speaker and pragmatic use. For instance, tones tend to be produced at a higher pitch when words are read in lists, compared to when they occur in texts. There are individual differences according to gender and age; even for a given individual pitch varies.

4.2 Tone inventory

Liko is a tone language with two underlying tones, High (H) and Low (L). Surface realizations of tones are High, Low, LowHigh (LH) and non-automatic downstepped High, caused by a floating L tone, see 4.6.5. LH is analysed as a composite contour, a sequence of two level tones, Low and High. There are several reasons for the analysis of LH as a combination of L and H tones. Firstly, LH is not a unit; it surfaces as a level tone in those instances where one part can merge with an adjacent identical tone across a morphological boundary, see 4.6.2. Secondly, the language has only two tonal classes of verb roots, High and Low, see 7.3.¹⁷¹ Thirdly, surface LH tones can be the result of association of two tones to one TBU, after vowel loss or vowel coalescence in morphosyntactic environments, see 4.6.3.

In Liko, LH is distinctive in the noun system: there are tonal contrasts between High, Low and LowHigh, see 4.3. Within noun stems, Low or High of a LH tone do not merge with an adjacent identical tone. Tonal patterns on disyllabic nouns show that positing a combined LH on one TBU is necessary to account for the number of possible patterns. The frequency of occurrence of combined LH tones in nouns is much lower than that of single level H and L tones.

Automatic and non-automatic downstep are common in Bantu languages. When language-specific conditions are met, the second H tone of a H L H sequence is

¹⁷¹ All Low-toned -CVC- verbs in my data (about 120) where a primary LH tone would be disguised in the Infinitive form (because the High part of a LH tone can merge with an adjacent High) have been checked using a tone frame with Future TAM melody in which the tone on the final vowel is L. In such a frame, the High part of a LH tone cannot merge with an adjacent High. This test shows that none of these verbs has a surface LH tone on the vowel of the verb root.

realized at a lower pitch than the first in automatic downstep. In non-automatic downstep, the pitch level of the second H tone is realized lower than that of the first H tone, without there being a L tone on the surface between the two H tones. Instead, a floating Low precedes the second H tone and causes the non-automatic downstep, see 4.6.5.

Automatic downstep occurs in words and in phrases, as well as at clause level. Frequency measurements¹⁷² of different constructions exemplify this. In the noun phrase **mùlùkà bémòtí** 'one trapper', both words end with a H.L.H tone pattern. The second H tone in both words is realized at a lower pitch than the first one:

- (4.1) mù-lùkà bémòtí
 1-trapper 1.NUM-one
 234.272.235.244 259.220.245

When a possessive pronoun with L.H tone pattern, like **kàkí** 'his, her', follows High-toned adverbial **kó** 'there', as in **kó kàkí** 'at his place', the second H tone is lower than the first one (tone frequencies in this case were 294 239.275).

In verb forms with sequences of High, Low and High, the H tone following a L tone is realized at a lower pitch than the preceding H tone. The tones in **wàmíní** 'you (sg) have seen him' have the following frequencies:

- (4.2) wàm-ín-ì-ní
 2SG:1.O-see-FV.ANT-PFV
 220.267.221.244

In the complex noun phrase **kúmbúsò wàmàsyé** 'the back of days', i.e. some time later, several vowels with a L tone occur between H tones. The final H tone in this phrase has a lower pitch than the first one:

- (4.3) kú-mbúsò wà-mà-syé
 17-back 17.ASS-6-day
 310.302.237 228.235.263

¹⁷² The voice is that of a young woman.

Automatic downstep in a clause is illustrated by the following example.

- (4.4) ì-ngbò ó-tíndìk-ò lì-tómbú ngángá yí-sáá nà mù-kùndú
1c-aardvark 3SG^p-push-FV 5-ground 9.time 9.NUM- with 3-tail
three
'Aardvark pushed the ground three times with [his] tail.'*(T2006.3)*

H tones are realized at a lower pitch each time one or more L tones intervene:

- (4.5)

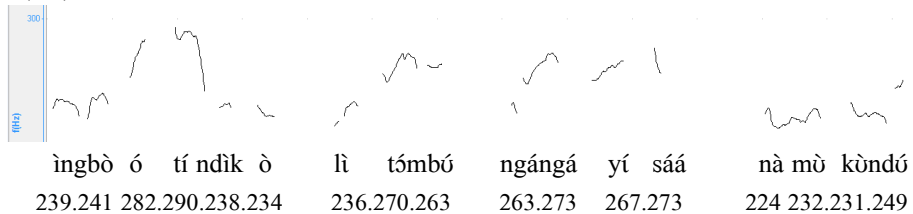


Figure 4: Automatic downstep

The High pitch level is reset at a clause break, e.g.:

(4.6)	níyó	̀̀kòfù	ín-á	̀̀gáyó,	̀̀nd-à	ká	̀̀ò-nzìkàbù
	when	"Iko <u>fu</u> "	3SG ^P :see- FV ^P	like that	3SG ^P :go-FV	PREP	2-man without mercy
	286.288	250.268.270	263.264	272.268	290.230	244	220.236.231.250
	'When Iko <u>fu</u> saw that, he went to a band of robbers.' (T2009.21)						

The first word of the second clause, *inda*, starts at approximately the same pitch as the beginning of the first clause.

The phonetic difference in pitch between the first and the second H tone in a sequence of H L H tones, is usually less than half the difference between a H and a following L tone. In a series of H L H sequences, the H tones gradually drop in pitch, whereas the L tones stay relatively at the same pitch level.

4.3 Tone contrasts

Tone has a contrastive function both lexically and grammatically. Lexical tone contrasts will be presented in 4.3.1, grammatical tone contrasts in 4.3.2 and 7.6.

4.3.1 Lexical tone contrasts

In this section, I will give tone contrasts of nouns, verbs and other word classes.¹⁷³

Nine tone contrasts are theoretically possible in disyllabic roots and up to twenty seven in trisyllabic roots.

(4.7) *Lexical tone contrasts for nouns - one tone is different*

a.	ngbángá	'1a.accusation'	ngbàngà	'1a.court'
	bálá	'9.herd, family'	bàlá	'9.camp'
	ngándá	'9.plant, sp. (pl)'	ngàndá	'9.placenta'
	pété	'9.ring'	pèté	'9.witchcraft'
	títì	'1a.bird, sp.'	ǎí-títì	'MOD-thick'
b.	pàmbálá	'9.eruption'	pàmbàlá	'9.tree'
	lì-lùlùmbó	'5-funeral'	lì-lùlùmbó	'5-smell'
	nyíkísó	'9.extraction'	nyíkísó	'9.ridicule'

(4.8) *Lexical tone contrasts for nouns - two tones are different*

kàngà	'1a.guinea-fowl'	kàngá	'9.bed'
lì-kókò	'5-cough'	lì-kòkó	'5-rice harvest'
pílì	'1a.mourning wear'	pílí	'1a.dance'
séngì	'9.small squashed piece'	sèngí	'9.village (pl)'
mù-pámù	'3-bark (dog)'	mù-pàmǔ	'1-fly, sp.'
à-mbámá	'1b-nice border'	mbàmbà	'9.plants, sp.'
nzénzé	'9.instrument with strings'	nzěnzè	'9.leaf, sp.'
mù-títí	'3-unripe fruit'	mù-títì	'1-swelling'
kpǔmù	'1a.goat kid'	kpùmú	'9.riverside'
yǐngà	'9.feast'	mù-yìngá	'3-shinbone'

In order to present (near) minimal pairs, I have used several nominalizations derived from verbs, e.g. **lì-lùlùmbó** from **-lùmb-** 'bury', **lì-lùlùmbó** from **-lùmb-**

¹⁷³ A tone difference does not often lead to lexical tone contrasts in the language. Roots that differ in tone only can be found in nouns (between 1 and 2%), in verbs (roughly 4%) and rarely in other word classes. No more than two segmentally identical noun stems have been found in my data that are differentiated only by tone.

'smell', **lì-kòkò** from **-kú-** 'cough, pick fruit or vegetables' and **lì-kòkò** from **-kò-** 'cut, harvest'.

When monosyllabic nouns contrast tonally, one of the nouns has a surface LH tone in nearly all cases. Here is an exhaustive list of these contrasts in my data, including nouns, nominal modifiers and adverbials:

(4.9) *Lexical tone contrasts for monosyllabic nouns*

ì-ká	'9a-odd one'	ì-kà	'9a-drying rack'
lìdĩ	'9.two dozen'	lì-dĩ	'5-edible mushroom'
lì-fú	'5-lump on the head'	lì-fũ	'5-foam'
lì-gà	'5-bundle of sticks'	lì-gǎ	'5-epilepsy'
mù	'9.goal, objective'	mũ	'3:head'
ndì	'ADV, earlier than about a week ago'	ndĩ	'9.beard'
-ngbú	'nominal modifier, red'	ngbũ	'1a.squirrel, sp.'
-nzà	'nominal modifier, nice, good'	nzǎ	'9.hunger, famine'

I will now look at tone contrast in verb roots. In the examples below, **ká-** is the class 9b prefix and **-a** is the final vowel of the Infinitive. The Infinitive TAM melody has a H tone on the final vowel. Recall that with [+ATR] verb roots, the affix vowel assimilates to the [ATR] value of the verb and is changed into /o/.

(4.10) *Lexical tone contrasts for verbs*

ká-bák-á	'9b-grow, sprout-FV'	ká-bàk-á	'9b-cut, to sharpen-FV'
kó-lík-ó	'9b-dry-FV'	kó-lìk-ó	'9b-grab-FV'
kó-lúmb-ó	'9b-bury-FV'	kó-lùmb-ó	'9b-smell-FV'
ká-púk-á	'9b-leave quietly-FV'	ká-pùk-á	'9b-prick-FV'
ká-sík-á	'9b-insult-FV'	ká-sìk-á	'9b-pick leaves-FV'

Tone contrasts for other word classes include:

(4.11) *Lexical tone contrasts for other word classes*

-tú	'nominal modifier, bright, white'	bí-tù	'MOD-big'
-mbíyà	'nominal modifier, new'	mbìyà	'ADV, soon'
-tówǎ	'ADJ, salted'	bí-tùwà	'MOD-tall'

Adjectives take a prefix according to the class of the noun they modify. In adjectives derived from verbs, like **-tówǎ** above, from **-tów-** 'sting, bite', the final vowel surfaces with a LH tone after the association of the word-final floating H tone, see 7.12.2.

4.3.2 Grammatical tone contrasts

Tonal contrasts in affixes involve two pairs of prefixes: the second person singular object prefix **ù-** vs. the class 2 object prefix **ǔ-** as in (4.12) and the first person singular object prefix **ì-** vs. the reflexive prefix **ĩ-** as in (4.13). For a description of the object prefixes and the reflexive prefix, see 7.5.

- (4.12)a. **ù-tùngbùl-à** 3SG:2SG.O-support-FV 'he will support you (sg)'
 b. **ǔ-tùngbùl-à** 3SG:2.O-support-FV 'he will support them'

- (4.13)a. **è-tùngbùl-à** 3SG:1SG.O-support-FV 'he will support me'
 b. **ńĩ-tùngbùl-à** 1SG:REFL-support-FV 'I will support myself'

In (a), height coalescence of the vowels of the third person singular subject prefix **à-** and the first person singular object prefix **ì-** results in a mid vowel (see 3.3.2), which means that in context, the tonal contrast with the reflexive prefix **ĩ-** does not occur.

Liko has four pairs of verbal forms distinguished only by tone contrast, see 7.6. An important tonal contrast is the one between past and future time reference:

- (4.14)a. **ná-dìkìt-à** 1SG^P-throw-FV 'I threw'
 nà-dìkìt-à 1SG-throw-FV 'I will throw'
 b. **nó-yúkùm-ò** 1SG^P-breathe-FV 'I breathed'
 nò-yúkùm-ò 1SG-breathe-FV 'I will breathe'

In order to analyse the complexity of tone in verbal conjugations, I introduce the concept of a tone melody that is expressive of a "tense", a verbal conjugation paradigm. The so-called TAM (tense/aspect/mode) melody is an overlay over the primary tone on the verb root and affixes in the verb form. Affixes are segmental

with a tone, tonal only¹⁷⁴, or segmental only (underlyingly toneless). The TAM melody consists of one or two tones: a tone on the leftmost prefix¹⁷⁵ and/or a tone on the final vowel. The prefixal tone is the result of initial tone association to the leftmost TBU. The tone on the final vowel is the result of initial tone association to the final vowel. After that, a H tone spreads rightward and leftward to toneless syllables. Any tone that, after spreading, lacks a tone association surfaces with the default L tone.

In the first row of (4.14a, b), the H tone on the subject prefix is the result of the association of the Past TAM melody, with its prefixal H tone. Superscript "P" is the notation in this book for a High TAM tone which has a time reference to the past.

4.4 Tone patterns

4.4.1 Tone patterns on nouns

The tone patterns on nouns consists of L and H tones and of the combined LH tone. I will first present data on disyllabic nouns.

(4.15) *Tone patterns on disyllabic nouns*

H	kókú	'1a.big fish, sp.'
L	kpòzyò	'9.plant, sp.'
H.L	kúkpe	'1a.termite, sp.'
H.LH	móngwǒ	'1a.arrow'
L.H	kpímí	'9.soft sand'
L.LH	ngbùndǔ	'9.mud'
LH.H	-	
LH.L	kpǒmù	'1a.goat kid'
LH.LH	_ ¹⁷⁶	

¹⁷⁴ The class 1 object prefix may consist of only a L tone, see 7.5.1.

¹⁷⁵ In this book, the tone on the leftmost prefix of the verb form is also referred to as prefixal tone.

¹⁷⁶ Two cases of two LH tones on disyllabic nouns have been attested. The first one, **yǐgyǎ** '9a:habit', is a derivation from **-gi-** 'do, make'. In the second one, **mu-bíbí** '3-plant, sp.' both

Liko disyllabic nouns have more than the four tone patterns which result from only L and H tones. The LH tone occurs in three additional patterns: H.LH, L.LH and LH.L. On disyllabic nouns, the L.H pattern occurs most frequently, followed by the H.L pattern and the H pattern. The LH.L and L.LH patterns also occur frequently. Low and H.LH are relatively rare.

The surface LH tone in the examples in (4.15) follows consonants which do not belong to the set of voiced obstruents /b d g gb v z/. These voiced obstruents have caused many H tones to be realized as a rising tone, see 4.5. This implies that, in these cases, the LH tone cannot be attributed to the effect of the preceding consonant. Other examples of disyllabic nouns with a LH tone and no depressor consonant include:

(4.16)a.	H.LH	kúkǔ	'1a.parrot, sp.'
		mù-bútǔ	'3-bush, shrub, sp.'
b.	L.LH	lì-dǎkǐ	'5-clay pot'
		sì-kǝndǐ	'sɜ:1-bird, sp.'
c.	LH.L	mù-lǝmù	'3-pillar'
		pǐsì	'9.path, road'

One of the parts of a LH tone is often reassociated with an adjacent identical tone across a morpheme boundary, see 4.6.2. As (b) shows, the Low part of the LH tone does not merge with the preceding identical tone within a noun stem.

Tone patterns on monosyllabic noun roots consist of a H tone, a L tone, or a combined LH tone.

(4.17) *Tone pattern on monosyllabic noun roots*

H	kù-lí-kò	'15-knee-15'
	lì-bí	'5-group, clan'
	mù-nzó	'1-bee'
L	mù	'9.goal, objective'
	ì-kà	'9a-drying rack'
	mù-ndù	'1-fish, sp.'

LH tones are preceded by a voiced obstruent, see 4.5.

LH	lì-tǐ	'5-big stone'
	mù-kǔ	'3-spider's web'
	mǔ	'3:head'
	pǎ	'9.place'
	sì-sǎ	' <i>st</i> :1-fish, sp.' ¹⁷⁷

In some cases, the LH tone may be the result of a historical process in which the medial consonant or an entire syllable was lost¹⁷⁸, or of a process of vowel hiatus resolution in which a sequence of two vowels is reduced to a single vowel.

The following tone patterns have been attested on trisyllabic noun stems (possible patterns which do not occur in my data are not listed).

(4.18) *Tone patterns on trisyllabic noun stems*

H		mù-sámbílá	'3-vine, sp.'
L		mù-gbùkùdyà	'1-termite, sp.'
H.L	H.H.L	sálálì	'1a.scorpion'
	H.L.L	gúlùdè	'1a.can'
L.H	L.H.H	mù-vànzí6ó	'1-small ant, sp.'
	L.L.H	kòbùkú	'1a.duck, sp.'
H.L.H		mù-lúkùtú	'3-bundle of leaves'
L.H.L		mù-tòmbító	'3-vine, sp.'
LH.L.H		pǎpùyí	'9.something empty'
LH.H.H		pǎpángá	'9.bush, sp., broom'
H.L.H.L		kúgbǒndò	'1a.roof'
L.L.H.H		6ù-ngàngǎ6ó	'14-tree, sp.'
L.L.H.L		lì-tùmbùwà	'5-pastry ball'
H.H.L.H		kúngbóngǒ	'1a.crab'

¹⁷⁷ For the proclitics *sì-* and *nà-*, see 5.1.1.

¹⁷⁸ E.g. Liko *mù-gǐ* 'village' vs. Proto-Bantu **gù* 'village', *lì-yǒ* 'voice' vs. **jói* 'voice, word', *6ù-dǐ* '14-cold' vs. **diǐ* 'cold', *ku-gǔ-kò* '15-leg, foot-15' vs. **gòdù* 'leg, hind leg'.

Most frequent on trisyllabic nouns is the L.H pattern. Occurrence of the H.L pattern is less frequent than H, H.L.H and L.H.L. As for the H.L and L.H patterns on trisyllabic nouns, they occur most often as a pattern in which the final tone of the noun is different from the preceding tones. Realizations of the L pattern and of patterns containing a LH tone are not frequent in trisyllabic noun stems.

A surface LH tone on trisyllabic nouns is often found in forms with reduplication. Examples in which the L.H pattern is copied to the TBU of the reduplicated CV-structure are:¹⁷⁹

(4.19) *Reduplication of L.H tone pattern*

lì-bǒbǒkí	'5-vine, sp.'
lì-tětèndé	'5-vine, sp.'
mù-gǔgùmá	'3-tree, sp.'
mù-ndĩndikó	'3-vine, sp.'
mù-kpǒkpǒdǒ	'3-vine, sp.'
mù-nzěnzèmbí	'3-vine, sp.'

In several other trisyllabic nouns with reduplication, the surface LH tone does not occur on the first syllable, but on the second. In these cases, there seems to be no tone copying involved. Examples are **kyǒkyǒdǒ** '1a.bird, sp.', **lì-kòkùtá** '5-rice crust', **lì-nàǎsì** '5-pineapple and **lì-ngbèngbèlò** '5-tree, sp.'.

Noun-class prefixes and noun-class enclitics are Low, except the noun-class prefixes of classes 9b and 17 which are High. Adjective, enumerative and associative prefixes are High, except for the class 1 adjective prefix **mù-** and the class 1 associative prefix **wà-**. The first TBU of complex class 2 + 9 prefixes (consisting of class 2 **bà-** + class 9 prefixes, see 5.1.1) is Low: e.g. the adjective prefix **bàyí-**, the enumerative prefix **bàyí-** and the associative prefix **bàyá-**.

Most noun-class prefixes of classes 1b **a-**, 1c **ɿ-** and 9a **ɿ-** have a L tone, but a sizeable minority has a H tone. A satisfactory explanation for the H tone on these

¹⁷⁹ The examples in my data are all vines or trees.

prefixes has not yet been found.¹⁸⁰ The following examples show that prefixes with H and L tones occur preceding different patterns of H and L tones:

(4.20) *class 1b nouns*

- a. à-línzyá '1b-tree, sp.'
- ò-ngútù '1b-metal bracelet'
- à-sòsú '1b-tasty food'
- à-dùlà '1b-leprosy'
- b. á-búlá '1b-monkey, sp.'
- á-dúḡà '1b-dance'
- á-dùká '1b-deaf person'
- á-gbàlà '1b-dance'

(4.21) *classes 1c and 9a nouns*

- a. ì-nzímbí '9a-mouth without teeth'
- ì-kpákù '9a-shoe'
- ì-pèmbé '9a-tree, sp.'
- ì-dìmà '9a-lake'
- b. _¹⁸¹
- í-pígò '9a-kind, species'
- í-màngé '1c-starling'
- í-dàngà '1c-insect'

¹⁸⁰ Explanations that I have found in the literature do not explain why these *a-* prefixes have a H tone with some nouns and a L tone with other nouns. These prefixes cannot be analysed as augment. The nouns concerned do not constitute a semantic group. Grégoire (2003:360): "Several other characteristics of the class system deserve some discussion. One of these is the existence of a class 1 with nominal prefix *a-* in a series of languages generally situated in the northeast of the forest. This subclass groups a small number of nouns designating animals and plants, and, more rarely, members of the family." In Liko, it concerns a large number of nouns, more than 100 in my data and there is no shared semantic feature.

¹⁸¹ A noun with noun-class prefix *ɪ-* with a H tone preceding a disyllabic noun with H tone pattern has not been attested.

4.4.2 Tone patterns on verbs

Verb roots have one of two underlying tone patterns: High or Low. The primary H or L tone is associated with the first CV-syllable of the verb root. Examples were given in lexical tone contrasts for verbs, see 4.3.1. Vowel-initial verbs have the primary tone also on the first CV-syllable, not on the initial vowel.

Syllables in the verb root which follow the first CV-syllable are underlyingly toneless. They receive their surface tone by the TAM melody on the verb form. This can be seen, for instance, in the verb root **-ngòùl-** 'breathe with difficulty', in which the first CV-syllable, /ngù/, is associated with the primary L tone. If the TAM melody has a H tone on the final vowel, then the syllables between the first CV-syllable and the final vowel all surface with a H tone through H-tone spreading, see 4.6.1. For example, in the verb form **àngòùlyá** 'he breathed with difficulty', the tone on the second and third syllable of the verb root, /ù/ and /l/, is High due to the final-vowel High of a Past TAM melody. In the Future form **àngòùlyà** 'he will breathe with difficulty', however, all vowels surface with a L tone, because the Future TAM melody has no H tone.

Surface LH tone on the TBU which is associated with the primary tone of the verb is the result of a depressor consonant as C₁ (see 4.5), or - in case of monosyllabic verb roots - the result of vowel merger, vowel height coalescence, or desyllabification. In the following examples of vowel merger (4.22a) and of height coalescence (4.22b, c), the verb has a primary L tone. The primary L tone and the H tone on the final vowel of the Infinitive TAM melody combine to form a surface LH tone:

(4.22)a.	/ká-pà-á/	ká-pǎ	'9b-want:FV'
b.	/ká-tì-á/	ká-tě	'9b-put aside:FV'
c.	/ká-pù-á/	ká-pǔ	'9b-rot:FV'

Likewise, after desyllabification has been applied, both the primary L tone of the verb and the H tone on the final vowel of the Infinitive TAM melody are associated with the remaining single TBU:

(4.23)	/ká-mì-á/	kó-my-ǒ	'9b-swallow-FV'
	/ká-mù-á/	kó-mw-ǒ	'9b-have sex (man)-FV'

4.5 Depressor consonants

Many LH tones in Liko show the effect of certain voiced obstruents, commonly called depressor consonants. These consonants are reported to affect the pitch realization of the following TBU in languages across the African continent.¹⁸² I follow Hyman (1998) and others in assuming that a depressor consonant inserts a L tone. Among other effects, this may cause a level H tone to be realized as a LH tone.

It is important to mention that the depressor consonants in Liko /b d g gb v z/ do not seem to be synchronically active. This can be seen in nouns in which a depressor consonant is followed by a surface H tone and in verb forms where the voiced obstruent /g/ of the Pluractional extension **-ag-** does not influence a following H tone. The effects that depressor consonants have had diachronically are visible in the lexicon.

Before presenting the data that show depressor effects in the lexicon, it is exemplified that a depressor consonant can be followed by a H tone. In the following examples, the noun stem-initial consonant is a depressor consonant and the tone on the first syllable of the noun stem is H:¹⁸³

(4.24)	bálá	'9.herd'
	mù-básìnzí	'1-cockroach'
	dídò	'1a.valley'
	bu-díyongó	'14-bush, shrub, sp.'

¹⁸² Kutsch Lojenga (2000:2) mentions Chadic languages (Wolff, Pearce), the Kwa languages (Togo, Ghana, Ivory Coast) Ewe (Ansre and others) and Ebie (Kutsch Lojenga), in the Central-African Republic Yaka (C10) (Kutsch Lojenga) and the Adamawa-Ubangi languages Suma and Gbaya (Bradshaw), Bila (Bantu D) in the Democratic Republic of the Congo (Kutsch Lojenga), the Coastal Bantu languages in Kenya, Digo (E73) and the Mijikenda languages (E72) (Kisseberth, Cassimjee and Kisseberth) and the Shona (S10) and Nguni (S40) subgroups of Bantu in southern Africa (Bradshaw, Cassimjee, Kisseberth, Odden, Hyman and Mathangwane).

¹⁸³ There is no example in my data of /v/ as C₁ followed by a H tone. /v/ as C₂ followed by a H tone is attested, e.g. **kuvó-kuvó** '1a.water animal, sp.'.

mù-gágà	'3-fishing'
lí-gbágbá	'5-bush, shrub, sp.'
gbóngò	'1a.bird, sp.'
lì-zézè	'5-small bush, sp.'

The H tone on the final vowel is not affected by a preceding depressor consonant:

(4.25)	ká-bìb-á	9b-tell-FV	'to tell, praise'
	kó-bùd-ó	9b-coat-FV	'to coat, smear'
	ká-bùg-á	9b-sharpen-FV	'to sharpen'
	ká-dìngb-á	9b-limp-FV	'to limp'

In the examples below, the extension is Pluractional **-ag-** and the final vowel has a H tone. Although /g/ belongs to the set of depressor consonants, it does not affect the H tone of the final vowel:

(4.26)	<i>The Pluractional extension -ag-</i>		
	ná-yìb-ág-á	1SG ^P -tear-PLUR-FV ^P	'I tore'
	ná-dìkít-ág-á	1SG ^P -throw-PLUR-FV ^P	'I threw'
	nó-bín-óg-ó	1SG ^P -dance-PLUR-FV ^P	'I danced'
	nó-yúkúm-óg-ó	1SG ^P -breathe-PLUR-FV ^P	'I breathed'

I now turn to depressor effects visible in the lexicon, Hyman and Mathangwane (1998:208) report four effects of depressor consonants in Ikalanga. These voiced obstruents:

- block H-tone spreading
- cause H tone delinking
- convert H's to LH rising tones
- cause tones to be realized lower

Neither blocking of H-tone spreading nor systematic lowering effects are attested in Liko. The two other effects are presented below.

H tone delinking

H tone delinking in Liko is restricted to environments in which the depressor consonant is in C₁ position. The inserted L by the depressor consonant in C₁ position fed a H delinking rule. It can be observed most clearly in verb roots: a

verb root with a depressor consonant as C_1 never has a surface H tone nor a LH tone in Infinitive forms.

Table 10 Distribution of verb roots with a H and with a L tone in Infinitive forms

<u>C_1</u>	<u>H</u>	<u>L</u>
no depressor	192	214
depressor	-	105

This has also been reported for Ebrié (Kwa, Ivory Coast) by Kutsch Lojenga (2000:16): "Verb roots, mostly monosyllabic, can have a L tone or a H tone underlyingly. When pronounced in isolation, verb roots with non-depressor consonants surface with a L or a H tone. However, verbs with a root-initial depressor consonant all surface with L tone."

The statistics in Table 10 should be treated with caution, because of the Infinitive TAM melody (a H tone on the final vowel) and the environment this creates for the High part of a LH tone to merge with a neighbouring H tone, see 4.6.2. The following examples show that for a relatively small number of -CVC- verbs, H tone delinking did not take place if C_1 is one of the voiced obstruents /b d g gb v z/ and inserts a L tone. The inserted L tone created a LH tone, of which the High part is linked to the following H in the Infinitive.¹⁸⁴ In each second form of the same verb, using Future forms that do not have a TAM melody with a final H tone, the underlying H tone of the verb root surfaces as a LH tone.

- (4.27)a. kó-bìs-ó 9b-put-FV 'to put'
 ò-bìs-ò 3SG-put-FV 'he will put'
- b. ká-dìm-á 9b-cultivate-FV 'to cultivate'
 à-dìm-à 3SG-cultivate-FV 'he will cultivate'
- c. ká-gàm-á 9b-cry-FV 'to cry'
 à-gàm-à 3SG-cry-FV 'he will cry'

¹⁸⁴ In Ikalanga (Hyman and Mathangwane 1998:210), the H deletion rule "says that LH rising tone becomes L when the H is linked to the next mora as well."

- d. ká-gbùm-á 9b-forbid-FV 'to forbid'
 à-gbǔm-à 3SG-forbid-FV 'he will forbid'
- e. ká-zùng-á 9b-heat up-FV 'to heat up'
 à-zǔng-à 3SG-heat up-FV 'he will heat up'

The next two sets list the other cases in my data of a depressor consonant as C_1 in verb roots followed by a surface LH tone. In the first column, the Infinitive form is given.

(4.28)

<u>Infinitive</u>	<u>Future</u>		
ká-bùmb-á	à-bǔmb-à	3SG-be tired-FV	'he will be tired'
ká-dìgy-á	à-dǐgy-à	3SG-say-FV	'he will say'
ká-dìngb-á	à-dǐngb-à	3SG-limp-FV	'he will limp'
ká-gìng-á	à-gǐng-à	3SG-shell-FV	'he will shell'
ká-gùm-á	à-gǔm-à	3SG-iron-FV	'he will iron'
ká-gbàm-á	à-gbǎm-à	3SG-have a headache-FV	'he will have a headache'
ká-gbùnd-á	à-gbǔnd-à	3SG-rekindle-FV	'he will rekindle'
ká-zàng-á	à-zǎng-à	3SG-miss-FV	'he will miss the objective'

(4.29)

<u>Infinitive</u>	<u>Future</u>		
ká-bàíly-á	à-bǎily-à	3SG-agree-FV	'he will agree'
kó-gbùndùl-ó	ò-gbǔndùl-ò	3SG-pound-FV	'he will pound'
ká-zùkán-á	à-zǔkàn-à	3SG-jump up-FV	'he will jump up'
kó-zùkòs-ó	ò-zǔkòs-ò	3SG-surprise-FV	'he will surprise'
ká-zùgùs-á	à-zǔgùs-à	3SG-itch-FV	'he will itch'
ká-zànánl-á	à-zǎnànìl-à	3SG-be delighted-FV	'he will be delighted'

When the depressor consonant is not in C_1 , but in C_2 position preceding a TBU with a H tone, the inserted L tone is associated with the following High, resulting in a surface LH tone. Examples are given in (4.31).

With respect to nouns, there is also no systematic H tone delinking when depressor consonants occur as C_1 . But nouns reflect the bias which is observed for verbs: the position of the depressor consonant in the word should be taken into account and

the same effect of the position is attested: the H tone is frequently delinked if the depressor consonant is in C₁ position. Examples of nouns in which a depressor is followed by a LH tone are given in (4.32) and (4.33). Table 11 gives statistics based on -CVCV noun stems in my data, of H, L and LH tone on vowels following either a depressor consonant or another consonant in C₁ or in C₂ position.

Table 11 -CVCV noun stems with H and L tone in my data

	<u>H</u>	<u>L</u>	<u>LH</u>
C ₁ is depressor	10	91	31
C ₁ is not a depressor	364	299	38
C ₂ is depressor	23	45	21
C ₂ is not a depressor	445	263	36

The figures in the first two rows refer to V₁ and the figures in the last two rows refer to V₂. The percentage of LH tones following a depressor consonant is much higher than the percentage of LH tones following another consonant.

There are few disyllabic and trisyllabic noun stems with a L tone pattern. Of these nouns, relatively many contain a depressor consonant:

(4.30) L tone pattern and depressor consonant

bèzè	'9.joke, stupidity'
didò	'1a.valley'
gùdũ	'1a.barricade'
zèbù	'9.south'
gbògòbò	'9.raffia cut to extract liquid'
mù-gbùkùdyà	'1-termites'

H tone conversion to LH

Depressor consonants occur as C₂ or C₃ in -CVCVC- verbs, i.e. in a position within the domain of H-tone spreading, see 4.6.1. As can be seen in the following examples, the H tone assigned by H-tone spreading surfaces as a LH tone following a depressor consonant in C₂ position. This can be accounted for if insertion of a L tone is assumed. Interestingly, the H tone following C₂ is not

absorbed by the following H, although a H tone is available on the final vowel of the Infinitive.¹⁸⁵

(4.31)	ká-gùbǔt-á	9b-cover a roof-FV	'to cover a roof with leaves'
	kó-dùdǔl-ó	9b-gobble-FV	'to gobble, wolf'
	ká-zìgǐb-á	9b-sieve-FV	'to sieve'
	ká-gbùgbùt-á	9b-wake up suddenly-FV	'to wake up suddenly'
	kó-zùzúk-ó	9b-get up-FV	'to get up'

As far as nouns are concerned, relatively many instances of a LH tone are preceded by a depressor consonant, see Table 11.

Examples of LH tone following a depressor consonant as C_1 are:

(4.32)	bíkò	'9.salary'
	dǔdù	'1a.dragonfly'
	gǐtá	'9.hoe'
	ḡù-gbǐndì	'14-hardwood tree, sp.'
	ḡù-vǎlò	'14-plant, sp.'
	mù-zǐbà	'1-winged termite, sp.'

Examples of LH tone following a depressor consonant as C_2 are:

(4.33)	mù-bábǎ	'1-monkey, sp.'
	lì-dǐdǐ	'5-edible plant, sp.'
	ndùgǎ	'1a.mole'
	mù-ndùgbǒ	'1-wasp'
	kù-kùvǐ-kò	'15-mushroom, sp.-15'

¹⁸⁵ I have no explanation yet for this phenomenon. In verb forms with Future TAM melody, without H tones, the second syllable of the verb root has a L tone as expected, e.g. **nàgùbùtá** 'I will cover a roof with leaves' (**nà-gùbùt-à** 1SG-cover a roof-FV), **nòdùdùlò** 'I will gobble, wolf', **nàzìgìbà** 'I will sieve', **nàgbùgbùtá** 'I will wake up suddenly' and **nòzùzùkò** 'I will get up'.

4.6 Tone rules

In the following sections, tone rules in the Liko language are presented. I start section 4.6.1 with H-tone spreading. H-tone spreading occurs only in verb forms and is related to TAM (tense/aspect/mood) melodies (see 7.6). The second section, 4.6.2, describes reassociation of surface LH tones. One of the parts of a combined L and H tone may be reassociated with an adjacent identical tone.

The subsequent two sections, 4.6.3 and 4.6.4, deal with association of floating H and L tones and with deletion of floating L tones. The Anterior aspect has a TAM melody with a floating H tone preceding the final vowel. Vowel Sandhi processes (see 3.3) may result in floating H or L tones. A floating H tone can also be introduced by morphosyntactic constructions like the monosyllabic time adverbials cliticising to verbs or to adverbials. Whenever a floating tone is present, there are ways to link it to an available TBU or - only in case of floating L tones - to delete it. A floating L tones may be deleted if the constraint on triple linking to a TBU is met, or if there is no available TBU at the end of the word. A floating H tone must be linked.

Section 4.6.5 shows non-automatic downstep. Delinked or floating L tones that have not been dealt with by Association or by L-tone deletion influence the pitch of a following H tone, causing non-automatic downstep. After non-automatic downstep, both H and L tones are realized at a lower pitch level. At some morpheme boundaries, a floating L tone is assumed to account for the non-automatic downstep of the second H tone when the TBUs at both sides of the boundary are High.

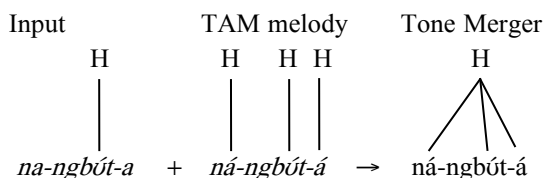
Section 4.6.6 describes the way the language deals with would-be violations of the OCP, in particular with a sequence of two H tones across a morphological boundary.

The final section, 4.6.7, presents cases of Polar tone in the language.

Tone Merger as part of the OCP and Stray Erasure are supposed to apply postlexically, but are usually not spelled out for the sake of economy. Tone Merger

assures that adjacent identical tones, whether they are associated or not, are merged into a single tone. Stray Erasure deletes all tonal features which are unassociated at the end of the postlexical component (Snider 1999:37). For example:

(4.34) **nángbútá** 'I sulked'



In the representations of tone in this section, 'Input' indicates underlying tone on roots, stems and affixes. Italic font in the representations indicates an underlying form at some stage.

4.6.1 H-tone spreading

As mentioned in the introduction to this chapter, Liko has underlyingly toneless morphemes consisting only of segments. These morphemes include all singular subject prefixes and only the first person plural subject prefix, the negative and Conditional prefixes, all verbal derivational suffixes including expansion, and the verb-final vowel.

The surface tone of underlyingly toneless verbal morphemes depends on the TAM melody on the verb form. The TAM melody consists of a tone on the leftmost prefix (also referred to as prefixal tone) and a tone on the final vowel. In the absence of a TAM melody tone, toneless morphemes surface with the default L tone. Compare the subject and negative prefixes in the examples below, where the surface tone of these prefixes is Low in (4.35a) and High in (4.35b). In (4.35a), the first person singular subject prefix **na-** and the negative prefix **ka-** occur in a verb form with the prefixal L tone of the negative Subjunctive TAM melody, whereas in (4.35b), they occur in a verb form with the prefixal H tone of the negative Future TAM melody:

- (4.35)a. *nà-kò-sìl-ò-ní-tò* 1SG-NEG-arrive-FV-NEGSUBJ-INS 'that I not arrive'
 b. *ná-kó-sìl-ì-gù* 1SG-NEG-arrive-FV-NEG 'I will not arrive'

The subject prefix and the Conditional prefix **ka-** surface with a L tone in (4.36a), in a verb form with the Conditional TAM melody (prefixed L tone and H tone on the final vowel). In (4.36b), the surface tone on these two prefixes is H, due to the prefixal H tone of the negative Conditional TAM melody:

- (4.36)a. *nà-kò-sìl-ó* 1SG-COND-arrive-FV 'if I arrive'
 b. *ná-kó-sìl-í* 1SG-COND-arrive-FV.NEG 'if I do not arrive'

The associative extension **-an-** and the final vowel surfaces with a L tone in (4.37a) and with a H tone in (4.37b). In (4.37a), the Future TAM melody does not have a H tone, whereas in (4.37b), the Infinitive TAM melody consists of a H tone on the final vowel:

- (4.37)a. *ǎá-múy-àn-à* 3PL-hate-ASS-FV 'they will hate e.o.'
 b. *ká-múy-án-á* 9b-hate-ASS-FV 'to hate e.o.'

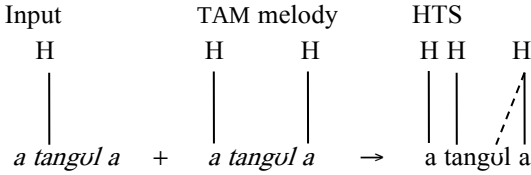
The Causative extension **-is-**, the Pluractional extension **-ag-** and the final vowel have a surface L tone in (4.38a), a verb form with the Future TAM melody. Lacking a TAM-melody H tone, they surface with the default L tone. With the Past (specific) TAM melody (prefixal High and final-vowel High), the final vowel and all preceding extensions surface with a H tone, as in (4.38b):

- (4.38)a. *ò-lùmb-ís-òg-ò* 3SG-smell-CAUS-PLUR-FV 'it will cause to smell'
 b. *ó-lùmb-ís-óg-ó* 3SG^P-smell-CAUS-PLUR-FV^P 'it caused to smell'

After the linking of the primary tones and the TAM melody to a verb form, there may remain TBUs that lack tone, because they belong to underlyingly toneless morphemes. H-tone spreading (HTS) in Liko, which applies both rightward and leftward, links a H tone to toneless TBUs. If, for some reason, a toneless syllable is not associated with a H tone, it surfaces as a L tone.

The verb **-tángul-** 'read, recite' has an underlying H tone on the first TBU. The second TBU is underlyingly toneless. Inflected for Past (specific), the TAM melody prefixal High and final-vowel High are associated with the subject prefix and the final vowel. The H tone on the final vowel spreads leftward to the second TBU of the verbal base. Linking of the Past (specific) prefixal High and final-vowel High and HTS can be represented as follows:

(4.39) **átángúlá** 'he read' (á-tángúl-á 3SG^P-read-FV^P)

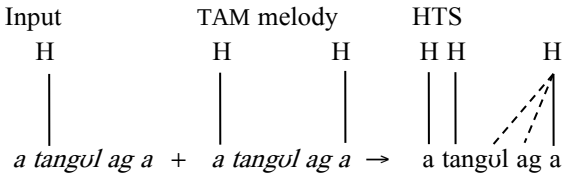


Tone Merger takes care of the adjacent identical H tones and merges them into one.

HTS is iterative as the following examples show, using the TAM melody of Past (specific). In the (4.40) and (4.41), HTS affects two toneless TBUs. In (4.42), three TBUs receive a H tone through HTS.

átángúlágá, 'he read'¹⁸⁶ (á-tángúl-ág-á 3SG^P-read-PLUR-FV^P) can be visualized as follows:

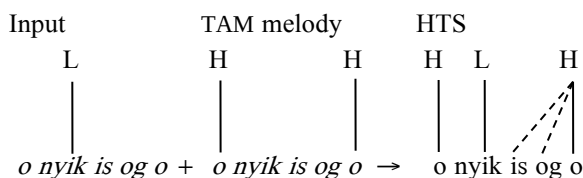
(4.40) **átángúlágá** 'he read'



The verb **-nyik-** 'avoid' has an underlying L tone on the first TBU. The verb form **ónyikísógó** 'he filtered', literally, 'he caused to avoid', has the Causative extension **-is-** and the Pluractional extension **-ag-** (ó-nyik-ís-óg-ó 3SG^P-avoid-CAUS-PLUR-FV^P). The H tone on the final vowel of the Past (specific) TAM melody spreads to the adjacent toneless TBUs of the verbal base.

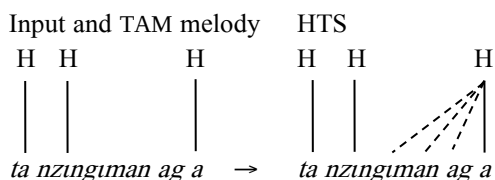
¹⁸⁶ The Pluractional extension **-ag-** in the case of this verb adds the meaning of reading habitually, a long passage or many books.

(4.41) **ónyikísógó** 'he filtered'



In **tánzínɡímánágá** 'we became scattered', (tá-nzínɡímán-ág-á 1PL^P-become scattered-PLUR-FV^P),¹⁸⁷ the H tone on the final vowel spreads to three TBUs:

(4.42) **tánzínɡímánágá** 'we became scattered'



In the case of **ónyikísógó** (4.41) it is clear that HTS to the left must come from the H tone on the final vowel, because the verb root is Low toned. The following examples, using Future verb forms that do not have a TAM melody with a H tone, provide evidence that the H tone of a verb root does not spread to underlyingly toneless TBUs:

(4.43)	à-tángùl-à	3SG-read-FV	'he will read'
	à-tángùl-àg-à	3SG-read-PLUR-FV	'he will read'
	tà-nzínɡímàn-àg-à	1PL-scatter-PLUR-FV	'we will be scattered'

In (4.43), all toneless morphemes preceding and following a High-toned verb root surface with the default L tone. A lexical H tone does not spread to adjacent toneless morphemes. HTS is restricted to the H tones of a TAM melody in Liko.

¹⁸⁷ The basic verb is **-nzínɡ-** 'cut up into small pieces'. The derivational suffix **-man-** is primarily attested in derivations from nominal modifiers and adjectives to verbs, see 5.2.2 and 5.3.3.

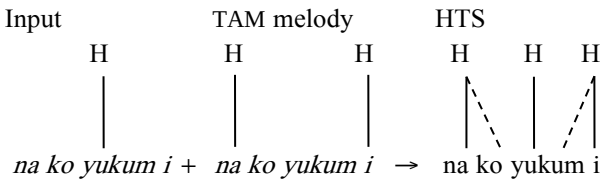
When a toneless verbal morpheme surfaces with a H tone, it is either associated with a H tone of a TAM melody, or it is linked to a H tone through HTS.

With respect to HTS on morphemes preceding the verb root, compare first the Conditional TAM melody with prefixal L tone and final-vowel H tone in (4.44a), and second, the negative Conditional TAM melody with a prefixal H tone and a final-vowel H tone in (4.44b):

- (4.44)a. *nà-kà-dìkít-á* 1SG-COND-throw-FV 'if I throw'
nà-kò-yúkúm-ó 1SG-COND-breathe-FV 'if I breathe'
- b. *ná-kó-dìkít-í* 1SG-COND-throw-FV.NEG 'if I do not throw'
ná-kó-yúkúm-í 1SG-COND-breathe-FV.NEG 'if I do not breathe'

The prefixal H tone of a TAM melody spreads to the Conditional prefix on the right. Tone association of *ná-kó-yúkúm-í*, from *-yúkúm-* 'breathe', can be visualized as:

(4.45) *nákóyúkúmí* 'if I do not breathe'



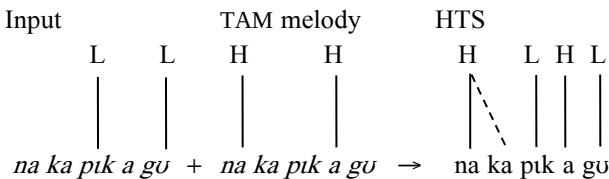
The prefixal H tone of the TAM melody spreads to the adjacent underlyingly toneless prefix.

Another example of HTS from TAM melody prefixal High is:

- (4.46)a. *ná-ká-pìk-á-gù* 1SG^P-NEG-throw-FV^P-NEG 'I did not throw'
- b. *áá-ká-pìk-á-gù* 3PL^P-NEG-throw-FV^P-NEG 'they did not throw'

A visualization of (4.46a) is:

(4.47) *nákápìkágù* 'I did not throw'

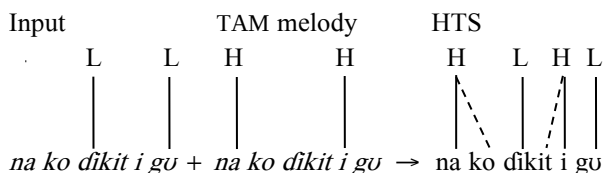


On the basis of the data presented, H-tone spreading (HTS) can be formulated as follows:

- (4.48) H-tone spreading in Liko iteratively links a TAM-melody H tone to an adjacent toneless TBU.

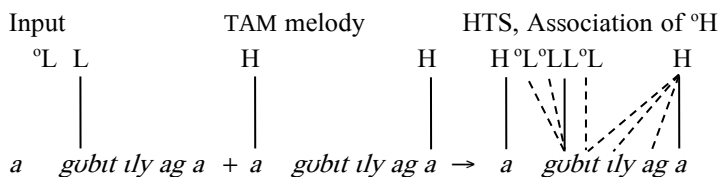
HTS will be further illustrated by the examples below. The TAM melody of negative Anterior aspect is prefixal High and final-vowel High. This can be seen in *nákódíktí-gù* 'I did not throw' (ná-kó-díktí-í-gù 1SG-NEG-throw-FV.ANT-NEG).

- (4.49) **nákódíkitígù** 'I did not throw'



In **ágbùtlyáǵá** (/a-^hgubut-ɬɪ-ag-a/ 3SG^P:1.O-thatch-BEN-PLUR-FV^P) 'he thatched the roof for s.o.', the Benefactive extension **-ɬɪ** and the Pluractional extension **-ag-** are underlyingly toneless. The form has the Past (specific) prefixal High and final-vowel High TAM melody. The verb-final H tone spreads leftward to the TBU directly to the right of the TBU with the primary tone of the verb.

- (4.50) **ágùbítlyágá** 'he thatched the roof for someone'



The L tone of the object prefix and the L tone inserted by the voiced consonant /g/ (see 4.5) merge with the primary L tone of the verb. The L tone inserted by the voiced consonant /b/ causes the H tone, which is associated to the TBU by H-tone spreading, to surface as a LH tone. This shows, incidentally, that contrary to other floating L tones, a floating L tone inserted by a depressor consonant does not merge with a preceding Low.

4.6.2 Reassociation of LH tones

A LH tone may break up at a morpheme boundary. A TBU with LH tone generally surfaces with a L tone in the environment of a right-adjacent H tone across a morpheme boundary. There is also one context in which there is a preceding morpheme with a L tone, where a TBU with LH tone surfaces with a H tone.

Examples of monosyllabic nouns with a LH tone followed by an associative prefix with a H tone are **sǔ** '9.smell', **mǔ** '3.head' and **ndĩ** '9.beard':

- (4.51)a. sǔ yá-li-kísi 'smell of delicious food'¹⁸⁸
 9.smell 9.ASS-5-delicious dish
- b. mǔ má-sèngí 'first of a number of villages'
 3.head 3.ASS-9.village
- c. ndĩ yá-⁴mémí 'plant, sp.'
 9.beard 9.ASS-1a.goat

A LH tone on a numeral or a nominal modifier, e.g. **-bǎ** 'two', **-pólí** 'light (weight)' surfaces as a L tone when it precedes a morpheme with a H tone:

- (4.52)a. mǒngóni mǐ ní-mó má-bà mó
 6:news 6.DEM.III COP-6.DEM.I 6.NUM-two 6.DEM.I
 'these two news items'
- b. wò-pólí ábě ì-wàya,
 1.ass-light (weight) like 9a-dried banana leaf
 'light as a dried banana leaf'

The High part of the LH tone of the class 2 object prefix **ǔ-** or the reflexive prefix **ĩ-** is reassociated with the following H tone of the verb root in, for instance:

- (4.53)a. nà-kù-kúl-à bǎ-mémí
 1SG-COND:2.O-untie-FV 2-goat
 'If I untie the goats.'
- b. nà-kì-kúl-á
 1SG-COND:REFL-untie-FV
 'If I untie myself.'

¹⁸⁸ Used for fresh meat or fish grilled or smoked.

In one environment, the Low part of a LH tone merges with a preceding L tone, i.e. when a type III demonstrative follows a TBU with a L tone, as **-61** '2.DEM.III' and **-11** '5.DEM.III' (see 6.1.2):

- (4.54)a. 6à-nzèkì bí ní-6à 'these termites, sp. here'
2-termites 2.DEM.III COP-2.DEM.II
- b. lì-ngwálò lí ní-lì 'this tree, sp. here'
5-tree 5.DEM.III COP-5.DEM.II

4.6.3 Association of floating tones

Delinked tones, which are set afloat, originate from various processes of which the most common are V₁-elision to resolve a situation of vowel hiatus (see 3.3.1) and vowel coalescence (see 3.3.2 and 3.3.3). Insertion of a floating H tone word-finally is part of verbal derivation to nouns and adjectives (see 7.12). The monosyllabic time adverbials **ḡi** and **ndi** have a floating H tone word-initially (see 7.7.1). The TAM melody of Anterior Aspect has a floating H tone preceding the verb-final vowel (see 7.6).

Options available in the language to host a delinked or floating tone are:

- association with a toneless TBU;
- merger with an identical adjacent tone;
- association with a different adjacent tone to form a LH tone;
- (delinked H tones only) association with the TBU to the right with a L tone and delinking its L tone.

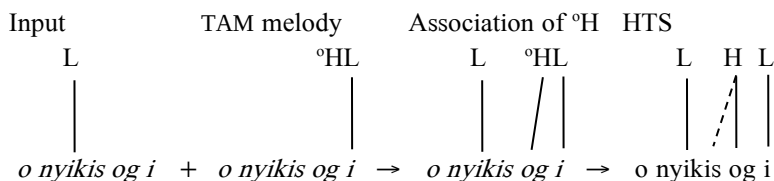
A floating H tone must be linked to a TBU in Liko, even if it causes the L tone on the final vowel of a TAM melody to be delinked, as seen with monosyllabic Low verbs in Anterior aspect (cf. option d in this section and L-tone deletion in 4.6.4). The options to get an association for a floating tone will be described in turn.

a. Association with a toneless TBU

The only context in which association of a floating tone with an underlyingly toneless TBU is attested is that of longer verb forms having the floating H tone of Anterior aspect preceding the final-vowel tone. In these cases, the L tone on the final vowel of the Anterior TAM melody is linked to the final vowel and the floating H tone is associated with the TBU preceding the final vowel. When there

are adjacent toneless TBUs, HTS applies. For example, *ònyíkísógi* 'he filtered recently' (/a-nyik-is-ag-i/ 3SG-filter-CAUS-PLUR-FV.ANT).

(4.55) *ònyíkísógi* 'he filtered recently'



b. Merger with an identical adjacent tone

When V_1 -elision has applied, the tone which is associated with the elided vowel is delinked from its segment and set afloat.

V_1 -elision or vowel-height coalescence occurs, for instance, when a noun-class prefix with the structure CV- precedes a noun with a stem-initial vowel. In their singular form, these noun stems are class 1b nouns with prefix **a-** or classes 1c or 9a nouns with prefix **ɿ-**. The plural prefix for classes 2 or 2+9 is **ɓà-**. The L tone of the prefix is delinked after V_1 -elision. The resulting floating L tone merges with the following L tone according to the OCP. Examples of V_1 -elision (4.56a) and vowel-height coalescence (4.56b) include:

- (4.56)a. /ɓà-à-tígbè/ → ɓà-tígbè '2:1b-sparrowhawk'
 /ɓà-ò-ngbùkó/ → ɓò-ngbùkó '2:1b-(pair of) bellows'
 b. /ɓà-ì-kpákù/ → ɓè-kpákù '2+9:9a-shoe'
 /ɓà-ì-ngùlí/ → ɓè-ngùlí '2:1c-caterpillar'

The floating H tone of the Anterior TAM melody is associated with a toneless TBU if available, e.g. in (4.55). Monosyllabic verbs without extensions do not have such a free TBU. If the primary tone of the verb is identical to the TAM floating tone, they merge as in *òtúngì* 'he invented s.th.' (**-túng-** 'invent').

c. Association with a different adjacent tone to form a LH tone

Forming a LH tone applies in the context of a floating L tone followed by a TBU with a H tone, or in environments in which a TBU with a L tone is followed by a

floating H tone. The environments are, for instance, nouns with a root-initial vowel with a H tone and Past verb forms followed by a monosyllabic time adverbial.

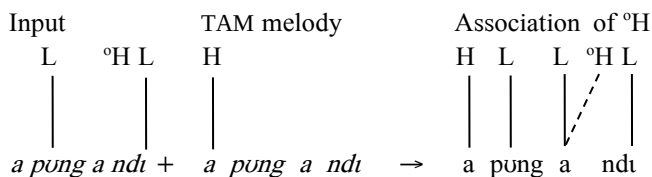
The nouns in the examples below have a H tone on the initial vowel and are preceded by classes 2 or 2 + 9 prefix **6à-**. The underlying L tone of the noun-class prefix is delinked after V₁-elision or vowel-height coalescence and is reassociated with the TBU on the right, forming a LH tone. Examples include:

- (4.57) /6à-á-kpákà/ → 6ǎ-kpákà '2:1b-vine, sp.'
 /6à-ó-bòsóní/ → 6ǒ-bòsóní '2:1b-hide-and-seek'
 /6à-í-6è6í/ → 6ě-6è6í '2:1b-snail, sp.'
 /6à-í-danga/ → 6ě-danga '2:1b-insect, sp.'
 /6à-í-bǎtù/ → 6ě-bǎtù '2 + 9:9a-moth, sp.'
 /6à-í-pedě/ → 6ě-pedě '2 + 9:9a-vine, sp.'

A floating H tone occurs between Past verb forms and a monosyllabic time adverbial. The TAM melody for Past is prefixal High. In the examples below, the third person singular subject prefix **a-** has a prefixal H tone; the final vowel as well as any vowels between the first TBU of the verb root and the final vowel surface with the default L tone. When ^H**ndi** follows the verb, the floating H tone is linked to the final vowel which is realized as a LH tone:

- (4.58) /á-pùng-à ^Hndì/ → ápùngǎ ndì
 3SG^P-start-FV P₃ 'he started'
 /á-tígòl-à ^Hndì/ → ótígòlǎ ndì
 3SG^P-stay-FV P₃ 'he stayed'

(4.59) **ápùngǎ ndì** 'he started'

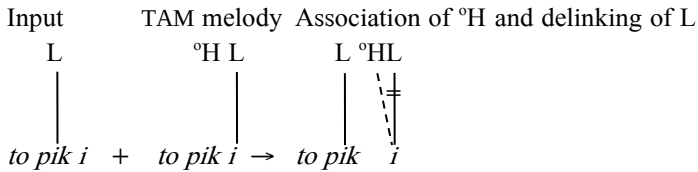


d. Association with the TBU to the right with a L tone and delinking its L tone

Delinking of a L tone to host a floating H tone occurs in case of -CVC- verb roots with Anterior aspect. In the example below, the floating H tone is not able to link

to the primary tone of the verb. It is linked to the first TBU on the right, which already has a L tone. By consequence, the L tone of the target TBU is delinked, because HL linked to a single TBU is not allowed.

(4.60) **tòpikí** 'we built'



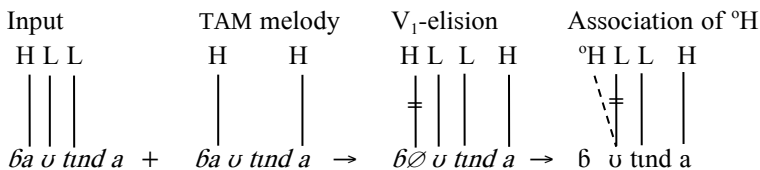
A second environment in which a floating H tone delinks a L tone constitutes a subject prefix or a prefix in TA position with a H tone followed by an object prefix with a L tone and no syllable onset.

In the following examples, the third person plural subject prefix **ḡá-** precedes the Low-toned second person singular object prefix **ù-** and a verb root with a L tone. When the vowel of the subject prefix is lost after V₁-elision, its H tone needs to be reassociated with the first available TBU, which in this case is the vowel **u-** of the Low-toned object prefix. The L tone of the target TBU is delinked.

(4.61)	/ḡá-ù-tìnd-á/	→ ḡútìndá
	3PL ^P -2SG.O-tattoo-FV ^P	'they tattooed you (sg)'
	/ḡá-ù-mòkísy-á/	→ ḡúmòkísyó
	3PL ^P -2SG.O-dress-FV ^P	'they dressed you (sg)'

In these examples, the delinked L tone of the object prefix merges with the L tone of the verb.

(4.62) **ḡútìndá** 'they tattooed you (sg)'



Because the vowel of the subject prefix is elided, its H tone is delinked. It is reassociated with the following TBU, which in turn sets the L tone of the second person singular object prefix *ǝ-* afloat. By means of Tone Merger it merges with the adjacent L tone.

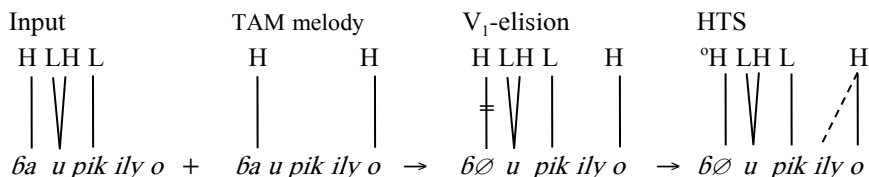
4.6.4 L-tone deletion

L-tone deletion removes delinked L tones that are left after the possibilities to get an association for floating tones in the language are exhausted. This situation occurs when a sequence of HLH needs to be associated with a single TBU.

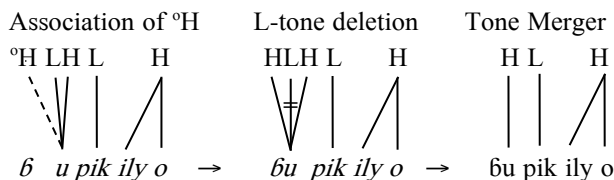
Liko has two verbal prefixes with a surface LH tone: the reflexive prefix *ʃ-* and the class 2 object prefix *ǝ-*. When these prefixes are preceded by another verbal prefix, i.e. a subject prefix or a prefix in TA position, the first of the two adjacent vowels undergoes V₁-elision or the two vowels coalesce. As a result, only one TBU is available to host three tones: the delinked tone of the subject prefix or the prefix in TA position and the LH tone of the reflexive prefix or the object prefix. If a subject prefix or a prefix in TA position has a L tone, this delinked L tone merges with the first part of the LH tone. If, however, a subject prefix or a prefix in TA position has a H tone, the delinked H tone cannot be left floating and is associated with the TBU of the reflexive prefix or the object prefix. In this situation one TBU would surface with three tones, HLH, a situation which is not allowed in Liko. The maximum number of tones which can be associated with one TBU is two. Delinking and reassociating the second H is not a solution, because a HL contour tone on a TBU is not allowed either. The problem is resolved by delinking the L tone and subsequent L-tone deletion. Finally Tone Merger unites the adjacent H tones.

The example given below is of a subject prefix with a H tone followed by the class 2 object prefix with a LH tone. The TAM melody is Past (specific).

(4.63) *ǝʃpikilyo* 'they built for them'



continued:



A surface H tone on a prefix in TA position is due to underlying High, e.g. Inchoative aspect -^L**ná**^L-, or to HTS from a TAM melody prefixal H tone, e.g. Past. In (4.64), the vowel of the negative prefix in TA position is elided by V₁-elision, resulting in a delinked H tone. The floating H tone is reassociated with the TBU of the object prefix **ǃ**-. Association of three tones, in this case HLH, with one TBU is not permitted. The L tone of the LH contour is deleted and the two H tones merge:

(4.64)a. ná-kú-kúl-ág-ù 1SG ^P -NEG:2.O-untie-FV ^P -NEG 'I did not untie the goats'	ǃà-mémí 2-goat
b. ná-kú-pùn-ág-ù 1SG ^P -NEG:2.O-gather-FV ^P -NEG 'I did not gather caterpillars'	ǃà-súkwá 2-caterpillar

Interestingly, in Liko, a delinked H tone by V₁-elision does not simply merge with the H tone of a preceding TBU, but needs to be reassociated with a following TBU.

4.6.5 Non-automatic downstep

A floating L tone is involved in non-automatic downstep. The pitch level of the H tone following a floating L tone is perceived to be at a lower level than the pitch level which is associated with the previous H tone. A floating Low can be part of a morpheme, or the result of a L tone losing its association with a TBU or it can be inserted at certain morpheme boundaries.

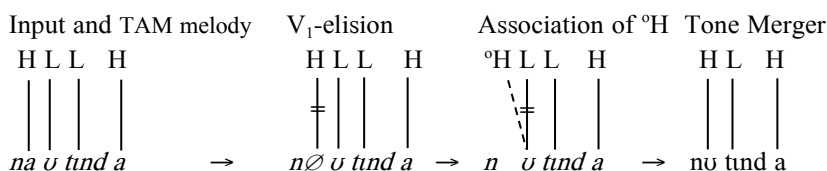
a. Non-automatic downstep as the result of a delinked L tone or of a floating L tone which is part of a morpheme

The delinking of a L tone, which in turn causes non-automatic downstep, is often initiated by the process of V₁-elision, followed by reassociation of a delinked H tone to the TBU which is associated with a L tone.

Liko has three object prefixes with a L tone: first person singular **ĩ-**, second person singular **ũ-** and class 1 **ᶯ-** / **ᶸ-** without a vocalic segment¹⁸⁹. The first person singular object prefix **ĩ-** coalesces with the vowel of a preceding prefix (/Ca + u/ → /Cε/, see 3.3.2). When the second person singular object prefix **ũ-** is preceded by a subject prefix or a prefix in TA position, V₁-elision takes place (/Ca + u/ → /Cu/, see 3.3.1). The L tone of the class 1 object prefix needs to be linked. In each case, two tones are associated with one TBU, either the TBU of the object prefix or the one of the prefix preceding the object prefix. If the tone on the first prefix is High, then the association of a H and a L tone violates the Liko constraint on a HL sequence on a single TBU. By consequence, the L tone of the object prefix is either delinked in the case of the first and second person singular object prefixes or remains unlinked in the case of the class 1 object prefix. If the verb is Low toned, the floating L tone merges with the L tone of the verb as can be seen in the following examples:

- (4.65)a. /ná-ũ-tìnd-á/ → nútìndá
 1SG^P-2SG.O-tattoo-FV^P 'I tattooed you (sg)'
- b. /ná-ũ-mòkísí-á/ → númòkísyó
 1SG^P-2SG.O-dress-FV^P 'I dressed you (sg)'

(4.66) **nútìndá** 'I tattooed you (sg)'



The TAM melody prefixal H tone on the first person singular subject prefix **ná-** is delinked when its TBU is elided. It relinks to the TBU of the second person singular object prefix **u-** and sets the original L tone of the object prefix afloat. Because the verb root has a primary L tone, the floating L tone merges through the OCP.

Next look at examples in which both the TAM prefixal tone and the primary tone of the verb are High, whereas the object prefix has an underlying L tone:

¹⁸⁹ The class 1 object prefix **mũ-** occurs in Imperative forms.

- (4.67)a. /ná-ù-tík-á/
 1SG^P-2SG.O-send-FV^P
- b. /ná-ù-búnd-ág-á/
 1SG^P-2SG.O-watch over-FV^P

The L tone of the object prefix is delinked after V₁-elision and association of the H tone to the TBU of the object prefix; the surface realization is **nó^Htíká**.

In 4.6.3, two ways to deal with delinked L tones are described. The first option, merger with an identical adjacent tone, is not applicable because there is none. The second option, association with a different adjacent tone to form a LH tone gives forms which are not acceptable to the Liko consultants I worked with: ***nó^Htíká** and ***nú^Hbúndágá**. If it would be allowed, the surface LH tone on the first CV-syllable of the verb would change the primary tone of the verb.

The other option is L-tone deletion, since the L tone of the object prefix is surrounded by H tones. In 4.6.4 this rule applies to a HLH sequence on a single TBU, e.g. /bá-ù-tind-á/ 3PL^P-2.O-tattoo-FV^P, which surfaces as **bó^Htindá** 'they tattooed them'. Applying L-tone deletion to /ná-ù-tík-á/ and /ná-ù-búnd-ág-á/ yields the incorrect results ***nó^Htíká** and ***nú^Hbúndágá**. In the verb forms under discussion, the surface tone on the first TBU of the verb root is realized at a pitch level between High and Low. This can be seen in the following examples, in which the second person singular and the class 2 object prefixes differ only in tone, ù- vs. ũ-. The third column presents measurements in Hz.¹⁹⁰ Compare (4.68a, c) with (4.68b, d). In (4.68a, c), the L tone of the LH tone of the class 2 object prefix is subject to L-tone deletion, resulting in a surface H tone on the prefix vowel. In (4.68b, d), the L tone of the second person singular object prefix is delinked after V₁-elision and causes non-automatic downstep:

(4.68)a.	/ná-ũ-tík-á ndì/	→	nótíká ndì	— — — —
	1SG ^P -2.O-send-FV ^P P ₃		'I sent them'	192.196.185 157

¹⁹⁰ The voice is that of a man. Measurements are illustrative, because pitch varies according to many factors such as gender, age, reading, etc.

b.	/ná-ù-tík-á ndì/	→ nú ⁴ tíká ndì	— — — —
	1SG ^P -2SG.O-send-FV ^P P ₃	'I sent you (sg)'	190.167.164.140
c.	/ná-ù-búnd-ág-á ndì/	→ núbúndágá ndì	— — — —
	1SG ^P -2.O-watch-FV ^P P ₃	'I watched over them'	189.184.184.182 151
d.	/ná-ù-búnd-ág-á ndì/	→ nú ⁴ búndágá ndì	— — — —
	1SG ^P -2SG.O-watch-FV ^P P ₃	'I watched over you (sg)'	193.164.165.161 139

After the non-automatic downstep, any following H and L tones in the tone phrase are realized at a lower register. In (4.68b) the pitch of the final vowel with the Past (specific) TAM H tone does not reach the same height as the first H tone of the verb form. The same can be observed for the TAM H tone on the final vowel of the verb form with the Pluractional extension **-ag-**. The L tone of the time adverbial ^H**ndì** (which is part of the tone phrase) has a higher pitch in (4.68a) and (4.68c) compared to forms where non-automatic downstep has occurred. This means that non-automatic downstep does not affect an individual tone, but changes the register and is indeed to be considered as non-automatic downstep and not as a Mid tone.

This analysis also applies to the other object prefix with a L tone, the class 1 object prefix [~]- as in the following examples:

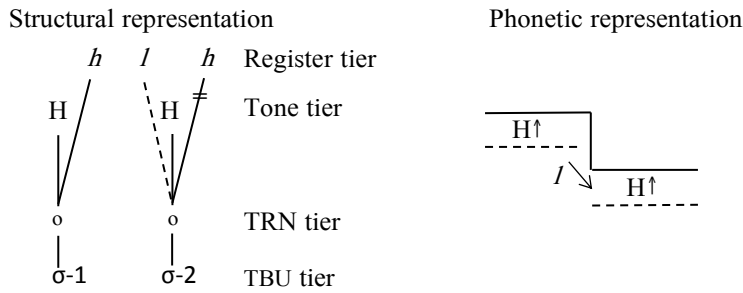
(4.69)a.	/bá- [~] -tík-á ndì/	→ bá ⁴ tíká ndì	— — — —
	3PL ^P -1.O-send-FV ^P P ₃	'they sent s.o.'	171.150.154 129
b.	/bá- [~] -búnd-ág-á ndì/	→ bá ⁴ búndágá ndì	— — — —
	3PL ^P -1.O-watch-FV ^P P ₃	'they watched over s.o.'	172.146.147.145 128 ¹⁹¹

The phonetic difference in pitch in noun stems, attributable to moving from one tone to the other when the register is the same, is bigger than the difference in moving from one register to a lower one when the tone is the same. This register/tone ratio to pitch height is around 1/2 in the case of Liko.

¹⁹¹ Pitch measurements show that the actual pitch of a tone is relative. These come from recordings of the same speaker as above, but this time he started at a lower pitch.

In order to draw representations that visualize this difference between tone and register, I will use elements of Snider's Register Tone Theory (RTT) (Snider 1999), because they are helpful to visualize what happens. By using them, I do not want to claim that other phonological theories would not be capable to capture the facts or that RTT would be able to account for all the facts in the language. It would be worthwhile to research the Liko tonal system using RTT, but that falls outside the scope of this book. RTT recognizes four tiers: the Tonal Root Node (TRN) tier with structural nodes to which features and TBUs are linked, the Tone-Bearing Unit (TBU) tier with the TBUs (syllables or moras), the Tonal tier with the tonal features H and L and the Register tier with the register features *h* and *l*. In RTT non-automatic downstep can be visualized as follows:

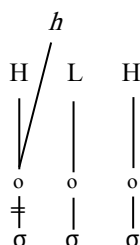
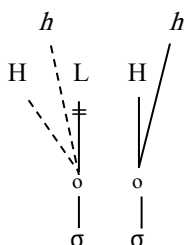
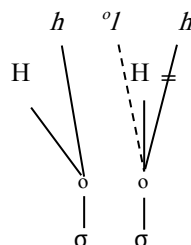
(4.70) Non-automatic downstep represented graphically in RTT



In the structural representation given above, a *low* register which is unassociated is present between two H tones which are both linked to a *high* register. The *low* register on the Register tier spreads to the TRN on the underlying H tone of σ -2. The original *h* of σ -2 is delinked, with the result that the H tone of σ -2 is realized at a lower register.

Snider (1999:25) defines a *low* register shift as lower relative to the preceding register settings. The tonal features H and L are realized at a pitch relative to the current register.

(4.71) Non-automatic downstep by the L tone of a first or second person singular object prefix which has been set afloat:

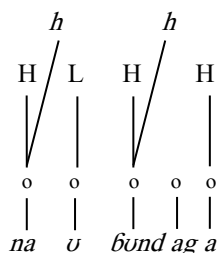
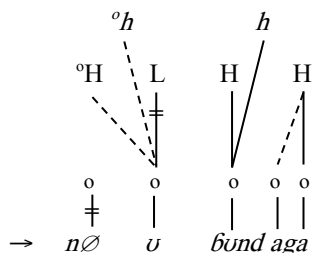
a. V_1 -elisionb. $^{\circ}H$ associationc. $^{\circ}I$ association

In (a), the prefix vowel preceding the object prefix is elided. In (b), the floating H tone and *high* register are reassociated with the remaining available TRN, delinking the L tone. The delinked L tone cannot be reassociated and triggers a floating *I* on the Register tier, which is associated with the TRN of the underlyingly High-toned verb root in (c). The original *h* of the verb root is delinked and the H tone is realized at a lower register. The delinked *high* register is finally removed by Stray Erasure.

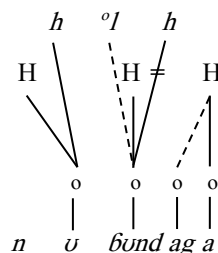
This is visualized for (4.68d), **nó'ḃúndágá** 'I watched over you (sg)', a verb form in which non-automatic downstep occurs:

(4.72) **nó'ḃúndágá** 'I watched over you (sg)'

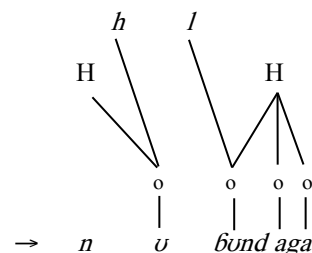
Input and TAM

 V_1 -elision, HTS and Association of $^{\circ}H$ 

continued:

Association of $^{\circ}I$ 

Merger and Stray Erasure



An initial H tone of classes 1a or 9 nouns is realized at a lower register in associative constructions, when the noun is preceded by a High-toned associative prefix. A floating L tone causes non-automatic downstep of the second H tone. The floating L tone is the tone of the associative stem.

Nouns in classes 1a or 9 do not have a segmental noun-class prefix. Examples are given in (4.73a, b). For comparison, in (4.73c), the plural form of **ndáǎ̀** '9.house' has noun-class prefix **ǎ̀-**, which prevents the H tone on the associative prefix from being adjacent to the H tone of the noun stem.

- (4.73)a. /mù-kùndú má^L-píyǎ̀/ → mòkùndú má^Lpíyǎ̀
 3-tail 3.ASS-1a.viper 'tail of a viper'
- b. /mà-ǎ̀sǎ̀ má^L-ndáǎ̀/ → mòǎ̀sǎ̀ má^Lndáǎ̀
 6-colour 6.ASS-9.house 'colours of the house'
- c. /mà-ǎ̀sǎ̀ má^L-ǎ̀ndáǎ̀/ → mòǎ̀sǎ̀ máǎ̀ndáǎ̀
 6-colour 6.ASS-2 + 9-house 'colours of the houses'

The root-initial H tone of a nominal modifier¹⁹² is realized at a lower register, i.e. non-automatic downstepped High, following an associative prefix with a H tone and a floating L tone:¹⁹³

- (4.74)a. /ǎ̀-ńéǎ̀kókó ǎ̀^L-pólǎ̀/ → ǎ̀ńéǎ̀kókó ǎ̀^Lpólǎ̀
 2-instrument 2.ASS-light 'light (weight) musical instruments'
- b. /mù-ǎ̀úkù má^L-pólǎ̀/ → mùǎ̀úkù mó^Lpólǎ̀
 3-quiver 3.ASS-light 'a light (weight) quiver'
- c. /ǎ̀-ǎ̀sǎ̀sǎ̀-ǎ̀ sǎ̀^L-pólǎ̀/ → ǎ̀sǎ̀sǎ̀sǎ̀ sǎ̀^Lpólǎ̀
 19-feather-19 19.ASS-light 'a light (weight) feather'

¹⁹² This concerns polysyllabic nominal modifiers: the surface tone of monosyllabic modifiers is polar, see 4.6.7.

¹⁹³ Many nominal modifiers can also be preceded by the general modifier prefix **ǎ̀**, often with predicative usage, see 5.3.1. The H tone on the first TBU of nominal modifiers is not downstepped following **ǎ̀**, e.g. **kù-tú-kò ǎ̀mǎ̀ à ǎ̀^L-pólǎ̀**, 15-clothes-15 1SG.POSS 3SG:be MOD-light (weight), 'my piece of clothing is light'.

With respect to the surface LH tone on the final TBU of the nominal modifier: all nominal modifiers consisting of more than one syllable have a final LH tone.

The H tone of the enumerative prefix **yí-** surfaces with a non-automatic downstepped H tone, when it follows an associative prefix with a H tone and a floating L tone:

- (4.75)a. /ʘu-likí ʘá^L-yí-ʘǎ/ → ʘu-likí ʘá-⁺yí-ʘǎ
 14-chair 14.ASS-9.NUM-two '2nd chair'
- b. /ʘu-likí ʘá^L-yí-sáá/ → ʘu-likí ʘá-⁺yí-sáá
 14-chair 14.ASS-9.NUM-three '3rd chair'

The prefix of Inchoative aspect is **-^Lná^L-** which occurs in TA position in the verb structure. It has a floating L tone both preceding and following the prefix. If **-^Lná^L-** precedes a High-toned verb, a floating L tone causes the initial H tone of the verb to be realized at a lower register.

- (4.76)a. /à-^Lná^L-lál-á/ → àná⁺lálà
 3SG-INCH-sleep-FV 'he is about to sleep'
- b. /à-^Lná^L-píkìt-àg-á/ → àná⁺píkìtàgá
 3SG-INCH-flee-PLUR-FV 'he is about to flee'

Two subject prefixes have a H tone, i.e. second person plural **má-** and third person plural **ʘá-**. When these prefixes precede the Inchoative aspect prefix **-^Lná^L-**, the H tone of the Inchoative aspect prefix is realized at a lower register:

- (4.77)a. /má-^Lná^L-pìk-á/ → má⁺nápìká
 2PL-INCH-sway-FV 'you (pl) are about to sway'
- b. /ʘá-^Lná^L-kìn-á/ → ʘá⁺nákìná
 3PL-INCH-decorate-FV 'they are about to decorate'

In (4.78), the two floating L tones of Inchoative **-^Lná^L-** result in two consecutive non-automatic downsteps, the first one because of the floating L tone which precedes the Inchoative aspect prefix, and the second one because of the floating L tone which follows the Inchoative aspect prefix:

- (4.78)a. /má-^Lná^L-lál-á/ → má⁺ná⁺lálà
 2PL-INCH-sleep-FV 'you (pl) are about to fall asleep'

- b. /bá-^Lná^L-píkìt-àg-á/ → bá'ná'píkìtàgá
 3PL-INCH-flee-PLUR-FV 'they are about to flee'

b. Non-automatic downstep caused by a floating L tone at a morpheme boundary

There are two specific morphological contexts in Liko in which the final tone of two adjacent H tones (H + H) surfaces as a non-automatic downstepped H tone, i.e. at a lower register. These are:

- the boundary between an adjective prefix and an adjective which is derived from a verb and
- the boundary between an auxiliary and an Infinitive.

It was illustrated above that a floating *low* register, triggered by a floating L tone, provides a rationale for non-automatic downstep. The cases described below, can also be understood by assuming a floating L tone at a morpheme boundary, which causes the following H tone to surface at a lower register if the floating L tone is preceded by a H tone.

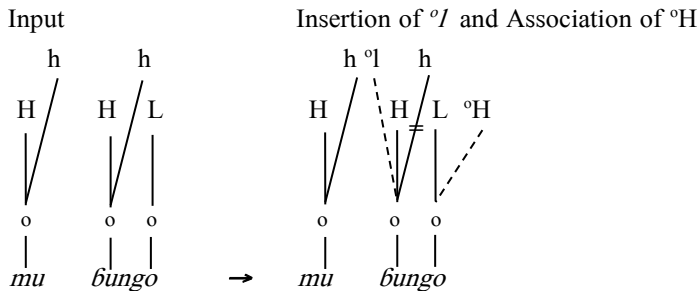
An adjective prefix and an adjective derived from a verb

Adjectives derived from verbs keep the primary tone of the verb (L or H on the first TBU) followed by a sequence of L tones until the final vowel, which is realized with a LH tone, see 7.12.2. Adjective prefixes with a H tone preceding an adjective derived from a verb root with a primary H tone, e.g. **-búng-** 'lose' and **-búnìk-** 'be broken', create an environment of two H tones across a morpheme boundary, separated by a floating L tone. As can be seen in the following examples, the second H is realized at a lower register:

- (4.79)a. /mù-búkù mú-^Lbúngǒ/ → mùbúkù mú'^Lbúngǒ
 3-quiver 3.ADJ-lost 'a lost quiver'
- b. /ĩ-sásá-sù sǐ-^Lbúnìkǒ → ìsásásù sǐ'^Lbúnìkǒ
 19-feather-19 19.ADJ-broken 'a broken feather'
- c. /kpǒzyǒ yǐ-^Lbúnìkǒ/ → kpǒzyǒ yǐ'^Lbúnìkǒ
 9.plant 9.ADJ-broken 'a snapped plant, sp.'

This can be visualized as follows (taking (4.79a)):

(4.80) **mú¹búngǎ** '3.ADJ-lost'



If one of the tones at the morpheme boundary is L, no non-automatic downstep occurs. Look at the examples below, where (4.81a) has class 1 adjective prefix with a L tone and (4.81b) has a Low-toned verb root **-fak-** 'carve':

(4.81)a.	nyàmá	mù- ¹ díyǎ	→ nyámá mùdíyǎ
	1a.animal	1a.ADJ-ferocious	'a dangerous animal'
b.	dàgǎ-tù	tí- ¹ ǂàkǎ	→ dàgǎ-tù tíǂàkǎ
	13.arrow-13	13.ADJ-carved	'carved arrows'

An auxiliary and an Infinitive

The second person plural subject prefix **má** and the third person plural subject prefix **ḃá** are suppletive forms (of the verb **-ik-** 'be'). When they precede an Infinitive form (expressing Progressive aspect, see 7.7.5), the H tone of the Infinitive prefix is changed into a non-automatic downstepped H tone.

Examples include:

- (4.82) /má^hká-síl-á/ → má^hkósiló
 2PL:be 9b-arrive-FV 'you (pl) are arriving'
 /bá^hká-bín-á/ → bá^hkóbinó
 3PL:be 9b-dance-FV 'they are dancing'

c. Non-automatic downstep caused by a floating L tone when two clitics form a unit

The tone of the Insistive enclitic **-tś** is changed into a non-automatic downstepped H tone, when is preceded by the negative Subjunctive suffix **ní-** and followed by the negative enclitic **-gu**:

- (4.83) /wà-kà-pìk-à-ní ¹tɔ̌-gù/ → wàkòpìkòní ¹tɔ̌gù
 2SG-NEG-sway-FV-NEGSUBJ INS-NEG 'that you not sway' /
 'Do not sway!'
 /wà-kà-sìl-à-ní ¹tɔ̌-gù/ → wàkòsìlòní ¹tɔ̌gù
 2SG-NEG-arrive-FV-NEGSUBJ INS-NEG 'that you not arrive' /
 'Do not arrive!'

The two enclitics **-tɔ̌** and **-gù** form a unit which does not belong to the preceding word. This can be seen by the vowel of the Insistive clitic **-tɔ̌**: it does not assimilate to the preceding [+ATR] suffix **ní-**. When **-tɔ̌** is not followed by the negative clitic, its vowel always assimilates and is changed to /o/, see 3.2.4.2. The two enclitics **-tɔ̌** and **-gù** constitute an environment in which a L tone is inserted between two H tones, which causes the second H tone to be changed into a non-automatic downstepped H tone.

4.6.6 Repairing would-be violations of the OCP

There are specific morphological contexts in Liko in which the second of two adjacent H tones (H + H) surfaces as a L tone. This phenomenon reflects Meeussen's rule: the lowering, in some contexts, of the final tone of a pattern of two adjacent H tones (HH), resulting in the pattern HL. Meeussen noticed that in many Bantu languages, stem-initial H tones changed to L tones when they followed certain High-toned prefixes. Changing a second H tone to a L tone may occur in the context of two adjacent H tones at a word-final morpheme boundary. In this section, I will first briefly mention the cases in which a morpheme with a H tone followed by another High-toned morpheme does not lead to a change in pitch level of the second H tone. After that, I will present the environments in which the second underlying H tone surfaces as a L tone.

a. H tones across a morpheme boundary both surface as High

First, the second H tone surfaces as High in the context of High-toned subject prefixes (4.84a) or object prefixes (4.84b) preceding a High-toned verb root. Subject prefixes with a H tone are second person plural **má-** and third person plural **ḃá-**, object prefixes with a H tone are first person plural **tí-** and second person plural **mú-**:

- (4.84)a. má-túg-à 2PL-draw water-FV 'you (pl) will draw water'
 6á-túg-à 3PL-draw water-FV 'they will draw water'
- b. à-tí-kpág-à 3SG-1PL.O-comfort-FV 'he will comfort us'
 à-mú-kpág-à 3SG-2PL.O-comfort-FV 'he will comfort you (pl)'

Second, the H tone of a verb root surfaces as a H tone after a prefix with a TAM prefixal H tone, e.g. the subject prefix (4.85a) or the negative prefix (4.85b), or after the Infinitive prefixal with a H tone (4.85c):

- (4.85)a. ná-túg-á 'I drew water'
 1SG^P-draw water-FV^P
 wá-túg-á 'you (sg) drew water'
 2SG^P-draw water-FV^P
- b. ná-ká-túg-á 'I did not draw water'
 1SG^P-NEG-draw water-FV^P
 wá-ká-túg-á 'you (sg) did not draw water'
 2SG^P-NEG-draw water-FV^P
- c. ká-túg-á 'to draw water'
 9b-draw water-FV
 ká-wíw-á 'to fly'
 9b-fly-FV

Third, the initial H tone of a modifier root following the High-toned modifier prefix **6í-** surfaces as a H tone:

- (4.86) 6í-tú MOD-white 'light (colour)'
 6í-pólì MOD-light 'light (weight)'
 6í-kpókódí MOD-narrow 'narrow'
 6í-nvé MOD-suddenly 'leave suddenly'
 6í-pélé MOD-stealthily 'stealthily'

Across word boundaries, H tones at both ends of the word boundary remain High, e.g. the general preposition **ká** preceded and followed by a H tone:

- (4.87)a. ó-sìl-ó ká kpáká
 3SG^P-arrive-FV^P PREP 9.trap
 'He arrived at the trap'

- b. 6ǎ-màky-á ká ndá6ù
 3PL^P:1.O-put in-FV^P PREP 9.house
 'They put him in the house'

b. The second of two H tones across a morpheme boundary changes to Low

The H tone of certain suffixes and enclitics is changed into a L tone, when they are preceded by a H tone. This concerns the Inchoative aspect final vowel **-á**, the Perfective aspect suffix **-ní**, the Insistive clite **-tǎ** and the nominalization suffix **-á**.

The tone on the final vowel of the Inchoative aspect forms surfaces as a H tone following a L tone (4.88a), and is changed into a L tone following a H tone (4.88b, c):

- (4.88)a. à-ná-pìk-á 3SG-INCH-sway-FV 'he is about to sway'
 à-ná-dìkít-á 3SG-INCH-throw-FV 'he is about to throw'
- b. à-nú-kúl-à 3SG-INCH:2.O-untie-FV 'he is about to untie them'
 à-nú-kúmb-ò 3SG-INCH:2.O-carry-FV 'he is about to carry them'
- c. à-nǎ-⁴kúl-à 3SG-INCH:1.O-untie-FV 'he is about to untie him'
 à-nǎ-⁴kúmb-ò 3SG-INCH:1.O-carry-FV 'he is about to carry him'

The tone on the vowel of the Perfective aspect suffix **-ní** surfaces as a H tone in all contexts except when **-ní** follows the surface High tone on the final vowel **-i** of Anterior aspect. In the following examples, the tone on the preceding TBU is High or non-automatic downstepped High:

- (4.89) ó-pìk-ó-ní 3SG^P-sway-FV^P-PFV 'he has swayed'
 ó-dìkít-ó-ní 3SG^P-throw-FV^P-PFV 'he has thrown'
- ú-kúl-ó-ní 3SG^P:2.O-untie-FV^P-PFV 'he has untied them'
- ǎ-⁴kúmb-ó-ní 3SG^P:1.O-carry-FV^P-PFV 'he has carried him'

In verb forms with Anterior aspect, the tone of the Perfective aspect suffix **-ní** surfaces as a H tone when it follows the surface L tone on the final vowel **-i** (4.90a, b), but the tone of the Perfective aspect suffix **-ní** is changed into a L tone if the final vowel **-i** of Anterior aspect surfaces with a H tone (4.90c):

- (4.90)a. ò-bín-ì-ní 3SG-dance-FV.ANT-PFV 'he has danced'
- ǎ-kúmb-ì-ní 3SG:1.O-carry-FV.ANT-PFV 'he has carried him'

4.6.7 Polar tone

Adjective prefixes (see 5.2) and monosyllabic nominal modifiers (see 5.3.1) have a polar tone: their surface tone is consistently the opposite of the adjacent following tone.

The surface tone of underlyingly High-toned prefixes of underived adjectives is consistently the opposite of the following tone. If the initial TBU of the underived adjective is Low, the adjective prefix surfaces with a H tone. If, on the other hand, the initial TBU is High, the tone of the adjective prefix is changed into a L tone.

Examples of prefixes preceding underived adjectives with a L tone on the first syllable are:

(4.93)	/úmó yí-dìngǐ/	→ úmó yí-dìngǐ
	9.savanna 9.ADJ-big	'a large savanne'
	/bù-mbútí bú-dìngǐ/	→ bù-mbútí bú-dìngǐ
	14-tree 14.ADJ-big	'a big "mbuti" tree'

By contrast, in the examples below, the same adjective prefixes precede an adjective with a H tone on the initial TBU:

(4.94)	/úmó yí-kúdú/	→ úmó yì-kúdú
	9.savanna 9.ADJ-short	'a short (stretch of) savanne'
	/bù-mbútí bú-kúdú/	→ bù-mbútí bù-kúdú
	14-tree 14.ADJ-short	'a short "mbuti" tree'

The underlying L tone of monosyllabic nominal modifiers is changed into a H tone in the context of a preceding Low-toned associative prefix, whereas monosyllabic nominal modifiers surface with a L tone when they are preceded by a High-toned associative prefix.

The underlying tone of these nominal modifiers can be established by combining them with the general modifier prefix **bí-**, which does not influence the following tones. This can be seen in the popular saying **nò-lyól-ì bí-nyé**, 1SG-graze-FV.ANT MOD-bad, 'I ate very well!' and in **pǎ à bí-pí kónù**, 9.place 3SG:be MOD-dark towards here, 'it is dark here'.

In the examples below, the nominal modifiers **-pí** 'dark' and **-nyé** 'bad' surface with a H tone or with a L tone, depending on the tone of the associative prefix:

- (4.95)a. *nékókó* *wò-pí*
 1a.instrument 1.ASS-dark
 'a black musical instrument'
- b. *ḡà-nékókó* *ḡó-pìpì*
 2-instrument 2.ASS-dark
 'black musical instruments'
- c. *mù-bùyú* *wà-nyé*
 1-caterpillar 1.ASS-bad
 'a bad caterpillar'
- d. *ḡà-bùyú* *ḡá-nyè*
 2-caterpillar 2.ASS-bad
 'bad caterpillars'

4.7 Conclusion

The Liko tone system has many similarities to common Bantu tonology, but is also different in certain aspects. Based on the overview of Bantu tone given by Kisseberth and Odden (2003:59-70) and the description of the Liko tone system in this chapter, this section presents an account of the tone aspects that are similar or different.

The underlying tones in Liko are High and Low, which is common in Bantu languages. Tone contrasts involve H and L tones, as well as combined LH on a monosyllable. Tone patterns on nouns contain H, L and LH: canonical disyllabic noun stems have seven tone patterns H, H.L, L.H, L, H.LH, L.LH, and LH.L,¹⁹⁴ monosyllabic noun stems have H, L or LH and trisyllabic stems have eight patterns of H and L combinations and six patterns with LH.¹⁹⁵ The tone on the verb root in Liko is either H or L, and is located on the first CV-syllable of the verb root.

¹⁹⁴ The patterns LH.H and LH.LH have not been attested on disyllabic noun stems.

¹⁹⁵ "The canonical stem is disyllabic, where four tone patterns are reconstructable to Proto-Bantu (PB): HH, HL, LL and LH." (...) "A trimoraic stem has eight patterns." (Kisseberth and Odden 2003:60).

Location of the stem tone on the first TBU of the root is assumed to be common in Bantu languages (Kisseberth and Odden 2003:61).

Different from what Kisseberth and Odden report for Bantu languages, i.e. "Class prefixes are typically toneless" (2003:60), is that noun-class prefixes in Liko have an underlying tone. Classes 9b and 17 prefixes have a H tone, classes 1b, 1c and 9a have a L tone or a H tone and other noun-class prefixes have a L tone. The noun-class prefixes of classes 1b, 1c and 9a keep their underlying tone in Sandhi environments preceding the classes 2 or 2 + 9 prefix, which results in a surface LH tone if the tone on the classes 1b, 1c or 9 prefix is High.

Liko has grammatical tone contrasts, which mark differences in tense, aspect and mood. Kisseberth and Odden (2003:61,62) mention the following characteristics of grammatical tone contrasts often found in Bantu languages:

- "Even in languages with a lexical contrast in the verb, there are tenses with what is usually referred to as 'grammatical tone', which involves assignment of H to a particular mora in the stem. (...)
- The favored locations of grammatical H are the final mora or the second stem mora. (...)
- Tone on prefixes can vary considerably, especially to mark differences in tense-aspect."

Grammatical tone contrasts in Liko, called "TAM melodies" in this book (see 7.6) consist of one or two H or L tones: a prefixal tone initially associated with the vowel of the subject prefix and a tone initially associated with the verb-final vowel. Affirmative and negative verb forms have separate sets of TAM melodies.

H-tone spreading is important in verb forms (see 4.6.1). According to Kisseberth and Odden (2003:62),

"The most fundamental phenomenon in Bantu tonology is the mobility of H. Specifically, even though H may be initially associated with a certain mora, very often that H will be realized (a) not just on that mora, but on one or more other moras to its right (less often left), or (b) will not be realized on that mora, but rather on some other moras to its right (or left)."

In Liko, H-tone spreading is attested on verb forms. If one wants to mention direction, the TAM prefixal tone spreads to the right and the TAM final tone spreads to the left. Important is that only TAM-melody H tones spread and that they iteratively affect toneless syllables.

Non-automatic downstep, described in 4.6.5, is caused by a L tone which has been set afloat, by a floating L tone which is part of a morpheme, or by a L tone at several morphological boundaries.

It is interesting to compare manifestations of the OCP in Liko with those in Bantu tonology as mentioned by Kisseberth and Odden (2003:65). The first manifestation is "To block movement, so an H which should spread may fail to do so if the target is followed by an H TBU (independent of whether the TBU phonetically realizes the H)". The second one is repairing would-be violations. In Liko, the first manifestation is not attested. Repairing would-be violations, however, are reflected in the cases in which the second of two H tones across a morpheme boundary surfaces as a L tone. It has been shown in 4.6.6 that this repair strategy is limited to certain morphosyntactic environments. Merging adjacent primary H or L tones is a feature of the Liko tone system exemplified at several places in the analysis of tone rules in the language.

Surface realizations of LH are remarkable, because HL on one TBU does not occur in Liko. According to Kisseberth and Odden (2003:66), "falling tones are generally preferable to rising tones". In Liko, a surface LH tone can be caused by the phonetic effect of voiced obstruents on a following H tone, see 4.5. Some surface LH tones can be predictably derived from level tones, see 4.6.3. Kisseberth and Odden (2003:66) state that "There is a particularly strong tendency to avoid rising tones in Bantu. (...) Even phonetically induced rising tones may be eliminated." In multiple environments in Liko, one of the parts of a surface LH tone shifts away and merges with an adjacent identical tone, thereby avoiding a rising tone.

At the end of a tone phrase, the final H tone of a sequence of H tones is often realized at a lower pitch, e.g. a disyllabic direct object with High pattern surfaces with a high pitch on the first and a low pitch on the second TBU, e.g. *ná'kólá mémì* 1SG^P:1.O-untie-FV^P 1a.goat (*mémì* in isolation). This resembles nonfinality, which

"refers to a preference that the end of certain phonological structures not be realized on a H tone." (Kisseberth and Odden 2003:64).

(Kisseberth and Odden 2003:67) report on the influence of the penultimate syllable which is said to play a key role in Bantu tone, and on 'plateau forming': "Working at cross-purposes to the OCP, there is also a strategy of avoiding HØH sequences, which we refer to as the Plateau principle: avoid a valley between two peaks." (*ibid*:67). These two phenomena are not found in Liko.

5 Nouns, Adjectives, Nominal Modifiers and Numerals

5.1 Nouns

The structure of a noun in the Liko language is: noun-class prefix - noun stem - noun-class enclitic. Noun classes are primarily distinguished on the basis of concord behaviour: a unique set of concords is interpreted as a separate noun class. A noun subclass is set up when the set of concords is identical, but the form of the noun-class prefix is different. A gender is a pairing of two noun classes, where one refers to a single instance and the other to multiple instances (plural or collective) of a given noun. Noun-class pairing rules (also referred to as 'pluralization rules') determine which noun classes combine.

A description of the noun classes is presented in 5.1.1. A particular feature of the noun-class system in Liko is the existence of noun-class enclitics in addition to noun-class prefixes for a number of nouns in various noun classes. Noun-class enclitics merit a separate section, 5.1.2. The next sections present noun-class pairing in 5.1.3, noun-class mergers in 5.1.4, noun classes and semantic domains in 5.1.5, loanwords in 5.1.6, noun-to-noun derivation in 5.1.7 and compounds in 5.1.8.

5.1.1 Noun classes

Liko noun classes and the basic forms of the noun-class prefixes are presented in Table 12. Following Kadima (1969:82), three elements are used to determine a noun class: the set of concords, the noun-class prefix and the gender. The sets of concords taken into account are the adjective, enumerative and associative prefixes. First, two noun classes are different if their sets of concords are different. Second, in case of identical sets of concords, two noun classes are different if both their noun-class prefixes and their gender are different. Classes which have the same set of concords, e.g. classes 8 and 14, are identified as separate classes because their noun-class prefix and gender are different. Subclasses are posited when the concords and gender are those of a main class and only the noun-class prefix is different.

The vowel of noun-class prefixes assimilates to a [+ATR] value of the noun stem. Some classes have nouns with a noun-class enclitic. Assimilation of the vowel of a noun-class enclitic is more complex, see 3.2.4.3. The vowel of noun-class enclitics is also affected by vowel-height dissimilation (3.75). The surface forms after [+ATR] assimilation of the noun-class prefixes is added in brackets. For the surface forms of the noun-class enclitics, see 5.1.2.

Table 12 Noun-class prefixes and enclitics, underlying and [+ATR] forms

Class number	Prefix	Enclitic
1	mu- (mu-)	
1a	-	
1b	a- (o-)	
1c	ɪ- (i-)	
2	ʃa- (ʃo-)	
3	mu- (mu-)	-mɔ
5	li- (li-)	-lɔ
6	ma- (mo-)	-mɔ
7	si- (si-)	-sɔ
8	ʃi- (ʃi-)	
9	-	-yɔ
9a	ɪ- (i-)	
9b	ka- (ko-)	
2 + 9	ʃa- (ʃo-)	
13	-	-tɔ
14	ʃu- (ʃu-)	
15	ku- (ku-)	-kɔ
17	kú- (kú-)	
19	ɪ- (i-)	-sɔ

In the Liko noun-class system, class 4 is missing, as well as all classes from 11¹⁹⁶ to 23, except 13, 14, 15, 17 and 19.¹⁹⁷ According to the criteria formulated by

¹⁹⁶ A combination of classes 2 and 9 replaces class 10.

Maho, the Liko noun-class system is between a reduced one (having three genders or less) and a canonical class system with seven or more genders (Maho 1999:54). I refer the reader to 5.1.3 for an overview of noun-class pairing.

The expression of number is part of the noun-class system. Singular is mainly found in classes 1, 1a, 1b, 1c, 3, 5, 7, 9a, 14, 15, 17 and 19. Classes 2, 6, 8, 2+9 and 13 often have multiple instances of a given noun. Nouns in class 9 can be singular, plural or collective. All classes except classes 1, 1b, 1c, 7, 9a occur as one-class genders. The largest sets are found in class 1 and its subclasses (among others animate), 5 (among others manner), 9 (mergers and various), 9b (Infinitives) and 14 (among others abstract nouns). Infinitives are not posited in class 15 (as common in Bantu languages), because they do not share the same concords nor the noun-class prefix of class 15. Instead, they have the same concords as class 9.

Noun classes have the following sets of concords: different sets of adjective and enumerative prefixes, a set of associative prefixes, and sets for substitutives and demonstratives. The first three sets are listed in Table 13 (for other sets, see 6.1.2). Concord between the noun class and the subject (and object) prefixes in verb forms, common in many Bantu languages, is not represented in Table 13. Noun-class concord with subject prefixes is very much reduced. Agreement between the noun class and subject prefix in the verb form is only attested for class 2, regardless of animacy, see 7.4.

In glosses of concord prefixes, only the main class number, e.g. 9 instead of 9b, is used in this book, because the concords of subclasses are identical to those of the main class.

¹⁹⁷ The word for '9.place' is **pă**. The form **pă** is similar to ***pa-**, the reconstructed Proto-Bantu noun-class prefix of class 16 (Maho 1999:51). Classes 16 and 18 are not found in Liko.

Table 13 Noun-class concords

Class	Adjective prefix ^{198,199}	Enumerative prefix	Associative prefix
1	mũ-	ḃé-	wa-
1a	mũ-	ḃé-	wa-
1b	mũ-	ḃé-	wa-
1c	mũ-	ḃé-	wa-
2	ḃú-	ḃá-	ḃá-
3	mú-	mí-	má-
5	lí-	lí-	lá-
6	mú-	má-	má-
7	sí-	sí-	sá-
8	ḃú-	ḃí-	ḃá-
9	yí-	yí-	yá-
9a	yí-	yí-	yá-
9b	yí-	-	yá-
2 + 9	ḃayí-	ḃayí-	ḃayá-
13	tí-	tí-	tá-
14	ḃú-	ḃí-	ḃá-
15	kú-	kú-	kwá-
17	yí-	yí-	wa-
19	sí-	sí-	sá-

Class 1

The basic form of the class 1 prefix is **mu-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **mu-**. The overall majority of words in class 1 are people and animals. Agent nouns derived from verbs are also in this class (see 7.12.1). Plural class 2 prefixes are added in brackets.

¹⁹⁸ Adjective prefixes that agree with classes 2, 3, 6 and 14 surface with the low vowel /a/ in some specific contexts, see 5.2.1.

¹⁹⁹ Adjective prefixes have a polar tone with respect to the first tone on the stem, see 4.6.7.

(5.1)	mu-ganzá, (6a-)	'1-blood brother'
	mu-gbukú, (6a-)	'1-pubic louse'
	mu-nugbé, (6a-)	'1-caterpillar, sp.'
	mu-zunzá, (6a-)	'1-ant, sp.'
	mu-ḍígi, (6o-)	'1-twin'
	mu-kó, (6o-)	'1-woman'
	mu-ndugbö, (6o-)	'1-wasp'
	mu-yubú, (6o-)	'1-caterpillar, sp.'

The concord affixes agreeing with class 1 nouns are:²⁰⁰

(5.2)	<i>adjective</i>	mu-mbembí mu-dingĩ 1-snail 1.ADJ-big	'a big snail'
	<i>enumerative</i>	mu-ganzá b́é-motí 1-blood brother 1.NUM-one	'one blood brother'
	<i>associative</i>	mu-kó wa-nzá 1-woman 1.ASS-good	'a good woman'
	<i>demonstrative</i>	mu-ndugbó nǎ 1-wasp 1.DEM.I	'that wasp'

Class 1a

Class 1a is a subclass of class 1, because the set of concords and the gender are identical, but the noun-class prefix is different (class 1a takes no prefix). Nouns in class 1a pair with class 2. Apart from people and animals, many loanwords (see 5.1.6) are in class 1a.

- (5.3) bugwé, (6a-) '1a.maternal uncle'
gbuwó, (6o-) '1a.chimpanzee'

The concord affixes agreeing with class 1a nouns show that class 1a takes the concords of class 1:

- (5.4) *adjective* gbuwó mu-kédě 'a small chimpanzee'
 1a.chimpanzee 1.ADJ-small

²⁰⁰ Concord with the type I demonstrative is added for illustration. See 6.1.2.

<i>enumerative</i>	bugwé 6é-motí 1a.maternal uncle 1.NUM-one	'one maternal uncle'
<i>associative</i>	bugwé wa-nzá 1a.maternal uncle 1.ASS-good	'a good maternal uncle'
<i>demonstrative</i>	gbuwó nǎ 1a.chimpanzee 1.DEM.I	'that chimpanzee'

Class 1b

A second subclass of class 1 is set up, because the set of concords and the gender are identical, but the noun-class prefix is different (**a-** instead of no prefix). Nouns in class 1b pair with class 2.

Nouns in class 1b take prefix **a-**, in [+ATR] contexts changed into **o-**. About 40% of these nouns have a H tone on the prefix vowel. This H tone is part of the LH tone when the class 2 prefix **6a-** precedes the noun stem with the class 1b prefix. Grégoire (2003:360) mentions the existence of a class 1 with a noun-class prefix **a-** as a characteristic of a series of languages "generally situated in the northeast of the forest. This subclass groups a small number of nouns designating animals and plants, and, more rarely, members of the family. It has been attested notably in Buja (C37), Doko (C40), Boa (C44), Lombo-Turumbu (C54), Kele (C55), Mbole-Toolli (C60), Lengola (C12), Mituku (D13) and Nyali (D33)." For instance, for Boa (C44) a separate subclass 1b is set up on the basis of the analysis of initial /a/ as noun-class prefix **a-** (Motingea 2005:38).

Class 1b nouns with prefix **a-** refer to a range of semantic categories, including animals, plants and objects, as in the examples below:

- (5.5)a. á-ďóďǒ, (6ǎ-) '1b-snail, sp.'
a-sambá, (6a-) '1b-electric fish, sp.'
á-temu-témú, (6ǎ-) '1b-firefly'
a-tígbe, (6a-) '1b-sparrowhawk'
- b. a-6ó6bú, (6a-) '1b-yam, sp.'
a-kángbá, (6a-) '1b-tree, sp.'
á-mbukó, (6ǎ-) '1b-tree, sp.'
ó-pilípíli, (6ǒ-) '1b-shrub, sp.'

c.	a-dudũ	'1b-incense'
	á-gbágí, (ǎ-)	'1b-home-made soap'
	á-gbɔgbó, (ǎ-)	'1b-footboard'
	o-ngútu, (ǎ-)	'1b-metal bracelet'
	a-nviyó, (ǎ-)	'1b-small one bedroom house'
	o-pungó, (ǎ-)	'1b-small drum'
	á-sabá, (ǎ-)	'1b-blade'

This subclass contains also nouns with a positive or negative meaning. Some of them have a counterpart in class 1 or 1a. Where this is known, it is indicated.

Examples of class 1b nouns with a positive or endearing connotation include: **a-bǎ** '1b.father' and **a-má**²⁰¹ '1b-mother', **a-ǎlá** '1b-mistress' or **á-yóko** '1b-good dancer or singer'. Class 1b nouns with a negative connotation include: **a-lókó**²⁰² '1b-man' (negative connotation), **á-pákímu** '1b-strong rebellious man', **á-budǎ** '1b-person without compassion', **á-ngbungbu** '1b-mentally deficient person' and **á-pókátu** '1b-premature baby'.

In **a-nviyó** (5.5c) and **á-yóko** (above), the vowel of the noun-class prefix does not assimilate to the [+ATR] quality of the noun. This is found in some other nouns in this subclass as well, including:

- (5.6) a-bútú, (ǎ-) '1b-palm tree, sp.'
 a-budí, (ǎ-) '1b-infertile land'
 a-píǎú, (ǎ-) '1b-cushion of leaves'

Noun-initial /a/ has been analysed as an augment or a pre-prefix in related languages. In Budu (D33) for example, High-toned initial /a/ has been analysed as an augment: "Budu, like Bhele and Komo"²⁰³, tends to use a High-toned pre-prefix for diminutive/pejorative animates. This floating High augment can be used for

²⁰¹ In class 1a are **babǎ** '1a.father' and **mamá** '1a.mother'.

²⁰² Without the **a-** prefix: **mu-lókó** '1-man'.

²⁰³ Thomas (1994:193) reports on Kumu (or Komo) (D23): "when all words containing a high toned prefix are considered together, there is significant skewing of semantic content toward small animals."

most Noun Classes that are used for animates" (Frieke 2005). However, initial /a/ cannot be analysed as an augment in Liko, because it never precedes other noun-class prefixes:

(5.7)	á-gómé	'1b-treaty'	
	ḡă-gómé	'2:1b-treaties'	*a-ḡă-gómé
	a-línzyá	'1b-tree with caterpillars, sp.'	
	ḡa-línzyá	'2:1b-tree with caterpillars, sp.'	*a-ḡa-línzyá
	a-səsú	'1b-delicious food'	
	ḡa-səsú	'2:1b-delicious food'	*a-ḡa-səsú
	a-wángá	'1b-tree with bark used to heal spleen'	
	ḡa-wángá	'2:1b-tree with bark used to heal spleen'	*a-ḡa-wángá
	mū-kangú	'1-paddler'	*(a/ū)-mū-kangú
	mū-balá	'3-curse'	*(a/ū)-mū-balá
	lɪ-kóft	'5-blow with the fist'	*(a/ɪ)-lɪ-kóft
	ma-lílí	'6-food'	*a-ma-lílí

Concords of class 1b nouns are the same as those of class 1:

(5.8)	<i>adjective</i>	á-sabá mū-kédě	'a small blade'
		1b-blade 1.ADJ-small	
	<i>enumerative</i>	á-sabá ḡé-motí	'one blade'
		1b-blade 1.NUM-one	
	<i>associative</i>	á-sabá wa-nzá	'a good blade'
		1b-blade 1.ASS-good	
	<i>demonstrative</i>	á-sabá nǒ	'that blade'
		1b-blade 1.DEM.I	

Class 1c

A third subclass of class 1 is set up, because the set of concords and the gender are identical to class 1, but the noun-class prefixes are different (**ɪ-** instead of **a-** or no prefix). Nouns in class 1c pair with class 2. The noun-class prefix **ɪ-** is changed into **i-** in [+ATR] contexts. When preceded by class 2 **ḡa-**, height coalescence (see 3.3.2) applies to the vowels of the class 2 and the class 1c vowels. Examples include:

(5.9)	<u>Class 1c</u>	<u>Singular</u>		<u>Class 2</u>	<u>Plural</u>
	ɪ-dɔdĩ	'1c-neglected wound' ²⁰⁴		ʂɛ-dɔdĩ	'2:1c-neglected wound'
	ĩ-ʂɛʂĩ	'1c-snail, sp.'		ʂě-ʂɛʂĩ	'2:1c-snail, sp.'
	i-péʂú	'1c-locust'		ʂɛ-péʂú	'2:1c-locust'
	ĩ-danga	'1c-insect, sp.'		ʂě-danga	'2:1c-insect, sp.'

Concords of class 1c nouns are the same as those of class 1:

(5.10)	<i>adjective</i>	i-péʂú mu-kédě	'a small locust'
		1c-locust 1.ADJ-small	
	<i>enumerative</i>	i-péʂú ʂé-motĩ	'one locust'
		1c-locust 1.NUM-one	
	<i>associative</i>	i-péʂú wa-nzá	'a good locust'
		1c-locust 1.ASS-good	
	<i>demonstrative</i>	i-péʂú nř	'that locust'
		1c-locust 1.DEM.I	

Proclitics to subclasses of class 1

All nouns with initial **na-**, animate and inanimate, originate from one of the subclasses of class 1 and pair with class 2. I assume that **na-** is a proclitic. The concords of these nouns show that they are in class 1. In the glosses, I use simply class 1. With plurals, the proclitic is retained and follows the class 2 prefix **ʂa-**, which indicates that the proclitic has become lexicalized. Semantically most of these nouns refer to fauna.

The vowel of the proclitic harmonizes to a [+ATR] value in the case of historically class 1a nouns, which lack a prefix vowel, and it is subject to height coalescence in the case of historically class 1c nouns, which have a high prefix vowel. The vowel of the noun-class prefix of some [+ATR] 1b nouns is **a-**. If this is the case, the vowel /a/ of the proclitic does not harmonize.

Examples of class 1 nouns with proclitic **na-**, originating from nouns in classes 1a or 1b, include:

²⁰⁴ Also 'decayed tooth'.

- (5.11) *nǎ-ḡo*, (ḡa-) 'na:1-fish, sp.'
 na-gbalí, (ḡa-) 'na:1-frog, sp.'
 na-kyǒḡo, (ḡa-) 'na:1-bird, sp.'
 na-nzókóḡḡ, (ḡa-) 'na:1-larva, sp.'
 na-pónzḡo, (ḡa-) 'na:1-vine, sp.'
 nǒ-dingbo, (ḡa-) 'na:1-water snail'
 no-kpódóku, (ḡa-) 'na:1-toad'

In the following examples of class 1 nouns with proclitic **na-**, originating from [+ATR] class 1b nouns, the vowel of the proclitic does not assimilate:

- (5.12) *na-gulumamá*, (ḡa-) 'na:1-ant, sp.'
 na-muyé-múye, (ḡa-) 'na:1-insect, sp.'
 na-siyo, (ḡa-) 'na:1-vine, sp.'

Examples of nouns with proclitic **na-** originating from class 1c nouns are:

- (5.13) *né-gúlúkyá*, (ḡa-) 'na:1-medical plant'
 ne-ngúse, (ḡa-) 'na:1-snail, sp.'
 né-lága, (ḡa-) 'na:1-mirror'
 né-lungyá, (ḡa-) 'na:1-chameleon'
 né-gimi-gímí, (ḡa-) 'na:1-plant, sp.'
 ne-kulé, (ḡa-) 'na:1-insect, sp.'
 né-púmúkyó, (ḡa-) 'na:1-weed, sp.'

Concords of nouns with **na-** proclitic are those of class 1:

- (5.14) *adjective* *na-kwálí mu-kédě* 'na:1-sparrowhawk 1.ADJ-small'
 enumerative *na-kwálí ḡé-motí* 'na:1-sparrowhawk 1.NUM-one'
 associative *na-kwálí wa-nzá* 'na:1-sparrowhawk 1.ASS-good'
 demonstrative *na-kwálí nǒ* 'na:1-sparrowhawk 1.DEM.I'

All nouns with initial **st-**, animate and inanimate, have the concords of class 1. **st-** (in [+ATR] contexts **si-**) is also posited as a proclitic. All nouns with initial **st-** pair with class 2. Semantically most of these nouns refer to fauna. For example, all centipedes in my data have initial **na-** or **st-**. With plurals, the proclitic is retained and follows the class 2 prefix **ḡa-**.

Examples of proclitic **si-** are:

- (5.15) sí-gulyágí, (6a-) 'sr:1-centipede, sp.'
 si-kpetí, (6a-) 'sr:1-tortoise'
 si-zazá, (6a-) 'sr:1-crawfish'
 sí-bebetú, (6a-) 'sr:1-caterpillar, sp.'
 si-gogopé, (6a-) 'sr:1-bird'
 sí-zoluwo, (6a-) 'sr:1-scorpion'

Concords of nouns with a **si-** proclitic are the same as those of class 1:

- (5.16) *adjective* si-kpetí mu-kédě 'a small tortoise'
 sr:1-tortoise 1.ADJ-small
enumerative si-kpetí bé-motí 'one tortoise'
 sr:1-tortoise 1.NUM-one
associative si-kpetí wa-nzá 'a good tortoise'
 sr:1-tortoise 1.ASS-good
demonstrative si-kpetí nǝ 'that tortoise'
 sr:1-tortoise 1.DEM.I

Class 2

The basic form of the class 2 prefix is **6a-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] counterpart of /a/ and the prefix surfaces as **6o-**. Class 2 is the regular noun class for plurals of class 1 and subclasses of class 1 nouns.

Examples of class 2 nouns are given in the two sets below, the first with nouns for which the singular is in class 1 and the second for which the singular is in class 1a (added in brackets):

- (5.17) 6a-gbukú '2-pubic louse' (mu-gbukú)
 6a-swá '2-Pygmy' (mu-swá)
 6o-goyó '2-flea' (mu-goyó)
 6o-túgbǔ '2-rat, sp.' (mu-túgbǔ)

- (5.18) 6a-guǔ '2-barricade' (guǔ)
 6a-súngbú '2-uninhabited area' (súngbú)
 6o-6ó6o '2-deaf person' (6ó6o)
 6o-kuyí '2-monkey, sp.' (kuyí)

The concord affixes agreeing with class 2 nouns are:

- (5.19) *adjective* 6a-mbembí 6a-kékéké²⁰⁵ 'small snails'
 2-snail 2.ADJ-small
- enumerative* 6a-ganzá 6á-6ă 'two blood brothers'
 2-blood brother 2.NUM-two
- associative* 6a-kó 6á-nza²⁰⁶ 'good women'
 2-woman 2.ASS-good
- demonstrative* 6o-ndugbô 6ó 'those wasps'
 2-wasp 2.DEM.I

Preceding vowel prefixes or vowel-initial nouns, the vowel /a/ of the class 2 prefix is lost through V₁-elision (see 3.3.1), or it is subject to height coalescence (see 3.3.2). Examples include:

- (5.20) a-ngwásl '1b-slap' 6a-ngwásl '2:1b-slaps'
 ɔgũ '1a.fish, sp.' 6ɔgũ '2:fish, sp.'
 ɪ-mbúbú '1c-civet' 6ɛ-mbúbú '2:1c-civet'

It is a characteristic of nouns in classes 1b, 1c, 9a and 17 that the class 2 plural gender prefix does not replace, but precedes the noun-class prefixes of the singular.

Class 3

The basic form of the class 3 prefix is **mu-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **mu-**. Some class 3 nouns take the noun-class enclitic **-mo**, which is subject to ATR vowel harmony and vowel-height dissimilation (see 5.1.2). Examples of class 3 nouns are (in brackets, the class 9 plural forms are given - plurals of class 3 nouns are found in class 9; class 4 does not exist in Liko):

- (5.21) mu-báde (báde) '3-maize ear'
 mu-ɓungú (ɓungú) '3-lump of clay'
 mu-gbá (gbá) '3-tributary'

²⁰⁵ Plural form of **-kéké** 'small', see 5.2.1.

²⁰⁶ The surface tone on **-nza** is Low because monosyllabic modifiers have a polar tone, see 4.6.7.

mu-yingá	(yingá)	'3-shinbone'
mu-ngóngu	(ngóngu)	'3-sugar cane'
mu-sisó	(sisó)	'3-muscle, tendon, nerve'

The concord affixes agreeing with class 3 nouns are exemplified using the noun stem **-dótó-** with the class 3 the noun-class enclitic **-mɔ**, the vowel of which is changed into [+high] (**-mu**) following a [–high] noun stem vowel.²⁰⁷

(5.22) <i>adjective</i>	mu-dótó-mu	mo-kúdí	'a short bow'
	3-bow-3	3.ADJ-short	
<i>enumerative</i>	mu-dótó-mu	mí-motí	'one bow'
	3-bow-3	3.NUM-one	
<i>associative</i>	mu-dótó-mu	má-nza	'a good bow'
	3-bow-3	3.ASS-good	
<i>demonstrative</i>	mu-dótó-mu	mɔ	'that bow'
	3-bow-3	3.DEM.I	

A peculiarity of class 3 is that nominal and enumerative class 3 prefixes are used for plural quantities (2, 3 and 4), instead of the noun-class prefixes of the plural part of the gender. In 'two bones' and 'two baskets' below, class 9 nominal and enumerative prefixes would have been expected. For comparison, plural concord with adjectives and demonstratives is added:

(5.23)	mu-kúwo	mí-motí	3-bone	3.NUM-one	'one bone'
	mu-kúwo	mí-ǂǂ	3-bone	3.NUM-two	'two bones'
	kúwo	yí-díngídingĩ	9.bone	9.ADJ-big	'big bones'
	kúwo	yɔ	9.bone	9.DEM.I	'these bones'
(5.24)	mu-mbí	mí-motí	3-basket	3.NUM-one	'one basket'
	mu-mbí	mí-ǂǂ	3-basket	3.NUM-two	'two baskets'
	mbí-yɔ	yí-díngídingĩ	9.basket-9	9.ADJ-big	'big baskets'
	mbí-yɔ	yɔ	9.basket-9	9.DEM.I	'these baskets'

²⁰⁷ The plural form in class 9 also has a noun-class enclitic: **dótó-yi**, 9.bow-9, 'bows'.

lǎnzú	'5:tooth'	mǎnzú	'6:tooth'
líso	'5:eye'	míso	'6:eye'
lúnga	'5:danger, war'	múnga	'6:danger, war'

Notice how V₁-elision also applies to the vowel of the noun-class prefix of class 6.

Class 6

The basic form of the class 6 prefix is **ma-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] counterpart of /a/ and the prefix surfaces as **mo-**. Some class 6 nouns take the noun-class enclitic **-mo**, which is subject to ATR vowel harmony and vowel-height dissimilation (see 5.1.2). Preceding vowel-initial nouns with a low or high vowel, the vowel /a/ of the class 6 prefix is lost through V₁-elision (see 3.3.1); examples were given in (5.27).

Examples of plural class 6 nouns are:

(5.28)	ma-gugú	'6-reed'
	ma-ngbín gbí	'6-swelling of the testicles'
	ma-túnda	'6-Pygmy shelter'
	mo-fidí	'6-leaf, sp.'
	mo-ngusú	'6-elbow'
	mo-zuní	'6-proverb'

The concord affixes agreeing with class 6 nouns are:

(5.29)	<i>adjective</i>	ma-kpumúká ma-kékéké	'small things'
		6-thing 6.ADJ-small	
	<i>enumerative</i>	ma-syé má-bǎ	'two days'
		6-day 6.NUM-two	
	<i>associative</i>	mo-gubó má-nza	'good jobs'
		6-work 6.ASS-good	
	<i>demonstrative</i>	ma-kǎ mó	'those springs'
		6-spring 6.DEM.I	

Class 7

The basic form of the class 7 prefix is **si-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **si-**. Class 7 nouns take the noun-class enclitic **-so**, which is subject to ATR vowel harmony and vowel-

height dissimilation (see 5.1.2). Preceding vowel-initial nouns with a low vowel, the vowel /u/ of the class 7 prefix **st-** is desyllabified (see 3.3.5). Preceding a root-initial high vowel, V₁-elision applies (see 3.3.1).

Classes 7 and 8 have been called class 19 and 13 in earlier work. Because of concord prefixes and enclitics with /t/, reminiscent of class 13 in some other Bantu languages, class 8 has been included in class 13 and class 7 in class 19 in Kutsch Lojenga (2002), Nederveen (2004), De Wit (2006) and Augustin (2010).²⁰⁹

Class 7 needs to be set up because the noun-class prefixes and the gender are different from 19 (class 7 **st-** and pairing with class 8 vs. class 19 **ɿ-** and pairing with class 13). Class 8 needs to be distinguished on the basis of the concords class 8 nouns take. Languages in Bantu Zone C and D for which Maho reports 19/13 all have 7/8 as well (Maho 1999:291-298). Lack of class 7 while having 19 is strange in the light of the observation that noun classes 7 and 8 have a wide distribution over the Bantu area.

Examples of class 7 nouns are (the class 8 plural forms are presented in the third column):

(5.30)	<u>Class 7</u>	<u>Singular</u>	<u>Class 8</u>	<u>Plural</u>
	st-bě-su	'7-thigh-7'	6ɿ-bě	'8-thigh'
	st-lyá-su	'7-greed, cohabitation-7'	6ɿ-lyá	'8-greed, cohabitation'
	si-wá-su	'7-bell for a hound-7'	6ɿ-wó	'8-bell for a hound'
	syǎ'ngá-su	'7:year, dry season-7'	6yǎnga	'8:year, dry season'

One noun in class 7, **si-kǎ-su** '7-loft, drying shed-7', has a plural form in class 8, **6ɿ-kǎtu** '8-loft, drying shed', and in class 13, **kǎ-tu** '13.loft, drying shed-13'.²¹⁰

²⁰⁹ Class 19/13 pairings are reported in the northern Bantu area (Katamba 2003:109). According to Maho (1999:199): "Class 19 has a restricted distribution, being mainly confined to the rainforest area. In most languages, class 19 functions as a singular class (...). The most common pairing involving singular class 19 is that of 19/13, though 19/8 is found in a number of languages in the upper western parts, specifically zones A, B and H."

²¹⁰ The [+ATR] value of the vowel of the noun-class prefix **6ɿ-** shows that, underlyingly, the

Examples of the concord affixes agreeing with class 7 nouns are:

(5.31) <i>adjective</i>	st-wá-su sí-dingĩ	'a big bell for a hound'
	7-bell for a hound-7 7.ADJ-big	
<i>enumerative</i>	st-wá-su sí-motĩ	'one bell for a hound'
	7-bell for a hound-7 7.NUM-one	
<i>associative</i>	st-wá-su sá-nza	'a good bell for a hound'
	7-bell for a hound-7 7.ASS-good	
<i>demonstrative</i>	st-wá-su sɔ	'that bell for a hound'
	7-bell for a hound-7 7.DEM.I	

Class 8

The basic form of the class 8 prefix is **ɓi-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **ɓi-**. Preceding vowel-initial nouns with a low vowel, the vowel /ɪ/ of the class 8 prefix is desyllabified (see 3.3.5). Preceding a root-initial high vowel, V₁-elision applies (see 3.3.1).

The class 8 nouns in my data, which are not listed in (5.30), are presented here (in the third column, the class 7 singular forms are given):

(5.32) <u>Class 8</u>	<u>Plural</u>	<u>Class 7</u>	<u>Singular</u>
ɓi-kātu	'8-loft, drying shed'	si-kǎ-su	'7-loft, drying shed-7'
ɓíloɓílo	'8:burnt log'	sílosí ⁴ lá-su	'7:burnt log-7'
ɓíngo	'8:neck, throat'	sí ⁴ ngá-su	'7:neck, throat-7'
ɓíngo	'8:climbing harness'	-	
ɓukú	'8:burning piece of wood'	sukú-so	'7:burning piece of wood-7'
ɓukwá	'8:yam (generic)'	sukwá-su	'7:yam (generic)-7'
ɓyangító	'8:shelter, den, lair'	syangí-sɔ	'7:shelter, den, lair-7'

Two nouns in class 8 in (5.32) have a final syllable which has the same shape as the noun-class enclitic of class 13 -**tó**: **ɓi-kātu** '8-loft, drying shed' and **ɓyangító**

noun stem is [+ATR]. Preceding the [-ATR] noun-class enclitics, /o/ is changed to /a/, see 3.2.4.3.

'8:shelter, den, lair'. I assume that these final syllables are copies of the class 13 enclitic. **ḃlloḃllo** '8:burnt log' is a reduplicated form both in classes 7 and 8.

In addition to the nouns listed in (5.32), there are three class 7/8 pairs in my data in which one or both forms are petrified: **solṭ-so** '7:knife, sp.-7', **ḃyḃlo** '8:knife, sp.', **sú-mbá-su** '7:cold-7', **ḃí-mba** '8-cold' and **syă-ngí-so** '7:elephant trap-7', **ḃyíngo** '8:elephant trap'.

Examples of the concord affixes agreeing with class 8 nouns are:

(5.33) <i>adjective</i>	ḃu-bě ḃo-kúkúkú ²¹¹	'short thighs'
	8.thigh 8.ADJ-short	
<i>enumerative</i>	ḃu-bě ḃí-sáá	'three thighs'
	8.thigh 8.NUM-three	
<i>associative</i>	ḃu-bě ḃá-nza	'nice thighs'
	8.thigh 8.ASS-good	
<i>demonstrative</i>	ḃu-bě ḃo	'those thighs'
	8.thigh 8.DEM.I	

Class 9

Class 9 does not have a noun-class prefix. Class 9 is a large and semantically diverse class. It contains nouns from class mergers (see 5.1.4), loanwords (see 5.1.6) and nominalizations (see 7.12.1). Both singular and plural nouns are found in class 9. I have not set up two classes to distinguish singular from plural, because the prefix and the set of concords are identical for the singular and the plural parts of the gender. Some class 9 nouns take the noun-class enclitic **-yḃ**, which is subject to ATR vowel harmony and vowel-height dissimilation (see 5.1.2). In the examples of singular class 9 nouns, plural class 2 + 9 prefixes are added in brackets.

(5.34) kasínda, (ḃa-)	'9.syphilis'
kpéngbé, (ḃa-)	'9.finger'
luḃú, (ḃo-)	'9.debt'
mándé, (ḃa-)	'9.track'

²¹¹ Plural form of **-kúḃú** 'short'.

mbúmí, (6o-)	'9.sand'
ndundú, (6a-)	'9.anvil'
nzoyí, (6a-)	'9.desire'
sǔ, (6a-)	'9.smell, gas'
úzu, (6o-)	'9.island'

The concord affixes agreeing with singular class 9 nouns are:

(5.35) <i>adjective</i>	tíko yí-dingĩ	'a big field'
	9.field 9.ADJ-big	
<i>enumerative</i>	tíko yí-motí	'one field'
	9.field 9.NUM-one	
<i>associative</i>	tíko yá-si	'the whole field'
	9.field 9.ASS-all	
<i>demonstrative</i>	ngúpá yó	'that hill'
	9.hill 9.DEM.I	

Examples of plural class 9 nouns are:

(5.36)	<u>Class 9</u>	<u>Plural</u>	<u>Class 3</u>	<u>Singular</u>
	gǔgǔ	'9.top of a roof'	mu-gǔgǔ	'3-top of a roof'
	mbanzí	'9.side'	mu-mbanzí	'3-side'
	giní	'9.legend, story'	mu-giní	'3-legend, story'
	pumbí	'9.ladle'	mu-pumbí	'3-ladle'

(5.37)	<u>Class 9</u>	<u>Plural</u>	<u>Class 15</u>	<u>Singular</u>
	pasí	'9.peeling'	ku-pasí-ko	'15-peeling-15'
	ngungí	'9.plant, sp.'	ku-ngungí-ko	'15-plant, sp.-15'

The concord affixes agreeing with class 9 nouns (plurals of classes 3 and 15 nouns) are:

(5.38) <i>adjective</i>	pumbí yí-dingĩ	9.ladle 9.ADJ-big	'big ladles'
	pasí yí-dingĩ	9.peeling 9.ADJ-big	'big peelings'
<i>enumerative</i>	mu-pumbí mí-sáá	3-ladle 3.NUM-three	'three ladles'
	pasí yí-sáá	9.peeling 9.NUM-three	'three peelings'
<i>associative</i>	pumbí yá-si	9.ladle 9.ASS-all	'all ladles'
	pasí yá-si	9.peeling 9.ASS-all	'all peelings'

<i>demonstrative</i>	pumbí yó	9.ladle 9.DEM.I	'these ladles'
	pasí yó	9.peeling 9.DEM.I	'these peelings'

These concords are identical to the ones in (5.35) of singular class 9 nouns. The enumerative concord of class 3 in **mu-pumbí mĩ-sáá** is a specific characteristic of class 3, see (5.23) and (5.24).

Liko has prenasalized consonants (see 2.2.6), which occur in all positions in the noun and in all word classes. The only combinations of initial nasal + consonant in class 9 nouns are those which are analysed elsewhere as prenasalized consonants. Therefore a separate subclass with N- prefix has not been set up.²¹² Swahili loanwords with a N-prefix preceding a consonant not found in the set of Liko prenasalized consonants are adapted to Liko syllable structure, e.g. the Congolese variety of Swahili²¹³ *mfalme* 'king', *msumari* 'nail' and *mchele* 'husked rice' are borrowed as **mu-fálume** '1-king', **mu-sumáni** '3-nail' and **muséle** '9.rice'.

Examples of class 9 nouns with prenasalized consonants and their class 2 + 9 plural forms:

(5.39)	<u>Class 9</u>	<u>Singular</u>	<u>Class 2 + 9</u>	<u>Plural</u>
	mbígo	'9.drill'	6o-mbígo	'2 + 9-drill'
	ndó6ó	'9.rainy season'	6a-ndó6ó	'2 + 9-rainy season'
	ngága	'9.chin'	6a-ngága	'2 + 9-chin'
	ngbóngú	'9.tree, sp.'	6o-ngbóngú	'2 + 9-tree, sp.'
	nzéde	'9.special meal' ²¹⁴	6a-nzéde	'2 + 9-special meal'

Class 9a

The noun-class prefix of class 9a is **ɪ-**. Preceding [+ATR] roots, the vowel is changed into **ĩ-**. When preceded by class 2 **6a-**, the noun-class prefix of class 9a is

²¹² Prenasalized consonants also occur in initial position in class 1a nouns. Examples of 1a/2 gender with prenasalized consonants are: **mbumá** '1a.gaboon viper', **6a-mbumá** '2-gaboon viper', **ndífi** '1a.animal, sp. (living on river banks)', **6o-ndífi** '2-animal, sp.' and **nganyá** '1a.fish, sp.', **6a-nganyá** '2-fish, sp.'

²¹³ Source: Dictionnaire Swahili-Français. Lenselaer (1983).

²¹⁴ I.e. for a male fiancé.

retained and height coalescence of the class 2 and the class 9a vowels takes place.

Examples include:

(5.40)	<u>Class 9a</u>	<u>Singular</u>	<u>Class 2 + 9</u>	<u>Plural</u>
	ɪ-dũgá	'9a-peanut butter'	ʃɛ-dũgá	'2 + 9:9a-peanut butter'
	í-bǎtu	'9a-vine, sp.'	ʃě-bǎtu	'2 + 9:9a-vine, sp.'
	i-dũlu	'9a-custom'	ʃe-dũlu	'2 + 9:9a-custom'
	í-kawé	'9a-scabies'	ʃě-kawé	'2 + 9:9a-scabies'

Concords of class 9a nouns are the same as those of class 9:

(5.41)	<i>adjective</i>	ɪ-tambǎla yí-dingĩ	'a big scarf'
		9a-scarf 9.ADJ-big	
	<i>enumerative</i>	ɪ-tambǎla yí-motí	'one scarf'
		9a-scarf 9.NUM-one	
	<i>associative</i>	ɪ-tambǎla yá-sɪ	'the whole scarf'
		9a-scarf 9.ASS-all	
	<i>demonstrative</i>	ɪ-tambǎla yɔ	'that scarf'
		9a-scarf 9.DEM.I	

Class 9b

Class 9b contains Infinitives only, which are verbal nouns from a morphological point of view, because they have a noun-class prefix and concord affixes.²¹⁵ They have the same concords as class 9 nouns, but their noun-class prefix is different. Because of these characteristics, they are seen as a subclass of class 9. The noun-class prefix of class 9b is **ká-**.²¹⁶ Before [+ATR] stems the prefix surfaces as **kó-**. The vowel of the class 9b prefix has a H tone irrespective of the tone on the first syllable of the verbal base. Positing class 9b for Infinitives is unusual as in Bantu languages verb Infinitives are generally assigned to class 15.²¹⁷ In Liko, however, both the noun-class prefix and the concords of class 15 are different from the Infinitives. The noun-class prefix of class 15 is **ku-**, whereas the prefix for

²¹⁵ Infinitives also have verbal characteristics such as the possibility to include an object or reflexive prefix as well as verbal extensions.

²¹⁶ I would like to thank André Motingea Mangulu (p.c.) for drawing attention to the similarity between the general preposition **ká** and the class 9b prefix of verbal nouns.

²¹⁷ Schadeberg (2003:80) mentions that class 9 is sometimes employed for Infinitives.

Infinitives is **ká-**. Class 15 concords are **kó-** (adjective), **kó-** (enumerative) and **kwá-** (associative), whereas the Infinitive concords are **yí-** (adjective) and **yá-** (associative), identical to class 9 concords.

Examples of class 9b Infinitives are:

- (5.42) **ká-tuk-á** '9b-take care of s.o.-FV'
ká-túk-á '9b-leave-FV'
kó-dík-ó '9b-show disapproval-FV'
kó-dík-ó '9b-cover-FV'

The concord affixes agreeing with class 9b nouns are exemplified in the following phrases: with an adjective prefix (5.43a) and with an associative prefix (5.43b). Concord of an Infinitive with a numeral has not been attested. Combining an Infinitive with a demonstrative is rejected by my Liko consultants.

- (5.43)a. **ká-lyály-á yí-dingĩ**
 9b-graze-FV 9.ADJ-big
 'the big grazing', i.e. eating a lot
- b. **ká-ag-ă yá-⁴kú-slí**
 9b-leave-FV 9.ASS-17-downstream
 'the downstream leaving', i.e. going downstream

Class 2 + 9

The basic form of the prefix of plural class 9 nouns is **ḡa-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **ḡo-**. This prefix is analysed as a combination of the class 2 prefix **ḡa-** and a class 9 prefix, based on the concords of this class which are a combination of class 2 **ḡa-** and a class 9 prefix:²¹⁸

- (5.44) *class 2 + 9*
- | | |
|--------------------|---------------|
| adjective prefix | ḡa-yí- |
| enumerative prefix | ḡa-yí- |
| associative prefix | ḡa-yá- |
| demonstrative | ḡa-yó |

²¹⁸ Related Boa has complex 2 + 9 prefixes as well (Motingea 2005:53).

Class 2 + 9 is the regular noun class for plural of class 9 nouns. Examples of class 2 + 9 nouns are:

(5.45)	<u>Class 9</u>	<u>Singular</u>	<u>Class 2 + 9</u>	<u>Plural</u>
	kópí	'9.shield'	6a-kópí	'2 + 9-shield'
	nzúyɪ	'9.body'	6a-nzúyɪ	'2 + 9-body'
	dúnga	'9.winnowing basket'	6o-dúnga	'2 + 9-winnowing basket'
	túmó	'9.flood'	6o-túmó	'2 + 9-flood'

Evidence for the analysis as two prefixes, the class 2 prefix **6a-** and the class 9 adjective, enumerative or associative prefix comes from the examples below. Only the prefix adjacent to the noun harmonizes to the [+ATR] feature, which indicates that two prefixes are involved.

(5.46)	<i>adjective</i>	6a-sembé bayi-kúkúkú	'short fences'
		2 + 9-fishing fence 2 + 9.ADJ-short	
		6o-tíko bayi-dingĩ	'many fields'
		2 + 9-field 2 + 9.ADJ-big	
<i>enumerative</i>		6a-sembé bayi-sáá	'three fences'
		2 + 9-fishing fence 2 + 9.NUM-three	
		6o-tíko bayi-sáá	'three fields'
		2 + 9-field 2 + 9.NUM-three	
<i>associative</i>		6a-sembé bayi- ⁴ ngbángányá	'open fences'
		2 + 9-fishing fence 2 + 9.ASS-open	
		6a-kpɔzyɔ bayi-ndodĩ	'young plants'
		2 + 9-plant, sp. 2 + 9.ASS-sticky, young	
<i>demonstrative</i>		6a-sembé bayi	'those fences'
		2 + 9.fishing fence 2 + 9.DEM.I	
		6a-kpɔzyɔ bayi	'those plants'
		2 + 9.plant, sp. 2 + 9.DEM.I	

Class 13

Class 13 does not have a noun-class prefix. Class 13 nouns take the noun-class enclitic **-tɔ**, which is subject to ATR vowel harmony and vowel-height dissimilation (see 5.1.2). Examples are (the class 19 singulars are presented in the third column):

(5.47)	<u>Class 13</u>	<u>Plural</u>	<u>Class 19</u>	<u>Singular</u>
	gbă-tu	'13.eyebrow-13'	ɪ-gbă-su	'19-eyebrow-19'
	kpɔngɔ-tu	'13.bed-13'	ɪ-kpɔngɔ-su	'19-bed-19'

kpókúpókú-tò	'13.skull, forehead-13'	ɿ-kpókúpókú-sò	'19-skull, forehead-19'
tí-tò	'13.whistle-13'	ɿ-sí-sò	'19-whistle-19'
bokú-to	'13.skin, bark-13'	i-bokú-so	'19-skin, bark-19'
kukũ-to	'13.clapper on door-13'	i-kukũ-so	'19-clapper on door-19'
tikimá-tu	'13.tree, sp.-13'	i-tikimá-su	'19-tree, sp.-19'

Examples of the concord affixes agreeing with class 13 nouns are:

- (5.48) *adjective* bukú-tò ti-kúkúkú 'short shrubs'
 13.shrub, drug-13 13.ADJ-short
- enumerative* bukú-tò tí-sáá 'three shrubs'
 13.shrub, drug-13 13.NUM-three
- associative* bukú-tò tò-^hpólí 'light (weight) shrubs'
 13.shrub, drug-13 13.ASS-light (weight)
- demonstrative* bukú-tò tò 'those shrubs'
 13.shrub, drug-13 13.DEM.I

Class 14

The basic form of the class 14 prefix is **ɓu-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **ɓu-**. Most abstract nouns are in class 14. The majority of class 14 nouns are plants and trees (the fruit of which are often found in class 5). Examples of class 14 nouns are: (in brackets, the noun-class prefixes of the plurals in class 6 are given):

- (5.49) ɓu-ɓǎ '14-appetite'
 ɓu-dĩ '14-cold'
 ɓu-gɔgɔ '14-sunset, evening'
 ɓu-dĩlĩdĩlí '14-doubt'
 ɓu-ɓombu, (ma-) '14-fruit tree, sp.'
 ɓu-ɓedũɓedũ, (mo-) '14-fruit vine, sp.'
 ɓu-mbílí, (ma-) '14-fruit tree, sp.'
 ɓu-mbútí, (mo-) '14-tree, sp.'

There are two class 14 nouns with an initial vowel in my data: **ɓu-utó** (**ma-utó**) '14-tree, sp.' and **ɓwalí** '14:sperm'.

Examples of the concord affixes agreeing with class 14 nouns are:

(5.50) <i>adjective</i>	6u-tambú 6u-kúfú	'a short tree'
	14-tree, sp. 14.ADJ-short	
<i>enumerative</i>	6u-6ála 6í-motí	'one cohabitation'
	14-cohabitation 14.NUM-one	
<i>associative</i>	6u-mbútí 6ó- ⁺ pólí	'a light (weight) tree'
	14-tree, sp. 14.ASS-light (weight)	
<i>demonstrative</i>	6u-mbútí 6ó	'that tree'
	14-tree, sp. 14.DEM.I	

Class 15

The basic form of the class 15 prefix is **ku-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **ku-**. All class 15 nouns have an enclitic, which is underlyingly **-ko** (see 5.1.2). Examples of class 15 nouns are:

(5.51) ku-búsyá-ku	'15-smithy-15'	ma-búsyá	'6-smithy'
ku-kwá-ku	'15-death-15'	mo-kwó	'6-death'
ku-ngá-ku	'15-fish hook-15'	ma-ngá	'6-fish hook'
kú ⁺ wá-ku	'15:thorn-15'	mówo	'6:thorn'
kú-mǎ ⁺ ngú-ko	'15:branch-15'	mǎngu	'9.branch'
kwá ⁺ lá-ku	'15:nail, claw-15'	mála	'6:nail, claw'

The final example shows that the vowel of the noun-class prefix is desyllabified preceding noun-initial /a/.

Examples of the concord affixes agreeing with class 15 nouns are:

(5.52) <i>adjective</i>	ku-pasí-ko kú-dingĩ	'a big peeling'
	15-peeling 15.ADJ-big	
<i>enumerative</i>	ku-pasí-ko kú-motí	'one peeling'
	15-peeling 15.NUM-one	
<i>associative</i>	ku-vĩ-ko kwó- ⁺ pólí	'a light (weight) net'
	15-net 15.ASS-light (weight)	
<i>demonstrative</i>	ku-vĩ-ko kwó	'that net'
	15-net 15.DEM.I	

Class 17

The basic form of the class 17 prefix is **kú-**.²¹⁹ Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **kú-**. A plural form of nouns in class 17 is rare, there are no examples in natural or translated texts in my data. Using elicitation, the noun-class prefix of the plural is class 2 **ḡa-**, which precedes the class 17 prefix and the noun stem. The vowel of the plural prefix does not assimilate to the [+ATR] value of the noun, e.g. **ḡa-kú-bi** 'other riversides' because of the presence of the class 17 prefix.

(5.53)	kú-ḡombólo	'17-back'
	kú-gǔ, (ḡa-)	'17-top'
	kú-silí	'17-downstream'
	kú-syáku	'17-side across a river'
	kú-sǎ	'17-inside'
	kú-bi, (ḡa-)	'17-riverside'
	kú-bumǔtí, (ḡa-)	'17-side'
	kú-mbúso	'17-back'
	kú-nzi	'17-outside'
	kú-silí	'17-bottom'
	kú-syokoto ²²⁰ , (ḡa-)	'17-bottom of a bed'
	kámbwa	'17:front'

The nouns in class 17 are locative nouns.²²¹ They function syntactically as adjuncts. The productive locative system in Liko uses the general preposition **ká**. The prefix **kú-** of noun-class 17 cannot be combined with nouns of other noun classes.

²¹⁹ One of the location adverbs has the same form.

²²⁰ An alternative form is **kútokosyo**.

²²¹ According to the definitions used by Gregoire in her study *Les locatifs en bantou*, the class 17 forms in Liko are 'locatifs restreints' because "il est constitué à partir d'un *substantive restraint*, c'est-à-dire d'un substantive que le système utilise exclusivement ou principalement en locative avec des sens comme "au-dessus (de)", "au-dessous (de)", "dehors", "à l'intérieur (de)" etc.." (1975:4). I have used the term locative nouns because Liko does not have the other possibilities she mentions, i.e. locative nouns which have a locative prefix instead of their noun-class prefix, or nouns with a locative pre-prefix. There

The concord affixes agreeing with class 17 nouns are:

(5.54) <i>adjective</i>	kú-gǔ yí-kédě	'a small top'
	17-top 17.ADJ-small	
<i>enumerative</i>	kú-gǔ yí-sáá ²²²	'three tops'
	17-top 17.NUM:three	
<i>associative</i>	kú-gǔ wa-ɪ-kpakpá-su	'top of a hat'
	17-top 17.ASS-19-hat-19	
<i>demonstrative</i>	kú-gǔ yó	'that top'
	17-top 17.DEM.I	

The associative prefix **wa-** in **kú-gǔ wa-ɪ-kpakpá-su** 'top of a hat' is the regular associative concord for class 17.

I assume that in **kámbwa** '17:front', the vowel of the noun-class prefix has been lost through V₁-elision (see 3.3.1). **kámbwa** is a class 17 noun, because it takes the same concords as the other nouns in class 17, e.g. **kámbwa yí-kédě**, 17:front 17.ADJ-small, 'a small front side',²²³ and **kámbwa wo-túmó**, 17:front 17.ASS-9.flooding, 'before the flooding', literally, 'the front side of flooding'.

Class 19

The basic form of the class 19 prefix is **ɪ-**. Preceding [+ATR] roots, the prefix vowel takes the [+ATR] quality and the prefix surfaces as **i-**. Eight class 19 nouns have or optionally have prefix **st-**. Class 19 nouns take the same noun-class enclitic as class 7, **-sɔ**, which is subject to ATR vowel harmony and vowel-height dissimilation (see 5.1.2).

Examples of class 19 nouns are (the class 13 plural forms are presented in the third column):

(5.55) <u>Class 19</u>	<u>Singular</u>	<u>Class 13</u>	<u>Plural</u>
ɪ-ḃalá-sɔ	'19-stool-19'	ḃalá-tu	'13.stool-13'
(s)ɪ-bukú-sɔ	'19-shrub, drug-19'	bukú-tɔ	'13.shrub, drug-13'

is no locative prefix in the language attested with noun classes other than 17.

²²² The numeral indicates plural, but **kúgǔ** has class 17 (singular) form.

²²³ Also, with adjective-to-adverb derivation, 'a bit forward'.

(s)ɪ-múí-sɔ	19-circumcision-19	múí-tɔ	'13.circumcision-13'
si-kpí-so	'19-hat-19'	kpí-to	'13.hat-13'

Examples of the concord affixes agreeing with class 19 nouns are:

(5.56) <i>adjective</i>	(s)ɪ-múí-sɔ sí-dingĩ	'a big circumcision'
	19-circumcision-19 19.ADJ-big	
<i>enumerative</i>	(s)ɪ-bukú-sɔ sí-motí	'one shrub'
	19-shrub-19 19.NUM-one	
<i>associative</i>	(s)ɪ-bukú-sɔ sá-nza	'a good shrub'
	19-shrub-19 19.ASS-good	
<i>demonstrative</i>	(s)ɪ-múí-sɔ sɔ	'that circumcision'
	19-circumcision-19 19.DEM.I	

There is a regular correspondence between the plosives /t/ and /d/ in some class 13 noun roots (plurals of nouns in the gender 19/13) and the fricatives /s/ and /z/ in class 19 noun roots. There are only a few cases in my data where it occurs, listed here:

(5.57) ɪ-sásá-su	'19-feather-19'	tátá-tu	'13.feather-13'
ɪ-sí-sɔ	'19-whistle-19'	tí-tɔ	'13.whistle-13'
ɪ-zagǎ-su	'19-raffia arrow-19'	dagǎ-tu	'13.raffia arrow-13'
(s)ɪ-zingi-só	'19-bunch of bananas-19'	dingi-tó	'13.bunch of bananas-13'

5.1.2 Noun-class enclitics

A characteristic of the Liko noun-class system is the existence of noun-class enclitics in addition to noun-class prefixes. Noun-class enclitics²²⁴ are also reported in related Boa (C44) (Motingea 2005:50ff) and in Pagabete (C401) (Boone and Olson 1995:20). All or almost all nouns in classes 7, 13, 15 and 19 have a noun-class enclitic. In classes 3, 5, 6 and 9, nouns with a noun-class enclitic are rare. Nouns in classes 6 and 9 with a noun-class enclitic are invariably plurals, pairing

²²⁴ Also referred to as nominal suffixes. I regard them as enclitics because they do not assimilate to the [+ATR] value of roots in the same way as suffixes do and because they probably originate from type I demonstratives.

with classes 3, 5 or 15. An exhaustive list of nouns with a noun-class enclitic in classes 3, 5, 6 and 9 in my data is given in this section.

The underlying shape of noun-class enclitics is **-Cɔ**, with surface realizations /ɔ/, /o/ and /u/. The realization of the vowel of a noun-class enclitic is determined by the values of the preceding vowel for [ATR] and [high], see 3.2.4.3 for description and analysis of the underlying vowel and for vowel-height dissimilation. Surface realizations of the noun-class enclitics are given in Table 14. For comparison, the type I demonstratives, possibly at the origin of the noun-class enclitics in Liko, are added in the third column.

Table 14 Noun-class enclitics - surface forms

Class	Enclitic	DEM.I
3	-mʊ	mɔ
5	-lʊ	lɔ
6	-mo, -mʊ	mɔ
7	-sɔ, -so, -sʊ	sɔ
9	-yɔ, -yo, -yʊ, -yɪ	yɔ
13	-tɔ, -to, -tʊ	tɔ
15	-kɔ, -ko, -kʊ	kwɔ
19	-sɔ, -so, -sʊ	sɔ

The noun classes where the majority of nouns have a noun-class enclitic is attested, i.e. classes 7, 13, 15 and 19, show all three potential realizations of the underlying vowel /ɔ/. In class 9, three realizations are also found, but /ɔ/ is missing in classes 3 and 6 and /o/ is absent in class 5. The noun-class enclitic of class 9 has a fourth surface form, **-yɪ**.

The previous section contains examples of noun-class enclitics for classes 7, 13, 15 and 19. The noun stems in classes 3, 5, 6 and 9 with an enclitic in my data are listed below, together with their singular or plural counterpart.

Class 3:

(5.58)	mʊ-mbɪ	'3-basket'	mbɪ-yɔ	'9-basket-9'
	mu-gɪ	'3-village'	gɪ-yo	'9.village-9'

mú-kpú-mú	'3-stick, sp.-3'	kpú-yú	'9.stick, sp.-9'
mú-dótó-mú	'3-bow-3'	dótó-yí	'9.bow-9'
mú-kéké-mú	'3-lath-3'	kéké-yí	'9.lath-9'
mú-kókó-mú	'3-trunc-3'	kókó-yí	'9.trunc-9'

In the above set, the expected forms of the noun-class enclitic of **-kpú-** would be **-mó** for class 3 and **-yó** for class 9. With respect to the last class 9 nouns above, the vowel of the enclitic, /ɪ/ instead of /u/, is ideosyncratic.²²⁵

Class 5:

- (5.59) lí-ká-lú '5-ember-5' má-ká-mú '6-ember-6'
 lí-tá-lú '5-stone-5' má-tá-mú '6-stone-6'

Possible petrified forms of the noun-class enclitic of class 5 are (plural class 6 nouns are given in brackets):

- (5.60) lí-gílíló '5-rod to lock a door' (má-gílíló)
 lí-bébélú '5-summit, top' (má-bébélú)
 lí-kakalú '5-big anthill' (má-kakalú)
 lí-ngbengbélú '5-tree, sp.' (má-ngbengbélú)

Apart from the two class 6 plurals of class 5 nouns given in (5.59), there is one other class 6 noun in my data with a noun-class enclitic: **mó-í-mó** '6-bark-6', the plural of **ku-í-ko** '15-bark-15'.

Certain nouns with a noun-class enclitic display a peculiar tonal phenomenon which I have not been able to understand: a tone realized at a pitch between High and Low on the final TBU of the noun. In the examples, the notation of a non-automatic downstepped H tone is used. I will present the details and leave this for further research. Table 15 presents an overview of what is found in my data:

²²⁵ Class 15 also has some unexpected vowels in the surface form of its noun-class enclitic. The two cases in my data are: **ku-lekú-ke** '15-left side-15' and **ku-ngú-ku** '15-chequered mat-15' (they have /e/ or /u/, instead of /o/).

Table 15 Surface tone on the final TBUs of noun stems and noun-class enclitics²²⁶

Underlying tone Noun stem	Noun class	Surface tone Noun stem	Surface tone Noun-class enclitic
L.L	13 and 19	L.L	H
L.H or L + H	7, 13, 15 and 19	L.H or LH	L
H	7, 13, 15 and 19	H	L
H.L	7, 13, 15 and 19	H.'H	L
H.H	13 and 19	H.H	L
(L.)H.H	15	(L.)H.'H	L

One noun with a noun-class enclitic has a L tone pattern. The tone on its noun-class enclitic is High: **(s)i-zingi-só** '19-bunch of bananas-19', **dingi-tó** '13.bunch of bananas-13'.²²⁷

A noun with a H tone on the final TBU preceded by a L tone, does not show tonal changes when it has a noun-class enclitic, for example:

- (5.61)a. kú-bísyá-kú '15-smithy-15' ma-bísyá '6-smithy'
 kú-lulú-ko '15-shadow-15' mo-lulú '6-shadow'
 kú-nzumbú-kó '15-plant, sp.-15' nzumbú '9.plant, sp.'
 kú-pasí-kó '15-peeling-15' pásí '9.peeling'
 i-bikyá-su '19-fury, madness-19' bikyá-tu '13.fury, madness-13'
 i-gumí-so '19-root, stump-19' gumí-to '13.root, stump-13'
- b. st-bě-su '7-thigh-7' ɓt-bě '8-thigh'
 ku-vĩ-ko '15-fishing net-15'²²⁸ mo-vĩ '6-fishing net'
 t-kǎ-su '19-fish shelter-19'²²⁹ kǎ-tu '13.fish shelter-13'

Examples of monosyllabic nouns with a H tone are:

²²⁶ Nouns in classes 3, 5, 6 and 9 with noun-class enclitics are not included in this table because of they are rare and nouns in these classes often have lexicalized enclitics.

²²⁷ The surface tone on type 1 demonstratives is also High following a noun with a L tone pattern. Otherwise, the surface tone on a type I demonstrative is identical to the tone that precedes it, which is different from the surface tone of noun-class enclitics. See 6.1.2.

²²⁸ I.e. a circular fishing net.

²²⁹ Also 'compost'.

- (5.62) st-lyá-su '7-greed, cohabitation-7' ɓɪ-lyá '8-greed, cohabitation'
 ku-yá-ku '15-fishing net-15' mo-yó '6-fishing net'
 si-kpí-so '19-hat-19' kpí-to '13.hat-13'

A number of nouns with a noun-class enclitic surfaces with a tone between High and Low (in the examples represented as a non-automatic downstepped H tone) on the final stem TBU, whereas the noun in the paired class with the opposite number has a L tone:

- (5.63) sílosí⁴lá-su '7:burnt log-7' bílobílo '8:burnt log'
 sí⁴ngá-su '7:neck, throat-7' bíngo '8:neck, throat'
 ku-ɓó⁴kú-kɔ '15-hand, arm-15' ma-ɓóku '6-hand, arm'
 ku-kpǔ⁴tá-ku '15-cassava-15' ma-kpǔta '6-cassava'
 kwá⁴lá-ku '15:nail, claw-15' mála '6:nail, claw'
 ku-mǎ⁴ngú-kɔ '15:branch-15' mǎngu '9.branch'
 ku-nzě⁴nzé-ku '15-leaf, sp.-15' nzěnze '9.leaf, sp.'
 ku-pá⁴kú-kɔ '15-leaf, sp.-15' ma-páku '6-leaf, sp.'
 kú⁴wá-ku '15:thorn-15' mówo '6:thorn'

If the noun-class enclitics would have a preceding floating H tone, one would expect that the final TBU in the above examples would be realized with a LH tone. Elsewhere in the language, leftward linking of a H tone to an associated L tone surfaces as a LH tone, not as a tone between High and Low.

One noun, **ku-tíli-ko** '15-ear-15', **mo-tíli** '6-ear', has a H tone on the first and a L tone on the second syllable, regardless of the presence of an enclitic. One other noun, **(s)i-kú⁴bá-su** '19-chest, cough-19', **kú⁴bá-tu** '13.chest, cough-13', has a tone between High and Low preceding the enclitic in both parts of the gender.

Finally, the last two sets have two or more TBUs with a surface H tone preceding a noun-class enclitic. The first set shows a sequence of two H tones in classes 19 and 13. In class 15 nouns, the second High is non-automatic downstepped.

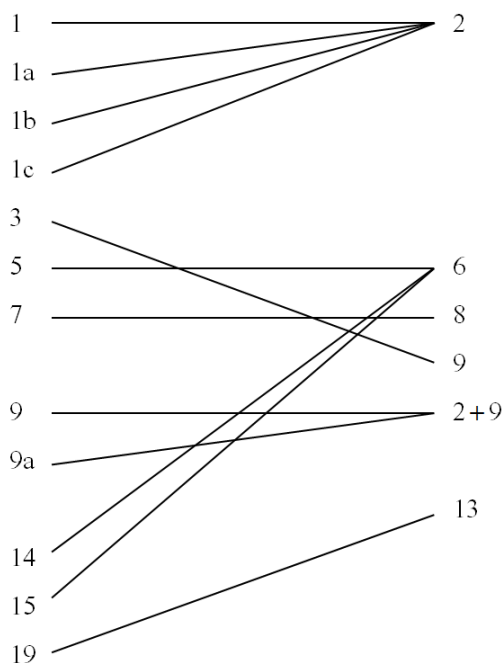
- (5.64) ɪ-kúkú-sɔ '19-wooden musical instrument-19' kúkú-tɔ '13.wooden musical instrument-13'
 st-panání-sɔ '19-love-19' panání-tɔ '13.love-13'

i-kpóngóǎ-su	'19-shell, carapace-19'	kpóngóǎ-tu	'13.shell, carapace-13'
(s)ɪ-ǎókúǎ-sǎ	'19-hip, waist-19'	ǎókúǎ-tǎ	'13.hip, waist-13'
(5.65) ku-ká'sá-ku	'15-leaf, sp.-15'	ma-kásá	'6-leaf, sp.'
ku-mbǎ'ngú-ko	'15-mushroom, sp.-15'	mbǎngú	'9.mushroom, sp.'
ku-kpukú'má-ku	'15-cassava-15'	kpukúmo	'9.cassava'
ku-sí'ngí-ko	'15-shoulder strap-15'	mo-síngí	'6-shoulder strap'
ku-tá'ngá-ku	'15-aubergine-15'	a-tángá	'1b-aubergine'
ku-mbú'tí-ko	'15-plant, sp.-15'	o-mbú'tí	'1b-plant, sp.'

5.1.3 Noun-class pairing

Nouns are not only lexically specified for class, but also for gender, i.e. a pairing of two noun classes, where one refers to a single instance and the other to multiple instances of a given noun. The major noun-class pairing (gender) rules in Liko can be visualized as:

(5.66)



These major noun-class pairing rules are:

(5.67) <u>Single</u>	<u>Multiple</u>	<u>Single</u>	<u>Multiple</u>
Noun _{SG CL1}	→ Noun _{PL CL2}	Noun _{SG CL7}	→ Noun _{PL CL8}
Noun _{SG CL1a}	→ Noun _{PL CL2}	Noun _{SG CL9}	→ Noun _{PL CL2+9}
Noun _{SG CL1b}	→ Noun _{PL CL2}	Noun _{SG CL9a}	→ Noun _{PL CL2+9}
Noun _{SG CL1c}	→ Noun _{PL CL2}	Noun _{SG CL14}	→ Noun _{PL CL6}
Noun _{SG CL3}	→ Noun _{PL CL9}	Noun _{SG CL15}	→ Noun _{PL CL6}
Noun _{SG CL5}	→ Noun _{PL CL6}	Noun _{SG CL19}	→ Noun _{PL CL13}

An example of each pairing is given below (with for each class a [−ATR] and a [+ATR] noun); other examples can be found in the previous two sections.

(5.68) <u>Single</u>		<u>Multiple</u>	
mū-ganzá	'1-blood brother'	ḡa-ganzá	'2-blood brother'
mu-ḡígi	'1-twin'	ḡo-ḡígi	'2-twin'
níné	'1a.aunt'	ḡa-níné	'2-aunt'
míkí	'1a.child'	ḡo-míkí	'2-child'
á-gbɔgbɔ	'1b-footboard'	ḡǎ-gbɔgbɔ	'2:1b-footboard'
o-ngútu	'1b-metal bracelet'	ḡo-ngútu	'2:1b-metal bracelet'
í-ḡeḡí	'1c-snail, sp.'	ḡě-ḡeḡí	'2:1c-snail, sp.'
í-danga	'1c-insect, sp.'	ḡě-danga	'2:1c-insect, sp.'
mū-dǔkpɔ	'3-walking stick'	dǔkpɔ	'9.walking stick'
mu-kúwo	'3-bone'	kúwo	'9.bone'
li-kpɔmú	'5-anvil' ²³⁰	ma-kpɔmú	'6-anvil'
li-ngusú	'5-elbow'	mo-ngusú	'6-elbow'
sí-bě-su	'7-thigh-7'	ḡi-bě	'8-thigh'
sí-wá-su	'7-bell for a hound-7'	ḡi-wó	'8-bell for a hound'
mándé	'9.track'	ḡa-mándé	'2 + 9-track'
luḡú	'9.debt'	ḡo-luḡú	'2 + 9-debt'
ɪ-ḡúgá	'9a-peanut butter'	ḡe-ḡúgá	'2 + 9:9a-peanut butter'
í-kawé	'9a-scabies'	ḡě-kawé	'2 + 9:9a-scabies'
ḡu-kpótɔ	'14-vine, sp.'	ma-kpótɔ	'6-vine, sp.'

²³⁰ I.e. a piece of metal used as anvil.

bu-ndodĩ	'14-tree, sp.'	mo-ndodĩ	'6-tree, sp.'
ku-mbigă-ku	'15-shoulder-15'	ma-mbigă	'6-shoulder'
ku-lí-ko	'15-knee-15'	mo-lí	'6-knee'
si-pangă-su	'19-hide of a palm nut-19'	pangă-tu	'13.hide of a palm nut-13'
i-tikimá-su	'19-tree, sp.-19'	tikimá-tu	'13.tree, sp.-13'

All classes except classes 1, 1c, 7 and 9a occur as one-class genders. One-class genders with many nouns are 1a, 5, 9, 15 and 17. Examples include:

(5.69) dīnga	'1a.period'	bīngo	'8:climbing harness'
oḃílí	'1a.life, world'	ḃongó	'9.distance'
a-ḃāmbi	'1b-soft clay'	kungũku	'9.mist' ²³¹
a-dula	'1b-leprosy'	ḃo-nginí	'2 + 9-pastime'
ḃa-múḃége	'2-melody'	ḃa-sikpí	'2 + 9-jokes'
ḃo-ngulú	'2-infected wound'	tiyă-tu	'13.pus-13'
mu-liḃó	'3-end'	tukú-tḃ	'13.clay-13'
mu-tíwí	'3-advice'	ḃu-ngú	'14-sweat'
lḃ-ḃése	'5-fate'	ḃu-tḃtḃ	'14-laugh'
lḃ-swá	'5-Pygmy behaviour'	ku-luká-ku	'15-sculpture-15'
ma-kána	'6-wine'	ku-dudú-ko	'15-mould-15'
mo-lingó	'6-oil'		

All examples of class 17 in my data are listed in (5.53) above. For Infinitives (class 9b), see examples in (5.42).

It is remarkable that class 4 is missing in the Liko noun-class system. Class 9 serves as the plural noun class for class 3, with a few exceptions, listed here: **mũ** '3:head', **ḃa-mũ** '2 + 9-head', **mũma** '3:belly', **ḃa-mũma** '2 + 9-belly', **mu-pósi** '3-shrub, sp.', **ḃa-pósi** '2 + 9-shrub, sp.', **mu-sopó** '3-intestine', **ḃa-sopó** '2 + 9-intestine'. Class 3 concord for **mũ** is shown in the expressions **na mũ má-pũ** 'with 3:head 3.ASS-strong', meaning: 'stubborn'. In addition to regular pairing with class 5, class 6 is the default plural for classes 14 and 15.

²³¹ Probably from Congo Swahili *ukungu* 'humidity, mist'.

The noun-class pairing rules account for the great majority (over 95%) of dual-class genders. The most common exception to these rules is that certain nouns in classes 5 and 15 pair with class 9 (instead of class 6), if the individual items cannot be counted or if they are considered as a collection. It often but not exclusively concerns flora:

(5.70) <u>Single</u>		<u>Multiple</u>	
lɪ-gɪní	'5-ripe banana'	ɡɪní	'9.ripe banana'
lɪ-ndikó	'5-palm-nut pit'	ndikó	'9.palm-nut pit'
lɪ-pándá	'5-one spot of scabies'	pándá	'9.scabies'
lɪ-séle	'5-grain of rice'	muséle	'9.rice'
ku-kpukú'má-ku	'15-cassava-15'	kpukúmo	'9.cassava'
kú-ngungí-kó	'15-plant, sp.-15' ²³²	ngungí	'9.plant, sp.'

Most nouns referring to objects in which individual items are not distinguished, are indeed found in class 9. This can be seen in the following one-class gender nouns:

(5.71)	ǎángú	'9.blood'
	butulú	'9.mud'
	gbángítá	'9.thick forest'
	musugǔ	'9.rubbish'
	mbúmí	'9.sand'

There are, however, also cases in which the noun referring to a single instance is in class 5, whereas the noun for the quantity of which individual items cannot be counted is found in classes 6 or 13, e.g.:

(5.72)	lɪ-mbúnga	'5-hailstone'	ma-mbúnga	'6-hail'
	lɪ-ngatá	'5-single uncombed hair'	ma-ngatá	'6-uncombed hair'
	lɪ-tónító	'5-piece of garbage'	tónító ²³³	'13.garbage'
	lɪ-tú'kátu	'5-single hair'	tú'kátu	'13.hair'

²³² The leaves of this plant are used as toilet paper.

²³³ The class 5 forms in this and the next example shows that the class 13 enclitic **-to** has become part of the noun stem. In **tú'kátu**, the underlying vowel of the second syllable is /o/.

Class 6 contains liquids such as (they are one-class genders):

(5.73)	ma-káli	'6-mix of water and ashes'
	ma-kána	'6-wine'
	mo-lingó	'6-oil'
	ma-mínyo	'6-dew'
	ma-nyé	'6-urine'
	ma-wése	'6-quality oil'

Some classes 5 or 15 nouns have a plural in two different noun classes. In these cases, class 6 expresses quantities in which individual items can be counted. Class 9 is used for collections in which individual items are not distinguished. For countable quantities, class 6 is used:

(5.74)	<u>Single</u>	<u>Multiple</u>		
	lt-gúlílɔ	ma-gúlílɔ má-ǃǃ	6-rod 6.NUM-two	'two rods'
	5-rod	ma-gúlílɔ ní-mó	6-rod COP-6.DEM.I	'these rods'
	ku-ká ¹ sá-ku	ma-kásá má-ǃǃ	6-leaf 6.NUM-two	'two leaves'
	15-leaf, sp.-15	ma-kásá ní-mó	6-leaf COP-6.DEM.I	'these leaves'

For collections, class 9 is used (see 5.1.7):

(5.75)	<u>Single</u>	<u>Multiple</u>		
	lt-gúlílɔ	gúlílɔ yí-dingí ²³⁴	9.rod 9.ADJ-big	'many rods'
	5-rod	gúlílɔ ní-yó	9.rod COP-9.DEM.I	'these rods'
	ku-ká ¹ sá-ku	kásá yá- ⁴ kpókpú	9.leaf 9.ASS-big	'big leaves'
	15-leaf, sp.-15	kásá ní-yó	9.leaf COP-9.DEM.I	'these leaves'

There are very few nouns for which the singular and the plural are expressed by a different noun stem. The cases in my data are (the plurals are non-countable):

(5.76)	<u>Single</u>	<u>Multiple</u>		
	lúkí	'5:thing, object'	mukúmbó	'9.thing, object'
	mu-sákt	'3-piece of firewood'	mísá	'9.firewood'

²³⁴ *gúlílɔ yí-ǃǃ 9.rod 9.NUM-two is ungrammatical because the use of class 9 in this gender indicates an uncountable quantity.

5.1.4 Noun-class mergers and near mergers

There is one merger and two near mergers in the Liko noun-class system. The merger involves class 4. Class 4, commonly found in the gender 3/4 in Bantu languages, has merged completely with plural class 9. The class 4 prefix has been lost.²³⁵

The near mergers involve classes 7/8 and 19/13. Both classes contain a few nouns, a dozen (0.6% of the data set of nouns) in the case of class 7 and less than thirty in the case of class 19. A merger involving 7/8 is common in the area where Liko is spoken.²³⁶ Nouns in 7/8 and 19/13 may have merged with gender 1c/2 (animate) or 9a/2 + 9 (inanimate).

Possible class 7 or 19 to class 1c (and 8 or 13 to 2) mergers are:

(5.77)	í-ḡeḡí	'1c-snake, sp.'	ḡé-ḡeḡí	'2:1c-snake, sp.'
	í-mangé	'1c-starling'	ḡé-mangé	'2:1c-starling'
	i-ḡulú	'1c-black snake, sp.'	ḡe-ḡulú	'2:1c-black snake, sp.'
	i-tungé	'1c-fish, sp.'	ḡe-tungé	'2:1c-fish, sp.'

Possible class 7 or 19 to class 9a (and 8 or 13 to 2 + 9) mergers are:

(5.78)	ɪ-kpangula	'9a-rhythm instrument'	ḡe-kpangula	'2 + 9:9a-rhythm instrument'
	ɪ-yagí	'9a-wild yam, sp.'	ḡe-yagí	'2 + 9:9a-wild yam, sp.'
	i-síḡé	'9a-rainbow'	ḡe-síḡé	'2 + 9:9a-rainbow'
	i-zǒmbu	'9a-vine, sp.'	ḡe-zǒmbu	'2 + 9:9a-vine, sp.'

²³⁵ A trace of class 4 prefix may be the enumerative prefix **mí-**: **mu-gi mí-ḡá** 3-village 3.NUM-two 'two villages'.

²³⁶ Maho (1999:166): "Attested mergers and near-mergers involving class 7 are chiefly restricted to the rainforest area. (...) When it comes to mergers and near-mergers involving class 8 we find an interesting east-west divide. Mergers and near-mergers involving classes 4 and 8 are chiefly restricted to the western Bantu area, while mergers and near-mergers involving classes 8 and 10 are chiefly found in the eastern Bantu area."

The noun classes 7 and 19 are in the process of merging. Their concords are identical, which corresponds with the second stage of merging mentioned in Kadima (1969:121). The optional /s/ preceding the noun-class prefix **1-** of five class 19 nouns, three class 19 nouns with prefix **si-** and the class 13 suffix of two class 8 nouns reflect the beginning of the next stage.

Noun-class distribution figures show that most nouns belong to one of the genders 1/2, 5/6 and 9/2 + 9 (including subclasses of 1 and 9), in total over two thirds of the nouns in my data. They are followed by the genders 3/9 and 14/(6). The smallest genders are 7/8, 15/(6), 17 and 19.

5.1.5 Noun classes and semantic domains

Table 16 displays the semantic categories often found in the noun classes:

Table 16 Noun classes and semantic categories

Class	Semantic category
1	human, animals, birds, fish
1a	human, animals, birds, fish, agent nouns
1b	human, animals, birds, fish, various
1c	human, animals, birds, fish
2	<i>plural of class 1 and subclasses of class 1</i>
3	plants, nature, body parts
5	plants, nature, culture, body parts, instruments, (parts of) constructions, illnesses, manner nouns
6	<i>plural of classes 5, 14 and 15</i>
7	body parts, instruments, plants, nature, culture
8	<i>plural of class 7</i>
9	culture, instruments, (parts of) constructions, illnesses, nature, needs, quantity, time, body parts, action nouns
9a	culture, instruments, plants, nature, emotions, illness
9b	Infinitives
2 + 9	<i>plural of class 9</i>
13	<i>plural of class 19</i>
14	abstract nouns, plants
15	paired body parts, plants, fishing gear

17	locative nouns
19	body parts, instruments, plants, nature, culture

Nouns in class 1a with **nV-** proclitic involve mainly small fauna and plants, and some objects. Nouns in class 1b (prefix **a-**) have in addition flora, jewelry and various other categories. Nouns in class 1c (prefix **ɪ-**) almost always belong to the semantic category of animates.

There are several classes with body parts, each class having specific semantic characteristics. The body parts in class 3 are bones, sinews, muscles, back, belly and tail. Body parts in class 5 are parts of the face, parts that can bend (elbow, etc.), inner and taboo parts. Nouns designating different kinds of illness in class 5 mainly refer to pains and boils, related to inner parts. The word for 'taboo' itself also belongs to this class: **li-ginyó**. In class 9, the extremities of the body are found, like finger, foot, nose, ear lobe (also: tusk, cock's comb) and words for 'something on the skin', like a moustache, eyelashes, a scar. Class 15 has paired body parts (and the words for left and right). Most body parts in class 19 relate to the skin.

Nouns referring to major stages in life are found in different classes, e.g. **li-búkúú** '5-giving birth', **(s)u-móú-so** '19-circumcision-19', **vonóni** '9-marriage', **i-bisókú** '9a-official marriage', **ku-kwá-ku** '15-death-15'.

The nature words in class 9 include the directions **zibó** '9.north', **ɪ-ngéngé** '9a-east', **zebu** '9.south' and **dumbé** '9.west'.

Two human qualities, in class 7 and in class 19, are derived from verbs, **si-lyá-su** '7-greed, cohabitation, overeating-7' from **-lí-** 'eat' and **si-panání-so** '19-love-19' from **-pa-** 'want' with a reduplicated Associative extension **-an-** with reciprocal meaning.

All nouns in class 17 are locative nouns.

5.1.6 Loanwords

Liko has borrowed words from several languages, among others from neighbouring Mangbetu and Budu, from the regional languages Swahili (through the Congo

variety used as a lingua franca in the Liko area) and Lingala (used as lingua franca less than 100 km to the north of the Liko area), from French, the national language of the Democratic Republic of the Congo and from English (via Congo Swahili). Nouns such as **négbă** '1a.lizard' and **némbala** '1a.tree, sp.' are reported to be Mangbetu loanwords by the Liko consultants I worked with. They are present in a Mangbetu wordlist (Larochette 1958:161-196). These two and other Liko nouns with initial **nV**²³⁷ and corresponding shape and meaning in Larochettes wordlist are:

(5.79) <u>Liko</u>		<u>Mangbetu</u>	
négbă, (6a-)	'1a.lizard'	<i>nagbá</i>	'sorte de lézard'
nekóǒí, (6a-)	'1a.bark clothes'	<i>nékoǒu</i>	'pagne en écorce'
nekókí, (6a-)	'1a.bracelet'	<i>nékokí</i>	'anneau que les femmes portent aux chevilles'
némbala, (6a-)	'1a.tree, sp.'	<i>námambara</i>	'sorte d'arbuste'
nakuyé-kuyé, (6a-)	'1a.bird, sp.'	<i>nakuá</i>	'perroquet'
néndutu-ndútú, (6a-)	'1a.mouse, sp.'	<i>nándutu</i>	'sorte de rat'

Mangbetu loans according to my Liko consultants, but not in Larochettes wordlist are **né-gbélé** 'na:1-braid', **né-susú** 'na:1-spider' and **ne-tíke** 'na:1-sweet banana'.²³⁸

Examples of Budu loanwords, according to the Liko consultants I worked with, include:

(5.80) <u>Liko</u>	<u>Budu</u> ²³⁹
á-dwěba, (6a-)	'1b-drummer'
ǒumbádǔ	'1a.third boy to be circumcised'

²³⁷ I have made no attempt to try to assign these loanwords with initial **nV**- to other subclasses of class 1.

²³⁸ Fricke (2007:57) has a list of **nV**-nouns in related Budu of which she says that they are Mangbetu loanwords. In the case of Liko, however, there are only few **nV**- nouns with matches in Larochettes wordlist. It is likely that Liko has borrowed the Mangbetu **nV**- prefix and has attached it also to non-borrowed noun stems.

²³⁹ Source of the Budu words: Fricke-Kappers (2007:57).

ḡázanáná	'1a.fourth boy to be circumcised'		
ngúsu-ḡábu, (ḡa-)	'1a.plant, sp.'		
nakwáḡodu, (ḡa-)	'1a.caterpillar, sp.'	<i>nakwáḡodu</i>	'green caterpillar'
nékɔ, (ḡa-)	'1a.fetish'	<i>nekɔ</i>	'charm'
nékókó, (ḡa-)	'1a.wooden musical instrument for rhythm'	<i>nekokó</i>	'small wooden drum'
nepíte, (ḡa-)	'1a.black frog, sp.'	<i>nepíte</i>	'edible frog'

Nouns borrowed from a Congolese variety of Swahili are found in the genders 1/2, 1a/2, 3/9, 5/6, 9/2 + 9 and 14/6 as well as in one-class genders 1a, 9 and 14. The consonants and syllable structure are adapted to the receptor language, e.g. /r/ is replaced by /l/ and a (high) vowel is epenthesized to separate consonant clusters. The Swahili /b/ in the roots of noun and verb borrowings is realized in Liko as /b/, e.g. **balówa** 'letter' from *barua*. Reflexes of Swahili contrastive vowels /ɛ/ and /ɔ/ are /ɛ e/ and /ɔ u/.²⁴⁰

Loanwords from Swahili have a single H tone in Liko corresponding to the stressed syllable in Swahili.

Examples of borrowings from a Congolese variety of Swahili:

(5.81) <u>Liko</u>		<u>Congo Swahili</u> ²⁴¹
mu-kalimáyi, (ḡa-)	'1-interpreter'	<i>m-kalimani</i>
mu-fálume, (ḡa-)	'1-king'	<i>m-fálme</i>
masúwa, (ḡa-)	'1a.car, motor boat'	<i>mashua</i> ²⁴²
kondǒlɔ, (ḡa-)	'1a.sheep'	<i>kondoo</i>

²⁴⁰ Apart from nouns, some frequently used conjunctions like **lakíni** 'but' (*lakini*) and a number of verbs are also borrowed from Congo Swahili. Often borrowed verbs represent new actions, like **kó-líp-ó** '9b-pay-FV' (*ku-lipa*), **kó-tumík-ó** '9b-work (for money)-FV' (*ku-tumika* 'be engaged, work'), **ká-sóm-á** '9b-read-FV' (*ku-soma*) and **ká-ndík-á** '9b-write-FV' (*ku-andika*).

²⁴¹ Source: Lenselaer (1983)

²⁴² A 'boat', not a 'car'.

mu-pánga (pánga)	'3-machete'	<i>mpanga</i>
mu-salába, (salába)	'3-cross'	<i>msalaba</i>
li-dílisa, (ma-)	'5-window'	<i>dirisha</i>
li-fungúla, (ma-)	'5-key'	<i>ufunguo</i>
muséle	'9.husked rice'	<i>mchele</i>
sókɔ, (ba-)	'9.market'	<i>soko</i>
bu-túnda, (ma-)	'14-fruit tree'	<i>tunda</i> ²⁴³

Loanwords and expressions for hairstyles from Lingala include²⁴⁴:

(5.82) <u>Liko</u>		<u>Lingala</u> ²⁴⁵
fufũ	'1a.cassava flour'	<i>fufu</i>
li-mápa (mápa)	'5-bread'	<i>li-pa, (ma-)</i>
ma-kála	6-charcoal	<i>li-kála, (ma-) 'ember, piece of charcoal'</i>
lupángu	5:residential parcel	<i>lo-pángo, (ma-)</i>
bolókɔ	9.prison	<i>boloko</i>
ndúmbá	1a.single woman ²⁴⁶	<i>ndúmbá, (ba-) 'prostitute'</i>
máfinataɓa	'1a.small balls in hair' ²⁴⁷	<i>taba, (ba-) 'goat'</i>
mútuka munéné	'1a.single thick braid'	<i>mu-tuka, (mi-) 'car'</i> <i>mu-nene, (mi-) 's.th. big, fat'</i>
tía mbanda na koté ²⁴⁸	'1a.braids all to one side'	<i>kotia 'to put'</i> <i>mbanda, (ba-) 'rival (in love)'</i>

French loanwords are found in noun classes 1a, 5, 9 and 14. Some loanwords from French have both [+ATR] and [–ATR] vowels (which is not allowed in non-borrowed Liko nouns) in an attempt to approximate French vowel qualities, see the word for 'television set' below. French nasalized vowels are rendered with [–ATR]

²⁴³ In Congo Swahili: 'fruit'.

²⁴⁴ Congo Swahili borrowings are much more frequent in Liko than loanwords from Lingala.

²⁴⁵ From: <http://dic.lingala.be>.

²⁴⁶ With negative connotation: a woman with multiple relationships with men.

²⁴⁷ Literally, 'goat droppings'.

²⁴⁸ from French *côté* 'side'.

Liko vowels. Because a word-final consonant is not allowed in Liko, a vowel is added when a French borrowing ends with a consonant. A vowel is inserted in order to avoid consonant clusters. Like in Congo Swahili loanwords, /r/ is replaced by [l] and the Liko reflex of the syllable with primary stress in French consists of a H tone.

Examples include:

(5.83)	<u>Liko</u>		<u>Standard French</u>
	alumé, (6a-)	'1a.army'	<i>armée</i>
	li-moló, (ma-)	'5-number'	<i>numéro</i>
	li-bilíki, (mo-)	'5-brick'	<i>brique</i>
	televizyó, (6a-)	'9.television set'	<i>télévision</i>
	biló, (6a-)	'9.office'	<i>bureau</i>
	6u-kokotiyé	'14-coconut palm'	<i>cocotier</i>

Borrowings from English via a Congolese variety of Swahili are also adapted to Liko phonology, e.g.:

(5.84)	<u>Liko</u>		<u>Congo Swahili</u>
	balangíti, (6a-)	'9.blanket'	<i>bulangeti</i>
	búku, (6a-)	'9.exercise book'	<i>buku</i>
	kópó, (6a-)	'9.cup'	<i>kopo</i>
	kóti, (6a-) / (6o-)	'9.coat'	<i>koti</i>

5.1.7 Noun-to-noun derivation

Derivation of a noun from another noun is productive and it involves shifting from one class or gender to another.

Manner nouns are derived from classes 1 or 1a by shifting to class 5. For example:

(5.85)	mu-6ígi	'1-twin'	li-6ígi	'5-twin behaviour'
	mú-budya	'1-developed person'	li-budya	'5-modern behaviour'
	mú-lumbá	'1-sorcerer'	li-lumbá	'5-spell, witchcraft'
	mú-siká	'1-girl'	li-siká	'5-coquetry'
	wayí	'1a.friend'	li-wayí	'5-friendship'

To create an abstract noun, a noun from class 1 or 1a can be shifted to class 14:

²⁴⁹ A wall of a house under construction consists initially of poles put upright in the ground.

mu-vaḃokó	'1-polygamist'	< -va- 'take' + ḃo-kó '2-woman'
mu-yungaḃobuló	'1-spokesman'	< -yung- 'speak' + ḃo-buló '2-palaver'
ḃu-ḃúnombungú	'14-tree, sp.'	< -ḃún- 'break' + mbungú '1a.elephant'

Forming a compound from an inflected verb and a complement or ideophone is less productive. This type of compound is used for descriptive names of plants, birds and animals, as in:

- (5.92) apukamakúmá '1a.bird, sp.' < -puk- 'prick' + ma-kúmá '6-hole in a trunk'
 nókwómugwé '1a.bird, sp.' < -kú- 'die' + mugwé '9.bad luck'
 osyonabasá '1a.vine, sp.' < -si- 'come down' + na 'with' + basá '9.baraza'
 adwagbu '1a.thorny bush' < -dú²⁵⁰ 'offend' + "gbu" 'IDEO, hit hard'

The meaning of the parts of the compounds is: 'he (3SG **a-**) will prick (Future TAM melody) holes in a trunk', 'I (1SG **na-**) died (Past TAM melody) of bad luck', 'he (3SG **a-**) will come down with a "baraza", a place where public meetings are held' and 'he (3SG **a-**) will offend "gbu"'.²⁵⁰

Compounds of the form noun + noun involve nouns denoting family members or something young or small. Examples of noun + noun denoting family members are:

- (5.93) a-bǎkí-ḃomíkí '1b-father of the children'
 < a-bǎkí '1b-father:3SG POSS' + ḃo-míkí '2-child'
 a-bǎkí-mukó '1b-father of the woman'
 < a-bǎkí '1b-father:3SG POSS' + mu-kó '1-woman'

In **a-bǎkí-ḃomíkí**, the children are the offspring of **a-bǎkí**, the father, and in **a-bǎkí-mukó**, the woman is the daughter of **a-bǎkí**. In family relations like **a-bǎkí-ḃomíkí** and **a-bǎkí-mukó** a compound is often used instead of a genitival construction. In genitival constructions, the genitive prefix **ka-** occurs between the possessee and the possessor (see 6.2.2).

²⁵⁰ The vowel of the verb root in this example is not subject to height coalescence together with the final vowel (which would result in /ɔ/), see 3.3.3. I regard it as an exception because this is the only case in my data.

Noun + noun compounds with **míkyá** '1a.something young or small' include:

- (5.94) míkyá-ndábu '1a.cupboard'
 < míkyá '1a.something young or small' + ndábu '9.house'
 míkyá-ɪnvá '1a.puppy'
 < míkyá '1a.something young or small' + ɪ-nvá '1c-dog'

5.2 Adjectives

5.2.1 Adjectives and adjective prefixes

Adjectives in Liko are a small word class of eight stems, of which six stems form pairs of antonyms²⁵¹. These adjectives are:

- (5.95) -kédě 'small' -dingĩ 'big'
 -kúďú 'short' -ndă 'long'
 -bisĩ 'raw, uncooked, new' -lɪlă 'too well done, ripe'
 -tĩ 'heavy'
 -kóngú 'tall, high, great'

Adjectives follow the noun they modify and the adjective prefixes agree with the noun class of the head of the noun phrase. The set of adjective prefixes is different from the noun-class prefixes. Table 17 lists the nominal and adjective prefixes ([+ATR] forms are given in brackets). For examples of concords, I refer the reader to 5.1.1.1.

Table 17 Noun-class prefixes and adjective prefixes

Class	Noun-class prefix	Adjective prefix
1	mɯ- (mu-)	mɯ- (mu-)
1a	-	mɯ- (mu-)
1b	a- (o-)	mɯ- (mu-)
1c	ɪ- (i-)	mɯ- (mu-)
2	ɓa- (bo-)	ɓú- (bú-)
3	mɯ- (mu-)	mú- (mú-)

²⁵¹ The usual tests to determine which is the unmarked part of the antonym did not lead to the identification of either of the parts as the unmarked one.

(5.97)a.	6a-tú bú-dingĩ	2-man 2.ADJ-big	'many people'
	ma-kpumúká mú-dingĩ	6-thing 6.ADJ-big	'many things'
b.	6o-sí 6a-kédě	2-fish 2.ADJ-small	'few fish'
	ma-syé ma-kédě	6-day 6.ADJ-small	'few days'

If the adjective modifies a plural head noun, then the form of the adjective is reduplicated in one way or another. For instance, **6a-tú bú-díngídingĩ**,²⁵² 2-man 2.ADJ-big:PL, 'big men'. The tone pattern of the long adjective form is not predictable. The way in which the form is made longer is not consistent either. Monosyllabic adjectives modifying plural referents are triplicated: **-ndandandā** 'long' and **-títítí** 'heavy'. Two adjectives repeat only the initial CV: **-kékéké** for **-kédě** and **-kúkúkú** for **-kúdí**, e.g. **6o-sí 6a-kékéké**, 2-fish 2.ADJ-small.PL, 'small fish'.

Other examples include:

(5.98)a.	ma-lúmba ma-ndandandā ²⁵³	6-prayer 6.ADJ-long:PL	'long prayers'
	tú ⁴ kátu ti-ndandandā	13.hair 13.ADJ-long:PL	'long hair'
b.	ma-kumbá mú-títítí	6-hoop net 6.ADJ-heavy:PL	'heavy hoop nets'
	ma-mbengí mú-títítí	6-heart 6.ADJ-heavy:PL	'heavy hearts'
c.	tú ⁴ kátu ti-kúkúkú	13.hair 13.ADJ-short:PL	'short hair'
	tátá-tu ti-kúkúkú	13.feather-13 short:PL	'short feathers'
d.	6a-ngámá bú-díngídingĩ	2-chief 2.ADJ-big:PL	'big chiefs'
	ma-ngbóló mú-díngídingĩ	6-dugout 6.ADJ-big:PL	'big dugouts'

When the head noun designates a collection, the adjective form is also longer:

(5.99)a.	gulílo yí-dingĩ	9.rod 9.ADJ-big	'many rods'
	gulílo yí-díngídingĩ	9.rod 9.ADJ-big:PL	'big rods' (collection)

²⁵² Preceding **-díngídingĩ**, the tone on the adjective prefix is High instead of Low. With the initial H tone on **-díngídingĩ**, a L tone on the prefix would be expected.

²⁵³ Preceding **-ndandandā**, the tone on the adjective prefix is Low instead of High. With the initial L tone on **-ndandandā**, a H tone on the prefix would be expected.

b.	kásá yí-ndă	9.leaf 9.ADJ-long	'long leaves'
	kásá yɪ-ndandandă	9.leaf 9.ADJ-long:PL	'long leaves' (collection)
c.	*ma-búgu má-ndă	6.plantain 6.ADJ-long	'long plantains'
	ma-búgu ma-ndandandă	6.plantain 6.ADJ-long:PL	'long plantains' (countable)
	búgu yí-ndă	9.plantain 9.ADJ-long	'long plantains'
	búgu yɪ-ndandandă	9.plantain 9.ADJ-long:PL	'long plantains' (collection)
d.	*ma-sambiyá má-ndă	6.plant 6.ADJ-long	'long plants'
	ma-sambiyá ma-ndandandă	6.plant 6.ADJ-long:PL	'long plants' (countable)
	sambiyá yí-ndă	9.plant 9.ADJ-long	'long plants'
	sambiyá yɪ-ndandandă	9.plant 9.ADJ-long:PL	'long plants' (collection)

In (5.97b), the class 2 adjective prefix is **ḡá-** instead of **ḡú-**: **ḡo-sí ḡa-kédě**, 2-fish 2.ADJ-small, 'few fish'. This is also the case for class 6 adjective prefix **mú-**: preceding **-kédě**, the only adjective with mid vowels, the prefix surfaces as **ma-** as in **ma-kpómóká ma-kédě**, 6-thing 6.ADJ-small, 'few things'. The vowel of these two adjective prefixes, /u/, is different from the noun-class prefix /a/, but class 3 **mú-** and class 14 **ḡú-**, where the vowel of the nominal and the adjective prefix is identical, have the same vowel change. The adjective prefix of classes 2, 3, 6 and 14 surfaces with /a/ (/o/ in a [+ATR] context) when the prefix occurs with one of the following adjective stems: **-kédě** 'small, few', **-kúfú** 'short', **-kóngú** 'tall, high, great' and **-ndă** 'long'.

Compare the following two sets. The first set has one of the four adjectives where the prefix vowel is /a, o/, the second set has an adjective where the prefix vowel is /u, u/. Note that all adjective prefixes of classes 2, 3, 6 and 14 surface with /u, u/ if the first vowel of the following adjective stem is /ɪ i/.

(5.100)	6o-sí 6a-kékéké	2-fish 2.ADJ-small:PL	'small fish (pl.)'
	6a-nzeki 6o-kúkúkú	2-termite 2.ADJ-short:PL	'short termites'
	mü-nziná ma-kédě	3-speech 3.ADJ-small	'small talk'
	mü-sáďá mo-kúďú	3-needle 3.ADJ-short	'short needle'
	mo-ndímó ma-kékéké	6-birdlime 6.ADJ-small:PL	'little birdlime'
	ma-kũ mo-kúkúkú	6-stick 6.ADJ-short:PL	'short sticks'
	6u-yí 6a-kédě	14-possession 14.ADJ-small	'little possessions'
	6u-kápu 6o-kúďú	14-tree, sp. 14.ADJ-short	'short tree, sp.'
(5.101)	6a-nzeki bú-díngídingĩ	2-termite 2.ADJ-big:PL	'big termites'
	mü-sáďá mú-dingĩ	3-needle 3.ADJ-big	'big needle'
	ma-kũ mú-díngídingĩ	6-stick 6.ADJ-big:PL	'big sticks'
	6u-kápu bú-dingĩ	14-tree, sp. 14.ADJ-big	'big tree, sp.'

There are two other adjective prefixes with /u/: class 1 **mu-** and class 15 **kú-**. For these classes, the vowel does not change:

(5.102)	mukó mu-kúďú	1-woman 1.ADJ-short	'short woman'
	mukó mu-dingĩ	1-woman 1.ADJ-big	'big woman'
	kpóló mu-kúďú	1a.side 1.ADJ-short	'short side'
	kpóló mu-dingĩ	1a.side 1.ADJ-big	'big side'
	ku-pasí-kə ku-kédě	15-peeling-15 15.ADJ-small	'small peeling'
	ku-pasí-kə kú-dingĩ	15-peeling-15 15.ADJ-big	'big peeling'

The prefixes of classes 1 and 15 shows that the surface vowel of the adjective prefix is not determined by its environment. If the underlying vowel of the adjective prefix of classes 2, 3, 6 and 14 is /u/, there is no phonological reason for the variety in surface realizations.

If the underlying vowel of classes 2, 3, 6 and 14 adjective prefixes would be /a/, the only candidate for triggering the surface high round vowel would be the following high unrounded vowel of the adjective stem, a rather unusual phonological process. That this is not the case can be shown from verb-to-adjective derivations (see 7.12.2), which use the set of adjective prefixes and where the prefix vowel /u/ (or [+ATR] /u/) occurs preceding low and high vowels:

(5.103) mukó mu-mbangă	1-woman 1.ADJ-surprise	'surprising woman'
mukó mu-ďúngö	1-woman 1.ADJ-lose	'lost woman'
kpóló mu-mbangă	1a.side 1.ADJ-surprise	'scary side'
kpóló mu-ďúngö	1a.side 1.ADJ-lose	'lost side'
ďa-nzekı bú-mbangă	2-termite 2.ADJ-surprise	'scary termites'
ďa-nzekı bú- ²⁵⁴ ďúngö	2-termite 2.ADJ-lose	'lost termites'
mu-sáďă mú-gabă	3-needle 3.ADJ-sell	'sold needle'
mu-sáďă mú- ²⁵⁴ ďúngö	3-needle 3.ADJ-lose	'lost needle'
mo-ndímó mú-mbangă	6-birdlime 6.ADJ-surprise	'surprising birdlime'
mo-ndímó mú- ²⁵⁴ ďúnikö	6-birdlime 6.ADJ-break	'broken birdlime'
ďu-bála bú-mbangă	14-cohabitation 14.ADJ-surprise	'surprising cohabitation'
ďu-bála bú- ²⁵⁴ tíkyö	14-cohabitation 14.ADJ-close	'ended cohabitation'
ku-pasí-kö kú-gabă	15-peeling-15 15.ADJ-sell	'sold peeling'
ku-pasí-kö kú- ²⁵⁴ ďúngö	15-peeling-15 15.ADJ-lose	'lost peeling'

Neither for underlying /u/ nor /a/, a satisfactory phonological explanation has been found for the surface realization of the non-high prefix vowel of the four adjectives **-kédě** 'small, few', **-kúďú** 'short', **-kóngó** 'tall, high, great' and **-ndă** 'long'. Based on the evidence from deverbative adjectives and the existence of classes 1, 3, 14 and 15 nominal and adjective prefixes with /u/, I posit /u/ as the underlying vowel of 2, 3, 6 and 14. Until an explanation is found, it needs to be specified when the vowel of these adjective prefixes is changed into /a/.

Adjectives can be used both as attributes directly following the head noun like in the examples given thus far in this section, or as predicates following a form of the verb 'to be':

- (5.104)a. ma-lílí a mú-bisĩ
 6-food 3SG:be 6.ADJ-raw
 'The food is uncooked.'

²⁵⁴ Preceding deverbative adjectives the adjective prefix tone is not polar; instead, non-automatic downstep occurs preceding a derived stem with a H tone, see 4.6.5 and 7.12.2.

- b. kína²⁵⁵ a mbéyi mu-bísĩ áka²⁵⁶
 1a.bicycle 3SG:be yet 1.ADJ-raw CT
 'The bicycle is still NEW.'

- (5.105)a. níné mu-kédě / níné a mu-kédě
 1a.aunt 1.ADJ-small 1a.aunt 3SG:be 1.ADJ-small
 'a small aunt' / 'Aunt is small'
- b. 6a-níné 6a-kékéké / 6a-níné 6a 6a-kékéké
 2-aunt 2.ADJ-small 2-aunt 3PL:be 2.ADJ-small
 'small aunts' / 'Aunts are small'
- c. 6a-níné 6a-kédě / 6a-níné 6a 6a-kédě
 2-aunt 2.ADJ-small 2-aunt 3PL:be 2.ADJ-small
 'a few aunts' / 'There are few aunts'

Typically, the semantic types of DIMENSION, VALUE, AGE and COLOUR are associated with the adjective word class (Dixon 1994, 2004). In Liko, the set of underived adjectives express only DIMENSION. Nominal modifiers express COLOUR (5.106a), VALUE (5.106b) and AGE (5.106c). For a description of nominal modifiers, the reader is referred to 5.3.

- (5.106)a. ku-tú-ko kwó-tu 15-clothes-15 15.ASS-white 'white piece of clothing'
 ku-tú-ko kwó-pi 15-clothes-15 15.ASS-dark 'black piece of clothing'
- b. ku-tú-ko kwá-nza 15-clothes-15 15.ASS-good 'nice piece of clothing'
- líbó lá-nyε 5:water 5.ASS-bad 'dirty water'
- c. lí-mbĩ lá-mbĩya 5-toilet 5.ASS-new 'new toilet'
- ma-kpomúká má-¹ndélt 6-thing 6.ASS-old 'old habits'

²⁵⁵ A loanword from Congo Swahili.

²⁵⁶ The particle **áka** indicates contrast, see 8.6.2. The contrasted phrase is marked with underlining. In the free translation, it is marked with capitals. The surface tones on **áka** are H.L. when the preceding tone is High, and L.H. when the preceding tone is Low.

5.2.2 Derivation to other word classes

a. Adjective-to-noun derivation

Nouns derived from the set of Liko adjectives are in class 14 and they have the semantic feature of "quality" or "abstractness". The noun-class prefix **6u-** is added to the adjective stem. The set of adjectives is too small to make a generalization about the tone in this derivation process:

(5.107)	6u-kédě	'14-smallness'	< -kédě	'small, few'
	6u-dingí	'14-size'	< -dingĩ	'big, vast'
	6u-kúďú	'14-shortness, abbreviation'	< -kúďú	'short'
	6u-ndă	'14-distance, length'	< -ndă	'long'
	6u-6ísi	'14-watchfulness, stubbornness'	< -6isĩ	'raw, uncooked, new'
	-		< -ílulă	'too well done, ripe'
	6u-tĩ	'14-weight'	< -tĩ	'heavy'
	6u-kúngú	'14-height'	< -kúngú	'tall, high, great'

b. Adjective-to-verb derivation

Verbs that denote the idea of coming into a state are derived from adjective stems by adding **-man-** and the verb-final vowel **-a** to the adjective stem:

(5.108)	ká-kídĩmán-á	'to become small'	< -kédě	'small'
	9b-become small-FV			
	kó-kúndúmón-ó	'to become short or small'	< -kúďú	'short'
	9b-become short or small-FV			

In the derivation, mid vowels are replaced by high vowels. Verb roots do not have underlying mid [–ATR] vowels. The overall majority of verb roots has either high or low vowels. This derivation with **-man-** is also available for nominal modifiers, see 5.3.3.

c. Adjective-to-adverb derivation

Adverbs are derived from adjective stems by adding prefix **yí-** ([+ATR] **yí-**) with polar tone compared to the tone on the first TBU of the adjective stem, e.g. **yí-kédě**, ADV-small, 'a little' and **yí-dingí**, ADV-big, 'a lot'. Other examples include:

- (5.109)a. á-dík-a yí-kédě
 3SG^P-cool-FV ADV-small
 'It cooled somewhat down.'
- b. ká kpáká wa-ly-a yí-ḡisi
 PREP 9.trap 2SG-eat-FV ADV-raw
 '[When it comes] to traps, you will eat raw food.' (T2006.1)

5.3 Nominal modifiers

5.3.1 Nominal modifiers

Nominal modifiers form a large group of words that occur as part of a noun phrase and modify the head noun. Nominal modifiers do not belong to a noun class, so that they cannot be considered to be nouns, neither do they belong to the class of adjectives. To distinguish them from other modifiers, I refer to them as "nominal modifiers". Nominal modifiers take an associative prefix, which agrees with the class of the head noun. Table 13 in 5.1.1 showed that the associative prefixes are different from the noun-class, adjective and enumerative prefixes.

The concords of the associative prefixes were listed in 5.1.1 and are repeated here. Classes 1 and 9 also represent their subclasses. Both the [−ATR] and the [+ATR] forms are given as well as, in brackets, the underlying form. The associative prefix consists of a pronominal prefix which agrees with the head noun and the associative stem **-a** with L tone. In this book, it is referred to as associative prefix; the underlying structure is not represented in the glosses.

Table 18 Noun-class concords for associative prefixes

Class	Associative prefix	Class	Associative prefix
1	wa- / wo- (/wa-a/)	9	yá- / yó- (/yá-a/)
2	ḡá- / ḡó- (/ḡá-a/)	2 + 9	ḡayá- / ḡayó- (/ḡa-yá-a/)
3	má- / mó- (/má-a/)	13	tá- / tó- (/tá-a/)
5	lá- / ló- (/lá-a/)	14	ḡá- / ḡó- (/ḡá-a/)
6	má- / mó- (/má-a/)	15	kwá- / kwó- (/kú-a/)
7	sá- / só- (/sá-a/)	17	wa- / wo- (/wa-a/)
8	ḡá- / ḡó- (/ḡá-a/)	19	sá- / só- (/sá-a/)

Nominal modifiers occur primarily in noun phrases where the head noun is followed by an agreeing associative prefix and the nominal modifier. Nominal modifiers also occur in predicate nominal constructions involving a form of the verb 'to be' between the referent subject of the clause and the nominal modifier. Polysyllabic nominal modifiers have a floating H tone word finally when they take an associative prefix. The floating H tone either merges with the preceding H tone, or it is associated with a TBU with a L tone, creating a surface LH tone.

A large number of nominal modifiers can be preceded by either an associative prefix or the general modifier prefix **ḡ-**, sometimes reflecting a difference in attributive vs. predicative usage. **ḡ-** is the prefix of manner adverbs (see 6.3.3), but is also used outside this category. Many ideophones are preceded by this prefix and there is one instance of an adjective with **ḡ-**: **kítí ḡ-tí** 1a.chair MOD-heavy 'a heavy chair' as alternative to **kítí mu-tí** 1a.chair 1.ADJ-heavy.

An associative prefix and the general modifier prefix **ḡ-** are subject to [ATR] vowel harmony. The prefix vowel harmonizes with [+ATR] when it occurs within the domain of [+ATR] spreading, i.e. immediately preceding a stem associated with the [+ATR] value (see 3.2.2.3).

First, nominal modifiers that are preceded by an associative prefix are described, followed by those nominal modifiers that occur with both an associative prefix and the modifier prefix **ḡ-**.

a. Nominal modifiers preceded only by an associative prefix

The examples in (5.110) show the agreement between the head noun and the associative prefix and [+ATR] spreading of the [+ATR] value which is associated with the nominal modifier (5.110a):

(5.110)a.	ḡa-lúkú	ḡó-ngũ	'strong men'
	2-man	2.ASS-strong	
b.	ma-páku	má-kakǎ	'rough leaves'
	6-leaf	6.ASS-rough	
c.	mo-lingó	má-kpengbě	'fresh oil'
	6-oil	6.ASS-fresh	

d.	lí-mbĩ	lá-mbĩya ²⁵⁷	'a new toilet'
	5-toilet	5.ASS-new	
e.	mémí	wa-pǔpu	'a healthy goat'
	1a.goat	1.ASS-strong (health)	
f.	i-bokú-so	sá-kínkínĩ	'a many-coloured hide'
	19-skin, bark-19	19.ASS-many-coloured	

The semantic dimensions of VALUE, COLOUR and AGE are expressed by nominal modifiers; they include **-nza** 'good, nice', **-nye** 'bad, ugly, dirty', and temperature or appreciation of food: **-zũ** 'warm', **-de** 'cold, tasteless':

(5.111)a.	líbó	lá-nye	'dirty water'
	5:water	5.ASS-bad	
b.	ku-tú-ko	kwá-nza	'a nice piece of clothing'
	15-clothes-15	15.ASS-good	
c.	o-vivĩ	wa-zũ	'a hot wind'
	1b-wind	1.ASS-hot	
d.	ma-lílí	má-de	'tasteless food'
	6-food	6.ASS-cold	

The nominal modifiers **-nye** in (a), **-nza** in (b) and **-de** in (c) have a surface polar tone depending on the tone of the preceding associative prefix. Other monosyllabic nominal modifiers with a level tone have the same property, for example (5.113a, c) and (5.114). For polar tone, see 4.6.7.

The following nominal modifiers are taking an associative prefix, adding to the possibilities to express DIMENSION:

(5.112)	-du	'deep'	
	-hũ	'wide, large (area)'	
	-kpú	'big, enormous'	
(5.113)a.	líbó	ló-du	'a deep river'
	5:water	5.ASS-deep	

²⁵⁷ This nominal modifier does not have a surface LH tone on the final syllable when it takes an associative prefix.

- b. tíko yá-hǔ 'a large field'
 9.field 9.ASS-wide
- c. mu-kó wa-kpú 'a huge woman'
 1-woman 1.ASS-big, enormous

b. Nominal modifiers preceded by an associative prefix or modifier prefix ǵí-

A large number of nominal modifiers, there are almost a hundred in my data, may occur with an associative prefix or the modifier prefix. They include the basic colours **-tú** 'white (light colours)', **-pí** 'black (dark colours)' and **-ngbú** 'red':

- (5.114)a. ku-tú-ko kwó-tu / ǵí-tú
 15-clothes-15 15.ASS-white MOD-white
 'white or light-coloured clothes'
- b. lúkí ló-pi / ǵí-pí
 5:object 5.ASS-black MOD-black
 'a black object'
- c. ku-tú-ko kwá-ngbu / ǵí-ngbú
 15-clothes-15 15.ASS-red MOD-red
 'red clothes'
- (5.115)a. mu-pumí má-kpwǎ / ǵí-kpwǎ
 3-door 3.ASS-narrow MOD-narrow
 'a narrow door'
- b. (s)ɪ-bukú-sɔ só-zyo / ǵí-zyo
 19-drug-19 19.ASS-bitter MOD-bitter
 'a bitter-tasting drug'
- c. ɪ-mbǔ ló-wililí / ǵí-wilili
 5-ball 5.ASS-round MOD-round
 'a round ball'

Notice in the following examples, that non-automatic downstep does not occur in the context of two adjacent H tones across the morpheme boundary between the modifier prefix and the nominal modifier. The second H tone remains at the same pitch level following the H tone of the modifier prefix **ǵí**:

- (5.116)a. ku-tú-ko kwó-¹pólí / ǵí-póli
 15-clothes-15 15.ASS-light MOD-light
 'light (weight) clothes'

- b. písi yá-⁴ngbángányá / 6í-ngbángányá
 9.path 9.ASS-open MOD-open
 'a wide road'
- c. ma-6óku má-⁴ngbémúngbémú / 6í-ngbémúngbémú
 6-arm 6.ASS-sturdy MOD-sturdy
 'sturdy arms'

An associative prefix or the modifier prefix are used interchangeably with nominal modifiers. However, a tentative distinction between these prefixes concerns attributive vs. predicative use. When I asked my Liko consultants to give a translation in French of the structures in (5.117), the one with an associative prefix were translated by a noun phrase and the ones with a modifier prefix by a clause.

- (5.117) Associative prefix Modifier prefix
- a. 6o-míkí 6á-lyă 6o-míkí 6í-lyă
 2-child 2.ASS-small 2-child MOD-small
 'small children' 'the children are small'
- b. lí6ó lá-sekedě lí6ó 6í-sekedě
 5:water 5.ASS-shallow 5:water MOD-shallow
 'a shallow river' 'the river is shallow'

In attributive use, an inherent quality of a noun is expressed, whereas in predicative use, some quality is ascribed to the referent. The distinction is, however, not always evident. Both prefixes are attested almost as frequently in constructions in which the noun-class prefix follows a form of the verb 'to be'. Both (a) and (b) in (5.118) - (5.120) are grammatical and equally acceptable to the Liko consultants I worked with.

- (5.118)a. ku-tú-ko kămɪ a 6í-póli
 15-clothes-15 1SG.POSS 3SG:be MOD-light
 'My piece of clothing is light (weight).'
- b. ku-tú-ko kămɪ a kwó-⁴pólĩ
 15-clothes-15 1SG.POSS 3SG:be 15.ASS-light
 'My piece of clothing is light (weight).'

- (5.119)a. 6u-tĩ ǂĩ a ǂí-póli
 14-weight 14.DEM.III 3SG:be MOD-light
 'The load is light (weight).'
- b. ɪ-kí yó a yó-¹póli
 9a-what 9.DEM.I 3SG:be 9.ASS-light
 'What is easier?'
- (5.120)a. ká-pɥy-án-á a ǂí-nzá kúgbe
 9b-forgive-ASS-FV 3SG:be MOD-good very
 'To forgive each other is very good.'
- b. míkǎmɪ a wa-nzá kúgbe
 1a.child:1SG.POSS 3SG:be 1.ASS-good very
 'My child is very good.'

Many nominal modifiers show a form of reduplication. In some cases, only the form with repetition is attested, e.g. **-kókólókokolo** 'rigid, stiff', **-ndengendenge** 'sweet' and **-vukuvuku** 'uncombed (hair)'. Other examples, with the modifier prefix (the associative prefix given after the forward slash is also allowed) are:

- (5.121)a. mu-lúkú ǂí-díkídíkí / wo-díkídíkí
 1-man MOD-fat 1.ASS-fat
 'a fat man'
- b. nzúyɪ ǂí-kalabukalabu / yá-kalabukalabũ
 9.body MOD-rough 9.ASS-rough
 'a rough body here and there'
- c. tkpáku ǂí-nzikinziki / yó-nzikinzikĩ
 9.shoe MOD-shining black 9.ASS-shining black
 'a shining black shoe'

The majority of nominal modifiers have an adjectival function. Some nominal-modifier stems can be used adverbially or as ideophones. In those cases, the prefix is always the modifier prefix **ǂí-**. For instance, **-ǂalu-ǂalu** 'sticky' is used attributively, modifying the noun in **ma-lílí má-ǂalu-ǂalũ**, 6-food 6.ASS-sticky, 'sticky food', but it also occurs as **ǂí-ǂaluuu** 'syrupy' when used as an ideophone, or with adverbial use as in:

- (5.122) ma-lílí kakí o-ḡy-í bí-daludalu
 6-food 3SG.POSS 3SG/PL-cook- FV.ANT MOD-sticky
 'Her food has cooked sticky.' (which is not appreciated)

Another example is -**gbəgəḡo** 'flat', which is attested as **pině yá-gbəgəḡo**, 9.tyre 9.ASS-flat, 'a flat tyre', as **pině a ḡ-ḡbəgəḡo**, 9.tyre 3SG:be MOD-flat, and as **ḡ-ḡbəgəḡoḡo**, ideophonic use expressing going flat.

5.3.2 Associative constructions

Associative constructions consist of a head noun, an associative prefix and a dependent noun which modifies the head noun. The dependent noun keeps its noun-class prefix in the associative construction, which means that the associative prefix precedes the noun-class prefix in these constructions. The associative prefix agrees with the class of the head noun.

Some examples of associative constructions are:

(5.123)a.	kú-syáku	wo-Móndíyó	'across the Mondiyó'
	17-side across a river	17.ASS-"Mondiyó" ²⁵⁸	
b.	su ²⁵⁹	yá-li-kísi	'smell of delicious food' ²⁶⁰
	9.smell	9.ASS-5-delicious dish	
c.	mo-zíko	má-'nzúyɪ	'joints of the body'
	6-joint	6.ASS-9.body	
d.	li-ḡiso	lá-ku-tú-ko	'colour of clothes (sg)'
	5-colour	5.ASS-15-clothes- 15	
e.	(s)ɪ-bukú-sə	sá-'ndáḡu	'talisman of the house'
	19-talisman-19 ²⁶¹	19.ASS-9.house	
f.	písi	yá-ḡu-ngámá	'road of the kingdom'
	9.path	9.ASS-14-kingdom	
g.	mu-bikó	wa-mu-ḡí	'visitor of the village'
	1-visitor	1.ASS-3-village	

²⁵⁸ The Mondiyó is a river in the Liko area.

²⁵⁹ The H tone of the LH contour on **sŭ** merges with the following High.

²⁶⁰ Used for fresh meat or fish grilled or smoked.

²⁶¹ Also drug, shrub.

h.	6a-nguyá	6á-mu-sengí	'pigs of the village'
	2-warthog	2.ASS-3-village	

The floating L tone of the associative prefix causes an initial H tone of nouns in classes 1a or 9, as in (c) and (e) to surface as a non-automatic downstepped H tone (see 4.6.5). Non-automatic downstep occurs in **mo-6íso má-¹ndábu**, 6-colour 6.ASS-9.house, 'colours of the house', whereas it does not occur in **mo-6íso má-6a-ndábu**, 6-colour 6.ASS-2 + 9-house, 'colours of the houses'. In the latter case, the floating L tone of the associative prefix merges with the adjacent L tone of the noun-class prefix.

When class 17 nouns function as prepositions, they are followed by an associative construction, see 6.4.

Associative constructions often form idiomatic expressions, e.g.:

(5.124)a.	ma-kí	mó-mbumbó	'infertile eggs'
	6-egg	6.ASS-9.thunderstorm	
b.	mu	má-sengí	'first of a number of villages'
	3.head	3.ASS-9.village	
c.	ndt ²⁶²	yá- ¹ mémí	'plant, sp.'
	9.beard	9.ASS-1a.goat	

5.3.3 Derivation to nouns and verbs

a. Nominal modifier-to-noun derivation

Nouns derived from nominal modifiers are generally found as abstract nouns in class 14 taking the noun-class prefix **6u-**. Derived nouns from nominal modifiers are marked by means of a H tone on the final vowel.

Examples include:

(5.125)	6u-dũ	'14-depth'	< -du	'deep'
	6u-kpú	'14-size'	< -kpú	'enormous'
	6u-ndenge-ndengé	'14-sweetness'	< -ndenge-ndenge	'sweet'
	6u-nyé	'14-guilt, pain'	< -nye	'dirty'

²⁶² The H tone of the LH contour on **ndt** merges with the following High.

bu-yaka-yaká	'14-lightness'	< -yaka	'light (weight)'
bu-zǔ	'14-heat'	< -zú	'hot'

The surface tone on the final vowel of **bu-dĩ** and **bu-zǔ** is LH, the result of the effect of voiced obstruents on a following H tone (see 4.5).

b. Nominal modifier-to-verb derivation

Verbs that express the idea of coming into a state are derived from nominal modifiers by adding **-man-** and the verb-final vowel **-a** to the stem of the nominal modifier (see 5.2.2):

(5.126)	ká-lundímán-á	'to become smooth'	< -lende	'smooth'
	9b-become smooth-FV			
	ká-kpúkúđómán-á	'to become narrow'	< -kpókódĩ	'narrow'
	9b-become narrow-FV			
	ká-ngúmán-á	'to become clean'	< -ngó	'clean'
	9b-become clean-FV			
	ká-yapámán-ág-á	'to become lukewarm'	< -yapa(-yapa)	'lukewarm'
	9b-become lukewarm-PLUR-FV			

In the derivation, mid vowels are replaced by high vowels. Verb roots do not have underlying mid [–ATR] vowels.

5.4 Numerals

5.4.1 Numerals which take enumerative prefixes

The stems **-motí** 'one', **-bǎ** 'two', **-sǎá** 'three' and **-kwanganya** 'four' take enumerative prefixes, which agree with the class of the head of the noun phrase. Numerals follow the noun they modify.

The concords of the enumerative prefix were listed in 5.1.1 and are repeated here. Classes 1 and 9 also represent their subclasses.

Table 19 Noun-class concords for enumerative prefixes

Class	Enumerative prefix	Class	Enumerative prefix
1	ḡé-	9	yí-
2	ḡá-	2 + 9	ḡayí-
3	mí-	13	tí-
5	lí-	14	ḡí-
6	má-	15	kú-
7	sí-	17	yí-
8	ḡí-	19	sí-

Table 13 in 5.1.1 showed that the enumerative prefixes are different from the noun-class, adjective and associative prefixes. Numeral 1 is [+ATR] and numerals 2 to 4 are [−ATR]. The vowel of the enumerative prefix assimilates to [+ATR] value of **-motí** 'one'. Examples of **-motí** 'one' include:

- (5.127) mu-pósti ḡé-motí 1-larva, sp. 1.NUM-one 'one larva'
 ngága yí-motí 9.chin 9.NUM-one 'one chin'
 ku-vĩ-ko kú-motí 15-fishing net-15 15.NUM-one 'one fishing net'

The enumerative prefix has an underlying and surface H tone. In the following examples, the numeral stem also has a H tone:

- (5.128) ḡa-pósti ḡá-sáá 2-larva, sp. 2.NUM-three 'three larvae'
 ḡa-ngága ḡayí-sáá 2 + 9-chin 2 + 9.NUM-three 'three chins'
 mo-vĩ má-sáá 6-fishing net 6.NUM-three 'three fishing nets'

The vowel of classes 3, 8, 13 and 14 enumerative prefix is /i/, for example:

- (5.129) mu-mbí mí-ḡă 3-basket 3.NUM-two 'two baskets'
 ḡi-bě ḡí-ḡă 8-thigh 8.NUM-two 'two thighs'
 tí-to tí-ḡă 13.whistle-13 13.NUM-two 'two whistles'
 ḡu-ngámá ḡí-ḡă²⁶³ 14-kingdom 14.NUM-two 'two kingdoms'

²⁶³ Class 14 enumerative prefix **ḡí-** with **-motí** 'one', resulting in **ḡímotí**, occurs in free variation with **ḡúmotí**, e.g. **ḡu-ngámá ḡí-motí** 14-kingdom 14.NUM-one 'one kingdom' vs. **ḡu-ngámá ḡú-motí**.

In **mu-mbí mí-ḡǎ**, the head is singular while the quantifier is plural, see (5.23) and (5.24).

Numbers between 10 and 20 are formed by **tékéḡé** '9.ten', **na** 'with' and a number from 1 to 9. When a referent is present, the enumerative prefix of stems for 1 to 4 generally agrees with the head noun in the singular, as the following examples show:

- (5.130) **ḡa-ḡiḡyá tékéḡé na ḡé-motí**²⁶⁴ 'eleven followers'
 2-follower 9.ten with 1.NUM-one
ḡo-míkí tékéḡé na ḡá-sáá 'thirteen children'
 2-children 9.ten with 2.NUM-three
mu-mbí tékéḡé na mí-sáá 'thirteen baskets'
 3-basket 9.ten with 3.NUM-three
ma-ngútu tékéḡé na má-sáá 'thirteen stars'
 6-star 9.ten with 6.NUM-three

Numbers 20, 30 and 40 are formed by the plural of **tékéḡé** '9.ten' and a number from 2 to 4 preceded by the class 2 (plural) prefix, **ḡa-tékéḡé ḡa-ḡǎ**, 2 + 9-ten 2.NUM-two 'twenty', **ḡa-tékéḡé ḡa-sáá**, 2 + 9-ten 2.NUM-three 'thirty', **ḡa-tékéḡé ḡa-kwanganya**, 2 + 9-ten 2.NUM-four 'fourty'. Numbers 50 and up have **ḡa-tékéḡé** followed by a numeral without prefix. Numbers between tens from 21 to 99 are formed by the plural of **tékéḡé** '9.ten', **na** 'with' and a number from 1 to 9.

In absolute counting when no reference is made to a noun, the four numeral stems function as nouns taking the noun-class prefixes of classes 5 and 6: **lí-motí** '5.NUM-one', **má-ḡǎ** '6.NUM-two', **má-sáá** '6.NUM-three', **má-kwanganya** '6.NUM-four'. This is also the case for numbers higher than 10 in constructions in which the referent is absent:

- (5.131) **tékéḡé na lí-motí** 9.ten with 5.NUM-one 'eleven'
tékéḡé na má-ḡǎ 9.ten with 6.NUM-two 'twelve'

²⁶⁴ To express 'one' in 'ten and one', the numeral **-motí** 'one' takes the prefix of the singular class of the referent, **mu-ḡiḡyá** '1-follower'. Another example is **ma-ngútu tékéḡé na lí-motí**, 6-star 9.ten with 5.NUM-one, 'eleven stars'.

6a-tékébé 6á-6ă na lí-motí	2 + 9-ten 2.NUM-two with 'twenty-one'
	5.NUM-one
6a-tékébé 6á-6ă na má-6ă	2 + 9-ten 2.NUM-two with 'twenty-two'
	6.NUM-two

5.4.2 Numerals without enumerative prefixes

The numbers 5 and higher are expressed by nouns or attributive juxtaposition. The basis of 5 is 'one hand': **ku-bó'kú-ko kú-motí** 15-hand-15 15.NUM-one. Number 6 is **madiya** (class 9), e.g. **6a-mbánzó madiya** 2-person 9.six 'six persons'. Number 7 is formed by 'six', **na** 'with' and **u-ká** '9a-odd/even'. **iká** is used for both 'odd' and 'even'. The order determines the meaning, e.g. **iká yá ikpáku yímotí** 'a pair of shoes' vs. **wakatípónító búgu na iká !** 'do not give us an odd number of bananas!'.

Numbers 8, 9 and 10 are class 9 nouns. The plural of 10 is class 2 + 9 **6a-tékébé**. Liko has specific class 9 nouns for 'zero' **păpuyí** ('something empty'), 'a dozen' **kómbá** and 'two dozen' **lidí**. Numbers 100 and higher are loanwords from Congo Swahili or French.

(5.132)	ku6úkúmutí	'five'	
	madiya	'six'	
	madiya na iká	'seven'	
	búguna	'eight'	
	ku6ómú	'nine'	
	tékébé, (6a-)	'ten'	
	6a-tékébé madiya	'sixty'	
	míya	'hundred'	Congo Swahili <i>mia</i>
	élofu	'thousand'	Congo Swahili <i>elfu</i>

5.4.3 Ordinals

Ordinals are expressed in associative constructions in which they follow the head noun and an associative prefix, which agrees with the head noun. Numbers 2, 3 and 4 are prefixed with the class 9 enumerative prefix **yí-**.

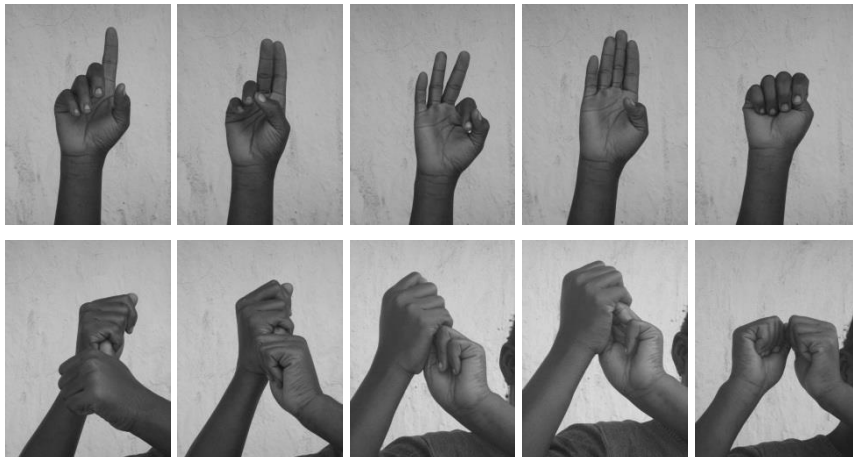
(5.133)	mu-sí wa-yí-bǎ	1-fish 1.ASS-9.NUM-two	'2 nd fish'
	ɓu-likí bǎ- ²⁶⁵ yí-bǎ	14-chair 14.ASS-9.NUM-two	'2 nd chair'
	ɓu-likí bǎ- ²⁶⁵ yí-sǎá	14-chair 14.ASS-9.NUM-three	'3 rd chair'
	ɓu-likí bǎ- ²⁶⁵ yí-kwanganya	14-chair 14.ASS-9.NUM-four	'4 th chair'
	ɓu-likí bǎ-kuɓúkúmutí	14-chair 14.ASS-9.five	'5 th chair'
	ɓu-likí bǎ-maɗiya	14-chair 14.ASS-9.six	'6 th chair'
	ɓu-likí bǎ-maɗiya na ɪká	14-chair 14.ASS-9.seven	'7 th chair'
	ɓu-likí bǎ-ɓugina	14-chair 14.ASS-9.eight	'8 th chair'
	ɓu-likí bǎ-kuɓómú	14-chair 14.ASS-9.nine	'9 th chair'
	ɓu-likí bǎ- ²⁶⁵ tékébé	14-chair 14.ASS-9.ten	'10 th chair'

'First' and 'last' are referred to with nouns, **mambwá** '1a.first one' and **mu-pipiló** '1-last one'. They are used in the same associative constructions.

5.4.4 Gestures for numbers

Liko speakers employ gestures for absolute numbers and for counting, as shown in the two sets of pictures. The first set of pictures shows the gestures for absolute numbers, from 1 to 10.

(5.134)

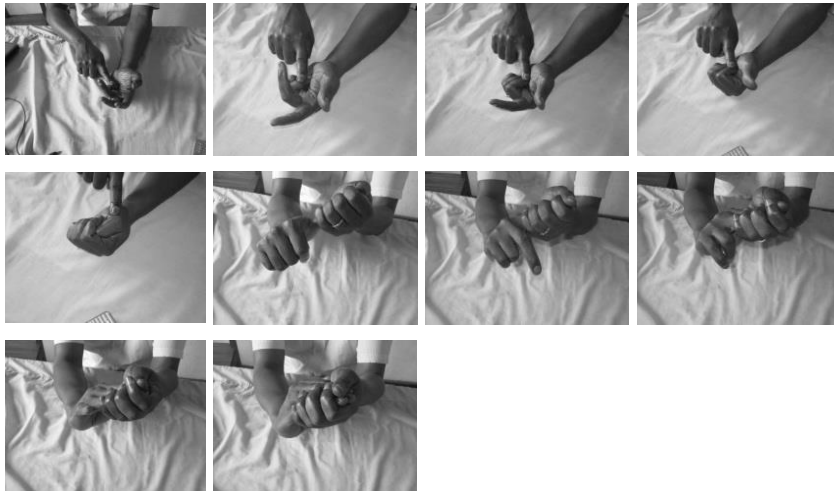


²⁶⁵ For the non-automatic downstepped H tone, see 4.6.5.

- 1: raise index of right hand;
- 2: raise index and middle finger of right hand, thumb touches ring finger;
- 3: raise middle, ring and little finger of right hand, thumb touches index;
- 4: all fingers of right hand raised;
- 5: closed palm of right hand with all fingers bent over thumb;
- 6: fingers of right hand bent over thumb of left hand, other fingers of left hand bent, thumb of right hand against index;
- 7: fingers of right hand bent over thumb and index of left hand, other fingers of left hand bent, thumb of right hand against index;
- 8: fingers of right hand bent over thumb, index and middle finger of left hand, other fingers of left hand bent, thumb of right hand against index;
- 9: fingers of right hand bent over thumb, index, middle finger and ring finger of left hand, little finger of left hand bent, thumb of right hand against index;
- 10: closed palm of both hands with all fingers bent over thumb, hand held against each other with finger bones touching.

The second set of pictures shows the gestures used in counting from 1 to 10.

(5.135)



In counting from 1 to 10, the palm of the left hand faces upwards and the palm of the right hand faces downwards.

- 1: little finger of left hand bent, extended index of right hand touches little finger of left hand;
- 2: little and ring fingers of left hand bent, extended index of right hand touches ring finger of left hand;
- 3: little, ring and middle fingers of left hand bent, extended index of right hand touches middle finger of left hand;
- 4: all fingers of left hand bent over thumb, extended index of right hand touches thumb of left hand;
- 5: all fingers of left hand bent, extended index of right hand touches index of left hand;
- 6: fingers of left hand bent over thumb of right hand;
- 7: fingers of left hand bent over thumb and index of right hand;
- 8: fingers of left hand bent over thumb, index and middle finger of right hand;
- 9: fingers of left hand bent over thumb, index, middle finger and ring finger of right hand;
- 10: fingers of left hand bent over thumb and all fingers of right hand.

5.4.5 Quantifiers

-**st** 'all' is a nominal modifier, which takes an associative prefix which agrees with the head noun. Other quantifying expressions are constructions involving adjectival or numeral stems. -**st** occurs at the end of the noun phrase (5.136a, b, c), or at the end of a clause of which the referent is the subject (5.136d, e, f):

- (5.136)a. 6ε-vanza kakí bayá-st
 2 + 9:9a-family 3SG.POSS 2 + 9.ASS-all
 'all his family (members)' (T2007.8)
- b. 6a-nyamá 6á-st 6á-zǔkan-a
 2-animal 2.ASS-all 3PL^P-jump up-FV
 'All animals jumped up.' (T2006.3)
- c. 6á-vǎ ndí 6u-yí ní-6ó 6á-st
 3PL^P-take:FV P₃ 14-possession COP-2.DEM.I 14.ASS-all
 'They took all these possessions.' (T2007.15)
- d. 6a-kangú 6ó-zǔzuk-og-o 6á-st
 2-paddler 3PL^P-wake up-PLUR-FV 2.ASS-all
 'All the paddlers woke up.' (T2006.2)

- e. 6a-lókú ní-6ó 6ó-dog-6-kú ndi 6á-st
 2-man COP-2.DEM.I 3PL^P-come:PLUR-FV^P-DIR P₃ 2.ASS-all
 'All the men who came.' (T2006.2)
- f. 6o-kó 6á-mu-sengí kakí 6ó-do-kú ndi 6á-st
 2-woman 2.ASS-3-village 3SG.POSS 3PL^P-come:FV-DIR P₃ 2.ASS-all
 'All women of his village came.' (T2009.19)

-st also occurs independently when the referent is known from the context, e.g. **6ásu 6ósilyono** 'All arrived.' (T2006.3).

-kaká 'alone' is a nominal modifier of class 1 nouns, which takes the adjective prefix **mu-**, which agrees with class 1, e.g. **tyí mu-kaká**, 1.PRO 1.ADJ-alone, 'he by himself'. **-kaká** takes enumerative prefix **yí-** for all classes, including class 1, if **-kaká** refers to a referent who performs an action by himself or if **-kaká** refers to one instance of a collection. For example, **tyí yí-kaká**, 1.PRO 9.NUM-alone, 'he by himself, only him', **li-tómbó yí-kaká**, 5.ground 9.NUM-alone, 'the ground by itself' (i.e. without human labour). **yí-kaká** is reduplicated and it has the meaning 'each, every' when it identifies each instance of a group, e.g. **mu-mbáanzú yí-kakáyíkaká**, 1-person 9.ADJ-alone:PL, 'each person' or **(s)u-bukú-so yí-kakáyíkaká**, 19-shrub-19 9.ADJ-alone:PL, 'every shrub'.

Other quantifying expressions are constructions involving adjectival or numeral stems:

(5.137) <u>Basis</u>	<u>Quantifier usage</u>
adjectival stem -kédě 'small'	'few'
adjectival stem -dingĩ 'big'	'many'
numeral stem -6á 'two'	'both'

In the following phrases, the first one of each pair exemplifies adjectival or numeral usage and the second one quantifier usage:

- (5.138)a. sukó mu-kédě 1a.dove sp. 1.ADJ-small 'a small dove, sp.'
 ma-syé ma-kédě 6-day 6.ADJ-small 'few days'
- b. mu-kó mu-dingĩ 1-woman 2.ADJ-big 'a big woman'
 6o-kó 6ú-dingĩ 2-woman 2.ADJ-big 'many women'

- c. 6a-tú 6á-6ă 2-man 2.NUM-two 'two men'
 6a-tú 6á-si 6á-6ă 2-man 2-all 2.NUM-two 'both men'

The use of a singular form of the adjective in combination with a plural referent yields a collective interpretation for the referent in (a) and (b). Recall that the adjective stem is reduplicated when the head noun is plural, e.g. **6a-sukó 6á-kékéké**, 2-dove 2-ADJ-small:PL, 'small doves' and **6o-kó 6ú-díngidingĩ**, 2-woman 2-ADJ-big:PL, 'big women'. In (c), **6á-6ă** modifies **-si** 'all' and indicates that the total equals 'two', hence the meaning 'both'.

The stem **-ínga** 'how many' requires an enumerative prefix. The prefix vowel is lost through V₁-elision or it merges, e.g. **mu-mbí mí-ínga** 3-basket 3.NUM:how many 'how many baskets'. Other examples include:

- (5.139)a. wa na 6o-míkí b́ínga ?
 2SG:be with 2-child 2.NUM:how many
 'How many children do you have?'
 b. na-kwanan-a ká-puly-á kádwe ká ngángá ýínga ?
 1SG-should-FV 9b-forgive-FV up to²⁶⁶ 9.time 9.NUM:how many
 'How many times should I forgive?'

Expressions denoting 'the same', 'other' or 'one self' are formed in different ways. For 'the same', a construction with several demonstratives is used: DEM.III followed by the copula²⁶⁷ and DEM.I, followed by **áka** 'only' and again DEM.I, e.g. **yi ní-nǎ áka nǎ**, 1.DEM.III COP-1.DEM.I only 1.DEM.I, 'the same'. The opposite of 'the same' is expressed by **-gogo** 'other', a nominal stem taking an associative prefix. Reflexives like 'one self' are marked on the verb form with the reflexive prefix (see 7.5.2).

The first set exemplifies 'the same', the second 'other':

- (5.140)a. kó ngb́ngó yi ní-nǎ áka nǎ
 PREP 1a.time 1.DEM.III COP-1.DEM.I only 1.DEM.I
 'at that same time'

²⁶⁶ **kádwe ká** is a fixed expression meaning 'up to'. The basis is the verb **-du-** 'arrive'.

²⁶⁷ See 8.3.2 and 6.1.2.

- b. 6o-kó 6i ní-6ó áka 6o
 2-woman 2.DEM.III COP-2.DEM.I only 2.DEM.I
 'those same women'
- c. ɬ-syé li ní-ló áka lo
 5-day 5.DEM.III COP-5.DEM.I only 5.DEM.I
 'that same day'

- (5.141)a. ngbíngó wă-gɔgɔ 'another time'
 1a.time 1.ASS-other
- b. 6o-kó bá-gɔgɔ 'other women'
 2-woman 2.ASS-other
- c. ɬ-syé lá-gɔgɔ 'another day'
 5-day 5.ASS-other

In a negative context, 'nothing' is expressed by a combination of **lúkí** '5:object', **gutúgu** 'even' and **lí-motí** '5.NUM-one': **lúkí gutúgu límotí**.

- (5.142) nfyó ngbíngó wa-kigisö 6o-lu6ú 6i ní-6ayó
 when 1a.time 1.ASS-9.returning 2+9-debt 2.DEM.III COP-2+9.DEM.I
 í-túly-án-á, si-bĩ Ø-ké-gũ ndi no
 3SG^P:REFL-be ready-ASS-FV^P si:1-tortoise 3SG-NEG:be:FV-NEG P₃ with
lúkí gutúgu lí-motí áka
 5:object even 5.NUM-one CT
 'When the time to return these debts arrived, tortoise had NOTHING.'
 (T2007.3)

6 Pronominal Forms, Invariables and Expressions

6.1 Pronominal substitutives and demonstratives

Liko has several agreement systems. Nouns take noun-class prefixes. Adjectives, nominal modifiers and numerals take prefixes which agree with the noun they modify. Noun-class, adjectival, associative and numeral agreement is described in Chapter 5. Quantifiers and quantifying expressions use various agreements and are described in 5.4.5. Verbal agreement will be presented in 7.4, 7.5 and 8.2.5. Liko has two other agreement systems, in pronominal substitutives and in demonstratives.

6.1.1 Pronominal substitutives and participant pronouns

Pronominal substitutives in Liko translate as pronouns. They replace a noun or noun phrase and they have a form which agrees with the noun class of the noun they refer to. The structure of the substitutives is **ɿ-** followed by the consonant of the pronominal prefix and the stem of the substitutive. The class 15 substitutive takes the pronominal prefix **kó-**, not only the consonant. The stem in classes 3 and higher is **-ú**. The substitutive of classes 1 and 2 is different in that only the initial **ɿ-** corresponds with the other classes. The forms attested are presented in the following table. The third column presents the underlying form. In this book, the underlying structure of the substitutives is not represented in the glosses.

Table 20 Pronominal substitutives

Class	Substitutive	
1	ɿyí	/ɿ-yí/
2	ɿbú	/ɿ-bú/
3	imú	/ɿ-m-ú/
5	ilú	/ɿ-l-ú/
6	imú	/ɿ-m-ú/
7	isú	/ɿ-s-ú/
8	ibú	/ɿ-b-ú/
9	iyú	/ɿ-y-ú/
2 + 9	iboyú	/ɿ-ba-y-ú/

Class	Substitutive	
13	itú	/t-t-ú/
14	iḃú	/t-ḃ-ú/
15	ikwú	/t-kú-ú/
17	- ²⁶⁸	-
19	isú	/t-s-ú/

Table 21 Participant pronouns

Singular	Plural
1SG tmt	1PL iḃúsú
2SG twe	2PL iḃúnú

The stem of substitutives of classes 1 and 2 and singular participant pronouns is underlyingly [–ATR]. The stem of other substitutives and plural participant pronouns is [+ATR].

The class 1 and 2 substitutives refer to participants introduced earlier in a text, in (6.1a) to someone who stole food and in (6.1b) to people who had been talking:

- (6.1)a. ḃá-mwó tɣí
 3PL^P:1.O-kill:FV 1.PRO
 'They killed him.' (*T2006.2*)
- b. tḃú ḃá-sɿ ḃó-misík-ón-óg-i-ní
 2.PRO 2.ASS-all 3PL-disperse:NEUT-ASS-PLUR-FV.ANT-PFV
 'They have all dispersed.' (*T2006.1*)

Subjects, as in (6.2), and objects, as in (7.16), can be emphasized with a substitutive, in which case the substitutive follows the verb, e.g.:

- (6.2)a. mu-lúkú á-ḃak-á kúwa tɣí kú-gǔ
 1-man 3SG^P-climb-FV^P thus 1.PRO 17-top
 'The man (emphasized) climbed to the top.' (*T2006.10*)
- b. mu-básunzí ø-kú-tík-ag-t-gǔ ndɿ tɣí ḃo-míkakí
 1-cockroach 3SG-NEG:2.O-send-PLUR-FV-NEG P₃ 1.PRO 2-child:3SG.POSS

²⁶⁸ No substitutive for class 17 nouns has been found in texts or using elicitation.

6í-gala-gala kú ká měne dǎki
 MOD-fast there PREP 1a.blood brother 1a.s.o. of same age:3SG.POSS
 'Cockroach (emphasized) could not quickly send his children to his
 blood-brother.' (T2007.8)

The substitutive referring to the subject occurs preceding the object as shown in (b) and it does not affect agreement between the object prefix in the verb form and the object.

In examples below, **isú** '19.PRO' refers to **si-múí-sò** '19-circumcision-19', **iyú** '9.PRO' refers to **bǔbunzá** '9.rotton mushroom' and **boyú** '2 + 9.PRO' refers to **fo-tú** '2 + 9-clothes'; in the last two examples, the object is referred to.

- (6.3) kínili si-múí-sò sí-dingĩ ø-ké-gu batǎ.
 that is why 19-circumcision-19 19.ADJ-big 3SG-NEG:be:FV-NEG again
 ní-só sá-mastbú ø-ké-gu isú na bǔpé
 COP-19.DEM.I 19.ASS-"mastbú" 3SG-NEG:be:FV-NEG 19.PRO with 2:taboo
 'That is why the big circumcision no longer exists. That one of "mastbú"
 (emphasized) does not have taboos.' (T2006.4)

- (6.4) sukopí no gbukó 6é índ-í
 1a.leopard and 9.rat COMP 3SG:go-FV.SUBJ
 ká-kís-á bǔbunzá, ø-kig-o-kú na iyú,
 9b-search-FV 9.rotten mushroom 3SG-COND:return-FV-DIR with 9.PRO
 'Leopard [said] to rat that he should go to find rotten mushrooms, [and] if
 he returns with them, ...' (T2006.3)

- (6.5) ngámá, ma-ka-mwó Ikóǒbú, mó-do-kú ké-⁴pá
 1a.chief 2PL-COND:1.O-kill:FV "Ikoǒbú" 2PL-come:FV-DIR 9b:1SG.O-give:FV
 fo-tú kakí, nó-pup-í na boyú kú-nzi
 2 + 9-clothes 3SG.POSS 1SG-leave-FV.SUBJ with 2 + 9.PRO 17-outside
 'Chief, if you (pl) kill Ikoǒbú, you (pl) come to give me his clothes, so that I
 go outside with them.' (T2009.21)

The initial vowel of pronominal substitutives can be left unpronounced. Following **na** 'and, with', the initial vowel of the substitutive is often elided and the vowel of

wí-tíkíl-og-o nomú.
 2SG:REFL-cover-PLUR-FV.INST with:6.PRO
 'Smell the fragrance of the oil, a nice smell. When it has cooled
 down, pour it into a container. We do thus, after washing ourselves,
 cover yourself with it.' (T2006.6)

6.1.2 Demonstratives

The Liko language has three types of demonstratives, referred to by the Roman numerals I, II, III. These three types are presented in the following table. They follow their referent and agree in noun class with it.

Table 22 Demonstratives

Class	DEM.I	DEM.II	DEM.III
1	nǎ ²⁶⁹	mù	yǐ
2	ḃo	ḃà	ḃĩ
3	mɔ	mà	mĩ
5	lo	lì	lĩ
6	mɔ	mà	mĩ
7	sɔ	sì	sĩ
8	ḃo	ḃì	ḃĩ
9	yɔ	yì	yĩ
2+9	ḃàyɔ ²⁷⁰	ḃàyi	ḃòyi ²⁷¹
13	tɔ	tì	tĩ
14	ḃo	ḃà	ḃĩ
15	kwɔ	kwì	kwĩ
17	yɔ	yì	yĩ
19	sɔ	sì	sĩ

²⁶⁹ The tone of class 1 nǎ is invariable and different from the other type I demonstratives.

²⁷⁰ The tone of class 2+9 ḃàyɔ is invariable and different from the other type I demonstratives.

²⁷¹ The LH tone of type III demonstrative surfaces as Low on the first part of this complex prefix and as High on the second.

The tones in Table 22 represent the underlying tone of demonstratives; no tone mark indicates that the demonstrative is not specified for tone. Underlying and surface tone will be addressed below.

Noun subclasses take the same agreement as their main class; for examples, see 5.1.1. Demonstratives of types I and II are [−ATR] and do not harmonize with a [+ATR] value of a preceding word. Demonstratives of type III are [+ATR]. The surface tone of demonstratives of all types can be Low, High, or a LH tone. Data will be presented first to determine the underlying tone and the ways in which tone surfaces. The semantics and use of the three sets will be described next.

6.1.2.1 Underlying and surface tone

a. Demonstrative of type I (DEM.I)

Consider the surface tone on the demonstrative in (6.9), where the referent has a H, L.H or H.L tone pattern and is followed by a demonstrative of type I (DEM.I):

(6.9)a.	li-ndímó ló	5-birdlime 5.DEM.I	'this birdlime'
	úmó yó	9.savanne 9.DEM.I	'this savanne'
b.	li-kumbá ló	5-hoop net 5.DEM.I	'this hoop net'
	sembé yó	9.fishing fence 9.DEM.I	'this fishing fence'
c.	li-ngwálu lo	5-tree 5.DEM.I	'this tree, sp.'
	ngága yó	9.chin 9.DEM.I	'this chin'

The surface tone on the demonstrative is High in (a, b) and Low in (c).

If the underlying tone of the demonstrative were High, there would be no phonological reason why it is Low following a H.L pattern as in (6.9c). There are dozens of trisyllabic nouns with a H.L.H pattern,²⁷² and thus Liko does not have a constraint on a sequence of H.L.H which would prevent the demonstrative from surfacing with a H tone in (6.9c). The other possibility for lowering a putative H tone, is deleting a H tone in the context of a preceding Low, but this is not attested elsewhere in the language. Thus, the underlying tone of the type I demonstrative cannot be High.

²⁷² For example, **mu-básunzi** '1-cockroach', **li-gókulá** '5.forked pole' and **kóloóbú** '9.disease'.

When nouns with a noun-class enclitic with a surface L tone are followed by a demonstrative of this type, the surface tone on the demonstrative is also Low:

- (6.10)a. ɪ-sásá-su sɔ 19-feather-19 19.DEM.I 'this feather'
 (s)ɪ-bukú-sɔ sɔ 19-shrub-19 19.DEM.I 'this shrub, drug'
 b. tátá-tu tɔ 13.feather-13 13.DEM.I 'these feathers'
 bukú-tɔ tɔ 13.shrub-13 13.DEM.I 'these shrubs, drugs'
 c. ku-bá'ngá-ku kwɔ 15-fear-15 15.DEM.I 'this fear'
 ku-pasí-kɔ kwɔ 15-peeling-15 15.DEM.I 'this peeling'

In the following examples, an adjective or a modifier occurs between the head noun and the demonstrative. These data show that the surface tone of the demonstrative is identical to its preceding tone.

- (6.11)a. li-ndímó lí-kédě lí 5-birdlime 5.ADJ-small 5.DEM.I 'this little birdlime'
 úmó yí-kúdí yó 9.savanne 9.ADJ-short 9.DEM.I 'this short savanne'
 b. li-ndímó lá-nye lɔ 5-birdlime 5.ADJ-bad 5.DEM.I 'this bad birdlime'
 úmó yá-dɛ yɔ 9.savanne 9.ADJ-wet 9.DEM.I 'this wet savanne'

If type I demonstratives are assumed to be underlyingly toneless, then H-tone spreading (see 4.6.1) to the TBU of the demonstrative causes the surface H tone in (6.9a, b) and in (6.11a). Surface L tone in (6.9c), (6.10) and in (6.11b) is the realization of the default L tone for remaining toneless syllables.

There is one case of unexpected surface tone realizations: type I demonstratives with a surface H tone following a L tone. Nouns with a L tone pattern are relatively rare, see 4.4.1. Remarkably, the surface tone on a following type I demonstrative is not Low, but High:²⁷³

- (6.12) li-nungu ló 5-termite hill 5.DEM.I 'this termite hill'
 kpɔzyɔ yó 9.plant 9.DEM.I 'this plant, sp.'

Realization of the opposite tone of the tone preceding the demonstrative also

²⁷³ This is also observed in the case of noun-class enclitics, see Table 15 in 5.1.2.

happens when the type I demonstrative is preceded by a modifier with at least two TBUs with a L tone:

- (6.13) li-ndímó lá-wese ló 5-birdlime 5.ADJ-soft 5.DEM.I 'this soft birdlime'
 úmó yá-wese yó 9.savanne 9.ADJ-soft 9.DEM.I 'this fragile savanne'

It appears that the surface tone of a type I demonstrative is identical to the preceding tone, unless the preceding morpheme only has L tones. The demonstrative surfaces with a H tone in that case.

The tone of class 1 affixes is sometimes different from other classes, e.g. the associative prefixes (see Table 13 in 5.1.1). Demonstratives of type I, which agree with class 1 nouns and subclasses of class 1, surface with a LH tone regardless of the tone pattern of the preceding noun. Examples include:

- (6.14)a. mu-kó nǎ 1-woman 1.DEM.I 'this woman'
 nékókó nǎ 1a.instrument 1.DEM.I 'this musical instrument'
 b. mu-buyú nǎ 1-caterpillar 1.DEM.I 'this caterpillar, sp.'
 na-gbalí nǎ na:1-frog 1.DEM.I 'this frog, sp.'
 c. mu-pósti nǎ 1-larva 1.DEM.I 'this larva, sp.'
 kpóló nǎ 1a.side 1.DEM.I 'this side'
 d. mu-nzeki nǎ 1-termite 1.DEM.I 'this termite, sp.'
 dinga nǎ 1a.period 1.DEM.I 'this period'

With respect to the complex class 2 + 9 demonstrative **ɓayó**, the first part is the class 2 (nominal) prefix with a L tone and the second part is the class 9 demonstrative with invariably a H tone:

- (6.15)a. ɓo-úmó ɓayó 2 + 9-savanne 2 + 9.DEM.I 'these savannes'
 b. ɓa-sembé ɓayó 2 + 9-fishing fence 2 + 9.DEM.I 'these fishing fences'
 c. ɓa-ngága ɓayó 2 + 9-chin 2 + 9.DEM.I 'these chins, sp.'
 d. ɓa-kpozɔ ɓayó 2 + 9-plant 2 + 9.DEM.I 'these plants, sp.'

The H tone of the class 2 + 9 demonstrative is realized at a lower pitch level than a preceding H tone, due to automatic downstep.

b. Demonstrative of type II (DEM.II)

The demonstratives of type II (DEM.II) have an underlying L tone, which surfaces as a L tone regardless of whether the preceding noun has a H, L.H, H.L or L tone pattern. I use the same nouns as in (6.9) and (6.12):

- (6.16)a. li-ndímó lɪ 5-birdlime 5.DEM.II 'this birdlime'
 úmó yɪ 9.savanne 9.DEM.II 'this savanne'
- b. lɪ-kumbá lɪ 5-hoop net 5.DEM.II 'this hoop net'
 sembé yɪ 9.fishing fence 9.DEM.II 'this fishing fence'
- c. lɪ-ngwálu lɪ 5-tree 5.DEM.II 'this tree, sp.'
 ngága yɪ 9.chin 9.DEM.II 'this chin'
- d. li-nungu lɪ 5-termite hill 5.DEM.II 'this termite hill'
 kpɔzyɔ yɪ 9.plant 9.DEM.II 'this plant, sp.'

The surface tone of demonstratives of type II is also Low when the referent noun belongs to other noun classes, as in the following three sets.

Examples of DEM.II with nouns of class 1:

- (6.17)a. mu-kó mʊ 1-woman 1.DEM.II 'this woman'
 nékókó mʊ 1a.instrument 1.DEM.II 'this musical instrument'
- b. mu-buyú mʊ 1-caterpillar 1.DEM.II 'this caterpillar, sp.'
 na-gbalí mʊ na:1-frog 1.DEM.II 'this frog, sp.'
- c. mʊ-pósti mʊ 1-larva 1.DEM.II 'this larva, sp.'
 kpólɔ mʊ 1a.side 1.DEM.II 'this side'
- d. mʊ-nzeki mʊ 1-termite 1.DEM.II 'this termite, sp.'
 dɪŋga mʊ 1a.period 1.DEM.II 'this period'

Examples of DEM.II following noun-class enclitics:

- (6.18)a. ɪ-sásá-su sɪ 19-feather-19 19.DEM.II 'this feather'
 (s)ɪ-bukú-sɔ sɪ 19-shrub-19 19.DEM.II 'this shrub, drug'
- b. tátá-tu tɪ 13-feather-13 13.DEM.II 'these feathers'
 bukú-tɔ tɪ 13-shrub-13 13.DEM.II 'these shrubs, drugs'
- c. ku-bá'ngá-ku kwɪ 15-fear-15 15.DEM.II 'this fear'
 ku-pasí-kɔ kwɪ 15-peeling-15 15.DEM.II 'this peeling'

Examples of DEM.II with nouns of class 2 + 9:

- (6.19)a. ɓo-úmó ɓayɪ 2 + 9-savanne 2 + 9.DEM.II 'these savannes'
- b. ɓa-sembé ɓayɪ 2 + 9-fishing fence 2 + 9.DEM.II 'these fishing fences'
- c. ɓa-ngága ɓayɪ 2 + 9-chin 2 + 9.DEM.II 'these chins, sp.'
- d. ɓa-kpɔzyɔ ɓayɪ 2 + 9-plant 2 + 9.DEM.II 'these plants, sp.'

c. Demonstrative of type III (DEM.III)

The examples below show that demonstratives of type III (DEM.III) have a LH tone if the preceding noun has a final H tone and a H tone if it has a final L tone:

(6.20)a.	li-ndímó lí	5-birdlime 5.DEM.III	'this birdlime'
	úmó yǐ	9.savanne 9.DEM.III	'this savanne'
b.	lɛ-kumbá lí	5-hoop net 5.DEM.III	'this hoop net'
	sembé yǐ	9.fishing fence 9.DEM.III	'this fishing fence'
c.	lɛ-ngwálu lí	5-tree 5.DEM.III	'this tree, sp.'
	ngága yí	9.chin 9.DEM.III	'this chin'
d.	li-nungu lí	5-termite hill 5.DEM.III	'this termite hill'
	kpɔzyɔ yí	9.plant 9.DEM.III	'this plant, sp.'

The surface tone on the demonstrative is a LH tone in (6.20a, b) and a H tone in (6.20c, d). If, underlyingly, the demonstratives of type III have a combined LowHigh associated with one TBU, then the surface tones are explained by the merger of one of the parts of the LH to an identical neighbouring tone (see 4.6.2). More examples which support this analysis are given below.

Examples of DEM.III with nouns of class 1:

(6.21)a.	mu-kó yǐ	1-woman 1.DEM.III	'this woman'
	nékókó yǐ	1a.instrument 1.DEM.III	'this musical instrument'
b.	mu-buyú yǐ	1-caterpillar 1.DEM.III	'this caterpillar, sp.'
	na-gbalí yǐ	na:1-frog 1.DEM.III	'this frog, sp.'
c.	mɔ-póst yí	1-larva 1.DEM.III	'this larva, sp.'
	kpóló yí	1a.side 1.DEM.III	'this side'
d.	mɔ-nzekɛ yí	1-termite 1.DEM.III	'this termite, sp.'
	dinga yí	1a.period 1.DEM.III	'this period'

The demonstrative surfaces with a LH tone if the preceding TBU has a H tone and it surfaces with a H tone if the preceding TBU has a L tone.

Examples of DEM.III following noun-class enclitics:

(6.22)a.	ɛ-sásá-su sí	19-feather-19 19.DEM.III	'this feather'
	(s)ɛ-bukú-so sí	19-shrub-19 19.DEM.III	'this shrub, drug'
b.	tátá-tu tí	13-feather-13 13.DEM.III	'these feathers'
	bukú-to tí	13-shrub-13 13.DEM.III	'these shrubs, drugs'

- In the examples below, the type III demonstrative is followed by the copula with a H tone²⁷⁴ plus another demonstrative (DEM.II). When the preceding noun ends with a H tone as in (6.23), the High part of the LH tone on the DEM.III merges with the following H tone.

(6.23)a. 6a-né-kókó bi ní-6a 'these musical instruments here'
2-na:1-musical instrument 2.DEM.III COP-2.DEM.II

b. li-ndímó li ní-lí 'this birdlime here'
5-birdlime 5.DEM.III COP-5.DEM.II

c. sèmbé yi ní-yí 'this fishing fence here'
9.fishing fence 9.DEM.III COP-9.DEM.II

It is interesting to see what happens when both options are open: merger of either part of the LH tone. The Low part merges with the preceding L tone in this environment:

(6.24)a.	6a-nzekí bí ní-6a	'these termites, sp. here'
	2-termites 2.DEM.III COP-2.DEM.II	
b.	lí-ngwálu lí ní-lí	'this tree, sp. here'
	5-tree 5.DEM.III COP-5.DEM.II	
c.	ngága yí ní-yí	'this chin here'
	9.chin 9.DEM.III COP-9.DEM.II	

Demonstratives of type III which agree with class 2+9 nouns are complex, consisting of class 2 (nominal) prefix **ḡa-** (which assimilates to the [+ATR] value of the demonstrative) and class 9 demonstrative **-yĩ**:

²⁷⁴ Motingea, p.c., suggested that this form may be related to stabilizer **né** (CS 2265). If this is the case, the copula, **ni**, can be distinguished from the element preceding demonstrative forms, **ni-**, by its tone.

- (6.25)a. 6o-úmó 6oyí²⁷⁵ 2+9-savanne 2+9.DEM.III 'these savannes'
 b. 6a-sembé 6oyí 2+9-fishing fence 2+9.DEM.III 'these fishing fences'
 c. 6a-ngága 6oyí 2+9-chin 2+9.DEM.III 'these chins, sp.'
 d. 6a-kpɔzyɔ 6oyí 2+9-plant 2+9.DEM.III 'these plants, sp.'

It cannot be tested what happens when 2+9 6oyí is followed by the copula, because this environment does not exist:

- (6.26)a. *6o-tú 6oyí ní-6ayɪ *Int.* 'these clothes here'
 2+9-clothes 2+9.DEM.III COP-2+9.DEM.II
 b. 6o-tú 6i ní-6ayɪ 'these clothes here'
 2+9-clothes 2.DEM.III COP-2+9.DEM.II

Only (b) is grammatical. The High part of the LH tone on class 2 demonstrative 6ĩ is associated with the following H tone on the copula.

6.1.2.2 Semantics and use

a. Demonstratives of type I and II

Spatial deixis is expressed in Liko by type II demonstratives (proximal) and a lengthened form of type I demonstratives (distal) in combination with a location adverb. The proximal type II demonstrative refers to an entity that is near to both the speaker and the addressee. The type I demonstrative with vowel lengthening refers to an entity that is distant from both the speaker and the addressee. In their basic form, type I demonstratives are referential in the sense that they refer to entities that have been mentioned. Basic type I demonstratives are often used for text-internal reference or for the activation of a participant in a text. Type III demonstratives indicate exclusiveness and are not used for deixis.

The following sentences exemplify the use of type II demonstratives with proximal use:

- (6.27)a. wam-ib-ag-a-tú mu-kó (ní-)mu ?
 2SG:1.O-know-PLUR-FV-INS 1-woman COP-1.DEM.II
 'Do you know this woman?'

²⁷⁵ The H tone of class 9 demonstrative surfaces at a lower pitch, due to automatic downstep.

- b. 6ú-kɔg-ɔ 6o-míkí 6ú-dingĩ ká mu-gĩ (ní-)ma
 3PL:2.O-cut:PLUR-FV 2-child 2.ADJ-big PREP 3-village COP-3.DEM.II
 'Many children are usually circumcised in this village.'
- c. tómón-ó-ni ma-kpumúká (ní-)ma
 think-FV.IMP-ADDR 6-thing COP-6.DEM.II
 'Think about these things!'

In (a), demonstrative type II is used to indicate that the referent, the woman or the village, is present at the site of the speech act. In (b), the interlocutors are in the village referred to in the sentence. The things referred to in (c) are physical entities near to the speaker and the addressee.

In case the referent has been mentioned before, or in case it is not relevant to indicate whether the referent is present or not, a type I demonstratives is used:

- (6.28)a. wam-ib-ag-a-tú mu-kó (ní-)nǝ ?
 2SG:1.O-know-PLUR-FV-INS 1-woman COP-1.DEM.I
 'Do you know this woman?'
- b. 6ú-kɔg-ɔ²⁷⁶ 6o-míkí 6ú-dingĩ ká mu-gĩ (ní-)mó
 3PL:2.O-cut:PLUR-FV 2-child 2.ADJ-big PREP 3-village COP-3.DEM.I
 'Many children are usually circumcised in this village.'
- c. tómón-ó-ni ma-kpumúká (ní-)mó
 think-FV.IMP-ADDR 6-thing COP-6.DEM.I
 'Think about these things!'

In (a) and (b), the speaker nor the hearer needs to be close to the referent. In (c), the things referred to are non-concrete entities.

Both type I and II can directly follow the noun they modify in isolated noun phrases as seen in the examples (6.9) to (6.19). In sentences however, these types of demonstratives generally occur following the copula. The meaning of a construction with the copula and a demonstrative of type I or II is the same as a simple demonstrative.²⁷⁷

²⁷⁶ Vowel copy after height coalescence has applied to the sequence of the [-ATR] high vowel of the -CV- verb and the final vowel -a.

²⁷⁷ As far as can be attested with the available data.

Compare the demonstratives at the end of the sentences below²⁷⁸ to see the importance of the fact that the referent is present when a type II demonstrative is used. (6.29a) has a type I and (6.29b, c) have type II demonstratives. The Liko consultants I worked with find (6.29b) semantically strange, because it is difficult to imagine that an animal that has been eaten could be present. When the verb is in the Future, using the type II demonstrative is no problem, as can be seen in (6.29c):

- (6.29)a. waní nǒ á-⁴ly-á ndi nyamá ní-nǒ ?
 1a.who 1.DEM.I 3SG^P:1.O-eat-FV^P P₃ 1a.animal COP-1.DEM.I
 'Who ate this animal?'
- b. ?waní nǒ á-⁴ly-á ndi nyamá ní-mu ?
 1a.who 1.DEM.I 3SG^P:1.O-eat-FV^P P₃ 1a.animal COP-1.DEM.II
Int. 'Who ate this animal (present)?'
- c. waní nǒ a-ly-a nyamá ní-mu ?
 1a.who 1.DEM.I 3SG:1.O-eat-FV 1a.animal COP-1.DEM.II
 'Who will eat this animal (present)?'

To express degrees of physical remoteness of the referent, the language uses a type I demonstrative with a lengthened vowel and the location adverb **kú** 'there':

- (6.30)a. líbó (ní-)lǒ
 5.water COP-5.DEM.I
 'This/that river'
- b. líbó ní-lǒ
 5.water COP-5.DEM.I
 'That river over there'
- c. líbó ní-lǒ kú
 5.water COP-5.DEM.I there
 'That river over there'
- d. líbó ní-lǒ kúu
 5.water COP-5.DEM.I there
 'That river far away'

In (a), the river referred to has been mentioned before and is either near or farther away. In (b) and (c), the river is at a distance for both the speaker and the hearer.

²⁷⁸ The first demonstrative in these sentences, **nǒ**, follows question word **waní**.

In (d), with both the demonstrative and the location adverb having a lengthened vowel, the river is far from both the speaker and the hearer.

The connecting clitic **-ná** is often present, but not obligatory, when a type II demonstrative does not occur at the end of a clause. This can be seen in the following examples. A type II demonstrative is followed by the main verb in (6.31a) and by an adjective in (6.31b):

- (6.31)a. gbukó ní-mu-ná ág-ǎ ndi ká-⁴ḡky-á ngámá
 9.rat COP-1.DEM.II-CONN 3SG^P:leave-FV P₃ 9b:1.O-say-FV 1a.chief
 'Rat (here present) left to tell the chief.' (T2006.3)
- b. bá-kɔ mu-palú ní-ma-ná má-ndǎ²⁷⁹
 3PL^P-cut:FV 3-barrier²⁸⁰ COP-3.DEM.II-CONN 3.ASS-long
 They cut this long barrier (here present).' (T2009.21)

Another example, with class 5.DEM.II **ní-lɪ**, shows the absence and presence of **ná**, depending on the position of type II demonstrative:

- (6.32)a. tyí nǎ mbúkwá li-simó li ní-lɪ
 1.PRO 1.DEM.I 1a.owner 5-inheritance 5.DEM.III COP-5.DEM.II
 'He is the owner of this inheritance (exclusive).'
- b. á-tw-á li-zuní li ní-lɪ-ná kó bulýó
 3SG^P-speak-FV^P 5-proverb 5.DEM.I COP-5.DEM.II-CONN PREP 9.reason
 ka-ḡo-míkí
 GEN-2-child
 'He spoke this proverb (exclusive) for his children.'

Independent use of type I demonstratives is possible when the referent does not occur within the sentence. Examples of independent use of demonstrative type I, with (6.33b, c) and without (6.33a) the copula are:

- (6.33)a. ó-bís-o ḡo-kpokúkú ḡoyí ká ndáḡu ka-ḡo-bikó,
 3SG^P-put-FV 2+9-cooking pot 2+9.DEM.III PREP 9.house GEN-2-visitor

²⁷⁹ With **-ndǎ** 'long', an adjective prefix instead of an associative prefix is expected (see 5.2.1).

²⁸⁰ I.e. a barrier in the forest with passage ways where traps are installed.

- kyé nǝ Ø-ki6-ó, bá-mwó iyí bégeyó
 because 1.DEM.I 3SG-COND:steal-FV 3PL:1.O-kill:FV 1.PRO likewise
 'He put these cooking pots (emphasized) in the guesthouse, so that if
 someone steals, they will kill him (emphasized) likewise.' (T2006.2)
- b. ɪ-kí píye ? ní-6ó 6o-túgbǝ bá-ná-bum-an-ag-á
 9a-what thus COP-2.dem.I 2-strong man 3pl-INCH-fight-ASS-PLUR-FV
 na 6a-lókú 6a-dǎ6u
 with 2-man 2-s.o. of same age:3PL.POSS
 'What happened? Those who are strong men started to fight with men of
 their age.' (T2006.2)
- c. ǎ ndɪ ní-só bá-luk-y-ag-ǎ ndɪ 6é
 3SG:be P₃ COP-7.DEM.I 3PL^P-call-APPL-PLUR-FV P₃ COMP
 si-múí-sǝ sí-dingĩ
 19-circumcision-19 19.ADJ-big
 'There was that one which they called big circumcision.' (T2006.4)

In (a), **nǝ** refers to a man without the referent noun being present, in (b), **ní-6ó** refers to a group of men (**6o-túgbǝ** '2-strong man' is not the referent, because it follows the demonstrative) and in (c), **ní-só** refers to a circumcision ritual, but the referent noun is absent.

Type I and II demonstratives are used as relative pronouns. Relative clauses are described in 8.4.

b. Demonstratives of type III

I now turn to demonstratives of type III. Demonstratives of type III indicate exclusiveness of the referent, i.e. this entity and not another one. Type III demonstratives are optionally combined with type I or II in the order noun + DEM.III + DEM.I/DEM.II. Type III demonstratives are exemplified in the following three sets, the first one has DEM.III only, the second has a combination of DEM.III and DEM.I, while the third set has a sequence of DEM.III and DEM.II.

Type III demonstratives:

- (6.34)a. sǝ yĩ und-a 6yĩ
 9.smell 9.DEM.III 3SG:go-FV far
 'This smell (exclusive) goes far.' (T2006.6)

- Type III followed by type I demonstratives:

- Notice how in (6.35d) the type III demonstrative of class 2 is used, between a class 2 + 9 noun and a type I demonstrative. A class 2 + 9 type III demonstrative is not acceptable in this context: ***bodongbú boyí níbayó**.

²⁸¹ In constructions with the demonstrative of type III, the copula is obligatory: ***musuká yĩ**
nǝ 66ĩnǝ ndĩ.

Type III followed by type II demonstratives:

- (6.36)a. $\emptyset$ -ké-gu na nyamá ní-nǎ kó tutú
 3SG-NEG:be:FV-NEG with 1a.animal COP-1.DEM.I PREP 9.forest
 yi ní-yi ná-kǎ-¹mwó-gu.
 9.DEM.III COP-9.DEM.II 1SG^P-NEG:1.O-kill:FV^P-NEG
 'There is no animal which lives in this forest (exclusive) that I did not kill.' (T2006.1)
- b. 6a-lókú 6á-6ǎ 6i ní-6a-ná 6á-pan-an-ag-ǎ ndi kúgbe
 2-man 2.NUM- 2.DEM.III COP-2.DEM.II- 3PL^P-want: P₃ very
 two CONN ASS-ASS-PLUR-FV
 'These two men (exclusive) loved each other very much.' (T2009.21)

In (b), **ní6aná** is interpreted as a relative pronoun when there is a pause between the type III and the type II demonstrative: 'These two men (exclusive), who loved each other very much'.

Type III demonstratives occur in a number of combinations that have become fixed expressions, e.g. **míkí mukó yí** 'girl', **6omíkí 6alókú 6í** 'boys', **kúmbúso yí** 'afterwards, later' and **ngbín6ó yi nínǎ** 'at that time, when'.²⁸²

Demonstratives of type III cannot function as relative pronouns:

- (6.37)a. mu-ská yí ó-bín-o
 1-girl 1.DEM.III 3SG^P-dance-FV
 'That girl (exclusive) danced.' / *'The girl who danced.'
- b. *a kǎ-¹ly-á nyamá yí nǎ-mwí
 3SG:be 9b:1.O-eat-FV 1a.animal 1.DEM.III 1SG:1.O-kill:FV.ANT
Int. 'He is eating this animal (exclusive) which I killed.'
- c. *a kǎ-¹ly-á nyamá yí nǎ-mwí nǎ
 3SG:be 9b:1.O-eat-FV 1a.animal 1.DEM.III 1SG:1.O-kill:FV.ANT 1.DEM.I
Int. 'He is eating this animal (exclusive) which I killed.'

²⁸² **míkí mu-kó yí** '1a.child 1-woman 1.DEM.III', **6o-míkí 6a-lókú 6í** '2-child 2-man 2.DEM.III', **kú-mbúso yí** '17-back 17.DEM.III', **ngbín6ó yi ní-nǎ** 'at 1a.time 1.DEM.III COP-1.DEM.I'.

6.2 Possessive pronouns and genitival constructions

The genitive prefix **ka-** occurs in possessive pronouns and in genitival constructions.

6.2.1 Possessive pronouns

Liko possessive pronouns are presented in the following table:

Table 23 Possessive pronouns

Singular		Plural	
1SG	kǎmɪ	1PL	kusú
2SG	kakú	2PL	kunú
3SG	kakí	3PL	kaɓú

Possessive pronouns consist of the genitive prefix **ka-** and (part of) a participant pronoun or substitutive, all without initial **ɪ-** and with several other differences.²⁸³

The first person singular has a LH tone on the genitive prefix. The second person singular **-ú** is reminiscent of the oral sonorant /w/ of the participant pronoun and the third person singular **-í** of class 1 substitutive **-yí**; both have epenthetic /k/. In the first and second person plural possessive pronouns, V₁-elision is applied to the vowel of the genitive prefix in the context of **-usú** and **-unú**.

Examples include:

- (6.38)a. mu-kúmbó kakú, wa-maky-a ká ndáɓu kakú
 1-luggage 2SG.POSS 2SG-put in-FV PREP 9.house 2SG.POSS
 'Your belongings, you will store in your house.' (T2006.8)
- b. á-gbágí ní saɓŋni kusú
 1b-soap COP 1a.soap bar 1PL.POSS
 'Agbagi is our soap.' (T2006.5)

Objects in nature, e.g. rivers or stars, are hardly ever followed by a possessor as for the Liko people, they cannot be possessed by men. Geographical locations can be

²⁸³ In the glosses in this book, possessive pronouns are glossed as a single form, **kǎmɪ** '1SG.POSS', etc.

said to be possessed by a group if the ancestors had lived there. In contrast with objects in nature, family members and parts of the body are often followed by a possessive pronoun. The natural way is to include the possessor, e.g. **babě kací nímu** 'this his/her father' (**babě kací** is usually shortened to **aběki**) or **mů kámu níma** 'this my head'. **baba nímu**, 'this father' or **mu ní-ma**, 'this head' are not considered as ungrammatical, but they are considered incomplete.²⁸⁴

6.2.2 Genitival constructions

Genitival constructions consist of a head noun referring to the possessee, the genitive prefix **ka-** and a noun referring to the possessor. The latter noun keeps its noun-class prefix in genitival constructions, which means that the genitive prefix precedes the noun-class prefix. Possessors are usually human.

The genitive prefix **ka-** is subject to [ATR] vowel harmony. The prefix vowel harmonizes with the [+ATR] value when it occurs within the domain of [+ATR] spreading, i.e. immediately preceding a stem associated with the [+ATR] value (see 3.2.2.3).

I will first give examples in which the possessor is human:

- (6.39)a. ndábu ka-6o-bikó
 9.house GEN-2-visitor
 'house of visitors', i.e. guesthouse
- b. st-lyá-su ka-mu-síká ka-a-bílí
 7-cohabitation-7 GEN-1-girl GEN-1b-demon
 'living together with the demon's daughter'
- c. mu-túu ka-a-běki na a-máki
 3-advice GEN-1b-father:3SG.POSS and 1b-mother:3SG.POSS
 'advice of her father and her mother'

Examples, in which the possessee is a body part, are:

²⁸⁴ The H tone of the LH contour on **babě** and **mů** merges with the following High.

- (6.40)a. líso ka-má'máku
 5:eye GEN-1a.mother:2SG.POSS
 'the eye of your brother'
- b. á-vɪl-ǎ ndɪ ku-tíli-ko ka-a-lúkú nǎ
 3SG^P-touch-FV P₃ 15-ear-15 GEN-1b-man 1.DEM.I
 'He touched the ear of that man.'

The following examples show that the vowel of the genitive prefix is changed into [+ATR] /o/ when it occurs adjacent to a [+ATR] noun stem:

- (6.41)a. líno ko-míkí 'name of the child'
 5:name GEN-1a.child
- b. ǎngú ko-gbungúlu 'blood of the billy goat'
 9.blood GEN-1a.billy goat

Other examples in which the possessor is not human, but an animal, include:

- (6.42)a. ma-kí ka-ǎo-yúngú 'eggs of a bird, sp.'
 6-egg GEN-2-bird
- mǎ ka-nguyá 'head of the pig' i.e. not its own
- b. 3.head GEN-1a.warthog

In (b), the head is not the pig's head, but, for instance, the head of a snake given to the pig.

To express that it is the head of pig itself, an associative prefix must be used:

- (6.43) mɔ má-nguyá 'head of the pig' i.e. its own head
 3.head 3.ASS-1a.warthog

6.3 Invariables

In this section, words which have only one form and neither impose nor undergo class agreement are described. Invariables include prepositions, question words, different types of adverbs, ideophones and interjections. Numbers 6, 7, 8, 9 and higher than 10 are invariable and described together with numerals that take class agreement (see 5.4.1). Invariable words in comparisons are treated in 8.7.

Conjunctions are presented together with complex sentences in 8.8.

6.3.1 Prepositions

In Liko, prepositions precede a noun and are the head of a prepositional phrase. Prepositional phrases are used for direction, location, instruments, etc. The distribution of prepositional phrases in the clause is described in 8.3.1. The closed class of prepositions contains three words: **ká**, a general preposition, **na** 'with' and **ábě** 'like'.

ká is a general preposition which has a range of meanings, depending on the context: 'to', 'in', 'at', 'on', 'for', etc. Examples of **ká** are:

- (6.44)a. 6á-sa ká-in-ís-ón-ó ká 6a-sóko
 3PL^P-abandon:FV 9b-see-CAUS-ASS-FV PREP 2-market
 'They stopped to appear at the markets.' (T2009.21)
- b. ik-og-o kúwă ndɪ ká ndábu aká²⁸⁵ bí-du
 3SG:be-PLUR-FV thus P₃ PREP 9.house CT MOD-deep
 'He stayed deep IN THE HOUSE.' (T2009.21)
- c. 6ágă ndɪ na Ikóbu ká ngúpá
 3PL^P:go:FV P₃ with "Ikoɓu" PREP 9.hill
 'They went with Ikoɓu to the hill.' (T2009.21)

'Until' is expressed by **ká-dwe ká**, 9b-arrive:FV PREP, 'to arrive at', e.g.:

- (6.45) 6á-gy-ă ndɪ li-gubó ká-dwe ká 6u-gɔgɔ
 3PL^P-do-FV P₃ 5-work 9b-arrive:FV PREP 14-sunset
 'They worked until sunset.' (T2008.8)

na 'with' is used preceding an instrument, a time reference, or a noun used attributively. In the examples below, **na** precedes an instrument (6.46a, b), a time reference (6.46c, d), or a noun used attributively (6.46e, f):

²⁸⁵ The particle **áka** indicates contrast, see 8.6.2. The contrasted phrase is marked with underlining. In the free translation, it is marked with capitals. The surface tones on **áka** are H.L. when the preceding tone is High, and L.H. when the preceding tone is Low.

- (6.46)a. 6ǎ-bum-ǎ ndi na 6ε-ngbíngíí
 3PL^P:1.O-hit-FV P₃ with 2+9:9a-stick
 'They hit him with sticks.' (T2009.21)
- b. i-ngbo ó-tíndik-o lɛ-tómbú ngángá yí-sáá na mu-kundú
 1c-aardvark 3SG^P-push-FV 5-ground 9.time 9.NUM- with 3-tail
 three
 'Aardvark pushed the ground three times with [his] tail.' (T2006.3)
- c. na 6u-sǎbɛ Kíbi índ-a ká-and-á kpáká
 with 14-sunrise "Kibi" 3SG^P:go-FV 9b-look-FV 9.trap
 'When the sun came up Kibi went to inspect the trap.' (T2006.1)
- d. na 6u-gɔgɔ, 6ǎ-maky-a ká ndábu
 with 14-sunset 3PL^P:1.O-put in-FV PREP 9.house
 'At sunset, they put him in a house.' (T2006.2)
- e. mu-lúkú na i-6ú
 1-man with 9a-baldness
 'a bald man'
- f. mu-lúkú na lɛ-bumá
 1-man with 5-drunkenness
 'a drunken man'

Liko does not have a separate verb for 'to have'. Constructions of the verb 'to be' followed by **na** 'with' express a quality or 'have', as in:

- (6.47)a. Singí a na lɛ-bumá
 "Singi" 3SG:be with 5-drunkenness
 'Singi is with drunkenness.', i.e. Singi is drunk
- b. 6a-mbánzú 6á na i-mí
 2-person 3PL:be with 9a-jealousy
 'The men are with jealousy.', i.e. the men are jealous
- c. Ikó6ú ǎ ndi na wayí dǎkɛ
 "Iko6u" 3SG:be P₃ with 1a.friend 1a.s.o. of same age:3SG.POSS
 'Iko6u was with (i.e. had) a friend of his age group.' (T2009.21)
- d. na na 6a-síká 6á-6ǎ
 1SG:be with 2-girl 2.NUM-two
 'I am with (i.e. have) two girls.'

The vowel of the general preposition **ká** and the vowel of **na** 'with' are changed into [+ATR] /o/ preceding nouns without a noun-class prefix, and preceding disyllabic nouns in which the prefix vowel has been subject to V₁-elision or height coalescence. This is remarkable, because the left boundary of the domain of [+ATR] spreading is the beginning of the word or the prefix adjacent to the root (see 3.2.2.3). Apparently, in these contexts, the preposition is treated in the same way as associative prefixes and the genitive prefix (see 5.3 and 6.2.2), i.e. included in the domain of [+ATR] spreading.

Examples of [+ATR] spreading to the general preposition **ká**:

- (6.48)a. mó-ngóni índ-ag-a kúwǎ ndi kó gĩ-yo
 6-news 3SG/PL^P:go-PLUR-FV thus P₃ PREP 9.village-9
 'The news went to the villages.' (T2006.2)
- b. Sódú ó-lind-o kó líbó
 "Sódú" 3SG^P-sink-FV PREP 5:water
 'Sódú dived into the river.' (T2006.2)
- c. 6u-nzá Ø-ké-gu kó tíko
 14-beauty 3SG-NEG:be:FV-NEG PREP 9.field
 'Beauty is not on the field', i.e. there is nothing left (T2006.3)

The vowel of the preposition does not assimilate to the [+ATR] value of the noun when it precedes a noun-class prefix. This is expected, because there is already a prefix in the [+ATR] domain. For example, **ká mu-gĩ**, PREP 3-village, 'to a village', **ká 6o-tíko**, PREP 2-field, 'to the fields' or **ká li-gubó**, PREP 5-work, 'to the work'.

Examples of [+ATR] spreading to preposition **na** 'with':

- (6.49)a. no bití, kání 6a-mbánzú 6ó-lól-ón-i-ní
 with 9.darkness when 2-person 3PL-sleep-ASS-FV.ANT-PFV
 'During the night, when the men had fallen asleep.' (T2006.2)
- b. i-wíli a no líbó lá-kpu
 9a-area 3SG:be with 5:water 5.ASS-big
 'The region had a lot of water.'

- The vowel of the preposition does not assimilate to the [+ATR] value of the noun, when it precedes a sequence of a segmental noun-class prefix and a consonant-initial noun, e.g. **na** **li-bí**, with 5-group, 'with a group', **na** **li-gubó**, with 5-work, 'with work' or **na** **fo-mbũ**, with 2-bird, 'with the birds'.

(6.50)a. fá-kúng-ag-ă ndı ma-kpumóká ábě nyamá, si-kpí-so
 3PL^P-demand-PLUR-FV P₃ 6-thing like 1a.animal 19-hat-19
 'They demanded things like an animal, a hat.' (*T2006.4*)

b. Ø-ké-gũ ndı ká-pa²⁸⁷ é ó-kw-í kúwa ábě mü-kóti
 3SG-NEG: P₃ 9b-want:FV COMP 3SG-die- thus like 1-ant
 be:FV-NEG FV.SUBJ
 'He did not want that he would die like an ant.' (*T2009.21*)

The invariable question words are:

- One example for each question word is presented here:

²⁸⁶ The Subjunctive TAM melody is prefixal and final-vowel High. It is unclear to me why the tone on the final vowel is Low in this case.

²⁸⁷ The H tone of the LH contour on **kápá** merges with the following High.

- (6.52)a. míkí mu-kó yĩ wa-nzá ik-og-o búní ?
 1a.child 1-woman 1.DEM.III 1.ASS-good 3SG:be-PLUR-FV how
 'How behaves a good girl?'
- b. wá-ky-á mbéyĩ ndi ká-bis-ó mu-túgbò kékí ?
 2SG^P-refuse-FV^P first P₃ 9b-put-FV 1-strong man why
 'Why did you at first refuse to put a strong man?' (T2009.11)
- c. Ø-kik-ó mbéyĩ ɪwe, ta-kwanan-a ká-ũ-gbon-ós-ó lukí?
 3SG-COND:be-FV first 2SG.PRO 1PL-should-FV 9b-2.O-reduce: how
 ASS-CAUS-FV
 'According to you, how should we divide them?' (T2009.9)
- d. 6a-lumé 6á-púny-á ndi ɪbú yánu ?
 2:1b-army 3PL^P-come-FV^P P₃ 2.PRO where
 'Where did the armies (emphasized) come from?'
- e. ta-ly-á ma-lílí ká ndábu tínó ?
 1PL-eat-FV 6-food PREP 9.house which
 'In which house will we eat the meal?'

Two of the question words are nouns, **waní** '1a.who' for animates and **ɪ-kí** '9a-what' for inanimates. This can be seen from the agreement on the demonstrative, **nǎ** in **waní nǎ** (agreement with class 1) and **yó** in **úkí yó** (agreement with class 9). These question words also have plural forms, i.e. class 2 **6a-waní** and class 2 + 9:9a **6e-kí** (/6a-ɪ-kí/). In order to present the question words together in one section, these nouns are exemplified here as well, even though they are not invariable but agree in number.

- (6.53) waní nǎ ind-í ká Beveguku ?
 1a.who 1.DEM.I 3SG:go-FV.ANT PREP Beveguku
 'Who went to Beveguku?'

In the following two examples, **waní** takes the class 2 prefix **6a-**, which agrees with a plural referent:

- (6.54)a. 6a-waní 6ó 6á-víkuman-ag-a na ɪyí ?
 2-who 2.DEM.I 3PL^P-surpass-PLUR-FV with 1.PRO
 'Who will revolt against him?' (translated Hebrews 3:16)

- b. 6a-waní 6ó má na ɪbú 6ó ?
 2-who 2.DEM.I 2PL:be with 2.PRO 2.DEM.I
 'Who do you (pl) have with them?' (*translated Genesis 33:5*)

ɪ-kí '9a-what' is used as question word for inanimate referents, for example:

- (6.55) ɪ-kí yó a ká ma-pála ?
 9a-what 9.DEM.I 3SG:be PREP 6-wooden roofing tile
 'What is on the wooden roofing tiles?'

In the following example, **ɪ-kí** takes the class 2 prefix **6a-**, which agrees with a plural referent:

- (6.56) na-kwanan-a píyε ká-ũ-kingy-ós-ó 6a-tú 6á-lɪ-syé
 1SG-should-FV thus 9b-2.O-taste-CAUS-FV 2-man 2.ASS-5-day
 li ní-lɪ na 6ε-kí ?
 2.DEM.II COP-2.DEM.II with 2+9:9a-what
 'With what should I compare the men of today?' (*translated Luke 7:31*)

The prefix vowel is subject to height coalescence, resulting in the [– ATR] front mid vowel /ε/.

For further description and more examples and for combinations of question words, see 8.5.

6.3.3 Adverbials

Adverbials in Liko are a heterogeneous group of elements which do not belong to one of the other Liko word classes. Adverbials include the time adverbials in the tense/aspect/mood system, time, location and manner adverbs, adverbs specifying the mode or action of the verb, particles in information structure, and other elements. Expressions and phrases indicating time, location or manner will be presented in 6.4.

Derivation to adverbials is possible from verbs (see 7.12.3) and from adjectives (see 5.2.2). In both cases, the derivation is different from other word classes.

Time, location and manner adverbs are presented first.

a. Time

The only time adverbs attested are:

- (6.57) *dele-dele* 'finally, later than expected'
kpíndi 'early, earlier than expected'

The adverbials which function in the tense/aspect/mood system are described in the chapter on Verbs, see the post-verbal time adverbials in 7.7.1.

b. Location

The following location adverbs have been attested:

- (6.58) *ɓyĩ / ɓĩ* 'far'
kú 'there (closer)'
kúgɔkú 'at the same place'
kúkwaku 'down there'
kúnu 'here'
kúu 'over there'
minó 'there, over there'
wá 'there (farther)'
wánu 'here'
wáɪ 'on the ground'
yá 'in the direction of'
yáku 'in that direction'

- (6.59) *babǎ, kíkilíki, dǒ-ni-kú mbéyɪ kúnu*
 1a.father please come:FV.IMP-ADDR-DIR first here
 'Father, please, come here!' (T2009.21)

- (6.60) *tu-tík-a ɓo-míkusú ɓá-sɪ kúkwaku*
 1PL:2.O-send-FV 2-child:1PL.POSS 2.ASS-all down there
 'We will send all our children down there.'

c. Manner

Four general manner adverbs, all with **ɓé** word initially, which gives the impression

that the complementizer is involved,²⁸⁸ are used to indicate that an action is performed in a certain way without specifying it:

- (6.61) éné 'like this' éyó 'like that'
 égébéne 'in this way' égeyó 'in that way, likewise'

The adverb **éákayó** in the sense of 'like that' always occurs with **-yó** (**éáká** exists as a single word meaning 'thus'). The English translation 'like' may suggest that these words are (also) used in comparisons, but that is not the case. For comparisons, Liko has **ábě** 'like' (see 8.7).

The other invariable manner adverbs in my data are:

- (6.62) éfé 'completely'
 káyákol 'deliberately'
 lingíngí 'stupidly, foolishly'
 mánzála-mánzála 'in disorder'
 ngbéngébé 'suddenly, abruptly'
 páyayá 'needlessly'
 tílí 'straight'

d. Other adverbials

Liko has one general intensifier adverb, **kúgbe** 'very', which modifies verbs as in (6.63a) below, adjectives used as a quantifier (6.63b), nominal modifiers (6.63c) or adverbs (6.63d):

- (6.63)a. a-băkt mu-kó á-búb-a kúgbe
 1b-father:3SG.POSS 1-woman 3SG^p:1.O-praise-FV very
 'The father of the woman praised him very much.' (T2006.2)
- b. á-kún-á ma-lílí mú-dingĩ kúgbe
 3SG^p-plant-FV^p 6-food 6.ADJ-big very
 'She planted a lot of food.' (T2009.33)
- c. o-lumb-is-og-o líbó lá-nza kúgbe
 3SG-smell-CAUS-PLUR-FV 5:water 5.ASS-good very
 'It will cause the water to taste very good.' (T2006.6)

²⁸⁸ See also the examples (8.236), (8.327) and (8.328).

- (6.67) $\emptyset$ -ké-gǔ ndi mbéyi ngbínɡó kakí
 3SG-NEG:be:FV-NEG P₃ yet 1a.time 3SG.POSS
 'It was not his time, i.e. turn.' (T2009.31)

píye 'thus' is mostly used in questions with question words. It can be translated with 'so' at the start of the question:

- (6.68) tá-gy-ag-a píyě ndi bóní ?
 1PL^P-do-PLUR-FV thus P₃ how
 'So, what can we do?'

sě 'thus' is not used frequently. When it occurs, it is mostly in clauses giving some explanation or background information:

- (6.69) nýyó á-dwě, a-bákí mu-kó á-bíb-a
 when 3SG^P-arrive:FV 1b-father:3SG.POSS 1-woman 3SG^P:1.O-praise-FV
 kúgbě, yěkí a sě ndi ɡóní na li-kembé
 very as 3SG:be thus P₃ also with 5-thumb piano
 'When he arrived, the father of the woman praised him very much, as he also had a thumb piano.' (T2006.2)

The combination **se kúwa** occurs in the example below, where **sě** is present because of background information. In the context, the story tells that Mary had to go on a journey:

- (6.70) Malía a se kúwǎ ndi wá na mǔma
 "Malía" 3sg:be thus thus P₃ there with 3.belly
 'Mary was pregnant.' (translated Luke 2:5)

ɡutúɡu 'even' usually follows the verb form and a time adverbial if present. The men in the example below were not used to fishing, but they had to find a way to get food, because they were too poor to buy it.

- (6.71) 6a-lúkú 6á-kingí-ag-ǎ ndi ɡutúɡu 6é 6ó-lub-ǒɡ-í
 2-man 3PL^P-try-PLUR-FV P₃ even COMP 3PL-plunge-PLUR-FV.SUBJ
 ma-síkídǎngí
 6-fish hook

'The men even tried to fish.', literally, 'that they plunge fish hooks'
(T2009.21)

gutúgu 'even' occurring between the verb and the time adverbial gives emphasis to the negative meaning of the verb:

- (6.72) ná-kukan-a gutúgũ ndi mu-tíwɪ ka-babă tɔ́ú
 1SG^P-NEG:hear-FV even P₃ 3-advice GEN-1a.father 2.PRO
 na mamá
 with 1a.mother
 'I did not even listen to the advice of my father and my mother.'
 (T2009.27)

For other examples of this adverb in combination with a negative meaning, see 8.6.2.

In other positions, **gutúgu** means 'in spite of'. The context of the example below is that all men, who wanted to marry the woman and had gone to the village of her father, were killed.

- (6.73) Sódú, gutúgu mó-ngóni ă ndi ká-dă, ǐ-kand-a
 "Sódú" even 6-news 3SG:be P₃ 9b-creep:FV 3SG:REFL-tie-FV
 1i-wanzá ǎé a ká-nd-á ká mu-kó
 5-attitude¹ COMP 3SG:be 9b-go-FV PREP 1-woman
 'Sódú, in spite of the news which circulated, gave in to the desire that he was going to the woman.' (T2006.2)

A few adverbials occur preceding the first object. Attested are **gɔní** 'also', **bată** 'again' and **ásu** 'only'.

- (6.74) níyó ɓo-míkakí ɓo-do-kú ɓo-túgbô,
 when 2-child:3SG.POSS 3PL^P-come:FV-DIR 2-strong man
 ɓú-vă ndi gɔní ɓo-kó
 3PL^P:2.O-take:FV P₃ also 2-woman
 'When his children became strong men, they took women too.'
 (T2009.42)

- (6.75) *li-syé lá-gəgə mu-nzyúku á-tík-i-ní ndi bata²⁹⁰ míkí kú*
 5-day 5.ASS.other 1-ant 3SG:1.O-send- P₃ again 1a.child there
 FV.ANT-PFV

'On another day ant has sent his child there again.' (T2007.8)

The adverbials **goní** 'also' and **bata** 'again' may also occur at the end of the clause.

The adverbial **ási** 'only' occurs most frequently in constructions with the contrast particle **áka**. The elements between **ási** and **áka** (L.H tones when following a L tone) contain contrastive information (see 8.6.2).

- (6.76) *mómbukyóno tutú á-⁴tw-ă ndi*
 1a.owner of 9.forest 3SG^p:1.O-name-FV P₃
ási wayí dăkí aká
 only 1a.friend 1a.s.o. of same age:3SG.POSS CT

'The owner of the forest named ONLY HIS FRIEND.' (T2007.10)

When **ási** occurs alone, it is in combination with utterance verbs and at the beginning of a clause which follows the complementizer **bé**. The context of the following example is that one brother works hard and the other one becomes a thief. The first one warns his brother:

- (6.77) *má⁴máki á-pak-y-ag-ă ndi bé ási*
 1a.brother:3SG.POSS 3SG^p:1.O-guard-APPL-PLUR-FV P₃ COMP only
yŷgyă yi ní-yó, ní Ø-ké-gu ká-ukán-á
 9a:habit 9.DEM.III COP-9.DEM.I when 3SG-NEG:be:FV-NEG 9b-hear-FV
 'His brother forbade him to behave like that, but he did not listen.'
 (T2008.12)

The following adverbials in this section have various uses.

ambegyě 'aha!' and **ambegye fé** 'unfortunately' occur in stories when someone is surprised at finding out something or when developments take an unexpected turn:

- (6.78)a. *ambegyě, wô bi wa-kĩsôma wánu ?*
 aha! 2SG:be P₁ 1.ASS-9.s.th. hidden here
 'Aha! You are hidden here?'

²⁹⁰ The H tone of the LH contour on **bata** merges with the following High.

- b. ambegyɛ fé, Mopusú ǎ ndi na sábi kakí
 however "Mopusu" 3SG^P:be P₃ with 9.small knife 3SG.POSS
 kǐbanga wá áka wá
 9.s.th. stuck there on the spot
 'However, Mopusu had a small knife stuck [in his belt] right there.'
- c. Aziga ǒ bi ká-pǎ ká-luw-ó masówa,
 "Aziga" 3SG^P:be P₁ 9b-want:FV 9b:1.O-buy-FV 1a.car
 ambegyɛ fé, ǒlɔ kakí ǒ bi na mbúmí
 unfortunately 1a.gold 3SG.POSS 3SG:be P₁ with 9.sand
 'Aziga was looking forward to buying a car, unfortunately, his gold contained sand.'

íbií yó 'if it happens' is used to soften a condition:

- (6.79) wa-kam-ín-á Singí, íbií yó, wǎ-⁴bíky-á ámbe
 2SG-COND:1.O-see-FV "Singi" if it happens 2SG:1.O-say-FV.INST ATT
 á-⁴tík-í-kú kúwa míkí
 3SG:1.O-send-FV.SUBJ-DIR thus 1a.child
 'If you see Singi, if it happens, tell him that he should send the child.'

An example of **í'ngátu bé** 'suddenly' is:

- (6.80) níyó á-husy-ó sukopí na mǒngwǒ bǐyó,
 when 3SG^P:1.O-miss-FV^P 1a.leopard with 1a.iron arrow like that
 í'ngátu bé sukopí a-nǎ-bumbuk-y-o-kú
 suddenly 1a.leopard 3SG-INCH:1.O-jump-APPL-FV-DIR
 'When he missed the leopard with his arrow, suddenly the leopard jumped towards him.'

The Infinitive form **ká-nyǒ**, 9b-pull out:FV, is used to express 'except':

- (6.81) 6o-míkakí bá-sí bá 6a-lumbá, kányǒ A6unza
 2-child:3SG.POSS 2.ASS-all 3PL:be 2-sorcerer except "A6unza"
 'All his children are sorcerers, except A6unza.'

An example of **něki** 'therefore' is:

- (6.82) o-kwonón-i něki ká-ukán-á ní-ló bá
 3SG-should-FV.ANT therefore 9b-hear-FV COP-5.DEM.I 3PL:be

ká-u-bíky-á kíkílfíki
 9b-2SG.O-say-FV please
 'One ought therefore to listen to what they are telling you, please.'
 (T2008.9)

An example of **f'ngúwo yí** 'by chance' is:

(6.83) wá-kám-in-i-gu kókú kǎmí
 2SG^P-NEG:1.O-see-FV.ANT-NEG 1a.chicken 1SG.POSS
 í-'ngúwo yí ká-ingy-ó-kú wánu ?
 9a-manner 9.DEM.III 9b-enter-FV-DIR here
 'Did you not see my chicken enter here, by chance?'

Examples of **yí'pépe** 'in any case', 'rather' are:

(6.84)a. íyo, mbóngú ka-ḡa-lókú, yí'pépe ní-yó
 yes 9.mushroom GEN-2-man in any case COP-9.DEM.I
 ik-og-o yá-zu !
 3SG/PL:be-PLUR-FV 9.ASS-hot
 'Yes, mushrooms for men, in any case those are hot.', i.e. delicious
 b. mu-tík-á Singí Ø-ké-gu yí'pépe Nangáa
 1.O-send-FV.IMP "Singí" 3SG-NEG:be:FV-NEG in any case "Nangáa"
 'Send Singi, rather not Nangaa.'

6.3.4 Ideophones

Ideophones form a word class which is distinct from adverbials because ideophones have specific phonetic characteristics that are not found with adverbials or with other word classes.

Ideophones have one or more of the following properties:

- word-final vowel lengthening
- presence of the alveolar trill [r] (not in the inventory of underlyingly contrastive consonants)
- repetition, sometimes with variation in speed to symbolize a slow or a fast movement
- tone descending from high to low across the word
- sound mimicking

Ideophones express a vivid representation of an idea or perception in sound, like a smell, a colour, a form, a sound, a manner of moving, etc. Ideophones are words that "enliven" or add flavour to the utterance by illustrating some aspect of an action or object. Ideophones are not required by sentence or phrase structure. A specific type of ideophones are onomatopoeia which try to mimick a sound. Many ideophones are preceded by the modifier prefix **ḡ-**. A number of ideophones are listed to illustrate this category.

Examples of word-final vowel lengthening are:

- (6.85) ḡ-dḡḡḡḡḡḡ 'deep sound (association is with a good motorbike)'
 ḡ-hiḡiii 'falling palm tree'
 ḡ-hooo 'many people together (e.g. at a market)'
 ḡ-kpwaaa 'small hard objects thrown on the ground'
 ḡ-piii / ḡ-pisiii 'calm (e.g. after shocking news)'
 ḡ-pēēē 'quiet, calm'

Examples of the alveolar liquid trill [r] are:

- (6.86) ḡ-byerrr 'very ripe, red'
 ḡ-rrr 'shiver'

Examples of repetition are:

- (6.87) ḡafḡḡafḡ 'walking awkwardly'
 ḡ-kokókō 'munching caterpillars, talking incessantly'
 ḡ-kukuku 'heavy rain with storm, pounding strongly (heart)'
 ḡ-kpwēkpwēkpwe 'breaking dry objects (e.g. a twig, peanut shells)'
 ḡ-lékeléke 'high (sound)'

Examples of tone descending from high to low across the word are:

- (6.88) ḡ-kpúuu 'falling slowly'
 ḡ-púpupu 'strong wind' (number of repetitions varies)

ḡ-kpu is used when something is 'falling fast'.

Examples of sound mimicking are (some with vowel lengthening or repetition):

- (6.89) ḡ-fwaaa 'sound of something sweeping over the ground'
 ḡ-fwakafwaka 'sound of dry leaves'

gbwaaa	'sound of breaking wood, or sound of a branch when someone is on top of it and is moving up and down'
gbwu	'sound of a big tam-tam'
ǎí-hǔ	'sound of an animal'
kíǎe	'cry of a monkey'
kíkiki	'sound of walking (light) or barefoot'
ǎí-kǎfǎkǎfǎ	'sound of coughing'
ǎí-kpǎ	'sound of pouring water, spitting on the ground, pottery breaking'
ǎí-kyǎ	'sound of something falling into the water'
ǎí-mbimbimbi	'sound of a very hot fire'
mbwokombwoko	'sound of walking (heavy)'
ǎí-ngbé	'sound of hitting metal'
pé	'sound of a small trumpet'
puuu	'sound of a slide trombone'
tíndíndíndí	'sound of a tam-tam'
ǎí-tǎtǎtǎ	'sound of water dripping'
ǎí-vuuu	'sound of a car'

With fast repetition, **ǎí-ngbéngbéngbé** indicates a 'sound when someone at the market hits a bottle with lamp oil or petrol to attract customers'. When the stem is repeated with short pauses in between as in **ǎíngbé ngbé ngbé**, it refers to a 'sound of a blacksmith hitting his anvil'.

There are several other cases in which repetition or vowel lengthening entails a change in meaning. **ǎí-kpwú** 'pass with difficulty' is used when an animal tries to escape by means of a route difficult to pass. The base with repetition, **ǎí-kpwukpwúkpwu**, indicates that someone is zigzagging along (a drunk, an animal hit by a poisoned arrow) or that something comes from everywhere (beating by a group). Another example is **ǎí-kpwě** 'manner of crushing something' and **ǎí-kpwěkpwěkpwe** 'sharp snaps of objects that break'. **ǎí-pě** 'way of breaking into a song or weeping' also means 'sleep like a top'. **ǎí-peee** is used when somebody is quiet, calm, relaxed.

Other examples of ideophones are:

- (6.90) *ḡí-ḡó* '(very) early, at daybreak'
ḡí-ḡũ 'a big object falling into the water'
ḡí-kyḡ 'swallowing a mouthful of water'
ḡí-lŷa 'loud cry or sound'
ḡí-ngwé 'cutting something with one blow'

The use of ideophones in clauses is exemplified in the following examples.

Ideophones generally occur at the end of the clause.

- (6.91) *níyḡ lŷ-gḡ ó-gw-o ḡí-kpúuu*
 when 5-cola nut 3SG^P-fall-FV MOD-"*kpuuu*"
 'When the cola nut fell "*kpuuu*".'
- (6.92) *si-wá-su ka-t-nvá a kó-ḡúk-ó ḡí-lékeléke*
 7-bell-7 GEN-1c-dog 3SG:be 9b-resound-FV MOD-"*lekeleke*"
 'The bell of the dog is resounding "*lekeleke*".'
- (6.93) *ngbángbatá o-póm-ík-ón-ĩ bi ḡí-lŷa*
 1a.thunder 3SG-crack-NEUT-ASS-FV.ANT P₁ MOD-"*lŷa*"
 'It is thundering loudly.'
- (6.94) *mũ-lúkú ḡé-motí á-nyŷk-a ká ɿ-ngbólḡ, ó-gw-o*
 1-man 1.NUM-one 3SG^P-fall-FV PREP 9a-dugout 3SG^P-fall-FV
*kó líḡó ḡí-kyo*²⁹¹
 PREP 5:water MOD-"*kyo*"
 'A man fell in the dugout, he fell in the water, plop!'
- (6.95) *o-ngbót-i-ní ngúḡú ḡí-gbwu gbwu gbwu*
 3SG-play-FV.ANT-PFV 9.tam-tam MOD-"*gbwu*" "*gbwu*" "*gbwu*"
 'He has played the big tam-tam, bang bang bang.'

²⁹¹ *ḡí-kyḡ* is used when small objects fall into the water, *ḡí-kyo* where people or big items are concerned.

- (6.96) ma-ďakĩ á-pung-a kó-púmúk-ó ǂí-kpǂ kpǂ kpǂ
 6-pot 3SG^P-start-FV 9b-burst-FV MOD-"kpǂ kpǂ kpǂ"
 'The pots started to break "kpo kpo kpo".'

If one uses a bad quality of clay in pottery, the pot will break when it is put into the fire.

- (6.97) li-lólómbí lá-saǂũni a-pag-a ǂukú ǂí-mbimbimbi
 5-preparation 5.ASS-1a.soap bar 3SG-want: 8:burning MOD-"mbimbimbi"
 PLUR-FV piece of wood
 'The making of the soap bar requires a hot fire "mbimbimbi". (T2006.5)

- (6.98) ø-kik-ó ǂu-gǂgǂ, wá-lál-a tǂtǂ ǂí-pǂǂǂ
 3SG-COND:be-FV 14-sunset 2SG-sleep-FV.INST 9.sleep MOD-"pǂǂǂ"
 'If it is evening, you will sleep peacefully.' (T2006.6)

- (6.99) t-nvá ó-bukw-ó pǂ na mála ǂí-kwélékwélé
 1c-dog 3SG^P-search-FV^P 9.place with 6:nail MOD-"kwelekwele"
 'The dog searched the place with its nails "kwelekwele".'

Some ideophones are interesting semantically, e.g. **ǂí-kǂ** and **ǂí-kǂǂu**, both indicating the impact of an arrow, but the first one indicates that the arrow just breaks the skin while the second expresses that it enters into the muscle. Reference to munching or chewing is found in several ideophones. Mentioned above is **ǂí-kokókǂ** 'munching caterpillars', another example is:

- (6.100) a kó-tókw-ó ma-lílí ǂí-ǂukuluǂukulu
 3SG:be 9b-chew-FV 6-food MOD-"ǂukuluǂukulu"
 'He is munching the food "ǂukulu-ǂukulu".', i.e. as if it were cartilage

Some ideophones like **ǂí-ziko** 'sitting down without doing anything' or **ǂí-kyekyékǂ** 'burst of laughter' always occur with the same verb.

- (6.101) nik-í-ni kú-sǂ wa-t-ngbǂlǂ ǂí-ziko
 1SG:sit-FV.ANT-PFV 17-inside 17.ASS-9a-dugout MOD-"ziko"
 'I have sat in the dugout "ziko".', i.e. without doing anything

- (6.102) 6o-kó 6á 'ká-tíb-á 6í-kyekyékýě
 2-woman 3PL:be 9b-laugh-FV MOD-"kyekyekye"
 'The women laughed "kyekyekye".', i.e. with bursts of laughter

kídě is an ideophone meaning 'cry of a monkey'. It is also attested with modifier prefix **6í-** in **6í-kídě** 'the way in which monkeys jump from one branch to the other'.

- (6.103) 6a-va²⁹² kídě 6á-ky-ág-a-tú 1t-pakála
 2-clan member "kídě" 3PL-refuse-PLUR-FV-INS 5-horn
 'The monkeys refuse a horn.', i.e. they do not want a fight

Another case is **kikiki** 'sound of walking (light) or barefoot'. The class 2 object prefix **ŭ-** indicates that multiple people are there.

- (6.104) num-úkón-i kikiki no bití
 1SG:2.O-hear-FV.ANT "kikiki" with darkness
 'I heard people walking on tiptoes in the darkness.'

6.3.4.1 Use of ideophones as modifiers

Comparable to what Ameka has found for Ewe (2001:41), Liko ideophones are attested to function as other word classes, in particular as adjectives or as adverbs. Ideophones used as adjectives or adverbs always have the modifier prefix **6í-**.

a. Use as adjectives

Examples of the use of ideophones as adjectives are:

- (6.105)a. ma-kpŭta 6í-gbě 'very salt cassava leaves'
 6-cassava leaves MOD-salted
 b. 6a-nzóka 6í-kpŭfukpŭfu 'a short snake'
 2-snake MOD-short
 c. mu-lúkú 6í-siyasiya 'a sporty man'
 1-man MOD-supple
 d. nyamá 6í-tu 'a (caught) animal still in one piece'
 1a.animal MOD-unimpaired
 e. sŭ 6í-vulevule 'a bad smell'
 9.smell MOD-bad (smell)

²⁹² The High part of the LH tone on **vá** has merged with the following H tone.

f.	mu-kpúndú	bí-wéngéwéngé	'very bright lime'
	3-clay, lime	MOD-very bright	
g.	mu-lúkú	bí-wó	'a quiet man'
	1-man	MOD-quiet	

Ideophone **bí-nzii** 'without a space in between' is used when talking about vegetation or a crop. It can also be used for a big gathering: **ḡa-mbáanzú bí-nzii**, 2-person MOD-without space in between, 'crowded with people'.

bí-dǒḡḡḡ expresses a deep sound. When someone wants to say that the engine of a motorbike runs well he can say:

- (6.106) *li-yũ lá-Yamáa bí-dǒḡḡḡ*
 5-voice 5.ASS-1a.Yamaha MOD-"*dǒḡḡḡ*"
 'The sound of the Yamaha is "*dǒḡḡḡ*".', i.e. it is good

bí-byerrr is used when a piece of fruit is very ripe. By analogy, it also means 'red'. In the following example, it is used for the colour of gold nuggets found by someone digging for gold:

- (6.107) *óló bí-byerrr ábě ma-yá má-tǔbu*
 1a.gold MOD-"*byerrr*" like 6-grain 6.ASS-9.tobacco
 'Gold "*byerrr*" like tobacco strands.'

b. Use as adverbs

With respect to ideophones used as adverbs, examples include:

- (6.108) *bí-biyeee* 'staying without saying anything, without making noise'
bí-dàngadàngá 'being busy with a lot of things at the same time'
bí-dũkyedũkye 'walking like a small child (allusion to a dress fluttering in the wind)'
bí-holóló 'passing an opening without hitting an obstacle'
bí-kpadáaa 'calmly, quietly'
bí-nzenzenze 'supple way of dancing'
bí-nzeee 'moving through the air (an arrow, a star)'
bí-pǒǒ 'completely'
bí-yǒǒ 'reacting coldly'

- (6.109) wig-o-kú 6́-ḱpaḱáaa
 2SG:return-FV-DIR MOD-"ḱpaḱáaa"
 'You will return "ḱpaḱáaa".', i.e. calmly

Talking about a young woman:

- (6.110) ó-kw-ó ḱ-sḱá 6́-pḱḱ
 3SG^P:die-FV^P 5-youth MOD-"pḱḱ"
 'She killed the youth "pḱḱ".', i.e. she was very well dressed

- (6.111) kḱkú ă ndṭ ká-sikísy-ó nakwálí 6́-ḱlilidili
 1a.chicken 3SG:be P₃ 9b:1.O-answer-FV 1a.sparrowhawk MOD-"ḱlilidili"
 'Chicken was answering sparrowhawk "ḱlilidili".', i.e. hesitantly

6.3.5 Interjections and exclamations

The characteristics found in ideophones are also attested in interjections and exclamations. Common interjections and exclamations are:

- (6.112) arṛrrr 'ouch!'
 ayayayaya 'watch out!, stop!'
 bḱḱḱ 'its enough!, wait a minute!'
 eee / ezé / eesé 'exclamation of surprise'
 heee bíteee 'oh dear!'
 hooo 'alas!'
 mbambamba 'stop!'
 rígo 'hurrah!, victory!'
 irryá 'come on!, pull!'
 woóo 'exclamation of disappointment or contempt'
 yiii ! 'oh!, ah!'

The word **ayayayaya** starts out with a H tone, which falls steadily; its number of syllables varies. **bḱḱḱ** also has a falling tone. Without vowel lengthening, **bḱ** is a loanword from French 'bon' and is used for social reasons instead of **íyo** 'yes'. **hooo** is the response after **rígo**, a slogan after circumcision rites. **mbambamba** can also be used without repetition. **irryá** is a slogan to encourage people who do something difficult, for example pulling a heavy tree trunk. The response is **yá**.

The following interjections are used to draw the attention of the audience or to highlight what follows.

- (6.113) *ámbe* attention!
 kínílí / kíliní that's why
 ooo hey!
 yě excuse me! (to draw attention)

The word **kínílí** marks the conclusion of a story, for example the lesson to be drawn from a folk tale. It is one of the Liko words in which two adjacent syllables may be reversed in free variation. **yě** is used to draw the attention of someone in a polite way.

Some interjections are used in specific situations, like danger, asking for something or invoking a person or a spiritual being:

- (6.114) *amályá!* watch out!, stop!
 ḡáka please
 kíkílíki please
 nzingágu in the name of ...

The word **amályá** is the singular Imperative form of the verb **-amali-** 'to end up in or at'. After **nzingágu**, the speaker cites the name of a parent who has passed away, or an important event. A polite question either starts with **kíkílíki** or has **ḡáka** directly following the main verb. If one wants to be very polite, both are used:

- (6.115) *kíkílíki babā ɿ-tík-íly-á-nɔ ḡáka Baḡua ká*
 please 1a.father 1SG.O-send-BEN-FV.IMP.SUPP please "Baḡua" PREP
 ɿ-vananza kakí
 9a-family 3SG.POSS
 'Please father, would you please send Baḡua to his family for me?'

6.4 Expressions of time, location and manner

In this section, some expressions of time, location and manner are presented.

a. Time

Most words and phrases with a reference to time involve nouns or nominals, often combined with a preposition or a demonstrative:

(6.116)	na lɪ-syé	with 5-day	'during the day'
	no bití	with 9.darkness	'during the night'
	na lɪ-syé ní-lɪ	with 5-day COP-5.DEM.II	'today'
	no bití ní-yɪ	with 9.darkness COP-9.DEM.II	'tonight'
	ḡú-galá	14-tomorrow	'tomorrow'
	na ḡú-galá	with 14-tomorrow	'during the next day'
	ḡú-galóḡi	²⁹³	'the day after tomorrow'
	í'syéyikūḡi	²⁹⁴	'yesterday'

a **kówa na ma-syé** (3SG:be thus with 6-day) is an expression meaning 'a long time ago'.

'Before' and 'after' are expressed by the locative nouns **kám̄bwa** '17:front' and **kú-mbúso** '17-back'.²⁹⁵ For 'soon' and 'long ago', nominal modifiers **m̄biya** 'new' and **ndé̄lɪ** 'old, worn' are used without a prefix. **m̄biya** followed by the location adverb **wánu** 'here' means 'now'. The reduplicated form **m̄biyam̄biya** expresses 'immediately'. 'Since' is expressed by the Infinitive form of **-túk-** 'leave' with the Applicative extension **-ɪ**, as in:

(6.117)	ká-túk-y-á	na	lɪ-syé	li	ní-lɪ,
	9b-leave-APPL-FV	with	5-day	5.DEM.III	COP-5.DEM.I
	bókobí	ó-pup-ǎ	ndɪ	kúnú	ká m̄u-sengí
	1a.rat	3SG ^p -leave-FV	P ₃	here	PREP 3-village
	'Since that day, rat came out here to the village.' (T2008.5)				

Expressions referring to time during a calendar day are:

(6.118)	mbólúgo	9.daybreak	'daybreak'
	ḡu-sḡḡɪ	14-sunrise	'sunrise'

²⁹³ The elements of compound are unclear. The structure may be 14-tomorrow-P₁ or 14-tomorrow-DEM.III.

²⁹⁴ The structure of this compound is unclear. It probably contains **lɪ-syé** '5-day' with loss of the prefix consonant and the time adverbial ¹¹**ḡi** indicating time reference to the recent past.

²⁹⁵ These nouns are also used to indicate location, see below. **kú-mbúso** followed by a type III demonstrative, **kúmbúso yí**, means 'finally'.

ḡu-sṣḡṡ ḡá-dḡ	14-sunrise 14.ASS-cold	'very early in the morning'
na ḡu-sṣḡṡ	with 14-sunrise	'in the morning'
lṡ-syḡ ṡ-gbon-ón-i-ní	5-day 3SG:REFL-divide: ASS-ASS-FV.ANT-PFV	'noon'
móní lúgo	9.sun 9.middle	'noon'
musíkatú	9.middle of the day	'the middle of the day'
móní i-tí-ni	9.sun 3SG:REFL-bend over:FV.ANT-PFV	'afternoon'
móní o-yikón-i-ní	9.sun 3SG-return-FV.ANT- PFV	'later in the afternoon'
móní ká ḡu-gṡgṡ	9.sun PREP 14-sunset	'end of afternoon'
ma-zakambá má-móní	6-big breasts 6.ASS-9.sun	'time before the sun sets'
i-bisií	9a-sunset	'time the sun sets'
ḡu-gṡgṡ	14-sunset	'sunset'
móní o-gw-ṡ-ni	9.sun 3SG-fall-FV.ANT-PFV	'sunset'
ḡa-bulí ḡá 'ká-sas-á	2:1b-demon 3PL:be 9b-cut	'sunset'
móní	up-FV 9.sun	
na ḡu-gṡgṡ	with 14-sunset	'in the evening'
bití o-lípy-i-ní	9.darkness 3SG-last- FV.ANT-PFV	'after dark'
gundu	9.midnight	'midnight'
na gundu	with 9.midnight	'in the middle of the night'
ngbíngó ka-ḡa-lumbá	1a.time GEN-2-sorcerer	'midnight'

b. Location

The following locative nouns in class 17 are frequently used in associative constructions to refer to a location:

(6.119)	kú-gṡ	'17-top'	'at the top'
	kú-silí	'17-bottom'	'under'
	kú-syokoto	'17-bottom'	'under'
	kámbwa	'17:front'	'at the front'
	kú-mbúso	'17-back'	'behind'
	kú-ḡombólo	'17-back'	'behind'

kú-sǎ	'17-inside'	'inside'
kú-nzi	'17-outside'	'outside'

Examples include:

- (6.120)a. wó-bĩs-o kú-gǔ wa-lɪ-ɖakĩ lá-gɔɔ
 2SG-put-FV.INST 17-top 17.ASS-5-pot 5.ASS-other
 'Put it on top of another pot.' (T2006.6)
- b. o-bĩs-o lúkí lí-⁴nyíkisogǒ kú-gǔ wo-kulúbi
 3SG-put-FV 5:object 5.ADJ-filter 17-top 17.ASS-9.mortar
 'She will put a filter on a mortar.'
- c. ó-kún-is-ǎ ndɪ ma-lílí má-sɪ ní-mó kúnu
 3SG^P-plant-CAUS-FV P₃ 6-food 6.ASS-all COP-6.DEM.I here
 kú-silí wa-móní
 17-bottom 17.ASS-9.sun
 'He let plant all food which [is] here under the sun' (T2006.3)

The noun **kú-mbúso** '17-back' is used more to indicate time than to refer to a location; **kú-ɓombólo** '17-back' is rather used for 'behind something'. The back side of an object is often referred to with the prepositional phrase **ká mu-gongó**, PREP 3-back of the body, 'at the back'.

Locative nouns can also be used as single-word adjuncts, as in:

- (6.121) ɪ-mbúú ó-pup-á ndɪ kú-nzi
 1c-civet 3SG^P-come out-FV^P P₃ 17-outside
 'A civet came out outside.'

A few nouns in other noun classes are used to refer to location, **ɓu-wóbi** '14-proximity' means 'near' (with reduplication 'near to each other') and **ɖongó** '9.distance' means 'far' when they are used as a location adjunct.

c. Manner

Most manner adverbs are preceded by the modifier prefix **ɓí-**. Examples of manner adverbs with modifier prefix **ɓí-** are:

- (6.122) ɓí-ɓé 'profoundly'
 ɓí-beɖe 'full up to the brim'

ḡí-bulí	'hold quickly with two arms around someone'
ḡí-gala	'fast'
ḡí-lende	'smooth, cover well'
ḡí-kpū	'close firmly'
ḡí-nvé	'leave suddenly'

Examples in clauses are:

- (6.123)a. wind-a ḡí-gala-(gala)
 2SG:go-FV MOD-fast
 'You will go fast.'
- b. ā-túm-ĩ ḡi na dukpá ḡí-lende
 3SG:1.O-stab-FV.ANT P₁ with 9.knife MOD-smooth
 'He pierced him with a knife smooth.', i.e. all the way through
- c. mū-tú wa-si ní-nḡ ām-un-a, ó-ping-og-o ḡí-kókóló-kokolo
 1-man 1.ASS-all COP-1. 3SG^P:1.O-see- 3SG^P-harden- MOD-stiff
 DEM.I FV PLUR-FV
 'Every person who saw him grew stiff.' (T2006.1)

Several manner adverbs occur only in repeated form. If the base is monosyllabic, it is repeated twice. The first set below presents manner adverbs with and without repetition and the second gives examples of adverbs with repetition where the base has not been attested.

- (6.124) ḡí-dē (dē dē) 'walking on tiptoes silently and slowly'
 ḡí-dēdēdē 'walking on tiptoes silently and quickly'
 ḡí-pū 'hit knock-out'
 ḡí-pupúpū 'hit several people knock-out'
 ḡí-tuta 'jump fast, easily'
 ḡí-tuta-tuta 'hopping'

- (6.125) ḡí-fǎkǎ-fǎkǎ 'rapidly and disorderly'
 ḡí-lalala 'with agility'

- ḡí-mbaḡa-mbaḡa 'react quickly, impulsively'²⁹⁶
- ḡí-nyemu-nyemu 'eat soberly'
- ḡí-vomu-vomu 'restlessly'

Some nouns and adverbs have the same base, e.g.:

(6.126)	ḡí-dīli-dīli	'sceptically'	ḡu-dīli-dīlī	'14-doubt'
	ḡí-gala-gala	'fast'	mágala-gálá	'1a.insect, sp.'
	ḡí-gba	'standing'	a-gbagbá	'1b-dance'
	ḡí-kwa	'quick'	mu-kwá	'1-enemy'

It is not possible with the data available to determine the source of the derivation. The noun **agbagbá** is a dance, where a few dancers are in the middle and the others follow their movements in a wider circle.

²⁹⁶ Also used for children when they grow too fast.

7 Verbs

7.1 Introduction

This chapter is organized as follows. The structure of the verb form is presented in 7.2, followed by a description of the content in the verb-root position in 7.3. The pre-radical SM (subject prefix) position is described in 7.4 and the OM (object prefix and reflexive prefix) position in 7.5. Grammatical tense/aspect/mood tone is presented in 7.6. Tense and Aspect are further described in 7.7. Tense and aspect also involve the post-verbal time adverbials, affixes at several positions in the verb structure, which are presented from left to right, and pre-verbal auxiliaries. The time adverbials are glossed with F (Future) or P (Past) followed by a number which indicates the distance in time from the deictic centre.

Negative verb forms are described separately in 7.8, because Liko does not have a single way of negating an affirmative verb. Subjunctives, Imperatives and Conditionals occur in examples throughout this chapter and are treated in more detail in 7.9 and 7.10.

The Liko verb structure contains a slot for extensions²⁹⁷. In 7.11, the verb extensions attested in the language are described: Causative, Applicative, Benefactive, Resultative, Neuter, Associative²⁹⁸ and Pluractional. Liko allows just one morpheme to occur in a verb structure position at the time, except for extensions and enclitics.

Derivation to other word classes is presented in 7.12 and the verb 'to be' in 7.13.

²⁹⁷ Derivational suffixes are commonly called 'extensions' in descriptions of Bantu languages. Extensions are formally different from other suffixes by their structure, -VC- (extensions) instead of -CV (suffixes) and by the position in the verb structure: extensions precede the verb-final vowel, whereas other suffixes follow the verb-final vowel. The term 'expansion' refers to the segmental material following a -CVC- verb root which cannot be analysed as a productive extension. Expansions precede productive extensions in the verb structure.

²⁹⁸ One of the most frequent uses of the Associative extension is reciprocal.

There are several areas which are of interest compared to other Bantu languages: for instance, the use of the time adverbials to encode a point in time (see 7.7.1), verbal enclitics with aspectual use (see 7.7.4) and the absence of a reflex of the reconstructed Proto-Bantu passive extension. Constructions used to convey passive meaning are treated in 8.2.6.

7.2 The structure of the verb form

The structure of the verb form in Liko can be summarized as follows:

(7.1) SM + NEG + TA + OM + root + extension + FV + post-FV²⁹⁹

The positions in this structure contain the following elements (Meeussen's (1967:108) labels are added in brackets):

(7.2)	<u>Position</u>	<u>Content</u>	<u>Meeussen</u>
	SM	subject prefix	(initial)
	NEG	negative prefix	(post-initial)
	TA	aspect, Conditional	(formative)
	OM	object prefixes, reflexive prefix	(infix)
	root	verb root	(radical)
	extension	derivational suffixes and expansions	(suffix)
	FV	negation, aspect, mood	(final)
	post-FV	aspect, several other suffixes/enclitics	(post-final)

SM and OM stand for 'subject marker' and 'object marker' respectively. TA is short for tense/aspect.³⁰⁰ NEG is 'negative' and FV means 'verb-final vowel'. Post-FV refers to elements which follow the verb-final vowel.

The verbal base may be simple, consisting only of a verb root, or extended, consisting of a verb root followed by one or more extensions. Extensions are underlyingly toneless. The vowel of an extension is either high or low (no mid).

²⁹⁹ In order to facilitate a comparison of Liko with other Bantu languages, I have used the labels in Nurse (2005:40) for the positions in the Liko verb structure.

³⁰⁰ Using Nurse's (2005) label because I do not think that it is helpful to add a new label to existing ones. The reader should keep in mind that although the TA position is used in Liko, tense and aspect are generally encoded in other positions.

All extensions except the Causative are [–ATR]. The verb stem refers to the verbal base with the final vowel.

Most Bantu languages, with the exception of the so-called "northwest languages", use the TA position as the carrier of tense inflection. Some Bantu languages use FV, Pre-SM and post-FV, and some carry tense reference at two positions, usually some combination of pre-SM, TA and FV (Nurse 2008:80, 81). Tense is absent in the content column of the verb structure. In Liko, tense in the sense of 'a point in time' is expressed by a combination of time adverbials, the final vowel and a TAM (tense/aspect/mood) tone melody on the verb form.

An example of a verb form in which many positions in the structure are filled and a time adverbial is present is:

- (7.3) ná-ká-mú-sum-íly-á-gǔ ndt
SM-NEG-OM-root-extension-FV-post-FV time adverbial
1SG^P-NEG-2PL.O-hide-BEN-FV^P-NEG P₃
'I did not hide [something] from you (pl).'

Meeussen's pre-initial, limitative and pre-final positions do not occur in Liko. Liko does not have a negative marker which precedes the subject prefix in a pre-initial position. The first negative marker in a single inflected verb form occurs in the position following the SM. The object relative, the other category posited in this position (to refer to the object of the relative clause in constructions like 'The cassava that they pound'), does not occur in Liko. Meeussen's limitative is not included in the Liko verb structure, because there is no morpheme between the TA and the OM positions. The pre-final does not require a separate position in the Liko verb structure, because the -VC- form, the tonal properties and the distribution with tenses and moods of the candidate for this position, the Pluractional extension **-ag-**, are identical to other extensions.

7.3 Verb radical (root)

Liko verb roots fall into one of two tone classes: High and Low. All verbs with a surface LH tone have a depressor consonant as C₁ and are analysed as underlyingly High. Lexical tone is linked to the first CV-syllable of the verb root. Verbs

with -CVC- structures include: **-dúk-** 'pour out', **-kín-** 'decorate', **-tuk-** 'help', **-nan-** 'stretch', **-dúk-** 'drip', **-kís-** 'look for', **-tók-** 'leave', **-lál-** 'sleep'.

The verb radical or root has the structure -CVC- in the majority of Liko verbs, where both C_1 and C_2 may be empty. Empty C_2 occurs more frequently than empty C_1 . The language has a small number of -CVV-, -CVVC- and -VVC- structures, see 2.4 and 2.5.2. The set of -CV-verbs contains basic verbs like **-gí-** 'do', **-lí-** 'eat', **-pa-** 'like, want', **-pá-** 'give', **-kú-** 'die', **-sí-** 'finish', **-va-** 'take'. The set of -VC-verbs is small, examples are **-am-** 'stop', **-amb-** 'cook', **-ín-** 'see', **-ind-** 'go', **-ók-** 'heal' and **-up-** 'rest'.

Examples of -CVC- structures with prenasalized C_2 include: **-lúmb-** 'bury', **-tund-** 'multiply', **-súng-** 'ferment', **-dúngb-** 'limp', **-panz-** 'scatter'. /nv/ as C_2 is not found. Few -CVC- verb roots have prenasalized C_1 , e.g. **-mbang-** 'admire', **-ndóng-** 'discover', **-ngát-** 'ripen', **-ngbát-** 'play (musical instrument)', **-nvit-** 'pinch', **-nzín-** 'talk'.

A number of -CV- and -CVC- verb structures have initial **t-**, which prevents [+ATR] spreading to the Infinitive prefix. Although the root without the initial vowel is not attested for these verbs, the vowel is analysed as a reflexive prefix which constitutes the left boundary of the domain of [+ATR] spreading. In verb forms with **-ibó-** 'know', **-ingí-** 'lay down', and **-ikút-** 'be satisfied (after eating)', the vowel of the Infinitive prefix is consistently /a/ instead of /o/ (see 3.2.2.3).

Most verb roots that are longer than -CVC- can be shown to result from derivational processes (Schadeberg 2003a:72). Liko has a number of -CVCVC- verbs in which the bare -CVC- root does not occur and where the following -VC part has not been identified. For examples of -CVCVC- verbs, see 7.11.9. Most -CV(C)VC- verbs have two identical vowels, in particular when the first vowel of the verb root is a high or a low vowel.

About twenty verb roots in my data have the structure -CVCV-, where V_2 is a high vowel /i i u u/ that cannot be identified as a suffix with derivational properties, such as the Applicative extension **-t-**, see 7.11.2. If a corresponding -CVC- verb root exists for these verbs, then the meaning does not seem to be related, e.g. **-bák-**

'bud' vs. **-báki-** 'spit' and **-tól-** 'hurt (intr.)' vs. **-tólu-** 'be ready'. Preceding the final vowel, V_2 is desyllabified (see 3.3.5). Some other examples of -CVCV- verb roots are: **-pumbi-** 'accumulate', **-kíbi-** 'hold out', **-gbodi-** 'coat', **-kógu-** 'choke (on a piece of food)', **-baku-** 'peel', **-tóku-** 'chew', **-buku-** 'scratch' and **-kógu-** 'scream'.

Reduplication of the root-initial CV-syllable is not frequent. When it occurs, it modifies the meaning of the basic verb, e.g. **-vul-** 'touch' vs. **-vivul-** 'feel, finger', **-gum-** 'iron' vs. **-gugum-** 'tremble, shiver'. Certain verbs with an extension are only attested with reduplication of the initial CV-syllable. For instance, with the Associative extension **-an-** (see 7.11.6): **-dik-** 'make cold or wet' vs. **-didik-an-** 'die, become old', and with the Applicative extension **-i-** (see 7.11.2): **-nzun-** 'speak, talk' vs. **-nzunzun-i-** 'talk scandal, discredit s.o.', **-yung-** 'tell, deliver a speech' vs. **-yoyung-i-** 'say s.th. bad to s.o.', **-kóng-** 'ask' vs. **-i-kókóng-i-** 'ask for oneself, beg'.

7.4 Subject prefix (SM position)

Subject prefixes in Liko agree with the noun class of the subject only for classes 1 and 2.³⁰¹ The subject prefixes are:

Table 24 Subject prefixes

Noun classes 1 and 2		Other noun classes	
1SG	na-		
2SG	wa-		
3SG	a-/Ø-	3SG	a-/Ø-
1PL	ta-		
2PL	má-		
3PL	bá-	3PL	a-/Ø-

³⁰¹ For this reason, the term 'subject prefixes' is used in this book, rather than 'subject concords' which is used in descriptions of Bantu languages where the subject marker agrees with the noun class of the subject. The same applies to object prefixes in the next section.

Third person singular subjects of class 1 as well as singular subjects of other noun classes take the prefix **a-**, except in Conditional and negative forms where the prefix is zero. A class 2 third person plural subject has the prefix **ǃá-**. Plural subjects of other noun classes take prefix **a-**, except in Conditional and negative forms where the prefix is zero.³⁰² Subject prefixes are unmarked for tone, except the second and third person plural prefixes **mǃá-** and **ǃá-** which have an underlying H tone. The vowel of subject prefixes is changed into /o/ in a [+ATR] context. Imperatives consist of the verb stem and they do not have a subject prefix.

The following clauses exemplify agreement between subjects and subject prefixes. All classes except class 2 take subject prefix **a-** for both singular and plural referents:

- (7.4)a. mu-kó á-pung-á ndi kǃ-ǃ-nzǃnzǃny-á
 1-woman 3SG^P-start-FV^P P₃ 9b-REFL-complain-FV
 'The woman started to complain.'
- b. nékókó a wa-pǃ
 1a.instrument 3SG:be 1.ASS-strong
 'The musical instrument is strong.', i.e. made of hardwood
- c. ǃ-mbengí á-ǃtǃl-á mu-lókú
 5-heart 3SG^P:1.O-hurt-FV^P 1-man
 'The man was angry.', literally, 'the heart hurt the man'
- d. ǃa-nyamá ǃá-gǃgǃ, ma-mbengí ú-tǃl-ǃ ndi
 2-animal 2.ASS-other 6-heart 3SG/PL^P:2.O-hurt-FV P₃
 'The other animals, they were angry.', literally, 'hearts hurt them'
 (T2006.3)
- e. nzúyǃ yǃ-sǃ á-va kúwa ǃsǃ sǃ yó-ǃmúkí áka³⁰³
 9.body 9.ASS-all 3SG^P-take:FV thus only 9.smell 9.ASS-6:smoke CT
 'The whole body took on JUST THE SMELL OF SMOKE.' (T2006.5)

³⁰² Subject prefix **a-** is glossed '3SG' in this book unless it agrees with plural subjects that do not belong to class 2. In those cases it is glossed '3SG/PL'.

³⁰³ The particle **ǃka** indicates contrast, see 8.6.2. The contrasted phrase is marked with underlining. In the free translation, it is marked with capitals. The surface tones on **ǃka** are H.L. when the preceding tone is High, and L.H. when the preceding tone is Low.

- f. 6o-úzu bayá-gəgə a bayá-⁴kpókú
 2+9-island 2+9.ASS-other 3SG/PL:be 2+9.ASS-very big
 'Other islands are very big'
- g. ku-tú-ko kakí ó-6u6-ă ndi bí-tú
 15-clothes-15 3SG.POSS 3SG^P-become white-FV P₃ MOD-bright
 'His piece of clothing became very white.'
- h. 6o-tú kakí ó-6u6-ă ndi bí-tú
 2+9-clothes 3SG.POSS 3SG/PL^P-become white-FV P₃ MOD-bright
 'His clothes became very white.'
- i. kpáká kakí ø-ká-6ák-ag-t-gǔ ndi
 9.trap 3SG.POSS 3SG-NEG-sprout-PLUR-FV-NEG P₃
 'His trap could not release'
- j. 6a-kpáká kakí ø-ká-6ák-ag-t-gǔ ndi
 2+9-trap 3SG.POSS 3SG/PL-NEG-sprout-PLUR-FV-NEG P₃
 'His traps could not release'

Class 2 subjects have **6a-** (regardless of animacy):

- (7.5)a. 6o-mbũ 6ó-pik-og-o 6a-ndá6u na 6e-nvunvú
 2-bird 3PL-build-PLUR-FV 2+9-house with 2+9:9a-moss
 'Birds build nests with moss.'
- b. 6o-nékókó 6á 6a-pǔpu
 2-instrument 3PL:be 2.ASS-strong
 'The musical instruments are strong.', i.e. with a loud sound

The third singular subject prefix is also used to refer to impersonal subjects, e.g.
a 6ínza 'it is good', **a 6ízu**³⁰⁴ 'it is warm'.

The third plural subject prefix is also used to refer to indefinite subjects, e.g.
6úgyogyiso /6á-ŭ-gyogy-is-o/, 3PL-2.O-suffer-CAUS-FV, 'people will make them suffer'.

In clauses where a subject performs an action with someone else, the subject is considered to be plural and the subject prefix has class 2 concord, e.g.:

³⁰⁴ For the forms of 'to be', see 7.13.

- (7.6) Lótu ní-nǎ bá-kpakyán-á ndi na Ábaláma
"Lótu" COP-1.DEM.I 3PL^P-travel-FV^P P₃ with "Abaláma"
'This Lot travelled with Abraham.' (*translated Genesis 13:5*)

7.5 Object and reflexive prefixes (OM position)

7.5.1 Object prefixes

Pronominal marking on the verb in OM position is governed by grammatical relations and is obligatory if the object is the first or second person singular or plural, or belongs to class 1 and its subclasses or to class 2. The presence of a bound pronominal object prefix depends on the valency of the verb. The object may be impersonal. To express emphasis, a substitutive or participant pronoun occurs post-verbally, see examples at the end of this section. The object prefixes are listed in the following table:

Table 25 Object prefixes

1SG	ì-
2SG	ù-
class 1	mù- / ˘- / ˚-
1PL	tí-
2PL	mú-
class 2	ǔ-

The class 1 object prefix **mù-** occurs in Imperative forms, e.g. **mu-kúl-á**, 1.O-untie-FV.IMP, 'untie him!', see 7.9.2. Arguments for positing a combined LH tone on the class 2 object prefix are given in 7.5.2.

Examples of the object prefixes include:

- (7.7) ε-kúl-a 3SG:1SG.O-untie-FV 'he will untie me'
/a-ɪ-kúl-a/
ɯ-kúl-a 3SG:2SG.O-untie-FV 'he will untie you (sg)'
/a-ʊ-kúl-a/
a-kúl-a mémí 3SG:1.O-untie-FV 1a.goat 'he will untie the goat'
/a-˘-kúl-a/
a-tí-kúl-a 3SG-1PL.O-untie-FV 'he will untie us'

a-mú-kúl-a	3SG-2PL.O-untie-FV	'he will untie you (pl)'
ǔ-kúl-a	3SG:2.O-untie-FV	'he will untie them'
/a-ǔ-kúl-a/		

An object prefix consisting of a vowel, preceded or followed by a vowel, leads to a sequence of two vowels which must be resolved (see 3.3 and 4.6.3 to 4.6.5 for surface tone realizations in these contexts). Preceding vowel-initial verb roots, all object prefixes have an epenthetic /m/ between the object prefix and the initial vowel of the root.

The epenthetic /m/ occurs preceding vowel-initial verb roots. The vowel of vowel-initial verbs is either high, i.e. /i i u u/, or it is the low vowel /a/. The reflexive prefix **ǔ-** has the allomorph **ǔm-** in the same environment. Examples of the allomorph of the object prefix include:

(7.8) εm-tn-a	3SG:1SG.O-see-FV	'he will see me'
/a-i-tn-a/		
um-tn-a	3SG:2SG.O-see-FV	'he will see you (sg)'
/a-u-tn-a/		
am-tn-a mémí	3SG:1.O-see-FV 1a.goat	'he will see the goat'
/a-`-tn-a/		
a-tím-tn-a	3SG-1PL.O-see-FV	'he will see us'
/a-tí-tn-a/		
a-múm-tn-a	3SG-2PL.O-see-FV	'he will see you (pl)'
/a-mú-tn-a/		
ǔm-tn-a	3SG:2.O-see-FV	'he will see them'
/na-ǔ-tn-a/		

Other examples with vowel-initial verbs are:

(7.9) na kám-ul-á	mu-sí	'I am breaking a fish'
1SG:be 9b:1.O-break-FV	1-fish	
na kám-al-á	mu-sí	'I am cleaving a fish'
1SG:be 9b:1.O-cleave-FV	1-fish	

The class 1 object prefix surfaces with the allomorph $\tilde{a}$ -, i.e. additional slight nasalization on the preceding vowel³⁰⁵, if the object is not expressed:

- (7.10)a. $\tilde{a}$ -kúl-a 3SG:1.O-untie-FV 'he will untie him'
 /a- $\tilde{a}$ -kúl-a/
 $\tilde{b}$ á-tnd-a 3PL:1.O-tattoo-FV 'they will tattoo him'
 / $\tilde{b}$ á- $\tilde{a}$ -tnd-a/
 b. $\tilde{b}$ á-⁴kúl-a 3PL:1.O-untie-FV 'they will untie him'
 / $\tilde{b}$ á- $\tilde{a}$ -kúl-a/
 $\tilde{b}$ á-⁴ít-a 3PL:1.O-slap-FV 'they will slap him'
 / $\tilde{b}$ á- $\tilde{a}$ -ít-a/
 c. $\tilde{b}$ á-mokisy-o 3PL:1.O-dress-FV 'they will dress him'
 / $\tilde{b}$ á- $\tilde{a}$ -mokisi-a/
 na kám-un-á 1SG:be 9b:1.O-see-FV 'I am seeing him'
 /na ká- $\tilde{a}$ -un-á/

In all cases, the vowel of the preceding prefix surfaces with the nasalization. In (a), the L tone of the class 1 object prefix merges with an adjacent L tone, whereas in (b), the L tone causes non-automatic downstep of the primary H tone of the verb root. The nasalization is not absorbed by a following nasal consonant, as can be seen in (c).

The following sets, (7.11), (7.12) and (7.13), exemplify the relation between the object prefix and a human referent, and between the object prefix and classes 1 or 2. In (7.11), the object prefix refers to a human object. In (7.12), the object prefix refers to classes 1 or 2 animate or inanimate objects. In (7.13), in which the object is not human and does not belong to classes 1 or 2, no object prefix is present.

(7.11) *The object prefix refers to a human object*

- ϵ -tungbul-a bánu 3SG:1SG.O-support-FV F_2 'he will support me'
 u-tungbul-a bánu 3SG:2SG.O-support-FV F_2 'he will support you (sg)'
 á-tungbul-a bánu 3SG:1.O-support-FV F_2 'he will support him'

³⁰⁵ I would like to thank Constance Kutsch Lojenga for sharing the information that nasalization is involved with respect to the class 1 object prefix, and the Liko consultant Dominique Banotanea Bapokanzo for revealing this to her.

a-tí-tungbul-a bánu	3SG-1PL.O-support-FV F ₂	'he will support us'
a-mú-tungbul-a bánu	3SG-2PL.O-support-FV F ₂	'he will support you (pl)'
ǎ-tungbul-a bánu	3SG:2.O-support-FV F ₂	'he will support them'

(7.12) *The object prefix refers to class 1 animate or inanimate objects*

- a. á-⁴kóng-ǎ ndi mǔ-mbembí
 3SG^P:1.O-roast-FV P₃ 1-snail, sp.
 'She roasted a snail.'
- b. ú-kóng-ǎ ndi 6a-mbembí
 3SG^P:2.O-roast-FV P₃ 2-snail, sp.
 'She roasted snails.'
- c. á-⁴pát-ǎ ndi móngwǒ
 3SG^P:1.O-win-FV P₃ 1a.iron arrow
 'He won an iron arrow.'
- d. ú-pát-ǎ ndi 6o-móngwǒ
 3SG^P:2.O-win-FV P₃ 2-iron arrow
 'He won iron arrows.'

In (a) and (c), the class 1 object prefix ǎ- is not visible as a separate morpheme at the surface. It is the absence of [+ATR] assimilation of the subject prefix and non-automatic downstep of the H tone of the verb root caused by the underlying L tone of the object prefix, which signal the presence of the class 1 object prefix (see 3.2.2.3 and 4.6.5). In (b), the class 2 object prefix -ǎ harmonizes with [+ATR] verb root -kóng-. In (b) and (d), the prefixal H tone of the Past TAM melody and the LH tone of the third plural object concord surface as a single H tone (see 4.6.4).

The examples in (7.13) show that there is no object prefix if the object is not human and does not belong to classes 1 or 2. In (7.13a, c), [+ATR] assimilation of the subject prefix to the verb root and the absence of non-automatic downstep show that there is no class 1 object prefix ǎ-. In (7.13b, d), the class 2 object prefix -ǎ is not allowed.

(7.13) *Object is not human and does not belong to classes 1 or 2*

- a. ó-bún-ǎ ndi mǔni má-gĩta
 3SG^P-break-FV P₃ 3:handle 6.ASS-9.hoe
 'He broke the handle of the hoe.'

- b. ó-bún-ă (*ú-bún-ă) ndi 6o-mũni 6ayá-6a-gĩta
 3SG^P-break-FV P₃ 2 + 9-handle 2 + 9.ASS-2 + 9-hoe
 'He broke the handles of the hoes.'
- c. á-kís-ă ndi bálá
 3SG^P-search-FV P₃ 9.herd
 'He looked for the herd.'
- d. á-kís-ă (*ú-kís-ă) ndi 6a-bálá
 3SG^P-search-FV P₃ 2 + 9-herd
 'He looked for the herds.'

The referent of the object prefix is governed by grammatical relations, i.e. it refers to the primary relation according to the verb valency. The primary relation occurs as the first object following the verb in unmarked clause structure. The first object has the semantic role of patient or goal in the above examples. When a transitive verb has the Benefactive extension **-ũ-**, the object with the semantic role of beneficiary has to be the first object following the verb, preceding any other object. In the case of the Causative extension **-is-**, the causee is the first object. The object prefix agrees with the first object following the verb.

The ditransitive verb in the examples below has the Benefactive extension. In case the clause contains two objects, the valency of the verb determines which grammatical relation is represented in OM by an object prefix. In the case of **-kóng-** 'ask' the object prefix refers to the goal, as in (7.14a, b), but in **-kóng-ũ-** 'ask for s.o.' in (7.14c, d), where the verb with the Benefactive extension has two object arguments, the object prefix refers to the beneficiary.

- (7.14)a. Zetu á-¹kóng-ă ndi mu-kó
 Zetu 3SG^P:1.O-ask-FV P₃ 1-woman
 'Zetu asked a woman.'
- b. Zetu ú-kóng-ă ndi 6o-kó 6á-6ă
 Zetu 3SG^P:2.O-ask-FV P₃ 2-woman 2.NUM-two
 'Zetu asked two women.'
- c. Zetu á-¹kóng-ũ-ă ndi mĩkakĩ mu-kó
 Zetu 3SG^P:1.O-ask-BEN-FV P₃ 1a.child:3SG.POSS 1-woman
 'Zetu asked a woman for his son.'

- d. Zetu ú-kúng-úly-ǎ ndi 6o-míkakí mu-kó
 Zetu 3SG^P:2.O-ask-BEN-FV P₃ 2-child:3SG.POSS 1-woman
 'Zetu asked a woman for his sons.'³⁰⁶

Turning to verbs with the Causative extension **-is-**, the causee is marked with an object prefix if it is definite and if it is the first or second person singular or plural, or belongs to classes 1 or 2. In (7.15a), an intransitive verb is made transitive and in (7.15b), a transitive verb is made ditransitive. In both cases, the object prefix refers to the causee.

- (7.15)a. sukopí ø-ká-nzin-ís-á-gǔ gbukó
 1a.leopard 3SG^P-NEG:1.O-talk-CAUS-FV^P-NEG 1a.rat
 'Leopard caused rat not to talk.'³⁰⁷ (T2006.3)
- b. bú-dung-is-o bánu i-títí tʷɛ a-bǎkɪ
 3PL:2.O-carry-CAUS-FV F₂ 9a-anthill 2SG.PRO 1b-father:3SG.POSS
 míkí iḃúnú na a-máki
 1a.child 2PL.PRO and 1b-mother:3SG.POSS
 'They let them carry an anthill, you the father of the child, you (pl) and his mother.'³⁰⁸ (adapted from T2006.4)

A substitutive or participant pronoun may be used to emphasize the referent of the object prefix:

- (7.16)a. ø-kiḃ-ó, bá-mwó tʷí 6éɛyó
 3SG-COND:steal-FV 3PL:1.O-kill:FV 1.PRO likewise
 'If he steals, they will kill him (emphasized) likewise.' (T2006.2)
- b. no-do-kú bi ká-u-bis-ó ási tʷɛ áka ?
 1SG-come:FV-DIR P₁ 9b-2SG.O-put-FV only 2SG.PRO CT
 'Did I come to put YOU [there]?'³⁰⁹ (T2006.10)

³⁰⁶ Normally, a woman would be asked for each of the sons. The patient is singular in this example in order to show that the object prefix agrees with the beneficiary.

³⁰⁷ That is, the leopard made the rat keep silent.

³⁰⁸ A ceremony after circumcision rituals, which signals that your child has died.

³⁰⁹ Implied in the context of this example is: without you doing something useful?

7.5.2 Reflexive prefix

The reflexive prefix **ĩ-** is used for singular and plural referents of all noun classes and speech participants. When the reflexive prefix follows another prefix vowel, the sequence of two vowels is dealt with in some morphological environments by elision of the first vowel and in other by heterosyllabification (see 3.3.1 and 3.3.4 for a description and examples).

The surface tone of the reflexive prefix is L, H, or LH as exemplified in the following three sets:

(7.17) *Reflexive prefix **ĩ-** realized with a L tone*

- a. na-kĩ-kúl-á *V₁-elision, prefix L, verb H*
 1SG-COND:REFL-untie-FV
 'If I untie myself.'
- b. na ká-t-ǂúnd-ág-á *heterosyllabification, verb H*
 1SG:be 9b-REFL-look after-PLUR-FV
 'I am looking after myself.'

(7.18) *Reflexive prefix **ĩ-** realized with a H tone*

- a. ní-kúl-á ndĩ *V₁-elision, prefix H, verb H*
 1SG^P:REFL-untie-FV^P P₃
 'I untied myself.'
- b. ní-sumb-á ndĩ *V₁-elision, prefix H, verb L*
 1SG^P:REFL-burn-FV^P P₃
 'I burned myself.'

(7.19) *Reflexive prefix **ĩ-** realized with a LH tone*

- a. nĩ-kúl-a ǂánu *V₁-elision, subject prefix L, verb H*
 1SG:REFL-untie-FV F₂
 'I will untie myself.'
- b. nĩ-sumb-o ǂánu *V₁-elision, subject prefix L, verb L*
 1SG:REFL-burn-FV F₂
 'I will burn myself.'
- c. na-kĩ-sumb-ó *V₁-elision, prefix L, verb L*
 1SG-COND:REFL-burn-FV
 'if I burn myself.'

- d. na ká-ĩ-tund-á *heterosyllabification, verb L*
 1SG:be 9b-REFL-tattoo-FV
 'I am tattooing myself.'

Table 26 summarizes the environments of the different realizations of the tone of the reflexive prefix when V₁-elision takes place.

Table 26 Surface tone on the reflexive prefix *ɪ*- after V₁-elision

Preceded by	Reflexive prefix Surface tone	Followed by
High-toned prefix	H	Low or High-toned verb root
Low-toned subject prefix	LH	Low or High-toned verb root
Low-toned other prefix	L	High-toned verb root
Low-toned other prefix	LH	Low-toned verb root

In the case of heterosyllabification, the surface tone of the reflexive prefix is L preceding a verb root with a H tone and LH preceding a verb root with a L tone.

If the underlying tone of the reflexive prefix would be L, a LH surface tone preceding a verb root with a L tone is unexpected. If the underlying tone would be H, L and LH realizations are difficult to explain. A combined LH tone can surface as a L tone, as a H tone and as a LH tone by the OCP or by application of the tone rules described in 4.6.2 to 4.6.4: a L tone surfaces when the H tone merges with the H tone of the following verb (OCP), a H tone surfaces when L-tone deletion applies in the context of a preceding High-toned prefix and V₁-elision, and LH surfaces elsewhere. The analysis also applies to the underlying tone of the class 2 object prefix *ĩ*-, which has the same surface tone realizations as the reflexive prefix.³¹⁰

The surface LH tone of the reflexive prefix when it occurs between a subject prefix with a L tone and a verb root with a H tone is remarkable, because the H part of

³¹⁰ Examples of surface tone realizations of class 2 object prefixes can be found in the verb paradigms in Appendix B.

the combined LH tone does not merge with the adjacent identical H tone. The class 2 object prefix shows the same LH surface tone:

- (7.20)a. nǔ-kúl-a 6a-mémí
 1SG:2.O-untie-FV 2-goat
 'I will untie the goats.'
- b. nǔ-pun-a 6a-súkwá
 1SG:2.O-gather-FV 2-caterpillar
 'I will gather caterpillars.'

Preceding vowel-initial verbs, the reflexive prefix *ĩ-* has the allomorph *ĩm-*:³¹¹

- (7.21) na ká-ĩm-ín-á 1SG:be 9b-REFL-see-FV 'I am seeing myself'
 na ká-ĩm-úl-á 1SG:be 9b-REFL-break-FV 'I am breaking myself'
 na ká-ĩm-ál-á 1SG:be 9b-REFL-cleave-FV 'I am cleaving myself'

The OM position cannot be occupied by both an object prefix and the reflexive prefix. When a verb has the Benefactive extension (see 7.11.3), only an object prefix occurs in OM position. In (7.22a), the OM position is occupied by the reflexive prefix and in (7.22b) by the class 1 object prefix. Adding the reflexive prefix as in (7.22c) is ungrammatical.

- (7.22)a. na ká-t-kpánzy-á tú⁴ká-tu
 1SG:be 9b-REFL-comb-FV 13.hair-13
 'I am combing myself hair.', i.e. I am combing my hair.'
- b. na ká-⁴kpánzy-íly-á ngámá tú⁴ká-tu
 1SG:be 9b:1.O-comb-BEN-FV 1a.chief 13.hair-13
 'I am combing hair for the chief.'
- c. *na ká-t-kpánzy-íly-á ngámá tú⁴ká-tu
 Int. 'I am combing myself hair for the chief.'

The same can be seen with the second person singular object prefix. In (7.23a), the OM position is occupied by the reflexive prefix and in (7.23b) by the object prefix.

³¹¹ See (7.8) and (7.9) for object prefixes with epenthetic /m/.

Adding the reflexive prefix as in (7.23c) is not allowed. A way to express reflexive meaning in combination with a beneficiary would be (7.23d):

- (7.23)a. na ká-i-túm-ó na dukpá
 1SG:be 9b-REFL-stab-FV with 9.knife
 'I am stabbing myself with a knife.'
- b. na ká-u-túm-íly-ó a-lúkú nǝ na dukpá
 1SG:be 9b-2SG.O-comb-BEN-FV 1b-man 1.DEM.I with 9.knife
 'I am stabbing that man with a knife for you.'
- c. *na ká-i-túm-íly-ó a-lúkú nǝ na dukpá
 1SG:be 9b-REFL-stab-BEN-FV 1b-man 1.DEM.I with 9.knife
Int. 'I am stabbing myself with a knife for that man.'
- d. na ká-i-túm-ó na dukpá kó bulýó kakú
 1SG:be 9b-REFL-stab-FV with 9.knife PREP 9.reason 2SG.POSS
 'I am stabbing myself with a knife for your sake.'

7.6 TAM (tense/aspect/mood) melodies

In 4.3.2, I introduced the concept of a tone melody that is expressive of a "tense", a verbal conjugation paradigm, the so-called TAM melody. The TAM melody is an overlay over the primary tone on the verb root and affixes in the verb form. The TAM melody consists of one or two tones: a prefixal tone and/or a final-vowel tone. Initial association of the prefixal tone links to the leftmost TBU and initial association of the final-vowel tone links to the TBU of the verb-final vowel, often the rightmost TBU. After initial association, the H tone spreads to toneless TBUs, see 4.6.1. Any tone that after spreading lacks a tone association, surfaces with the default L tone.

The Liko verb form has three subparts which, for tone assignment, can be grouped together in:

- prefixes preceding the verbal base;
- the first CV-syllable of the verb root and
- the verbal base following the first CV-syllable and the final vowel.

Prefixes preceding the verbal base are the subject prefix in SM-position, the negative prefix in NEG-position, three prefixes in TA-position and the object prefixes or the reflexive prefix in OM-position. The first CV-syllable of the verb

root bears the primary tone of the verb. The third subpart consists of any other root syllables, extensions and the final vowel. The second and third person plural subject prefixes, the object prefixes and the reflexive prefix have an underlying tone, as well as one prefix in TA position, the verb root and the post-FV suffixes and enclitics.

Affirmative and negative have separate TAM melodies. I will first present the affirmative forms.

Table 27 TAM (tense/aspect/mood) melodies (affirmative)

Prefixal tone	Final-vowel tone	Affirmative form
High	-	Past
-	High	Infinitive ³¹² , Imperative
-	°H + Low	Anterior
Low	High	Conditional
High	High	Past (specific ³¹³), Subjunctive

The Future has no TAM melody with a H tone; its prefixal and final-vowel tones surface as L tones. The Past has a prefixal H tone and the Past (specific) has both a prefixal H tone and a H tone on the final vowel. To distinguish Past and Future in the glosses, I use superscript "P" as a notation for a High TAM tone that has a time reference to the past.

The Anterior aspect has a TAM melody with a floating H tone preceding the final vowel and a L tone on the final vowel: -^{Hi}i. The floating H tone is associated with a free TBU if possible, e.g. **nodikiti** in (7.24). In the case of -CVC- verbs with a L primary tone, the vowel of the verb root remains Low and the floating High is

³¹² The Infinitive is not an inflected verb form, but its surface tones can be accounted for with a TAM melody.

³¹³ "Specific" indicates that time reference to the past is specifically set, see 7.7.3.

linked to the final vowel. For example, /ta-pík-^Hi/, 1PL-sway-FV.ANT, surfaces as **topíkí** 'we prepared [a field] for sowing recently'.³¹⁴

In the following Affirmative forms, the verbal base is underlined. A -CVCVC- verb root with primary L tone is used, **-díkt-**, in order to show H-tone spreading from right to left, see 4.6.1. The final vowel is **-ɪ** (Subjunctive), **-^Hi** (Anterior aspect) and **-a** elsewhere. Inchoative aspect has a non-spreading H tone on the FV.

(7.24) Affirmative form			prefixal	FV
Past	ná <u>díkt</u> ɪ	'I threw'	H	-
Infinitive	ká <u>díkt</u> ɪ	'to throw'	-	H
Imperative	<u>díkt</u> ɪ	'throw!'	-	H
Conditional	naka <u>díkt</u> ɪ	'if I throw'	L	H
Past (specific)	ná <u>díkt</u> ɪ	'I threw'	H	H
Subjunctive	ná <u>díkt</u> í	'that I throw'	H	H
Future	na <u>díkt</u> ɪ	'I will throw'	-	-
Anterior	no <u>díkt</u> í	'I threw'	-	^o H + L
Inchoative	naná <u>díkt</u> ɪ ³¹⁵	'I am about to throw'	-	-

Glosses of the above verb forms are:

(7.25) Past	ná-díkt-a	1SG ^P -throw-FV
Infinitive	ká-díkt-á	9b-throw-FV
Imperative	díkt-á	throw-FV.IMP
Conditional	na-ka-díkt-á	1SG-COND-throw-FV
Past (specific)	ná-díkt-á	1SG ^P -throw-FV ^P
Subjunctive	ná-díkt-í	1SG-throw-FV.SUBJ
Future	na-díkt-a	1SG-throw-FV

³¹⁴ There are, however, two verbs in my data, where the floating H tone of Anterior aspect is associated with the primary tone of a -CVC- verb: **-sil-** 'arrive' and **-nyuk-** 'fall': **noslí** < /na-sil-^Hi/ 'I arrived' and **nonyúki** < /na-nyuk-^Hi/ 'I fell'. Other Low-toned -CVC- verbs do not have a surface LH tone on the vowel of the verb root in a tone frame with Anterior aspect.

³¹⁵ For the H tone on the final vowel of the Inchoative form, see (4.88) in 4.6.6.

Anterior	no-díkít-i	1SG-throw-FV.ANT
Inchoative	na-ná-díkit-á	1SG-INCH-throw-FV

Liko has the following TAM melodies for the negative forms:

Table 28 TAM (tense/aspect/mood) melodies (negative)

Prefixal tone	Final-vowel tone	Negative form
High	-	Future
Low	-	Subjunctive
High	High	Past, Anterior, Conditional

In the list of Negative forms below, the verbal base is underlined. The -CVCVC-verb root **-díkit-** is used again. The final vowel is **-ɪ** (Future), [+ATR] **-i** (Anterior aspect and Conditional) and **-a** elsewhere. A hyphen is put between the final vowel and a first post-FV suffix or enclitic.

(7.26) <u>Negative form</u>			<u>prefixal</u>	<u>FV</u>
Future	nákádíkítɪ-gu	'I will not throw'	H	-
Subjunctive	nakodíkító-ní 'tɔgu	'that I not throw'	L	-
Past	nákádíkítá-gu	'I did not throw'	H	H
Anterior	nákódíkítí-gu	'I did not throw'	H	H
Conditional	nákódíkítí	'if I do not throw'	H	H

Inchoative aspect does not have a negative form. The negative Imperative is expressed by the negative Subjunctive.

Glosses of the above verb forms are:

(7.27) Future	ná-ká-díkit-ɪ-gu
	1SG-NEG-throw-FV-NEG
Subjunctive	na-ko-díkit-o-ní 'tɔ-gu
	1SG-NEG-throw-FV-NEGSUBJ INS-NEG

Past	ná-ká-díkít-á-gu 1SG ^P -NEG-throw-FV ^P -NEG
Anterior	ná-kó-díkít-í-gu 1SG-NEG-throw-FV.ANT-NEG
Conditional	ná-kó-díkít-í 1SG-COND-throw-FV.NEG

The second person plural subject prefix **má-** and the third person plural subject prefix **6á-** have an underlying H tone. This H tone is replaced by the prefixal L tone of a TAM melody. The verb used to exemplify this is **-pík-** 'sway'. Compare the surface tone on the subject prefixes **na-** '1SG' and **6á-** '3PL' in (7.28a, b and c).

TAM melody effect on the underlying H tone of the subject prefix is shown in the following affirmative verb forms:

(7.28)	<u>Affirmative form</u>	<u>prefixal</u>	<u>FV</u>	<u>1SG na-</u>	<u>3PL 6á-</u>
a.	Future	-	-	na-ptk-a	6á-ptk-a
	Anterior	-	°H + L	no-pík-í	6ó-pík-í
	Inchoative	-	-	na-ná-ptk-á	6á- ⁺ ná-ptk-á
b.	Past	H	-	ná-ptk-a	6á-ptk-a
	Past (specific)	H	H	ná-ptk-á	6á-ptk-á
	Subjunctive	H	H	ná-ptk-í	6á-ptk-í
c.	Conditional	L	H	na-ka-ptk-á	6a-ka-ptk-á

In (a), the third person plural subject prefix surfaces with its underlying tone and the first person singular prefix surfaces with the default L tone. In (b), the tone on the subject prefix is the prefixal High tone of the TAM melody. The third person plural subject prefix of the Conditional form in (c) shows that the underlying H tone of the subject prefix is replaced by the prefixal L tone of the TAM melody.

Glosses of the above verb forms are:

(7.29)a.	Future	na-ptk-a	6á-ptk-a
		1SG-sway-FV	3PL-sway-FV
	Anterior	no-pík-í	6ó-pík-í
		1SG-sway-FV.ANT	3PL-sway-FV.ANT
	Inchoative	na-ná-ptk-á	6á- ⁺ ná-ptk-á
		1SG-INCH-sway-FV	3PL-INCH-sway-FV

b.	Past	ná-ptk-a	6á-ptk-a
		1SG ^P -sway-FV	3PL ^P -sway-FV
	Past (specific)	ná-ptk-á	6á-ptk-á
		1SG ^P -sway-FV ^P	3PL ^P -sway-FV ^P
	Subjunctive	ná-ptk-í	6á-ptk-í
		1SG-sway-FV.SUBJ	3PL-sway-FV.SUBJ
c.	Conditional	na-ka-ptk-á	6a-ka-ptk-á
		1SG-COND-sway-FV	3PL-COND-sway-FV

In the negative forms, the prefixal tone of the TAM melody is either High or Low. In (7.30a), both the first person singular and the third person plural subject prefixes surface with a H tone, whereas in (7.30b), the H tone of the third person plural subject prefix is delinked by the prefixal L tone of the Subjunctive TAM melody.

TAM melody effect on the underlying H tone of the subject prefix is shown in the following negative verb forms:

(7.30)	Negative	prefixal	FV	1SG <u>na-</u>	3PL <u>6á-</u>
a.	Future	H	-	ná-ká-ptk-í-gu	6á-ká-ptk-í-gu
	Past	H	H	ná-ká-ptk-á-gu	6á-ká-ptk-á-gu
	Anterior	H	H	ná-kó-pik-í-gu	6á-kó-pik-í-gu
	Conditional	H	H	ná-kó-pik-í	6á-kó-pik-í
b.	Subjunctive	L	-	na-ko-pik-o-ní 'tó-gu	6a-ko-pik-o-ní 'tó-gu

Glosses of the above verb forms are:

(7.31)a.	Future	ná-ká-ptk-í-gu	6á-ká-ptk-í-gu
		1SG-NEG-sway-FV-NEG	3PL-NEG-sway-FV-NEG
	Past	ná-ká-ptk-á-gu	6á-ká-ptk-á-gu
		1SG ^P -NEG-sway-FV ^P -NEG	3PL ^P -NEG-sway-FV ^P -NEG
	Anterior	ná-kó-pik-í-gu	6á-kó-pik-í-gu
		1SG-NEG-sway-FV.ANT-NEG	3PL-NEG-sway-FV.ANT-NEG
	Conditional	ná-kó-pik-í	6á-kó-pik-í
		1SG-COND-sway-FV.NEG	3PL-COND-sway-FV.NEG
b.	Subjunctive	na-ko-pik-o-ní 'tó-gu	6a-ko-pik-o-ní 'tó-gu
		1SG-NEG-sway-FV-NEGSUBJ	3PL-NEG-sway-FV-NEGSUBJ
		INS-NEG	INS-NEG

Liko has five pairs of verbal forms distinguished only by tone contrasts. I will give examples in (7.32).

The first pair is Past vs. Future. The Past has a TAM melody with prefixal H tone. The Future has no TAM melody with H tones.

The second pair is Past vs. Past (specific). The Past has a TAM melody with prefixal H tone, whereas the Past (specific) in addition has a H tone on the final vowel.

The third pair is Subjunctive vs. Anterior aspect. The Subjunctive has a TAM melody with prefixal H tone and a H tone on the final vowel, whereas Anterior aspect has a TAM melody with a floating H tone preceding the final vowel and a L tone on the final vowel.

The fourth pair, negative Anterior aspect vs. negative Future, differs in tone on the verb-final vowel. Both have a TAM melody with a prefixal H tone, but the TAM melody of negative Anterior aspect also has a H tone on the final vowel.

With respect to the third and fourth pairs, tone contrast is only found in [+ATR] verb roots. If the verb root is [-ATR], the verb forms differ not only in tone, but also in segments. The final vowel, in the case of Subjunctive or negative Future, is **-ɪ**, whereas both Anterior and negative Anterior aspect take a final vowel **-i**. If the verb root is [+ATR], the verb-final **-ɪ** of Subjunctive and negative Future assimilates to the value of the verb root and is changed into **-i**. This means that in the case of a [+ATR] root, the final vowels of Subjunctive, negative Future, Anterior and negative Anterior are identical.

The fifth pair is Progressive aspect vs. Conditional. The Conditional has a TAM melody with a prefixal L tone and a H tone on the final vowel. Progressive aspect is marked by means of a suppletive form or an inflected form of the auxiliary **-ik-** 'be' with a L tone and the Infinitive form of the main verb with a H tone on the final vowel. In speech, there is no pause between the auxiliary and the main verb which causes the tone contrast.

Examples of these pairs are (with the optional time adverbials in brackets)³¹⁶:

(7.32) *Grammatical tone contrasts in verb forms*

a.	Past	nóǵínǒ (ndɪ)	'I danced'
	Future	noǵíno (ǵánu)	'I will dance'
b.	Past	nóǵínǒ (ndɪ)	'I danced'
	Past (specific)	nóǵínó (ndɪ)	'I danced'
c.	Anterior	noǵíni	'I danced'
	Subjunctive	nóǵíní	'that I dance'
d.	negative Anterior	nákóǵínígu	'I did not dance recently'
	negative Future	nákóǵínigu (ǵánu)	'I will not dance'
e.	Progressive	na kóǵínó	'I am dancing'
	Conditional	nakoǵínó	'if I dance'

Glosses of the above verb forms are:

(7.33) Past	nó-ǵín-o	1SG ^P -dance-FV
Future	no-ǵín-o	1SG-dance-FV
Past (specific)	nó-ǵín-ó	1SG ^P -dance-FV ^P
Anterior	no-ǵín-i	1SG-dance-FV.ANT
Subjunctive	nó-ǵín-í	1SG-dance-FV.SUBJ
negative Anterior	ná-kó-ǵín-í-gu	1SG-NEG-dance-FV.ANT-NEG
negative Future	ná-kó-ǵín-i-gu	1SG-NEG-dance-FV-NEG
Progressive	na kó-ǵín-ó	1SG:be 9b-dance-FV
Conditional	na-ko-ǵín-ó	1SG-COND-dance-FV

³¹⁶ Besides tone, the language uses post-verbal adverbials to indicate time reference, e.g. ^H**ndɪ** refers to the past and **ǵánu** refers to the future. Other forms that are segmentally identical are usually disambiguated by context, e.g. Subjunctive is often preceded by a form of the verbs **-ǵuman-** or **-kwanan-**, both mean 'ought to', or by the conjunction **kyé** 'in order to', whereas Anterior aspect is not. The Progressive aspect and the Conditional are orthographically distinguished by a space between the auxiliary and the main verb in the case of Progressive.

7.7 Tense and Aspect

In this book, tense and aspect are distinguished because in Liko, these two concepts reflect different segmental, suprasegmental and grammatical marking as well as semantic differences. Grammaticalized post-verbal time adverbials are related to tense, in that they refer to a point in time. Prefixes in TA position and one of the Post-FV suffixes are related to aspect. The Pluractional extension **-ag-** may have aspectual use, as well as constructions consisting of the auxiliary 'to be' and the main verb. Semantically, tense marking refers to a point in time, whereas aspect marking expresses "internal temporal constituency" (Comrie 1985: 9, 6) quoted in Nurse (2008:80).

It should be kept in mind that this distinction between tense and aspect, although based primarily on the time adverbials and differences in their position in the verb structure, does not imply that a given verb form in a certain context can always be analysed as clearly reflecting aspect or tense. In some contexts, for instance, Progressive aspect and the Insistive have developed into referring to a point in time.

Following Nurse (2008)³¹⁷, "situation" is used as a cover term for action, process, state or event. The organization of this section is based on position in the verb structure: it starts with post-verbal time adverbials, it continues from left to right with the positions in the verb structure where tense and/or aspect is encoded and it finishes with pre-verbal auxiliaries.

7.7.1 Post-verbal time adverbials

Liko marks tense using time adverbials, the verb-final vowel and a TAM melody on the verb form. Table 29 lists these time adverbials with the point in time they refer to.

³¹⁷ Nurse refers to Comrie and Bybee *et al.* (Nurse 2008:316).

Table 29 Time adverbials in tense marking

Time adverbial	Reference from the deictic centre	Gloss
^H ḡi	hodiernal or hesternal	P ₁
ndúku	a few days earlier than hesternal	P ₂
^H ndi	earlier than about a week ago	P ₃
ḡánu	from tomorrow to the next few weeks	F ₂
ndéke	later than the next few weeks	F ₃

Reference to the past is generally expressed by ^Hḡi or ^Hndi, ndúku is rarely used. The monosyllabic Past time adverbials ^Hḡi or ^Hndi have an initial floating H tone³¹⁸ and may cliticise to the verb form or to an adverbial.³¹⁹ When ^Hḡi or ^Hndi directly follow a word, their floating H tone is either merged with the preceding H tone or linked to the preceding L tone. A time adverbial referring to a point in time later today is absent from Table 29: Liko employs the Insistive enclitic -tɔ to refer to a situation later today (F₁), see 7.7.4.

Examples of reference to the past:

- (7.34)a. nǎ-⁴kítag-ɔ³²⁰ ḡi no ngǔ (í⁴syéyikǔḡi)
 1SG^P:1.O-pass-FV P₁ with 9.force yesterday
 'I surpassed him in strength (yesterday).'
- b. ḡó-mbímb-ó ndúku ma-tá-mu (a kúwa pɔ́so bémotí³²¹)
 3PL^P-throw-FV^P P₂ 6-stone-6 it is thus one week
 'They threw stones (last week).'
- c. á-sǎ ndi li-gubó lá-ḡa-kpáká
 3SG^P-abandon:FV P₃ 5-work 5.ASS-2 + 9-trap
 'He abandoned working with traps.'
- d. á-píkut-ǎ ndi kpáká
 3SG^P-tighten-FV P₃ 9.trap
 'He set a trap.'

³¹⁸ Notice that the disyllabic time adverbials have a H.L pattern.

³¹⁹ For clarity, time adverbials are written as separate words in this book.

³²⁰ The final vowel of the verb form assimilates to the [+ATR] value of the time adverbial.

³²¹ a kúwa pɔ́so ḡé-motí 3SG:be thus 1a.week 1.NUM-one.

Of the three time adverbials with reference to the past, ^H**bi**, **ndóku** and ^H**ndi**, only ^H**ndi** can be followed by a temporal phrase pointing to a point in time longer than several weeks ago, for instance, **a kówa syá'ngá-su sí-motí** 3sg:be thus 7:year 7.NUM-one 'a year ago'.

Examples of time reference to the future:

- (7.35)a. a-bak-a bánu ɪ-zagǎ-su
 3SG-carve-FV F₂ 19-arrow-19
 'He will carve an arrow.'
- b. o-tígol-o bánu wánu
 3SG-stay-F F₂ here
 'He will stay here.'
- c. bo-kó bó-yíp-o ndéke ndábu na ɪ-tómbú
 2-woman 3PL-hit-FV F₃ 9.house with 5-mud
 'The women will cover the house with mud (far future).'
- d. na-píkít-a ndéke kpáká wánu
 1SG-tighten-FV F₃ 9.trap here
 'I will set a trap here (far future).'

A time adverbial referring to the future may be left out when, in the opinion of the speaker or writer, the context sufficiently locates the situation in time, e.g. by means of a temporal adverbial phrase:

- (7.36)a. a-bak-a ɪ-zagǎ-su na lí-sye li ní-lɪ
 3SG-carve-FV 19-arrow-19 with 5-day 5.DEM.III COP-5.DEM.II
 'He will carve an arrow today.'
- b. na-píkít-a kpáká kú-mbúso wa-byǎnga 6í-6ǎ
 1SG-tighten-FV 9.trap 17-back 17.ASS-8:year 8.NUM-two
 'I will set a trap two years from now.'

With respect to the time adverbials referring to the past, ^H**ndi** is used most frequently. **ndóku** is only used when the speaker wants to specifically indicate that he refers to a past which is close, but not recent. The time adverbial **ndélu** 'long ago' can be added at the end of a clause when a Past time adverbial is present. It is not included in Table 29, because it does not occur independently. With ^H**ndi**, **ndélu** refers to a long time ago; in combination with ^H**bi**, **ndélu** refers to a point within the

time frame of ^H**bi**, i.e. from the sunrise of the day before the deictic centre until the deictic centre. For example:

- (7.37)a. wá-ḡak-á ndi ɪ-zagǎ-su ndélh
 2SG^P-carve-FV P₃ 19-arrow-19 long ago
 'You carved an arrow a long time ago.'
- b. a-kupy-í-nǎ ḡi li-ḡúki ndélh
 3SG-extort-FV.ANT-PFV P₁ 5-parcel long ago
 'He has extorted a parcel some time ago.' (T2009.32)

7.7.2 TA position

Three morphemes occur in TA position: the Conditional prefix **ka-**, the Inchoative aspect prefix ^L**ná^L**- and the negative Anterior 'not yet' prefix **-na-**. Morphemes that establish a point in time do not occur in TA position in Liko.

a. The Conditional prefix **ka-**

Starting with the Conditional prefix **ka-**, examples are given here in order to show this morpheme in TA position in affirmative (the first set) and negative forms (the second one). The TAM melody has a prefixal L tone and a final-vowel H tone in affirmative forms. In negative Conditional forms, the NEG position between SM and TA is empty. The negative Conditional is marked by the final vowel **-i** and a prefixal High and final-vowel High TAM melody. Time reference in a Conditional is the present unless a time adverbial is used. For further description, I refer the reader to 7.10.

- (7.38) wa-ka-díkít-á 2SG-COND-throw-FV 'if you throw'
 wa-ko-yúkúm-ó 2SG-COND-breathe-FV 'if you breathe'

- (7.39) wá-kó-díkít-í 2SG-COND-throw-FV:NEG 'if you do not throw'
 wá-kó-yúkúm-í 2SG-COND-breathe-FV:NEG 'if you do not breathe'

Like other affixes with underlying /a/, the vowel of the Conditional prefix **ka-** is changed into /o/ after the association with a dominant [+ATR] value.

(7.40) wa-ka-pǎ³²² nũ-many-a mándé kakí, a wá
2SG-COND-want:FV 1SG:2SG.O-show-FV 9.trail 3SG.POSS 3sg:be there
ká ɬ-kǎ ní-lǎ ka-a-mbǎkú Ódingó
PREP 5-spring COP-5.DEM.I GEN-1b-old person "Odingo"
'If you want, I show you his trail, it is there at that spring of old
Odingo.' (T2006.1)

(7.42) wa-ka-vǎ mu-kó, wa-mak-y-á ká ndáǃu yi ní-yó
 2SG-COND-take:FV 1-woman 2SG-put in-APPL-FV PREP 9.house 9.DEM.III
 COP-9.DEM.I
 'If you marry a woman, you put her in that³²³ house.' (*T2006.8*)

The next prefix in TA position is ⁻¹**ná**⁻¹. The prefix ⁻¹**ná**⁻¹ indicates the beginning of or entry into a state or situation. I will use the label Inchoative. In situations without a context, a verb form with ⁻¹**ná**⁻¹ refers to the Present. When a verb form with ⁻¹**ná**⁻¹ occurs in a subsequent clause in a narrative, the situation with ⁻¹**ná**⁻¹ is understood to occur within the time frame set in a preceding clause. Inchoative ⁻¹**ná**⁻¹ always directly follows a subject prefix. There is no specific negative form. Inchoative aspect has no TAM melody with H or L tones. Non-automatic downstep occurs when the floating L tone(s) cannot merge with an adjacent identical tone, see 4.6.5. No time adverbials are allowed to follow a verb form with the Inchoative aspect prefix ⁻¹**ná**⁻¹.

³²³ I.e. the house which the young man has built to prove that he is ready to be responsible for a family.

The following cases of Inchoative aspect $-^L\text{ná}^L$ - exemplify the surface tones on the verb form. The primary H tone of a verb following $-^L\text{ná}^L$ - surfaces as non-automatic downstepped High. The surface tone on the final vowel is High if the preceding tone is Low, otherwise, the tone on the final vowel is Low, 4.6.6.

- (7.43) a-ná-nzín-á 3SG-INCH-speak-FV 'he is about to speak'
 a-nó-⁴mbímb-o 3SG-INCH-throw-FV 'he is about to throw'
 a-nó-mbomboy-ó 3SG-INCH-doubt-FV 'he is about to doubt'
 a-ná-⁴píkút-á 3SG-INCH-run-FV 'he is about to flee'

Textual examples of the use of $-^L\text{ná}^L$ - in TA position, indicating Inchoative aspect, include:

- (7.44) mo-zíko má-nzúyí kakí má-sí á-pung-a kó-ḡúk-ó
 6-joint 6.ASS-9.body 3SG.POSS 6.ASS-all 3SG/PL^P-start-FV 9b-resonate-FV
 ḡé: mbwóko-mbwóko, kání a-nó-dw-ḡ áma ká-kpakyán-á
 COMP "mbwoko-mbwoko" when 3SG-INCH-move-FV or 9b-walk-FV
 'All the joints of his body started to resonate: "Mbwoko-mbwoko",
 when he started to move or walk.' (T2006.2)

- (7.45) á-ngbát-a ngúḡú ḡé: ngámá, o-kw-í-ni.
 3SG^P-play-FV 9.drum COMP 1a.chief 3SG-die-FV.ANT-PFV
 kó p̄sí ḡa-nyamá ḡá-⁴ní⁴m-úus-ó ḡé:
 PREP 9.path 2-animal 3PL-INCH:REFL-ask-FV COMP
 lt-kp̄umúká lná a p̄íye búní ?
 5-thing 5.DEM.II 3sg:be thus how
 'He played the drum saying: "The chief has died." On the road the
 animals started to ask themselves: "How did this happen?" (T2006.3)

Other examples of the use of Inchoative $-^L\text{ná}^L$ - in narratives are given below, the first is also from a story, the second from an instruction and the third from a piece of advice given to girls:

- (7.46) ḡa-lúkú ní-ḡḡ ḡó-dog-ó-kú ndí ḡá-sí,
 2-man COP-2.DEM.I 3PL^P-come:PLUR-FV^P-DIR P₃ 2.ASS-all
 ḡá-⁴níḡ-o ma-kóló ko-Mbwoko
 3PL-INCH:steal-FV 6-meat GEN-"Mbwoko"
 'All the men who came, started to steal the meat of Mbwoko.' (T2006.2)

- (7.47) wá-va mbakú, wá-pung-a kó-yikós-ó kúwa
 2SG-take:FV.INST 9.woman's knife 2SG-start-FV.INST 9b-turn-FV thus
 kání wa-ná-matl-á mo-lingó ma-kékéké,
 when 2SG-INCH-increase-FV 6-oil 6.ADJ-small
 bukú bí-dɔbɔ
 8:burning piece of wood MOD-low³²⁴
 'Take a woman's knife, start turning [in the pot], while you are about to
 add a little bit of palm oil, with the fire burning well.' (T2006.5)
- (7.48) ø-ké-gu a-dándá, mu-tú wa-kuítúbyä kámbwa
 3SG-NEG:be:FV-NEG 1b-lazybones 1-man 1.ASS-9.laughter before
 ka-6a-mbánzú, kání a-ná-¹wísl-y-ä bí-weɛ-weɛ
 GEN-2-person when 3SG-INCH:1.O-seduce-APPL-FV MOD-soft
 'Not a lazybones, [not] a person of laughing in front of people, when
 she starts to seduce someone softly.' (T2006.9)

c. The negative Anterior 'not yet' prefix -na-

The third morpheme, **-na-**, is associated with 'not yet' in verb forms with negative Anterior aspect. This is the only case in which both the NEG position and the TA position are filled:

- (7.49) tá-ká-na-pun-í-gu 6a-súkwá
 1PL-NEG-*yet*-pick-FV.ANT-NEG 2-caterpillar
 'We did not yet gather caterpillars.'

Other examples and a description of negative Anterior are given in 7.8.

7.7.3 Final vowel

a. Affirmative forms

The final vowel in affirmative verb forms is **-a**, **-i** or **-i**.³²⁵ In a [+ATR] context, **-a** is changed into **-o** and **-i** is changed into **-e**. The final vowel in affirmative forms is exemplified by the following [–ATR] verb forms:

³²⁴ bídɔbɔ signifies a low sound, but can also mean 'functioning well'.

³²⁵ Across Bantu, **-a** neutral or indicative, **-i** subjunctive and **-ile** anterior/past are frequent, **-i** anterior/near past/stative is less common. (Nurse 2008:37, 38).

(7.50)a.	ná-tíb-a	1SG ^P -laugh-FV	'I laughed'
b.	na-tíb-a	1SG-laugh-FV	'I will laugh'
c.	na ká-tíb-á	1SG-be 9b-laugh-FV	'I am laughing, I laugh'
d.	na-ka-tíb-á	1SG-COND-laugh-FV	'if I laugh'
e.	tíb-á	laugh-FV.IMP	'laugh!'
f.	ná-tíb-í	1SG-laugh-FV.SUBJ	'that I laugh'
g.	no-tíb-i	1SG-laugh-FV.ANT	'I laughed'

The final vowel **-a** marks Past (a), Future (b), Infinitive - (used in Progressive aspect) (c), Conditional (d) and Imperative (e).³²⁶ The final vowel **-i** encodes Subjunctive (f), which is described in 7.9. [+ATR] dominant final vowel **-i** marks Anterior aspect (g). All forms are optionally followed by a time adverbial (see 7.7.1).

The final vowel in (7.50a) has a L tone. With the Past (specific) TAM melody, the final vowel **-a** has a H tone. "Past (specific)" indicates that the speaker explicitly indicates that time reference is to the past. In the glosses, this is marked by means of a superscript P with the final vowel: FV^P.

The forms in (7.50a) and (7.50g) are translated with 'I laughed', because it is difficult to capture Anterior aspect in English. Structurally (7.50a) **nátíba** and (7.50g) **notíbi** differ in two ways: the final vowel is different, **-a** vs. dominant [+ATR] **-i**, and the TAM melody is different, prefixal High in (7.50a) vs. a TAM melody with a floating H tone and a L tone on the final vowel in (7.50g). In **notíbi** the TAM H tone has merged with the H tone of the verb **-tíb-**.³²⁷ With respect to co-occurrence with a time adverbial, (7.50a) **nátíba** 'I laughed' occurs with all three time adverbials that refer to the past: ^H**bi** 'earlier today or yesterday', **ndóku** 'from the day before yesterday to a week ago' and ^H**ndi** 'earlier in the past than a week

³²⁶ One verb in my data does not have the final vowel **-a**: **-gwí** 'hold, grab', e.g. **ná-gwí ndi mu-sí** 1SG^P:1.O-hold:FV^P P₃ 1-fish 'I caught a fish'.

³²⁷ If a -CVC- verb root has a primary L tone then the floating H tone of the Anterior TAM melody is linked to the final vowel, see 7.6. In longer verb forms the floating H tone of this TAM melody is associated with the penultimate vowel, e.g. **nodíkíti** 'I threw' (**-díkat-** 'throw').

ago', whereas (7.50g) **notíbi** is found to occur with ^H**bi** 'earlier today or yesterday' in the majority of cases and occasionally with ^H**ndi**.

- (7.51)a. ná-nyűk-ă ndi 1SG^P-fall-FV P₃ 'I fell'
 ná-nyűk-ő³²⁸ bi 1SG^P-fall-FV P₁ 'I fell recently'
 no-nyűk-ĩ bi 1SG-fall-FV.ANT P₁ 'I fell recently'
- b. nó-bín-ă ndi 1SG^P-dance-FV P₃ 'I danced'
 nó-bín-ő bi 1SG^P-dance-FV P₁ 'I danced recently'
 no-bín-ĩ bi 1SG-dance-FV.ANT P₁ 'I danced recently'

Verb forms may occur without a time adverbial if the context contains a reference to a point in time. Passages in which the final vowel **-i** of Anterior aspect occurs, show that the time reference is not necessarily to the recent past, but fits in with the time frame of the context. In the following example, the clause with Anterior aspect is part of a story and is followed by a clause with the Past time adverbial ^H**ndi**:

- (7.52) tukón-i ási mó-ngóni má-ku-kwá-ku aká, (...),
 1PL:hear-FV.ANT only 6-news 6.ASS-15-death-15 CT
 bó-sil-y-on-ă ndi bá-si
 3PL^P-arrive-APPL-ASS-FV P₃ 2.ASS-all
 'We heard ONLY THE NEWS OF THE DEATH, (...), they all came
 together.' (T2006.3)

The Anterior aspect in combination with the Past time adverbial ^H**ndi**:

- (7.53) ngbínógó yi ní-nő tík-óg-ĩ ndi minó kú kunú,
 1a.time 1.DEM.III 1PL:stay-PLUR-FV.ANT P₃ TRACE there 2PL.POSS,
 COP-1.DEM.I
 tá-mú-bíky-á ndi kámwa áka b́é bá-tí-gyogy-is-a-tú ndéke
 1PL^P-2PL.O-tell-FV^P P₃ 17:front only COMP 3PL-1PL.O-suffer- F₃
 CAUS-FV-INS
 'The time that we stayed with you, we told you upfront: they will cause us
 to suffer.' (translated 1 Thess. 3:4)

³²⁸ [+ATR] assimilation of the final vowel to the following [+ATR] time adverbial.

This shows that the function of Anterior is not to refer to a recent point in time. The point in time is set by means of a time adverbial (usually P₁ ^H**bi**) or it fits in with the time frame of the context. In order to make the function of Anterior aspect clearer, I will present some longer passages, including some texts translated by Liko translators. It appears that in texts, verb forms with Anterior **-i** are followed by other situations and that there is a relation between the Anterior and these situations. For instance, **tukóni** 'we heard' in (7.52) results in coming together to meet. In other words, the situation marked by the Anterior aspect final vowel **-i** is relevant for a later situation. Nurse uses the label 'anterior' (ANT) for this aspect, which I adopt in this book. In Nurse (2008), either the Present or a later state results from an earlier situation marked by Anterior aspect (mostly for stative verbs, e.g. 'hear'), or the past situation marked by Anterior aspect is relevant for the later situation (mostly for dynamic verbs). In (7.54), the giving is relevant for the fact that the man ate the fruit:

- (7.54) mu-lúkú á-sikisy-o b́é:
 1-man 3SG^P-answer-FV COMP
 mu-kó yi ní-nǎ wé-⁴pá ndi nǎ,
 1-woman 1.DEM.III COP-1.DEM.I 2SG^P:1SG.O-give-FV^P P₃ 1.DEM.I
 e-pí bi li-bumó li ní-ló, ná-ly-ǎ bi
 3SG:1SG.O-give:FV.ANT P₁ 5-fruit 5.DEM.III COP-5.DEM.I 1SG^P-eat-FV P₁
 'The man answered: "That woman who you gave to me, she gave
 me this fruit recently, I ate recently.'" (*translated Genesis 3:12*)

The following example is also from the translated text of Genesis. The first sentence sets the time reference in the past (^H**ndi**). In the second sentence, **ekpuḍíkú bi** indicates that the situation occurred recently (^H**bi**) and that the action described by the verb with the Anterior **-i** (*come near*) is relevant for the later situation (*have sex*). The next situation is in the recent past (^H**bi**). The final situations (*leave and run away*, narratives without a time adverbial) result from the other situation in this passage with Anterior aspect, **ukóní bi** (*hear*).

- (7.55) mbonyámi ó-do-kú ndi na mu-ebalanía b́é
 1a.husband:1SG.POSS 3SG^P-come:FV-DIR P₃ with 1-hebrew COMP
 'My husband came with the Hebrew so that'

á-tím-ín-í pǎyayá. e-kpuḍ-í-kú ɓi ɓé
 3SG-1PL.O-see-FV.SUBJ worthless 3SG:1SG.O-go near-FV.ANT-DIR P₁ COMP
 'he would look at us with disrespect. He came near so that'
 tá-kpakyán-í na iyí ábě mu-lókú na mu-kó,
 1PL-walk-FV.SUBJ with 1.PRO like 1-man and 1-woman
 'we would walk with him like man and woman (i.e. we would have sex)'
 lúkí lí-motí³²⁹ ná-kúgw-ag-ǒ ɓi púlú. nýs ukón-ĩ ɓi
 5:object 5.NUM-one 1SG^P-scream-PLUR-FV P₁ hard when 3SG:hear-FV.ANT P₁
 'but I screamed very hard. When he heard'
 kání na ká-kúgw-ág-á pulú na ká-álík-á,
 when 1SG:be 9b-scream-PLUR-FV hard 1SG:be 9b-call-FV
 'me screaming hard and calling,'
 é-sa na ku-tú-ko kakí, á-píkít-a kú-nzi
 3SG^P:1SG.O- with 15-clothes-15 3SG.POSS 3SG^P-run-FV 17-outside
 abandon:FV
 'he left me with his coat, he ran outside.' (*translated Genesis 39:14,15*)

The Anterior often co-occurs with the Perfective aspect suffix **-ní**.³³⁰ The following example describes what sometimes happened at the time the circumcisors returned to the village with the circumcised boys. When a boy had died (Anterior **-i**) during the time in the forest after circumcision, it triggered the ritual of presenting an anthill:

(7.56) Ø-kik-á ndi ní³³¹ míkakú o-kw-í-ni,
 3SG-COND:be-FV P₃ when 1a.child:2SG.POSS 3SG-die-FV.ANT-PFV
 ɓa-sambá ɓá-va i-títí, ɓó-do-kú noyú
 2-circumcisor 3PL^P-take:FV 9a-anthill 3PL^P-come-FV-DIR with:9.PRO
 'If it happened, when your child had died, the circumcisors took an
 anthill, they came with it towards [you].' (*T2006.4*)

The conclusion, a few sentences later in the text, has the regular Past form of the verb 'die', because there is no further relevance (in the text):

³²⁹ **lúkí límotí** expresses the conjunction 'but'.

³³⁰ Anterior aspect in combination with Perfective aspect is further described in 7.7.4.

³³¹ Short for **kánt** 'when'.

- (7.57) wīb-o kúwa b́é: mikámi ó-kw-ó-ní ndi
 2SG:know-FV thus COMP 1a.child:1SG.POSS 3SG^P-die-FV^P-PFV P₃
 'You will know thus: "My child has died." ' (T2006.4)

The result of an Anterior is usually expressed by a verb (a situation), but can also be expressed by other word classes, such as a noun or a modifier as in the example below:

- (7.58) b́ó-mw-í-ni ma-káná lí-ngunú.
 3PL-drink-FV.ANT-PFV 6-wine 5-truth
 ɪ-kí ṕíyε ? li-bumá, ɓu-tótó b́í-kyekyékýě
 9a-what thus 5-drunkenness 14-laughter MOD-burst of laughter
 'They have drunk a lot of wine. What happened? Drunkenness, bursts of laughter.' (T2006.1)

A specific use of Anterior aspect is asking for or introducing an explanation:

- (7.59) kó bulyó ɪ-kí yó we-sum-íly-ĩ ɓi li-gundú kakú ?
 PREP 9.reason 9a-what 2SG:1SG.O-hide-BEN- P₁ 5-journey 2SG.POSS
 9.DEM.I FV.ANT
 'Why did you hide your journey from me?'

- (7.60) no-gy-ĩ ɓi ɓ́éyó kyé nõ ɓi ká-báng-á
 1SG-do-FV.ANT P₁ like this because 1SG:be P₁ 9b-be afraid-FV
 'I did it because I was afraid.'

b. Negative forms

The final vowel in negative verb forms is exemplified by the verb **-tīb-** 'laugh':

- (7.61)a. ná-ká-tīb-ɪ-gu 1SG-NEG-laugh-FV-NEG
 'I will not laugh'
 b. ná-ká-tīb-á-gu 1SG^P-NEG-laugh-FV^P-NEG
 'I did not laugh'
 c. na-ko-tīb-o-ní 't́ó-gu 1SG-NEG-laugh-FV-NEGSUBJ INS-NEG
 'that I not laugh'
 d. ná-kó-tīb-í 1SG-COND-laugh-FV-NEG
 'if I do not laugh'

- e. ná-kó-tíb-í-gu 1SG-NEG-laugh-FV.ANT-NEG
'I did not laugh'
- f. ná-ká-no-tíb-í-gu 1SG-NEG-*yet*-laugh-FV.ANT-NEG
'I did not yet laugh'

The negative Future (a) takes the final vowel **-i**. The Past (b) and the negative Subjunctive (c) take the final vowel **-a**. The negative Conditional (d) and the two negative forms of Anterior aspect (e, f) are encoded by the [+ATR] dominant final vowel **-i**. All forms are optionally followed by a time adverbial.

7.7.4 Post-FV position

The morphemes occurring in post-FV position in Liko are:

Table 30 Morphemes in post-FV position

Form	Function	Gloss
-ni ³³²	Plural Addressee	ADDR
-ní	Perfective aspect	PFV
-ní	negative Subjunctive	NEGSUBJ
-kú	Directional	DIR
-tś	Insistive /	INS /
	time reference: later today	F ₁
-no	Supplicative	SUPP
-gu	negative	NEG

The application of the following criteria distinguishes the morphemes occurring in post-FV position with respect to their contemporary status, as enclitic or suffix:

- does the morpheme attach phonologically to the verb form?
- does its value for [ATR] spread to the verb root?

The first five morphemes in post-FV position, **-ni**, **-ní**, **-ní**, **-kú** and **-tś**, manifest phonological attachment to the verb form, either by the effect of [+ATR]

³³² "The only morpheme occurring widely at post-final across Bantu is *-ni. (...) It is glossed by Meeussen as 'plural imperative'." (Nurse 2008:39).

dominance (**-ni**, **-ní**, **-ní** and **-kú**) on the verb form or by assimilation to the [+ATR] feature of the verb (**-tś**). The last two morphemes, **-no** and **-gu**, do not assimilate to [+ATR]. According to second criterion, the **tś**, **-no** and **-gu** are different from **-ni**, **-ní**, **-ní**, and **-kú**, because the former three do not affect a verb root, they only affect preceding affixes with non-high vowels. On the basis of these criteria, Plural Addressee **-ni**, Perfective aspect **-ní**, negative Subjunctive **-ní** and Directional **-kú** are analysed as post-FV suffixes, whereas the other morphemes are considered to be enclitics.

The order in which post-FV suffixes and enclitics occur in affirmative verb forms is:

(7.62)	<u>suffix 1</u>	<u>suffix 2</u>	<u>enclitic</u>
	Plural Addressee -ni	Directional -kú	Insistive -tś
	Perfective -ní		Supplicative -no

Perfective aspect **-ní** is not attested together with Insistive **-tś** or Supplicative **-no**.

The order in which post-FV suffixes and enclitics occur in negative verb forms is:

(7.63)	<u>mood</u>	<u>suffix</u>	<u>enclitic 1</u>	<u>enclitic 2</u>
	Indicative ³³³	Directional -kú		negative -gu
	Subjunctive	negative -ní	Insistive -tś	negative -gu

In negative forms, structures with more than one post-FV suffix have not been attested. The negative Subjunctive may have the Post-FV suffix and three enclitics. With the addition of the Supplicative enclitic **-no**, the verb form can get a specialized meaning (see 7.9.4).

In this section, the Plural Addressee suffix **-ni**, the Perfective aspect suffix **-ní**, the Directional suffix **-kú** and the Insistive enclitic **-tś** are presented in more detail. Information on the negative Subjunctive suffix **-ní** and the negative enclitic **-gu** is provided in 7.9.4. For the Supplicative enclitic **-no**, I refer the reader to 7.9.2.

³³³ Except the Conditional where the negated form takes the final vowel **-i**.

a. The Plural Addressee suffix **-ni**

Post-FV **-ni** ([+ATR] dominant) occurs with the second person plural Imperative and with the Hortative. It directly follows the final vowel, which is **-a** for Imperatives, and **-ɪ** in the case of the Hortative³³⁴. I refer to it as the Plural Addressee suffix.

(7.64)	<u>2SG</u>	<u>2PL</u>		<u>1PL</u>
	<i>verb</i> -FV	<i>verb</i> -FV-ADDR		1PL- <i>verb</i> -FV.SUBJ-ADDR
	kpul-á	kpul-ó-ni	'rummage through!'	tó-kpul-í-ni ³³⁵
	kút-á	kút-ó-ni	'wink!'	tó-kút-í-ni
	sám-á	sóm-ó-ni	'open the mouth!'	tó-sóm-í-ni
	ḡín-ó	ḡín-ó-ni	'dance!'	tó-ḡín-í-ni

(7.65)	u-kúl-á ḡamémí	2.O-untie-FV	'untie the goats!'
	u-kúl-ó-ni ḡamémí	2.O-untie-FV-ADDR	'untie (pl) the goats!'
	tú-kúl-í-ni ḡamémí	1PL:2.O-untie-FV.SUBJ-ADDR	'let us untie the goats!'
	u-kúmb-ó ḡomíkí	2.O-carry-FV	'carry the children!'
	u-kúmb-ó-ni ḡomíkí	2.O-carry-FV-ADDR	'carry (pl) the children!'
	tú-kúmb-í-ni ḡomíkí	1PL:2.O-carry-FV.SUBJ-ADDR	'let us carry the children'

The gloss of the objects in these examples is **ḡa-mémí** '2-goat', **ḡo-míkí** '2-child'.

An example of the use of the Plural Addressee suffix with the Hortative is:

(7.66)	iḡúnú	ḡa-likó	ooo,	iḡúnú	ḡa-má'mákti	aaa,
	2PL.PRO	2-Liko person	"ooo"	2PL.PRO	2-brother:3SG.POSS	"aaa"
	iḡúnú	ḡa-va	kú	kǎmti	aaa,	
	2PL.PRO	2-clan member	there	1SG.POSS	"aaa"	
	to-gy-ĩ-ni	mo-gubó	má-si			
	1PL-do-FV.SUBJ-ADDR	ḡ-work	ḡ.ASS-all			

³³⁴ The Hortative has the Subjunctive form followed by the Plural-Addressee suffix **-ni**, see 7.9.3.

³³⁵ Meaning: 'let us rummage through', other examples in this column: 'let us *verb*'.

(7.70)a. a-kúl-i-ní mémí
 3SG:1.O-untie-FV.ANT-PFV 1a.goat
 'He has untied the goat.'

b. u-kúmb-i-ní 6o-míkí
 3SG:2.O-car ry-FV.ANT-PFV 2-child
 'She has carried the children.'

(7.71) mu-nzyúku a-tík-i-ní ndi 6ata míkí kú
 1-ant 3SG:1.O-send-FV.ANT-PFV P₃ again 1a.child there
 ká mēne dǎku
 PREP 1a.blood brother 1a.s.o. of same age:3SG.POSS
 'Ant has sent the child again there to his blood brother.' (T2007.8)

The H tone of the Perfective aspect suffix is changed into a L tone if it is preceded by the Anterior aspect final vowel with a surface H tone, see 4.6.6. This final vowel has a H tone when the floating High of the Anterior TAM melody cannot be associated with the primary L tone of the verb, and it links to the final vowel instead. The H tone on the final vowel of Anterior aspect causes the tone of the Perfective aspect suffix to be changed into a L tone.

(7.72)a. o-pik-í-ni
 3SG-sway-FV.ANT-PFV
 'He has swayed.'

b. a-vid-í-ni mbo6ú
 3SG:1.O-flay-FV.ANT-PFV 1a.small rodent
 'He has flayed a small rodent.'

c. ů-pun-í-ni 6a-súkwá
 3SG:2.O-pick-FV.ANT-PFV 2-caterpillar
 'He has gathered caterpillars.'

(7.73) a-btlí a-vĩ-ni Lingútu
 1b-demon 3SG:1.O-take:FV.ANT-PFV "Lingútu"
 'Demon has married Star.' (T2009.12)

- (7.74) na-gy-a bóní kyé kókú o-my-í-ní bi ?
 1SG-do-FV how because 1a.chicken 3SG-swallow-FV.ANT-PFV P₁
 'What can I do because a chicken has picked?'³³⁶ (T2008.7)

When the Perfective aspect suffix **-ní** occurs in combination with the Pluractional extension **-ag-**, as in (7.75b), the interpretation is that the action described by the verb happened in the past, lasted for some time and is complete. Progressive aspect, which also indicates a situation which lasts for some time, cannot be combined with the Perfective aspect suffix **-ní**, neither as in (7.75c), nor if the auxiliary has the Perfective aspect suffix as in (7.75d).

- (7.75)a. ó-mbímb-ó-ní ma-tá-mu 'he has thrown stones'
 3SG^P-throw-FV^P-PFV 6-stone-6
- b. ó-mbímb-óg-ó-ní ma-tá-mu 'he has thrown stones for some
 3SG^P-throw-PLUR-FV^P-PFV 6-stone-6 time (and stopped)'
- c. *ǎ ndi kó-mbímb-ó-ní ma-tá-mu
 3SG:be-FV P₃ 9b-throw-FV-PFV 6-stone-6
- d. *ík-ó-ni³³⁷ kó-mbímb-ó ma-tá-mu
 3SG:be-FV-PFV 9b-throw-FV 6-stone-6

Interpreting a verb form with the Perfective suffix **-ní** as a situation which will be complete in the future is only possible if the context provides a time frame which refers to the future. Perfective aspect in this case is usually used in combination with Anterior aspect. In the examples below, the adverbial phrase and the Future form of the verb 'to be' set the time frame in the future.

- (7.76) kámbwa ábe móní ó-gw-í,
 17:front like 9.sun 3SG-fall-FV.ANT

³³⁶ I.e. Is it my fault that a chicken picked? It behaves according to its nature. In the story, it concerns a bead of a special necklace, which a friend's chicken has picked.

³³⁷ **íkóni** 3SG:be-PFV by itself is not ungrammatical, it means 'he has been' with the understanding that the situation is complete.

nik-o kání, no-fum-í-ni t-ngbóló
 1SG:be-FV when 1SG-moor-FV.ANT-PFV 9a-dugout
 'Before sunset, if possible, I will have moored the dugout.'

- (7.77) pósó ní-yó a kó-do-kú
 1a.week COP-9.DEM.I 3SG:be 9b-come:FV-DIR
 mu-kó ik-o bánú kání o-píkít-i-ní
 1-woman 3SG:be-FV F₂ when 3SG-run-FV.ANT-PFV
 'Next week, the woman will have fled.'

c. The Directional suffix **-kú**

The Post-FV suffix **-kú** indicates that the agent moves towards or is close to the deictic centre in performing the action described by the verb. A morpheme which can be used to refer to an agent moving away from the deictic centre is not attested. In other words, Liko has no itive marking. Because **-kú** has wider use than only ventive, the label Directional is used. The suffix **-kú** is not related to or derived from the verb 'come' (in Liko **-da-**). Almost always when **-da-** is used, it is cliticised with **-kú**: **kó-do-kú**, 9b-come:FV-DIR, 'to come'. For example:

- (7.78) o-do-kú ká pa³³⁸ yá-ngba
 3SG-come:FV-DIR PREP 9.area 9.ASS-shining
 'He will come to a neat courtyard.' (T2006.9)

- (7.79) 6a-lúkú 6á-pung-ă ndi kó-dog-ó-kú
 2-man 3PL^P-start-FV P₃ 9b-come:PLUR-FV-DIR
 6é 6á-'súng-í Lungútu
 COMP 3PL:1.O-give a dot-FV.SUBJ "Lungútu"
 'The men started to arrive so that they would give a dot for Star.'³³⁹
 (T2009.12)

The Directional suffix **kú-** occurs with many different verbs, including negative forms:

³³⁸ The H tone of the LH contour merges with the following High.

³³⁹ **l-ngótu** means '5-star'.

- (7.80) *nguyá ø-kó-tígól-ó-kú-gǔ ndi ká nékú*
 1a.warthog 3SG^P-NEG-stay-FV^P-DIR-NEG P3 PREP 9.cassava
 'Warthog did not stay at the cassava.' (T2006.3)
- (7.81) *tá-pung-a kúwa kám-un-a³⁴⁰ saḃūni kó-ful-ó-kú*
 1PL-start-FV thus 9b:1.O-see-FV 1a.soap bar 9b-swell-FV-DIR
 'We start to see the soap bar swell.' (T2006.5)
- (7.82) *ú-bíky-o-kú ǵa-bǵkɪ na ǵa-má⁴mákɪ ǵá-sɪ*
 3SG^P:2.O-say-FV-DIR 2-father:3SG.POSS and 2-brother:3SG.POSS 2ASS-all
 'He told all his fathers and his brothers.' (T2006.2)

d. The Insistive enclitic -tǵ

The primary use of post-FV enclitic **-tǵ** is to emphasize or insist on the situation of the verb. Due to phonological processes (in particular ATR vowel harmony and vowel-height dissimilation, see 3.2.4.2), the surface form of this enclitic is usually **-tǵ** or **-tǵ**. The underlying H tone of this enclitic is changed into a L tone, when it occurs word-finally and follows a H tone, see 4.6.6.

The following three structures all mean 'I extinguished the fire', but with the Insistive enclitic **-tǵ**, a speaker indicates that he actually did extinguish the fire.

- (7.83) *nó-lím-ó ǵukú 1SG^P-put out-FV^P 8:burning piece of wood*
nó-lím-á-tǵ ǵukú 1SG^P-put out-FV^P-INS 8:burning piece of wood
no-lím-i-tó ǵukú 1SG-put out-FV.ANT-INS 8:burning piece of wood

The Insistive enclitic also occurs in structures in which reference is made to the future. When a young girl tells her father: "I want to go to Bole-Bole (the gold mine in the Liko area)." and her father does not believe her, the girl may reply:

³⁴⁰ Expected would be a H tone on the final vowel (Infinitive TAM melody), but the Liko consultants affirm that the verb **-un-** 'see' has surface L tones when the form contains the class 1 object prefix.

- (7.84) wa-sangal-a-tú bánu
 2SG-surprise-FV-INS F₂
 'You will certainly be surprised!'

In the context of a father talking to his son about the possibility to contribute to the bride price in the future:

- (7.85) ká syă⁴ngá-su si ní-só,
 PREP 7:year-7 7.DEM.III COP-7.DEM.I
 wa-va-tú bánu mu-kó yi ní-nǎ
 2SG:1.O-take:FV-INS F₂ 1-woman 1.DEM.III COP-1.DEM.I
 'In that year, you will certainly marry that woman.'

The Insistive enclitic **-tǎ** is also used frequently in combination with Imperatives, e.g. in the following two cases, affirmative and negative, from the text about a very good hunter:

- (7.86) wa-ság-á-tu ká-ĩ-monís-ó lúgo
 2SG-abandon:PLUR-FV-INS 9b-REFL-show:CAUS-FV 9.middle
 ka-ǎa-ǎengéní ǎéyó
 GEN-2-other person like that
 'Stop boasting like that among other people!' (T2006.1)
- (7.87) ká yigǒkú kakú wa-kíkwe-ní-to kú-mbúso
 PREP 9a:return 2SG.POSS 2SG-NEG:look:FV- NEGSUBJ-INS 17-back
 'When you return do not look back!' (T2006.1)

The other use of post-FV enclitic **-tǎ** is to refer to a point in time in the near future, in particular later today, e.g. (7.88a). The primary meaning of **-tǎ** without a time adverbial is that the speaker is referring to a situation which will happen later today. I assume that this has been a new development from the Insistive. When post-FV enclitic **-tǎ** is used with an Imperative or in a structure in which reference to the past or the future is indicated, the only interpretation is that of adding emphasis to the situation expressed by the verb, e.g. (7.88b, c):

- (7.88)a. a-ǎak-a-tú ɿ-zagǎ-su
 3SG-carve-FV-INS.F₁ 19-arrow-19
 'He will carve an arrow later today.'

- b. a-ḡak-a-tú ḡánu ɪ-zagǎ-su
 3SG-carve-FV-INS F₂ 19-arrow-19
 'He will certainly carve an arrow.'
- c. á-ḡak-á-tǔ ndɪ ɪ-zagǎ-su
 3SG^P-carve-FV^P-INS P₃ 19-arrow-19
 'He certainly carved an arrow.'

7.7.5 Auxiliaries

The main auxiliary used is the verb **-ik-** 'be'. Structures containing an inflected form of **-ik-** 'be' followed by the Infinitive form of the main verb, indicate Progressive aspect. Progressive means that the action, which takes some time, is taking place at this moment or at the moment of reference. The auxiliary has tense and aspect morphology and can be negated. Object marking and extensions are found on the main verb.

- (7.89) nik-o³⁴¹ ká-kpakyán-á ḡí-wese
 1SG:be-FV 9b-travel-FV MOD-soft
 'I will be travelling slowly.'

The verb **-ik-** is irregular in that it has two forms, the verb root and zero. The verb root **-ik-** is used for all tenses, aspects and moods, except indicative Present and Past (see 7.13). Past forms show that there is no complete verb form, including a final vowel, because the H prefixal tone of the Past TAM melody on the subject prefix is missing (7.90b) where the tone on **nǎ** is LH preceding the time adverbial ^H**ndɪ**. This means that **nǎ** cannot be analysed as 1SG:zero root:FV. The subject prefix **na-** and the other subject prefixes are assumed to be suppletive forms with verbal properties. They can be followed by a time adverbial and they occur in constructions with an Infinitive. In the negative Present and Past (7.90c), the empty verb-root position is preceded by the negative prefix **ká-** and followed by the final vowel **-ɪ** (see the next section on Negation). In the absence of segmental material between prefix **ká-** and final vowel **-ɪ**, the vowels are subject to height coalescence, which results in **-ké-**. In the matrix form, the first person singular subject prefix **ná-**

³⁴¹ /na-ik-o/ '1SG-be-FV'.

and the negative enclitic **-gu** are present. Because **-ik-** occurs elsewhere in the paradigm, it is assumed that the verb root in the negative indicative Present and Past is zero.

- (7.90)a. na ká-síḏ-á mu-kəkó-mu má-lt-kě
 1SG:be 9b-step over-FV 3-trunk-3 3.ASS-5-tree, sp.
 'I am stepping over the trunk of a tree.'
- b. nə ndt ká-lúmb-á ká ndábu ko-Kúnzi
 1SG:be P₃ 9b-pray-FV PREP 9.house GEN-1a.God
 'I was praying in the church.'
- c. ná-ké-gu³⁴² kám-tn-a pápá
 1SG-NEG:be:FV-NEG 9b:1.O-see-FV 1a.shrew
 'I am not seeing the shrew.'

Other examples of auxiliary 'to be' in Progressive aspect include:

- (7.91) Sódú a ká-ınd-á ká mu-kó
 "Sódú" 3SG:be 9b-go-FV PREP 1-woman
 'Sódú is going to the woman.' (T2006.2)
- (7.92) tíko yó a ká-tí-tungbúl-ág-á ká
 9.field 9.DEM.I 3SG:be 9b-1PL.O-support-PLUR-FV PREP
 ba-mápumú bá-gəgə
 2-family need 2.ASS-other
 'The field is supporting us regarding other needs.' (T2006.7)
- (7.93) ă ndt ást ká-ngbát-á li-kembé áka
 3SG:be P₃ only 9b-play-FV 5-thumb piano CT
 'He was PLAYING THE THUMB PIANO ALL THE TIME.' (T2006.2)

In Liko texts and in speech, the form **kégu** frequently occurs. This is the negative form of the verb **-ik-** 'be', underlyingly /ø-ká-ø-ɪ-gu/ 3SG-NEG-be-FV-NEG:³⁴³

³⁴² /ná-ká-ø-ɪ-gu/ '1SG-NEG-be-FV-NEG'.

³⁴³ Augustin (2010:29) posits **kégu** as invariable adverbial 'not'.

- (7.94)a. kínili yíbtǎ Ø-ké-gu yá-nza
 that is why 9a.pride 3SG-NEG:be:FV-NEG 9.ASS-good
 'That is why pride is not good.' (T2006.1)
- b. Ø-ké-gu na ku-ḃó'kú-kɔ ku-ndǎ
 3SG-NEG:be:FV-NEG with 15-arm-15 15.ADJ-long
 'She is not with a long arm', i.e. someone who steals (T2006.9)

To express negation of Progressive aspect, the negative form of auxiliary **-ik-** 'be' in Past (7.95a), Present (7.95b) and Future (7.95c) is used:

- (7.95)a. ná-ké-gǔ ndi ká-un-á 1SG-NEG:be:FV-NEG P₃ 9b-see-FV
 'I was not seeing.'
- b. ná-ké-gu ká-un-á 1SG-NEG:be:FV-NEG 9b-see-FV
 'I am not seeing.'
- c. ná-kík-i-gu ká-un-á 1SG-NEG:be-FV.NEG-NEG 9b-see-FV
 'I will not be seeing.'

The Past and the Present have the zero root, while the verb root **-ik-** is present in the Future form in the above examples. In (a) and (b), height coalescence applies to the sequence of the vowel of the negative prefix **ka-** and the final vowel (see 3.3.2). In (c), the sequence of the vowel of the negative prefix **ka-** undergoes V₁-elision preceding a vowel-initial root (see 3.3.1).

Another example is:

- (7.96) Ø-ké-gu ká-ǐm-ukán-á nzǎ
 3SG-NEG:be:FV-NEG 9b-REFL-hear-FV 9.hunger
 'He is not feeling hungry.' (T2006.2)

In negative clauses, stative verbs like **-ib-** 'know' and **-pa-** 'like' are often preceded by the negative form of auxiliary **-ik-** 'be', e.g. **ḃá-ké-gǔ ndi ká-ib-ó**, 3PL-NEG:be:FV-NEG P₃ 9b-know-FV, 'they did not know' and **míkí Ø-ké-gǔ ndi ká-pǎ kó-ḃúk-ó**, 1a.child 3SG-NEG:be:FV-NEG P₃ 9b-like-FV 9b-answer-FV, 'the child did not want to answer'.

The combination of the Present form of auxiliary **-ik-** and an Infinitive can be used to refer to the present, without the connotation that the situation is in progress. Thus the alternative translation of (7.90a) is 'I step over the trunk of the tree.'

- (7.97) 6á ʔkó-mbímb-ó li-tá-lu mbiya wánu³⁴⁴
 3PL:be 9b-throw-FV 5-stone-5 new here
 'They throw a stone right now.'

Following a High-toned suppletive form of the auxiliary, the tone of the class 9b prefix is changed into a non-automatic downstepped H tone, caused by the floating L tone at the boundary of an auxiliary and an Infinitive, see 4.6.5.

If the duration of the action, taking place at this moment, is important, the auxiliary takes the Pluractional extension **-ag-** as in (7.98a). The auxiliary **-ik-** cannot have Perfective aspect (7.98b):

- (7.98)a. 6í-kog-o ká-kís-á p̃si
 3PL-be:PLUR-FV 9b-look for-FV 9.road
 'They have been looking for the road (for some time now).'
- b. *6ík-ó-ni ká-ʔkóng-ó séléngúndé
 3PL^P:be-FV^P-PFV 9b:1.O-roast-FV 1a.peanut
 *6ík-i-ní ká-ʔkóng-ó séléngúndé
 3PL:be-FV.ANT-PFV 9b:1.O-roast-FV 1a.peanut
Int. 'They have been roasting peanuts.'

Other auxiliaries with aspectual use are **-díki-** 'start, be first', **-pung-** 'start', **-ma-** 'finish' and **-sá-** 'stop'. They are used to indicate the start or the end of a situation. The main verb, which follows the auxiliary or a time adverbial, has the Infinitive form:

- (7.99)a. á-díky-ǎ ndi kó-sil-ó ká mbúku
 3SG^P-be first-FV P₃ 9b-arrive-FV PREP 9.grave
 'He was first to arrive at the grave.' (*translated John 20:8*)
- b. ó-muk-o má-sú, á-pung-a ká-lut-ó Dingopoyó
 3SG^P-pull out-FV 6-spring 3SG^P-start-FV 9b:1.O-pull-FV "Dingopoyo"
 'He pulled out the spring, he started to pull Dingopoyo.' (*T2006.1*)
- c. á-mǎ ndi ká-6íky-á li-kpumóká ní-ló
 3SG^P-finish:FV P₃ 9b-say-FV 5-thing COP-5.DEM.I
 'He finished to say that thing.'

³⁴⁴ mbiya wánu means 'now'.

- d. bá-sǎ ndi ká-bum-á mu-mbánzú
 3PL^P-stop:FV P₃ 9b:1.O-hit-FV 1-person
 'They stopped to hit the man.'

7.8 Negation (NEG, final vowel and post-FV position)

Negation is marked by means of a combination of the negative prefix **ka-** in NEG position, by a specific final vowel, by post-FV enclitics and by tone. The following combinations are attested:

(7.100)	<u>NEG</u>	<u>FV</u>	<u>Post-FV</u>	<u>TAM melody</u> ³⁴⁵
a.	ka-	-ɪ	-gu	prefixal H tone
b.	ka-		-gu	prefixal H tone and H tone on the final vowel
c.		-í		prefixal H tone and H tone on the final vowel
d.	ka-		-ní-to / -ní 'tɔ-gu	prefixal L tone

(7.100a), **ka-** + **-ɪ** + **-gu**, marks the negative Future verb forms. Examples for [−ATR] and [+ATR] verb roots are:

- (7.101)a. wá-ká-pɪk-ɪ-gu fánu³⁴⁶ 2SG-NEG-sway-FV-NEG F₂ 'you will not sway'
 b. wá-kó-ḡín-i-gu fánu 2SG-NEG-dance-FV-NEG F₂ 'you will not dance'

Without a time adverbial, these forms refer to the present or to the future, depending on the context:

- (7.102)a. wá-ká-pɪk-ɪ-gu 2SG-NEG-sway-FV-NEG 'you do/will not sway'
 b. wá-kó-ḡín-i-gu 2SG-NEG-dance-FV-NEG 'you do/will not dance'

These forms can also be followed by the Past time adverbial ^H**ndi**, in which case inability in the past is expressed:

- (7.103)a. wá-ká-pɪk-ɪ-gũ ndi 2SG-NEG-sway-FV-NEG P₃ 'you could not sway'
 b. wá-kó-ḡín-i-gũ ndi 2SG-NEG-dance-FV-NEG P₃ 'you could not dance'

³⁴⁵ For TAM melodies, see 7.6.

³⁴⁶ Or **ndéke**, F₃, 'later than the next few weeks'.

(7.100b), **ka-** + **-gu**, with no change in final vowel compared to the affirmative form, is used to encode the negative Past and Anterior. Examples of the negative Past are:

- (7.104)a. wá-ká-pík-á-gu 2SG^P-NEG-sway-FV^P-NEG 'you did not sway'
 b. wá-kó-bín-á-gu 2SG^P-NEG-dance-FV^P-NEG 'you did not dance'

Examples of the negative Anterior are:

- (7.105)a. wá-kó-pík-í-gu 2SG-NEG-sway-FV.ANT-NEG 'you did not sway'
 b. wá-kó-bín-í-gu 2SG-NEG-dance-FV.ANT-NEG 'you did not dance'

With respect to the two possible negations of the Anterior aspect, (7.105) and (7.106b) indicate that the situation has not come about at present, whereas (7.106c), with **-na-** in TA position, includes the possibility that the situation may occur in the future:

- (7.106)a. no-pík-í 1sg-sway-FV.ANT 'I swayed'
 no-bín-i 1sg-dance-FV.ANT 'I danced'
 b. ná-kó-pík-í-gu 1SG-NEG-sway-FV.ANT-NEG 'I did not sway'
 ná-kó-bín-í-gu 1SG-NEG-dance-FV.ANT-NEG 'I did not dance'
 c. ná-ká-no-pík-í-gu 1SG-NEG-yet-sway-FV.ANT-NEG 'I did not yet sway'
 ná-ká-no-bín-í-gu 1SG-NEG-yet-dance-FV.ANT-NEG 'I did not yet dance'

Nurse (2008:197-9) presents examples in other Bantu languages where something similar is reported. The presence of two distinct forms means that Liko has "grammaticalized a two-way distinction between 'not at any point in the past' and 'not in the past but might in the future'." (Nurse 2008:200). In this specific negative Anterior form, H-tone spreading from the H tone on the final vowel does not happen, whereas HTS does apply from the H tone of the leftmost prefix. As (7.107) shows, the morphemes between the first CV-syllable of the verb root and the final vowel surface with a L tone:

- (7.107)a. ná-ká-nò-díkit-í-gù
 1SG-NEG-*yeɬ*-throw-FV.ANT-NEG
 'I did not yet throw'
 b. ná-ká-nò-yúkùm-í-gù
 1SG-NEG-*yeɬ*-breathe-FV.ANT-NEG
 'I did not yet breathe'

(7.100c), negative marking with a combination of the final vowel **-i** ([+ATR] dominant) and the prefixal High and final-vowel High TAM melody, is used to distinguish the negative from the affirmative Conditional. In the examples below, first the negative form is given, followed by an affirmative one:

- (7.108)a. wá-kó-pík-í 2SG-COND-sway-FV.NEG 'if you do not sway'
 wa-ka-pík-á 2SG-COND-sway-FV 'if you sway'
 b. wá-kó-ḡín-í 2SG-COND-dance-FV.NEG 'if you do not dance'
 wa-ko-ḡín-ó 2SG-COND-dance-FV 'if you dance'

Finally, (7.100d), **ka + -ní-to**, or **ka + -ní 'tṣ-gu**, is found in the negative Subjunctive forms. The negative Subjunctive is also used as the negative Imperative.

- (7.109)a. wa-ko-pík-o-ní-to 2SG-NEG-sway-FV-NEGSUBJ-INS
 wa-ko-pík-o-ní 'tṣ-gu 2SG-NEG-sway-FV-NEGSUBJ INS-NEG
 'that you not sway' / 'Do not sway!'
 b. wa-ko-ḡín-o-ní-to 2SG-NEG-dance-FV-NEGSUBJ-INS
 wa-ko-ḡín-o-ní 'tṣ-gu 2SG-NEG-dance-FV-NEGSUBJ INS-NEG
 'that you not dance' / 'Do not dance!'

7.9 Subjunctive, Imperative and Hortative

Subjunctive, Imperative and Hortative are commonly categorized as mood. Mood relates the speaker's attitude toward the situation or the speaker's commitment to the probability that the situation is true (Payne 2003:234). In the following sections, Subjunctive, Imperative and Hortative are presented. Subjunctive, Imperative and Hortative share one negative form.

7.9.1 Subjunctive

Subjunctives are marked by the final vowel **-i** and a prefixal High and final-vowel High TAM melody. Semantically they indicate a situation which does not occur in reality, but may come about or might have come about. Time adverbials may be used to locate the situation in time. The most common are **ndéke** (later than the next few weeks) and ^H**ḡi** (earlier today or yesterday).

Examples of Subjunctive forms are:

- (7.110)a. *ḡá-pk-í* 3PL-sway-FV.SUBJ 'that they sway'
 ná-díkít-í 1SG-throw-FV.SUBJ 'that I throw'
- b. *ḡó-ḡín-í* 3PL-dance-FV.SUBJ 'that they dance'
 nó-yúkúm-í 1SG-breathe-FV.SUBJ 'that I breathe'

In (b), the Subjunctive final vowel **-i** has assimilated to the [+ATR] value of the verb.

Subjunctives are found most frequently in subordinate clauses following the complementizer **ḡé** or following verbs of obligation. Subjunctives used in these constructions do not assert that a situation will or did happen, but express an order phrased in indirect speech, or indicate a wish or a particular purpose. Less common are Subjunctives preceded by **kyé** 'in order to' or Subjunctives occurring as the single element of a subordinate clause (e.g. 7.117).

Examples of Subjunctives in subordinate object clauses expressing orders are:

- (7.111) *a-bulí* *á-^hḡíky-a* *ḡé* *ó-kúmb-í*
 1b-demon 3SG^P:1.O-tell-FV COMP 3SG-carry-FV.SUBJ
 'Demon told him that he should carry [it] on his back.' (T2009.18)

- (7.112) *sukopí* *no* *gbukó* *ḡé* *índ-í* *ká-kís-á* *bűbunzá*
 1a.leopard with 1a.rat COMP 3SG:go-FV.SUBJ 9b-search-FV 9.rotten
 mushroom
 'Leopard [said] to rat that he should go to find rotten mushrooms.'
 (T2006.3)

Examples of Subjunctives in subordinate object clauses expressing wishes are:

- (7.113) *na ká-pa* *ḡé* *á-dund-í* *ku-tú-ko*
 1sg:be 9b-like-FV COMP 3SG-touch-FV.SUBJ 15-clothes-15
 'I want that he would touch the garment.'

The Subjunctive final vowel **-i** may be followed by the Supplicative enclitic **-no**. In the example below, the subject of the verb **-bíki-** 'say' in the main clause is the leopard. The first person singular subject of the Subjunctive in the subordinate clause is the person who tells the story. Leopard wishes that this man would release him:

- (7.119) na-tókóny-i sukopí ká kpáká, é-⁴bíky-a b́é
 1SG-find-FV.ANT 1a.leopard PREP 9.trap 3SG^P:1SG.O-tell-FV COMP
 ná-⁴úk-ús-í-nó báka
 1SG:1.O-heal-CAUS-FV.SUBJ-SUPP please
 'I found Leopard in a trap, he said to me that I please save him.'
 (T2008.5)

In the next example, the speaker wishes that the men he is talking to would chase away a spell. The Subjunctive in the subordinate clause has a third person plural subject, the desired agents of the action.

- (7.120) nu-bíky-ĩ 6i 6a-6t6yá kakú ámbé
 1SG-tell-FV.ANT P₁ 2-follower 2SG.POSS attention
 66-kpummy-í-nó báka lt-lumbá li ní-l5
 3PL-chase-FV.SUBJ-SUPP please 5-spell 5.DEM.III COP-5.DEM.I
 'I said to your followers, hear! they please chase away this spell.'
 (translated Mark 9:18)

Verbs expressing obligation which are followed by a Subjunctive are the deontic operators **-kwanan-** and **-fuman-** 'should'.³⁴⁸ Both verbs only occur with the shape **-an-** in this context, which might be a petrified Associative extension indicating intensive action. Preceding a Subjunctive, they always have the Anterior floating H tone preceding the final vowel and final vowel **-i**: e.g. **okwonóni**, **ofumóni** 'it should'. The use of Anterior aspect draws attention to the situation expressed by the verb in the subsequent subordinate clause. **-kwonóni** is more common than **-fumóni** as far as frequency of occurrence is concerned.

³⁴⁸ I am not aware of differences in strength of obligation.

Examples of Subjunctives following verbs expressing obligation are:

- (7.121) a. o-kwonón-i á-lál-í
 3SG-should-FV.ANT 3SG-sleep-FV.SUBJ
 'He should sleep.', literally, 'it should be that he sleeps'
- b. o-ḡumón-i ó-zuzűk-í
 3SG-should-FV.ANT 3SG-get up-FV.SUBJ
 'He should get up.', literally, 'it should be that he gets up'
- c. o-kwonón-i ḡé ná-mú-btb-í
 3SG-should-FV.ANT COMP 1SG-2PL.O-praise-FV.SUBJ
 'I should praise you (pl).', literally, 'it should be that I praise you (pl)'
- d. o-ḡumón-i é-sum-íly-ág-í mǒngǒni
 3SG-should-FV.ANT 3SG:1SG.O-hide-BEN-PLUR-FV.SUBJ 6:news
 'He should hide the news from me.', literally, 'it should be that he hides
 from me the news'

Textual examples include:

- (7.122) o-kwonón-i pǐsi Ø-ík-í ḡí-ngo
 3SG-should-FV.ANT 9.path 3SG-be-FV.SUBJ MOD-clean
 'The road should be clear.', literally, 'it should be that the road is clean'
 (T2006.7)

- (7.123) o-kwonón-i ná-⁴kúng-í Kúnzi é-⁴ít-ís-í mu-sí
 3SG-should-FV.ANT 1SG:1.O-pray- 1a.God 3SG:1SG.O-change- 1-fish
 FV.SUBJ CAUS-FV.SUBJ
 'I should ask God to change me into a fish.', literally, 'it should be that I
 ask God, that he would cause me to change a fish' (T2009.6)

In the final example, the second Subjunctive expresses a request using indirect speech. The complementizer ḡé, which usually occurs in this context, is left out.

7.9.2 Imperative

In this section, Imperatives are presented, starting with commands typically lacking a subject prefix. Next Imperatives with the Supplicative enclitic **-no** are described, followed by verb forms with the second person singular subject prefix used for instruction. A negative command is formed by means of the negative Subjunctive (see 7.9.4).

a. Imperative commands

Second person singular Imperatives have a verb stem consisting of the verbal base and the final vowel, and a TAM melody with a H tone on the final vowel. With second person plural Imperatives, the verb stem is obligatorily followed by the Plural Addressee suffix **-ni**.

(7.124)	<u>2SG addressee</u>	<u>2PL addressee</u>
	ḃín-ó dance-FV.IMP	ḃín-ó-ni dance-FV.IMP-ADDR
	kpuł-á rummage through-FV.IMP	kpuł-ó-ni rummage through-FV.IMP-ADDR
	sám-á open ³⁴⁹ -FV.IMP	sóm-ó-ni open-FV.IMP-ADDR

(7.125)	ú-ḃíky-a	ḃé:	yiii	ḃo-míkămt!	mamá
	3SG ^P :2.O-tell-FV	COMP	"yiii"	2-child:1SG.POSS	1a.mother
	o-kw-í-ni,	pung-ó-ni	ká-kpḃ	lɪ-tómbú	
	3SG-die-FV.ANT-PFV	start-FV.IMP-ADDR	9b-dig out:FV	5-ground	
	'He told them: "Ow, children! Mother has died, start (PL) to dig out the ground." (T2007.12)				

The class 1 object prefix uses the basic form, **mu-**, in the Imperative:

(7.126)	mu-sum-á	1.O-hide-FV.IMP	'hide him!'
	mu-sum-ó-ni	1.O-hide-FV.IMP-ADDR	'hide him! (pl)'
	mu-pútút-ó	1.O-hug-FV.IMP	'hug him!'
	mu-pútút-ó-ni	1.O-hug-FV.IMP-ADDR	'hug him! (pl)'

Other object prefixes do not have a specific form in Imperatives:

(7.127)	ǔ-sum-á	2.O-hide-FV.IMP	'hide them!'
	ǔ-sum-ó-ni	2.O-hide-FV.IMP-ADDR	'hide them! (pl)'
	i-pútút-ó	1SG.O-hug-FV.IMP	'hug me!'
	tí-pútút-ó-ni	1PL.O-hug-FV.IMP-ADDR	'hug us! (pl)'

Imperatives may include extensions with valency modification, e.g. Benefactive and Pluractional. Examples for the Benefactive extension **-lɪ-** with verb roots

³⁴⁹ I.e. open your mouth.

-ngbát- 'play an instrument', **-wany-** 'show' and **-lind-** 'sink to the bottom' are:

- (7.128)a. *mu-ngbát-íly-á* 'play for him on the instrument!'
 1.O-play-BEN-FV.IMP
mu-wany-íly-á bɔ́lókɔ 'show him the prison!'
 1.O-show-BEN-FV.IMP 9.prison
ũ-lind-íly-ó 'dive for them!'
 2.O-dive-BEN-FV.IMP
- b. *mu-ngbót-íly-ó-ni* 'play (pl) for him on the instrument!'
 1.O-play-BEN-FV.IMP-ADDR
mu-wony-íly-ó-ni bɔ́lókɔ 'show (pl) him the prison!'
 1.O-show-BEN-FV.IMP-ADDR 9.prison
ũ-lind-íly-ó-ni 'dive (pl) for them!'
 2.O-dive-BEN-FV.IMP-ADDR

Examples for the Pluractional extension **-ag-** with verb roots **-fín-** 'dance' and **-sám-** 'open the mouth' are:

- (7.129)a. *fín-óg-ó ábɛ mu-lókú*
 dance-PLUR-FV.IMP like 1-man
 'Dance like a man!' (referring to the manner of dancing)
- b. *sóm-óg-ó-ni*
 open-PLUR-FV-ADDR.IMP
 'Open your mouths!' (to multiple children, to take medicine)

A few cases have been attested in which Imperatives occur with a subject prefix. The usage involves persuasion rather than a command. The context of the example below (from T2009.13) is that a young man does not want to dress after the death of his wife. His father tries to persuade him to get dressed:

- (7.130) *a-băktĩ ǎm-un-a, íg-a mbángu ká ndábu,*
 1b-father: 3SG^P:1.O-see-FV 3SG^P:return-FV 9.run PREP 9.house
 3SG.POSS
ǎ-vily-o-kú ku-tú-ko, ǎ-⁺pá,
 3SG^P:1.O-take:BEN-FV-DIR 15-clothes-15 3SG^P:1.O-give-FV
ǎ-⁺bíky-ǎ ndĩ bɛ: wĩ-mokísy-ó
 3SG^P:1.O-tell-FV P₃ COMP 2SG:REFL-dress-FV.IMP
 'His father saw him, he returned running to the house, he took a garment for him, he gave [it] to him, he said to him: "Get yourself dressed".'

The second person singular subject prefix **wa-** co-occurs with the Plural Addressee suffix **-ni** if the addressee is plural. In the first example below, the addressee is second person plural. In the next two examples, the verb expressing persuasion is followed by a verb form with second plural subject prefix and the H tone on the final vowel of the Imperative TAM melody. The referent of the plural subject prefix is identical to the addressee of the verb in the first clause.

- (7.131) Kamuma ú-bíky-a 6é:
 "Kamuma" 3SG^P:2.O-tell-FV COMP
 6o-míka-mamá, wo-só-ni mbéyi yǐnzinzinyá
 2-child:GEN-1a.mother 2SG-abandon:FV.IMP-ADDR first 9a:gossip
 'Kamuma told them: "Brothers, first stop gossiping." ' (T2009.4)

- (7.132) wib-ǒ-ni, mó-tombísy-ó 6í-nza
 2SG:know-FV.IMP-ADDR 2PL-see clearly-FV.IMP MOD-good
 'Know, remember (pl) well.'

To a group of **6o-gbuwó** '2-chimpanzee':

- (7.133) wingy-ó-ni mbéyi ká ndábu, má-vá 6e-sángu
 2SG:enter-FV.IMP-ADDR first PREP 9.house 2PL-take:FV.IMP 2+9a-
 basket
 'Enter first the house, take (pl) the baskets!' (T2007.1)

b. Supplicative

To voice a request in a polite way, a Liko speaker adds the Supplicative enclitic **-no** to the singular Imperative form:

- (7.134) 6ín-á-no dance-FV.IMP-SUPP 'please dance'
 do-kú-no come:FV.IMP-SUPP 'please come'

The use of the Supplicative enclitic signals the regard the dog has for leopard, the addressee, the chief of the animals:

- (7.135) ɪ-nvá á-tú6tɪl-ǎ ndɪ 6é:
 1c-dog 3SG^P-cry out-FV P₃ COMP
 a-lúkú ooo wí-gwí-no li-mbengí
 1b-man "ooo" 2SG:REFL-hold:FV.IMP-SUPP 5-heart
 'Dog cried out: "Hey man, take heart." ' (T2009.31)

Another example from a text is:

- (7.136) míka-mamá, kíkílíki, um-un-íly-á-nɔ
 1a.child:GEN-1a.mother please 1SG.O-see-BEN-FV.IMP-SUPP
 ɓáka kúmbú, ɪ-tw-íly-á-nɔ ɓáka
 please 9.compassion 1SG.O-quote-BEN-FV.IMP-SUPP please
 lúkí lí-motí ní-lɔ wa ká-pǎ
 5:object 5.NUM-one COP-5.DEM.I 2SG:be 9b-want:FV
 'Brother, please, look at me please with compassion, name for me please
 some object which you want.' (T2008.7)

It is not allowed to have the Plural Addressee suffix **-ni** and the Supplicative enclitic **-nɔ** together: ***ɓínónino**. With the Supplicative enclitic **-nɔ**, the addressee is usually singular, but reference to a plural addressee is also possible. The verb form **ɓínáno** 'please dance', for instance, is also used to ask several people to dance.

c. Instructive

I use 'Instructive' for verb forms used to give instructions, which have a TAM melody which is different from Imperatives. Instead of having the Imperative TAM melody with a H tone on the final vowel, Instructives have a H tone on the subject prefix. Subject prefix **wa-** in these forms refers to either second person singular or plural. The Plural Addressee suffix **-ni** functions to show that the referent is plural. The following examples come from a text in which technical instruction is given to produce a body lotion:

- (7.137)a. wá-va lí-ɗakí, wó-ɗuk-o minó,
 2SG-take:FV.INST 5-clay pot 2SG-pour-FV.INST TRACE
 wóm-os-o kó ɓukú
 2SG:arrive-CAUS-FV.INST PREP 8:burning piece of wood
 'Take a clay pot, pour [it] into [the pot], put it on a fire.' (T2006.6)
- b. wá-va ma-dadǎ, wó-bís-o,
 2SG-take:FV.INST 6-leaf 2SG-put-FV.INST
 wó-kos-on-o kúwa kú-gǔ yí
 2SG-pour-ASS-FV.INST thus 17-top 17.DEM.III
 'Take some leaves, put them [in a sieve], pour [palm nuts] on top of them.' (T2006.6)

7.9.3 Hortative

The basic form of the Hortative is a Subjunctive with the first person plural subject prefix and either the Plural Addressee suffix **-ni** or the Supplicative enclitic **-no**.

Examples of the Hortative with the Plural Addressee suffix are:

(7.138)	tó-lúmb-í-ni	1PL-pray-FV.SUBJ-ADDR	'let us pray'
	tó-sum-í-ni	1PL-hide-FV.SUBJ-ADDR	'let us hide'
	tó-gom-í-ni	1PL-weep-FV.SUBJ-ADDR	'let us weep'
	tó-bín-í-ni	1PL-dance-FV.SUBJ-ADDR	'let us dance'
	tá- ⁴ ngbót-íly-í-ni	1PL:1.O-play-BEN-FV.SUBJ-ADDR	'let us make music for him'
	tá-lind-íly-í-ni	1PL:1.O-dive-BEN-FV.SUBJ-ADDR	'let us dive for him'

The Supplicative enclitic **-no** instead of the Plural Addressee suffix **-ni** signals that the speaker wants the exhortation to be regarded as a request. e.g.:

(7.139)	tó-lúmb-í-no	1PL-pray-FV.SUBJ-SUPP	'let us please pray'
	tó-gom-í-no	1PL-weep-FV.SUBJ-SUPP	'let us please weep'
	tá- ⁴ ngbót-íly-í-no	1PL:1.O-play-FV.SUBJ-SUPP	'let us please make music for him'

7.9.4 Negative Subjunctive

Negation of Subjunctive, Imperative and Hortative is encoded by a single verb form, inflected for person and number. I call it 'negative Subjunctive' rather than negative Imperative, because the Subjunctive is inflected for all persons (Imperatives only for second person) and Subjunctives occur in more contexts than Imperatives. The negative Subjunctive is marked by complex morphology: the negative prefix **ka-**, the final vowel **-a**, the negative Subjunctive suffix **-ní**, the Insistive enclitic **-tś** and optionally the negative enclitic **-gu**. The negative Subjunctive has a TAM melody with Prefixal L tone, which results in surface L tone of all verbal prefixes. Extensions and the final vowel surface with the default L tone.

Examples of the negative Subjunctive are:

(7.140)a.	6a-ko-pik-o-ní-to	3PL-NEG-sway-FV-NEGSUBJ-INS

(7.142) Ø-ko-du-kú na pété, wǎ-mwó.
 3SG-COND-arrive:FV-DIR with 9.witchcraft 2SG:1.O-kill:FV
 umi na-va kúwa pété, no-mbímb-o kó líbó
 1SG.PRO 1SG-take:FV thus 9.witchcraft 1SG-throw-FV PREP 5:water
 kyé Ø-kĩn-o-ní 'tɔ́-gu
 in order to 3SG-NEG:see-FV-NEGSUBJ INS-NEG
 'If he arrives with the charm, you will kill him. I will then take the
 charm, I will throw it into the water, so that someone does not see it.'
(T2009.29)

(7.143) mʉ-mbáńzú ʅ-kik-ó ká-ım-úkán-á ʃu-dĩ,
 1-person 3SG-COND:be-FV 9b-REFL-hear-FV 14-cold
 ʅ-ko-mw-ó-ní ʔtʃ-gu líʃó lá-de
 3SG-NEG-drink-FV-NEGSUBJ INS-NEG 5:water 5.ASS-cold
'If a person feels a cold [i.e. because he has a fever], he should not
drink cold water.' (T2008.9)

(7.144) yě mbungú, wa-kem-ín-o-ní ⁴tǵ-gu 6ú-kédě
excuse me! 1a.elephant 2SG-NEG:1SG.O-see-FV-NEGSUBJ 14-small
INS-NEG
'Excuse me! Elephant, do not look down on me.', literally, 'do not see
me smallness' (*T2007.14*)

³⁵¹ These verbs can have the 'regular' meaning as well: 'please do not pray', 'please do not eat'.

As example of negative Hortative meaning is:

- (7.145) 6o-míka-mamá, to-ko-so-ní 'tǵ-gu yǵgya yá-nza
 2-child:GEN-1a.mother 1PL-NEG-abandon:FV-NEGSUBJ 9a.habit 9.ASS-good
 INS-NEG
 'Brothers, let us not abandon good habits.' (T2008.9)

Cases in which the negative Subjunctive follows one of the deontic operators **-kwanan-** or **-boman-** 'should' are not attested. The negation is encoded in the operator, rather than in the Subjunctive:

- (7.146)a. ø-kó-kwonón-í-gu b́é tá-gy-ǵ
 3SG-NEG-should-FV:ANT-NEG COMP 1PL-do-FV.SUBJ
 'We should not do it.', literally, 'it should not that we do' (T2008.9)
 b. *o-kwonón-i b́é tá-ko-gy-i-ní 'tǵ-gu
 3SG-should-FV.ANT COMP 1PL-NEG-do-FV-NEGSUBJ INS-NEG
Int. 'It should that we not do.'

General prohibitives are expressed by means of negative Subjunctives with second person singular, e.g.:

- (7.147)a. wa-kiḁ-o-ní 'tǵ-gu
 2SG-NEG:steal-FV.SUBJ-ADDR INS-NEG
 'One should not steal.' / 'Do not steal.' (-iḁ- 'steal')
 b. wa-ko-bíky-o-ní 'tǵ-gu b́óngḁ
 2SG-NEG-tell-FV.SUBJ-ADDR INS-NEG 1a.lie
 'One should not lie.' / 'Do not lie.' (-b́íkɪ- 'say, tell')
 c. wa-ka-mwó-ni tǵ-gu mu-mbánzú
 2SG-NEG-kill:FV.SUBJ-ADDR INS-NEG 1-person
 'One should not kill a person.' / 'Do not kill a person.' (-ḿú- 'kill')

7.10 Conditional

In Liko, Conditional forms distinguish two degrees of irrealis, indicating whether the speaker regards the clause containing the condition (known as 'protasis') as more or less close to realis. The protatis usually precedes the other clause ('apodosis'). Conditionals do not formally mark common distinctions like habitual, hypothetical, counterfactual, etc.

Closer to realis, Conditionals are encoded by affixes and a TAM melody on the inflected verb of the protasis. The closer-to-realis Conditional refers to a situation which is more likely to be actually true, or could be true in the future, or could have been true. Closer-to-irrealis Conditionals are expressed by a cleft construction involving the Conditional form of the verb 'to be' followed by the conjunction **kánt** and the protasis.

This distinction between closer to realis and closer to irrealis holds for both hypothetical and counterfactual Conditionals, for negation of Conditionals and for concessive clauses ("even if"). A time adverbial optionally follows the Conditional form of the verb.

a. Conditional form in the protasis

Conditionals have the Conditional prefix **ka-** in TA position. Affirmative and negative are distinguished by the final vowel and the TAM melody: the affirmative Conditional has the final vowel **-a** in combination with a prefixal Low and final-vowel High TAM melody, whereas the negative Conditional is marked by the final vowel **-i** and a prefixal High and final-vowel High TAM melody. The addition to the verb form of the negative enclitic **-gu** is not allowed. The prefixal L tone of the affirmative Conditional TAM melody causes even the underlying H tone of the second person plural subject prefix **má-** and the third person plural **ǎá-** to be changed into a L tone. If the subject is third person singular, the subject prefix is zero.

Several examples of Conditional forms expressing a hypothetical situation are presented here:

- (7.148)a. na-ko-kw-ó, ǎá-kpummy-o mu-kó kǎmɪ
 1SG-COND-die-FV 3PL-chase-FV 1-wife 1SG.POSS
 'If I die, they will chase away my wife.'³⁵²

³⁵² In Liko culture, after the death of a husband, his wife has to return to her family while any children remain with the family of the deceased husband.

- b. ná-kó-kw-í, bá-ká-kpumy-i-gu mu-kó kǎmɪ
 1SG-COND-die-FV.NEG 3PL-NEG-chase-FV.NEG-NEG 1-wife 1SG.POSS
 'If I do not die, they will not chase away my wife.'

- (7.149) wa-ka-pǎ, nu-many-a mándé kakí
 2SG-COND-want:FV 1SG:2SG.O-show-FV 9.trail 3SG.POSS
 'If you want, I show you his trail.' (T2006.1)

- (7.150) ø-kið-ó, bá-mwó ɪyí ðégyó
 3SG-COND:steal-FV 3PL:1.O-kill:FV 1.PRO likewise
 'If he steals, they kill him likewise.' (T2006.2)

- (7.151) mu-lúkú ø-ka-pǎ ká-vǎ,
 1-man 3SG-COND-want:FV 9b-take:FV
 o-do-kú ká pa yá-ngba
 3SG-come:FV-DIR PREP 9.area 9.ASS-shining
 'If a man wants to marry, he will come to a neat courtyard.' (T2006.9)

Hypothetical situations referring to a habit are described with a construction which is also used for Progressive aspect (using 'to be' plus Infinitive) where the auxiliary is inflected for the Conditional:

- (7.152)a. wa-kik-ó ká-und-á ká ma-lúmba,
 2SG-COND:be-FV 9b-go-FV PREP 6-prayer
 wá-kpag-a ðe-kpáku kakú
 2SG-clean:PLUR-FV.INST 2:1c-shoe 2SG.POSS
 'If you go to church, you clean your shoes.'
- b. wá-kík-i³⁵³ ká-und-á ká ma-lúmba,
 2SG-COND:be-FV.NEG 9b-go-FV PREP 6-prayer
 wá-ká-kpag-i-gu ðe-kpáku kakú
 2SG-NEG-clean:PLUR-FV-NEG 2:1c-shoe 2SG.POSS
 'If you are not going to church, you do not clean your shoes.'

³⁵³ -ik- 'be' has an irregular negative Conditional TAM melody: a L tone on the final vowel instead of a H tone.

Counterfactuals express the presupposition that the logical opposite of the protasis is taken as real. Counterfactuals are encoded with the same Conditional affixes and tone as hypotheticals, but the apodosis usually has the deontic auxiliary **-kwanan-** 'should'. In the examples below, the Conditional form indicates what would be the case if its antecedent were true (although it is not):

- (7.155) 6a-ko-bungúsy-á ndi li-zabú, ta-kwanan-ǝ bi ká-zab-á
 3PL-COND-repair-FV P₃ 5-bridge 1PL-should-FV P₁ 9b-cross-FV
 'If they had repaired the bridge, we should have crossed it.'

In order to indicate that the probability that the condition necessary for the situation which depends on it will be realized is low, Liko uses the invariable cleft construction **kikó (ká)ní** 'if it were that'¹³⁵⁴, usually abbreviated to **kikó ní** (in the free

³⁵⁴ Ø-kik-ó kání, 3SG-COND:be-FV when, 'if it were that'.

translation rendered as 'in the unlikely event that' or 'if perhaps').³⁵⁵ To compare the clefts with the Conditional clauses, some examples with conditions are used again, but this time they are preceded by **kikó (ká)ní**.

- (7.156)a. Ø-kik-ó ní wo-kw-í-ni, bá-kpummy-o mu-kó kakú
 3SG-COND:be-FV when 2SG-die-FV.ANT-PFV 3PL^P-chase-FV 1-wife 2SG.POSS
 'In the unlikely event that you had died, they would have chased away
 your wife.'
- b. Ø-kik-ó ní wá-ká-no-kw-i-gu,
 3SG-COND:be-FV when 2SG-NEG-~~yet~~-die-FV.ANT-NEG
 bá-ká-kpummy-i-gu mu-kó kakú
 3PL-NEG-chase-FV-NEG 1-wife 2SG.POSS
 'In the unlikely event that you have not yet died, they will not chase away
 your wife.'

Negative inflection is marked on the verb in the protasis following **kikó (ká)ní**.

Liko uses the same cleft construction to express that a hypothetical condition referring to a habit is less likely. In the next examples, it is not certain what the person who is addressed will do:

- (7.157)a. Ø-kik-ó ní wa ká-und-á ká ma-lúmba,
 3SG-COND:be-FV when 2sg:be 9b-go-FV PREP 6-prayer
 wá-kpag-a 6ε-kpáku kakú
 2SG-clean:PLUR-FV 2:1c-shoe 2SG.POSS
 'If perhaps you are going to church, you clean your shoes.'
- b. Ø-kik-ó ní wá-ké-gu ká-und-á ká
 3SG-COND:be-FV when 2SG-NEG:be:FV-NEG 9b-go-FV PREP
 ma-lúmba, wá-ká-kpag-t-gu 6ε-kpáku kakú
 6-prayer 2SG-NEG-clean:PLUR-FV-NEG 2:1c-shoe 2SG.POSS
 'If perhaps you are not going to church, you do not clean your shoes.'

³⁵⁵ Apart from the cleft construction, a condition can be rendered more hypothetical by adding **gontí** 'also' to the right of the verb: **kosilókú** 'if he arrives', **kosilókú gontí** 'if he arrives (hypothetical)'.

In the following two sets, this is exemplified for the two levels of certainty:

- (7.161)a. *gutúgu ta-ka-gbit-á bukú-tə tá-sɪ,*
 even 1PL-COND-cut-FV 13.bush-13 13.ASS-all
6o-míkusú 6á-kík-i-gu ndéke ká ɪ-sǎ
 2-children:1PL.POSS 3PL-NEG:be-FV-NEG F₃ PREP 9a-desert
 'Even if we cut all the bushes, our children will not live in the desert.'
- b. *gutúgu tá-kó-gbit-í bukú-tə tá-sɪ,*
 even 1PL-COND-fell-FV.NEG 13.bush-13 13.ASS-all
6o-míkusú 6ík-o ndéke ká ɪ-sǎ áka
 2-children:1PL.POSS 3PL:sit-FV F₃ PREP 9a-desert CT
 'Even if we do not cut all the bushes, our children will live in THE
 DESERT.'

gutúgu 'even' may also follow the verb form in the Conditional.

With a greater degree of uncertainty about the condition:

- (7.162)a. *ø-kik-ó ní to-gbit-í-ni gutúgu bukú-tə tá-sɪ,*
 3SG-COND:be-FV when 1PL-fell-FV.ANT-PFV even 13.bush-13 13.ASS-all
6o-míkusú 6á-kík-i-gu ndéke ká ɪ-sǎ
 2-children:1PL.POSS 3PL-NEG:be-FV-NEG F₃ PREP 9a-desert
 'Even in the unlikely event that we have cut all the bushes, our
 children will not live in the desert.'
- b. *ø-kik-ó ní tá-ká-no-gbit-í-gu gutúgu bukú-tə*
 3SG-COND:be-FV when 1PL-NEG-*yef*-fell-FV.ANT-NEG even 13.bush-13
tá-sɪ, 6o-míkusú 6ík-o ndéke ká ɪ-sǎ
 13.ASS-all 2-children:1PL.POSS 3PL:sit-FV F₃ PREP 9a-desert
 'Even in the unlikely event that we have not yet cut all the bushes, our
 children will live in the desert.'

gutúgu 'even' preceding **kikó (ká)ní** is not acceptable.

7.11 Extensions

Extensions are productive derivational suffixes that can be analysed with respect to form and meaning. They change the number of arguments of the verb and/or the meaning of the verbal base. They have a reduced vowel system in that mid vowels do not occur. With respect to tone, they lack tonal distinctiveness and surface with the default L tone unless they are associated, through H-tone spreading, with a

High tone on the final vowel of a TAM melody (see 4.6.1). The extensions in Liko are Causative **-is-**, Applicative **-ɪ-**, Benefactive **-ult-**, Resultative **-ul-**, Neuter **-ik-**, Associative **-an-** and Pluractional **-ag-**. The Causative extension **-is-** is [+ATR] dominant. The vowels of the other extensions are changed into their [+ATR] counterparts in a [+ATR] context.

Both transitive and intransitive verbs can be the basis of a derivation with an extension, except the Neuter extension where only transitive basic verbs are attested. In a number of cases, the verbal base consists of a -CVC- root and a syllable with the phonological properties of an extension, but without identifiable meaning. These syllables are commonly referred to as expansions. Occurrence of a root without the expansion is usually not attested, e.g. **-kpukul-** 'rub' could be seen as **-kpuk-** plus **-ul-**, except that **-kpuk-** does not exist and **-ul-** has no independent meaning, or **-mukt-** 'throw', where the bare root **-muk-** is not found and **-it-** has no independent meaning. Verbal bases which are probably expansions are given in 7.11.9.

7.11.1 Causative extension -is-

The Causative extension **-is-** may be added to transitive (the first set of examples) as well as to intransitive verbs (the second set). Vowels of a [-ATR] verb root assimilate to the [+ATR] dominant extension.

(7.163)	kó-ǵíng-ó	9b-cut-FV	'to cut wood (with an axe)'
	kó-ǵíng-ís-ó	9b-cut-CAUS-FV	'to cause to cut wood'
	ká-dum-á	9b-cultivate-FV	'to cultivate'
	kó-dim-ís-ó	9b-cultivate-CAUS-FV	'to cause to cultivate'
	ká-kun-á	9b-plant-FV	'to plant'
	kó-kun-ís-ó	9b-plant-CAUS-FV	'to cause to plant'
	ká-ly-á	9b-eat-FV	'to eat'
	kó-lyólís-ó ³⁵⁶	9b-eat:CAUS-FV	'to feed'

(7.164)	ká-ǵáng-á	9b-fear-FV	'to fear'
	kó-ǵóng-ís-ó	9b-fear-CAUS-FV	'to frighten'

³⁵⁶ The -CV- verb root is reduplicated.

kó-lumb-ó	9b-smell-FV	'to give off a smell'
kó-lumb-ís-ó	9b-smell-CAUS-FV	'to cause to smell'
kó-púmúk-ó	9b-burst-FV	'to burst'
kó-púmúk-ís-ó	9b-burst-CAUS-FV	'to cause to explode'
ká-ikút-ó ³⁵⁷	9b-be satisfied-FV	'to be satisfied (after a meal)'
ká-ikút-ís-ó	9b-be satisfied-CAUS-FV	'to cause to be satisfied'

Some verbs are irregular in that the underlying vowel /i/ of the Causative extension assimilates to the round value of the vowel of the verb root. It surfaces as **-us-** instead of as **-is-**.³⁵⁸

(7.165) kó-ńung-ó	9b-lose-FV	'to lose'
kó-ńung-ús-ó	9b-lose-CAUS-FV	'to cause to lose'
ká-zung-á	9b-become warm-FV	'to become warm'
kó-zung-ús-ó	9b-become warm-CAUS-FV	'to heat up'
kó-bwǒ	9b-grow big:FV	'to grow big'
kó-bus-ó	9b-grow big:CAUS-FV	'to cause to grow big', i.e. to make pregnant
ká-úk-á	9b-heal-FV	'to heal (e.g. a wound)'
kó-úk-ús-ó	9b-heal-CAUS-FV	'to cause to heal, to save'

The Causative extension introduces, with both transitive and intransitive verbs, a new argument to the syntactic frame of the verb. This new argument has the syntactic function of subject and the semantic role of causer. The agent-subject of the basic verb gets the semantic role of causee and is often not expressed by a noun phrase, but as an object prefix in the verb form.

³⁵⁷ In **káikútó**, **i-** is a (reflexive) prefix as can be seen by the vowel of the Infinitive prefix which does not harmonize with the [+ATR] value of the verb root.

³⁵⁸ Assimilation of the underlying high unrounded vowel of the extension to the vowel of the verb root is also attested in some cases of the Benefactive and of the Neuter plus Associative extensions.

- (7.166) mbíké o-lumb-is-og-o líbó lá-nza kúgbé
 9.pot 3SG-smell-CAUS-PLUR-FV 5:water 5.ASS-good very
 'The pot will cause the water to taste very good.' (T2006.6)

- (7.167) mu-lókú a kúwă ndi kẫm-imínd-ís-ó³⁵⁹
 1-man 3SG:be thus P₃ 9b:1.O-go holding hand-CAUS-FV
 'The man was causing him to go holding his hand.' (T2006.10)

- (7.168) ká yigokú, sukopí Ø-ká-nzin-ís-á-gu gbukó
 PREP 9a:return 1a.leopard 3SG^P-NEG:1.O-talk-CAUS-FV^P-NEG 1a.rat
 'On the way back, leopard caused rat not to talk.' (T2006.3)

In the following example, the causee is not expressed at all, but understood:

- (7.169) mamá a kó-bíng-ís-ó mísá mó-dumó
 1a.mother 3SG:be 9b-cut-CAUS-FV 6:firewood 6.ASS-1a.feast
 'Mother is causing someone to cut firewood for the feast.'

There are a few -CVCVC- verbs with **-is-** where the -CVC- root has not been found. I regard them as -CVC- verbs with a lexicalized Causative extension, e.g. **-dúgbis-** 'chase', **-totis-** 'put down, make loose from a trap'.

Periphrastic causative constructions have not been attested.

The examples given thus far are situations in which the causer is directly responsible for the effect and in which the effect almost instantly follows the cause. Some lexemes have two causative derivations, the short one, **-is-**, and a long one, **-isis-**. The latter one indicates an Indirect Causative. In Indirect Causatives, the causer of the subordinate Causative clause is generally indefinite and not expressed. Using the verb **-bang-** 'fix s.th. so that it stays in place', short and long Causatives can be shown. In (7.170a), a woman is directly responsible for drying

³⁵⁹ The verbal base is **-und-** 'go'. Remarkably, the epenthetic /m/ of the class 1 object prefix, which precedes vowel-initial verb roots, is repeated together with the initial vowel.

maize ears over a fire and in (7.170b), the speaker causes himself to die in a rope.

In both cases, the Causative extension is short:

- (7.170)a. *mamá o-bong-ís-i báḁe yá-ma-sóló kó*
 1a.mother 3SG-fix-CAUS-FV.ANT 9.maize 9.ASS-6-seed PREP
ḁukú
 8:burning piece of wood
 'Mother caused to fix (hang) maize ears over the fire.'
- b. *na ká-ĩ-bong-ís-ó*
 1SG:be 9b-REFL-fix-CAUS-FV
 'I am causing to fix (hang) myself.'

In the following example, a soldier causes someone to cause to hang a thief. In cases like this, the long Indirect Causative is used:

- (7.171) *sudá a-bong-ís-ís-i mu-tú wo-kú-ʼḁá-ku*
 1a.soldier 3SG:1.O-fix-CAUS-CAUS-FV.ANT 1-man 1.ASS-15-theft-15
 'The soldier ordered someone to have fixed (i.e. hang) the thief.'

Another example of short and long Causatives differentiating between direct (7.172a) and indirect (7.172b) causation is:

- (7.172)a. *a-ḁín-is-o ḁánũ míkí kámbwa ka-ngáma*
 3SG-dance-CAUS-FV F₂ 1-child 17:front GEN-1a.chief
 'He will cause a child to dance in front of the chief.'
- b. *a-ḁín-is-is-o ḁánũ míkí kámbwa ka-ngáma*
 3SG:1.O-dance-CAUS-CAUS-FV F₂ 1-child 17:front GEN-1a.chief
 'He will order someone to have a child dance in front of the chief.'

In indirect causation, the object prefix refers not to the indefinite causee, but to the patient. In the examples below, the patient is plural and the object prefix has to be plural as well:

- (7.173)a. *sudá ũ-bong-ís-ís-i ḁa-tú ḁó-ʼkú-ʼḁá-ku*
 1a.soldier 3SG:2.O-fix-CAUS-CAUS-FV.ANT 2-man 2.ASS-15-theft-15
 'The soldier ordered someone to have fixed (i.e. hang) the thieves.'
- b. **sudá a-bong-ís-ís-i ḁa-tú ḁó-ʼkú-ʼḁá-ku*
 1a.soldier 3SG:1.O-fix-CAUS-CAUS-FV.ANT 2-man 2.ASS-15-theft-15

- c. u-*ḡín*-is-is-o *ḡánu* *ḡo-míkí* *kámbwa* *ka-ngáma*
 3SG:2.O-dance-CAUS-CAUS-FV F_2 2-child 17:front GEN-1a.chief
 'He will order someone to have the children dance in front of the chief.'
- d. *a-*ḡín*-is-is-o *ḡánu* *ḡo-míkí* *kámbwa* *ka-ngáma*
 3SG:1.O-dance-CAUS-CAUS-FV F_2 2-child 17:front GEN-1a.chief

(b) and (d) are ungrammatical, because the object prefix does not agree with the objects *ḡatú* and *ḡomíkí* respectively.

One of the first examples is (7.169), where 'mother lets someone cut firewood for the feast'. In a situation in which someone issues a general order to have firewood cut, indirect causation is used:

- (7.174) *bugwě* *a* *kó-ḡíng-ís-ís-ó* *mísá* *mó-dumó*
 1a.uncle 3SG:be 9b-cut-CAUS-CAUS-FV 6:firewood 6.ASS-1a.feast
 'Maternal uncle is ordering to have firewood cut for the feast.'

The verb form *kóḡíngísísó* does not contain an object prefix. With the class 1 object prefix ḡ- , it would have been **ká'ḡíngísísó*.

The underlying vowel /i/ of the Causative extension assimilates to the high round vowel of some verbs (see 7.165). The Causative extension is repeated in cases of indirect causation. Only the first instance of the long Causative extension assimilates to the vowel of these verb roots. *-ḡúng-* 'lose' is followed by the short Causative in (7.175a) and by the long one in (7.175b):

- (7.175)a. *míkí* *o-ḡúng-ús-i-ní* *li-fungúla*³⁶⁰
 1a.child 3SG-lose-CAUS-FV.ANT-PFV 5-key
 'The child has caused the key to get lost.'
- b. *míkí* *o-ḡúng-ús-ís-i-ní* *li-fungúla*
 1a.child 3SG-lose-CAUS-CAUS-FV.ANT-PFV 5-key
 'The child has caused the key to get lost.'

The interpretation of (a) is that the child had to look after the key, but had lost it. In (b), it is understood that the child had given the key to someone else who had lost it.

³⁶⁰ *lifungúla* is a Congo Swahili loanword, *ufunguo* 'key'.

Some verbs have both the Causative extension **-is-** and a similar shape in which the vowel has assimilated to the vowel in the verb root. In case this occurs, the derived verb with **-us-** or **-os-** usually expresses a specialized meaning.

(7.176)	ká-dúk-á	9b-drip-FV	'to drip (e.g. a leak)'
	kó-dúk-ís-ó	9b-drip-CAUS-FV	'to cause to drip (by making small holes) ³⁶¹
	kó-dúk-ús-ó	9b-drip-CAUS-FV	'to pour slowly'
	kó-dw-ǒ	9b-move-FV	'to move'
	kó-dudís-ó	9b-move:CAUS-FV	'to cause to sway or roll'
	kó-dudús-ó	9b-move:CAUS-FV	'to stir, gesticulate'
	ká-ĩ-dudús-ó	9b-REFL-move:CAUS-FV	'to be restless, e.g. in bed'
	ká-kpakp-á	9b-stick-FV	'to stick, try to get back'
	kó-kpokp-ís-óg-ó	9b-stick-CAUS-PLUR-FV	'to cause to stick (with glue)'
	kó-kpokp-ós-óg-ó	9b-stick-CAUS-PLUR-FV	'to patch up'

The derived verb **-dúk-ús-** combined with **ǎngó** '9.blood', **kódúkúsó ǎngó** 'to pour blood', means to kill someone.

7.11.2 Applicative extension -ɪ-

The Applicative extension **-ɪ-** introduces a syntactic argument with the semantic role of patient or beneficiary. The Applicative extension **-ɪ-** is always desyllabified. In the first set, the Applicative introduces an argument with the semantic role of patient:

(7.177)a.	ká-alík-á	9b-call-FV	'to burst, to sing (birds), to call'
	kǎ-alík-y-á	9b:1.O-call-APPL-FV	'to call s.o.'
b.	ká-dít-á	9b-tread on-FV	'to tread on'
	ká-dít-y-á	9b-tread on-APPL-FV	'to stamp s.th. (a floor)'

In the next set, the Applicative introduces an argument which indicates that someone is disadvantaged by the action:

(7.178)a.	ká-nzun-á	9b-talk-FV	'to talk'
	kǎ-nzun-y-á	9b:1.O-talk-APPL-FV	'to rebuke s.o.'

³⁶¹ Other meaning: 'to cause to swell'.

Examples include:

(7.182)a.	ká-gbatíl-á	9b-spread-FV	'to spread out'
	kǎ-gbatíl-y-á	9b:1.O-spread-APPL-FV	'to spread out for s.o.'
b.	ká-tundíl-á	9b-draw lines-FV	'to draw lines'
	kǎ-tundíl-y-á	9b:1.O-draw lines-APPL-FV	'to draw lines for s.o.'
c.	ká-kpukól-á	9b-rub-FV	'to rub'
	kǎ-kpukól-y-á	9b:1.O-rub-APPL-FV	'to rub for s.o.'
d.	ká-tumbúl-á	9b-explain-FV	'to explain'
	kǎ-tumbúl-y-á	9b:1.O-explain-APPL-FV	'to explain for s.o.'
e.	kó-túndúl-ó	9b-stimulate-FV	'to stimulate'
	kǎ- ⁴ túndúl-y-ó	9b:1.O-stimulate-APPL-FV	'to stimulate for s.o.'

The verbs that use the Applicative extension **-t-** to introduce a beneficiary role do not take the Benefactive extension **-tli-**. There are a few exceptions in my data, where both extensions are allowed. They are listed here:

(7.183)a.	ká-gam-á		'9b-weep-FV'
	kǎ-gam-y-á	/ kǎ-gam-íly-á	'to weep for s.o.'
	9b:1.O-weep-APPL-FV	9b:1.O-weep-BEN-FV	
b.	ká-ndúng-á		'9b-discover-FV'
	kǎ- ⁴ ndúng-y-á	/ kǎ- ⁴ ndúng-íly-á	'to discover for s.o.'
	9b:1.O-discover-APPL-FV	9b:1.O-discover-BEN-FV	
c.	ká-kúng-á		'9b-ask-FV'
	kǎ- ⁴ kúng-y-á	/ kǎ- ⁴ kúng-íly-á	'to ask for s.o.'
	9b:1.O-ask-APPL-FV	9b:1.O-ask-BEN-FV	
d.	kó-tumík-ó ³⁶²		'9b-work-FV'
	kǎ-tumík-y-ó	/ kǎ-tumík-íly-ó	'to work for s.o.'
	9b:1.O-work-APPL-FV	9b:1.O-work-BEN-FV	

7.11.3 Benefactive extension **-tli-**

The Benefactive extension **-tli-** indicates that the action is beneficial to a person or directed against a person. The Benefactive extension introduces an argument with the semantic role of beneficiary. When the basic verb is transitive, the object of the

³⁶² **kótumíkó** is a Congo Swahili loanword, *-tumika* 'be engaged, work'.

basic verb loses its object properties in the construction with the verb with the Benefactive extension, as is apparent by the position of the object with respect to the verb and by agreement with the object prefix. The new argument of the verb with the Benefactive extension takes over the object properties. To start with, examples of the Benefactive extension in Infinitive forms are given to make the reader familiar with vowel changes due to ATR vowel harmony (see 3.2.2), desyllabification (see 3.3.5) and non-automatic downstep (see 4.6.5).

(7.184)a.	ká-bug-á	9b-sharpen-FV	'to sharpen'
	kǎ-bug-íly-á	9b:1.O-sharpen-BEN-FV	'to sharpen for s.o.'
b.	ká-ḡák-á	9b-grow-FV	'to grow'
	kǎ-ḡák-íly-á	9b:1.O-grow-BEN-FV	'to grow for s.o.'
c.	kó-totís-ó	9b-put down-FV	'to put down'
	kǎ-totís-íly-ó	9b:1.O-put down-BEN-FV	'to put down for s.o.'
d.	kó-túm-ó	9b-pierce-FV	'to pierce'
	kǎ-ṽtúm-íly-ó	9b:1.O-pierce-BEN-FV	'to pierce for s.o.'

The second /t/ of the Benefactive extension **-ul-** is desyllabified preceding a vowel, in these examples, the final vowel **-a** (or **-o** in a [+ATR] context). The presence of the class 1 object prefix ^ṽ is shown by the nasalization of the vowel of the class 9b prefix, and in addition, by the non-automatic downstep of the H tone of the verb root caused by the floating L tone of the class 1 object prefix in (b, d) and by the non-assimilation of the vowel of the class 9b prefix to the [+ATR] value of the verb root in (c, d).

When the vowel of the basic verb root is high rounded /u u/, the first underlying high unrounded vowel of the Benefactive extension of a few verbs has a high round allomorph **-ul-**:

(7.185)	ká-kúng-á	9b-ask-FV	'to ask'
	kǎ-ṽkúng-íly-á / kǎ-ṽkúng-úly-á	9b:1.O-ask-BEN-FV	'to ask for s.o.'
	kó-tutw-ó	9b-peel-FV	'to peel'
	kǎ-tutw-íly-ó / kǎ-tutúly-ó	9b:1.O-peel-BEN-FV	'to peel for s.o.'

In (7.186a, b, c), the Benefactive is derived from an intransitive verb. The object is referred to by the object prefix as can be seen by the nasalization of the vowel of the class 9b prefix in (7.186a), by non-automatic downstep in (7.186a, c), and by

non-assimilation to the [+ATR] value in (7.186b, c). In (7.186d-g), where the basic verb is transitive, the new object of the Benefactive obligatorily occupies the object position directly following the verb and the object of the basic verb occurs later in the clause.

- (7.186)a. tíko a kǎ-³bák-íly-á yá-nza
 9.field 3SG:be 9b:1.O-grow-BEN-FV 9.ASS-good
 '[The crop on] the field grows well for someone (the owner).'
- b. a-ḡín-ily-o ḡánu ngámá
 3SG:1.O-dance-BEN-FV F₂ 1a.chief
 'He will dance for the chief.'
- c. tá-⁴kw-íly-ó ndi gbukó
 1PL^P:1.O-die-BEN-FV^P P₃ 1a.rat
 'We died for rat.' (T2006.3)
- d. ó-tíky-ǒ ndi mu-pumí
 3SG^P-close-FV P₃ 3-door
 'He closed the door.'
- e. mu-tíky-íly-ó míkí mu-pumí
 1.O-close-BEN-FV.IMP 1-child 3-door
 'Close the door for the child!'
- f. na kó-kpumy-ó ma-lumbá
 1SG:be 9b-hunt-FV 6-spell
 'I am chasing away the spells.'
- g. Tapanóḡi a kǎ-kpumy-íly-ó bugwákti ḡa-nyamá
 "Tapanóḡi" 3SG:be 9b:1.O-hunt-BEN-FV 1a.uncle:3SG.POSS 2-animal
 'Tapanóḡi'³⁶³ is hunting animals for his uncle.'

The argument introduced by the Benefactive extension either benefits from the action of the verb or experiences a disadvantage. In the following examples, the "beneficiary" is adversely affected by the action of the verb:

- (7.187)a. kǎ-ngukan-á 9b-snore-FV 'to snore'
 kǎ-ngukan-íly-á 9b:1.O-snore-BEN-FV 'to snore and trouble s.o.'

³⁶³ The meaning of the name is: 'we love each other at a distance' (tapananaga kǎ ḡuḡyí), i.e. if we live too close, our relation will not last.

- b. ká-ly-á 9b-eat-FV 'to eat'
 ká-^ǎlily-á 9b:1.O-eat:BEN-FV 'to eat to s.o.'s disadvantage'
- c. ká-pút-á 9b-destroy-FV 'to destroy'
 ká-^ǎpút-ily-á 9b:1.O-destroy:BEN-FV 'to destroy to s.o.'s
 disadvantage'

(7.188) míkí a ká-^ǎpút-ily-á mamá li-ngí
 1a.child 3SG:be 9b:1.O-destroy:BEN-FV 1a.mother 5-banana tree
 'The child is destroying a banana tree to the disadvantage of his mother.'

7.11.4 Resultative extension -**ɬ**-

The Resultative extension **-ɬ**-, as distinct from Benefactive **-ɬɬ**-, indicates that the situation has ended in a result that could be expected given the meaning of the verb. The Resultative extension **-ɬ**- does not change the number of arguments of the verb. It does not occur frequently.

Examples include:

- (7.189) ká-gbat-á 9b-spread-FV 'to spread'
 ká-gbat-ɬl-á 9b-spread-RES-FV 'to spread out (flat on a surface)'
 ká-sund-á 9b-slip-FV 'to slip'
 ká-sund-ɬl-á 9b-slip-RES-FV 'to slip and (almost) fall'
 ká-um-á 9b-dry-FV 'to dry up'
 ká-um-ɬl-á 9b-dry-RES-FV 'to be dried up'

In the story about a monster, people who saw it became 'dry'; they could no longer move:

- (7.190) mɔ-tú wa-sɪ ní-nǎ ǎm-tɔ-a, úm-ɬl-ag-a wá áka wá
 1-man 1.ASS-all COP- 3SG^P:1.O-see- 3SG^P:dry-RES- there on the spot
 1.DEM.I FV PLUR-FV
 'Every person who saw him, was dry (froze) right there.' (T2006.1)

The sentence below is talking about the mix for making traditional soap, which must be poured in a fire after which the ashes can be gathered for further processing:

- (7.191) wa ká-am-á kó-**ḍúk-ús-íl-ó**³⁶⁴ kó 6ukú
 2SG:be 9b-limit-FV 9b-pour-CAUS-RES-FV PREP 8:burning piece of wood
 'You are finishing by pouring slowly in the fire.' (T2006.5)

Other examples include: **-kand-** 'tie' vs. **-kand-íl-** 'be tied up', **-tund-** 'carve' vs. **-tund-íl-** 'drawn a line'.

Soms verbs in my data have **-íl-** following CVC, but the basic -CVC- verb has not been attested, for instance, **-buhl-** 'regain consciousness', **-kpilil-** 'slide', **-kpíndul-** 'tread down', **-tóbul-** 'cry out, announce', **-wísul-** 'faint, pass out, wither', **-pidíl-** 'extract' and **-tikil-** 'rub, model'.

7.11.5 Neuter extension **-ik-**

Schadeberg (2003:75) proposes that "a more precise semantic-syntactic label for this extension would be 'neutro-passive'. Verbs with this extension indicate that the subject is potentially or factually affected by the action expressed by the verb. (...) No agent is implied, and it is typically impossible to express the agent."

The difference in meaning between the Resultative extension **-íl-** and the Neuter extension **-ik-** is that the former indicates the result of some action, whereas the latter changes a transitive verb into an intransitive verb without agent. With the Resultative extension, the agent may be expressed.

The Neuter extension is not very productive. Derivation to intransitive verbs generally involves a combination of Neuter **-ik-** and Associative **-an-**, see the next section.³⁶⁵ The Neuter extension **-ik-** is nearly always represented with verbs of destruction:

- (7.192) ká-nuw-á 9b-tear-FV 'to tear'
 ká-nuw-**ík-**á 9b-tear-NEUT-FV 'to tear' (intransitive)
 kó-bún-ó 9b-break-FV 'to break'

³⁶⁴ **-ḍúk-us-** has a specialized meaning 'pour slowly', see 7.11.1.

³⁶⁵ Schadeberg (2003a:76) mentions that in some languages of zone C "*" **-an-** has taken over the function of neuter ***-ik-**."

kó-6ún-ík-ó 9b-break-NEUT-FV 'to break' (intransitive)

Other derivations with the Neuter extension (in all cases, the basic verb is transitive and the form with the extension is intransitive) in my data are: **-lím-** 'extinguish, put out' vs. **-lím-ík-**, **-tún-** 'cut' vs. **-tún-ík-**, **-úl-** 'break, smash, wrack' vs. **-úl-ík-** and **-yí6-** 'tear apart' vs. **-yí6-ík-**.³⁶⁶

7.11.6 Associative extension -an-

The most productive use and meaning of the Associative extension **-an-**³⁶⁷ is reciprocal. "Reciprocal verbs require more than one agent, and the agents are at the same time mutual patients of their action." (Schadeberg 2003:76).

- (7.193)a. ká-múy-á 9b-hate-FV 'to disapprove, hate'
 ká-múy-án-á 9b-hate-ASS-FV 'to hate each other'
 b. kó-sily-ó 9b-meet-FV 'to meet'
 kó-sily-ón-ó 9b-meet-ASS-FV 'to meet each other'

Syntactically speaking, a single plural subject may fulfil the roles of agent and patient, as in the first example below. Otherwise, there are two noun phrases as in the second example, in which the first noun phrase in the canonical subject position is the subject and the other one is a prepositional phrase, preceded by **na** 'with'. In reciprocal use, there is no object prefix as can be seen from the examples below, in which the vowel of the subject prefix has assimilated to [+ATR] and where no non-automatic downstep occurs between a H tone on the subject prefix and a High-toned verb.

- (7.194) 6a-mbánzú 6ó-sily-on-o na 6ú-galá

³⁶⁶ This is the case if Neuter **-ík-** is the only extension. In combinations of the Neuter extension **-ík-** and the Associative extension **-an-**, the basic verb can be intransitive as well, e.g. **-pám-ík-an-** 'be cracked' from **-pám-** 'bark, crack'.

³⁶⁷ I follow Schadeberg (2003:76) in using the label Associative for this extension, because it not only expresses reciprocity, but it also has other uses.

2-person 3PL-meet-ASS-FV with 14-tomorrow

'The men will meet each other tomorrow.'

- (7.195) kínili 6a-mbánzú 6a-múy-án-á na 6a-bulí
 that is why 2-person 3PL^P-hate-ASS-FV^P with 2:1b-demon
 'That is why men and demons hated each other.' (T2006.2)

The Associative extension is reduplicated with -VC- or -CV- verbs, e.g. **-as-** 'leave behind' vs. **-as-an-an-** 'say goodbye', **-du-** 'offend' vs. **-dw-an-an-** 'offend each other, quarrel' and **-gwi**³⁶⁸ 'hold, grab' vs. **-gwin-on-** 'hold each other'.

The second use of the Associative extension **-an-** is to indicate that the action described by the verb is repetitive or intensive. Cases in which repetitive action is involved are exemplified in the first set, whereas the second set has intensified actions:

(7.196)	ká-gbǎ	9b-reduce:FV	'to reduce'
	ká-gban-án-á	9b-reduce:ASS-ASS-FV	'to reduce repetitively'
	ká-ĩ-gban-án-á	9b-REFL-reduce:ASS-ASS-FV	'to split up, separate'
	ká-kǒ	9b-cut:FV	'to cut'
	ká-kun-án-á	9b-cut:ASS-ASS-FV	'to cut in pieces'
	ká-zab-á	9b-cross-FV	'to cross (a river)'
	ká-zab-án-á	9b-cross-ASS-FV	'to cross walking from one branch to the next'
(7.197)	kó-duk-ó	9b-pour out-FV	'to pour out'
	kó-duk-ón-ó	9b-pour out-ASS-FV	'to collapse (e.g. a wall)'
	ká-lúngy-á	9b-rebuke-FV	'to rebuke'
	ká-lúngy-án-á	9b-reduce-ASS-FV	'to growl'
	ká-ul-á	9b-break-FV	'to break, smash, wrack'
	ká-ul-án-án-á	9b-break-ASS-ASS-FV	'to fight, make war'

³⁶⁸ This is the only verb in my data where the final vowel **-a** does not occur.

An action can be regarded as repeated when plural agents are doing it (a joint action by several agents without having the notion of reciprocity), e.g.

- (7.198) no bití, kání 6a-mbáanzú 6ó-lól-ón-i-ní,
 with 9.darkness when 2-person 3PL-sleep-ASS-FV.ANT-PFV
 á-bɪnk-a lí-dakĩ lí-motí
 3SG^P-carry-FV 5-pot 5.NUM-one
 'During the night, when the men had fallen asleep, he carried [away] one pot.' (T2006.2)

In addition to the usages mentioned above, the Associative extension **-an-** is used in conjunction with the Neuter extension **-ik-** to indicate that the subject is in a state which is the result of the action of the basic verb:

- (7.199) ká-kúl-á 9b-untie-FV 'to untie'
 ká-kúl-ík-án-á 9b-untie-NEUT-ASS-FV 'to be untied'
 ká-nan-á 9b-stretch-FV 'to stretch, make straight'
 ká-nan-ík-án-á 9b-stretch-NEUT-ASS-FV 'to be straight'
 kó-misy-ó 9b-sow-FV 'to sow'
 kó-mis-ík-ón-ó 9b-sow-NEUT-ASS-FV 'to be spread, be scattered'
 ká-pám-á 9b-crack-FV 'to bark, to crack'
 ká-pám-ík-án-á 9b-crack-NEUT-ASS-FV 'to be cracked'
 ká-tun-á 9b-light-FV 'to light'
 ká-tun-ík-án-á 9b-light-NEUT-ASS-FV 'to be lit'

The Associative extension **-an-** seems to have neutro-passive use without the presence of the Neuter extension **-ik-** in the following verb forms: **-bímon-** 'be dying', **-túngan-** 'be enough, suffice', **-zúkan-** 'be surprised, jump up'. The basic -CVC- verb of these verb forms has not been attested.

7.11.7 Pluractional extension -ag-

The Pluractional extension **-ag-** has a range of uses involving plurality of the action. The action is plural because it is repetitive, habitual or durative, or a single action is made plural by having multiple subjects or objects. The Pluractional extension **-ag-** does not increase or diminish the number of arguments of the verb. Structurally, **-ag-** has the VC-shape of an extension and tonally **-ag-** behaves like an extension: it is underlyingly toneless and it surfaces with a H tone after H-tone

spreading (see 4.6.1) in the same way as other extensions in the verb form. The Pluractional extension **-ag-** occurs with all tenses and moods, like other extensions. It can have aspectual meaning, e.g. habitual, durative.

The Pluractional extension **-ag-** is frequently used to indicate repeated action. When **-ag-** is added, many dynamic verbs describing a single action get a meaning where repetition is involved, e.g. **-al-** 'cleave' vs. **-al-ag-** 'cut to pieces', **-nan-** 'stretch' vs. **-nan-ag-** 'iron (clothes)', **-táman-** 'remember' vs. **-táman-ag-** 'think', **-tín-** 'cut' vs. **-tín-ag-** 'whip'.

The following examples show repetitive use of **-ag-**:³⁶⁹

- (7.200)a. 6a-lúkú na 6o-kó 6á-mu-sengí 6ó-bilisy-og-o
 2-man and 2-woman 2.ASS-3-village 3PL^P-chant slogan-PLUR-FV
 kúwǎ ndi 6é rigo hooo ! rigo hooo !
 thus P₃ COMP "rigo hooo" "rigo hooo"
 'The men and the women of the village scanted: "Rigo hooo!, Rigo hooo!"
 (T2006.4)
- b. iyí gbukó á-lyály-ag-a kúwǎ ndi wá go wá
 1.PRO 1a.rat 3SG^P-graze-PLUR-FV thus P₃ there
 'He, rat ate there every day.' (T2006.3)
- c. ngámá Ø-und-ag-ǎ ndi yí-motí³⁷⁰, yágo³⁷¹ yí-6ǎ
 1a.chief 3SG-go-PLUR-FV P₃ 9.NUM-one perhaps 9.NUM-two
 ká tumbá
 PREP 9.month
 'The chief went [to check his field] once, perhaps two times a month.'
 (T2006.3)
- d. ngbínogó yi ní-nǎ 6á-zang-ág-ǎ ndi minó
 1a.time 1.DEM.III COP-1.DEM.I 3PL^P-lack-PLUR-FV P₃ TRACE
 mo-lingó, mu-kó á-⁺pá mbunyákí líso
 6-oil 1-woman 3SG^P:1.O-give:FV^P 1a.husband:3SG.POSS 5:eye

³⁶⁹ Schadeberg (2003a) uses "repetitive" to refer to the morpheme **-a(n)g-** at the pre-FV position.

³⁷⁰ Understood is **ngángá** '9.time'.

³⁷¹ Short for **yágo**.

'When they lacked oil, the woman gave her husband the eye.'

(T2006.10)

The second use of **-ag-** is habitual, which "refers to a situation characteristic of an extended period of time, so extended that the situation is viewed as a characteristic feature of a whole period." (Comrie 1976:27-8, cited in Nurse 2008:311). For example:

- (7.201)a. 6a-tuté bí-tikil-og-ă ndi nzúyɪ na mo-lingó mó-pi
 2-old person 3PL^P:REFL-rub- P₃ 9.body with 6-oil 6.ASS-black
 PLUR-FV

'The forefathers used to rub their bodies in with black oil.' (T2006.6)

- b. kínili tĩn-ag-a kúwa 6e-títí kú-silí wa-bukú-tɔ
 that's why 1PL:see- thus 2 + 9:9a-anthill 17-bottom 17.ASS-13.bush-13
 PLUR-FV

'That is why we always see anthills under bushes.' (T2006.10)

The next use of **-ag-** is durative, referring to a situation that lasts over a period of time. In the example below, **-ag-** indicates that it takes some time to tie up the chief:

- (7.202) nzúka ó-pup-ă ndi kó tutú, á-kand-ag-ă
 1a.snake 3SG^P:come out-FV P₃ PREP 9.forest 3SG^P:1.O-tie-PLUR-FV
 ndi ngámá nzúyɪ yá-sɪ kádwe kúkwaku ká mu-nókú
 P₃ 1a.chief 9.body 9.ASS-all up to down there PREP 3-mouth
 'A snake came out of the forest, he was winding around the chief, the whole
 body, all the way to his mouth.' (T2009.5)

When the Pluractional extension with durative use co-occurs with the Perfective aspect suffix **-ní** in post-FV position, it indicates that the situation has lasted for some time before the action is completed. Before the attack described in the above example, chief Kɔpi had given an object that represented his forefather to a young man who had hidden it in a space between tree roots. When the young man saw that the chief was in danger, he searched for his 'forefather' and asked him:

- (7.203) yě ba, bá-gy-a kúwa wánu búní kyé nzúka
 excuse me! sir 3PL-do-FV thus here how because 1a.snake
 a-kond-óg-i-ní ngámá nzúyɪ yá-sɪ ?
 3SG:1.O-tie-PLUR-FV.ANT-PFV 1a.chief 9.body 9.ASS-all

'At these two news accounts, Madapuwa and Madipɔpɔ, their trust and mutual understanding started to end, because the instigator tortoise was present, he had passed around them.' (T2009.9)

Other examples of co-occurrence of the Pluractional extension **-ag-** and the Perfective aspect suffix **-ní** are:

- (7.206)a. ɪbú bá-sɪ b́ó-misík-ón-óg-i-ní³⁷⁶
 2.PRO 2.ASS-all 3PL-disperse:NEUT-ASS-PLUR-FV.ANT-PFV
 'They have all dispersed.' (T2006.1)
- b. nó-úk-óg-ó-ní dagă-tu, ma-sikúďǎngí, mangá
 1SG^P-heal-PLUR-FV^P-PFV 13.arrow-13 6-fish hook 9.mango
 'I have saved raffia arrows, fish hooks, mangos.' (T2009.6)
- c. Gbaďi á-⁴kúl-a sukopí. nýs áka yó sukopí
 "Gbaďi" 3SG^P:1.O-untie-FV 1a.leopard when only 9.DEM.I 1a.leopard
 ín-á b́é b́á-⁴kúl-óg-i-ní, á-mbumbít-a a-mbǒkú Gbaďi
 3SG^P:see-FV^P COMP 3PL:1.O-untie- 3SG^P:1.O- 1b-old man "Gbaďi"
 PLUR-FV.ANT-PFV pinch-FV
 'Gbaďi untied leopard. As soon as leopard saw that he had been untied, he grabbed old Gbaďi [with his claws].' (T2008.5)

The fourth use of the Pluractional extension is to indicate plurality of the subject or the object. A more or less extended period of time is involved in which the action is performed. Examples of the plurality of the subject is:

- (7.207)a. 6a-mbánzú b́ó-kw-óg-á ndi ká lúnga
 2-person 3PL^P-die-PLUR-FV^P P₃ PREP 5:war
 'Masses of people died in the war.'
- b. ní-b́ó 6o-túgbǒ bá-ná-bum-an-ag-á na
 COP-2.DEM.I 2-strong man 3PL-INCH-fight-ASS-PLUR-FV with
 6a-lúkú 6a-ďǎbú
 2-man 2-s.o. of same age:3PL.POSS
 'Those who are strong men started to fight with men of their age.'
 (T2006.2)

³⁷⁶ The basic verb is **-misi-** 'sow'. With the Neuter and the Associative extensions, the meaning of **-misikon-** is 'be spread'.

In (b), multiple subjects or multiple object may be referred to.

Plural objects are exemplified by the following sentences:

- (7.208)a. wĩ-bub-ag-a b́é ɔ-mwóǵ-ɔ ɓa-nyamá
 2SG:REFL-praise-PLUR-FV COMP 2SG:2.O-kill:PLUR-FV 2-animal
 'You praise yourself that you kill animals.' (T2006.1)
- b. mo-lingó mi ní-mó a-mwóǵ-ɔ-tú³⁷⁷ ǵoní pándá ká nzúyɪ
 6-oil 6.DEM.III 3SG/PL-kill:PLUR-FV- also 9.scabies PREP 9.body
 COP-6.DEM.I INS
 'This oil also kills scabies on the body.' (T2006.6)
- c. a-kóngó nǒ a-tí-pag-a má-búgu kú-mbúso
 1b-banana shoot 1.DEM.I 3SG-1PL.O-give:PLUR-FV 6-banana 17-back
 'This banana shoot will give us bananas later.' (T2006.7)
- d. ɓú-mumul-ag-ǎ ndɪ ɓo-míkí ká mu-sengí má-sɪ
 3PL^p:2.O-round up-PLUR-FV P₃ 2-child PREP 3-village 3.ASS-all
 'They rounded up all the children of the village.' (T2006.4)

Some -CVCVC- verbs with **-ag-** have no -CVC- counterpart and refer to a situation which lasts over a period of time. Examples are **-kítag-** 'pass', **-nzukpag-** 'stare wide-eyed', **-sanzag-** 'go towards the zenith (sun)', **-síllog-** 'consume' and **-wáyag-** 'dissolve'.

7.11.8 Combinations of extensions

Verb structures may contain more than one extension. Some combinations are shown in the sections above. Here, I will first present examples from texts, before summarizing the probable order of extensions in Liko.

The Neuter extension **-ɪk-** precedes other extensions, e.g. Causative **-is-** in (7.209a) and Associative **-an-** in (7.209b):

- (7.209)a. ká-tík-ík-ís-ó 9b-send-NEUT-CAUS-FV 'to cause to be sent'
 b. ká-pút-ík-án-á 9b-destroy-NEUT-ASS-FV 'to be destroyed, out of shape'

³⁷⁷ Vowel copy after height coalescence has applied to the sequence of the high vowel of the [–ATR] -CV- verb and the final vowel **-a**.

In (7.205), the Neuter extension precedes the Applicative extension.³⁷⁸

The Causative extension **-is-** precedes Applicative **-i-** in (7.210a), Benefactive **-uli-** in (7.210b, c), Resultative **-il-** in (7.210d) and Associative **-an-** in (7.210e):

- (7.210)a. im-ig-ís-y-ó-kú líso kǎmɪ
 1SG.O-return-CAUS-APPL-FV-DIR 5:eye my
 'Give me back (cause to return) my eye.'
- b. a-bǎkɪ ǎ-pik-ís-ily-i-ní ndáɓu
 1b-father:3SG.POSS 3SG:1.O-build-CAUS-BEN-FV.ANT-PFV 9.house
 'His father had caused him to build a house for him.'
- c. ú-monis-ily-ǎ ndɪ ɓo-míkakí ká-gbɪt-á bumó
 3SG^P:2.O-indicate:CAUS-BEN- P₃ 2-child:3SG.POSS 9b-fell-FV 9.palm nut
 FV
 'He taught (caused to indicate) his children [how to] cut palm nuts.'
- d. si-panání-sɔ sá-sɪ ní-sɔ wǎ-wonís-íl-á ndɪ
 19-love-19 19.ASS-all COP-7.DEM.I 2SG^P:1.O-show:CAUS-RES-FV^P P₃
 'All the love which you showed to someone.'
- e. to-túm-is-on-o ma-mbengí ká si-panání-sɔ sá-nza
 1PL-fill-CAUS-ASS-FV 6-heart PREP 19-love-19 19.ASS-good
 'We will cause to fill each other the hearts to good love.', i.e. we will encourage one another to pure love

The Associative extension **-an-** follows Applicative **-i-** in (7.211a) and Benefactive **-uli-** in (7.211b, c):

- (7.211)a. ma-syé má-kpu bá-kó-sil-y-on-og-i-gǔ ndɪ ɓatǎ
 6-day 6.ASS-big 3PL-NEG-arrive-APPL-ASS-PLUR-FV-NEG P₃ again
 'Not long afterwards.', literally, 'many days could not meet each other again' (*T2009.21*)
- b. ɓa-kondǒlɔ ɓǎ-ɗak-ɪly-an-ǎ ndɪ
 2-sheep 3PL^P:1.O-climb-BEN-ASS-FV P₃
 'The sheep climbed each other for him.' (*translated Genesis 30:39*)

³⁷⁸ The Neuter extension preceding the Benefactive or the Resultative extension has not been found.

- c. sukopí ká-ukán-á ǫéyó, ngũ á-sy-o,
 1a.leopard 9b-hear-FV like that 9.strength 3SG^P:1.O-finish-FV
 í-ny-íly-on-og-o wá áka wá
 3SG^P:REFL-urinate-BEN-ASS-PLUR-FV there on the spot
 'Leopard hearing that, strength left him, he urinated unconsciously right
 there.'³⁷⁹ (*T2008.10*)

There are no combinations of the Associative extension **-an-** and the Resultative extension **-ul-** in my data.

The Pluractional extension **-ag-** occurs with every extension and always occurs as the last extension in a verb form.

Based on the data available, the most likely order of combinations of extensions is:

- (7.212) Neuter Causative Applicative **-i-** Associative Pluractional
-ik- **-is-** Benefactive **-ih-** **-an-** **-ag-**
 Resultative **-ul-**

This corresponds to the neutral order of Bantu extensions, "CARP" (Causative, Applicative, Reciprocal, Passive (Hyman 2002)). Recall that Liko does not have a Passive extension.

There are verb forms where the Causative extension does not precede, but follows the Associative, e.g.:

- (7.213) ká-dund-á 9b-touch-FV 'to touch'
 kó-dund-ón-ís-ó 9b-touch-ASS-CAUS-FV 'to join'
 ká-ukán-án-á 9b-hear-ASS-FV 'to agree'
 ká-ukón-ón-ís-ó 9b:1.O-hear-ASS-CAUS-FV 'to reconcile with s.o.'

In these cases, the scope of the Causative extension includes the Associative. The Causative extension may be added more than once to a verbal base. If another extension has been added to a verbal base with the Causative extension, then, depending on the semantics of the verb, the Causative extension can be added

³⁷⁹ Because of fright for a shrew which, of course, is bad for his status as king of the animals.

again with the existing verbal base in scope. Take for example **káibó** 'to know', **káibísó** 'to make known' and **káibísíkónó** 'to be known', the latter form with the Causative, Neuter and the Associative extensions. The Causative extension can be added again to the derived form, yielding **káibísíkónísó**³⁸⁰ 'to cause to be known'. Another verbal base in which two Causative extensions are attested is **káínísónísó**³⁸¹ 'to cause to appear', based on **káuná** 'to see', **káínísó** 'to cause to see' and **káínísónó** 'to appear'.

7.11.9 Expansion

Expansions refer to segmental material following a -CVC- verb root, that cannot be analysed as a productive extension with either a change in the number of arguments or with a consistent change in the meaning of the verb. Some expansions have a shape that may be recognizable as a Bantu extension. VC shapes in -CVCVC- verbs that occur with some frequency are **-an-**, **-ik-**, **-uk-** and **-ul-**.

The Associative extension **-an-** is used mainly to indicate reciprocity with additional repetitive/intensive and neutro-passive usages. In some instances of VC shape **-an-**, there does not seem to be a common semantic meaning related to **-an-**: **-bóman-** 'should', **-bimon-** 'come near', **-kwanan-** 'should', **-kpakyan-** 'travel', **-nginan-** 'reflect', **-ngukan-** 'snore', **-nyakan-** 'appear suddenly' and **-táman-** 'remember, think'. These verb forms do not occur with **-an-**.

In a few -CVCVC- verbs, **-ik-** resembles the Neuter extension but it lacks its properties. The following -CVCVC- verbs in my data are transitive and active with the agent performing the action: **-bunk-** 'carry', **-didik-** 'bend down' and **-tíndik-** 'push over'. A corresponding -CVC- root has not been found. These verbs do not have the neutro-passive meaning represented by the extension **-ik-**.

The following verbs have **-uk-**, e.g. **-kpumuk-** 'talk', **-bumbuk-** 'jump', **-púmuk-** 'burst' and **-zuzuk-** 'get up'. The last three share the sense of 'moving out of some original position'.

³⁸⁰ **ká-ib-is-ik-on-is-ó** '9b-know-CAUS-NEUT-ASS-CAUS-FV'.

³⁸¹ **ká-in-is-on-is-ó** '9b-see-CAUS-ASS-CAUS-FV'.

One verb in my data has **-ul-** following a -CVC- root, **-tángul-** 'read, recite' vs. **-táng-** 'count'. The following verbs lack a -CVC- basic verb: **-fókul-** 'suspect', **-dukul-** 'continue', **-gbulul-** 'thunder (of rain)', **-gbundul-** 'pound', **-kungul-** 'surround', **-kpukul-** 'rub', **-súngul-** 'succeed, to end in or at', **-túndul-** 'stimulate', **-tumbul-** 'explain', **-tungbul-** 'help, support', **-vukul-** 'sit down (pejorative)', **-zotul-** 'be surprised'.³⁸²

Other final VC shapes in -CVCVC- structures where the basic -CVC- root has not been attested are listed below. Each shape rarely occurs and the final VC does not seem to have an identifiable meaning.

(7.214)	-zakad-	'hesitate'
	-fúsal-	'forget'
	-zıgıb-	'sieve'
	-stıkd-	'tickle'
	-piling-	'twist'
	-stıs-	'feel, caress'
	-gubıt-	'cover a roof'
	-tulub-	'roll, sprawl'
	-mbukud-	'dig using fingers'
	-dúkuf-	'fold, bend'
	-kpukum-	'rinse the mouth'
	-zugus-	'itch'
	-lukut-	'boil'

7.12 Derivation to nouns, adjectives and adverbs

7.12.1 Verb-to-noun derivation

Several productive processes are involved in the formation of deverbative nouns. The process involves two parts: the derivation of a nominal stem from a verbal base³⁸³ by the addition of a word-final suffix, and the assignment of the derived

³⁸² Some of these verbs may have the Resultative extension **-ul-** with assimilation to the round vowel of the first syllable of the verb root.

³⁸³ The verbal base may be simple, consisting only of a verb root, or extended, consisting of

nominal stem to a nominal class (or gender) (Schadeberg 2003:79). Deverbative nouns have a wide range of meanings.

a. Agent nouns

Several processes are employed in deriving an agent noun from a verbal base. These processes have various degrees of productivity. Two processes involve the nominalization suffix **-á**. The first process is productive, the second seems to have gone out of use. Other processes, marked by word-final high vowels, are presented at the end of this section.

Firstly, the productive process to derive an agent noun from a verb involves repeating the consonant and the first vowel of the verb root, adding the nominalization suffix **-á** to the verbal base and assigning the nominal stem to class 1 (the class 2 prefix is added in brackets). The first TBU of the verbal base is associated with the primary tone of the verb:

(7.215)	mu-kúkung-á ³⁸⁴ , (6a-)	'1-begger'	< -kúng-	'ask'
	mu-lílik-á, (6a-)	'1-trapper'	< -lík-	'trap'
	mu-bubuuly-ó, (6o-)	'1-s.o. who harvests rice'	< -buuli-	'harvest'
	mu-bubusy-á, (6a-)	'1-burner'	< -busi-	'burn'
	mu-pílik-ó, (6o-)	'1-builder'	< -pik-	'build'

The nominalization suffix has a H tone in the above examples, but when it follows a H tone, it is changed to a L tone (see 4.6.6). This happens when the verb root is monosyllabic with a primary H tone:

(7.216)	mu-lyály-a, (6a-)	'1-eater'	< -lí-	'eat'
	mu-mwómw-o, (6o-)	'1-drinker'	< -mú-	'drink'
	mu-mwómw-o, (6a-)	'1-s.o. who ill-treats'	< -múu-	'kill'
	mu-twátw-a, (6a-)	'1-skilled archer'	< -tú-	'hit the target'

a verb root followed by one or more extensions, see 7.2.

³⁸⁴ In this section and the next one, I have indicated the nominalization suffix and the suffix in derived adjectives with a hyphen. For convenience, this is not done in the other parts of this book.

-da 'come' has a deverbative stem with the Directional suffix **-kú**: **mu-dodokú** '1-visitor'.

Monosyllabic verbs reduplicate the verbal base together with the final vowel. If the last vowel of the verbal base is subject to height coalescence preceding the verb-final vowel **-a**, as in **-móu-** 'kill' (/u-a/ → /ɔ/), then the resulting mid vowel is copied. When a monosyllabic verb has a L tone, the nominalization suffix has a H tone, e.g. **mu-sosó**, **(6a-)** '1-s.o. who harvests rice', from **-su-** 'weed'.

Secondly, agent nouns are derived from verbs by adding the nominalization suffix **-á** to the verbal base and assigning the nominal stem to class 1. The difference with the first process is that there is no reduplication in the second one.

- (7.217) **mu-kwanan-á**, (6a-) '1-person of value' < **-kwanan-** 'should'
mu-kpakyan-á, (6a-) '1-traveller, walker' < **-kpakyan-** 'walk'
mu-ndondulá, (6a-) '1-biting midge' < **-ndondul-** 'stick in'
6a-6úkutan-á³⁸⁵ '2-s.o. of same kin' < **-6úkut-** 'give birth'

The first two agent nouns always occur preceded by **mu-tú** '1-man': e.g. **mutú mukwananá**.

Examples of the application of this process to agent nouns in classes 1a or 1b:

- (7.218) **gbit-á**, (6a-) '1a.octopus'³⁸⁶ < **-gbit-** 'bite'
á-púk-átu, (6ă-) ³⁸⁷ '1b-premature baby' < **-púk-** 'leave quietly'
o-sumb-o, (6o-) '1b-insect, sp.'³⁸⁸ < **-sumb-** 'burn'
o-twógö, (6o-) ³⁸⁹ '1b-good speaker' < **-tú-** 'make'

³⁸⁵ Class 1 **mu-6úkut-an-á** exists but is less common; **-an-** is the Associative extension used here to indicate reciprocity, see 7.11.6.

³⁸⁶ The word **gbutá** '1a.octopus' is regarded as a river monster, e.g. **mumbánzú kamíná gbutá ókwó** 'If a man sees an octopus, he dies' (**mu-mbánzú** Ø-**kam-ín-á** **gbutá**, ó-**kw-ó** 1-man 3SG-COND:1.O-see-FV 1a.octopus 3SG^P-die-FV^P). The fatality is expressed by the Past form of the verb 'to die'.

³⁸⁷ **-tu** (following the nominalization suffix) is a realization of the Insistive enclitic **-tś**, see 7.7.4.

³⁸⁸ If its liquid comes into the eye, it hurts.

Deriving an agent noun in classes 1a or 1b from verbs is no longer productive.

Tone assignment in the derived forms in classes 1a and 1b is not regular.

b. Actions, results, instruments

The same processes that are used to derive agent nouns are employed in deriving nouns which refer to the action described by the verb (action nouns), to the product or result of an event described by the verb (result nouns) or to an instrument used to accomplish the action represented by the verb (instrument nouns). These nouns are derived by adding the nominalization suffix **-á** to the verbal base and assigning the nominal stem to a class or gender. Deriving action, result and instrument nouns is productive. The surface tone on the nominalization suffix is less regular than in the case of productive derivation to agent nouns in class 1. Here are examples of noun classes with deverbative nouns in my data. If a plural exists, its class prefix is added in brackets.

(7.219)	dúm-á, (6a-)	'1a.secret'	< -dúm-	'have sex' (man)
	a-gbǔm-a, (6a-)	'1b-brake'	< -gbǔm-	'forbid, stop'
	o-mbomb-ó, (6o-)	'1b-fright'	< -mbomb-	'fear'
(7.220)	mú-kungy-á	'3-imitation'	< -kingi-	'try'
	mú-nzún-á	'3-speech'	< -nzún-	'speak'
	mú-puly-á	'3-pardon'	< -puli-	'forgive'
	mú-wá	'3-scalpel'	< -wá-	'shave'
(7.221)	li-bín-o, (mo-)	'5-dance' ³⁹⁰	< -bín-	'dance'
	li-giny-ó, (mo-)	'5-taboo'	< -gini-	'reject'
	li-lúng-o, (mo-)	'5-breast'	< -lúng-	'nurse'
	li-dyódý-o	'5-taste'	< -dí-	'lap up, try'
	li-twótw-o	'5-making'	< -tú-	'make'
	li-kók-ó	'5-rice or maize harvest'	< -ku-	'cut'
	li-kók-ó	'5-cough'	< -kú-	'cough'

³⁸⁹ **-og-** (preceding the nominalization suffix) is the Pluractional extension **-ag-**, see 7.11.7.

³⁹⁰ This is a generic term.

(7.222)	ful-ó	'9.swelling'	< -ful-	'swell'
	píkít-á	'9.run'	< -píkít-	'run'
	ı-bıb-á	'9a-honour'	< -bıb-	'praise'
	yıtángúl-á	'9a:lamentation'	< -tángul-	'recite'
	yǐgyogyıs-ó	'9a:sorrow'	< -ǐ-gyogyıs-	'be in trouble'
	yǐgbat-á	'9a:surface'	< -gbat-	'spread'
	yǐbuník-á	'9a:airs'	< -buník-	'lift'

The class 9a prefix **ı-** is desyllabified preceding (reflexive) prefix **ǐ-** of the verbal base.

Finally, two sets of action or result nouns in classes 14 and 15:

(7.223)	Ǔu-mbomb-ó	'14-slowness to react'	< -mbomb-	'fear'
	Ǔu-Ǔung-á	'14-happiness'	< -Ǔung-	'improve'
(7.224)	kü-Ǔá ⁴ ng-á-kü	'15-fear'	< -Ǔáng-	'fear'
	kü-luk-á-kü	'15-sculpture'	< -luk-	'mould'
	kü-ǓǓǓ-Ǔ-kü	'15-lie'	< -Ǔu-	'deceive'

c. State nouns

State nouns describe a state which is the result of performing the action of the verb. Deverbative state nouns are derived from verbs by means of the addition to the verbal base of prefix **kǐ-**, the nominalization suffix **-a** and a floating H tone word-finally (like adjectives derived from verbs, see 7.12.2):

(7.225)	ki-Ǔúkuf-Ǔ	'9.s.th. bent'	< -Ǔúkuf-	'fold, bend'
	kǐ-gyagy-Ǔ	'9.s.th. turned bad'	< -gyagy-	'suffer, punish'
	kǎǎ	'9.s.th. split'	< -al-	'split'
	kǐbǓ	'9.s.th. known'	< -ib-	'know'
	kǔuso ³⁹¹	'9.s.th. asked'	< -uus-	'ask'

In the last three examples, the prefix vowel is lost through V₁-elision (see 3.3.1).

Derived state nouns are often used attributively in associative constructions, where the first noun is the head followed by an associative prefix and the state noun, e.g.:

³⁹¹ I do not know why there is a surface LH tone on the first TBU of this derived noun.

(7.226)	mu-tú	wa-kĩbĩbǎ	'a person who boasts'
	1-man	1.ASS-9.s.th. honoured	
	míkí	wa-kĩbũbũsalǎ	'a forgetful child'
	1a.child	1.ASS-9.s.th. forgotten	
	mũ-sákĩ	má-kǎǎ	'chopped firewood'
	3-firewood	3.ASS-9.s.th. split	
	li-kpumúká	lá-kĩbǔ	'a public affair'
	5-thing	5.ASS-9.s.th. known	
	ma-lílí	má-kǎmbǎ	'cooked food'
	6-food	6.ASS-9.s.th. cooked	

The verbal bases of the first two and the final example are **-ĩbub-** 'honour oneself', **-bũsal-** 'forget' and **-amb-** 'cook'.

d. Manner nouns

Manner nouns refer to the act described by the verb or the way in which it is performed. Deverbative manner nouns are derived from verbs by repeating the initial CV of the verb root, adding the nominalization suffix **-á** to the verbal base and assigning the nominal stem to class 5 (usually the plural form is not used). The first TBU of the derived stem is associated with the primary tone of the verb:

(7.227)	li-mamak-á	'5-way of throwing'	< -mak-	'throw'
	li-tútumb-á	'5-way of lifting'	< -túmb-	'lift'
	li-uusy-ó	'5-diversion'	< -usi-	'turn off course'
	li-bũbungusy-ó	'5-preparation'	< -bungusi-	'repair'
	li-bũbuuly-ó	'5-protection'	< -bũuli-	'guard'
	li-bubuuly-ó	'5-harvesting rice'	< -buuli-	'harvest'

e. Nouns derived from verbs with suffixes **-i**, **-i** or **-u**

High vowels /i u/ occur as nominalization suffix in deverbative nouns, with a wide range of meanings, including agent nouns. The nominalization suffix **-i** is [+ATR] dominant. The tone of these suffixes surfaces with a H tone, unless the suffix is preceded by a H tone. There are exceptions where the suffix has a H tone following another High.

Examples of nominalizations with suffix **-i** are:

(7.228)	a-dundĩl-í, (6a-)	'1b-anaesthesia'	< -dundĩl-	'anaesthetize'

mú-tíw-í, (tíwí)	'3-advice'	< -tíw-	'advise'
mú-támanag-í	'3-thinking'	< -támanag- ³⁹²	'remember'
mú-ngúkan-í	'3-snoring'	< -ngúkan-	'snore'
lí-kwanan-í	'5-straightness'	< -kwanan-	'should'
ḡú-síkul-í	'14-funniness'	< -síkul- ³⁹³	'insult'

Examples of nominalizations with suffix **-í** are:

(7.229) i-zong-í, (ḡe-)	'1c-idiot'	< -zǎng-	'miss the objective'
mu-wonisil-í, (ḡo-)	'1-teacher'	< -wonisili- ³⁹⁴	'teach'
mu-yoyis-í, (ḡo-)	'3-rebuke'	< -yoyis-	'admonish'
mu-yúkum-í	'3-breathing'	< -yúkum-	'breathe'
lí-ḡúnik-í, (mo-)	'5-fracture'	< -ḡúnik- ³⁹⁵	'be broken'
lí-ḡúkút-í, (mo-)	'5-birth'	< -ḡúkút-	'give birth'
ḡu-kpilil-í	'14-going down'	< -kpilil-	'slide'
ḡu-zong-í	'14-stupidity'	< -zǎng-	'miss the objective'

Examples of nominalizations with suffix **-ú** are:

(7.230) mú-gam-ú, (gamú)	'3-call' (bird)	< -gam-	'cry'
mú-pám-ú	'3-bark'	< -pám-	'scream'
mú-tú-ú	'3-advice'	< -tú-	'quote'
lí-gab-ú, (ma-)	'5-trade'	< -gab-	'sell'
límb-ú, (ma-)	'5-song'	< -ímb-	'sing'
lí-zab-ú, (ma-)	'5-bridge'	< -zab-	'cross'
bíb-ú, (ḡa-)	'9.story'	< -bíḡ-	'tell'

7.12.2 Verb-to-adjective derivation

Derivation of adjectives from verbal bases is productive. The process involves the addition of the suffix **-a** and a word-final floating H tone. Derived adjectives take

³⁹² The verb root is **-táman-** 'remember' with the Pluractional extension **-ag-**, see 7.11.7.

³⁹³ The verb root is **-síḡ-** 'insult' with the Resultative extension **-il-**, see 7.11.4.

³⁹⁴ The verb root is **-wan-** 'show' with the Causative extension **-is-** and the Benefactive extension **-il-**, see 7.11.8.

³⁹⁵ The verb root is **-ḡún-** 'break' with the Neuter extension **-ik-**, see 7.11.5.

an adjective prefix which agrees with the noun they modify. They occur in noun phrases and - when the referent is known from the context - independently.

Adjectives derived from verbs are realized with the primary tone of the verb (L or H on the first TBU) followed by L tones. The final vowel surfaces with a LH tone after the association of the word-final floating H tone. Non-automatic downstep occurs when an adjective prefix with a H tone precedes a High-toned verb, see 4.6.5.

Examples of adjectives derived from verbs with the class 5 adjective prefix, referring to *li-kpomúká* '5-thing':

(7.231)	<i>lí-⁴fǎ</i>	'5.ADJ-dried up'	< -fǎ-	'dry'
	<i>lí-pǔ</i>	'5.ADJ-rotten'	< -pū-	'rot'
	<i>lí-⁴búw-ǎ</i>	'5.ADJ-wrapped'	< -búw-	'wrap'
	<i>lí-ful-ǔ</i>	'5.ADJ-swollen'	< -ful-	'swell'
	<i>lí-gbukumy-ǎ</i>	'5.ADJ-incubated'	< -gbukumí-	'brood'
	<i>lí-⁴púmuk-ǔ</i>	'5.ADJ-sprouted'	< -púmuk-	'sprout'

Other examples include:

(7.232)a.	<i>mū-nzíná</i>	<i>mú-husy-ǔ</i>	'senseless talking'
	3-speech	3.ADJ-miss	< -husi- 'miss'
b.	<i>písi</i>	<i>yí-⁴ig-ǎ</i>	'a tortuous road'
	9.path	9.ADJ-bend	< -ig- 'bend'

Examples of non-automatic downstep in the context of two adjacent H tones across a morpheme boundary are:

(7.233)a.	<i>bo-tikító</i>	<i>bú-⁴báky-ǎ</i>	'spit saliva' ³⁹⁶
	2-saliva	2.ADJ-spit	< -bákt- 'spit'
b.	<i>gní</i>	<i>yí-⁴tán-ǎ</i>	'ripe bananas'
	9.banana	9.ADJ-ripe	< -tán- 'ripen and changing the colour'
c.	<i>mu-pumí</i>	<i>mú-⁴húkw-ǔ</i>	'an open door'
	3-door	3.ADJ-open	< -húku- 'open'

³⁹⁶ In Liko culture, spitting on the ground is a sign of reconciliation.

Remarkably, the primary L tone of the verb is changed into a H tone in derived adjectives when it is preceded by an adjective prefix with a L tone. The following examples are derived from the verbs **-bɪlɪ-** 'regain consciousness', **-bɪnk-** 'carry' and **-zakad-** 'hesitate':

- (7.234)a. mu-tú mu-bɪlɪl-ǎ 'a man who regained consciousness'
 1.man 1.ADJ-regained consciousness
- b. mǎnda mu-bɪnk-ǎ 'a carried corpse'
 1a.corpse 1.ADJ-carried
- c. míkí mu-zakadag-ǎ 'a doubtful-speaking child'
 1a.child 1.ADJ-hesitant

One adjective derived from a verb in my data has reduplicated the consonant of the verb root: **-iɓ-** 'steal', **nyamá mu-ɓiɓ-ǎ**, 1a.animal 1.ADJ-steal, 'stolen animal'.

Derived adjectives are used both attributively and predicatively, as can be seen in the following pair. The verb root in (7.235) is **-ɗɪy-** 'show anger':

- (7.235)a. nyamá mu-ɗɪy-ǎ 'a dangerous animal'
 1a.animal 1.ADJ-fierce
- b. sukopí a mu-ɗɪy-ǎ 'A leopard is dangerous.'
 1a.leopard 3SG:be 1.ADJ-fierce

When someone feels pain or when the body does not function properly, Liko speakers commonly use derived adjectives predicatively, e.g.:

- (7.236) li-kúbu kǎmɪ a lí-ful-ǎ 'My navel is swollen.'
 5-navel 1SG.POSS 3SG:be 5.ADJ-swollen
- ku-ɓɔ́kú-kɔ kǎmɪ a kú-ful-ǎ 'My arm is swollen.'
 15-arm-15 1SG.POSS 3SG:be 15.ADJ-swollen

7.12.3 Verb-to-adverb derivation

Adverbs are derived from verb stems by means of the addition of modifier prefix **ɓɪ-** and a word-final suffix **-a**. The process is not very productive. Examples include:

- (7.237) ɓí-gbatat-a³⁹⁷ 'totally (flat)' < -gbat- 'spread out'
 ɓí-sɔsɔsɔ 'hasty, speedy' < -sɔ 'weed'
 ɓí-tw-a(twatwa) 'quickly' < -tú- 'reach one's goal'

7.13 To be

The verb **-ik-** 'be' occurs in the affirmative Future, in the negative forms, in the Perfective aspect, in the Conditional and in the Subjunctive. The inflected Present 'be' is identical in form to subject prefixes (see 7.4) and the form of the inflected Past 'be' is that of a subject prefix followed by a time adverbial.

The subject prefixes in the affirmative indicative Present and Past are assumed to be suppletive forms with verbal properties, filling in for both the subject prefix and the verbal base. They can for instance not only be followed by a time adverbial, as ^H**ɓi** and ^H**ndi** in Table 31, but also by the Insistive enclitic **-tɔ́**, e.g. **a-tú** 3SG:be-INS 'he certainly is/he will be'. There is no overlap between the suppletive forms and **-ik-**, because **-ik-** does not occur in the affirmative Present and Past.

The inflected forms of **-ik-** ~ zero 'be' are:

Table 31 **-ik-** 'be', affirmative

	<u>Present</u>	<u>Past</u> (P ₁)	<u>Past</u> (P ₃)	<u>Future</u> (F ₂)
1SG	na	nǎ ɓi	nǎ ndi	niko ɓánu
2SG	wa	wǎ ɓi	wǎ ndi	wiko ɓánu
3SG/PL	a	ǒ ɓi	ǎ ndi	iko ɓánu
1PL	ta	tǒ ɓi	tǎ ndi	tiko ɓánu
2PL	má	mó ɓi	má ndi	míko ɓánu
3PL	ɓá	ɓó ɓi	ɓá ndi	ɓíko ɓánu

If the inflected form of **-ik-** 'be' is not followed by a time adverbial, it is interpreted as referring to the Present:

³⁹⁷ **ɓí-gbatata** is used with verbs indicating harvesting or destroying.

- (7.238) *nă ndi* 1SG:be *p*₃ 'I was'
 na 1SG:be 'I am'
 na ká-kún-á 1SG:be 9b-plant-FV 'I am planting'

The verb **-ik-** 'be' is used to locate a subject in space:

- (7.239)a. *na* *wánu* *kó* *buló* *kakú*
 1SG:be here PREP 9.speech 2SG.POSS
 'I am here for your speech.', i.e. I am here for you
- b. *a-lúkú* *nă* *a* *ká* *li-gbító*
 1b-man 1.DEM.I 3SG:be PREP 5:prison
 'This man is in prison.'

In (7.238) and (7.239a), **na** is a suppletive form filling in for both the subject prefix and the verbal base. The reference to the Present with the Pluractional extension, usually with imperfective meaning, employs the verbal base as in **níkogo** 1SG-be:PLUR-FV 'I am being/staying/sitting', **ńíkogo** 3PL-be:PLUR-FV 'They are being/staying/sitting'.

The negative, Perfective, Subjunctive and Conditional forms of **-ik-** are presented in the following three tables.

Table 32 **-ik-** 'be', negative

	<u>Present</u>	<u>Past</u> (<i>p</i> ₁ / <i>p</i> ₃)	<u>Future</u> (<i>F</i> ₂)
1SG	<i>nákégu</i>	<i>nákégǔ ði/ndi</i>	<i>nákíkigu bánu</i>
2SG	<i>wákégu</i>	<i>wákégǔ ði/ndi</i>	<i>wákíkigu bánu</i>
3SG	<i>ø-kégu</i>	<i>ø-kégǔ ði/ndi</i>	<i>ø-kíkigu bánu</i>
1PL	<i>tákégu</i>	<i>tákégǔ ði/ndi</i>	<i>tákíkigu bánu</i>
2PL	<i>mákégu</i>	<i>mákégǔ ði/ndi</i>	<i>mákíkigu bánu</i>
3PL	<i>ńákégu</i>	<i>ńákégǔ ði/ndi</i>	<i>ńákíkigu bánu</i>

Table 33 **-ik-** 'be', Perfective aspect

	<u>Affirmative</u>	<u>Negative</u>
1SG	níkóni	nákí'kágu
2SG	wíkóni	wákí'kágu
3SG	íkóni	Ø-kí'kágu
1PL	tíkóni	tákí'kágu
2PL	míkóni	mákí'kágu
3PL	ǂíkóni	ǂákí'kágu

Table 34 **-ik-** 'be', Conditional and Subjunctive

	<u>Conditional</u>		<u>Subjunctive</u>	
	<u>Affirmative</u>	<u>Negative</u>	<u>Affirmative</u>	<u>Negative</u>
1SG	nakikó	nákíki	níki	nakikonító(/ 'tǂgu)
2SG	wakikó	wákíki	wíki	wakikonító(/ 'tǂgu)
3SG	Ø-kikó	Ø-kíki	Ø-íki	Ø-kikonító(/ 'tǂgu)
1PL	takikó	tákíki	tíki	takikonító(/ 'tǂgu)
2PL	makikó	mákíki	míki	makikonító(/ 'tǂgu)
3PL	ǂakikó	ǂákíki	ǂíki	ǂa kikonító(/ 'tǂgu)

Ø-kíki 'if he/she/it is not' is also used to express 'except', e.g.

- (7.240) ǂengéní ǂá-sǂ ǂá-kún-i-ní séléngúndé,
 1a.other person 2.ASS-all 3PL-plant-FV.ANT-PFV 1a.peanuts
 Ø-kík-i áǂǂ ǂǂǂ aká
 3SG-COND:be-FV.NEG only 1SG.PRO CT
 'All the others have planted peanuts, except ME.'

The verb **-ik-** 'be' is used as a tensed auxiliary in conjunction with an Infinitive form (see 7.7.5), and preceding a noun phrase introduced by **na** to express 'to have':

- (7.241)a. ta na ǂa-kókú míya
 1PL:be with 2-chicken hundred
 'We have 100 chicken.'
- b. a-bǂlí ǂé-motí ǂ ndǂ na mu-sǂká kakí ǂí-tú
 1b-demon 1.NUM-one 3SG:be P₃ with 1-girl 3SG.POSS MOD-light
 'A demon had a beautiful daughter.'

8 Topics in Syntax

8.1 Introduction

This chapter pays attention to the following topics:

- verb valency and object agreement
- word order
- relative clauses
- interrogative sentences
- information structure
- comparison
- complex sentences

In section 8.2 on verb valency and object agreement, data is presented that shows that object agreement in Liko is limited to persons and to all and only nouns belonging to class 1 (and its subclasses) and 2, regardless of their semantic category. The way in which a passive meaning is expressed, is presented in section 8.2 and not together with verb extensions in Chapter 7, because the language does not have a Passive extension. It is shown that locatives do not serve as arguments.

In many Bantu languages, "word order contributes crucially to define the intended purpose of the sentence as part of the communicative event." (Beard 2003:130).

The order of subject, finite verb and objects is quite strict in Liko, with only a few cases in natural and translated texts where the object is preposed and precedes the subject. The subject never occurs postverbally. Of interest in section 8.3 on Word Order is also the order of objects.

Section 8.4 on Relative clauses provides data on relativization of subjects, objects and adjuncts. I will use the term "adjuncts" for constituents of the clause that are not included in the argument structure of the verb, such as prepositional phrases, locative or time NPs, etc. Relativization shows that objects and adjuncts can be formally distinguished in Liko by the absence or presence of a "trace" particle.

Section 8.5 presents how interrogative sentences are formed and exemplifies the question words.

In section 8.6 on Information Structure, the strategies to mark new information and contrast are presented, followed by left-dislocation and external topicalization. There is a striking similarity between left-dislocation and relativization: both processes require the trace particle when adjuncts are involved. An impression of the coding of information structure in Liko is presented in an annotated text, see Appendix 1, 1.5.1.

The sections 8.7 on comparison and 8.8 on complex sentences, including the use of Infinitives, conclude this chapter.

8.2 Verb valency and object agreement

Simple, non-derived verbs in Liko can be classified based on the number of arguments in one-place, two-place and three-place verbs. Bearth (2003:122) posits the same classification for Bantu languages in general. His four-way division of the realization of arguments also holds for Liko: they are realized as lexically specified nouns or noun phrases, as subject prefix and object prefix incorporated in the verb, as independent pronouns and as zero. The finite verb is the minimal form of the sentence.

In Liko, the subject is the constituent in the clause with which the subject prefix in the finite verb form agrees to a limited extent in number and/or noun class, see 7.4. Verbs can have up to two objects which follow the verb form (in clauses with canonical word order) and precede any adjuncts. In the case of two-place verbs, class 1 and 2 objects are obligatorily referenced by an object prefix in the verb form. In the case of verbs with more than one object, the object prefix agrees with the first object following the verb. Which object occurs as the first object is determined by the valency of the (derived) verb. For instance, the first object of a verb with the Benefactive extension is the argument expressing the beneficiary. Objects and adjuncts are formally distinguished by the requirement for adjuncts to leave the trace particle when they are left-dislocated or relativized. Other distinctions are that the occurrence of adjuncts is not constrained by the valency of the verb and that the order of adjuncts is variable. Adjuncts have no agreement prefix in the verb morphology.

8.2.1 One-place verbs

The one argument is always represented by a subject prefix in the verb form. In addition, it may occur as a lexically specified noun or noun phrase, or as an independent pronoun.

In the following two examples, the subject is represented by the subject prefix, the first person singular **na-** (**no-** after assimilation to [+ATR]), and the third person plural **ḡá-**:

- (8.1) nó-zuzũk-á ndɪ
 1SG^P-wake up-FV^P P₃
 'I woke up'

- (8.2) ḡá-pung-a ká-ag-ǎ ká mbúku
 3PL-start-FV 9b-leave-FV PREP 9grave
 'They started / They will start to leave for the grave.' (T2006.3)³⁹⁸

Examples of realizations as a noun include:

- (8.3)a. kókú álík-a
 1a.cock 3SG^P:cry-FV
 'The cock crowed.'
- b. ḡa-kókú ḡálík-a
 2-cock 3PL:cry-FV
 'The cocks crowed.' / 'The cocks will crow.'
- c. múgá a-pung-a kó-pup-ó
 3:vapour 3SG-start-FV 9b-leave-FV
 'A vapour starts to come out.' (T2006.6)

The subject is expressed by a pronoun, **ɪyí**, in:

- (8.4) ɪyí ó-kw-á-tũ ndɪ gɔní
 1.PRO 3SG^P-die-FV-INS P₃ also
 'He certainly died too.' (T2008.10)

³⁹⁸ In the context, time reference is the past. The morphology and the surface tones indicate either Past or Future.

8.2.2 Two-place verbs

The majority of Liko verbs belong to the class of two-place verbs. Grammatical agreement with the object is limited to persons and to all and only nouns belonging to classes 1 and 2, see 8.2.5. For a description of object prefixes, see 7.5.1. In the examples below, the object is a noun (in a) or only represented in the verb morphology as object prefix (in b):

- (8.5)a. Zangíyá á-'búky-ǎ ndɪ ngámá
 "Zangiya" 3SG^P:1.O-say-FV P₃ 1a.chief
 'Zangiya told the chief.'
- b. Zangíyá á-'búky-ǎ ndɪ
 "Zangiya" 3SG^P:1.O-say-FV P₃
 'Zangiya told him.'

In the following examples, the object belongs to class 1 in (8.6a, c) and to class 13 in (8.6b). The verb form does not have an object prefix in (8.6b), because the object is not in classes 1 or 2. In (8.6c), although the object is inanimate, an object prefix agrees with **kínga** '1a.bicycle', because the object belongs to class 1.

- (8.6)a. mamá a-dung-o b́ánu míkí
 1a.mother 3SG:1.O-carry-FV F₂ 1a.child
 'Mother will carry the child.'
- b. ná-pak-ǎ ndɪ tú'ká-tu kǎmɪ
 1SG^P-protect-FV P₃ 13.hair-13 1SG.POSS
 'I protected my hair.'
- c. ná-'túndul-ǎ ndɪ kínga kó kpúmó
 1SG^P:1.O-push-FV P₃ 1a.bicycle PREP 9.hill
 'I pushed the bicycle up the hill.'

In the next example, the class 2 object prefix **ǔ-** agrees with the class 2 object:

- (8.7) míkí mu-kó yi ní-nǎ ɔm-úkan-ag-a³⁹⁹
 1a.child 1-woman 1.DEM.III COP-1.DEM.I 3SG:2.O-hear-PLUR-FV

³⁹⁹ The H tone of the LH tone on the vowel of the object prefix, **ǔ-**, is associated with the initial vowel of the verb **-úkan-** 'hear'.

6a-bǎkɪ na 6a-mákɪ,
 2:1b-father:3SG.POSS and 2:1b-mother:3SG.POSS
 ik-og-o míkí wa-t-bɪbǎ ká mu-sengí
 3SG:be-PLUR-FV 1a.child 1.ASS-9a-honour PREP 3-village
 'The girl who listens to her fathers and her mothers will be a child
 of honour in the village.' (T2006.9)

8.2.3 Three-place verbs

The most common three-place or ditransitive verb in Liko is **-pá-** 'give'. The beneficiary or goal is the first object after the verb and is obligatorily represented verb-internally by object agreement. In (8.8), the object prefix agrees with the first object, the beneficiary **mbunyákɪ**. The patient **líso** occupies the second position following the verb and does not take agreement:

- (8.8) mu-kó á-⁴pá mbunyákɪ líso
 1-woman 3SG^P:1.O-give:FV 1a.husband:3SG.POSS 5:eye
 'The woman gave her husband the eye.' (T2006.10)

Other examples of 'to give' in which the goal or beneficiary is not expressed as a noun following the verb, but only as an object prefix, include:

- (8.9) a-kóngó nǎ a-tí-pag-a má-ǒúgu kú-mbúso
 1b-banana shoot 1.DEM.I 3SG-1PL.O-give:PLUR-FV 6-banana 17-back
 'This banana shoot will give us bananas later.' (T2006.7)

- (8.10) 6á-kǎ-⁴pí-gu gutúgu líbó lí-mwǒ áka⁴⁰⁰
 3PL-NEG:1.O-give:FV.ANT-NEG even 5:water 5.ADJ-drinking CT
 'They did not give him EVEN DRINKING WATER.' (T2006.2)

- (8.11) mó-do-kú ké-⁴pá 6o-tú kakí
 2PL-come:FV-DIR 9b:1SG.O-give:FV 2+9-clothes 3SG.POSS
 'You (pl) come to give me his clothes.' (T2009.21)

⁴⁰⁰ The particle **áka** indicates contrast, see 8.6.2. The contrasted phrase is marked with underlining. In the free translation, it is marked with capitals. The surface tones on **áka** are H.L. when the preceding tone is High, and L.H. when the preceding tone is Low.

8.2.4 Derived two and three-place verbs

The following extensions introduce an argument in the valency frame of the verb: Causative, Applicative and Benefactive. For a description and examples, see 7.11.

a. Causative

With the Causative extension, the causee role is introduced. An example of the Causative extension with a one-place verb is:

- (8.12) *li-syé ní-ló ðík-o kówă ndi minó*
 5-day COP-5.DEM.I 3PL^P:sit-FV thus P₃ TRACE
ká-ũ-pup-ís-ó-kú kúnu ká mu-sengí
 9b-2.O-leave-CAUS-FV-DIR here PREP 3-village
 'The day on which they sat to cause them [the boys] to leave towards the village.' (T2006.4)

The Causative extension with a two-place verb:

- (8.13) *ða-sambá ðá-va i-títí, ðó-do-kú noyú*
 2-circumcisor 3PL^P-take:FV 9a-anthill 3PL^P-come:FV-DIR with:9.PRO
ðu-dung-is-o tɔɛ a-băktí míkí íbúnú na a-máktí
 3PL^P:2.O-carry- 2SG.PRO 1b-father: 1a.child 2PL.PRO and 1b-mother:
 CAUS-FV 3SG.POSS 3SG.POSS
 'The circumcisors took an anthill, they came with it towards [you], they let them carry it, you the father of the child, you (pl) with his mother.'⁴⁰¹
 (T2006.4)

For the example in (8.14b), the basic verb **-iga-** 'return' is given in (8.14a):

- (8.14)a. *na ká-tg-ă ká li-gubó ló-tíko*
 1SG:be 9b-return-FV PREP 5-work 5.ASS-9.field
 'I am returning to the work of the field'
- b. *babă a kám-ig-ís-ó má'máktí*
 1a.father 3SG:be 9b:1.O-return-CAUS-FV 1a.brother:3SG.POSS
 'Father is causing his brother to return.'

⁴⁰¹ In the context, time reference is the past. The morphology and the surface tones indicate either Past or Future.

In (b), the causee is a class 1a noun. The epenthetic /m/ of the object prefix reveals the presence of the object prefix.

b. Applicative

The Applicative extension **-t-** introduces an argument with the semantic role of patient or beneficiary. An example of the transitive verb **-ndindil-** 'tie up securely with a rope'⁴⁰² without the Applicative extension is:

- (8.15) má'mámu á-ndindil-ǝ ndi mémí ká lɪdɪlú lá-ndábu
 1a.brother: 3SG^P:1.O-tie-FV P₃ 1a.goat PREP 5-post 5.ASS-9.house
 1SG.POSS
 'My brother tied up a goat at a doorpost of the house.'

The Applicative extension introduces a beneficiary role to the valency of the verb:

- (8.16) má'mámu á-ndindil-y-ǝ ndi mu-twótwo mémí ká lɪdɪlú
 1a.brother: 3SG^P:1.O-tie- P₃ 1-blacksmith 1a.goat PREP 5-post
 1SG.POSS APPL-FV
 'My brother tied up a goat at a doorpost for the blacksmith.'

Switching the position of the beneficiary and the patient renders the sentence semantically strange, because the first object is understood to be the beneficiary:

- (8.17) ??má'mámu á-ndindil-y-ǝ ndi mémí mu-twótwo ká lɪdɪlú
 1a.brother: 3SG^P:1.O-tie- P₃ 1a.goat 1-blacksmith PREP 5-post
 1SG.POSS APPL-FV
 'My brother tied up the blacksmith at a doorpost for a goat.'

If both the goal or beneficiary and the patient are human and only one is expressed, the sentence becomes ambiguous, as in:

- (8.18) má'mámu á-ndindil-y-ǝ ndi mu-twótwo ká lɪdɪlú
 1a.brother:1SG.POSS 3SG^P:1.O-tie-APPL-FV P₃ 1-blacksmith PREP 5-post
 'My brother tied him up at a doorpost for the blacksmith.' /
 'My brother tied up the blacksmith at a doorpost for him.'

⁴⁰² Possibly this verb form has a lexicalized Resultative extension **-ɪl-**.

(d) is still ruled out, because there is no object prefix. Only (a) is correct, which has both the Applicative extension and the class 1 object prefix which agrees with **má'máki**.

c. Benefactive

The Benefactive extension **-ili-** indicates that the action is beneficial to a person or disadvantageous to a person. The Benefactive extension introduces an argument with the semantic role of beneficiary. When the basic verb is transitive, the object of the basic verb loses its status as first object when the verb has the Benefactive extension, as is apparent by the position of the object with respect to the verb and by the agreement relation with the object prefix. The new argument of the verb, derived with the Benefactive extension, takes over as first object.

An example of the Benefactive extension with a one-place verb, **-kú-** 'die':

- (8.21) tá-'kw-íly-á ndi gbukó
 1PL^P:1.O-die-BEN-FV^P P₃ 1a.rat
 'We died for rat.' (T2006.3)

The Benefactive extension with a two-place verb licences a third argument, e.g.

-pik- 'build':

- (8.22) 6a-bugwáki 6ú-pik-ily-o 6a-tité ndáðu
 2-uncle:3SG.POSS 3PL:2.O-build-BEN-FV 2-old person 9.house
 'His uncles built / will build⁴⁰³ a house for the old people.'

8.2.5 Object agreement

Liko is a so-called OM-1 language (Bearth 2003:124): a maximum of one object marker inside the verb form is allowed. Liko shows grammatical agreement between the first object and the object prefix in the verb. Object marking is not related to semantic roles or to the semantic category of the noun. Agreement is limited to speech participants, third person singular and plural and to all and only

⁴⁰³ For **6ú-pik-ily-o**, it is not possible to know whether a prefixal H tone of the Past TAM melody is present; if it is present, it merges with the underlying H tone of the third person plura subject prefix **6á-**.

nouns belonging to classes 1 and 2 (including subclasses of class 1); for these, object agreement is compulsory.

- (8.23)a. ɓa-wanzá ɓá-^hkúl-a mémí
 2-boy 3PL:1.O-untie-FV 1a.goat
 'The boys untied / will untie the goat.'
- b. ɓa-wanzá ɓú-kúl-a ɓa-mémí
 2-boy 3PL:2.O-untie-FV 2-goat
 'The boys untied / will untie the goats.'

In (a), the L tone of the class 1 object prefix ɓ- has caused the non-automatic downstep, see 4.6.5. In (b), ɓú- is the realization after V₁-elision of the vowel of the third person plural subject prefix ɓá- preceding the class 2 object prefix ɓ-. The L tone of the object prefix contour has been removed through L-tone deletion, see 4.6.4.

The following examples show that the verb form contains only one object prefix in clauses where two objects occur. The first object (if it belongs to classes 1 or 2) is coded in the verb form by means of an object prefix, but the second object is not agreement marked.

- (8.24)a. Bókótógi u-kúmb-o ɓo-míkí
 "Bókótógi" 3SG:2.O-carry-FV 2-child
 'Bokotogi will carry the children.'
- b. Bókótógi a-kúmb-ily-a má^hmákt ɓo-míkí
 "Bókótógi" 3SG:1.O-carry-BEN-FV 1a.sister:3SG.POSS 2-child
 'Bokotogi will carry the children for her sister.'

An object prefix in the verb form which agrees with the second object **ɓomíkí**, renders the sentence ungrammatical:

- (8.25) *Bókótógi ũ-kúmb-ily-o má^hmákt ɓo-míkí
 "Bókótógi" 3SG:1.O:2.O-carry-BEN-FV 1a.sister:3SG.POSS 2-child
Int. 'Bokotogi will carry the children for her sister.'

If the beneficiary is the first person plural (object prefix **tí-**), there is no sign of the class 2 object prefix (**ɓ-**):

- (8.26) Bókótógi a-tí-kúmb-ily-o 6o-míkí
 "Bókótógi" 3SG-1PL.O-carry-BEN-FV 2-child
 'Bokotogi will carry the children for us.'

A remarkable characteristic of object agreement in Liko is that it concerns persons and all and only nouns of class 1 (and its subclasses) and 2.

In the following examples, the object **séléngúndé** 'peanut' is inanimate, but it belongs to class 1a, as can be seen from the class 1 concord of the associative prefix **wa**:

- (8.27) 6í-dígt-dígt ábe séléngúndé wa-í-kpodoyíya
 MOD-soft like 1a.peanut 1.ASS-1c-peanut butter cooked in water
 'soft like peanuts of peanut butter cooked in water'

When **séléngúndé** is the object of the verb, this is obligatorily marked by means of an object prefix because of its noun-class membership. In (8.28a), the presence of the class 1 object prefix blocks further [+ATR] spreading and causes non-automatic downstep. Because the object in (8.28b), **ndikó**, belongs to class 9, there is no object agreement and no object prefix is allowed:

- (8.28)a. na ká-⁴kóng-ó séléngúndé (*kó-kóng-ó)
 1SG:be 9b:1.O-roast-FV 1a.peanuts (9b-roast-FV)
 'I am roasting peanuts.'
- b. na kó-kóng-ó ndikó (*ká-⁴kóng-ó)
 1SG:be 9b-roast-FV 9.palm-nut pit (9b:1.O-roast-FV)
 'I am roasting palm-nut pits.'

In similar examples, the object prefix is obligatorily present in (8.29a) and obligatorily absent in (8.29b):

- (8.29)a. bá kúwă ndi ká-⁴mbímb-ó séléngúndé
 3PL^P:be thus P₃ 9b:1.O-throw-FV 1a.peanuts
 'They were throwing peanuts.'
- b. bá kúwă ndi kó-mbímb-ó ma-tá-mu
 3PL^P:be thus P₃ 9b-throw-FV 6-stone-6
 'They were throwing stones.'

In (a), **kómbímbó** is not acceptable, whereas in (b), **ká⁴mbímbó** is not allowed.

frequent and the second is rare. The language prefers active sentences. In sentences where the agent is present, an active construction must be used.

Examples of the use of an indefinite personal form are given first. In the one below, details are given about the way in which the body of a dead man is cooked:

- (8.33) *ma-kóló kakí bámb-a na súyí*
 6-meat 3SG.POSS 3PL^P:cook-FV with 9.seed
 'His meat was prepared with condiment.' (T2006.2)

In a story where a man was put to the test to see if he could endure hunger:

- (8.34) *á-syé mu-kaká, kání bá-ká-⁴pí-gu* gutúgu
 3SG^P-pass:FV 1.ADJ-alone when 3PL-NEG:1.O-give:FV.ANT-NEG even
líbó lí-mwǒ áka
 5:water 5.ADJ-drinking CT
 'He passed [the night] alone, while they did not give him / he was not given EVEN DRINKING WATER.' (T2006.2)

In the following two examples, both an active and a passive interpretation are possible. At the end of a technical instruction about making body oil from palm-nut pits, the author adds:

- (8.35) *mbiké yi ní-yó bó-kóng-og-o minó ndikó*
 9.pot 9.DEM.III COP-9.DEM.I 3PL^P-roast-PLUR-FV TRACE 9.palm-nut pit
bó-mw-ág-a-tú minó líbó kyé o-lumb-is-og-o
 3PL^P-drink-PLUR-FV-INS TRACE 5:water because 3SG-smell-CAUS-PLUR-FV
líbó lá-nza kúgbé
 5:water 5.ASS-good very
 '[From] that pot (exclusive) in which palm-nut pits were roasted,
 they often drink water / often water is drunk, because because it will
 cause the water to taste very good.' (T2006.6)

An indefinite personal form is often used when a name of a character in a story is given. In the following example, the full name of the man is Kíbigu Kádígyá⁴⁰⁴.

⁴⁰⁴ The meaning of *Ø-kíb-i-gu ká-dígy-ǎ*, 3SG-NEG:know-FV-NEG 9b-say-FV, is: 'he will not know [what] to say'.

- (8.36) ká 6u-kúđú 6á-kɔg-ɔ kúwǎ ndi 6é Kíbi
 PREP 14-shortness 3PL^P-cut:PLUR-FV thus P₃ COMP "Kibi"
 'For shortness, people cut it [short] to Kibi / it was cut [short] to Kibi.'
 (T2006.1)

Examples of possible passive interpretation in relative clauses:

- (8.37)a. natókónyĩ 6i níné ní-nǎ
 1SG-find-FV.ANT P₁ 1a.aunt COP-1.DEM.I
 6á-sukús-íly-á ndúku 6o-tú
 3PL^P-wash-BEN-FV^P P₂ 2+9-clothes
 'I found the aunt for whom they washed clothes / for whom clothes
 were washed.' (T2006.6)
- b. ǎ ndi ní-só
 3SG^P:be P₃ COP-19.DEM.I
 6á-lík-y-ag-ǎ ndi 6é si-múí-sɔ sí-dingĩ
 3PL^P-call-APPL-PLUR-FV P₃ COMP 19-circumcision-19 19.ADJ-big
 'There was that one which they called / which was called big
 circumcision.' (T2006.4)

The other strategy to express passive meaning is by indirect causation, a combination of the reflexive prefix and the Causative extension, e.g.:

- (8.38)a. ni-6ún-ís-i
 1SG:REFL-break-CAUS-FV.ANT
 'I was broken.' (I let myself be broken)
- b. ta ká-i-tóng-ís-ó
 1PL:be 9b-REFL-count-CAUS-FV
 'We are counted.' (We let ourselves be counted)
- c. mamá a ká-ĩ-bum-ís-ó
 1a.mother 3SG:be 9b-REFL-hit-CAUS-FV
 'Mother is beaten.' (Mother let herself be beaten)

If the agent is human and expressed in the sentence, using the reflexive prefix in combination with the Causative extension is not possible. The sentence has to be rephrased in order to make the agent the syntactic subject:

- (8.39)a. *mamá a ká-i-bum-ís-ó na a-lókú nǝ
 1a.mother 3SG:be 9b-REFL-hit-CAUS-FV with 1b-man 1.DEM.I
Int. 'Mother is beaten by that man.'
- b. a-lókú nǝ a ká-bum-á mamá
 1b-man 1.DEM.I 3SG:be 9b:1.O-hit-FV 1a.mother
 'That man is beating mother.'

In eliciting sentences using French passive voice with a human agent as input, Liko speakers consistently return to active sentences in which the agent is the syntactic subject. For example, in the question and answer *Par qui as-tu été enseigné aujourd'hui ?* 'By whom were you taught today?' and *J'ai été enseigné par la nouvelle enseignante* 'I was taught by the new teacher', only the translations given below are acceptable for the question and the answer:

- (8.40)a. waní nǝ u-wonís-íl-i na ɬ-syé ní-ɬ ?
 1a.who 1.DEM.I 3SG:2SG.O-teach-RES-FV.ANT with 5-day COP-5.DEM.II
 'Who taught you today?'
- b. mu-wonisilí wa-mbɪya nǝ e-wonís-íl-i
 1-teacher 1.ASS-new 1.DEM.I 3SG:1SG.O-teach-RES-FV.ANT
 'The new teacher taught me.'

In translated biblical texts, the passive voice is always an active sentence in Liko if the agent is a person as in (8.41a) and nearly always if the agent is not a person as in (8.41b):

- (8.41)a. Kúnzi á-ʰík-o-kú malaíka Gabilieli
 1a.God 3SGP:1.O-send-FV-DIR 1a.angel "Gabilieli"
 'God sent the angel Gabriel.' (*translated Luke 1:26*)
- b. ɬ-ḃése á-wany-a kúwǎ ndɪ ɪyí
 5-fate 3SGP:1.O-show-FV thus P₃ 1.PRO
 'The lot pointed at him.' (*translated Luke 1:9*)

An example in which the agent is not a person and where the reflexive prefix combined with the Causative extension is used, is:

- (8.42) mu-kó ḃé-motí ní-nǝ míkakí mu-kó yí
 1-woman 1.NUM-one COP-1.DEM.I 1a.child:3SG.POSS 1-woman 1.DEM.III

ă ndi ká-ĩ-gyogy-ís-ó na lu-lumbá
 3SG-be P₃ 9b-REFL-suffer-CAUS-FV with 5-spell
 'A woman whose daughter was suffering from a spell.' (*translated Mark 7:25*)

The agent is expressed following **na**.

8.2.7 Locatives

Locatives phrases are not part of the argument structure of Liko verbs. They are obligatorily preceded by a preposition, unless they are locative nouns.

Relativization or left-dislocation of prepositional phrases or class 17 locative nouns requires the trace particle, which distinguishes adjuncts from objects (see 8.4 and 8.6.3).

In (8.43), leaving out the preposition renders the sentence ungrammatical:

- (8.43)a. kasínzí ó-pup-ă ndi ká lu-bíso
 1a.mouse 3SG^P-come out-FV P₃ PREP 5-hole
 'The mouse came out of the hole [in the ground].'
- b. *kasínzí ó-pup-ă ndi lu-bíso
 1a.mouse 3SG^P-come out-FV P₃ 5-hole

Increasing the valency of the verb by means of the Applicative extension, as in (8.44b), does not make the preposition redundant nor licence the locative phrase:

- (8.44)a. mu-kó míkămi ó-pup-ă ndi ká ndábu
 1-woman 1a.child:1SG.POSS 3SG^P-come out-FV P₃ PREP 9.house
 'My daughter-in-law came out of the house.'
- b. *mu-kó míkămi ó-pup-y-ă ndi ndábu
 1-woman 1a.child:1SG.POSS 3SG^P-come out-APPL-FV P₃ 9.house

If **-pup-** 'come out' has the Applicative extension, the additional argument designates a reason, e.g.:

- (8.45) mu-kó míkămi ó-pup-y-ă ndi ká ndábu
 1-woman 1a.child:1SG.POSS 3SG^P-come out-APPL-FV P₃ PREP 9.house
 ká-ınd-á ká li-bí kakí
 9b-go-FV PREP 5-clan 3SG.POSS
 'My daughter-in-law came out of the house to go to her family.'

In the following pair, the noun in the prepositional phrase becomes the patient of the verb with the Applicative extension:

- (8.46)a. 6a-mbánzú 6i ní-6ó 6ó-sil-ă ndt ka-a-bulí
 2-person 2.DEM.III COP-2.DEM.I 3PL^P-arrive-FV P₃ GEN-1b-demon
 'Those men arrived at [the place of] a demon.'
- b. 6a-mbánzú 6i ní-6ó 6á-sil-y-ă ndt a-bulí
 2-person 2.DEM.III COP-2.DEM.I 3PL^P:1.O-arrive- P₃ 1b-demon
 APPL-FV
 'Those men met a demon.'

8.3 Word order

8.3.1 Clause structure

The canonical word order in Liko is S V O₁ O₂ (X_n), where "S" refers to the subject, "O₁" to the first object, "O₂" to the second object and "X" to adjuncts. First the order of the arguments S, O₁ and O₂ with respect to each other and the verb is described. S, O₁ and O₂ are full NPs or pronouns. Agreement prefixes for subjects and for class 1 or 2 first objects are obligatory, regardless of whether S and O₁ are full NPs or not.

The clause in (8.47a) shows that a full subject NP can be left out, but not the subject prefix on the verb, as in (8.47b):

- (8.47)a. o-gbit-í 6i 6u-síyo ní-6ó
 3SG-fell-FV.ANT P₁ 14-tree COP-14.DEM.I
 'He felled this tree.'
- b. *Makánzyálá gbit-í 6i 6u-síyo ní-6ó
 "Makánzyálá" fell-FV.ANT P₁ 14-tree COP-14.DEM.I
Int. 'Makanzyala felled this tree.'

This is also the case with respect to objects. The clause in (8.48a) shows that a full object NP can be left out, but not the object prefix on the verb, which agrees with the first object if it belongs to classes 1 or 2, as in (8.48b):

- (8.48)a. a ká-ă-kpumy-ó kó tutú
 3SG:be 9b-2.O-hunt-FV PREP 9.forest
 'He is hunting them in the forest.'

- b. *a kó-kpummy-ó 6a-nyamá kó tutú
 3SG:be 9b-hunt-FV 2-animal PREP 9.forest
 Int. 'He is hunting animals in the forest.'

An object preceding the subject or the verb is rare. The only case found in the ten texts in Appendix 1 is:

- (8.49) mu-kúmbó kakú, wã-maky-a ká ndábu kakú
 1-luggage 2SG.POSS 2SG:1.O-put in-FV PREP 9.house 2SG.POSS
 'Your belongings, you will store in your house.' (*T2006.8*)

In this text, the object NP is the topic of the clause and it is followed by a short pause. Preposing like this is analysed as an external topic (see 8.6.4).

If both subject and object have the same person and number features, the subject and object prefixes do not identify their syntactic function and semantic role. In these cases of unresolved ambiguity, speakers of the language fall back on the canonical SVO word order to disambiguate the meaning of the sentence. If a clause contains more than one object, the order of the objects is determined by the valency of the verb. With three-place verbs, the object with the beneficiary role occurs as the first object. It is followed by the patient or goal. When a semantic role is introduced in the valency of a two-place verb, the object with the new semantic role obligatorily is the first object.

Time adverbials follow the verb form and occur preceding the first object. In (8.50a), **nzúyɪ** follows the verb and the time adverbial ^H**ndɪ**. (8.50b) is ungrammatical, because the object precedes the time adverbial:

- (8.50)a. 6a-ttɛ 6í-tikil-og-ǎ ndɪ nzúyɪ na mo-lingó mó-pi
 2-old person 3PL^P:REFL-rub- P₃ 9.body with 6-oil 6.ASS-black
 PLUR-FV
 'The forefathers used to rub their bodies in with black oil.' (*T2006.6*)
- b. *6a-ttɛ 6í-tikil-og-ǎ nzúyɪ ndɪ na mo-lingó mó-pi
 2-old person 3PL^P:REFL-rub- 9.body P₃ with 6-oil 6.ASS-black
 PLUR-FV

The object prefix in the verb form agrees with the first object if the object belongs to classes 1 or 2. Object agreement does not allow a first object to follow another object in the clause:

- (8.51)a. mu-tiky-íly-ó míkí mu-pumí
 1.O-close-BEN-FV.IMP 1-child 3-door
 'Close the door for the child!'
- b. *mu-tiky-íly-ó mu-pumí míkí
 1.O-close-BEN-FV.IMP 3-door 1-child

In (a), the first object with beneficiary role, **míkí**, is the first object following the verb with the Benefactive extension. Although **míkí** is referenced by the class 1 object prefix **mu**⁴⁰⁵, inversion of the two objects as in (b) is ungrammatical. The object **mupumí** of the basic transitive verb is not allowed to occur as the first object when the verb has the Benefactive extension.

In (8.52a), **ḡanyamá** is the first object following the basic transitive verb. In (8.52b), where the verb has the Benefactive extension, the beneficiary, **bugwákɪ**, is the first object. The object prefix agrees with the first object. (8.52c) is ungrammatical, because the new argument of the Benefactive extension is not the first object.

- (8.52)a. Tapanóḡi a ká-ũ-kpumy-ó ḡa-nyamá
 Tapanoḡi 3SG:be 9b-2.O-hunt-FV 2-animal
 'Tapanoḡi is hunting animals.'
- b. Tapanóḡi a ká-kpumyíly-ó bugwákɪ ḡa-nyamá
 Tapanoḡi 3SG:be 9b:1.O-hunt:BEN-FV 1a.uncle:3SG.POSS 2-animal
 'Tapanoḡi is hunting animals for his uncle.'
- c. *Tapanóḡi a ká-kpumyíly-ó ḡa-nyamá bugwákɪ
 Tapanoḡi 3SG:be 9b:1.O-hunt:BEN-FV 2-animal 1a.uncle:3SG.POSS
 Int. 'Tapanoḡi is hunting animals for his uncle.'

⁴⁰⁵ The class 1 object prefix in Imperative forms.

Adjuncts follow objects the canonical word order, as stated at the beginning of this section. Nouns functioning as adjuncts are usually preceded by a preposition. Class 17 locative nouns occur as adjuncts without a preposition.

It is ungrammatical to have an adjunct between the verb and an object. **ká nzúyɪ** 'on the body' has to follow the object:

- (8.53)a. mo-lingó mó-pi a-mwóg-ɔ pándá ká nzúyɪ
 6-oil 6.ASS-black 3SG/PL-kill:PLUR-FV 9.scabies PREP 9.body
 'Black oil will kill scabies on the body.'
- b. *mo-lingó mó-pi a-mwóg-ɔ ká nzúyɪ pándá
 6-oil 6.ASS-black 3SG/PL-kill:PLUR-FV PREP 9.body 9.scabies
- (8.54)a. Tapanóɓi a ká-ũ-kpumy-ó ɓa-nyamá kó tutú
 "Tapanoɓi" 3SG:be 9b-2.O-hunt-FV 2-animal PREP 9.forest
 'Tapanoɓi is hunting animals in the forest.'
- b. Tapanóɓi a ká-kpumy-íly-ó bugwákɪ ɓa-nyamá kó tutú
 "Tapanoɓi" 3SG: 9b:1.O-hunt-BEN- 1a.uncle: 2-animal PREP 9.forest
 be FV 3SG.POSS
 'Tapanoɓi is hunting animals in the forest for his uncle.'
- c. *Tapanóɓi a ká-kpumy-íly-ó bugwákɪ kó tutú ɓa-nyamá
 "Tapanoɓi" 3SG: 9b:1.O-hunt-BEN- 1a.uncle: PREP 9.forest 2-animal
 be FV 3SG.POSS

(c) is ungrammatical because an adjunct, in this case **kó tutú** 'in the forest', cannot occur between two objects.

- (8.55)a. Makánzyálá⁴⁰⁶ o-gbit-í ɓi ɓu-síyo ní-ɓó
 "Makánzyálá" 3SG-fell-FV.ANT P₁ 14-tree COP-14.DEM.I
 'Makanzyala felled this tree.'

⁴⁰⁶ Makánzyálá is a name for a boy who is born after his mother has given birth to twins. Another name for a boy born after twins is Nébésé. When a girl is born after twins, she will be called Bókótógi or Ingulí. Common names for twins are Nángáa, Sengí (for boys) and Nató, Ídeyí (for girls). In the case of triplets, the third child is given one of the names just mentioned for a child who is born after twins. In Liko, the word for 'a twin' is cl. 1 **mu-ɓígi** and the word for 'a child born after twins' is cl. 1 **mu-kɔɓɓ**.

- b. Makánzyálá o-gbit-í ɓi ɓu-síyo ní-ɓɔ kú-syáku
 "Makánzyálá" 3SG-fell-FV.ANT P₁ 14-tree COP-14.DEM.I 17-side across
 a river
 'Makanzyala cut this tree across the river.'
- c. Makánzyálá o-gbit-í ɓi ɓu-síyo ní-ɓɔ
 "Makánzyálá" 3SG-fell-FV.ANT P₁ 14-tree COP-14.DEM.I
 kú-syáku í⁴syéyikūɓi na ɓu-gɔgɔ na gbɔní kakí
 17-side across a river yesterday with 14-sunset with 9.axe 3SG.POSS
 'Makanzyala felled this tree across the river yesterday evening with his
 axe.'

The order of adjuncts is variable, as the following examples show. (8.56b - g) are acceptable ways to continue the clause started in (8.56a):

- (8.56)a. Tapanóɓi a ká-ũ-kpomy-ó ɓa-nyamá
 Tapanoɓi 3SG:be 9b-2.O-hunt-FV 2-animal
 'Tapanoɓi is hunting animals ...'
- b. kó tutú ká ɓu-sóɓi ɓá-de na ɓe-nvá ɓá-ɓǎ
 PREP 9.forest PREP 14-sunrise 14.ASS-cold with 2:1c-dog 2.NUM-two
 ... in the forest at daybreak with two dogs.'
- c. kó tutú na ɓe-nvá ɓá-ɓǎ ká ɓu-sóɓi ɓá-de
 PREP 9.forest with 2:1c-dog 2.NUM-two PREP 14-sunrise 14.ASS-cold
 ... in the forest with two dogs at daybreak.'
- d. ká ɓu-sóɓi ɓá-de kó tutú na ɓenvá ɓá-ɓǎ
- e. ká ɓu-sóɓi ɓá-de na ɓenvá ɓá-ɓǎ kó tutú
- f. na ɓenvá ɓá-ɓǎ kó tutú ká ɓu-sóɓi ɓá-de
- g. na ɓenvá ɓá-ɓǎ ká ɓu-sóɓi ɓá-de kó tutú

The preferred orders are location, time and manner as in (b), or location, manner and time as in (c).

Adjuncts which express manner or instruments generally occur at the end of the clause. The following sentence exemplifies an instrument adjunct:

- (8.57) Makánzyálá o-gbit-í ɓu-síyo kú-syáku
 "Makánzyálá" 3SG-fell-FV.ANT 14-tree 17-side across a river
 na gbɔní kakí yá-mbɪya
 with 9.axe 3SG.POSS 9.ASS-new
 'Makanzyala felled this tree with his new axe across the river.'

Clauses with instrument adjuncts occurring before other adjuncts are judged not well-formed. In particular when instrument adjuncts are longer phrases, the clauses are deemed hardly acceptable, as in:

- (8.58) ??Makánzyálá o-gbit-í bi bu-síyo ní-bó
 "Makánzyálá" 3SG-fell-FV.ANT P₁ 14-tree COP-14.DEM.I
 na gbóní kakí yá-mbɪya kú-syáku í'syɛyikũbi
 with 9.axe 3SG.POSS 9.ASS-new 17-side across a river yesterday
 'Makanzyala felled this tree with his new axe across the river yesterday.'

When asked to split clauses with three adjuncts as in (8.59a) in two, the Liko consultants prefer to put the instrument adjunct in a separate clause (8.59b, c).

- (8.59)a. Tapanóɓi a ká-kpumy-íly-ó bugwákɪ ɓa-nyamá
 "Tapanóɓi" 3SG:be 9b:1.O-hunt-BEN-FV 1a.uncle:3SG.POSS 2-animal
 kó tutú ká ɓu-sóɓɪ ɓá-de na ɓɛ-nvá ɓá-ɓǎ
 PREP 9.forest PREP 14-sunrise 14.ASS-cold with 2:1c-dog 2.NUM-two
 'Tapanoɓi is hunting animals for his uncle in the forest at daybreak with two dogs.'
- b. Tapanóɓi a na ɓɛ-nvá ɓá-ɓǎ.
 "Tapanóɓi" 3SG:be with 2:1c-dog 2.NUM-two
 A ká-kpumy-íly-ó bugwákɪ ɓa-nyamá
 3SG:be 9b:1.O-hunt-BEN-FV 1a.uncle:3SG.POSS 2-animal
 kó tutú ká ɓu-sóɓɪ ɓá-de.
 PREP 9.forest PREP 14-sunrise 14.ASS-cold
 'Tapanoɓi has two dogs. He is hunting animals for his uncle in the forest at daybreak.'
- c. Tapanóɓi a ká-kpumy-íly-ó bugwákɪ ɓa-nyamá
 "Tapanóɓi" 3SG:be 9b:1.O-hunt-BEN-FV 1a.uncle:3SG.POSS 2-animal
 kó tutú ká ɓu-sóɓɪ ɓá-de.
 PREP 9.forest PREP 14-sunrise 14.ASS-cold
 A na ɓɛ-nvá ɓá-ɓǎ.
 3SG:be with 2:1c-dog 2.NUM-two
 'Tapanoɓi is hunting animals for his uncle in the forest at daybreak. He has two dogs.'

8.3.2 Non-verbal clauses

Simple clauses without finite verbs are used mainly for descriptive purposes. Non-verbal clauses are also attested for direct speech, questions and the introduction of proper names.

A verb may be absent when some characteristic of the subject is expressed by a property denoting predicate:

- (8.60) *mu-lúkú mazyazyá ká li-mbengi bí-kpí*
 1-man 9.joy PREP 5-heart MOD-full
 'The man [was] happy to the heart full.', i.e. overjoyed (*T2006.1*)

- (8.61) *tíko bí-beḑe-beḑe na ma-lílí*
 9.field MOD-full up to the brim with 6-food
 'The field [was] completely full with food.' (*T2006.3*)

- (8.62) *bé kyé í-kwĩ yí-ná, ba-mbáńzú bí-kókóló-kokolo*
 in order that 9a-looking 9.DEM.II-CONN 2-person MOD-stiff
 'By looking, people [had become] stiff.' (*T2006.1*)

- (8.63) *bú-galóbi, mú-nzonzó ma-ndă*
 14-the day after tomorrow 3-long rain 6.ASS-long
 'The next day, [there was] a long rain.' (*T2006.1*)

Property denoting predicates can be preceded by a suppletive form of the verb 'to be' (see 7.13). Examples include:

- (8.64)a. *pété a yó-wililĩ*
 9.ring 3SG:be 9.ASS-round
 'The ring is round.'
- b. *li-gugú a lá-nza*
 5-reed 3SG:be 5.ASS-good
 'It is a nice reed.'
- c. *ba-né-kókó bá bá-pǔpu*
 2-na:1-instrument 3PL:be 2.ASS-hard
 'Nekokos (musical instruments) are very hard (sound).'

- d. li-gubó lá-saḃüni a lá-pǔpu kúgbɛ
 5-work 5.ASS-1a.soap bar 3SG:be 5.ASS-hard very
 'The work (making) of a soap bar is very difficult.' (T2006.5)

In comparisons involving **ábe** 'like', the finite form of a verb may be left out. In (8.65a), a suppletive form of the verb 'to be' is present; in (8.65b), it is not:

- (8.65)a. míkí mu-kó yĩ a ábe síḃá
 1a.child 1-woman 1.DEM.III 3SG:be like 9.ivory
 'A girl is like ivory.' (T2006.9)
- b. míkí mu-kó yĩ ábe pápá yá-li-kíngo.
 1a.child 1-woman 1.DEM.III like 9.calabash 9.ASS-5-raffia.
 'The girl [is] like raffia calabash.', i.e. with a very soft skin (T2006.2)

In non-verbal clauses, the descriptive element can be an ideophone which expresses the action involved, as in:

- (8.66) kánga ḃí-wɛɛɛ
 1a.guinea-fowl MOD-"wɛɛɛ"
 'The guinea-fowl "wɛɛɛ".', i.e. raised itself
- (8.67) líso ḃí-nzɛɛɛ ḃí-kɛ ká mu-lígi
 5:eye MOD-"nzɛɛɛ" MOD-"kɛ" PREP 3- vine
 'The eye "nzɛɛɛ" "kɛ" against a vine.', i.e. it fell and broke against a vine
- (8.68) sukopí míso ḃí-nganganga
 1a.leopard 6:eye MOD-stare wide-eyed
 'Leopard [looked] eyes wide open.' (T2006.3)

In equative sentences, the invariable copula **ni** links the two elements. If two noun phrases have the same referent, whether they are singular or plural, animate or inanimate, they are connected by **ni** 'COP'. For example:

- (8.69)a. li-gugú ni li-tóníto
 5-reed COP 5-weed
 'A reed is a weed.'
- b. ḃa-né-kókó ni ḃe-sú ḃoyó-dumó
 2-na:1-instrument COP 2+9:9a-instrument 2+9.ASS-9.dance
 'Nekokos are instruments to accompany a dance.'

- c. mu-kó ka-ttṛ́é nṛ titósú
 1-woman GEN-1a.old person COP 1a.old person:1PL.POSS

'The wife of our grandfather is our grandmother.'

In the case of negation, the third person singular negative form of **-ik-** 'be', **kégu**, follows **m**.

The main clause preceding direct speech or an indirect order using a Subjunctive is usually non-verbal. These clauses are characterized by **na** 'with', which precedes the interlocutor and the complementizer **ḃé** (**ḃé** occurs at the end of the clause and is followed by a pause):

- (8.70) ɪyí áka na ngámá ka-ḃo-nzikaḃú ḃé:
 1.PRO only with 1a.chief GEN-2-man without mercy COMP
 ngámá, na kápă ku-kwá-ku
 1a.chief 1SG:be 9b-want:FV 15-death-15
 'He [said] to the chief of the robbers: "Chief, I am longing to die." '
 (T2009.21)

- (8.71) Ká Ngasá áka na ɪyí ḃé: wɪnd-á ká lṛ-kḃ
 "Ka Ngasa" only with 1.PRO COMP 2SG:go-FV.IMP PREP 5-spring
 'Ka Ngasa [said] to him: "Go to a spring." ' (T2006.1)

- (8.72) á kúwă ndṛ lṛ-syé lí-motí, síbĩ ḃá-dw-an-an-a
 3SG:be thus P₃ 5-day 5.NUM-one 1a.tortoise 3PL^p-offend-ASS-ASS-FV
 na mbungú, ɪyí áka na ɪyí ḃé:
 with 1a.elephant 1.PRO only with 1.PRO COMP
 yě mbungú, wa-kem-in-o-ní ʔtṣ-gu ḃu-kédě
 excuse me! 1a.elephant 2SG-NEG:1SG.O-see-FV-NEGSUBJ INS-NEG 14-small
 'One day, tortoise quarrelled with elephant, he [said] to him: Excuse me!
 Elephant, do not see me [as someone who is] small.' (T2007.14)

In the examples above, **áka** does not indicate contrast (see 8.6.2 for contrast). In these constructions, it concerns the adverbial **áka** 'only', which optionally follows the speaker and can be left out, as in:

8.4 Relative clauses

In this section, headed relative clauses are described first, followed by headless relative clauses. Headed relative clauses modify a noun, the nominal head. They regularly occur at the end of the noun phrase following other elements. Relative clauses are linked to the head noun by means of the copula and a demonstrative. The demonstrative agrees with the head noun (see 6.1.2). Arguments and adjuncts can be relativized, but relativization of adjuncts requires the presence of the trace particle *minó*. There is no relative marker in the verb morphology.

a. Headed relative clauses - Arguments

To start with, relativized subjects are presented. The connection between the nominal head and the relative clause consists of the copula and a type I demonstrative:

- (8.78)a. *mú-ská ní-nǒ ó-ḡín-ǎ ndí*
 1-girl COP-1.DEM.I 3SG^P-dance-FV P₃
 'The girl who danced ...'
- b. *mú-tú wa-st ní-nǒ ám-un-ǎ ndí*
 1-man 1.ASS-all COP-1.DEM.I 3SG^P:1.O-see-FV P₃
 'Every man who saw him ...'
- (8.79) *nam-ín-ǐ ḡi mú-ská*
 1SG:1.O-see-FV.ANT P₁ 1-girl
ní-nǒ a-sukús-íly-ǐ ḡi níné ḡo-tú
 COP-1.DEM.I 3SG:1.O-wash-BEN-FV.ANT P₁ 1a.aunt 10-clothes
 'I saw the girl who washed clothes for my aunt.'

The combination of the copula and a demonstrative is also used as a demonstrative, without introducing a relative clause. The other interpretation of (8.78a) is 'That girl danced.' Similarly, when a type III demonstrative, indicating the exclusiveness of the referent, is followed by the copula and a type I demonstrative, both interpretations are possible:

- (8.80) *mú-ská yǐ ní-nǒ ó-ḡín-ǎ ndí*
 1-girl 1.DEM.III COP-1.DEM.I 3SG^P-dance-FV P₃
 'That girl (exclusive) danced.' / 'That girl (exclusive) who danced ...'

ní-mó mu-kó míkakí á-⁴pá ndu mo
 COP-6.DEM.I 1-woman 1:child:her 3SG^P:1.O-give:FV P₃ 6.DEM.I
 'Grandmother is seeing this food (exclusive) which the wife of her son
 gave her.' (T2007.5)

Repeating the demonstrative is common in relative clauses, e.g.:

- (8.85) Súza a ká-⁴kís-íly-á nínáki
 "Súza" 3SG:be 9b:1.O-look for-BEN-FV 1a.aunt:3SG.POSS
 ní-nǎ wóko yí nǎ ndábu yá-gogo
 COP-1.DEM.I 1a.widow 1.DEM.III 1.DEM.I 9.house 9.ASS-other
 'Suza is looking for another house for her aunt, who is a widow.'

Liko has three types of demonstratives, referential type I, proximal type II and a type III which indicates the exclusiveness of the referent (see 6.1.2). Relativized objects can use a type I demonstrative, or a type II demonstrative combined with the copula. The type II demonstrative must be repeated at the end of the relative clause.

- (8.86)a. a ká-⁴ly-á nyamá ní-mu(-ná) nǎ-mwí *(mu)
 3SG:be 9b:1.O-eat-FV 1a.animal COP-1.DEM.II-CONN 1SG:1.O- 1.DEM.II
 kill:FV.ANT
 'He is eating this animal which I killed'
- b. a ká-⁴ly-á nyamá yí ní-mu(-ná) nǎ-mwí *(mu)
 3SG:be 9b:1.O- 1a.animal 1.DEM.III COP-1.DEM.II- 1SG:1.O- 1.DEM.II
 eat-FV kill:FV.ANT
 'He is eating this animal (exclusive) which I killed.'

The copula and the type II demonstrative are optionally followed by the connecting clitic **-ná**.

A type II demonstrative cannot be used in a relative clause in which the subject is relativized. In (8.87b, c), an interpretation including a relative clause is unacceptable:

- (8.87)a. mu-ská mu ó-ǎín-ǎ ndu
 1-girl 1.DEM.II 3SG^P-dance-FV P₃
 'This girl danced.'

b. Headed relative clauses - Adjuncts

Relative clauses in which adjuncts are relativized, obligatorily have a particle preceding the first object: **minó**, glossed as 'TRACE'.⁴⁰⁸ Adjuncts follow objects in the clause structure. **minó** is a trace particle which occurs between the verb and the first object if an adjunct is represented by a demonstrative in the initial position of a relative clause, or if an adjunct has been left-dislocated.⁴⁰⁹

The relative clause in (8.90) is based on the following clause in which the object precedes the locative adjunct:

- (8.89) 6ú-kəg-ǝ ndɪ 6o-míkí 6ú-dingĩ ká mu-gĩ
 3PL^P:2.O-cut:PLUR-FV P₃ 2-child 2.ADJ-big PREP 3-village
 'They circumcised many children in the village.'

Relativization of **ká mugĩ** yields the following structure:

- (8.90) mu-gĩ⁴¹⁰ ní-mó 6ú-kəg-ǝ ndɪ minó 6o-míkí 6ú-dingĩ
 3-village COP-3.DEM.I 3PL^P:2.O- P₃ TRACE 2-child 2.ADJ-big
 cut:PLUR-FV
 'The village where they circumcised many children ...'

The trace particle **minó** is obligatory and precedes any object when an adjunct is relativized. Without **minó** (8.91a) or with **minó** in the canonical position of the adjunct (8.91b), the relative clause is ungrammatical.

- (8.91)a. *mu-gi ní-mó 6ú-kəg-ǝ ndɪ 6o-míkí 6ú-dingĩ
 3-village COP-3.DEM.I 3PL^P:2.O-cut:PLUR-FV P₃ 2-child 2.ADJ-big

⁴⁰⁸ The language has another word **minó** 'there', which occurs in adjunct position.

⁴⁰⁹ A Bantu language for which a two-step procedure is proposed is Kinyarwanda. Kinyarwanda has two strategies of subjectivization: a) shifting the locative expression as a whole to subject position; b) a two-step process involving first objectivization, then subjectivization of the locative expression (the locative complement is cross-referenced by the locative clitic and moves to immediate postverbal position, thus preceding the original direct object) (Bearth 2003:137).

⁴¹⁰ The H tone of the LH contour on **mugĩ** merges with the following High.

- b. *mu-gi ní-mó bú-kəg-ǝ ndı ɓo-míkí bú-dingĩ minó
 3-village COP-3.DEM.I 3PL^P:2.O- P₃ 2-child 2.ADJ-big TRACE
 cut:PLUR-FV

Int. 'The village where they circumcised many children ...'

In case there are two objects, **minó** precedes the first object:

- (8.92) nig-ĩ ɓi ká mu-gĩ
 1SG-return-FV.ANT P₁ PREP 3-village
 ní-mó míkí a-sukus-ily-ĩ ɓi minó níné ɓo-tú
 COP-6.DEM.I 1a.child 3SG:1.O-wash- P₁ TRACE 1a.aunt 2+9-clothes
 BEN-FV.ANT

'I returned to the village where the child washed clothes for my aunt.'

The presence of **minó** preceding the first object does not affect object agreement between the first object and the object prefix in the verb morphology. In (8.90), the first object is **ɓo-míkí** and the agreeing class 2 object prefix is **ǝ-**. Object agreement involves the first object, whether or not **minó** intervenes between the verb and the object.

Agreement between the object prefix and the first object in cases in which **minó** intervenes is further exemplified by the next clause, where **dinga** 'period' is relativized:

- (8.93) dinga ní-nǝ tu-ɓíky-i minó ɓa-mbáńzó
 1a.period COP-1.DEM.I 1PL:2.O-say-FV.ANT TRACE 2-person

'The period in which we tell people [something] ...' (*T2006.7*)

The class 2 object prefix **ǝ-** agrees with **ɓambáńzó**.

It was illustrated above that relativized objects can have both a type I and a type II demonstrative in the initial position of the relative clause, whereas relativized subjects only have type I demonstratives. For adjuncts, a type II demonstrative following the copula and functioning as a relative pronoun is equally acceptable as a type I demonstrative, compare (8.90) and (8.94):

- (8.94) mu-gi ní-ma(-ná) bú-kəg-ǝ ndı minó ɓo-míkí bú-dingĩ
 3-village COP-3.DEM.II-CONN 3PL^P:2.O- P₃ TRACE 2-child 2.ADJ-big
 cut:PLUR-FV

'This village where they circumcised many children ...'

Some additional examples are given of locative and temporal adjuncts. In all cases in which an adjunct is relativized, **minó** is obligatory.

- (8.95) *ǵágǵ ndi na Ikoǵú kǵ ngúpǵ*
 3PL^P:go:FV P₃ with "Ikoǵu" PREP 9.hill
ní-yǵ ǵú-mwǵg-ǵ ndi minó ǵa-mbǵnzú
 COP-9.DEM.I 3PL^P:2.O-kill:PLUR-FV P₃ TRACE 2-person
 'They went with Ikoǵu to the hill where they used to kill people.'
 (T2009.21)

The antecedent of the relativized locative adjunct is **ngúpǵ**.

- (8.96) *mbiké yi ní-yǵ ǵó-kǵng-og-o minó ndikó*
 9.pot 9.DEM.III COP-9.DEM.I 3PL^P-roast-PLUR-FV TRACE 9.palm-nut pit
 'That pot (exclusive) in which they roasted palm nuts ...' (T2006.6)

The antecedent of the relativized locative adjunct is **mbiké**.

- (8.97) *os-í ǵi ǵita kakí kó tíko*
 3SG:leave-FV.ANT P₁ 9.hoe 3SG.POSS PREP 9.field
ní-yǵ o-kún-ǵ ǵi minó ma-lǵki yǵ
 COP-9.DEM.I 3SG-plant-FV.ANT P₁ TRACE 6-bean 9.DEM.I
 'He has left his hoe at the field where he planted beans.'

The antecedent of the relativized locative adjunct is **tíko**.

- (8.98) *ngbǵngó yi ní-nǵ wúit-a minó mu-lúku mu-dingǵ*
 1a.time 1.DEM.III COP-1.DEM.I 2SG:change- TRACE 1-man 1.ADJ-big
 FV

'At the time when you become an adult ...' (T2006.8)

The antecedent of the relativized temporal adjunct is **ngbǵngó**.

- (8.99) *mbóku-mbóku a-bum-í ǵi mǵkǵmú lt-syé*
 1a.old man 3SG:1.O-hit-FV.ANT P₁ 1a.child:3SG.POSS 5-day
ní-lǵ o-ǵuk-ǵs-ǵ ǵi minó mbiké lǵ
 COP-5.DEM.I 3SG-pour out-CAUS-FV.ANT P₁ TRACE 9.clay pot 5.DEM.I
 'The old man hit my child the day on which he (i.e. the child)
 knocked over a pot.'

The antecedent of the relativized temporal adjunct is **ltsyé**.

8.5 Interrogative sentences

Interrogative sentences occur without and with a question word. All interrogative sentences are marked by raised pitch over the last one or two syllables of the utterance.

Yes/no questions have the same structure as non-interrogative sentences:

- (8.104)a. *wínd-a góní ká sókò*
 2SG:go-FV also PREP 9.market
 'You (sg) will also go to the market.'
- b. *wínd-a góní ká sókò ?*
 2SG:go-FV also PREP 9.market
 'Will you (sg) also go to the market?'

In speaking, (b) is marked as an interrogative sentence by the rising pitch on the final vowel of the clause.

The affirmative response given most often for (8.104b) is **íyo** 'yes'. The longer form would be **íyo nundatú** 'yes, I will go'. If one will not go to the market, to say just **kálí** 'no' is regarded as being impolite. In that case, the usual response is either **kálí, nákíndígu** 'no, I will not go' or simply **nákíndígu** 'I do not go'.

In interrogative sentences, the Insistive enclitic **-tú** (see 7.7.4) is added to the inflected verb when the question refers to the near future, as in:

- (8.105) *wínd-a-tú góní ká sókò ?*
 2SG:go-FV-INS also PREP 9.market
 'Will you (sg) also go to the market soon?'

Question words in content interrogative sentences are nouns or invariables. Interrogative sentences may contain a combination of a question word and another word to express a single question word meaning.

a. Noun question words

Two of the question words in interrogative sentences are nouns, **waní** '1a.who', **fa-waní** '2-who' for animate referents, and **í-kí** '9a-what', **fe-kí** '2 + 9:9a-what' for inanimate referents.

If the referent is the syntactic subject, the question word occurs left-dislocated at the beginning of the clause and is always followed by a demonstrative. In the following example, **waní** refers to an animate referent:

- (8.106) waní nš á-¹ly-á ndi nyamá yi ní-nš ?
 1a.who 1.DEM.I 3SG^P:1.O-eat-FV^P P₃ 1a.animal 1.DEM.III COP-1.DEM.I
 'Who ate this animal (exclusive)?'

ɪ-kí '9a-what' is used as question word for inanimate referents. If the referent is the subject, **ɪ-kí** occurs left-dislocated at the beginning of the clause and is always followed by a demonstrative:

- (8.107)a. ɪ-kí yó a yó-¹pólí kúgbɛ ?
 9a-what 9.DEM.I 3SG:be light (weight) very
 'What is very easy?' (*Translated Matt. 9:5*)
- b. a-băbū kām-un-a bɪtí áka á¹m-úus-o
 1b-father:3PL.POSS 9b:1.O-see-FV far only 3SG^P:1.O-ask-FV
 bɛ́: mikām, ɪ-kí yó u-gy-í ?
 COMP 1a.child:1SG.POSS 9a-what 9.DEM.I 3SG:2SG.O-do-FV.ANT
 'Their father saw him still far away, he asked him: "My child, what happened to you?" ' (*T2009.14*)

Liko has two ways to question an object: either a question word occurs preverbally and is followed by a type I demonstrative, or a question word occurs in situ and is not followed by a type I demonstrative. Generally in interrogative sentences, the question word for an object occurs preverbally as in (8.108-8.111a).

- (8.108)a. waní nš⁴¹¹ ɪ-nvá a-kuk-í ?
 1a.who 1.DEM.I 1c-dog 3SG-bite-FV.ANT
- b. ɪ-nvá a-kuk-í waní ?
 1c-dog 3SG-bite-FV.ANT 1a.who

a. and b.: 'Whom did the dog bite?'

According to my Liko consultants, (a) and (b) have the same meaning.⁴¹²

⁴¹¹ **nínš**, the combination of the copula and the type I demonstrative concord of class 1, which may function as a relative pronoun, is not acceptable: ***waní nínš unvá akukí ?**

⁴¹² If it is true that the meaning is the same, there may be a difference in the use of these

- (8.109)a. waní nǒ a-bǎkɪ Gbutu ǎ-kum-í
 1a.who 1.DEM.I 1b-father:3SG.POSS "Gbutu" 3SG:1.O-throw a spell-FV.ANT
 'Whom did his father Gbutu bewitch?'
 *'Who bewitched his father Gbutu?'
 b. wa ká-⁴búk-y-óg-ó waní
 2SG:be 9b:1.O-resound-APPL-PLUR-FV 1a.who
 'Whom are you responding to?' (T2008.10)

- (8.110)a. ɪ-kí yó má Fína a ká-amb-á ?
 9a-what 9.DEM.I 1a.mother "Fina" 3SG:be 9b-cook-FV
 b. má Fína a ká-amb-á ɪ-kí ?
 1a.mother "Fina" 3SG:be 9b-cook-FV 9a-what
 a. and b.: 'What is Mother Fina cooking?'

- (8.111)a. ɪ-kí yó 6o-míkí bá ⁴ká-kís-á ?
 9a-what 9.DEM.I 2-child 3PL:be 9b-look for-FV
 b. 6o-míkí bá ⁴ká-kís-á ɪ-kí ?
 2-child 3PL:be 9b-look for-FV 9a-what
 a. and b.: 'What are the children looking for?'

The question words **waní** '1a.who' and **ɪ-kí** '9a.what' in (8.108-8.111a) precede any expressed subject. The subject is realized in the canonical subject position. The subject prefix of the verb agrees with the subject. The subject can never occur in a postverbal position. In (8.108-8.111b), the question word is realized in situ and not marked for focus.

When the question word is dislocated, the type I demonstrative is obligatory, whereas the demonstrative must be absent when the question word occurs in situ. Compare the sentences in (8.110) with those in (8.112):

- (8.112)a. *ɪ-kí má Fína a ká-amb-á ?
 9a-what 1a.mother "Fina" 3SG:be 9b-cook-FV
 b. *má Fína a ká-amb-á ɪ-kí yó ?
 1a.mother "Fina" 3SG:be 9b-cook-FV 9a-what 9.DEM.I

clauses, but that has not yet been found.

Other examples of **waní** '1a.who' and **ɪ-kí** '9a-what' referring to objects include:

- (8.113) **waní** **nǎ** **nzúka** **und-ɪ** **kǎ-my-ǎ**
 1a.who 1.DEM.I 1a.snake 3SG:go-FV.SUBJ 9b:1.O:swallow-FV
kú-silí **wa-mu-ngbongbó** **kú ?**
 17-under part 17.ASS-3-banana tree trunk there
 'A snake would go to swallow who there under the banana trunk?'
(T2009.20)
- (8.114) **si-butú** **á-6u6-is-o** **st-sǎ** **6í-tú,** **ɪyí** **áka**
st:1-tilapia 3SG^P-become white-CAUS-FV *st*:1-fish MOD-bright 1.PRO only
na **ɪyí** **6é:** **wo-póli** **ábě** **ɪ-wayá,**
 with 1.PRO COMP 1.ass-light (weight) like 9a-dried banana leaf
wa **ká-6úk-y-óg-ó** **waní ?**
 2SG:be 9b-resound-APPL-PLUR-FV 1a.who
 'Tilapia offended Stsa, he said to him: "Someone light like a dried
 banana leaf, to whom are you talking?" *(T2008.10)*

- (8.115) **wa** **ká-pa** **6é** **nú-gy-tly-í** **ɪ-kí ?**
 2SG-be 9b-want:FV COMP 1SG.2SFO-do-BEN-FV.SUBJ 9a-what
 'What do you want that I do for you?'

- (8.116) **o-vi-kú** **ɪ-kí** **ká** **Bafwa6aka?**
 3SG-take:FV.ANT-DIR 9a-what PREP Bafwa6aka
 'What did he take (there) in Bafwa6aka?'

b. Invariable question words

The invariable question words **6óní** 'how', **kéki** 'why', **lukí** 'how' and **yánu** 'where' occur at the end of the interrogative sentence.

The invariable question words cannot be left-dislocated. In the following clause, the question word for a locative adjunct, **yánu** 'where', cannot occur clause-initially:

- (8.117)a. **o-bís-i** **i-zingi-só** **sá-⁴6úgu** **yánu ?**
 3SG-put-FV.ANT 19-bunch-19 19.ASS-9.plantain where
 'Where did he put the bunch of plantains?'
- b. ***yánu** (**nǎ/yǎ**) **o-bís-i** **i-zingi-só** **sá-⁴6úgu**
 where 1/9.DEM.I 3SG-put-FV.ANT 19-bunch-19 19.ASS-9.plantain

Examples of the invariable question words are presented below.

ḡóní 'how' and **lúkí** 'how' are both used frequently and in the same contexts, e.g.:

- (8.118)a. *lɪ-kpómúká lɪ-ná a píye ḡóní ?*
 5-thing 5.DEM.II-CONN 3SG:be thus how
 'How did this happen?' (T2006.3)
- b. *ḡá-'kún-ag-a píye séléngúndé lúkí?*
 3PL:1.O-plant-PLUR-FV thus 9.peanut how
 'How does one plant peanuts?'

ḡóní 'how' is also used in the sense of 'what' in relation to an action, e.g.:

- (8.119) *nǐ-gy-a kúwa ɪmɪ ḡóní ?*
 1SG:REFL-do-FV thus 1SG.PRO how
 'What shall I do?' (T2009.21)

An example of **kéki** 'why' is:

- (8.120) *wá-ky-á mbéyǐ ndɪ kéki ká-bis-ó mu-túgbǒ*
 2SG^P-refuse-FV^P first P₃ why 9b-put-FV 1-strong man
ká-ḡúnd-ág-á ndáḡu ?
 9b-wait-PLUR-FV 9.house
 'Why did you at first refuse to put a strong man to watch over the house?'

More common ways to express 'why' are combinations with a question word, **kó bulýó ɪ-kí** 'PREP 9.reason 9a-what' in (8.136) and (8.137), and **kyé ḡóní** 'why how' in (8.141).

Liko has two ways to question an adjunct, with the question word **yánu** 'where' or with a prepositional phrase containing the question word **tínó** 'which' (see below). When an adjunct is questioned with **yánu** 'where', the question word has to occur in situ as shown in (8.117).

Other examples of **yánu** 'where' are:

- (8.121)a. *ndáḡu kakú a yánu ?*
 9.house 2SG.POSS 3SG:be where
 'Where is your house?'

- b. má 'ká-und-á na Ikóóú yáni ?
 2PL:be 9b-go-FV with "Ikoóu" where
 'Where are you (pl) going with Ikoóu?'

- (8.122) ta-luw-okú mukáti⁴¹³ yáni ?
 1PL-buy-FV-DIR 1a.bread where
 'Where will we buy bread?'

- (8.123) wa ká-pa óé tínd-í ká-umbámb-íly-á
 2SG:be 9b-want:FV COMP 1PL:go-FV.SUBJ 9b-2SG.O:cook-BEN-FV
 ma-lílí má-pasíka yáni ?
 6-food 6.ASS-1a.Passover where
 'Where do you want that we go to cook the Passover meal?' (*translated Mark 14:12*)

yáni questions a prepositional phrase and it occurs with intransitive verbs like **-und-** 'go', as in:

- (8.124) mu-kó kámi ind-í yáni ?
 1-woman 1SG.POSS 3SG:go-FV.ANT where
 'Where did my wife go?'

c. Questioning a noun

Invariable question word **tínó** 'which' always follows the noun it refers to, e.g. **míkí** **tínó** 'which child'. A prepositional phrase with a question word, **tínó** 'which' (or **í-kí** '9a-what'), either remains in situ or is left-dislocated to a position preceding the subject of the clause. At the end of the dislocated noun phrase a type I demonstrative is required.

- (8.125) ta-syé kúwa ká mu-gi tínó
 1PL-pass-FV thus PREP 3-village which
 kyé túp-i-ní na lí-gundú ?
 because 1PL:rest-FV.ANT-PFV with 5-journey

⁴¹³ From Congo Swahili *mkate*, regularly pronounced as *mukate* in Congo.

(8.126)a. ta-ly-a ma-lílí ká ndábu tínó ?
 1PL-eat-FV 6-food PREP 9.house which

b. ndábu tínó yó ta-ly-a minó ma-lílí ?
 9.house which 9.DEM.I 1PL-eat-FV TRACE 6-food

a. and b.: 'In which house will we eat the meal?'

Left-dislocation of an adjunct in (8.126b) and (8.127) requires the presence of the trace particle **minó**, whereas left-dislocation of an object in (8.128) does not.

The trace particle **minó** is also obligatorily present in relative clauses in which the demonstrative, functioning as a relative pronoun, refers to an adjunct, see 8.4. Another example is the following interrogative sentence, in which the prepositional phrase **kó p̃si t̃nó**, PREP 9.path which, 'by which path' ('how') is left-dislocated:

The trace particle **minó** precedes the infinitival complement of the verb of obligation **-kwanan-** 'should'.

For temporal adjuncts, Liko uses the phrase **ngb́ngó t́nó**, 1a.time which, 'at which time, when'. It occurs in situ as in (8.130a) and dislocated as in (8.130b):

- (8.130)a. mbókú-mbókú ní-nǎ a-bum-í 6i
 1a.old man COP-1.DEM.I 3SG:1.O-hit-FV.ANT P₁
 míkǎmí ngb́ngó t́nó ?
 1a.child:3SG.POSS 1a.time which
- b. ngb́ngó t́nó nǎ mbókú-mbókú ní-nǎ
 1a.time which 1.DEM.I 1a.old man COP-1.DEM.I
 a-bum-í 6i minó míkǎmí
 3SG:1.O-hit-FV.ANT P₁ TRACE 1a.child:3SG.POSS
- a. and b.: 'When did that old man hit my child?'

When a prepositional phrase with **t́nó** is left-dislocated, the subject remains in its canonical position, as in (8.130b), which is comparable to the constructions in which a noun phrase functioning as syntactic object is left-dislocated, as in (8.128).

When the question word **t́nó** 'which' follows **ngb́ngó**, 1a.time, moment, the combination expresses 'when'. With **ḍ́nga**, 1a.period, moment, it means 'at what time'. For example:

- (8.131)a. títákú ig-o-kú ngb́ngó t́nó ?
 1a.grandparent:2SG.POSS 3SG:return-FV-DIR 1a.time which
 'When will you father-in-law return?'
- b. ngb́ngó t́nó nǎ ind-í minó ?
 1a.time which 1.DEM.I 3SG:go-FV.ANT TRACE
 'When did he go?'
- (8.132)a. ḍ́nga t́nó mu ?
 1a.period which 1.DEM.II
 'What is the time?'
- b. 6íg-o-kú kúwa ḍ́nga t́nó ?
 3PL:return-FV-DIR thus 1a.period which
 'When (at what time) will they return?'

d. Combinations involving question words

ɪ-kí '9a-what' occurs in combination with several adverbials to express various question-word meanings. The cases below list the combinations present in my data.

(8.133) yě mu-kó míkāmt, t-ki' kúwa
excuse me! 1-woman 1a.child:1SG.POSS 9a-what thus

we-pí umt ma-lílí ma-kédě bēne ?
2SG:1SG.O-give:FV.ANT 1SG.PRO 6-food 6.Ass.small like this
'Excuse me! My daughter-in-law, why did you give me such a small portion?' (*T2007.5*)

(8.134) ɪ-kí píye ? lɪ-bumá, ɓu-totó bí-kyekyékyě
9a-what thus 5-drunkenness 14-laughter MOD-burst of laughter
'What happened? Drunkenness, bursts of laughter.' (T2006.1)

[illegible]

(8.136)a. wo-dok-i ká i-gumí-so kó bulyó ɪ-kí ?
2SG-climb-FV.ANT PREP 19-root, stump-19 PREP 9.reason 9a-what
'Why did you climb in that trunk?'

b. kó bulyó ɪ-kí yó má minó ʔká-gy-ă
PREP 9.reason 9a-what 9.DEM.I 2PL:be TRACE 9b-do-FV
li-gubó ní-ló ?
5-work COP-5.DEM.I
'Why are you doing this work?'

⁴¹⁴ The rough specifications in brackets are based on the material available and discussion with the Liko consultants I worked with.

- b. na ká-u-ǫ́ky-á kyé ǫ́nǫ́ ?
 1SG:be 9b-2SG.O-say-FV because how
 'Why do I tell you?' (T2006.8)

e. General interrogatives

In general interrogatives, where the answer comprises the predicate, the question word **ǫ́-kí** '9a-what' is left-dislocated and followed by a type I demonstrative. The answer to general interrogatives has the canonical word order and no additional marking. The answers are given in (8.142b) and (8.143b).

- (8.142)a. ǫ́-kí yó má 'ká-gyǎ yó ?
 9a-what 9.DEM.I 2PL:be 9b-do-FV 9.DEM.I

'What are you (pl) doing?'

- b. ta ká-lík-ág-á ma-ǫ́mbu
 1PL:be 9b-trap-PLUR-FV 6-trap
 'We are setting traps.'

- (8.143)a. ǫ́-kí yó u-gy-í ǫ́-míkí ?
 9a-what 9.DEM.I 3SG:2.O-do-FV.ANT 2-child

'What happened to the children?' / *'What did the children do?'

- b. ǫ́-míkí ǫ́-mwís-ís-á ndi
 2-child 3PL^P:REFL-kill:CAUS-CAUS-FV^P P₃

'The children were killed.', literally, 'they caused themselves to be killed' (see 8.2.6).

The noun phrase following the verb in (a) is the object, as is evident from the class 2 object prefix in the verb form.

8.6 Information structure

Liko has several ways, both syntactic and morphological, to formally code different aspects of information within a sentence. New information and contrastive information are presented in 8.6.1 and 8.6.2. Constructions in which constituents are left-dislocated or in which they precede the clause in an external topic positon will be described with their discourse function. The function of left-dislocation in texts is predominantly textual cohesion, in particular to (re)activate a participant, see 8.6.3. The other use of left-dislocation is in interrogative sentences, see 8.5,

and in answer to questioned subjects, see 8.6.1. Arguments and adjuncts can be expressed as external topics, left-adjoined to the clause, see 8.6.4.

To illustrate how the language codes new information, contrast, participant activation, and external topics, the text **Ikoḡu** (*T2009.21*) is presented with brief comments on information structure, see Appendix 1, 1.5.1.

The action expressed by a verb can be emphasized by the Insistive enclitic. For a description of this enclitic, **-ɬɛ**, I refer the reader to 3.2.4.2 and 7.7.4. Subjects and objects can be emphasized by a substitutive, see 6.1.1.

8.6.1 New information

This section demonstrates that new information given in answer to interrogative sentences is not coded in Liko. Questioned elements are not marked as focus. I will first look at objects, then at adjuncts and finally at subjects. Examples of general interrogatives and answers are given above, see (8.142) and (8.143) in 8.5.

According to the literature (Lambrecht 1994, Foley 2007), less predictable or disputed elements of the sentence tend to be marked as 'focus'. Bearth (2003:130) and others state that a suitable environment in which the expression of 'focus' may be tested are content or wh-questions. Completive focus (also called assertive focus, e.g. Watters 2003:252) usually involves answers to content questions. Relevant question words in the language are: **waní** '1a.who' / **ḡa-waní** '2-who' for animates, **ɪ-kí** '9a-what' / **ḡe-kí** '2 + 9:9a-what' for inanimates, **yaní** 'where' for locations and **tínó** 'which' for phrases with a head noun.

a. Objects

The interrogative sentences (8.108a), (8.110a) and (8.111a) are repeated here:

- (8.144) waní nḡ ɪ-nvá a-kuk-í ?
 1a.who 1.DEM.I 1c-dog 3SG-bite-FV.ANT
 'Whom did the dog bite?'

- (8.145) ɪ-kí yó má Fína a ká-amb-á ?
 9a-what 9.DEM.I 1a.mother "Fina" 3SG:be 9b-cook-FV
 'What is Mother Fina cooking?'

- (8.146) ɪ-kí yó 6o-míkí 6á 'ká-kís-á ?
 9a-what 9.DEM.I 2-child 3PL:be 9b-look for-FV
 'What are the children looking for?'

The preferred answers to the above questions have the new information either in the post-verbal position as in (8.147a-8.149a), or as a non-verbal single-phrase clause as in (8.147b-8.149b):

- (8.147)a. a-kuk-í 6i mikǎmɪ
 3SG:1.O-bite-FV.ANT P₁ 1a.child:1SG.POSS
 'He bit my child.'
- b. mikǎmɪ
 1a.child:1SG.POSS
 'My child'
- (8.148)a. a ká-amb-á mo-tumbŭwa
 3SG:be 9b-cook-FV 6-pastry ball
 'She is frying pastry balls.'
- b. mo-tumbŭwa
 6-pastry ball
 'Pastry balls'
- (8.149)a. 6á 'ká-kís-á ɪ-yĩkɔ kakí
 3PL:be 9b-look for-FV 5-amulet⁴¹⁵ 3SG.POSS
 'They are looking for her amulet.'
- b. ɪ-yĩkɔ kakí
 5-amulet 3SG.POSS
 'Her amulet'

Left-dislocating an object in a clause which answers a questioned object is possible, but according to my Liko consultants less acceptable:

- (8.150) ??mo-tumbŭwa mɔ má Fína a ká-amb-á
 6-pastry ball 6.DEM.I 1a.mother "Fina" 3SG:be 9b-cook-FV
 'Mother Fina is frying pastry balls.'

⁴¹⁵ Or beads and bones used for personal adornment.

- (8.151) ??lɪ-yĩkɔ kakí ló 6á 'ká-kís-á
 5-amulet 3SG.POSS 5.DEM.I 3PL:be 9b-look for-FV
 'They are looking for her amulet'

If there is a need to express that Mother Fina is frying pastry balls and not something else, the contrast particle **áka** is used, e.g.:

- (8.152) a ká-amb-á mo-tumbűwa aká⁴¹⁶
 3SG:be 9b-cook-FV 6-pastry ball CT
 'She is frying PASTRY BALLS.'

It is interesting that, in case of ambiguity, only the interpretation according to the canonical SVO word order is allowed. To illustrate this, I start with interrogative sentences questioning an object with the role of a beneficiary. They have the same word-order options as when the object of the basic verb is questioned:

- (8.153)a. waní nŋ Súza a ká-'kís-íly-á lɪ-yĩkɔ ?
 1a.who 1.DEM.I "Suza" 3SG:be 9b:1.O-look for-BEN-FV 5-amulet
 b. Súza a ká-'kís-íly-á waní lɪ-yĩkɔ ?
 "Suza" 3SG:be 9b:1.O-look for-BEN-FV 1a.who 5-amulet
 a. and b.: 'For whom is Suza looking for an amulet?'

The correct answer to both these questions is (8.154a) below. (8.154b) is not acceptable as a correct answer to either of the above questions, because the interpretation that the aunt is the beneficiary is ruled out:

- (8.154)a. a ká-'kís-íly-á nínáki
 3SG:be 9b:1.O-look for-BEN-FV 1a.aunt:3SG.POSS
 'She is searching [it] for her aunt.'
 b. nínáki nŋ a ká-'kís-íly-á
 1a.aunt:3SG.POSS 1.DEM.I 3SG:be 9b:1.O-look for-BEN-FV
 *'She is searching [it] for her aunt.'

⁴¹⁶ The surface tones on the contrast particle depend on the preceding tone: **áka** if the preceding tone is High and **aká** if the preceding tone is Low.

b. Adjuncts

(8.155)a. o-bis-i ká gbǒgbɔ
3SG-put-FV.ANT PREP 1a.drying shed
'He put [it] in the drying shed.'

b. *ká gbǒgbɔ nǒ o-bis-i
PREP 1a.drying shed 1.DEM.I 3SG-put-FV.ANT

c. *gbǒgbɔ nǒ o-bis-i
1a.drying shed 1.DEM.I 3SG-put-FV.ANT

(8.156) ta-ly-a ma-lílí ká ndábu kǎmɪ
 1PL-eat-FV 6-food PREP 9.house 1SG.POSS
 'We will eat the meal in my house.'

(8.157)a. ã-bum-í ði na ðu-ɡɔɡɔ
 3SG:1.O-hit-FV.ANT P₁ with 14-sunset
 'He hit him in the evening.'

⁴¹⁷ See the activation of a participant in 8.6.3.

answers in (8.159) and (8.160), the type I demonstrative is class 1 concord **nǎ**.⁴¹⁹ In (8.159a) and in (8.160a), the type I demonstrative **nǎ** is obligatory.

- (8.159)a. waní nǎ a ká-wonís-íl-ó na lt-syé ní-lt ?
 1a.who 1.DEM.I 3SG:be 9b-show:CAUS- with 5-day COP-5.dem.II
 RES-FV

'Who is teaching today?'

- b. mu-wonisilí wa-mbiya nǎ a ké-wonís-íl-ó
 1-teacher 1.ASS-new 1.DEM.I 3SG:be 9b:1SG.O-show:CAUS-
 RES-FV

'The new teacher is teaching me.'

- (8.160)a. waní nǎ a-kuk-í mikǎm ?
 1a.who 1.DEM.I 3SG:1.O-bite-FV.ANT 1a.child:1SG.POSS

'Who bit my child?' / *'Whom did my child bite?'

- b. t-nvá nǎ a-kuk-í bi mikǎm
 1c-dog 1.DEM.I 3SG:1.O-bite-FV.ANT P₁ 1a.child:1SG.POSS

'The dog bit my child.'

The only possible interpretation of **mikǎm** in (8.160) is that of patient. The subject cannot occur in a post-verbal position.

Coding of new information in Liko can be summarized as follows:

(8.161)	<u>Requested information</u>		<u>New information</u>	
	<i>in situ</i>	<i>left-dislocated</i>	<i>in situ</i>	<i>left-dislocated</i>
object	yes	yes	yes	no/? ⁴²⁰
adjunct (yánu)	yes	no	yes	no
adjunct (<i>other</i>)	yes	yes with TRACE	yes	no
subject	no	yes	no	yes

⁴¹⁹ Augustin (2010) has analysed **no** (no tone marking) as the focus particle. However, **nǎ** is a type I demonstrative which agrees with its head noun. Left-dislocation is not only used in questions and in answering a questioned subject, but primarily in creating textual cohesion by activation of the (major) participant. The contrast particle in Liko is **áka**, see 8.6.2.

⁴²⁰ In elicitation, left-dislocation is possible for objects with the role of patient, but it is less acceptable.

8.6.2 Contrast

Liko has a particle, **áka**, which marks disputed elements in the sentence. It functions to indicate contrast, i.e. information that is contrary to other information in the text or to the presuppositions of the interlocutor. The scope of the elements in contrast is limited to the phrase preceding **áka**. The contrastive particle occurs with arguments and adjuncts. The phrase with contrastive focus remains in its canonical position. Tone on the contrast particle surfaces as H.L when following a H tone and it surfaces as L.H when following a L tone.⁴²¹ In the examples, the phrase in contrast is marked with underlining. In the free translation, the contrasted element is marked with capitals (in the case of the first person singular pronoun "contrasted" is added in brackets).

a. Objects

Examples of contrasted objects are:

- (8.162) Má Fína a ká-gab-á mo-tumbűwa aká
 1a.mother "Fina" 3SG:be 9b-sell-FV 6-pastry ball CT
 ká sỏkỏ
 PREP 1a.market

'Mother Fina is selling PASTRY BALLS at the market.'

'Pastry balls' contrast with another product mentioned before. In the other examples below, the phrase ending with **áka** contrasts with presupposed or known information.

- (8.163) Ikỏbủ a-mwí 6i nzủka aká,
 "Iko6u" 3SG:1.O-kill:FV.ANT P₁ 1a.snake CT
 nủ-nỏ ỏ-gbit-ủ 6i nỏ, na mu-pỏngỏ
 COP-1.DEM.I 3SG:1.O-fell-FV.ANT P₁ 1.DEM.I with 3-machete
 'Iko6u killed THE SNAKE, which bit him, with a machete.'

⁴²¹ I assume that H.L is the underlying tone pattern. In (rapid) speech, the vowel preceding **áka** is subject to V₁-elision or desyllabification, see 3.3.1 and 3.3.5. If the tone on the preceding vowel is H, the two H tones simply merge. If the tone on the preceding vowel is L, the resulting LH.L sequence surfaces as a sequence of Low and High.

- (8.164) Súza a ká-kís-á lɪ-yĩkɔ aká kátúkyá⁴²²
 "Suza" 3SG:be 9b-look for-FV 5-amulet CT since
 na ɓu-sóɓɪ
 with 14-sunrise
 'Suza has been looking for the AMULET since sunrise.'

- (8.165)a. Nangáa a ká-⁴kís-ily-á nínákɪ aká ndáɓu yá-gɔɔɔ
 "Nangaa" 3SG: 9b:1.O-look for- 1a.aunt: CT 9.house 9.ASS.other
 be BEN-FV 3SG.POSS
 'Nangaa is looking for another house for HIS AUNT.'
 b. Nangáa a ká-kís-á ndáɓu yá-gɔɔɔ aká
 "Nangaa" 3SG:be 9b-look for-FV 9.house 9.ASS.other CT
 kó bulyó ka-nínákɪ
 PREP 9.reason GEN-1a.aunt:3SG.POSS
 'Nangaa is looking for ANOTHER HOUSE for his aunt.'

- (8.166) ngámá á-⁴ɓíky-ǎ ndɪ Ábaláma ɓé:
 1a.chief 3SG^P:1.O-say-FV P₃ "Abalama" COMP
 i-pó-kú umɪ ɓa-mbáanzú áka,
 1SG.O-give:FV.IMP-DIR 1SG.PRO 2-person CT
 wá-va tɪwe lɪ-ngámá
 2SG-take:FV.INST 2SG.PRO 5-things of value
 'The king said to Abraham: "Give me THE PEOPLE, you
 (emphasized) take the valuable things." ' (translated Genesis 14:21)

In the next example of an object followed by **áka**, the number of sons is contrasted. The other wife of the speaker gave him many sons, whereas with Rachel, he had only two:

- (8.167) babǎ á-tí-ɓíky-á ndɪ ɓé: mɪb-ag-a-tú ɓé
 1a.father 3SG^P-1PL.O-say-FV^P P₃ COMP 2PL:know-PLUR-FV-INS COMP
 mu-kó kǎmɪ ɓéyó ka-Lakéli é-⁴ɓúkut-ily-ǎ
 1-woman 1SG.POSS like that GEN-"Lakeli" 3SG^P:1SG.O-give birth-BEN-FV

⁴²² The structure of this word is **ká-túk-y-á** '9b-leave-APPL-FV'.

ndi bo-míkí ba-lókú bi ba-bă áka
 P₃ 2-child 2-man 2.dem.III 2.NUM-two CT
 'Father said to us: "You know that my wife called Rachel gave me
 TWO SONS." ' (translated Genesis 44:27)

b. Adjuncts

Cases, in which locative, temporal and instrumental or manner adjuncts occur followed by **áka**, are given next. The phrase preceding **áka** contrasts with other information. The input for the first example is the statement that someone put the harvest in his house. This is denied and the correct location is contrasted:

(8.168) o-bís-i l₁-nyonyó ká gbǒgbò aká
 3SG-put-FV.ANT 5-peanut harvest PREP 1a.drying shed CT
 'He put the peanut harvest IN THE DRYING SHED.'

The contrast particle **áka** marks contrast and it does not allow changes in word order. An adjunct followed by the contrast particle cannot precede the first object:

(8.169) *o-bís-i ká gbǒgbò aká l₁-nyonyó
 3SG-put-FV.ANT PREP 1a.drying shed CT 5-peanut harvest

The phrase **ká gbǒgbò** is not a locative complement, because the locative phrase can be left out:

(8.170) l₁-syé lá-gògò, náyó t-nvá ó-bis-ó bu-yí,
 5-day 5.ASS-other when 1c-dog 3SG^P-put-FV^P 14.money
 t_g-á kú kakí
 3SG:return-FV^P there 3SG.POSS
 'The next day, when dog put the money, he returned home.' (T2007.15)

Other examples of locative adjuncts with contrast are:

(8.171) ba-swá bāmály-í kó tíko kakú áka, ukán-á-tu
 2-Pygmy 3PL:end up at- PREP 9.field 2SG.POSS CT hear-FV.IMP-INS
 FV.SUBJ

'That the Pygmy end up AT YOUR FIELD, understand that well.'

(8.172) tó-lípy-og-o kúwă ndi íbúsú kó písi aká
 1PL^P-last-PLUR-FV thus P₃ 1PL.PRO PREP 9.road CT

'We (emphasized) stayed ON THE ROAD.' (instead of going to school) (*T2009.25*)

Temporal adjuncts with the contrast particle:

- (8.173) *ã-bum-í* *bi na ðu-gɔgɔ* *áka*
 3SG:1.O-hit-FV.ANT *P*₁ with 14-sunset CT
 'He hit him IN THE EVENING.'

- (8.174) *ma-lílí ní-mó* *ḡá-túmb-amb-ɰly-ǎ*⁴²³ *ndi, tá kúwǎ ndi*
 6-food COP-6.DEM.I 3PL^P-1PL.O-cook-BEN-FV *P*₃ 1PL:be thus *P*₃
ká-ly-á na li-gundú *áka*
 9b-eat-FV with 5-JOURNEY CT
 'The food that they cooked for us, we were eating it DURING THE JOURNEY.' (*T2009.23*)

Examples of instrumental or manner adjuncts with the contrast particle are:

- (8.175) *Ikóḡú a-mwí* *bi nzúka na li-kǔ* *áka*
 "Ikóḡu" 3SG:1.O-kill:FV.ANT *P*₁ 1a.snake with 5-stick CT
 'Ikóḡu killed a snake WITH A STICK.'

- (8.176) *á-syé* *ndi na nzǎ* *áka*
 3SG^P-pass:FV *P*₃ with 9.hunger CT
 'He passed [the day] HUNGRY.' (*T2009.32*)

After someone has burned his arm while cooking:

- (8.177) *níyó muzuzulá é-bedul-o* *ḡéyó,*
 when 9.awful pain 3SG^P:1SG.O-surpass-FV like that
nzǎ é-¹sy-ó *língunú* *áka*
 9.hunger 3SG^P:1SG.O-finish-FV^P 5.truth CT
 'When the awful pain became too much for me, feeling hungry finished REALLY.' (*T2009.3*)

⁴²³ The basic verb is **-amb-** 'cook'. I assume that in this case, epenthetic /mb/ occurs preceding the vowel-initial verb, instead of /m/. See 7.5.1.

c. Subjects

Subjects cannot be directly followed by the contrast particle **áka**. If a subject is contrasted, **áka** follows a postverbal substitutive with the same referent as the subject (**ibú** in the first example below, **umi** in the second) in a construction with copula **ni**:

- (8.178) kú-mbúso yí, ãa-má'mákú bô-do-kú ndi ni
 17-back 17.DEM.I 2-brother:3SG.POSS 3PL^P-come:FV-DIR P₃ COP
ibú áka ká-'tákány-á
 2.PRO CT 9b:1.O-find-FV
 'Later, HIS BROTHERS came to find him.' (*translated Genesis 50:18*)

- (8.179) ná-kaly-ag-ă ndi ni umi aká ní-ló lá-si
 1SG^P-pay-PLUR-FV P₃ COP 1SG.PRO CT COP-5.DEM.I 5.ASS-all
 'I (contrasted) paid all those [things].' (*translated Genesis 31:39*)

For the combination of subjects and postverbal substitutes, see 7.4 and 6.1.1.

The contrast particle **áka** occurs frequently with one of the following adverbials, **ási** 'only' in affirmative and **gutógu** 'even' in negative clauses. **ási** nearly always occurs in combination with **áka**. These adverbials reinforce the contrasted element, positively in the case of **ási**, i.e. giving interpretations like 'always', 'completely', 'just', etc., and negatively in the case of **gutógu**, i.e. yielding the meaning 'not any'. The adverbials **ási** and **gutógu** mark the beginning of the domain of contrast, **áka** the end.

Examples of **ási** and **áka** are:

- (8.180) kání gbukó a kúwa ási ká mu-gamú áka
 when 1a.rat 3SG:be thus only PREP 3-crying CT
 'While Rat was CRYING ALL THE TIME.' (*T2006.3*)

- (8.181) nzúyí yá-si á-va kúwa ási su yó-'múkí áka
 9.body 9.ASS-all 3SG^P-take:FV thus only 9.smell 9.ASS-6:smoke CT
 'The whole body took on JUST THE SMELL OF SMOKE.' (*T2006.5*)

- (8.182) na ási ká li-le6ú áka
 1SG:be only PREP 5-mourning CT
 'I am ALWAYS IN MOURNING.' (*translated Genesis 37:35*)
- (8.183) mu-lókú na mu-kákɪ ɓǎ ndɪ ɪbú ɓá-sɪ
 1-man with 1-woman:3SG.POSS 3PL:be P₃ 2.PRO 2.ASS-all
 ɓá-ɓǎ ási ndúmbú áka
 2.NUM-two only 9.nudity CT
 'Man and his wife they were both COMPLETELY NAKED.'
 (*translated Genesis 2:25*)
- (8.184) mbɪya wánu, tá-ké-gu ɓatǎ no lúkí
 new here 1PL-NEG:be:FV-NEG again with 5:object
 lá-gogo ní-ló ta-kwanan-a ká-u-pá
 5.ASS-other COP-5.DEM.I 1PL-should-FV 9b-2SG.O-give:FV
 Ø-kík-i ási nzúyɪ kusú áka na ma-tómbú kusú
 3SG-COND:be- only 9.body 1PL.POSS CT with 6-land 1PL.POSS
 FV.NEG
 'Now, we have not again anything else which we should give to you if it
 is not JUST OUR BODY and our fields.' (*translated Genesis 48:18*)

Examples of **gutúgu** and **áka** are:

- (8.185) ɓa-nyamá ɓá-sɪ mánzála-mánzála, Ø-ká-gwǐ-gu
 2-animal 2.ASS-all in disorder 3SG^P-NEG:1.O-hold:FV^P-NEG
gutúgu ɓé-motí áka
 even 1.NUM-one CT
 'All animals [fled] in disorder, he did not CATCH ANYONE.' (*T2006.3*)
- (8.186) ɓá-kingɪl-a goní ká-lúk-ág-á ma-ɓómbu, ɓá-kɔ mu-palú
 3PL^P-try-FV also 9b-trap-PLUR-FV 6-trap 3PL^P-cut:FV 3-barrier⁴²⁴
 ní-ma-ná má-ndǎ, gutúgu mbéyɪ kó-ɓók-ís-ó áka
 COP-3.DEM.II-CONN 3.ASS-long even first 9b-grow-CAUS-FV CT

⁴²⁴ A barrier in the forest with passage ways where traps are installed.

'They also tried to set traps, they cut the long barrier, NOTHING WAS SUCCESSFUL.'⁴²⁵ (*T2009.21*)

- (8.187) *mú-mbánzú gútúgu b́é-motí áka ø-ká-kwanan-t-gu*
 1-person even 1.NUM-one CT 3SG-NEG-should-FV.NEG-NEG
ndéké ká-u-táng-á
F₃ 9b-2.O-count-FV
 'NOT ANY person will be able to count them.' (*translated Genesis 13:16*)

- (8.188) *ná-ká-vi-gu lúkí kakú gútúgu lí-motí áka*
 1SG-NEG-take:FV.NEG-NEG 5:object 2SG.POSS even 5.NUM-one CT
 'I am not taking your object, NOT ANY ONE.' (*translated Genesis 14:23*)

8.6.3 Left-dislocation for participant activation

The main function of left-dislocation is to ensure textual cohesion by activation of the (major) participant.⁴²⁶ When a participant becomes the topic of conversation or of a text after some digression, he is re-introduced by left-dislocation and a type I demonstrative.⁴²⁷ Left-dislocation does not imply emphasis or contrastive focus on the dislocated element.

Pronouns typically do not provide new information. In Liko, pronouns are used to emphasize a known subject or object. When a pronoun refers to an antecedent earlier in the text, it may be left-dislocated. In the following two examples, a pronoun which is syntactically an object is left-dislocated and followed by a type I demonstrative.

⁴²⁵ Literally, 'not first caused to grow'.

⁴²⁶ A large number of examples comes from the translated text of Genesis. This is done because it contains several longer stories in which the Liko translators have put an effort in making it clear to potential hearers who or what is the topic of a sentence. These stories contain a lot of material that can be used to study information structure.

⁴²⁷ Nicolle (2014:132) reports this use of referential and distal demonstratives, i.e. to activate a participant, for several Tanzanian languages.

- (8.189) *tyí nǎ ɓa-mbáanzú ɓám-ukan-ag-a ndéke*
 1.PRO 1.DEM.I 2-person 3PL:1.O-hear-PLUR-FV F₃
 'People will listen to him.' (*translated Genesis 49:10*)

The antecedent, the 'owner', is presented in the previous sentence in the text.

- (8.190) *tyí nǎ Sála u-búkut-ily-a ɓánu ká*
 1.PRO 1.DEM.I "Sala" 3SG:2SG.O-give birth-BEN-FV F₂ PREP
syá'ngá-su sá-gogo
 7:year, dry season-7 7.ASS-other
 'Sarah will give birth to him next year.' (*translated Genesis 17:21*)

In the context of the above example, a promised child, Isaac, has been introduced in chapter 17, verse 19. The intermediate passage talks about another son. In the sentence preceding the above one, Isaac is the topic again. In (8.190), *tyí* 'he' is the topic and *syá'ngá-su sá-gogo* 'next year' the new information. Left-dislocation of the pronoun does not add emphasis.

Examples of a dislocated pronoun which functions as a subject:

- (8.191)a. *tyí nǎ o-búng-ús-i-ní mū-pánga*
 1.PRO 1.DEM.I 3SG-lose-CAUS-FV.ANT-PFV 3-machete
 'He had lost the machete.'
- b. *kyé tyí nǎ á-gbusy-óg-í ɓi Sisa*
 so that 1.PRO 1.DEM.I 3SG:1.O-curse-PLUR-FV.SUBJ P₁ "Sisa"
 '... so that he would curse Sisa.' (*T2008.10*)

In the next example, the story introduces the children of Noah and expands on one of them. When the narrator returns to the three children, he uses a left-dislocated pronoun:

- (8.192) *ɪbú ɓá-sáá ɓó ɓǎ ndi ɓo-míka-Núa*
 2.PRO 2.NUM-three 2.DEM.I 3PL:be P₃ 2-child:GEN-"Nua"
 'The three were children of Noah.' (*translated Genesis 9:19*)

In a story in Genesis, a servant responds to a request and asks for further information in (8.193a). After the instructions (several sentences), the servant, by means of a formal gesture, pledges that he will carry out the instructions (8.193b). The servant is re-introduced by left-dislocation.

- (8.193)a. mu-gy-a-li-gubó á-sikis-y-o b́é:
 1-do-FV-5-work 3SG^P:1.O-return-APPL-FV COMP
 'The servant answered.' (*translated Genesis 24:5*)
- b. mu-gy-a-li-gubó nǎ ó-bis-á ndi ku-65⁴kú-ko kú-silí
 1-do-FV-5-work 1.DEM.I 3SG^P-put-FV^P P₃ 15-hand-15 17-under part
 wa-si-bě-su ka-mómbukwána dǎki⁴²⁸
 17.ASS-7-thigh-7 GEN-1a.owner 1a.s.o. of same age:3SG.POSS
 'The servant put [his] hand under the thigh of his master.' (*translated Genesis 24:9*)

One of the Liko stories, **Mbwoko**, see 1.1.3 in Appendix 1, tells that a demon had a beautiful daughter. He demanded that a would-be husband would be able to endure hunger and abstain from food. So when a man came to the village to ask to marry the girl, he was put in a house and forbidden to eat. But in the house, the demon had put ripe sweet bananas. The first young man who came could not stand the fragrance of the bananas and ate some. When in (8.194a), the demon discovered that the first candidate had eaten the sweet bananas in the house, he called the men of the village. They killed the young man and cooked his meat. When the father of the girl, the demon, is mentioned again in (8.194b), the phrase is left-dislocated and followed by a type I demonstrative:

- (8.194)a. nýyó abǎki mu-kó á-ndúng-á
 when 1a.father:3SG.POSS 1-woman 3SG^P-discover-FV
 'When the father of the woman discovered [it].' (*T2006.2*)
- b. abǎki mu-síká nǎ á-va ma-lílí mó
 1a.father:3SG.POSS 1-girl 1.DEM.I 3SG^P-take:FV 6-food 6.DEM.I
 'The father of the girl took this food.' (*T2006.2*)

In the following example, the men are re-introduced after they had been mentioned for the last time in verse 9:

- (8.195) kú-mbúso yí, 6a-lókú 6ó 6á-⁴túk-y-tly-ǎ ndi lt-gundú
 17-back 17.DEM.III 2-man 2.DEM.I 3PL^P:1.O-leave- P₃ 5-journey
 APPL-BEN-FV

⁴²⁸ **mombukwana dǎki** is an expression meaning 'his master'.

'After that, the men left him [to go on] a journey.' (*translated Genesis 18:16*)

In the text preceding the next example, a pregnant woman received a message that she would give birth to twins. At the time of the delivery, it appeared that:

- (8.196) 6o-6ígi 6ś 6ă ndi kú-sǎ wa-mǔma kakí
 2-twins 2.DEM.I 3PL:be P₃ 17-inside 17.ASS-3.belly 3SG.POSS
 'Twins were in her womb.' (*translated Genesis 25:24*)

Proper names can be left-dislocated to refer to characters mentioned before in the text. In a story in Genesis, a man called Jacob gets the news that his son Joseph is still alive. Jacob exclaims:

- (8.197) mikǎmú Yezéfu a bata ká ɔbílí áka !
 1a.child:1SG.POSS "Yezéfu" 3SG:be again PREP 1a.life, world CT
 na ká-ag-ǎ kǎm-un-a kámbwa 6é nó-kw-í
 1SG:be 9b-leave-FV 9b:1.O-see-FV 17:front COMP 1SG-die-FV.SUBJ
 'My child Joseph is still ALIVE! I am leaving to see him before (that) I die.' (*translated Genesis 45:28*)

Later in the text, Jacob is told:

- (8.198) Yezéfu nǎ u-tíky-o ndéke míso
 "Yezéfu" 1.DEM.I 3SG:2SG.O-close-FV F₃ 6:eye
 'Joseph will close your eyes.' (*translated Genesis 46:4*)

Left-dislocation involves a position in the clause which precedes the subject position and follows a conjunction. In the example below, the conjunction **kyé** precedes the left-dislocated element:

- (8.199) míkí ni a-kóngó, kyé a-kóngó nǎ
 1a.child COP 1b-banana shoot because 1b-banana shoot 1.DEM.I
 a-tí-pag-a má-búgu kú-mbúso
 3SG-1PL.O-give:PLUR-FV 6-banana 17-back
 'A child is a banana shoot, because this banana shoot will give us bananas later.' (*T2006.7*)

8.6.4 External topicalization

External topics are not preposed constituents of the clause, but are external to it, adjoined to the clause as a whole (Foley 2007:416).⁴²⁹ In Liko, external topics occur to the left of the clause. Adjuncts as external topics are common, they are mostly locative and temporal phrases, but also instrumental, manner and other phrases. Objects as external topics are rare and subjects are absent. An external topic does not occur in subject position, as can be seen in the examples below, where a full subject NP is present between the external topic and the verb. External topics are usually separated from the following clause by means of a short pause.

I will first present a case in which an object argument occurs as external topic. In the texts from which the example below is taken, the animals were introduced as participants in the opening clause of the text: Leopard is the chief of the animals. In the following sentences, the story tells that Leopard appointed Rat to watch over his field. **ba-nyamá bá-gogo** 'the other animals' are presupposed and they are the topic of the clause. The new information is that they were angry:

- (8.200) **ba-nyamá bá-gogo, ma-mbengí ú-tól-ă ndi**
 2-animal 2.ASS-other 6-heart 3SG/PL^P:2.O-hurt-FV P₃
 'the other animals, hearts hurt them', i.e. they were angry (*T2006.3*)

The above sentence is also grammatical if the external topic is left out, **mambengí útólă ndi**. The object is marked in the verb form with the class 2 object prefix **ŭ-**.

If a clause is preceded by an external topic, it is nearly always a locative or a temporal phrase. Examples of a locative phrase as external topic are:

- (8.201) **kó pīsi, Zangíyá ú-ŭmy-a 6o-nzikaŭ**
 PREP 9.path "Zangiya" 3SG^P:2.O-spy on-FV 2-man without mercy
 'On the road, Zangiya watched the robbers.'⁴³⁰ (*T2009.21 - adapted*)

⁴²⁹ Examples which Foley gives for adjuncts as external topics include: In Sydney there is always a lot to do, In the morning I finished the article (his (132a, b), Egbert, I couldn't find (132d) and Soukous, it's the greatest African twentieth-century gift to civilization (132g).

⁴³⁰ The robbers are on the road.

- (8.202) kú-gǔ wo-bukú, ta-pung-ag-a kó-bis-ó pangă-tu
 17-top 17.ASS-8:burning 1PL-start-PLUR-FV 9b-put-FV 13.hide of
 piece of wood palm nut-13
 'Over the fire, we start by putting the palm-nut fibres at all sides.'
 (T2006.5)
- (8.203) kú kú-syáku, Makánzyálá o-gbit-í 6u-síyo na gbóní kakí
 there 17-side "Makanzyala" 3SG:fell- 14-tree with 9.axe 3SG.POSS
 across a river FV.ANT
 'There across the river, Makanzyala felled a "6usiyo" tree with his axe.'
- (8.204) kúnu kú⁴³¹ kusú ká Gbaigbai, ta-pung-ag-a
 here there 1PL.POSS PREP "Gbaigbai" 1PL-start-PLUR-FV
 ká-mumúl-á ngbongbó
 9b-collect-FV 9.banana trunk
 'Here where we live in Gbaigbai, we start by collecting banana tree
 trunks' (T2006.5)

Examples of temporal phrases as external topic are:

- (8.205) na 6u-só6t, a-lúkú ím-úkan-a nză
 with 14-sunrise 1b-man 3SG^P:REFL-feel-FV 9.hunger
 'At sunrise, the man was hungry.' (T2006.2)
- (8.206) kú-mbúso wa-ma-syé, lúnga ú-sil-y-ă ndi
 17-back 17.ASS-6-day 5:war 3SG^P:2.O-arrive-APPL-FV P₃
 'Some time later, the war affected them.' (T2009.21)
- (8.207) na 6u-gogô 6i ní-6ó, Bókótógi ámb-á ndi
 with 14-sunset 14.DEM.III COP-14.DEM.I "Bokotogi" 3SG^P:cook-FV^P P₃
 ma-lílí ká ma-fíka
 6-food PREP 6-kitchen
 'That evening, Bokotogi prepared food in the kitchen.'

⁴³¹ The vowel of **kú** is changed into /u/ due to assimilation to the following [+ATR] possessive pronoun **kusú**.

Examples of other adjuncts as external topic:

- (8.208) na gbóní kakí yá-mbɪya, Makánzyálá o-gbit-í 6u-síyo
 with 9.axe 3SG.POSS 9.ASS-new "Makanzyala" 3SG:fell-FV.ANT 14-tree
 kú-syáku
 17-side across a river
 'With his new axe, Makanzyala felled a "6usiyo" tree across the river.'

- (8.209) ká yigǒkú kakú, wa-kíkwe-ní-to kú-mbúso
 PREP 9a:return 2SG.POSS 2SG-NEG:look:FV- NEGSUBJ-INS 17-back
 'When you return, do not look back' (T2006.1)

External topics may be followed by the contrast particle **áka**:

- (8.210) kó ngbínɡó 6é-motí áka,
 PREP 1a.time 1.NUM-one CT
 ɪ-ngbólól á-pung-a kó-mw-óg-ó líbó
 9a-dugout 3SG^P-start-FV 9b-drink-PLUR-FV 5:water
 'SUDDENLY, the dugout started to make water.'

- (8.211) kó ngbínɡó yí ní-nǒ ɡóní áka nǒ,
 PREP 1a.time 1.DEM.III COP-1.DEM.I also CT 1.DEM.I
 mu-kákɪ ú-6úkút-a 6o-6ígí
 1-woman:3SG.POSS 3SG^P:2.O-give birth-FV 2-twins
 'AT THAT TIME, his wife gave birth to twins.' (T2007.9)

- (8.212) ká pǎ yí ní-yó áka yó,
 PREP 9.place 9.DEM.III COP-9.DEM.I CT 9.DEM.I
 Ábaláma á-bib-is-ǎ ndɪ Kúnzi
 "Abalama" 3SG^P-praise-CAUS-FV P₃ 1a.God
 'AT THAT PLACE, Abraham praised God.' (translated Genesis 13:4)

When the external topic contains a type I demonstrative, a repeated demonstrative follows the contrast particle at the end of the external topic.

8.7 Comparison

In order to compare one item with another, different constructions are used depending on whether the comparison expresses a similarity or a dissimilarity.

When a characteristic that both items share is referred to, an inflected form of a verb is followed -not necessarily directly- by preposition **ábě** 'like', as in:

- (8.213) míkí mu-kó yĩ a ábē⁴³² síbá
 1a.child 1-woman 1.DEM.III 3SG:be like 9.ivory
 'A girl is like ivory.' (T2006.9)

The point of comparison here is that both a girl and a piece of ivory are highly valuable.

In the next examples, someone is being hit with sticks until he dies, like people hit a snake when it is seen in a village:

- (8.214) ǎǎ-bum-ǎ ndi na ǎǎ-ngbǐngíli ábē nzúka ǎǎ-mwó
 3PL^P:1.O-hit-FV P₃ with 2+9:9a-stick like 1a.snake 3PL^P:1.O-kill:FV
 'They hit him with sticks like a snake, they killed him.' (T2009.21)

When dissimilarity with respect to the point of comparison is expressed, the most common strategy is to use the Infinitive form of the verb **-kítág-** 'pass, surpass'. In the phrases below, **-kítág-** is used with its basic meaning 'pass' in which no comparison is involved:

- (8.215)a. ǎám-un-a a-lúkú ǎǎ-motí ní a-ná⁴-kítág-ǎ
 3PL^P:1.O-see-FV⁴³³ 1b-man 1.NUM-one when 3SG-INCH-pass-FV
 na mémí kakí kó pǐsi
 with 1a.goat 3SG.POSS PREP 9.path
 'They saw a certain man when he was about to pass with his goat on the road.' (T2009.26)
- b. ná-kítág-ǎ ndi ká i-kólo yí-dingĩ.
 3SG^P-pass-FV P₃ PREP 9a-school 9.ADJ-big
 'I passed [the exams to go] to secondary school' (T2009.23)

⁴³² The H tone of the LH contour merges with the following High.

⁴³³ The Past has a TAM melody with a H tone on the leftmost prefix. Future has no TAM melody with H tones. In the case of the third person plural subject prefix, which has an underlying H tone, the verb forms are identical. In the context of the story, reference is to the past.

In the following examples, **-kítág-** is used in comparisons. Recall that Infinitive forms may include object and reflexive prefixes as well as verbal extensions.

- (8.216)a. 6a-va kú kakí 6á-luk-ă ndi 6é L1-ngútu
 2-clan member there 3SG.POSS 3PL^P:1.O-call-FV P₃ COMP 5-star
 kó bulyó kyé ă ndi wa-nzá ká-u-kítág-á
 PREP 9.reason because 3SG:be P₃ 1.ASS-good 9b-2.O-pass-FV
 6a-síká 6á-si 6á-mu-sengí
 2-girl 2.ASS-all 2.ASS-3-village
 'Her clan members called her Star because she was more beautiful
 than all the girls of the village.' (T2009.12)
- b. í-pígo yá-nyamá tínó sě mu-ná wa-ma-balangá
 9a-species 9.ASS-1a.animal which thus 1.DEM.II-CONN 1.ASS-6-spot
 ká-⁴kítág-á sukopí mu ?
 9b:1.O-pass-FV 1a.leopard 1.DEM.II
 'What kind of animal is this, spotted more than a leopard?' (T2006.1)
- c. mu-tú wă-gogo a-tú góni na yangyá yá-gogo
 1-man 1.ASS-other 3SG:be-INS also with 9.poverty 9.ASS-other
 ká-u-kítág-á ıwe
 9b-2SG.O-pass-FV 2SG.PRO
 'Someone else certainly also has some other need, more than you.'
 (T2009.21)

To express a superlative, the adverb **kúgbe** 'very' is added between the nominal with the point of comparison and the Infinitive form of **-kítág-** 'pass, surpass', as in:

- (8.217)a. ı-kí yó a na ı-zangíyá kúgbe ká-kítág-á ?
 9a-what 9.DEM.I 3SG:be with 9a-profit very 9b-pass-FV
 'What is most important?'
- b. ă ndi miki mu-paka kúgbe ká-u-kítág-á 6á-si
 3SG:be P₃ 1a.child 1-favourite very 9b-2.O-pass-FV 2.ASS-all
 ká mu-sengí
 PREP 3-village
 'He was the most favourite child of all [children] in the village.'

To indicate that the other item is identical or just different, **mudɔngɔm** 'identical, horizontal'⁴³⁴ expresses that the item is identical to the one compared with. To mention that items are different without evaluating one as being better, etc. than the other, **di** 'different, strange' is used. Neither **mudɔngɔm** nor **di** shows noun-class concord. But **di** agrees in number: it is triplicated when it modifies a plural head.

Examples include:

- (8.218) ɓa-mbáanzú ɓá-si ɓá mudɔngɔm
 2-person 2.ASS-all 3PL:be identical
 'All people are the same.'

The word **mudɔngɔm** keeps the same form regardless of whether its referent is singular or plural.

- (8.219)a. a-lúkú mu-ná a di na ɓengéní.
 1b-man 1.DEM.II-CONN 3SG:be different with 1a.other person
 'That man is different from the other(s).'
- b. ɓa-ndáɓu didíɗi
 2.house different
 'different houses', i.e. all unique
- c. a-tí-tungbul-ag-a ká mo-gubó didíɗi
 3SG-1PL.O-help-PLUR-FV PREP 6-work different
 'It helps us with different jobs.' (T2006.5)

8.8 Complex sentences

This section mainly aims to provide illustrations of coordinate and subordinate clauses. Subordinate clauses are divided into object clauses, relative clauses and adverbial clauses. Relative clauses are presented separately in 8.4, in order to introduce the trace particle **minó**, which also occurs in interrogative sentences, see 8.5, and in left-dislocation, see 8.6.3.

⁴³⁴ Probably related to **mu-dɔngó** '3-row', plural class 9 **dɔngó**.

An example of **ikání** 'or' is:

- (8.223) índ-ag-a kúwǎ ndi ká-kís-á ma-lílí
 3SG^P:go-PLUR-FV thus P₃ 9b-Search-FV 6-food
 ikání ká-túg-á líbó no bití
 or 9b-draw water-FV 5:water with 9.darkness
 'So he went to search for food or to draw water during the night.'
 (T2009.21)

The combination **lúkí** '5:object' and **lí-motí** '5.NUM-one' is used to express 'but':

- (8.224) síbí á-kǎ ndi mu-palú, lúkí lí-motí mu-palú
 1a.tortoise 3SG^P-cut:FV P₃ 3-barrier 5:object 5.NUM-one 3-barrier
 mǐ ní⁴³⁵ Ø-ké-gǔ ndi ká-ǐ-gwin-ón-ó
 3.DEM.III when 3SG-NEG:be:FV-NEG P₃ 9b-REFL-hold:ASS-ASS-FV
 'Tortoise cut a barrier in the forest, but this barrier did not hold together.'
 (T2007.3)

- (8.225) 6o-gbuwó 6á-sáá 6ó-guly-o ká ndábu, 6á-va
 2-chimpanzee 2.NUM-three 3PL^P-enter-FV PREP 9.house 3PL^P-take:FV
 ma-sángi, 6ág-a 6éyó áka yó,
 6-basket 3PL^P:leave-FV like that CT 9.DEM.I
 lúkí lí-motí 6á-ká-kwanan-i-gǔ ndi ká-túg-á
 5:object 5.NUM-one 3PL-NEG-should-FV-NEG P₃ 9b-draw water-FV
 líbó kú-sǎ wa-ma-sángi
 5:water 17-inside 17.ASS-6-basket
 'The three chimpanzees entered the house, they took baskets, they left
 LIKE THAT, but they could not⁴³⁶ draw water in baskets.' (T2007.1)

8.8.2 Subordinate object clauses

The complementizer **6é** introduces a direct or indirect speech complement, or another type of object clause. The difference is the occurrence of a short pause, preceding or following **6é**.

⁴³⁵ Short form of **kání** 'when, while'.

⁴³⁶ The negative Future followed by the Past time adverbial ^H**ndi** is used to express inability in the past.

a. Direct and indirect speech complements

When the complementizer **ḡé**⁴³⁷ introduces direct speech or indirect speech, **ḡé** occurs at the end of the main clause and is followed by a short pause.

Examples of direct speech include:

- (8.226) ḡá-ḡíky-a ḡé: tá-⁴kw-íly-á ndi gbukó
 3PL^P-say-FV COMP 1PL^P:1.O-die-BEN-FV^P P₃ 1a.rat
 'They said: "We died for rat".' (T2006.3)

- (8.227) Ká Ngasá na Kíbi ḡé: yé⁴³⁸ míkabă, wí-búb-ag-a
 "Ka Ngasa" with "Kibi" COMP excuse me 1a.brother 2SG:REFL-praise-
 PLUR-FV
 'Ka Ngasa [said] to Kibi: "Excuse me brother, you praise yourself." ' (T2006.1)

- (8.228) ḡó-bilisy-og-o kúwă ndi ḡé: "Rigo hooo !"
 3PL^P-chant slogan-PLUR-FV thus P₃ COMP "rigo hooo"
 'They scanted: "Rigo hooo!" ' (T2006.4)

- (8.229) a-ním-úus-ó kúwa ḡé:
 3SG-INCH:REFL-ask-FV thus COMP
 ḡe-gbɔgbɔ ḡayá-ḡo-tú ḡi ní-ḡayɪ
 2+9:9a-s.th. worn 2+9.ASS-2+9-clothes 2.DEM.III COP-2+9.DEM.II
 Ø-ka-pút-ík-án-á sɛ píye kúwa,
 3SG-COND-destroy-NEUT-ASS-FV thus thus thus
 nĩ-gy-a kúwa ɪmɪ ḡúní ?
 1SG:REFL-do-FV thus 1SG.PRO how
 'He asked himself: "These threadbare clothes here, if they are gone, what shall I do?" ' (T2009.21)

⁴³⁷ The verb for 'say' in Liko is **-ḡíky-**.

⁴³⁸ The High part of the LH tone on **yé** has merged with the following H tone.

In the following two examples, **ḡé** introduces indirect speech:

- (8.230) Ká Ngasá a-ḡíky-i-ní Kíbi ḡé, ām-īb-o
 "Ka Ngasa" 3SG:1.O-say-FV.ANT-PFV "Kibi" COMP 3SG:1.O-know-FV
 ḡé a mu-lílká
 COMP 3SG:be 1-trapper
 'Ka Ngasa has said to Kibi that he would acknowledge him to be a trapper.' (T2006.1)

- (8.231) yěkt kókú a-pa iyí yamámá kúḡbe
 as 1a.chicken 3SG-want:FV 1.PRO 9a:wantering very
 á-ḡíky-a ḡata négbă ḡé ḡá-gá mbéyɪ
 3SG^P:1.O-say-FV again 1a.lizard COMP 3PL-go:FV.IMP first
 ká-nyō mbóngú kó tutú
 9b-pull up:FV 9.mushroom PREP 9.forest
 'As chicken likes very much to wander around, she said again to lizard that they go to gather mushrooms in the forest.' (T2007.19)

b. Other subordinate object clauses

In the case of a subordinate object clause introduced by the complementizer **ḡé**, there usually is a short pause preceding **ḡé** and the subordinate clause.

The complementizer **ḡé** occurs clause-initially in subordinate clauses where verbs like 'know', 'praise', 'demand' occur in the main clause:

- (8.232) ḡúm-ib-o ḡé wa míkí mu-lúkú yí wa-lí-ngunú
 3PL:2SG.O- COMP 2SG:be 1a.child 1-man 1.DEM.III 1.ASS-5-truth
 know-FV
 'They will know that you are truly a young man⁴³⁹.' (T2006.8)

- (8.233) wĩ-bīb-ag-a ḡé u-mwóg-ɔ⁴⁴⁰ ḡa-nyamá
 2SG:REFL-praise-PLUR-FV COMP 2SG:2.O-kill:PLUR-FV 2-animal
 'You praise yourself that you kill animals.' (T2006.1)

⁴³⁹ Literally, 'a young man of truth'.

⁴⁴⁰ The subject prefix onset, /w/, has merged with the vowel of the object prefix after V₁-deletion.

- (8.234) a-bǎkɪ á-pak-á ndɪ ɓé mbunyáki
 1b-father:3SG.POSS 3SG^P-guard-FV^P P₃ COMP 1a.husband:3SG.POSS
 ik-o ndéke mu-tú mu-pɪyǎ nzǎ
 3SG:be-FV F₃ 1-man 1.ADJ-enduring 9.hunger
 'Her father demanded that her husband should be a man who endures
 hunger.' (T2006.2)

- (8.235) Zangíyá a-ná-⁴táman-ag-á gɔní ɪyí ɓé Ikóɓú
 "Zangiya" 3SG-INCH-think-PLUR-FV also 1.PRO COMP "Ikoɓu"
 ó-kw-ó-ní ndɪ
 3SG^P-die-FV^P-PFV P₃
 'Zangiya thought as well that Ikoɓu had died.' (T2009.21)

The complementizer **ɓé** has another function, without a following clause, i.e. to introduce an identification. Examples include:

- (8.236) ɓá-lɪk-y-ag-ǎ ndɪ ɓé sɪ-múɪ-sɔ sí-dingĩ
 3PL^P-call-APPL-PLUR-FV P₃ COMP 19-circumcision-19 19.ADJ-big
 'They called it / It was called big circumcision.' (T2006.4)

- (8.237) lúnga ní-ló ɓá-lɪk-y-ag-a ɓé yangyá
 5:war COP-5.DEM.I 3PL^P-call-APPL-PLUR-FV COMP 9.poverty
 ú-sil-y-ǎ ndɪ
 3SG^P:2.O-arrive-APPL-FV P₃
 'The war, which is called poverty, arrived at them.' (T2009.21)

- (8.238) ká mu-sengí ka-Bavakwókwo, ǎ ndɪ mu-lílɪká
 PREP 3-village GEN-people of "Kwokwo" 3SG:be P₃ 1-trapper
 ɓé-motí íná ndɪ ɓé Kíbigu Kádɪgyǎ
 1.NUM-one 5:name P₃ COMP "Kibigu Kadɪgya"
 'In the village of Bavakwokwo was a trapper called Kibigu Kadɪgya.'
 (T2006.1)

8.8.3 Subordinate adverbial clauses

Subordinate adverbial clauses have one of the following conjunctions clause-initially: **ɪba** 'it means that, so that', **kyé** 'because', **níyó** 'when, while', **yéku** 'when, as'

The complementizer **6e** also occurs preceding subordinate adverbial clauses which express a purpose. These subordinate clauses all contain a Subjunctive form, e.g.:

- For other examples, see 7.9.1.

In (8.240), **iba** functions to express a purpose, in (8.241), **iba** introduces an explanation.

(8.242) ă ndt ká-ŋky-á lí-ngonú áka, kyé kú kakí
 3SG:be P₃ 9b-say-FV 5-truth CT because there 3SG.POSS
 ik-ag-ă ndt ásí sú yá-li-kísi aká
 3SG:be-PLUR-FV P₃ only 9.smell 9.ASS-5-delicious dish CT
 'He spoke THE TRUTH because where he lived there was ALWAYS
 THE FLAVOUR OF A DELICIOUS DISH.' (T2006.1)

- (8.243) kínili 6a-mbánzú 6á-múy-án-á na 6a-bílí,
 that's why 2-person 3PL^P-hate-ASS-FV^P with 2:1b-demon
 kyé 6á-mwó ndi Mbwóko
 because 3PL^P:1.O-kill:FV P₃ "Mbwoko"
 'That is why men and demons hate each other, because they [the demons]
 killed Mbwoko.' (T2006.2)

Subordinate clauses with **níyó** 'when, while' precedes the main clause:

- (8.244) níyó ám-un-a Kíbi, á-[†]pám-y-a 6é:
 when 3SG^P:1.O-see-FV "Kibi" 3SG^P:1.O-scream-APPL-FV COMP
 wayí mu-ná wíkwě kú-mbúso
 1a.friend 1.DEM.II-CONN 2SG:look:FV.INST 17-back
 'When he saw Kibi, he screamed at him: "Friend! Look behind." '
 (T2006.1)

- (8.245) níyó Ikó6ú ún-á 6éyó, índ-a ká
 when "Iko6u" 3SG^P:see-FV^P like that 3SG^P:go-FV PREP
 6o-nzika6ú, ká-kúng-á ku-kwá-ku
 2-man without mercy 9b-demand-FV 15-death-15
 'When Iko6u saw that, he went to a band of robbers to ask for his death.'
 (T2009.21)

An example of **yěku** 'when, as' is:

- (8.246) yěku 6á-dwe kó tíko, sukopí mu-nókú á-dík-á 6í-de
 when 3PL^P-arrive: PREP 9.field 1a.leopard 3-mouth 3SG^P-cool- MOD-cold
 FV FV^P
 'When they arrived at the field, Leopard was staggered.'⁴⁴¹ (T2006.1)

Examples of **kání** 'when, while' are:

- (8.247) á-syé mu-kaká, kání 6á-ká-[†]pí-gu gutúgu
 3SG^P-pass:FV 1.ADJ-alone when 3PL-NEG:1.O-give:FV.ANT-NEG even
 lí6ó lí-mwó áka
 5:water 5.ADJ-drinking CT

⁴⁴¹ Literally, 'the mouth cooled cold'.

'He passed [the night] alone, while they did not give him EVEN DRINKING WATER.' (T2006.2)

- (8.248) á-gy-a mbéyɪ ma-syé má-bǎ kání Ø-ké-gu
 3SG^P-do-FV first 6-day 6.NUM-two when 3SG-NEG:be:FV-NEG
 ká-ĩm-ukán-á nzǎ
 9b-REFL-hear-FV 9.hunger
 'First he spent two days without feeling hungry.' (T2006.2)

8.8.4 Infinitives

Infinitives display both nominal and verbal characteristics. They can fill positions in the sentence that are normally occupied by either nouns or verbs. They may be accompanied by modifiers or by arguments. In this section, an Infinitive is referred to as Infinitive if it consists of only the Infinitive form without object prefixes or arguments. Otherwise, it is referred to as an Infinitival clause.

Infinitives take the noun-class prefix of class 9b (see 5.1.1), which is identical to the general preposition **ká**. Placing Infinitives in class 9b is argued for on the basis of their set of concords, which is identical to the one of class 9. In (5.43), repeated here, an Infinitive is modified by an adjective or by a nominal modifier. The Infinitive, being the head of the noun phrase, controls agreement on its modifiers:

- (8.249)a. ká-lyály-á yí-dingĩ
 9b-graze-FV 9.ADJ-big
 'the big grazing', i.e. eating a lot
 b. ká-ag-ǎ yá-⁴kú-sulí
 9b-leave-FV 9.ASS-17-downstream
 'the downstream leaving', i.e. going downstream

Constructions with an Infinitive as the head of a noun phrase and followed by a modifier are rare.

In all positions, Infinitives can be followed by an argument and/or an adjunct. Infinitives can have derived forms with verbal extensions. In (8.250a), the Infinitival clause contains both an object prefix, the Causative extension and the

Directional suffix. In (8.250b), the Infinitival clause contains the reflexive prefix and the Causative extension:

- (8.250)a. *lɪ-syé ní-lɔ́ ɓík-o kúwǎ ndɪ minó*
 5-day COP-5.DEM.I 3PL^P:sit-FV thus P₃ TRACE
ká-ũ-pup-ís-ó-kú kónu ká mu-sengí
 9b-2.O-leave-CAUS-FV-DIR here PREP 3-village
 'The day on which they sat to cause them [the boys] to leave towards the village ...' (T2006.4)
- b. *wa-ság-á-tu ká-ĩ-monís-ó lúgo*
 2SG-abandon:PLUR-FV.IMP-INS 9b-REFL-show:CAUS-FV 9.middle
ka-ɓa-ɓengéní ɓéyó
 GEN-2-other person like that
 'Stop showing off among other people.' (T2006.1)

Infinitives, like other verb forms, have a specific TAM tone melody: a H tone on the final vowel. An Infinitive is the main verb in Progressive aspect, see 7.7.5. Infinitives cannot be inflected for negation.

In the remainder of this section the following uses of constructions containing an Infinitive or Infinitival clause are presented:

- a. Infinitive or Infinitival clause as complement
- b. Infinitive or Infinitival clause as adjunct
- c. Infinitive or Infinitival clause as subsequent event or series of tasks
- d. Infinitive or Infinitival clause as comparison

a. Infinitive or Infinitival clause as complement

Infinitives may be used as objects of verbs expressing a modal or aspectual meaning. The subject of the main verb typically has the same referent as the subject of the Infinitive.

- (8.251) *ø-kíb-i-gu ká-dɪgy-ǎ*
 3SG-NEG:know-FV-NEG 9b-say-FV
 'He will not know [what] to say.' (T2006.1)

- (8.252) $\emptyset$ -ká-pǎ kǎ-vǎ
 3SG-COND-want:FV 9b-take:FV
 'If you want to take [i.e. a wife].' (T2006.8)
- (8.253) 6a-wanzá 6á-ká-pag-ɪ-gu kǎ-kǒ st-múí-sɔ
 2-young person 3PL-NEG-want:PLUR-FV-NEG 9b-cut-FV 19-circumcision-19
 sá-mastóú
 19.ASS-"mastóu"
 'Young boys do not like to circumcise at a "mastóu" ceremony.'
 (T2006.4)
- (8.254) 6a-lúkú 6i 6á-ky-á ndɪ kǎ-und-á kǎ
 2-man 2.DEM.III 3PL^P-refuse-FV^P P₃ 9b-go-FV PREP
 st-lyá-su ka-mu-suká ka-a-bílí
 7-cohabitation-7 GEN-1-girl GEN-1b-demon
 'The men refused to go and live together with the demon's daughter.'
 (T2006.2)
- (8.255) 6a-tú 6á-sɪ 6ǒ 6i na 6u-kpekí-kpekí kó-do-kú
 2-man 2.ASS-all 3PL:be P₁ with 14-problem 9b-come:FV-DIR
 'All people had a problem to come.' (T2006.7)

In the following examples, the Infinitive, the main verb, indicates a situation which is beginning or ending:

- (8.256) 6á-pung-ǎ ndɪ kǎ-ly-á tíko
 3PL^P-start-FV P₃ 9b-eat-FV 9.field
 'They started to eat [from] the field.'
 (T2006.3)
- (8.257) 6á-sa kǎ-in-ís-ón-ó kǎ 6a-sókɔ
 3PL^P-abandon:FV 9b-see-CAUS-ASS-FV PREP 2-market
 'They stopped to appear at the market.' (T2009.21)

Infinitival clauses may also be used after verbs of obligation. The subject has the same referent as the presupposed subject of the Infinitive.

- (8.258) o-kwonón-i míkí mu-lúkú yĩ ká-ik-ó na ndábu
 3SG-should-FV.ANT 1a.child 1-man 1.DEM.III 9b-be-FV with 9.house
 'It is expected of a boy to have a house.' (T2006.8)

- (8.259) ká-ib-ís-ík-ón-ís-ó 6é wa míkí mu-lúkú
 9b-know-CAUS-NEUT-ASS-CAUS-FV COMP 2SG:be 1a.child 1-man
 yĩ, o-6osíl-i ká-pung-á kó-pik-ó ndábu
 1.DEM.III 3SG-need-FV.ANT 9b-start-FV 9b-build-FV 9.house
 'To make known that you are a young man, one needs to start to build a house.' (T2006.8)

In the above example, **kápongá kópikó ndábu** is the complement of **o6osíli** and **kópikó ndábu** is the complement of the aspectual verb **kápongá** 'to start'.

b. Infinitive or Infinitival clause as adjunct

In the following examples, Infinitives and Infinitival clauses are used as adjuncts. They are used to express a time, a purpose or a reason.

Examples of infinitival clauses with temporal use:

- (8.260)a. ndikó kó-bwö, wá-va lɪ-ɖákĩ
 9.palm-nut pit 9b-grow big:FV 2SG-take:FV.INST 5-clay pot
 'When the palm nuts [have] grown big, take a clay pot.' (T2006.6)
- b. ká-pup-ís-ó nyamá ká mu-sengí, mu-tú wa-sɪ
 9b:1.O-leave-CAUS-FV 1a.animal PREP 3-village 1-man 1.ASS-all
 ní-nɔ́ ám-un-a, ó-ping-og-o bí-kókóló-kokolo
 COP-1.DEM.I 3SG^P:1.O-see-FV 3SG^P-harden-PLUR-FV MOD-stiff
 'When he dragged the animal to the village, every person who saw him, grew stiff.' (T2006.1)
- c. ká-ag-ǎ ma-syé ma-kédě áka Kíbi á-lík-a
 9b-leave-FV 6-day 6.ADJ-small CT "Kibi" 3SG^P-trap-FV
 mándé ka-Dingopoyó
 9.trail GEN-"Dingopoyo"
 'A FEW DAYS later, Kibi trapped Dingopoyo's trail.' (T2006.1)

Examples of infinitival clauses used to express a purpose:

- (8.261)a. ág-ă ndi ká-⁴ŋky-ă ngámá
 3SG^P:leave-FV P₃ 9b:1.O-say-FV 1a.chief
 'He left to tell the chief.' (T2006.3)
- b. tág-ă, nind-í ká-in-ă no míso
 1PL:leave-FV 1SG:go-FV.SUBJ 9b-see-FV with 6:eye
 'Let us leave, so that I go to see it with my eyes.' (T2006.3)
- c. bá-⁴tík-ă i-ngbo ká-kpǒ mbúku
 3PL^P:1.O-send-FV^P 1c-aardvark 9b-dig:FV 9.grave
 'Aardvark was sent to dig a grave.' (T2006.3)

Example of an infinitival clause used to express a reason:

- (8.262) gbukó á-píkít-ă ndi iyí ká ma-bíso
 1a.rat 3SG^P-run-FV^P P₃ 1.PRO PREP 6-hole
 ká-u-báng-ă 6a-dǎki no súni
 9b-2.O-fear-FV 2-s.o. of same age:3SG.POSS with 9.shame
 'Rat fled into holes out of fear for the other animals and out of shame.'
 (T2006.3)

c. Infinitive or Infinitival clause as subsequent event or series of tasks

Infinitives and Infinitival clauses may be used to indicate a subsequent event. They are also used in a series of tasks. In the case of a subsequent event, the first verb usually has the Inchoative aspect and the second verb has the Infinitive form.

Examples of an infinitival clause following a verb with the Inchoative aspect:

- (8.263)a. ta-ná-yib-ă 6ε-ngbongbó na ká-díkít-ág-ă kúgókú
 1PL-INCH-tear up-FV 2+9:9a-banana and 9b-throw-PLUR-FV right there
 trunk
 'We are about to tear up banana tree trunks and throw [the pieces]
 there.' (T2006.5)
- b. kání a-nó-dw-ǒ áma ká-kpakyán-ă
 when 3SG-INCH-move-FV or 9b-walk-FV
 'When he is about to move or walk. (T2006.2)

Infinitival clauses to express subsequent events or occurring in a series of tasks:

(8.264) ǃá ʼká-nd-á kǎ-ʼmwó

3PL:be 9b-go-FV 9b:1.O-kill:FV

'They are going to kill him.' (T2009.21)

(8.265) li-gubó ik-og-o kúwǎ ndi kǎ-lík-á ǃa-kpáká,

5-work 3SG:be-PLUR-FV thus P₃ 9b-trap-FV 2+9-trap

kó-lub-ó ma-sikǎdǎngí na mo-gubó má-gogo

9b-plunge-FV 6-fish hook with 6-work 6.ASS-other

'The work was thus setting traps, fishing and other tasks.' (T2006.4)

(8.266) yǐgyǐyǐyá yá-ku-káká-ku: yambámbá, kó-ǃíng-ó

9a:practice 9.ASS-15-housekeeping-15 9a:cooking 9b-cut-FV

mísá kǎ-kpǎ pǎ, kǎ-sukús-á ma-kpumúká

9.firewood 9b-sweep:FV 9.area 9b-wash-FV 6-thing

'Practices of housekeeping: cooking, cleaving firewood [with an axe], sweeping the yard, doing the dishes.' (T2006.9)

(8.267) mo-gubó didíǃí áǃǃ kǎ-sukús-á ǃo-tú, kǎ-ǔ-sukús-á

6-work different like 9b-wash-FV 2+9-clothes 9b-2.O-wash-FV

ǃa-sǎnt, kǎ-ǐ-sukús-ág-á

2-plate 9b-REFL-wash-PLUR-FV

'Different jobs, like washing clothes, doing the dishes, washing ourselves.' (T2006.5)

The second Infinitive in the last example has an object prefix because its object belongs to class 2 (see 8.2.5).

d. Infinitive or Infinitival clause as comparison

Infinitives and Infinitival clauses are used in comparisons (see 8.7), when dissimilarity with respect to the point of comparison is expressed. Part of (8.216a) is repeated here:

(8.268) ǎ ndi wa-nzá kǎ-ǔ-kítág-á ǃa-siká ǃa-si

3SG:be P₃ 1.ASS-good 9b-2.O-pass-FV 2-girl 2.ASS-all

'She was more beautiful than all the girls.'

Appendix 1 - Texts

Capitals, quotes and punctuation are added in the Liko texts to increase readability. In the literal translation, numbers refer to lines where new sentences start.

1.1 Stories (oral origin)

1.1.1 The chief of the animals (*T2006.3*)

1. Leopard was the chief of the animals. 2. He made [his subjects] clear a large field, 100 by 100 [meters]. 3. He let plant all food that is here under the sun: banana trees, cassava, sweet potatoes, macabo, yams, etcetera. 6. The field was completely full with food. 7. The chief went [to check his field] once, perhaps two times a month. 8. He put Rat⁴⁴² [there], so that he would watch over the field. 9. He, Rat, ate there every day. 10. The other animals were angry⁴⁴³, they said: "We died for Rat and his fellow." 12. They started to eat from the field. 13. Rat left to tell the chief: "There is no beauty on the field. Chief, nothing edible is left across the Mondiyó river. 16. Your clan members have turned the whole field upside down." 17. "Why did you not tell me?"⁴⁴⁴ 18. Let us leave, so that I go to see it with my [own] eyes." 19. As they arrived at the field, Leopard was staggered⁴⁴⁵: warthog did not leave⁴⁴⁶ any cassava, elephant [any] banana trees, monkey [any] sugar cane or maize, the earth was red, the field totally flat. 23. On the way back, Leopard made Rat keep silent. 24. As they arrived at the village, Leopard [said] to rat that he should go to find rotten mushrooms, [and] when he returns with them, he should insert [them] for him, in the anus, in the nostrils, in the ears, in the mouth and he should smear [them] over his face. 28. When he (Rat) had done like he was told, he played the drum⁴⁴⁷ saying: "The chief has died!" 30. On the road,

⁴⁴² I.e. Gambian pouched rat.

⁴⁴³ Literally, 'the other animals, hearts hurt them'.

⁴⁴⁴ Literally, 'where were you to tell me'.

⁴⁴⁵ Literally, 'the mouth cooled cold'.

⁴⁴⁶ Literally, 'stay'.

⁴⁴⁷ I.e. the slit drum which is used for communication.

the -animals started to ask themselves: "How did this happen?"⁴⁴⁸ 32. We hear the news of [his] death, but we have not heard the one of illness." 34. They all came together: the small animals⁴⁴⁹, the very big ones, those with horns, the ones who like to climb, all came together. 36. Rat started crying. "Our chief has died "eee", our chief has died "eee". What should we do "eee"? 38. Rat was very distressed.⁴⁵⁰ 39. Aardvark was sent to dig a grave. 40. Aardvark pushed the ground three times with [his] tail, the work was finished. 42. The time to bury the chief had come. 43. They arranged [his corpse], they lifted him up, they started to leave for the grave, while Rat was crying all the time. 46. As they arrived so that they would throw him [in the grave], at that moment Leopard jumped up fast. 48. All the animals jumped up. 49. Leopoard [looked at them] wide-eyed. 50. He [wanted] to grab the monkey, but the monkey jumped too high. 52. All animals [fled] in all directions, he did not catch any of them. 54. That is why Leopard does not get along well with his fellow animals, 56. they destroyed his field. 57. That is also why Rat fled into holes out of fear for the other animals and out of shame.

- 01 Sukopí ă ndı ngámá ka-6a-nyamá.
1a.leopard 3SG:be P₃ 1a.chief GEN-2-animal
- 02 Ó-dim-ís-á ndı tíko yí-dingí, míya ká míya.
3SG^P-clear-CAUS-FV^P P₃ 9.field 9.ADJ-big hundred PREP hundred
- 03 Ó-kún-is-ă ndı ma-lílí má-sı ní-mó kúnũ kú-silí
3SG^P-plant-CAUS-FV P₃ 6-food 6.ASS-all COP-6.DEM.I here 17-bottom
- 04 wa-móní: mo-ngí, nékú, něnzıngí, ma-gũna, 6ukwá,
17.ASS-9.sun 6-banana tree 9.cassava 9.sweet potatoes 6-macabo 8:yam
- 05 ı-kí na ı-kí.
9a-what with 9a-what
- 06 Tíko 6ı-beđe-beđe na ma-lílí.
9.field MOD-full up to the brim with 6-food

⁴⁴⁸ Literally, 'this matter was thus how'.

⁴⁴⁹ Literally, 'the edible ones'.

⁴⁵⁰ Literally, 'he suffered himself'.

- 07 Ngámá und-ag-ă ndi yí-motí⁴⁵¹, yágo⁴⁵² yí-6ă ká tumbá.
1a.chief 3SG:go-PLUR-FV P₃ 9.NUM-one perhaps 9.NUM-two PREP 9.month
- 08 Á-bis-á ndi gbukó 6é á-6únd-ág-í tíko.
3SG^P:1.O-put-FV^P P₃ 1a.rat COMP 3SG-await-PLUR-FV.SUBJ 9.field
- 09 lyí gbukó á-lyály-ag-a kúwă ndi wá go wá.
1.PRO 1a.rat 3SG^P-graze-PLUR-FV thus P₃ there
- 10 Ba-nyamá 6á-gogo, ma-mbengí ú-túl-ă ndi, 6á-6íky-a
2-animal 2.ASS-other 6-heart 3SG/PL^P:2.O-hurt-FV P₃ 3PL^P-say-FV
- 11 6é: "Tá-⁴kw-íly-á ndi gbukó ma-fíki t6ú na mu-tú kakí."
COMP 1PL^P:1.O-die-BEN-FV^P P₃ 1a.rat 6-ache 2.PRO with 1-man 3SG.POSS
- 12 Bá-pung-ă ndi ká-ly-á tíko.
3PL^P-start-FV P₃ 9b-eat-FV 9.field
- 13 Gbukó ní-mu-ná ág-ă ndi ká-⁴6íky-á ngámá 6é:
1a.rat COP-1.DEM.II-CONN 3SG^P:leave-FV P₃ 9b:1.O-say-FV 1a.chief COMP
- 14 "Bu-nzá 0-ké-gu kó tíko.
14-beauty 3SG-NEG:be:FV-NEG PREP 9.field
- 15 Ngámá, 6u-nzá 0-ké-gu kú-syáku wo-Móndíyó.
1a.chief 14-beauty 3SG-NEG:be:FV-NEG 17-side across a river 17.ASS-"Mondiyo"
- 16 Ba-va kú kakú 6ó-duk-í-ni tíko yá-st."
2-clan member there 2SG.POSS 3PL-pour-FV.ANT-PFV 9.field 9.ASS-all
- 17 "Wá kúwa 0 bi yáni ké-⁴6íky-á?
2SG:be thus 3SG:be P₁ where 9b:1SG.O-say-FV
- 18 Tága⁴⁵³, nín-d-í ká-in-á no míso."
1PL:leave:FV 1SG:go-FV.SUBJ 9b-see-FV with 6:eye
- 19 Yěki 6á-dwe kó tíko, sukopí mu-nókú á-duk-á 6í-de:
when 3PL^P-arrive:FV PREP 9.field 1a.leopard 3-mouth 3SG^P-cool-FV^P MOD-cold
- 20 nguyá 0-kó-tígól-ó-kú-gũ ndi ká nékú, mbungú ká
1a.warthog 3SG^P-NEG-stay-FV^P-DIR-NEG P₃ PREP 9.cassava 1a.elephant PREP
- 21 mo-ngí, á-búlá kó ngóngu na băde, lt-tómbú 6í-gwě,
6-banana tree 1b-monkey PREP 9.sugar cane and 9.maize 5-ground MOD-red

⁴⁵¹ Understood is **ngángá** '9.time'.

⁴⁵² Short for **yágogo**.

⁴⁵³ I assume that the H tones on **tága** are part of the expression 'Let us go!', because it does not correspond to Future, Imperative or Hortative verb forms.

- 22 tíko bí-gbatata.
9.field MOD-totally flat
- 23 Ká yigokú, sukopí Ø-ká-nzin-ís-á-gǔ gbukó.
PREP 9a:return 1a.leopard 3SG^P-NEG:1.O-talk-CAUS-FV^P-NEG 1a.rat
- 24 Yěki bá-dwe ká mu-sengí, sukopí no gbukó bé
when 3PL^P-arrive:FV PREP 3-village 1a.leopard and 1a.rat COMP
- 25 índ-í ká-kís-á búbunzá, Ø-kig-o-kú na
3SG:go-FV.SUBJ 9b-search-FV 9.rotten mushroom 3SG-COND:return-FV-DIR with
- 26 iyú, ã-mak-y-a ká lu-bǝ, 6a-sǝngú, mo-tíli, mu-nókú
9.PRO 3SG:1.O-insert-APPL-FV PREP 5-buttock 2+9-nostril 6-ear 3-mouth
- 27 na ã-gbody-o kó míso.
and 3SG:1.O-smear-FV PREP 6:eye
- 28 Yěki á-gy-a béyó, á-ngbát-a ngúdúu bé:
when 3SG^P-do-FV like that 3SG^P-play-FV 9.drum COMP
- 29 "Ngámá, o-kw-í-ni."
1a.chief 3SG-die-FV.ANT-PFV
- 30 Kó pǝsi 6a-nyamá bá-¹ním-¹úus-ó bé:
PREP 9.path 2-animal 3PL^P-INCH:REFL-ask-FV COMP
- 31 "Lí-kpumóká lu-ná a píye búní?"
5-thing 5.DEM.II-CONN 3SG:be thus how
- 32 Tukón-i ási mó-ngóni má-ku-kwá-ku aká,
1PL:hear-FV.ANT only 6-news 6.ASS-15-death-15 CT
- 33 kání tá-kúkón-í-gu ní-mó mó-¹kólofú."
when 1PL-NEG:hear-FV.ANT-NEG COP-6.DEM.I 6.ASS-1a.illness
- 34 Bó-sil-y-on-ǎ ndi bá-si, ní-bó bá-lyǎ, bá-kpukpu,
3PL^P-arrive-APPL-ASS-FV P₃ 2.ASS-all COP-2.DEM.I 2.ADJ-edible 2.ASS-big
- 35 bá-ma-pakála, bú-ḑakǎ mákúgǔ, bá-si bó-sil-y-on-o.
2.ASS-6-horn 2.ADJ-climbing 9.climbing 2.ASS-all 3PL^P-arrive-APPL-ASS-FV
- 36 Gbukó á-pung-a mu-gamú: "Ngámá kusú o-kw-í-ni eee,
1a.rat 3SG^P-start-FV 3-crying 1a.chief 1PL.POSS 3SG-die-ANT-PFV "eee"
- 37 ngámá kusú o-kw-í-ni eee. Ta-gy-a búní eee?"
1a.chief 1PL.POSS 3SG-die-ANT-PFV "eee" 1PL-do-FV how "eee"
- 38 Gbukó ǐ-gyogy-ǐ-ni yá kakí.
1a.rat 3SG:REFL-suffer-ANT-PFV towards 3SG.POSS
- 39 Bá-¹tk-á i-ngbo ká-kpǝ mbúku.
3PL^P:1.O-send-FV 1c-aardvark 9b-dig:FV 9.grave

- 40 I-ngbo ó-tíndik-o li-tómbú ngángá yí-sáá na mu-kundú,
1c-aardvark 3SG^P-push-FV 5-ground 9.time 9.NUM-three with 3-tail
- 41 li-gubó ó-sy-ó.
5-work 3SG^P-finish-FV^P
- 42 Ngbíngó mu-đíkită ngámá ó-bĩmon-o.
1a.time 1.ADJ-throwing 1a.chief 3SG^P-get closer-FV
- 43 Bǎ-bung-us-y-og-o, ǎǎ-bunk-a, ǎǎ-pung-a
3PL^P:1.O-arrange-CAUS-APPL-PLUR-FV 3PL^P:1.O-carry-FV 3PL^P-start-FV
- 44 kǎ-ag-ǎ kǎ mbúku, kání gbukó a kúwa ási kǎ
9b-leave-FV PREP 9.grave when 1a.rat 3SG:be thus only PREP
- 45 mu-gamú áka.
3-crying CT
- 46 Yěku ǎó-sil-ó kúwa ǎé ǎǎ-đíkít-í yúná í'ngátu ǎé
when 3PL^P-arrive-FV^P thus COMP 3PL:1.O-throw-FV.SUBJ thus suddenly
- 47 sukopí a-nó-bumbuk-ó ǎí-tuta.
1a.leopard 3SG-INCH-jump-FV MOD-jump fast
- 48 Ba-nyamá ǎǎ-si ǎǎ-zúkan-a.
2-animal 2.ASS-all 3PL^P-jump up-FV
- 49 Sukopí míso ǎí-nganganga.
1a.leopard 6:eye MOD-stare wide-eyed
- 50 lyí ǎé a-gwi pómbáyí yúná, pómbáyí á-bumbuk-o
1.PRO COMP 3SG:1.O-hold:FV.SUBJ 1a.monkey thus 1a.monkey 3SG^P-jump-FV
- 51 yá kú-gǔ.
towards 17-top
- 52 Ba-nyamá ǎǎ-si mánzála-mánzála, kání ǎ-kǎ-gwĩ-gu
2-animal 2.ASS-all in disorder when 3SG^P-NEG:1.O-hold:FV^P-NEG
- 53 gutúgu ǎé-motí áka.
even 1.NUM-one CT
- 54 Kínili sukopí ǎ-kúkan-an-ag-t-gu na ǎa-nyamá
that's why 1a.leopard 3SG-NEG:hear-ASS-PLUR-FV-NEG with 2-animal
- 55 ǎa-đǎki.
2-s.o. of same age:3SG.POSS
- 56 Bǎ-¹pút-íly-á ndi tíko.
3PL^P:1.O-destroy-BEN-FV^P P₃ 9.field
- 57 Kínili góni gbukó á-píkít-á ndi iyí kǎ ma-ǎíso
that's why also 1a.rat 3SG^P-run-FV^P P₃ 1.PRO PREP 6-hole

58 ká-u-báng-á 6a-dǎkɪ no sùni.
 9b-2.O-fear-FV 2-s.o. of same age:3SG.POSS with 9.shame

1.1.2 Dingopoyo⁴⁵⁴, the frightening beast (*T2006.1*)

1. In the village of Bavakwokwo was a trapper called Kibigu Kadɪgya ('He did not know what to say'⁴⁵⁵). 3. For shortness, it was cut [short] to Kibi. 4. Kibi did not have his equal in trapping. 5. His trap could not release in vain. 6. He boasted a lot. "When it comes to traps, you will eat raw food."⁴⁵⁶ There is no animal which I have not yet killed." 8. He spoke the truth, because where he lived there was always the flavour of a delicious dish. 10. One day, he was at a distillery with people of his clan. 12. They have drunk a lot of wine. 13. What happened? Drunkenness, bursts of laughter. 14. They saw Ngama Ka Ngasa ('With luck he became chief') [saying] to Kibi: "Dear brother, you praise yourself that you kill animals, have you also killed Dingopoyo?" 17. "There is no animal which lives in this forest that I did not kill." 19. "Do you know Dingopoyo already?" 20. "Does it not have another name?" 21. "This is his name, if you want, I will show you his trail, it is there at the spring of Old⁴⁵⁷ Odingo." 23. "If it is really his trail, I have just killed it." 24. The other people warned him: "Stop boasting like that among other people." 26. They had all dispersed, after Old Ka Ngasa had said to Kibi that he would acknowledge him to be a trapper when he has brought him Dingopoyo without having been cut to pieces. 30. A few days later Kibi trapped Dingopoyo's trail. 32. The next day it rained for a long time⁴⁵⁸. 33. When the sun came up⁴⁵⁹ Kibi went to inspect the trap. 34. Watching intently, [he saw that] the spring was upright, the leaves [around the trap] were bent backwards. 35. He clapped his hands "ɪputu", he clapped again, he clapped once more. 37. When he arrived at the trap, he jumped with fright [seeing] the animal. 38. "What kind of animal is this, spotted more than a leopard?"

⁴⁵⁴ **mu-poyó** '1-mysterious animal living in the water', **-dingɪ** 'ADJ, big, vast'.

⁴⁵⁵ I.e. he did not think about the effect of what he said, e.g. his boasting.

⁴⁵⁶ I.e. If you would need to live on what you catch with traps, you would not have proper food.

⁴⁵⁷ Used in order to express respect.

⁴⁵⁸ Literally, 'the next day a long rain'.

⁴⁵⁹ One day later.

40. He pulled out the spring, he started to pull Dingopoyo. 41. The man [was] overjoyed.⁴⁶⁰ 42. He started to sing. "Father, I have killed all animals "eee", except Dingopoyo "eee"; now I have killed the monster, the monster is here." 45. When he dragged the animal into the village, every person who saw it, grew stiff, he became motionless right there. 48. Ka Ngasa had a plot of land at the end [of the village]. 49. When he saw Kibi, he screamed at him: "Friend! Look behind, the people of your clan are exterminated." 52. By looking, people [had become] stiff. 53. Ka Ngasa [said] to him: "Go to a spring, smear yourself with red clay, cover yourself with red leaves. Go fast, when you return, do not look back." 57. As he did like Ka Ngasa had told him, the people all regained consciousness. 59. Kibi was afraid, he abandoned working with traps for ever. 61. That's why pride is not good.

- 01 Ká mu-sengí ka-Bavakwókwo, ă ndi mu-lílká bé-motí
PREP 3-village GEN-people of "Kwokwo" 3SG:be P₃ 1-trapper 1.NUM-one
- 02 íná ndi bé Kíbigu Kádıgyă⁴⁶¹.
5:name P₃ COMP "Kibigu Kadıgya"
- 03 Ká 6u-kúdfú bá-kɔg-ɔ kúwă ndi bé Kíbi.
PREP 14-shortness 3PL^P-cut:PLUR-FV thus P₃ COMP "Kibi"
- 04 Kíbi ɔ-ké-gũ ndi na dăktı ká 6a-kpáká.
"Kibi" 3SG-NEG:be:FV-NEG P₃ with 1a.s.o. of same age:3SG.POSS PREP 2+9-trap
- 05 Kpáká kaktı ɔ-ká-6ák-ag-t-gũ ndi yú yáyá.
9.trap 3SG.POSS 3SG^P-NEG-sprout-PLUR-FV^P-NEG P₃ 9.PRO 9.s.th. worthless
- 06 A-ní-bıb-á kúwa kúgbe. "Ká kpáká wa-ly-a yí-6isi.
3SG-INCH:REFL-praise-FV thus very PREP 9.trap 2SG-eat-FV ADV-raw
- 07 ɔ-Ké-gu na nyamá ní-nő ná-nă-mwı-gu⁴⁶²."
3SG-NEG:be:FV-NEG with 1a.animal COP-1.DEM.I 1SG-*yet*:1.O-kill:FV.ANT-NEG
- 08 Ă ndi ká-6ıky-á lí-ngunú áka kyé kú kaktı⁴⁶³ ik-ag-ă
3SG:be P₃ 9b-say-FV 5-truth CT because there 3SG.POSS 3SG:be-PLUR-FV

⁴⁶⁰ Literally, 'the man was happy to the heart full'.

⁴⁶¹ The meaning of *ɔ-kıb-i-gu ká-dıgy-ă*, 3SG-NEG:know-FV-NEG 9b-say-FV, is: 'he will not know [what] to say'.

⁴⁶² The negative prefix *ká-* is not present in this form.

⁴⁶³ *kú kaktı* is an expression meaning 'where he lives'.

- 09 ndi ást su yá-li-kísi aká.
P₃ only 9.smell 9.ASS-5-delicious dish CT
- 10 L₁-syé lí-motí a kówă ndi ká baláda na 6a-va
5-day 5.NUM-one 3SG:be thus P₃ PREP 9.distillery with 2-clan member
- 11 kú kakí.
there 3SG.POSS
- 12 Bó-mw-í-ni ma-káná lí-ngunú.
3PL-drink-FV.ANT-PFV 6-wine 5-truth
- 13 l-kí píye ? L₁-bumá, 6u-tótó bí-kyekyékýě.
9a-what thus 5-drunkenness 14-laughter MOD-burst of laughter
- 14 Bám-un-ag-a ngámá Ká Ngasá⁴⁶⁴ na Kíbi 6é: "Ye
3PL^P:1.O-see-PLUR-FV 1a.chief "Ka Ngasa" with "Kibi" COMP excuse me
- 15 míkabă⁴⁶⁵, wí-búb-ag-a 6é u-mwóg-ɔ 6a-nyamá,
1a.brother 2SG:REFL-praise-PLUR-FV COMP 2SG:2.O-kill:PLUR-FV 2-animal
- 16 wá-⁴mwó-ní góní Dingopoyó ?"
2SG^P:1.O-kill:FV^P-PFV also "Dingopoyo"
- 17 "Ø-Ké-gu na nyamá ní-nǒ kó tutú yi
3SG-NEG:be:FV-NEG with 1a.animal COP-1.DEM.I PREP 9.forest 9.DEM.III
- 18 ní-yi ná-ká-⁴mwó-gu."
COP-9.DEM.II 1SG-NEG:1.O-kill:FV-NEG
- 19 "Wam-ib-a-tú se mbéyi Dingopoyó ?"
2SG:1.O-know-FV-INS thus first "Dingopoyo"
- 20 "Ø-Ké-gu-nɔ líno lá-gɔgɔ ?"
3SG-NEG:be:FV-NEG-SUPP 5:name 5.ASS-other
- 21 "Líno kakí ní-ló, wa-ka-pă nu-many-a mándé
5:name 3SG.POSS COP-5.DEM.I 2SG-COND-Want:FV 1SG:2SG.O-show-FV 9.trail
- 22 kakí. A wá ká lt-kǒ ní-ló ka-a-mbǒkú Ódingó."
3SG.POSS 3SG:be there PREP 5-spring COP-5.DEM.I GEN-1b-old person "Odingo"
- 23 "Ø-Kik-ó mándé kakí áka nă-mwí-ni."
3SG-COND:be-FV 9.trail 3SG.POSS CT 1SG:1.O-kill:FV.ANT-PFV
- 24 Ba-6engéní 6ă-gbǔm-a 6é: "Wa-sag-á-tu
2-other person 3PL^P:1.O-advise-FV COMP 2SG-abandon:PLUR-FV-INS

⁴⁶⁴ The meaning of **ká ngasá**, PREP 9.luck, is: 'with luck' (with luck he became chief).

⁴⁶⁵ Short for **míkí ka babă** 1a-child GEN 1a-father 'child of the father'.

- 25 ká-ĩ-monís-ó lúgo ka-6a-6engéní 6éyó."
9b-REFL-show:CAUS-FV 9.middle GEN-2-other person like that
- 26 l6ú bá-sú 66-misík-ón-óg-i-ní kání a-mb6kú
2.PRO 2.ASS-all 3PL-disperse:neut-ASS-PLUR-FV.ANT-PFV when 1b-vieux
- 27 Ká Ngasá a-6íky-i-ní Kíbi 6é ăm-íb-o 6é
"Ka Ngasa" 3SG:1.O-say-FV.ANT-PFV "Kibi" COMP 3SG:1.O-know-FV COMP
- 28 a mu-líluká íba a-duly-í-kú na Dingopoyó
3SG:be 1-trapper it means that 3SG:1.O-arrive:BEN-FV.ANT-DIR with "Dingopoyo"
- 29 kání 0-ké-gu mu-sasă.
when 3SG-NEG:be:FV-NEG 1.ADJ-cut up
- 30 Ká-ag-ă ma-syé ma-kédě áka Kíbi á-lík-a mándé
9b-leave-FV 6-day 6.ADJ-small CT "Kibi" 3SG^P-trap-FV 9.trail
- 31 ka-Dingopoyó.
GEN-"Dingopoyo"
- 32 Bú-galó6i mú-nz6nzó ma-ndă.
14-the day after tomorrow 3-long rain 6.ASS-long
- 33 Na 6u-s66i Kíbi índ-a ká-and-á kpáká.
with 14-sunrise "Kibi" 3SG^P:go-FV 9b-look-FV 9.trap
- 34 Bě kyé í-kwí yí má-sú 6í-gyangala ma-páku 6í-pelele.
In order that 9a-looking 9.dem.II 6-spring MOD-raised 6-leaf MOD-bent
- 35 Á-tw-á ipútú, á-tw-á 6ată, á-tw-á 6ata
3SG^P-applaud-FV^P ADV-hitting⁴⁶⁶ 3SG^P-applaud-FV^P again 3SG^P-applaud-FV^P again
- 36 yá-g6g6.
9.ASS-other
- 37 Wá ó-sil-ó ká kpáká, á-z6kan-a nyamá.
when 3SG^P-arrive-FV^P PREP 9.trap 3SG^P:1.O-jump up-FV 1a.animal
- 38 "Í-pígo yá-nyamá tínó sě mu-ná wa-ma-balangá
9a-species 9.ASS-1a.animal which thus 1.DEM.II-CONN 1.ASS-6-spot
- 39 ká-⁴kítág-á sukopí mu?"
9b:1.O-pass-FV 1a.leopard 1.DEM.II
- 40 Ó-muk-o má-sú, á-pung-a ká-lut-ó Dingopoyó.
3SG^P-pull out-FV 6-spring 3SG^P-start-FV 9b:1.O-pull-FV "Dingopoyo"
- 41 Mu-lókú mazyazyá ká 1t-mbengí 6í-kpí.
1-man 9.joy PREP 5-heart MOD-full

⁴⁶⁶ The movement involved is: hitting the left elbow with the right hand.

- 42 Á-pung-a ká-umbíl-á. "Babă nú-mwó-ní 6a-nyamá
3SG^P-start-FV 9b-sing-FV 1a.father 1SG^P:2.O-kill:FV^P-PFV 2-animal
- 43 6á-si eee, ó-tígól-ó ní Dingopoyó eee, na-mwí-ni
2.ASS-all "eee" 3SG^P-remain-FV^P COP "Dingopoyo" "eee" 1SG:1.O-kill:FV.ANT-PFV
- 44 bangba, bangba a kúnú."
1a.monster 1a.monster 3SG:be here
- 45 Ká-pup-ís-ó nyamá ká mu-sengí, mu-tú wa-si
9b:1.O-leave-CAUS-FV 1a.animal PREP 3-village 1-man 1.ASS-all
- 46 ní-nǝ ám-un-a, ó-ping-og-o 6í-kókóló-kokolo,
COP-1.DEM.I 3SG^P:1.O-see-FV 3SG^P-harden-PLUR-FV MOD-stiff
- 47 úm-tl-ag-a wá áka wá.
3SG^P:dry-RES-PLUR-FV there on the spot
- 48 Ká Ngasá ǎ ndi mu-gĩ ká mu-li6ó.
"Ka Ngasa" 3SG:be P₃ 3-plot PREP 3-end
- 49 Níyó ám-un-a Kíbi, á-⁺pám-y-a 6é: "Wayí
When 3SG^P:1.O-see-FV "Kibi" 3SG^P:1.O-scream-APPL-FV COMP 1a.friend
- 50 mu-ná wĩkwě kú-mbúso, 6a-va kú kakú
1.DEM.II-CONN 2SG:look:FV.INST 17-back 2-clan member there 2SG.POSS
- 51 6á-⁺nó-⁺lúmw-og-ó⁴⁶⁷."
3PL-INCH-hunt-PLUR-FV
- 52 Bé kyé í-kwĩ yi-ná, 6a-mbánzú 6í-kókóló-kokolo.
in order that 9a-looking 9.DEM.II-CONN 2-person MOD-stiff
- 53 Ká Ngasá áka na tyí 6é: "Wind-á ká li-kǝ,
"Ka Ngasa" only with 1.PRO COMP 2SG:go-FV.IMP PREP 5-spring
- 54 wĩ-gbody-ó mu-kpúndú má-ngbu, wĩ-kungúl-ó
2SG:REFL-smear-FV.IMP 3-clay 3.ASS-red 2SG:REFL-surround-FV.INST
- 55 nzěnze yá-ngbu. Wind-á 6í-gala, ká yigǝkú kakú
9.leaf 9.ASS-red 2SG:go-FV.IMP MOD-fast PREP 9a.return 2SG.POSS
- 56 wa-kíkwe-ní-to kú-mbúso."
2SG-NEG:look:FV- NEGSUBJ-INS 17-back
- 57 Yěki á-gy-a 6éyó Ká Ngasá á-⁺6ĩky-á ndi minó,
when 3SG^P-do-FV like that "Ka Ngasa" 3SG^P:1.O-say-FV P₃ TRACE
- 58 6a-mbánzú 6á-bútl-a 6á-si.
2-person 3PL^P-regain consciousness-FV 2.ASS-all

⁴⁶⁷ The meaning with the Pluractional extension is: **kólúmwógó** 'to wipe out'.

- 59 Mu-nəkú á-dík-a Kíbi ǂí-dě, á-sǎ ndɪ
 3-mouth 3SG^P:1.O-make cold-FV "Kibi" MOD-wet 3SG^P-abandon:FV P₃
- 60 li-gubó lá-ǂa-kpáká lí-ngunú.
 5-work 5.ASS-2 + 9-trap 5-truth
- 61 Kínili yǂibǂǂ ǂ-ké-gu yá-nza.
 that's why 9a:pride 3SG-NEG:be:FV-NEG 9.ASS-good

1.1.3 Mbwoko⁴⁶⁸ (T2006.2)

1. A demon had a beautiful daughter⁴⁶⁹. 2. The girl had a very soft skin.⁴⁷⁰ 3. Someone pretty like that is something very good. 4. Her father demanded⁴⁷¹ that her [future] husband will be a man who endures hunger. 6. Mbwoko went to her place to live together with her. 7. At sunset, he was put in a house where ripe bananas were stored.⁴⁷² 8. He passed [the night] alone, while he was not even given any drinking water. 10. At sunrise, the man was hungry. 11. [His] eyes started to turn round with dizziness. 12. Mbwoko picked ripe bananas, he ate them raw. 13. When the father of the woman found out, he called [his] sons, they killed Mbwoko. 15. His meat was prepared with condiment. 16. The father of the girl took this food [and] put these cooking pots in the guesthouse, so that whoever, if he would steal, they would kill him likewise. 19. All the men who came, started to steal the meat of Mbwoko and were all killed. 21. If somebody stole [the food], all the joints of his body started to resonate: "Mbwoko-mbwoko, mbwoko-mbwoko", when he started to move or walk. 24. Men lost their lives.⁴⁷³ 25. What happened? Those who are strong men started to fight with men or their age. 27. All this was of no use, because even if you are a hero, [it] is worthless in the village of someone else. 30. The news went to the villages. 31. The young men refused to go and live together with the demon's daughter. 33. Sodu⁴⁷⁴, in spite of the news that circulated,

⁴⁶⁸ Ideophone for 'sound of a footstep'.

⁴⁶⁹ Literally, 'his very light-coloured girl'.

⁴⁷⁰ Literally, 'like a raffia calabash'.

⁴⁷¹ Literally, 'guarded her'.

⁴⁷² Literally, 'house of ripe bananas'.

⁴⁷³ Literally, 'a human being was cleared'.

⁴⁷⁴ **sodu** means 'cricket', an animal known in stories for its smartness.

gave in to the desire⁴⁷⁵: he was going to the woman. 35. When he arrived the father of the woman praised him very much, as he also had a thumb piano. 37. First he spent two days without feeling hungry, because he was playing the thumb piano all the time. 40. Earlier, he had heard the news about Mbwoko. 41. During the night, when the men had fallen asleep, he carried [away] one pot, he carried it with a strap over his shoulder. 43. He left. 44. He went, he went, he went further and further away. 45. When he was far away [from the village], he started to play his thumb piano. 46. When he came to the river crossing,⁴⁷⁶ he sat down and relaxed. 47. He ate all the food [from the pot]. 48. [When] he took his thumb piano like he used to, his whole body [sounded] "mbwoko-mbwoko, mbwoko-mbwoko". 50. All the paddlers woke up. 51. They started to look for him. 52. Sodu dived into the river, he surfaced down there across the river. 54. He told all his fathers⁴⁷⁷ and his brothers. 55. That is why men and demons hated each other, because they [the demons] killed Mbwoko.

- 01 A-bulí 6é-motí ă ndi na mu-síká kakí bí-tú.
1b-demon 1.NUM-one 3SG:be P₃ with 1-girl 3SG.POSS MOD-light
- 02 Míkí mu-kó yi ábe pápá yá-li-kíngo.
1a.child 1-woman 1.DEM.III like 9.calabash 9.ASS-5-raffia.
- 03 Wa-nzá 6ákayō lúkí lá-nza ik-ag-a-tú minó.
1.ASS-good like that 5:somethinzg 5.ASS-good 3SG:be-PLUR-FV-INS TRACE
- 04 A-bǎkí á-pak-á ndi 6é mbunyákí ik-o
1b-father:3SG.POSS 3SG^P-guard-FV^P P₃ COMP 1a.husband:3SG.POSS 3SG:be-FV
- 05 ndéke mu-tú mu-ptlyǎ nzǎ.
F₃ 1-man 1.ADJ-enduring 9.hunger
- 06 Mbwóko índ-a ká si-lyá-su, kúgókú.
"Mbwoko" 3SG^P:go-FV PREP 7-cohabitation-7 right there
- 07 Na 6u-gɔgɔ, 6á-maky-a ká ndábu yá-guní.
with 14-sunset 3PL^P:1.O-put in-FV PREP 9.house 9.ASS-9.ripe banana
- 08 Á-syé mu-kaká, kání 6á-ká-⁴pí-gu gutúgu lífó
3SG^P-pass:FV 1.ADJ-alone when 3PL-NEG:1.O-give:FV.ANT-NEG even 5:water

⁴⁷⁵ Literally, 'he tied himself to the attitude of young men to seduce a girl'.

⁴⁷⁶ Where people could go to the other side in a dugout.

⁴⁷⁷ Including his father's brothers.

- 09 lí-mwǒ áka.
5.ADJ-drinking CT
- 10 Na 6u-sóǒt, a-lúkú ím-úkan-a nǚ.
with 14-sunrise 1b-man 3SG^P:REFL-feel-FV 9.hunger
- 11 Míso á-pung-a ká-ling-ik-on-o na ó-pilípílí.
6:eye 3SG/PL-start-FV 9b-surround-NEUT-ASS-FV with 1b-vertigo
- 12 Mbwóko á-pw-ág-a guní, á-ly-á yí-ḡisi.
"Mbwoko" 3SG^P-pick-PLUR-FV 9.ripe banana 3SG^P-eat-FV^P ADV-raw
- 13 Níyó a-bákí mu-kó á-ndúng-á, ú-mák-a 6o-míkí
when 1b-father:3SG.POSS 1-woman 3SG^P-discover-FV^P 3SG^P:2.O-call-FV 2-child
- 14 6a-lúkú 6ǐ, 6á-mwó Mbwóko.
2-man 2.DEM.III 3PL^P:1.O-kill:FV "Mbwoko"
- 15 Ma-kǒlǒ kakí 6ám-b-a na súyí.
6-meat 3SG.POSS 3PL^P:cook-FV with 9.seed
- 16 A-bákí mu-síká nǚ á-va ma-lílí mó, ó-bǐs-o
1b-father:3SG.POSS 1-girl 1.DEM.I 3SG^P-take:FV 6-food 6.DEM.I 3SG^P-put-FV
- 17 6o-kpokúkú 6oyí ká ndáǒu ka-6o-bikó, kyé nǚ
2+9-cooking pot 2+9.DEM.III PREP 9.house GEN-2-visitor because 1.DEM.I
- 18 Ø-kiǒ-ó, 6á-mwó iyí 6égyéy.
3SG-COND:steal-FV 3PL:1.O-kill:FV 1.PRO likewise
- 19 6a-lúkú ní-ḡó 6ó-dog-ó-kú ndí 6á-sí, 6á-⁴níǒ-o
2-man COP-2.DEM.I 3PL^P-come:PLUR-FV^P-DIR P₃ 2.ASS-all 3PL^P-INCH:steal-FV
- 20 ma-kǒlǒ ko-Mbwoko, 6ú-mwóǵ-ǵ 6á-sí.
6-meat GEN-"Mbwoko" 3PL^P:2.O-kill:PLUR-FV 2.ASS-all
- 21 6é-motí Ø-kiǒ-á ndí, mo-zǐko má-⁴nzúyí kakí má-sí
1.NUM-one 3SG-COND:steal-FV P₃ 6-joint 6.ASS-9.body 3SG.POSS 6.ASS-all
- 22 á-pung-a kó-ḡúk-ó 6é: mbwóko-mbwóko, mbwóko-mbwóko,
3SG/PL^P-start-FV 9b-resonate-FV COMP "mbwoko-mbwoko" "mbwoko-mbwoko"
- 23 kání a-nó-dw-ǒ áma ká-kpakyán-á.
when 3SG-INCH-move-FV or 9b-walk-FV
- 24 Míkí ka-mu-mbánzú á-ḡím-ík-an-a kúwǎ ndí.
1a.child GEN-1-person 3SG^P-clear-NEUT-ASS-FV thus P₃
- 25 l-kí píye ? Ní-ḡó 6o-túǵbǒ 6á-ná-bum-an-ag-á na
9a-what thus COP-2.DEM.I 2-strong man 3PL^P-INCH-fight-ASS-PLUR-FV with
- 26 6a-lúkú 6a-ǵǵu.
2-man 2-s.o. of same age:3PL.POSS

- 27 Níyó yá-si a ási yayá áka, kyé gutúgu
When 9.ASS-all 3SG:be only 9.s.th. worthless CT because even
- 28 wa-kik-ó tutúngyó a yayá áka, ká mu-gĩ
2SG-COND:be-FV 1a.hero 3SG:be 9.s.th. worthless CT PREP 3-village
- 29 ka-bengéní.
GEN-1a.other person
- 30 Mó-ngóni índ-ag-a kúwă ndi kó gĩ-yo.
6-news 3SG/PL^P:go-PLUR-FV thus P₃ PREP 9.village-9
- 31 Bo-míkí 6a-lúkú bi 6á-ky-á ndi ká-índ-á ká
2-child 2-man 2.DEM.III 3PL^P-refuse-FV^P P₃ 9b-go-FV PREP
- 32 si-lyá-su ka-mu-síká ka-a-bulí.
7-cohabitation-7 GEN-1-girl GEN-1b-demon
- 33 Sódú, gutúgu mó-ngóni ă ndi ká-dă, ĭ-kand-a
"Sodu" even 6-news 3SG/PL:be P₃ 9b-creep:FV 3SG:REFL-tie-FV
- 34 li-wanzá 6é a ká-índ-á ká mu-kó.
5-attitude¹ COMP 3SG:be 9b-go-FV PREP 1-woman
- 35 Níyó á-dwě, a-băki mu-kó á-bib-a kúgbe,
when 3SG^P-arrive:FV 1b-father:3SG.POSS 1-woman 3SG^P:1.O-praise-FV very
- 36 yěki a sě ndi goní na li-kembé.
as 3SG:be thus P₃ also with 5-thumb piano
- 37 Á-gy-a mbéyi ma-syé má-bă kání Ø-ké-gu
3SG^P-do-FV first 6-day 6.NUM-two when 3SG-NEG:be:FV-NEG
- 38 ká-ĭm-ukán-á nză, kyé ă ndi ási ká-ngbát-á
9b-REFL-hear-FV 9.hunger because 3SG:be P₃ only 9b-play-FV
- 39 li-kembé áka.
5-thumb piano CT
- 40 Ă ndi kání úkón-ón-í ndi mó-ngóni ko-Mbwóko.
3SG:be P₃ when 3SG:hear-ASS-FV.ANT P₃ 6-news GEN-"Mbwoko"
- 41 No bití, kání 6a-mbánzú 6ó-lól-ón-i-ní, á-bunik-a
with 9.darkness when 2-person 3PL-sleep-ASS-FV.ANT-PFV 3SG^P-carry-FV
- 42 li-dăki lí-motí á-săw-a.
5-pot 5.NUM-one 3SG^P-carry¹-FV^P
- 43 lyí ní-mu-ná ó-pup-o mu.
1.PRO COP-1.DEM.II-CONN 3SG^P-leave-FV 1.DEM.II
- 44 Á-ga, á-ga, á-ga bată.
3SG^P-go:FV 3SG^P-go:FV 3SG^P-go:FV again

- 45 Níyó í-dukúl-ó, á-pung-a ká-ngbát-á li-kembé kakí.
when 3SG^P:REFL-pursue-FV^P 3SG^P-start-FV 9b-play-FV 5-thumb piano 3SG.POSS
- 46 Níyó á-dwe ká lɪ-sú, ík-o ðí-ziko.
when 3SG^P-arrive-FV PREP 5-crossing 3SG^P:sit-FV MOD-sitting
- 47 Á-ly-á ma-lílí má-sɪ.
3SG^P-eat-FV^P 6-food 6.ASS-all
- 48 lɪ́ ðé á-vɪ li-kembé ðéne, nzúyɪ yá-sɪ
1.PRO COMP 3SG^P-take-FV.SUBJ 5-thumb piano like this 9.body 9.ASS-all
- 49 mbwóko-mbwóko, mbwóko-mbwóko.
"mbwoko-mbwoko" "mbwoko-mbwoko"
- 50 Ba-kangú ðó-zúruk-og-o bá-sɪ.
2-paddler 3PL^P-wake up-PLUR-FV 2.ASS-all
- 51 Bá-pung-a ká-kɪs-a.
3PL^P-start-FV 9b:1.O-search-FV
- 52 Sódú ó-lind-o kó líðó, ó-pup-on-o-kú kúkwaku
"Sodu" 3SG^P-sink-FV PREP 5:water 3SG^P-leave-ASS-FV-DIR down there
- 53 kú-syáku.
17-side across a river
- 54 Ú-ðíky-o-kú ða-bákt na ða-má'mákt bá-sɪ.
3SG^P:2.O-say-FV-DIR 2:1b-father:3SG.POSS and 2-brother:3SG.POSS 2ASS-all
- 55 Kínili ða-mbánzú ða-múy-án-á na ða-bɪlɪ, kyé
that's why 2-person 3PL^P-hate-ASS-FV^P with 2:1b-demon because
- 56 bá-mwó ndɪ Mbwóko.
3PL^P:1.O-kill-FV P₃ "Mbwoko"

1.2 History

1.2.1 Circumcision (*T2006.4*)

1. When the ancestors were [still] alive, circumcision was a big event and it came with much merrymaking. 3. There were two kinds of circumcision. 4. There was the one which they called big circumcision and [the other] "mastbu". 6. If you heard "big circumcision", it referred to the one where many children were circumcised. 8. They rounded up all the children of the village and of other villages. 10. These children were circumcised together. 11. What happened there, they went with them to the forest, [where] they built a house for them. 13. All the boys to be circumcised sat over there. 14. Thus [when they were] there, the work

of the boys there in the forest, was setting traps, fishing and other tasks. 17. The day on which they sat [there] to cause them [the boys] to leave [the forest] towards the village, a great ceremony was organized. 19. The circumcisors and the boys started to chant slogans and [to dance] the circumcision dances. 21. If perhaps your child had died, the circumcisors took an anthill, they came with it towards [you], they let you⁴⁷⁸ carry it, you the father of the child, you (pl) with his mother'. 24. When [this happens] you will know thus: "My child has died." 25. This circumcision ceremony lasted many days and it had bad luck. 27. "Mastbu", that is the circumcision we practise these days. 29. The circumcision of "mastbu" is the one which serves to resolve grudges. 31. If perhaps you (pl) fought with men of the women of the village or about something else. 33. [During] this circumcision the men and the women of the village chant: "Rigo hooo!", "Rigo hooo!". 35. The woman who did something malicious to the village will be punished. "Hooo". 37. [At] the big circumcision our ancestors demanded things like animals, hats, quivers. 39. The circumcision of "mastbu" is not one with many demands. 41. It is the one you (pl) and your blood brother, like that you (pl) get along well. 43. Old habits have finished, we are now in modern times. 44. That is why the big circumcision no longer exists. 45. That one of "mastbu" does not have taboos. 46. Young boys do not like to circumcise at a "mastbu" ceremony.

- 01 Ka-6a-ttṭé ndi ɪ-múí-sɔ ǎ ndi ɪ-kpumúká lí-dingĩ
 GEN-2-grand-parent P₃ 19-circumcision-19 3SG:be P₃ 5-thing 5.ADJ-big
- 02 na lá-ma-gyagyǎ kúgbɛ.
 with 5.ASS-6-joy very
- 03 Múí-tɔ ǎ ndi mo-bĩ má-6ǎ.
 13.circumcision-13 3SG/PL:be P₃ 6-group 6.NUM-two
- 04 ǎ ndi ní-sɔ 6á-lík-y-ag-ǎ ndi 6é sɪ-múí-sɔ
 3SG:be P₃ COP-7.DEM.I 3PL^P-call-APPL-PLUR-FV P₃ COMP 19-circumcision-19
- 05 na mastbú.
 and "mastbu"
- 06 Wa-kukán-á ndi 6é sɪ-múí-sɔ sí-dingĩ íba
 2SG-COND:hear-FV P₃ COMP 19-circumcision-19 19.ADJ-big it means that

⁴⁷⁸ Literally, 'them'.

- 07 ní-só bú-kɔg-ɔ ndɪ minó 6o-míkí bú-dingĩ.
COP-19.DEM.I 3PL^P:2.O-cut:PLUR-FV P₃ TRACE 2-child 2.ADJ-big
- 08 Bú-mumul-ag-ǎ ndɪ 6o-míkí ká mu-sengí má-sɪ na kó
3PL^P:2.O-round up-PLUR-FV P₃ 2-child PREP 3-village 3.ASS-all and PREP
- 09 gĩ-yo yá-gɔgɔ.
9.village-9 9.ASS-other
- 10 Bo-míkí ní-6ó bú-kɔg-ɔ kúwǎ ndɪ pa⁴⁷⁹ yí-motí.
2-child COP-2.DEM.I 3PL^P:2.O-cut:PLUR-FV thus P₃ 9.area 9.NUM-one
- 11 Ik-og-o kúwǎ ndɪ wá, 6ág-a na6ú ká gbundú,
3SG:be-PLUR-FV thus P₃ there 3PL^P:leave-FV with:2.PRO PREP 9.forest
- 12 bú-pik-ily-o ndá6u.
3PL^P:2.O-build-BEN-FV 9.house
- 13 Ba-múyú 6á-st 6ík-o kúwǎ ndɪ kúkwaku.
2-boy to be circumcised 2.ASS-all 3PL^P:sit-FV thus P₃ over there
- 14 Kúwǎ ndɪ wá, li-gubó ka-6a-múyú kú ká gbundú, ik-og-o
thus P₃ there 5-work GEN-2-boy there PREP 9.forest 3SG:be-PLUR-FV
- 15 kúwǎ ndɪ ká-lík-á 6a-kpáká, kó-lub-ó ma-sikɪdǎngí na
thus P₃ 9b-trap-FV 2+9-trap 9b-plunge-FV 6-fish hook and
- 16 mo-gubó má-gɔgɔ.
6-work 6.ASS-other
- 17 Lɪ-syé ní-ló 6ík-o kúwǎ ndɪ minó ká-ũ-pup-ís-ó-kú
5-day COP-5.DEM.I 3PL^P:sit-FV thus P₃ TRACE 9b-2.O-leave-CAUS-FV-DIR
- 18 kúnɔ ká mu-sengí dumó mu-dingĩ á-tín-ɪk-a.
here PREP 3-village 1a.feast 1.ADJ-big 3SG^P-cut-NEUT-FV
- 19 Ba-sambá na 6a-múyú 6á-pung-a bilísy-óg-ó⁴⁸⁰ na
2-circumcisor and 2-boy 3PL^P-start-FV chant slogans-PLUR-FV with
- 20 mo-6íno má-st-mút-sɔ.
6-dance 6.ASS-19-circumcision-19
- 21 Ø-Kik-á ndɪ, ní míkakú o-kw-í-ni, 6a-sambá
3SG-COND:be-FV P₃ when 1a.child:2SG.POSS 3SG-die-FV.ANT-PFV 2-circumcisor

⁴⁷⁹ The LH tone on **pǎ** surfaces as Low because the High part is linked to the following H tone.

⁴⁸⁰ Usually in a construction with **-pung-** 'start', the following verb has Infinitive prefix **ká-**. In this case the tone melody is of the Infinitive, but the prefix is missing.

- 22 bá-va i-títí, bó-do-kú noyú bú-dung-is-o
3PL^P-take:FV 9a-anthill 3PL^P-come:FV-DIR with:9.PRO 3PL^P:2.O-carry-CAUS-FV
- 23 ɪwɛ a-băktí míkí íbúnú na a-máktí.
2SG.PRO 1b-father:3SG.POSS 1a.child 2PL.PRO and 1b-mother:3SG.POSS
- 24 Níyó wíɓ-o kúwa bɛ́: "Mikǎmí ó-kw-ó-ní ndí."
when 2SG:know-FV thus COMP 1a.child:1SG.POSS 3SG^P-die-FV^P-PFV P₃
- 25 l-múí-sɔ ní-só ǎ ndí na ma-syé má-kpɔ na
19-circumcision-19 COP-19.DEM.I 3SG:be P₃ with 6-day 6.ASS-big and
- 26 mbali wa-nyé.
1a.luck 1.ASS-bad
- 27 Mastbú, a sú ɪ-múí-sɔ ní-só ta kúwa minó
"mastbú" 3SG:be 19.PRO 19-circumcision-19 COP-19.DEM.I 1PL:be thus TRACE
- 28 ká ma-syé mi ní-ma.
PREP 6-day 6.DEM.III COP-6.DEM.II
- 29 l-múí-sɔ sá-mastbú a sú ní-só kó bulýó
19-circumcision-19 19.ASS-"mastbú" 3SG:be 19.PRO COP-19.DEM.I PREP 9.reason
- 30 yígbǔma ɓo-yokó.
9a:stopping 2+9-grudge
- 31 ø-Kik-ó ní má-bum-án-á ndí na ɓa-mbáanzú kó ɓo-kó
3SG-COND:be-FV when 2PL^P-fight-ASS-FV^P P₃ with 2-person PREP 2-woman
- 32 bá-mu-sengí ikánígu ká ɪ-kpómúká lá-gɔgɔ.
2.ASS-3-village or PREP 5-thing 5.ASS-other
- 33 l-múí-sɔ ní-só ɓa-lúkú na ɓo-kó bá-mu-sengí
19-circumcision-19 COP-19.DEM.I 2-man and 2-woman 2.ASS-3-village
- 34 bó-bilisy-og-o kúwǎ ndí bɛ́: "Rigo hooo ! rigo hooo !"
3PL^P-chant slogan-PLUR-FV thus P₃ COMP "rigo hooo" "rigo hooo"
- 35 Mu-kó ní-nǎ a-gy-a ɓo-kólí ká mu-sengí
1-woman COP-1.DEM.I 3SG-do-FV 2-s.th. malicious PREP 3-village
- 36 ɪ-gyagy-a ndéke. Hooo.
3SG:REFL-punish-FV F₃ "Hooo"
- 37 l-múí-sɔ sí-dingí ɓo-títósu⁴⁸¹ ɓa-kúng-ag-ǎ ndí
19-circumcision-19 19.ADJ-big 2-ancestor:1PL.POSS 3PL^P-demand-PLUR-FV P₃
- 38 minó ma-kpómúká ábɛ nyamá, si-kpí-so, mu-ɓúku má-ɓo-móngwǎ.
TRACE 6-thing like 1a.animal 19-hat-19 3-quiver 3.ASS-2+9-arrow

⁴⁸¹ Compound from ɓa-títé + kusú 'the ancestors 1PL.POSS'.

- 39 St-múí-sò sá-mastóú Ø-ké-gu sú na
19-circumcision-19 19.ASS-"mastóu" 3SG-NEG:be:FV-NEG 19.PRO with
- 40 mo-kúngóni mú-dingĩ.
6-request 6.ADJ-big
- 41 A sú idúnú na mū-ganzá dāku aká bēyó
3SG:be 19.PRO 2PL.PRO and 1-blood brother friend:2SG.POSS CT like that
- 42 mīb-on-on-og-o minó.
2PL.know-ASS-ASS-PLUR-FV TRACE
- 43 Má-ndélt⁴⁸² ó-sy-ó-ní, ta kúwa ká má-⁴mbíya.
6.ASS-old 3SG/PL^f-finish-FV^p-PFV 1PL:be thus PREP 6.ASS-new
- 44 Kínili st-múí-sò sí-dingĩ Ø-ké-gu batā.
that's why 19-circumcision-19 19.ADJ-big 3SG-NEG:be:FV-NEG again
- 45 Ní-só sá-mastóú Ø-ké-gu isú na ðǒpé.
COP-19.DEM.I 19.ASS-"mastóu" 3SG-NEG:be:FV-NEG 19.PRO with 2:taboo
- 46 Ba-wanzá bá-ká-pag-t-gu ká-kǒ st-múí-sò
2-young person 3PL-NEG-want:PLUR-FV-NEG 9b-cut-FV 19-circumcision-19
- 47 sá-mastóú.
19.ASS-"mastóu"

1.3 Technical instruction

1.3.1 Palm-nut pit body oil (*T2006.6*)

1. The forefathers used to rub their bodies in with black oil.⁴⁸³ 2. To make black oil, it is necessary that you first take palm nuts, put them out in the sun, until they are dry, after that crush them. 5. When there are many palm-nut pits,⁴⁸⁴ take a clay pot, or perhaps a clay water pot, pour [them] into [the pot], put it on a fire. 8. Sprinkle [in the pot] a little bit of water, rekindle the fire. 10. When the water has completely dried up, take a part of a palm branch, or perhaps a dried stem of a banana leaf, and start to stir "fwa", "fwa", "fwa". 13. A vapour starts to come out [of the pot], it smells good, delicious. 15. This smell goes far, you cough rapidly

⁴⁸² Understood is *ma-kpomóká má-ndélt* 'old things, i.e. old habits'.

⁴⁸³ I.e. oil from the palm-nut pit, French translation given by my Liko consultants is *huile d'amande* 'almond oil'.

⁴⁸⁴ Literally, 'the palm nuts [have] grown big'.

"kɔfɔ" "kɔfɔ". 16. Another time, people sprinkle also with red consumption oil, roast slowly. 18. After that, take these palm nuts, break them [with your teeth] "gbwa", if you see that they have become roasted, put [the pot] on the ground. 21. Take a sieve, put it on top of another pot, take some leaves of the "lɪdǎ" tree, put them [in the sieve], pour [palm nuts] on top of them. 24. Meanwhile take the fruit of the "bɔ-sɛkɪ-sɛkɪ" tree,⁴⁸⁵ throw it in the oil, the oil cooks "kpwi kpwi kpwi", smell the fragrance of the oil, a nice smell. 27. When it has cooled down, pour it into a container. 28. We do thus, after washing ourselves, cover yourself with it. 30. The body becomes soft, shining black, smooth like the big flying termite "mumangwa". 32. If it is evening, you will sleep peacefully. 33. This oil also kills scabies on the body. 35. Also, [from] this pot in which palm-nut pits were roasted, people often drink water, because it causes the water to taste very good.

- 01 Ba-túté bɪ-tikil-og-ǎ ndɪ nzúyɪ na mo-lingó mó-pi.
2-old person 3PL^P:REFL-rub-PLUR-FV P₃ 9.body with 6-oil 6.ASS-black
- 02 Kó-sumb-ó mo-lingó mó-pi a-kwanan-a mbéyɪ wá-va
9b-roast-FV 6-oil 6.ASS-black 3SG-should-FV first 2SG-take:FV.INST
- 03 ndikó, wó-bɪs-o ká móní, á-mbɔw-a⁴⁸⁶,
9.palm-nut pit 2SG-put-FV.INST PREP 9.sun 3SG/PL^P-be cooked-FV
- 04 kú-mbúso yí wá-gǐng-ag-a.
17-back 17.DEM.III 2SG-shell-PLUR-FV.INST
- 05 Ndikó kó-bwǒ, wá-va lɪ-dákɪ, yágogo
9.palm-nut pit 9b-grow big:FV 2SG-take:FV.INST 5-clay pot perhaps
- 06 lɪ-wengú wó-ɖuk-o minó, wóm-os-o kó
5-clay water pot 2SG-pour-FV.INST TRACE 2SG:arrive-CAUS-FV.INST PREP
- 07 bukú.
8:burning piece of wood
- 08 Wá-kpazy-a minó, na ɪ-kyá líbó, wá-gbǔnd-a
2SG-sprinkle-FV.INST TRACE with 1c-s.th. small 5:water 2SG-rekindle-FV.INST
- 09 bukú.
8:burning piece of wood

⁴⁸⁵ Used in order to get deodorant.

⁴⁸⁶ This is the only case of -u with Passive meaning in my data, **ká-amb-á** 9b-cook-FV 'to cook', **ká-ambuw-á** 'to be cooked'.

- 10 Níyó líbó a-fá bí-gbutu, wá-va i-gbutú
when 5:water 3SG-dry:FV MOD-viscous 2SG-take: FV.INST 9a-part
- 11 yá-i-gbù, yágogo i-kubú, wá-pung-a kó-yò bí-fuwa,
9.ASS-9a-branch perhaps 9a-stem 2SG-start-FV.INST 9b-stir:FV MOD-"fuwa"
- 12 fuwa, fuwa.
"fuwa" "fuwa"
- 13 Múgá a-pung-a kó-pup-ó, a-nó-lumb-ó má-nza
3:vapour 3SG-start-FV 9b-leave-FV 3SG-INCH-smell-FV 3.ASS-good
- 14 bí-tumbe-tumbe.
MOD-smelling good
- 15 Sù yí ind-a byí, wá-kó bí-kofó, kofó.
9.smell 9.DEM.III 3SG:go-FV far 2SG-cough:FV.INST MOD-"kofó" "kofó"
- 16 Ngbíngó wá-gogo, bá-kpazy-ag-a-tú góní na mo-lingó má-ngbu,
1a.time 1.ASS-other 3PL-sprinkle-PLUR-FV-INS also with 6-oil ASS6-red
- 17 wó-kóng-o bí-wešee.
2SG-roast-FV.INST MOD-slowly
- 18 Kú-mbúso yí, wá-va ndikó yi ní-yó
17-back 17.DEM.III 2SG-take:FV.INST 9.palm-nut pit 9.DEM.III COP-9.DEM.I
- 19 wó-ḡwóḡw-o bí-gbwaaa, wa-kun-á ḡé
2SG-cut with teeth-FV.INST MOD-"gbwaaa" 2SG-COND:see-FV COMP
- 20 o-kóng-ik-ón-i-ní, wó-totis-o.
3SG/PL-roast-NEUT-ASS-FV.ANT-PFV 2SG-put down-FV.INST
- 21 Wá-va li-ndémé, wó-bís-o kú-gù wa-li-ḡakí lá-gogo,
2SG-take:FV.INST 5-sieve 2SG-put-FV.INST 17-top 17.ASS-5-pot 5.ASS-other
- 22 wá-va ma-dadā, wó-bís-o, wó-kos-on-o kúwa
2SG-take:FV.INST 6-leaf 2SG-put-FV.INST 2SG-pour-PLUR-FV.INST thus
- 23 kú-gù yí.
17-top 17.DEM.III
- 24 Kúwa wa wá-va li-bumó lá-ḡu-sekí-sékí, wá-makit-a
so 2SG-take:FV.INST 5-fruit 5.ASS-14-tree, sp. 2SG-throw-FV.INST
- 25 kú-sḡ wa-mo-lingó, ó-ḡy-ó bí-kpwikpwikpwí,
17-inside 17.ASS-6-oil 3SG/PL^P-cook-FV^P MOD-"kpwikpwikpwí"
- 26 wúkan-a se kúwa su yá-mo-lingó bí-duke-duke.
2SG:smell-FV.INST thus thus 9.smell 9.ASS-6-oil MOD-nice smell
- 27 Níyó a-ḡik-a kúwa wó-ḡuk-o ká li-súngú.
when 3SG/PL-cool down-FV thus 2SG-pour-FV.INST PREP 5-container

- 28 Ta-gy-ag-a kúwa bé kú-mbúso wa-yĩsukusagá
1PL-do-PLUR-FV thus COMP 17-back 17.ASS-9a:washing
- 29 wí-tíkil-og-o nomú.
2SG:REFL-cover-PLUR-FV.INST with:6.PRO
- 30 Nzúyí ó-do-kú bí-weseee, bí-nziki-nziki, bí-sende-sende
9.body 3SG^P-come:FV-DIR MOD-soft MOD-shining black MOD-smooth
- 31 ábě mu-mángwá.
like 1-big termite
- 32 Ø-Kik-ó bu-gogǒ, wá-lál-a tǒtǒ bí-peee.
3SG-COND:be-FV 14-sunset 2SG-sleep-FV.INST 9.sleep MOD-"pee"
- 33 Mo-lingó mi ní-mó a-mwóg-ǒ-tú⁴⁸⁷ goní pándá
6-oil 6.DEM.III COP-6.DEM.I 3SG/PL-kill:PLUR-FV-INS also 9.scabies
- 34 ká nzúyí.
PREP 9.body
- 35 Goní mbiké yi ní-yó bó-kóng-og-o minó ndikó
also 9.pot 9.DEM.III COP-9.DEM.I 3PL^P-roast-PLUR-FV TRACE 9.palm-nut pit
- 36 bó-mw-ág-a-tú minó líbó kyé o-lumb-is-og-o
3PL-drink-PLUR-FV-INS TRACE 5:water because 3SG-smell-CAUS-PLUR-FV
- 37 líbó lá-nza kúgbé.
5:water 5.ASS-good very

1.3.2 The soap bar "agbagi" (T2006.5)

1. The production⁴⁸⁸ of a soap bar is very difficult. 2. Here, where we live in Gbaegbae, we start by collecting banana tree trunks, we arrange them with the fibre of the palm nuts,⁴⁸⁹ palm tree flowers, plantain banana peelings, stems of sweet potatoes, "diyongo" bushes,⁴⁹⁰ papaya tree pieces and different other objects. 6. When we finish gathering, we cut⁴⁹¹ a lot of firewood, we take all the palm-nut pits and also arrange a fireplace for this fire. 9. Over the fire, we start by putting

⁴⁸⁷ Vowel copy after height coalescence has applied to the sequence of the high vowel of the [–ATR] -CV- verb and the final vowel -a.

⁴⁸⁸ Literally, 'work'.

⁴⁸⁹ I.e. the fibre which is left after the palm oil is extracted.

⁴⁹⁰ These bushes have a very bitter taste.

⁴⁹¹ This verb and the following two have a Past TAM melody.

the palm-nut fibres at all sides, we pour palm-nut pits, we put the banana peelings, followed by "diyongo" bushes, while we are about to tear up banana tree trunks and throw [the pieces] there. 14. The combustion of the liquid consisting of a mix of water and ashes requires effort, because you are finishing by pouring it slowly in the fire, you sit down to heat up⁴⁹² the fire, it burns irregularly with a lot of smoke. 17. The whole body takes on just the smell of smoke, you give off a bad smell like a sparrowhawk. 19. When all the ingredients are burned up, you spread them out [until] they cooled down. 21. After that, you lift up all hard embers, pick only ashes.⁴⁹³ 23. You take something to filter [the ashes] like a worn⁴⁹⁴ bucket, a cooking pot, a bowl, or even a [worn] cooking pot and you put it on top of a mortar. 26. When you started filtering, the mix of water and ashes started to ooze, drop, drop, drop. 28. When it swells, lift up the worn clay pot, pour the mix of water and ashes in a cooking pot, put⁴⁹⁵ [the cooking pot] on the fire. 31. The making of a soap bar requires a hot "mbimbibmi" fire; at that time the mix of water and ashes starts to swell "fff", when it starts to turn around "pelepele". 35. If it is almost dry, the cooking pot has become very white at the sides like real⁴⁹⁶ salt. 38. [It is the] time of pouring red oil or even white oil. 40. The residue of water and ashes mixes with the oil, it starts to boil different "bũngu-bũngu", it turns soft like peanut butter prepared with water. 43. Take a woman's knife, start turning [in the pot] while you are about to add a little bit of palm oil, with the fire burning well. 45. We started to see the soap bar swell in the steam of the cooking pot, it is about to become a lot and people reduce it [to bars] in something else. 48. Then they start to pour slowly a little bit of oil, they continue the fire. 50. After that, they put it on the ground, it cooled somewhat down, they wrap [the soap] in packages with dried banana bark. 52. "Agbagi" is our soap, it helps us with different jobs, like washing clothes, doing the dishes, washing ourselves, ... and

⁴⁹² Literally, 'push'.

⁴⁹³ I.e. only ashes are needed for the "agbagi".

⁴⁹⁴ **igbgbɔ** is a general term for an object which has become too old to be useful, like in this case something with an open crack to filter the ashes.

⁴⁹⁵ **ká-am-á** '9b-limit, end up at, stop-FV' with the Causative extension has the specialized meaning 'put a pot on the cooking stones'.

⁴⁹⁶ I.e. salt from salt mines, not the type of salt produced locally.

with many other jobs. 55. The making of soap, here where we live, requires skillfulness.

- 01 Li-gubó lá-saḃŭni a lá-pǔpu kúgbe.
5-work 5.ASS-1a.soap bar 3SG:be 5.ASS-hard very
- 02 Kúnu kú⁴⁹⁷ kusú ká Gbaigbai, ta-pung-ag-a ká-mumúl-á
here there 1PL.POSS PREP "Gbaigbai" 1PL-start-PLUR-FV 9b-collect-FV
- 03 ngbɔngbó, pang-ǎ-tu na bíngo bó-bumó, ma-kalá,
9.banana trunk arrange-FV-INS with 2:fibre 2.ASS-9.palm nut 6-palm flower
- 04 pasí yá-⁴búgu, lígi yá-něnzíngí, mo-díyongó,
9.peeling 9.ASS-9.plantain banana 9.vine 9.ASS-9.sweet potato 6-bush
- 05 ɛe-gbutú ɓayá-ɓu-payɪ-páyɪ na ma-kpumóká má-gɔgo didídi⁴⁹⁸.
2+9:9a-piece 2+9.ASS-14-papaya tree and 6-thing 6.ASS-other different
- 06 Ta ká-am-ǎ ká-mumúl-á, tó-bíng-o se kúwa mísá
1PL:be-FV 9b-limit-FV 9b-collect-FV 1PL^P-cut-FV thus thus 9.firewood
- 07 má-kpu, tá-tup-a ndikó na tó-bungusy-o góní lítá
6.ASS-big 1PL^P-take all-FV 9.palm nut-pit and 1PL^P-arrange-FV also 5:fireplace
- 08 ló-ɓukú ɓí.
5.ASS-8:burning piece of wood 8.DEM.III
- 09 Kú-gǔ wo-ɓukú, ta-pung-ag-a kó-bis-ó
17-top 17.ASS-8:burning piece of wood 1PL-start-PLUR-FV 9b-put-FV
- 10 pangǎ-tu ká ɓa-kpólɔ-kpólɔ, tó-ɗuk-o ndikó na
13.hide of palm nut-13 PREP 2-side 1PL^P-pour-FV 9.palm-nut pit and
- 11 tó-bís-o pasí yá-⁴búgu,
1PL^P-put-FV 9.peeling 9.ASS-9.plantain banana
- 12 ó-sy-on-on-og-o-kú mo-díyongó, kání
3SG/PL^P-come down-ASS-ASS-PLUR-FV-DIR 6-bush when
- 13 ta-ná-yɪɓ-á ɛe-ngbɔngbó na ká-ɗíkít-ág-á kúgokú.
1PL-INCH-tear up-FV 2+9:9a-banana trunk and 9b-throw-PLUR-FV right there
- 14 Lɪ-pyepyé lá-ma-káli a na kekelé, kyé wa ká-am-á
5-burning 5.ASS-6-mix⁴⁹⁹ 3SG:be with 9.effort because 2SG:be 9b-limit-FV

⁴⁹⁷ **kú** is changed into **kú** due to assimilation to following [+ATR] **kusú**.

⁴⁹⁸ With a plural referent, **di** is triplicated.

⁴⁹⁹ Of water and ashes.

- 15 kó-dúk-ús-íl-ó⁵⁰⁰ kó bukú, wík-o kúwa
 9b-pour-CAUS-RES-FV PREP 8:burning piece of wood 2SG^P:sit down:FV thus
- 16 ási kó-túndúl-ó áka bukú, a-ná-pyě
 only 9b-push-FV CT 8:burning piece of wood 3SG-INCH-burn:FV
 bí-ndongbuuu no múkí má-kpu.
 MOD-disoriented with 6:smoke 6.ASS-big
- 17 Nzúyí yá-si á-va kúwa ási su yó-⁴múkí áka,
 9.body 9.ASS-all 3SG^P-take:FV thus only 9.smell 9.ASS-6:smoke CT
- 18 wó-lumb-o bí-gbò ábě a-tígbe.
 2SG-emit-FV.INST MOD-bad smell like 1b-sparrowhawk
- 19 Níyó ma-kpumóká ní-mó má-si o-sílog-o,
 when 6-thing COP-6.DEM.I 6.ASS-all 3SG/PL-burn up-FV
- 20 wá-gbat-íl-a na á-dík-a.
 2SG-spread out-RES-FV.INST and 3SG/PL^P-cool-FV
- 21 Kú-mbúso yí, wá-túmb-a ma-ká-mu má-pǔpu má-si,
 17-back 17.DEM.III 2SG-lift up-FV.INST 6-ember-6 6.ASS-hard 6.ASS-all
- 22 á-sík-an-a kúwa ási li-bù áka.
 3SG/PL^P-pick-ASS-FV thus only 5-ash CT
- 23 Wá-va lúkí lí-⁴nyíkisogö ábě ɪ-gbɔgbɔ yá-katĩni
 2SG-take:FV.INST 5:object 5.ADJ-filter like 9a-s.th. worn 9.ASS-9.bucket
- 24 yá-mu-kadú, basíni, gutúgu yá-lí-dakĩ áka, wó-bĩs-o
 9.ASS-3-cooking pot 9.bowl even 9.ASS-5-clay pot CT 2SG-put-FV.INST
- 25 kú-gǔ wo-kulúfi.
 17-top 17.ASS-9.mortar
- 26 Níyó wá-pung-a kó-nyíkísóg-ó, ma-káli á-pung-a ká-dúk-á
 when 2SG^P-start-FV 9b-filter-FV 6-mix 3SG/PL^P-start-FV 9b-ooze-FV
- 27 bí-tò tò tò.
 MOD-"tò tò tò"
- 28 Ø-Ko-bw-ö, wá-túmb-a ɪ-gbɔgbɔ yá-lí-dakĩ,
 3SG-COND-become big-FV 2SG-lift up-FV.INST 9a-s.th. worn 9.ASS-5-clay pot
- 29 wó-dúk-o ma-káli ká mu-kadú, wóm-os-o kó
 2SG-pour-FV.INST 6-mix PREP 3-cooking pot 2SG.limit-CAUS-FV.INST PREP

⁵⁰⁰ -dúk-us- 'pour slowly', see 7.11.1.

- 30 bukú.
8:burning piece of wood
- 31 Li-lólómbí lá-saḃüni a-pag-a bukú
5-preparation 5.ASS-1a.soap bar 3SG-want:PLUR-FV 8:burning piece of wood
- 32 bá-pṣṣ bí-mbimbimbi, ngbíngó yi ní-nḡ ma-káli
14.ASS-hard MOD-"mbimbimbi" 1a.time 1.DEM.III COP-1.DEM.I 6-mix
- 33 a-nó-ful-ó bí-fff, kání o-nó-yikon-ó
3SG/PL-INCH-swell-FV MOD-"fff" when 3SG/PL-INCH-turn around-FV
- 34 bí-pele-pele.
MOD-upside down
- 35 Ø-Kik-ó kúwa buwóbi ká-fá, mu-kadú
3SG-COND:be-FV thus near 9b-dry:FV 3-cooking pot
- 36 ó-buḃ-og-o ká ba-kpólo-kpólo bí-tú ábḡ li-níko
3SG^P-whiten-PLUR-FV PREP 2-side MOD-light like 5-salt
- 37 lá-li-sénzi.
5.ASS-5-indigenous
- 38 Ngbíngó mu-ḡukḡ mo-lingó má-ngbu gutúgu má-kambíli kúwa
1a.time 1.ADJ-pour 6-oil 6.ASS-red even 6.ASS-9.white oil thus
- 39 ní-nḡ.
COP-1.DEM.I
- 40 Ma-káli ɪ-mat-tk-an-ag-a na mo-lingó, a-pung-a
6-mix 3SG/PL:REFL-add-NEUT-ASS-PLUR-F with 6-oil 3SG/PL-start-FV
- 41 ká-lukút-á di bí-ḡungu-ḡungu, í-sily-o-kú
9b-boil-FV different MOD-heavy 3SG/PL^P:REFL-meet-FV-DIR
- 42 bí-ḡiḡi-ḡiḡi ábe séléngúndé wa-í-kpoḡoyíya.
MOD-soft like 1a.peanut 1.ASS-1c-peanut paste
- 43 Wá-va mbakú, wá-pung-a kó-yikós-ó kúwa kání
2SG-take:FV.INST 9.woman's knife 2SG-start-FV.INST 9b-turn-FV thus when
- 44 wa-ná-matɪl-á mo-lingó ma-kékéké, bukú bí-ḡoḡo.
2SG-INCH-increase-FV 6-oil 6.ADJ-small 8:burning piece of wood MOD-low⁵⁰¹
- 45 Tá-pung-a kúwa kám-un-a saḃüni kó-ful-ó-kú ká mu-kálá
1PL^P-start-FV thus 9b:1.O-see-FV 1a.soap bar 9b-swell-FV-DIR PREP 3-steam

⁵⁰¹ bí-ḡoḡo signifies a low sound, but can also mean 'functioning well'.

- 46 má-mu-kadú, o-nó-gw-on-on-ó bí-gbɪya-gbɪya na bá-pung-a
3.ASS-3-cooking pot 3SG-INCH-fall-ASS-ASS-FV MOD-multiplied and 3PL-start-FV
- 47 ká-gbag-á kú-sǎ wo-lúkí lá-gɔgɔ.
9b-reduce:PLUR-FV 17-inside 17.ASS-5:object 5.ASS-other
- 48 Kúwa wa, bá-¹nó-duk-us-ó mo-lingó ma-kékéké,
thus there 3PL-INCH-pour-CAUS-FV 6-oil 6.ADJ-small
- 49 b́o-dukul-og-o b́ukú.
3PL-continue-PLUR-FV 8:burning piece of wood
- 50 Kú-mbúso yí, bá-totis-o, á-duk-a minó yí-kédě,
17-back 17.DEM.III 3PL-put down-FV 3SG^P-cool-FV TRACE ADV-small
- 51 bá-⁴úw-ag-a kó mo-búki no púkú-pukú.
3PL:1.O-wrap-PLUR-FV PREP 6-package with 9.dried banana bark
- 52 Á-gbágí ní saḃ̀ni kusú, a-tí-tungbul-ag-a ká mo-gubó
1b-soap COP 1a.soap bar 1PL.POSS 3SG-1PL.O-help-PLUR-FV PREP 6-work
- 53 didídí ábě ká-sukús-á ɓo-tú, ká-ǔ-sukús-á ɓa-sǎni,
different like 9b-wash-FV 2+9-clothes 9b-2.O-wash-FV 2-plate
- 54 ká-ǔ-sukús-ág-á, ... na mo-gubó má-gɔgɔ má-kpu ɓatá.
9b-REFL-wash-PLUR-FV and 6-work 6.ASS-other 6.ASS-big again
- 55 Li-lólómbí lá-saḃ̀ni kúnɔ kú kusú a-kúng-ag-a
5-preparation 5.ASS-1a.soap bar here there 1PL.POSS 3SG-demand-PLUR-FV
- 56 ɓu-gěgélé.
14-technique

1.4 Moral instruction

1.4.1 A good girl (*T2006.9*)

1. A girl is like ivory, a valuable object of her family. 3. The eyes of family members are upon her, they do not want that their child would cause talk when she is to be married. 6. How does a good girl behave? 7. She listened to the advice of her father and her mother, she has learned the practices of housekeeping: cooking, cutting⁵⁰² firewood, sweeping the yard, doing the dishes, she has learned the work in the field. 11. She should not be a lazybones, [not] a person of laughing in front of people, when she starts to seduce someone softly, nor someone playing with the

⁵⁰² I.e. cleaving with an axe.

boys. 14. She should not be a person who begs [nor someone] with bad behaviour. 16. She should not be a person who steals.⁵⁰³ 17. Likewise, she does not walk unkempt or not properly dressed,⁵⁰⁴ she does not eat on the road. 19. She does not take off her clothes⁵⁰⁵ to wash herself [in a stream] near the road. 21. The girl who listens to her fathers and her mothers will be a child of honour in the village. 24. The man who wants to marry her, he will come to a neat courtyard. 26. The men of the village look at her, because if there is a marriage, they are the ones who go to bring her [to the village of her husband]. 28. This is how a good girl should be.

- 01 Míkí mu-kó yĩ a ábe síbá, lúkí lí-dingĩ
1a.child 1-woman 1.DEM.III 3SG:be like 9.ivory 5:object 5.ADJ-big
- 02 lá-i-vananza kakí.
5.ASS-9a-family 3SG.POSS
- 03 Míso ka-6e-vananza ik-og-o kú-gũ kakí,
6:eye GEN-2 + 9:9a-family 3SG/PL:be-PLUR-FV 17-top 3SG.POSS
- 04 bá-ká-pa-gu 6é míka6ú ká-agă vonóni
3PL-NEG-want:FV-NEG COMP 1a.child:3PL.POSS 9b-go:FV 9.marriage
- 05 bík-i minó ká-yung-á 6o-buló.
3PL:be-FV.SUBJ TRACE 9b-tell-FV 2-speech
- 06 Míkí mu-kó yĩ wa-nzá ik-og-o 6úní ?
1a.child 1-woman 1.DEM.III 1.ASS-good 3SG:be-PLUR-FV how
- 07 Úkan-ag-a mu-túu ka-a-băkt na a-mákt,
3SG^P:hear-PLUR-FV 3-advice GEN-1b-father:3SG.POSS and 1b-mother:3SG.POSS
- 08 íb-on-on-o na yĩgyĩgyĩyá yá-ku-káká-ku: yambámábá,
3SG^P:know-ASS-ASS-FV with 9a:practice 9.ASS-15-housekeeping-15 9a:cooking
- 09 kó-6íng-ó mísá ká-kpă pă, ká-sukús-á ma-kpumúká,
9b-cut-FV 9.firewood 9b-sweep:FV 9.area 9b-wash-FV 6-thing
- 10 íb-on-on-o na li-gubó ló-tíko.
3SG^P:know-ASS-ASS-FV with 5-work 5.ASS-9.field
- 11 Ø-Ké-gu a-dándá, mu-tú wa-ktítbyă kámwa
3SG-NEG:be:FV-NEG 1b-lazybones 1-man 1.ASS-9.laughter 17:front

⁵⁰³ Literally, 'with a long arm'.

⁵⁰⁴ Literally, 'disorderly'.

⁵⁰⁵ Literally, 'she does not pull out nudity'.

- 12 ka-ḡa-mbáńzú, kání a-ná-⁴wístl-y-ǎ ḡí-weṣe-weṣe,
GEN-2-person when 3SG-INCH:1.O-seduce-APPL-FV MOD-soft
- 13 Ø-ké-gu mu-tú mu-zunǎ na ḡo-míkí ḡa-lúkú ḡí.
3SG-NEG:be:FV-NEG 1-man 1.ADJ-playing with 2-child 2-man 2.DEM.III
- 14 Ø-Ké-gu mu-tú wa-kíkúkungyǎ na yǐgya
3SG-NEG:be:FV-NEG 1-man 1.ASS-9.begging with 9a.habit
- 15 yá-ḡabú-ḡabú.
9.ASS-9.bad behaviour
- 16 Ø-Ké-gu na ku-ḡó⁴kú-ko ku-ndǎ.
3SG-NEG:be:FV-NEG with 15-arm-15 15.ADJ-long
- 17 Ø-Ká-kpakyān-ag-t-gu ḡbaḡ ḡéḡeyó, Ø-ká-lyály-ag-t-gu kó
3SG-NEG-walk-PLUR-FV-NEG disorderly likewise 3SG-NEG-graze-PLUR-FV-NEG PREP
- 18 pǐsi.
9.path
- 19 Ø-Kí-nyoḡ-t-gu ndúmbú ká-ǐ-sukús-ág-á kó
3SG-NEG:REFL-pull out:PLUR-FV-NEG 9.nudity 9b-REFL-wash-PLUR-FV PREP
- 20 pǐsi.
9.path
- 21 Míkí mu-kó yi ní-nǒ um-úkan-ag-a⁵⁰⁶
1a.child 1-woman 1.DEM.III COP-1.DEM.I 3SG:2.O-hear-PLUR-FV
- 22 ḡa-bǎkí na ḡa-mákí, ik-og-o míkí
2:1b-father:3SG.POSS and 2:1b-mother:3SG.POSS 3SG:be-PLUR-FV 1a.child
- 23 wa-t-btǎ ká mu-sengí.
1.ASS-9a-honour PREP 3-village
- 24 Mu-lúkú Ø-ká-pǎ ká-vǎ, o-do-kú ká pa
1-man 3SG-COND-want:FV 9b-take:FV 3SG-come:FV-DIR PREP 9.area
- 25 yá-ngba.
9.ASS-shining
- 26 Ba-tú ḡá-mu-sengí ḡám-ín-a, kyé Ø-kik-ó vonóni,
2-man 2.ASS-3-village 3PL:1.O-see-FV because 3SG-COND:be-FV 9.marriage
- 27 tǒú ḡó ḡínd-a ká-bis-ó.
2.PRO 2.DEM.I 3PL:go-FV 9b:1.O-put-FV

⁵⁰⁶ The H part of the LH tone on the vowel of the object prefix, **ǔ-**, is associated with the initial vowel of the verb **-ukan-** 'hear'.

- 28 Míkí mu-kó yĩ wa-nzá ik-og-o béyó.
 1a.child 1-woman 1.DEM.III 1.ASS-good 3SG:be-PLUR-FV like that

1.4.2 A good boy (*T2006.8*)

1. It is expected of a boy to have a house, because a house is something very good.
 2. To make known that you are a young man, you need to start to build a house when you grow up. 5. At the time when you become an adult someone will no longer force⁵⁰⁷ you to build. 7. Even if you will have more wives, someone will not advise you again, my child. 9. Why⁵⁰⁸ am I saying this to you? 10. If you marry a woman, you will put her in that house [that you have built]. 12. Your belongings, you will store in your house. 13. If visitors come to meet you, you will not wander⁵⁰⁹. 14. They will know that you are truly a young man⁵¹⁰, because you certainly have a house. 16. My child, a boy does not wander around incessantly.

- 01 O-kwonón-i míkí mu-lúkú yĩ ká-ik-ó na ndábu,
 3SG-should-FV.ANT 1a.child 1-man 1.DEM.III 9b-be-FV with 9.house
 02 kyé ndábu ní lúkí lá-nza kúgbe.
 because 9.house COP 5:object 5.ASS-good very
 03 Ká-ib-ís-ík-ón-ís-ó bé wa míkí mu-lúkú yĩ,
 9b-know-CAUS-NEUT-ASS-CAUS-FV COMP 2SG:be 1a.child 1-man 1.DEM.III
 04 o-fošíl-i ká-pung-á kó-pik-ó ndábu kání wo kó-ping-ó.
 3SG-need-FV.ANT 9b-start-FV 9b-build-FV 9.house when 2SG:be 9b-grow up-FV
 05 Ngbíngó yi ní-nǎ wúit-a minó mu-lúkú mu-díngĩ,
 1a.time 1.DEM.III COP-1.DEM.I 2SG:change-FV TRACE 1-man 1.ADJ-big
 06 Ø-kú-gyagy-i-gu báta kó-pik-ó.
 3SG-NEG:2SG.O-punish-FV-NEG again 9b-build-FV
 07 Gutúgu wa-kik-ó na ndendí áka,
 even 2SG-COND:be-FV with 9.polygamy CT
 08 Ø-kú-tiwoly-i-gu báta míkámí.
 3SG-NEG:2SG.O-advise:APPL-FV.ANT-NEG again 1a.child:1SG.POSS

⁵⁰⁷ Literally, 'punish'.

⁵⁰⁸ The combination **kyé bóní** 'because how' is the way to express 'why'.

⁵⁰⁹ I.e. to find a place to sleep for the visitors.

⁵¹⁰ Literally, 'a young man of truth'.

- 09 Na ká-u-ḡíky-á kyé b́óní ?
1SG:be 9b-2SG.O-say-FV because how
- 10 Wa-ka-vă mu-kó, wa-mak-y-á ká ndáḡu yi
2SG-COND-take:FV 1-woman 2SG:1.O-put in-APPL-FV PREP 9.house 9.DEM.III
- 11 ní-yó.
COP-9.DEM.I
- 12 Mu-kúmbó kakú, wa-maky-a ká ndáḡu kakú.
1-luggage 2SG.POSS 2SG-put in-FV PREP 9.house 2SG.POSS
- 13 Bo-bikó ḡa-ku-sily-ó-kú, wá-kámam-t-gu.
2-visitor 3PL-COND:2SG.O-meet-FV-DIR 2SG-NEG:wander-FV-NEG
- 14 B́úm-ib-o ḡé wa míkí mu-lúkú ý
3PL:2SG.O-know-FV COMP 2SG:be 1a.child 1-man 1.DEM.III
- 15 wa-lí-ngunú, íba kyé wa-tú na ndáḡu.
1.ASS-5-truth it means that because 2SG:be-INS with 9.house
- 16 Míkámí, míkí mu-lúkú ý Ø-kámam-ag-t-gu
1a.child:1SG.POSS 1a.child 1-man 1.DEM.III 3SG-NEG:wander-PLUR-FV-NEG
- 17 ḡí-gbagbagba.
MOD-incessant

1.4.3 The advice of chief Ogiyatu and chief Bamuka (*T2006.7*)

1. A chief should have a [good] behaviour, be a good example, in order to protect his village, the property and his people. 4. A chief does not like evil. 5. The road should be clear.⁵¹¹ 6. We chiefs are not at ease⁵¹² when⁵¹³ we have said to the people: "Attention!", they should work, but they don't. 9. It is very good to work, because if we do not work, how would people live? 11. [It is] thus very [good] when you have visitors. 12. The road should be clear. 13. Because if the road would not be clear, where would our brother Engama travel [to come] here? 15. That is to say, all people would have a problem to come here. 16. It is not only the road, it is also necessary to have fields, because the field is supporting us regarding other needs. 19. A chief also keeps an eye on the water that his people drink, because the water should be clear, clean, clean water in the calabash. 22. With

⁵¹¹ Literally, 'the road should not be with rubbish, i.e. (partly) overgrown'.

⁵¹² Literally, 'do not hear well'.

⁵¹³ Literally, 'at the time and within the period'.

respect to education,⁵¹⁴ the chief should not be silent either, because if there were no schools, the Liko language, how would we learn it? 26. It is good if children enter the school, because a child is a banana shoot, because this banana shoot will give us bananas later. 29. A chief should also manage the work of a hospital, because our body loves illnesses.⁵¹⁵ 31. You Liko people "ooo", you his brothers "aaa", you there my clan members "aaa", let us do all the work. 32. Let us fix up the village so that we would be well.

- 01 Ngámá o-kwonón-i ká-ik-ó na yǐgyǎ, na li-kingyosí
1a.chief 3SG-should-FV.ANT 9b-be-FV with 9a.habit with 5-example
- 02 lá-nza kó bulyó yíǐúulyogǒ mu-gǐ kakí, mu-kúmbó na
5.ASS-good PREP 9.reason 9a.protection 3-village 3SG.POSS 3-transport with
- 03 ǎa-tú kakí.
2-man 3SG.POSS
- 04 Ngámá Ø-ká-pag-ɪ-gu lúkí lá-nye.
1a.chief 3SG-NEG-want:PLUR-FV-NEG 5:object 5.ASS-bad
- 05 Ndáki Ø-kik-o-ní ʔtǒ-gu na tǒʔní-tǒ.
9.road 3SG-NEG:be-FV-NEGSUBJ INS-NEG with 13.rubbish-13
- 06 Iǒúsú ǎa-ngámá tí-kím-úkan-ag-ɪ-gu⁵¹⁶ ǒí-nza kó
1PL.PRO 2-chief 1PL-NEG:REFL-hear-PLUR-FV-NEG MOD-good PREP
- 07 ngbíngó na ǒinga ní-nǒ tu-ǒíky-ɪ minó ǎa-mbǎnzú
1a.time with 1a.period COP-1.DEM.I 1PL:2PL.O-say-FV.ANT TRACE 2-person
- 08 ámbé ǎá-gy-ǐ li-gubó kání ǎá-ké-gu ká-gy-ǎ.
ATT 3PL-do-FV.SUBJ 5-work when 3PL-NEG:be:FV-NEG 9b-do-FV
- 09 Li-gubó a lá-nza kúgbé kyé tó-kó-gy-ǐ li-gubó
5-work 3SG:be 5.ASS-good very because 1PL-COND-do-FV.NEG 5-work
- 10 íba ǎa-mbǎnzú ǎá-gy-ag-a ǒú⁵¹⁷ ?
it means that 2-person 3PL-do-PLUR-FV 2.PRO

⁵¹⁴ Literally, 'on the side of the school'.

⁵¹⁵ The author wants to say that Liko people easily attract diseases.

⁵¹⁶ The vowel of the subject prefix **ta-** has assimilated to the following high vowel of the reflexive prefix **ǐ-**.

⁵¹⁷ Short for **ǐǒú**.

- 11 Kúwa kúgbe kání wa na 6o-bikó.
thus very when 2SG:be with 2-visitor
- 12 O-kwonón-i pisi ɔ-ík-í bí-ngo.
3SG-should-FV.ANT 9.path 3SG-be-FV.SUBJ MOD-clean
- 13 Kyé ndáki ɔ-kík-i bí-ngó, íba mó'mósu⁵¹⁸
because 9.road 3SG-COND:be-FV.NEG MOD-clean it means that brother:1PL.POSS
- 14 Báyó ka-Engama⁵¹⁹ o-6yi-kú bi yám ?
like that GEN-"Engama" 3SG-follow:FV.ANT-DIR P₁ where
- 15 Íba 6a-tú 6á-si 6ǒ bi na 6u-kpekí-kpekí kó-do-kú.
it means that 2-man 2.ASS-all 3PL:be P₁ with 14-problem 9b-come:FV-DIR
- 16 ɔ-Ké-gu ásti ndáki aká, o-kwonón-i góní ká-ik-ó
3SG-NEG:be:FV-NEG only 9.road CT 3SG-should-FV.ANT also 9b-be-FV
- 17 na 6o-tíko, kyé tíko yó a ká-tí-tungbúl-ág-á
with 2+9-field because 9.field 9.DEM.I 3SG:be 9b-1PL.O-support-PLUR-FV
- 18 ká 6a-mápumú 6á-gogo.
PREP 2-family need 2.ASS-other
- 19 Ngámá and-ag-a-tú góní líbó ní-ló 6a-tú kakí
1a.chief 3SG:look-PLUR-FV-INS also 5:water COP-5.DEM.I 2-man 3SG.POSS
- 20 6ó-mw-óg-o, kyé o-kwonón-i líbó ík-o
3PL-drink-PLUR-FV because 3SG-should-FV.ANT 5:water 3SG:be-FV
- 21 bí-ngápá-ngápá, bí-ngó, líbó bí-ngápá-ngápá ká pápá.
MOD-clear MOD-clean 5:water MOD-clear PREP 9.calabash
- 22 Ká a-mbámbá wa-kalásti ngámá ɔ-ká-dak-i-gu minó
PREP 1b-side 1.ASS-1a.school 1a.chief 3SG-NEG-be silent-FV-NEG TRACE
- 23 Bégeyó, kyé ɔ-kík-í bi kalásti íba
likewise because 3SG-COND:be-FV.NEG P₁ 1a.school it means that
- 24 ní-lt-ná lá-Li-likó lt-ná ta píye
COP-5.DEM.II-CONN 5.ASS-5-Liko language 5.DEM.II-CONN 1PL:be thus
- 25 ká-ib-ó lkí ?
9b-know-FV how
- 26 A bí-nzá 6o-míkí 6íngy-í ká kalásti, kyé míkí
3SG:be MOD-good 2-child 3PL:enter-FV.SUBJ PREP 1a.school because 1a.child

⁵¹⁸ **mómosú** is a compound based on **mamá ibúsú**, literally 'our mother', the meaning is 'the son of our mother'.

⁵¹⁹ **Báyó ka** when followed by a proper name means 'called' (only for animates).

- 27 *ni a-kóngó, kyé a-kóngó nǒ a-tí-pag-a*
COP 1b-banana shoot because 1b-banana shoot 1.DEM.I 3SG-1PL.O-give:PLUR-FV
- 28 *má-búgu kú-mbúso.*
6-banana 17-back
- 29 *Ngámá ǎmaly-ag-a-tú góní li-gubó lá-li-pítálu kó bulyó*
1a.chief 3SG:manage-PLUR-FV-INS also 5-work 5.ASS-5-hospital PREP 9.reason
- 30 *kyé nzúyɪ kusú a-pa ɓo-kóloɓú.*
because 9.body 1PL.POSS 3sg-want:FV 2-illness
- 31 *Iḃúnú ʔo-likó ooo, iḃúnú ɓa-má'máktí aaa, iḃúnú*
2PL.PRO 2-Liko person "ooo" 2PL.PRO 2-brother:3SG.POSS "aaa" 2PL.PRO
- 32 *ɓa-va kú kǎmɪ aaa, tó-gy-ĩ-ni mo-gubó má-sɪ.*
2-clan member there 1SG.POSS "aaa" 1PL-do-FV.SUBJ-ADDR 6-work 6.ASS-all
- 33 *Tó-ḃungúsy-í-ni mu-sengí íba tík-i ɓí-nza.*
1PL-arrange-FV.SUBJ-ADDR 3-village it means that 1PL.be-FV.SUBJ MOD-good

1.5 New story (written)

To illustrate how the language codes new information, contrast, participant activation, and external topics, comments on information structure are added.

1.5.1 Ikoḃu (T2009.21)⁵²⁰

1. My children, listen now how Old Ikoḃu got himself killed when poverty took the upper hand. 4. Ikoḃu had a friend of his age group called Zangɪya. 6. These two men loved each other very much. 8. They were different, but they always went out together. 10. Be it setting traps, fishing, going to the market, no matter where. 12. If you saw Ikoḃu, then you had also seen Zangɪya. 14. What [was it] good at first! 15. Some time later, the war, which is called poverty, arrived at them. 17. The men even tried to fish with fish hooks, but the fish did not show up. 19. They also tried to set traps, other kinds of traps, they cut the long barrier⁵²¹, nothing was successful. 22. It became difficult for them to see how they would get any income.⁵²² 24. They stopped to appear at the market, even in church. 26. The

⁵²⁰ Author: Kamenabake Ndukoni Jean-Pierre.

⁵²¹ I.e. a type of barrier in the forest with holes for traps.

⁵²² Literally, 'a visible way to income came with difficulty to them'.

clothes that Zangiya had, these were all torn to the thread "tututu", the man was white "tu".⁵²³ 29. He stayed hidden in the house, he prayed to God that He would not abandon him. 32. So he went to search for food or to draw water during the night, because people, if they were there, they scorned him. 35. His friend Ikoḃu, he was likewise [poor]. 37. But, he still had one worn pair of trousers and a shirt. 39. He asked himself: "These threadbare clothes here, if they are gone, what shall I do?" 42. Not long afterwards,⁵²⁴ Ikoḃu was about to think that his friend Zangiya had died. 45. Zangiya thought as well that Ikoḃu had died. 47. When Ikoḃu came to that conclusion,⁵²⁵ he went to a band of robbers⁵²⁶ to ask for his death, because he did not want that he would die like an ant. 50. He [said] to the chief of the robbers: "Chief, I am longing to die, because life is for me very hard, I do not have any clothes left,⁵²⁷ they are gone. 54. The chief of the robbers [said] to him: "You come at the right time, let us go to the hill." 56. The chief called the robbers, they went with Ikoḃu to the hill where they used to kill people, they called [the hill] forehead. 59. On the road, Zangiya watched them, while he was inside the house, he said: "Father God, Ikoḃu was still alive?" 62. He yelled at the chief of the robbers, he said: "Father, please, come here, I do not have the strength to leave this place to where you are, because I am naked." 65. The chief came. 66. Zangiya asked him: "Where are you going to with Ikoḃu?" 67. The chief [said] to him: "They are going to kill him, because he himself asked for his death." 69. Zangiya said to the chief: "Chief, if you (pl) kill Ikoḃu, come (pl) to give me his clothes, so that I go outside with them⁵²⁸." 72. The chief agreed. 73. When Ikoḃu heard the voice of Zangiya, he said to the chief: "Hey! Father, please forgive me, I was believing, look! I was the only one in crisis." 76. But, they listened to him no longer. 77. They went with him, they started to pull him "dakpa-dakpa" to the hill, they hit him with sticks like a snake, they killed him, they came with his clothes,

⁵²³ The clothes were so worn that one could see the light through the holes, he was almost naked.

⁵²⁴ Literally, 'many days did not meet each other again'.

⁵²⁵ Literally, 'when he saw that'.

⁵²⁶ Literally, 'men without mercy'.

⁵²⁷ Literally, 'clothes had finished on me'.

⁵²⁸ I.e. the clothes.

they gave them to Zangiya. 80. Zangiya left outside, he started to walk. 81. Friend, oh!, do not think that you are the only one in poverty. 83. Someone else certainly also has some other need, more than you.

- 01 Bo-míka-mamá, ukón-ó-ni mbéyɪ b́éyó a-mbǎkú
2-children:GEN-1a.mother 2.O:hear-FV.IMP-ADDR first like that 1b-old person
02 Ikóǒú í-mwís-ís-á ndi minó, ní⁵²⁹ yangyá
"Ikoǒu" 3SG^P:REFL-kill:CAUS-CAUS-FV^P P₃ TRACE when 9.poverty
03 a-bedúl-i-ní.
3SG-surpass-FV.ANT-PFV

New information: **b́éyó ambǎkú Ikóǒú ímwísísá ndi minó**, introduction of the subject of the story, how Ikoǒu got himself killed.

- 04 Ikóǒú ǎ ndi na wayí dǎkɪ b́éyó
"Ikoǒu" 3SG:be P₃ with 1a.friend 1a.s.o. of same age:3SG.POSS like that
05 ka-Zangíyá.
GEN-"Zangiya"

New information: **wayí dǎkɪ b́éyó ka Zangíyá**, introduction of the second main character, friend Zangiya.

- 06 Ba-lúkú bá-bǎ bi ní-ba-ná bá-pan-an-ag-ǎ
2-man 2.NUM-two 2.DEM.III COP-2.DEM.II-CONN 3PL^P-want:ASS-ASS-PLUR-FV
07 ndi kúgbɛ.
P₃ very

New information: **bápananagǎ ndi kúgbɛ**, they loved each other very much.

The two men are the topic and presented as present (type II demonstrative **ba**).

- 08 Bík-og-ǎ ndi didídi, lúkí lí-motí bá-kpakyán-ag-ǎ ndi pa
3PL^P:be-PLUR-FV P₃ different 5:object 5.NUM-one 3PL^P-walk-PLUR-FV P₃ 9.area
09 yí-motí áka.
9.NUM-one CT
10 Ík-i ká ba-kpáká, ká ma-síkúǎngí, ká ba-sókɔ, gutúgu se
3SG:be.SUBJ PREP 2+9-trap PREP 6-fish hook PREP 2-market even thus

⁵²⁹ Short for **kánt**.

- 11 píye yáni.
thus where
- 12 Wa-kam-ín-á ndi Ikóbu íba kyé
2SG-COND:1.O-see-FV P₃ "Ikoḃu" it means that because
- 13 wam-ín-i-ní góni Zangíyá.
2SG:1.O-see-FV.ANT-PFV also "Zangiya"
- 14 l-kí mbéyi yó yá-nza béyó !
9a-what first 9.DEM.I 9.ASS-good like that

New information: **ḃíkogă ndi didídi**, the men were different.

Contrasting being different: **pa yímotí áka**, they did everything together.

- 15 Kú-mbúso wa-ma-syé, lúnga ní-ló ḃá-lík-y-ag-a ḃé
17-back 17.ASS-6-day 5:war COP-5.DEM.I 3PL^P-call-APPL-PLUR-FV COMP
- 16 yangyá ú-sil-y-ă ndi.
9.poverty 3SG^P:2.O-arrive-APPL-FV P₃

External topic: **kúmbúso wa masyé**, some time later.

New information: **lúnga níló ḃálukyaga ḃé yangyá úsilyă ndi**, poverty arrives.

- 17 Ba-lúkú ḃá-kingul-ag-ă ndi gutúgu ḃé ḃó-lub-ög-í
2-man 3PL^P-try-PLUR-FV P₃ even COMP 3PL-plunge-PLUR-FV.SUBJ
- 18 ma-sikudăngí, ní ḃo-sí ḃá-ké-gu ká-in-ís-ón-ó.
6-fish hook when 2-fish 3PL-NEG:be:FV-NEG 9b-see-CAUS-ASS-FV
- 19 Bá-kingul-a góni ká-lík-ág-á ma-ḃómbu, ḃa-galápi, ḃá-ko
3PL^P-try-FV also 9b-trap-PLUR-FV 6-trap 2+9-trap 3PL^P-cut:FV
- 20 mu-palú ní-ma-ná má-ndă, gutúgu mbéyi kó-ḃók-ís-ó
3-barrier⁵³⁰ COP-3.DEM.II-CONN 3.ASS-long even first 9b-grow-CAUS-FV
- 21 áka.
CT
- 22 Písi yá-kínisonö na ḃu-yí ó-do-kú ndi na tḃú
9.path 9.ASS-9.s.th. visible with 14-money 3SG^P-come:FV-DIR P₃ with 2.PRO
- 23 yá-pöpu.
9.ASS-strong

New information: **ḃólubögi masakudăngí** and **kálíkágá maḃómbu, ḃagalápi, ḃáko mupalú nítmaná mándă**, the men try all kinds of things.

⁵³⁰ A barrier in the forest with passage ways where traps are installed.

Contrasting all the effort they put into it: **gutúgu mbéyi kóóókísó áka**, it was all without success.

- 24 Bá-sa ká-in-ís-ón-ó ká 6a-sóko gutúgu ká ndábu
 3PL^P-abandon:FV 9b-see-CAUS-ASS-FV PREP 2-market even PREP 9.house
 25 yá-Múngu⁵³¹ aká.
 9.ASS-1a.God CT

New information: **6ása káínísónó ká 6asóko**, they stop going to the market.

Contrasting the market: **gutúgu ká ndábu yá Múngu aká**, even to church.

- 26 Bo-tú ní-6ayó Zangíyá ă ndi na 6oyú
 2 + 9-clothes COP-2 + 9.DEM.I "Zangtya" 3SG:be P₃ with 2 + 9.PRO
 27 á-tín-ík-ag-ă ndi 6ayá-si 6í-tutútu, a-lókú ó-6u6-ă
 3SG^P-cut-NEUT-PLUR-FV P₃ 2 + 9.ASS-all MOD-bright 1b-man 3SG^P-be white:FV
 28 ndi 6í-tú.
 P₃ MOD-bright

New information: **6otú ní6ayó Zangíyá ă ndi no 6oyú átínukagă ndi 6ayási 6ítutútu**, Zangtya's clothes no longer cover his body.

Use of substitutive (**6oyú**) to emphasize something important: clothes (**6otú**) are a key element in the story.

- 29 Ik-og-o kúwă ndi ká ndábu aká 6í-du,
 3SG:be-PLUR-FV thus P₃ PREP 9.house CT MOD-deep
 30 a-ná-⁺kúng-a Kúnzi 6é
 3SG-INCH:1.O-demand-FV 1a.God COMP
 31 Ø-kas-o-ní ⁺tɔ-gu 6áka.
 3SG-NEG:1.O:abandon-FV-NEGSUBJ INS-NEG please
 32 lnd-ag-a kúwă ndi ká-kís-á ma-lílí ikání ká-túg-á
 3SG:go-PLUR-FV thus P₃ 9b-search-FV 6-food or 9b-draw water-FV
 33 líbó no bití, kyé 6a-mbánzú 6a-kik-o-ní
 5:water with 9.darkness because 2-person 3PL-COND:be-FV-PFV
 34 ká-⁺tí6-á.
 9b:1.O-laugh-FV

⁵³¹ Swahili loanword.

46 ndi.

P₃

New information: **wayí dǎkí b́éyó ka Zangt́yá ókwóní ndi** and **góní iyí b́é Ikóóbú ókwóní ndi**,
Both think that the other is dead.

- 47 Níyó Ikóóbú ín-á b́éyó, índ-a ká 6o-nzikaábú,
when "Ikoóbu" 3SG^P:see-FV^P like that 3SG^P:go-FV PREP 2-man without mercy
- 48 ká-kúng-á ku-kwá-ku, kyé Ø-ké-gǔ ndi kápa b́é
9b-demand-FV 15-death-15 because 3SG-NEG:be:FV-NEG P₃ 9b-want:FV COMP
- 49 ó-kw-í kúwa ábě mü-kóti.
3SG-die-FV.SUBJ thus like 1-ant
- 50 lyí áka na ngámá ka-6onzikaábú b́é: "Ngámá, na
1.PRO only with 1a.chief GEN-2-man without mercy COMP 1a.chief 1SG:be
- 51 kápá ku-kwá-ku, kyé ɔbílí a kúwa na umi
9b-want:FV 15-death-15 because 1a.life 3SG:be thus with 1SG.PRO
- 52 wa-pǔpu kúgbɛ, 6o-tú é-⁴sy-ó-ní kúwa
1.ASS-strong very 2+9-clothes 3SG/PL^P:1SG.O-finish-FV^P-PFV thus
- 53 6ayí-syö góní."
2+9.ADJ-finish also

New information: **índa ká 6onzikaábú, kákóngá kukwáku**, Ikoóbu goes to robbers and asks to be killed.

- 54 Ngámá ka-6o-nzikaábú áka na iyí b́é:⁵³⁵ "Wo-du-kú⁵³⁶
1a.chief GEN-2-man without mercy only with 1.PRO COMP 2SG-come:FV-DIR
- 55 6í-nza, tógó-ni ká ngúpá."
MOD-good 1PL:go:FV-ADDR PREP 9.hill
- 56 Ngámá ú-mák-á 6o-nzikaábú, 6ágǎ ndi na Ikóóbú
1a.chief 3SG^P:2.O-call-FV^P 2-man without mercy 3PL^P:go:FV P₃ with "Ikoóbu"
- 57 ká ngúpá ní-yó bú-mwóg-ǔ ndi minó 6a-mbánzú,
PREP 9.hill COP-9.DEM.I 3PL^P:2.O-kill:PLUR-FV P₃ TRACE 2-person
- 58 6álík-y-ag-ǎ ndi b́é ɪ-kpúkúpúkú-sɔ sá-mǔ.
3PL^P:call-APPL-PLUR-FV P₃ COMP 19-forehead-19 19.ASS-3:head

⁵³⁵ Alternative for **á-⁴6úky-a b́é** 3SG:1.O-say-FV COMP 'he said to him'.

⁵³⁶ The usual form is **wodokú**.

New information: **ngópá nýs ɓómwóŋ ndi minó ɓambánzú**, a hill, where the robbers used to kill people, called **ɩkpókúso sá mǔ**, forehead.

- 59 Kó p̄si, Zangtyá ú-ɓumy-a, ní a ɩyí ká ndáɓu
 PREP 9.path "Zangtya" 3SG^P:2.O-spy on-FV when 3SG:be 1.PRO PREP 9.house
 60 aká, á-⁴ɓíky-a ɓé : "Kúnzi babá, Ikóɓú ǎ ndi ɓata
 CT 3SG^P:1.O-say-FV COMP 1a.God 1a.father "Ikoɓu" 3SG:be P₃ again
 61 ká ɓɓílí áka ?"
 PREP 1a.life CT

New information: **Zangtyá úɓumyá**, Zangtya is hidden and watching what happens outside.

External topic: **kó p̄si**, the road.

Contrasting the road: **ká ndáɓu aká**, in the house.

Contrasting Zangtya's thinking that Ikoɓu is dead: **ɓatǎ ká ɓɓílí áka**, Ikoɓu is alive.

- 62 Á-⁴mák-ǎ ndi ngámá ka-ɓo-nzikaɓú, á-⁴ɓíky-a ɓé :
 3SG^P:1.O-call-FV P₃ 1a.chief GEN-2-man without mercy 3SG^P:1.O-say-FV COMP
 63 "Babá, kíkílíki, dǒ-ni-kú mbéyi kúnu, ná-ké-gu
 1a.father please come:FV.IMP-ADDR-DIR first here 1SG-NEG:be:FV-NEG
 64 no ngǔ yí-pupo⁵³⁷ kú mó minó kyé na ndúmbú."
 with 9.strength 9.ADJ-leaving there 2PL:be TRACE because 1SG:be 9.nudity
 65 Ngámá ó-do-kú.
 1a.chief 3SG^P-come:FV-DIR

New information: **á⁴mákǎ ndi ngámá ka ɓonzikaɓú**, Zangtya calls the headman of the robbers, and **ngámá ódokú**, the headman comes.

- 66 Zangtyá ám-uus-o ɓé : "Má ⁴ká-ɩnd-á na Ikóɓú yánu ?"
 "Zangtya" 3SG^P:1.O-ask-FV COMP 2PL:be 9b-go-FV with "Ikoɓu" where
 67 Ngámá áka na ɩyí ɓé : "Bá ⁴ká-ɩnd-á ká-⁴mwó kyé
 1a.chief only with 1.PRO COMP 3PL:be 9b-go-FV 9b:1.O-kill:FV because
 68 ɩyí gɔní nǎ o-kúng-i ku-kwá-ku."
 1.PRO also 1.DEM.I 3SG-demand-FV.ANT 15-death-15

New information requested: **yánu**, where do you take Ikoɓu?

New information: **ɓá ⁴káundá ká⁴mwó**, they are going to kill him.

⁵³⁷ The H tone of the LH on the final vowel of the derived adjective has merged with the following H tone.

Left-dislocation for textual reference: **tyí góní nǎ**, re-introduces Ikoḃu, who asked to die.

69 Zangíyá á-⁴bíky-ǎ ndi ngámá bɛ : "Ngámá, ma-ka-mwó
 "Zangíyá 3SG^P:1.O-say-FV P₃ 1a.chief COMP 1a.chief 2PL-COND:1.O-kill:FV
 "

70 Ikóḃú, mó-do-kú ké-⁴pá ɓo-tú kakí
 "Ikoḃu" 2PL-come:FV-DIR 9b:1SG.O-give:FV 2+9-clothes 3SG.POSS

71 nó-pup-í na ɓoyú kú-nzi."
 1SG-leave-FV.SUBJ with 2+9.PRO 17-outside

72 Ngámá ó-ḃíngisy-ǎ ndi.
 1a.chief 3SG^P-accept-FV P₃

New information: **módokú képá ɓotú kakí**, Zangíyá asks the headman to give him Ikoḃu's clothes after they have killed him. **ngámá óḃíngisyǎ ndi**, the headman agrees.

Notice how substitutive (**ɓoyú**) is used again, emphasizing the clothes (**ɓotú**).

73 Níyó Ikóḃú úkán-á lt-yǔ ka-Zangíyá, á-⁴bíky-a ngámá
 when "Ikoḃu" 3SG^P:hear-FV^P 5.voice GEN-"Zangíyá" 3SG^P:1.O-say-FV 1a.chief

74 bɛ : "Hiii babǎ, i-pilyón-o⁵³⁸ ɓáka, nǎ ɓi
 COMP "hiii" 1a.father 1SG.O-forgive:ASS-FV.IMP please 1SG:be P₁

75 ká-pand-á ámbɛ umi aká kúwa nǎ na wa-kǎngya."
 9b-believe-FV ATT 1SG.PRO CT thus 1.DEM.I 1SG:be 1.ASS-1a.crisis

New information: **úkáná lyǔ ka Zangíyá**, Ikoḃu hears the voice of Zangíyá, and **ipilyóno ɓáka**, Ikoḃu begs not to be killed.

Contrasting reality: **umi aká**, Ikoḃu believed: I am the only one suffering.

76 Lúkí lí-motí ní ɓǎ-kám-ukon-i-gu ɓatǎ.
 5:object 5.NUM-one when 3PL-NEG:1.O-hear-FV.ANT-NEG again

77 Bínd-ǎ ndi na tyí, ɓá-⁴ná-lut-ó ɓidakpa-dakpa ká
 3PL^P:go-FV P₃ with 1.PRO 3PL-INCH:1.O-pull-FV MOD-staggering PREP

78 ngúpá, ɓá-bum-ǎ ndi na ɓɛ-ngbínǵílí áɓɛ nzúka, ɓá-mwó,
 9.hill 3PL^P:1.O-hit-FV P₃ with 2+9:9a-stick like 1a.snake 3PL^P:1.O-kill:FV

79 ɓó-do-kú na ɓo-tú kakí, ɓá-⁴pá Zangíyá.
 3PL^P-come:FV-DIR with 2+9-clothes 3SG.POSS 3PL^P:1.O-give:FV "Zangíyá"

⁵³⁸ **ipilyáno** 'please forgive me' (single addressee), **ipilyóno** 'please forgive me' (plural addressee).

New information: **6ákámukonigu batã ... 6ámwo**, the robbers do not listen, they drag Ikoðu, beat him and kill him, and **6ódokú na 6otú kakí, 6á'pá Zangíyá**, the robbers give Ikoðu's clothes to Zangíya.

80 Zangíyá ó-pup-ă ndi kú-nzi, á-pung-a ká-kpakyán-á.

"Zangíya" 3SG^P-leave-FV P₃ 17-outside 3SG^P-start-FV 9b-walk-FV

New information: **Zangíyá ópupă ndi kúnzi**, Zangíya comes out of the house

81 Wayí aaa, wa-ko-tómon-o-ní 'tó-gu 6é ıwe aká nǝ

1a.friend "aaa" 2SG-NEG-think-FV-NEGSUBJ INS-NEG COMP 2SG.PRO CT 1.DEM.I

82 wa na yangyá.

2SG:be with 9.poverty

83 Mu-tú wă-gogo a-tú goní na yangyá yá-gogo

1-man 1.ASS-other 3SG:be-INS also with 9.poverty 9.ASS-other

84 ká-u-kítág-á ıwe.

9b-2SG.O-pass-FV 2SG.PRO

Contrasting the opinion of the hearers: **ıwe aká**, do not think that you are the only one who is poor.

Appendix 2 - Verb Paradigms

This appendix contains complete verb paradigms for all tense/aspect and main mood forms.⁵³⁹ Verbs with [+ATR] and with [–ATR] vowels as well as verbs with a primary H tone and with a primary L tone are represented with an intransitive and a transitive verb. For each tense/aspect/mood, there are eight paradigms: intransitive/transitive verbs, [–ATR]/[+ATR] verb roots, primary tone on the verb root High/Low. In order to preserve naturalness, transitive verbs are presented with a nominal object.

The paradigms presented in this appendix are the following:

- Tense: Past (specific), Past, Future
- Aspect: Anterior, Inchoative, Perfective, Progressive⁵⁴⁰
- Mood: Conditional, Subjunctive and Imperative

The negative forms are presented next to their affirmative counterparts. The following tense/aspects/moods have a specific negative form: Past (specific), Future, Anterior aspect (two negative sets), Conditional and Subjunctive. There is a negative Past form without affirmative counterpart: 'cannot *verb*'. Liko does not have a separate form for Present. Progressive aspect without a time adverbial may be used to refer to a situation in the Present.

Liko has TAM-melodies consisting of a tone on the leftmost prefix and a tone on the final vowel. The TAM melody is indicated together with other characteristics of the individual tense/aspect/mood.

Within each paradigm, the forms are presented in the following order:

⁵³⁹ For the Instructive, the reader is referred to 7.9.2.

⁵⁴⁰ The Pluractional extension **-ag** does not require a separate section because it occurs with all tense/aspect/ mood forms. The Insistive enclitic **-to** is not presented separately, because it is an enclitic occurring with several tense/aspect forms, i.e. Past (normal and specific), Future, Anterior aspect as well as with Imperatives.

- the singular forms: 1SG, 2SG, 3SG⁵⁴¹
- the plural forms: 1PL, 2PL, 3PL

Subject prefixes are: 1SG **na-**, 2SG **wa-**, 3SG **a-**, 1PL **ta-**, 2PL **má-** et 3PL **ǃá-**. The third person singular lacks an overt subject prefix in the negative forms and in the Conditional.

At the end of each section, a [–ATR] and a [+ATR] -CVCVC- verbal base is given in order to show the effect of tone linking and spreading on longer verb forms. Underlying morphemes and TAM-melody tones are shown in a footnote, for the first verb forms and for verb forms with complex morphology. For a detailed account, the reader is referred to Chapters 3, 4 and 7.

For the sake of economy, English glosses are presented only for 1SG forms.

2.1 Tense

2.1.1 Past (specific)

Characteristics affirmative and negative:

- TAM melody: prefixal High and H tone on the final vowel
- the final vowel **-a**

Specific characteristics negative:

- the third person singular subject prefix is zero
- the negative prefix **ka-**
- the negative enclitic **-gù**

⁵⁴¹ In many Bantu languages, the subject concord agrees with the noun class of the subject. In Liko, the subject prefix does not show agreement for noun classes, except for class 2, see 7.4.

Past (specific), intransitive, [– ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nángbútá ⁵⁴²	nákángbútágu ⁵⁴³
	'I sulked'	'I did not sulk'
2 SG	wángbútá	wákángbútágu
3 SG	ángbútá	kángbútágu
1 PL	tángbútá	tákángbútágu
2 PL	mángbútá	mákángbútágu
3 PL	ǎángbútá	ǎákángbútágu

Past (specific), intransitive, [– ATR], L tone

-pík-	'sway'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nápíká	nákápíkágu
	'I swayed'	'I did not sway'
2 SG	wápíká	wákápíkágu
3 SG	ápíká	kápíkágu
1 PL	tápíká	tákápíkágu
2 PL	mápíká	mákápíkágu
3 PL	ǎápíká	ǎákápíkágu

Past (specific), intransitive, [+ ATR], H tone

-ǎín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nóǎínó ⁵⁴⁴	nákóǎínágu ⁵⁴⁵
	'I danced'	'I did not dance'
2 SG	wóǎínó	wákóǎínágu
3 SG	óǎínó	kóǎínágu

⁵⁴² /ná-ngbút-á/ 1SG^P-sulk-FV^P.

⁵⁴³ /ná-ka-ngbút-á-gù/ 1SG^P-NEG-sulk-FV^P-NEG.

⁵⁴⁴ /ná-ǎín-á/ 1SG^P-dance-FV^P.

⁵⁴⁵ /ná-ka-ǎín-á-gù/ 1SG^P-NEG-dance-FV^P-NEG.

1PL	tóðínó	tákóðínágu
2PL	móðínó	mákóðínágu
3PL	ðóðínó	ðákóðínágu

Past (specific), intransitive, [+ATR], L tone

-sil-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
1SG	nósiló	nákósilágu
	'I arrived'	'I did not arrive'
2SG	wósiló	wákósilágu
3SG	ósiló	kósilágu
1PL	tósiló	tákósilágu
2PL	mósiló	mákósilágu
3PL	ðósiló	ðákósilágu

Past (specific), transitive, [–ATR], H tone

-kúl-	'untie'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	ná ⁵⁴⁶ kúlá ⁵⁴⁶ mémí ⁵⁴⁷	náká ⁵⁴⁸ kúlágu ⁵⁴⁸ mémí
	'I untied the goat'	'I did not untie the goat'
2SG, 1.O	wá ⁵⁴⁹ kúlá mémí	wáká ⁵⁴⁹ kúlágu mémí
3SG, 1.O	á ⁵⁴⁹ kúlá mémí	ká ⁵⁴⁹ kúlágu mémí
1PL, 1.O	tá ⁵⁴⁹ kúlá mémí	táká ⁵⁴⁹ kúlágu mémí
2PL, 1.O	má ⁵⁴⁹ kúlá mémí	máká ⁵⁴⁹ kúlágu mémí
3PL, 1.O	ðá ⁵⁴⁹ kúlá mémí	ðáká ⁵⁴⁹ kúlágu mémí
1SG, 2.O	núkúlá ⁵⁴⁹ ðamémí	nákúkúlágu ⁵⁵⁰ ðamémí
	'I untied the goats'	'I did not untie the goats'

⁵⁴⁶ /ná-`kúl-á/ 1SG^P-1.O-untie-FV^P.

⁵⁴⁷ At the end of an uninterrupted sequence of H tones on the verb and on the object, the final TBU of the object is changed to Low.

⁵⁴⁸ /ná-ka-`kúl-á-gù/ 1SG^P-NEG-1.O-untie-FV^P-NEG.

⁵⁴⁹ /ná-ũ-kúl-á/ 1SG^P-2.O-untie-FV^P.

⁵⁵⁰ /ná-ka-ũ-kúl-á-gù/ 1SG^P-NEG-2.O-untie-FV^P-NEG.

2SG, 2.O	wókúlá ßamémí	wákúkúlágu ßamémí
3SG, 2.O	úkúlá ßamémí	kúkúlágu ßamémí
1PL, 2.O	túkúlá ßamémí	tákúkúlágu ßamémí
2PL, 2.O	múkúlá ßamémí	mákúkúlágu ßamémí
3PL, 2.O	ßúkúlá ßamémí	ßákúkúlágu ßamémí

Past (specific), transitive, [–ATR], L tone

-pun-	'pick, gather'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nápuná musúkwá 'I picked a caterpillar'	nákápunágu musúkwá 'I did not pick a caterpillar'
2SG, 1.O	wápuná musúkwá	wákápunágu musúkwá
3SG, 1.O	ápuná musúkwá	kápunágu musúkwá
1PL, 1.O	tápuná musúkwá	tákápunágu musúkwá
2PL, 1.O	mápuná musúkwá	mákápunágu musúkwá
3PL, 1.O	ßápuná musúkwá	ßákápunágu musúkwá
1SG, 2.O	núpuná ßasúkwá 'I gathered caterpillars'	nákúpunágu ßasúkwá 'I did not gather caterpillars'
2SG, 2.O	wúpuná ßasúkwá	wákúpunágu ßasúkwá
3SG, 2.O	úpuná ßasúkwá	kúpunágu ßasúkwá
1PL, 2.O	túpuná ßasúkwá	tákúpunágu ßasúkwá
2PL, 2.O	múpuná ßasúkwá	mákúpunágu ßasúkwá
3PL, 2.O	ßúpuná ßasúkwá	ßákúpunágu ßasúkwá

Past (specific), transitive, [+ATR], H tone

-kúmb-	'carry on the back'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	ná ⁴ kúmbó míki 'I carried my child'	náká ⁴ kúmbágu míkí 'I did not carry my child'
2SG, 1.O	wá ⁴ kúmbó míki	wáká ⁴ kúmbágu míkí
3SG, 1.O	á ⁴ kúmbó míki	ká ⁴ kúmbágu míkí
1PL, 1.O	tá ⁴ kúmbó míki	táká ⁴ kúmbágu míkí
2PL, 1.O	má ⁴ kúmbó míki	máká ⁴ kúmbágu míkí
3PL, 1.O	ßá ⁴ kúmbó míki	ßáká ⁴ kúmbágu míkí

1SG, 2.O	núkúmbó bomíkí 'I carried my children'	nákúkúmbágu bomíkí 'I did not carry my children'
2SG, 2.O	wúkúmbó bomíkí	wákúkúmbágu bomíkí
3SG, 2.O	úkúmbó bomíkí	kúkúmbágu bomíkí
1PL, 2.O	túkúmbó bomíkí	tákúkúmbágu bomíkí
2PL, 2.O	múkúmbó bomíkí	mákúkúmbágu bomíkí
3PL, 2.O	ókúmbó bomíkí	ókúkúmbágu bomíkí

Past (specific), transitive, [+ATR], L tone

-vid-	'flay, peel'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	návidó mboóú 'I flayed a small rodent'	nákávidágu mboóú 'I did not flay a small rodent'
2SG, 1.O	wávidó mboóú	wákávidágu mboóú
3SG, 1.O	ávidó mboóú	kávidágu mboóú
1PL, 1.O	távidó mboóú	tákávidágu mboóú
2PL, 1.O	mávidó mboóú	mákávidágu mboóú
3PL, 1.O	óavidó mboóú	ókávidágu mboóú
1SG, 2.O	núvidó bomboóú 'I flayed small rodents'	nákúvidágu bomboóú 'I did not flay small rodents'
2SG, 2.O	wúvidó bomboóú	wákúvidágu bomboóú
3SG, 2.O	úvidó bomboóú	kúvidágu bomboóú
1PL, 2.O	túvidó bomboóú	tákúvidágu bomboóú
2PL, 2.O	múvidó bomboóú	mákúvidágu bomboóú
3PL, 2.O	óúvidó bomboóú	ókúvidágu bomboóú

-CVCVC- verbal bases:

Past (specific)

-yúkum-	'breathe'	
-ókut-	'throw'	
	<u>affirmative</u>	<u>negative</u>
1SG	nóyúkúmó 'I breathed'	nákóyúkúmágu 'I did not breathe'

1SG	nádíkítá 'I threw'	nákádíkítágu 'I did not throw'

2.1.2 Past

Characteristics affirmative:

- TAM melody: Prefixal High
- the final vowel **-a**

This Past does not have a separate negative form. Negative Past is expressed by the Past (specific) forms, shown in 2.1.1.

Past, intransitive, [-ATR], H tone and L tone

	-ngbút- 'sulk'	-pík- 'sway'
1SG	nángbúta ⁵⁵¹ 'I sulked'	nápíka 'I swayed'
2SG	wángbúta	wápíka
3SG	ángbúta	ápíka
1PL	tángbúta	tápíka
2PL	mángbúta	mápíka
3PL	ǎángbúta	ǎápíka

Past, intransitive, [+ATR], H tone and L tone

	-ǎín- 'dance'	-síl- 'arrive'
1SG	nóǎíno ⁵⁵² 'I danced'	nósilo 'I arrived'
2SG	wóǎínó	wósilo
3SG	óǎínó	ósilo
1PL	tóǎínó	tósilo
2PL	móǎínó	mósilo
3PL	ǎóǎínó	ǎósilo

⁵⁵¹ /ná-ngbút-a/ 1SG^P-sulk-FV.

⁵⁵² /ná-ǎín-a/ 1SG^P-dance-FV.

Past, transitive, [–ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1SG, 1.O	ná ⁵⁵³ kúla mémí 'I untied the goat'	nápuna musúkwá 'I picked a caterpillar'
2SG, 1.O	wá ⁵⁵³ kúla mémí	wápuna musúkwá
3SG, 1.O	á ⁵⁵³ kúla mémí	ápuna musúkwá
1PL, 1.O	tá ⁵⁵³ kúla mémí	tápuna musúkwá
2PL, 1.O	má ⁵⁵³ kúla mémí	mápuna musúkwá
3PL, 1.O	bá ⁵⁵³ kúla mémí	bápuna musúkwá
1SG, 2.O	núkúla ⁵⁵⁴ bamémí 'I untied the goats'	núpuna basúkwá 'I gathered caterpillars'
2SG, 2.O	wúkúla bamémí	wúpuna basúkwá
3SG, 2.O	úkúla bamémí	úpuna basúkwá
1PL, 2.O	túkúla bamémí	túpuna basúkwá
2PL, 2.O	múkúla bamémí	múpuna basúkwá
3PL, 2.O	búkúla bamémí	búpuna basúkwá

Past, transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	ná ⁵⁵³ kúmbo míkí 'I carried my child'	návidò mboḃú 'I flayed a small rodent'
2SG, 1.O	wá ⁵⁵³ kúmbo míkí	wávidò mboḃú
3SG, 1.O	á ⁵⁵³ kúmbo míkí	ávidò mboḃú
1PL, 1.O	tá ⁵⁵³ kúmbo míkí	távidò mboḃú
2PL, 1.O	má ⁵⁵³ kúmbo míkí	mávidò mboḃú
3PL, 1.O	bá ⁵⁵³ kúmbo míkí	bávidò mboḃú
1SG, 2.O	núkúmbo bomíkí 'I carried my children'	núvidò bomboḃú 'I flayed small rodents'
2SG, 2.O	wúkúmbó bomíkí	wúvidò bomboḃú

⁵⁵³ /ná-`-kól-a/ 1SG^P-1.O-untie-FV.⁵⁵⁴ /ná-ǔ-kól-a/ 1SG^P-2.O-untie-FV.

3SG, 2.O	úkúmbó ɓomíkí	úvído ɓomboɓú
1PL, 2.O	túkúmbó ɓomíkí	túvído ɓomboɓú
2PL, 2.O	múkúmbó ɓomíkí	múvído ɓomboɓú
3PL, 2.O	ɓúkúmbó ɓomíkí	ɓúvído ɓomboɓú

-CVCVC- verbal bases:

Past

-yúkum-	'breathe'	-ɗíkít-	'throw'
1SG	nóyúkumo	1SG	náɗíkíta
	'I breathed'		'I threw'

2.1.3 Future

Characteristics affirmative:

- no TAM melody with H or L tones
- the final vowel **-a**

Characteristics negative:

- TAM melody: Prefixal High
- the third person singular subject prefix is zero
- the negative prefix **ka-**
- the final vowel **-ɪ**
- the negative enclitic **-gù**

When the negative forms are followed by the past time adverbial ^H**ndi**, then they indicate inability in the past. At the end of this section, one form is presented for each verb in the tables.

Future, intransitive, [– ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nangbúta ⁵⁵⁵	nákángbútigu ⁵⁵⁶
	'I will sulk'	'I will not sulk'
2 SG	wangbúta	wákángbútigu
3 SG	angbúta	kángbútigu
1 PL	tangbúta	tákángbútigu
2 PL	mángbúta	mákángbútigu
3 PL	ǎangbúta	ǎákángbútigu

Future, intransitive, [– ATR], L tone

-pík-	'sway'	
	<u>affirmative</u>	<u>negative</u>
1 SG	napíka	nákápíkigu
	'I will sway'	'I will not sway'
2 SG	wapíka	wákápíkigu
3 SG	apíka	kápíkigu
1 PL	tapíka	tákápíkigu
2 PL	mápíka	mákápíkigu
3 PL	ǎapíka	ǎákápíkigu

Future, intransitive, [+ ATR], H tone

-ǎín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
1 SG	noǎíno ⁵⁵⁷	nákóǎínigu ⁵⁵⁸
	'I will dance'	'I will not dance'
2 SG	woǎíno	wákóǎínigu
3 SG	oǎíno	kóǎínigu

⁵⁵⁵ /na-ngbút-a/ 1 SG-sulk-FV.⁵⁵⁶ /ná-ka-ngbút-t-gù/ 1 SG-NEG-sulk-FV-NEG.⁵⁵⁷ /na-ǎín-a/ 1 SG-dance-FV.⁵⁵⁸ /ná-ka-ǎín-t-gù/ 1 SG-NEG-dance-FV-NEG.

1PL	toóíno	tákóóínigu
2PL	móóíno	mákóóínigu
3PL	óóóíno	óákóóínigu

Future, intransitive, [+ATR], L tone

-sil-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
1SG	nosilo 'I will arrive'	nákósiligu 'I will not arrive'
2SG	wosilo	wákósiligu
3SG	osilo	kósiligu
1PL	tosilo	tákósiligu
2PL	mósilo	mákósiligu
3PL	óósilo	óákósiligu

Future, transitive, [–ATR], H tone

-kól-	'untie'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakóla ⁵⁵⁹ mémí 'I will untie the goat'	náká'kólgu ⁵⁶⁰ mémí 'I will not untie the goat'
2SG, 1.O	wakóla mémí	wáká'kólgu mémí
3SG, 1.O	akóla mémí	ká'kólgu mémí
1PL, 1.O	takóla mémí	táká'kólgu mémí
2PL, 1.O	má'kóla mémí	máká'kólgu mémí
3PL, 1.O	óá'kóla mémí	óáká'kólgu mémí
1SG, 2.O	nőkóla ⁵⁶¹ bamémí 'I will untie the goats'	nákúkólgu ⁵⁶² bamémí 'I will not untie the goats'
2SG, 2.O	wőkóla bamémí	wákúkólgu bamémí

⁵⁵⁹ /ná-`-kól-à/ 1SG-1.O-untie-FV.<sup>560</sup> /ná-ka-`-kól-ì-gù/ 1SG-NEG-1.O-untie-FV-NEG.⁵⁶¹ /ná-ũ-kól-à/ 1SG-2.O-untie-FV.⁵⁶² /ná-ka-ũ-kól-ì-gù/ 1SG-NEG-2.O-untie-FV-NEG.

3SG, 2.O	škúla bamémí	kúkúligu bamémí
1PL, 2.O	tškúla bamémí	tákúkúligu bamémí
2PL, 2.O	múkúla bamémí	mákúkúligu bamémí
3PL, 2.O	bókúla bamémí	bakúkúligu bamémí

Future, transitive, [-ATR], L tone**-pun-**

'pick, gather'

affirmativenegative

1SG, 1.O	napuna musúkwá 'I will pick a caterpillar'	nákápunigu musúkwá 'I will not pick a caterpillar'
2SG, 1.O	wapuna musúkwá	wákápunigu musúkwá
3SG, 1.O	apuna musúkwá	kápunigu musúkwá
1PL, 1.O	tapuna musúkwá	tákápunigu musúkwá
2PL, 1.O	mápunu musúkwá	mákápunigu musúkwá
3PL, 1.O	bápunu musúkwá	bákápunigu musúkwá
1SG, 2.O	nǎpuna basúkwá 'I will gather caterpillars'	nákúpunigu basúkwá 'I will not gather caterpillars'
2SG, 2.O	wǎpuna basúkwá	wákúpunigu basúkwá
3SG, 2.O	ǎpuna basúkwá	kúpunigu basúkwá
1PL, 2.O	tǎpuna basúkwá	tákúpunigu basúkwá
2PL, 2.O	mǎpuna basúkwá	mákúpunigu basúkwá
3PL, 2.O	bǎpuna basúkwá	bákúpunigu basúkwá

Future, transitive, [+ATR], H tone**-kúmb-**

'carry on the back'

affirmativenegative

1SG, 1.O	nakúmbo míkí 'I will carry my child'	náká ⁴ kúmbigu míkí 'I will not carry my child'
2SG, 1.O	wakúmbo míkí	wáká ⁴ kúmbigu míkí
3SG, 1.O	akúmbo míkí	ká ⁴ kúmbigu míkí
1PL, 1.O	takúmbo míkí	táká ⁴ kúmbigu míkí
2PL, 1.O	má ⁴ kúmbo míkí	máká ⁴ kúmbigu míkí
3PL, 1.O	bá ⁴ kúmbo míkí	báká ⁴ kúmbigu míkí

1SG, 2.O	núkúmbo ɓomíkí 'I will carry my children'	nákúkúmbigu ɓomíkí 'I will not carry my children'
2SG, 2.O	wúkúmbo ɓomíkí	wákúkúmbigu ɓomíkí
3SG, 2.O	úkúmbo ɓomíkí	kúkúmbigu ɓomíkí
1PL, 2.O	túkúmbo ɓomíkí	tákúkúmbigu ɓomíkí
2PL, 2.O	múkúmbo ɓomíkí	mákúkúmbigu ɓomíkí
3PL, 2.O	ɓúkúmbo ɓomíkí	ɓákúkúmbigu ɓomíkí

Future, transitive, [+ATR], L tone

-vid-	'flay, peel'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	navido mboɗú 'I will flay a small rodent'	nákávidigu mboɗú 'I will not flay a small rodent'
2SG, 1.O	wavido mboɗú	wákávidigu mboɗú
3SG, 1.O	avido mboɗú	kávidigu mboɗú
1PL, 1.O	tavido mboɗú	tákávidigu mboɗú
2PL, 1.O	mávido mboɗú	mákávidigu mboɗú
3PL, 1.O	ɓávido mboɗú	ɓákávidigu mboɗú
1SG, 2.O	nūvido ɓomboɗú 'I will flay small rodents'	nákúvidigu ɓomboɗú 'I will not flay small rodents'
2SG, 2.O	wūvido ɓomboɗú	wákúvidigu ɓomboɗú
3SG, 2.O	ūvido ɓomboɗú	kúvidigu ɓomboɗú
1PL, 2.O	tūvido ɓomboɗú	tákúvidigu ɓomboɗú
2PL, 2.O	mūvido ɓomboɗú	mákúvidigu ɓomboɗú
3PL, 2.O	ɓūvido ɓomboɗú	ɓákúvidigu ɓomboɗú

-CVCVC- verbal bases:**Future**

-yúkum-	'breathe'	
-ɗíkt-	'throw'	
	<u>affirmative</u>	<u>negative</u>
1SG	noyúkumo 'I will breathe'	nákóyúkumigu 'I will not breathe'

1 SG	naḍikita 'I will throw'	nákáḍikitiḡu 'I will not throw'

2.1.3.1 Negative Future 'past inability'

Negative Future followed by the past time adverbial ^Hndi is used to express inability in the past. The surface tone on the negative enclitic **-gu** is LH, because of the floating H tone which precedes the monosyllabic time adverbials.

Past inability, intransitive, [–ATR] and [+ATR], H tone and L tone

	-ngbút- 'sulk'	-pik- 'sway'
1 SG	nákángbútiḡu ndi ⁵⁶³ 'I could not sulk'	nákápiḡu ndi 'I could not sway'
	-ḡín- 'dance'	-sil- 'arrive'
1 SG	nákóḡíniḡu ndi ⁵⁶⁴ 'I could not dance'	nákósiliḡu ndi 'I could not arrive'

Past inability, transitive, [–ATR] and [+ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1 SG, 1.O	náká ⁴ kóliḡu ndi ⁵⁶⁵ mémí 'I could not untie the goat'	nákápuḡu ndi musúkwá 'I could not pick a caterpillar'
1 SG, 2.O	nákókóliḡu ndi ⁵⁶⁶ ḡamémí 'I could not untie the goats'	nákópuḡu ndi ḡasúkwá 'I could not gather caterpillars'
	-kúmb- 'carry on the back'	-viḡ- 'flay, peel'
1 SG, 1.O	náká ⁴ kúmbiḡu ndi míkí 'I could not carry my child'	nákáviḡiḡu ndi mboḡú 'I could not flay a small rodent'
1 SG, 2.O	nákúkúmbiḡu ndi ḡomíkí 'I could not carry my children'	nákúviḡiḡu ndi ḡomboḡú 'I could not flay small rodents'

⁵⁶³ /ná-ka-gbút-i-gù ^Hndi/ 1SG^P-NEG-sulk-FV-NEG P₃.

⁵⁶⁴ /ná-ka-ḡín-i-gù ^Hndi/ 1SG^P-NEG-dance-FV-NEG P₃.

⁵⁶⁵ /ná-ka-⁴kól-i-gù ^Hndi/ 1SG^P-NEG-1.O-untie-FV-NEG P₃.

⁵⁶⁶ /ná-ka-ḡkól-i-gù ^Hndi/ 1SG^P-NEG-2.O-untie-FV-NEG P₃.

-CVCVC- verbal bases:

Past inability

-yúkum-	'breathe'	-díkit-	'throw'
1SG	nákóyúkumigǔ ndɪ	1SG	nákádíkítigǔ ndɪ
	'I could not breathe'		'I could not throw'

2.2 Aspect

2.2.1 Anterior aspect

Characteristics affirmative:

- TAM melody with a floating H tone preceding the final vowel and a L tone on the final vowel
- the final vowel **-i** ([+ATR] dominant)

Characteristics negative:

- TAM melody: prefixal High and a H tone on the final vowel
- the third person singular subject prefix is zero
- the negative prefix **ka-**
- the final vowel **-i** ([+ATR] dominant)
- the negative enclitic **-gù**

Anterior, intransitive, [–ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
1SG	nongbúti ⁵⁶⁷	nákóngbútígu ⁵⁶⁸
	'I sulked'	'I did not sulk'
2SG	wongbúti	wákóngbútígu
3SG	ongbúti	kóngbútígu
1PL	tongbúti	tákóngbútígu
2PL	móngbúti	mákóngbútígu
3PL	ǒngbúti	ǒákóngbútígu

⁵⁶⁷ /na-ngbút-^Hi/ 1SG-sulk-FV.ANT.

⁵⁶⁸ /ná-ka-ngbút-í-gù/ 1SG-NEG-sulk-FV.ANT-NEG.

Anterior, intransitive, [–ATR], L tone

-pik-	'sway'	
	<u>affirmative</u>	<u>negative</u>
1SG	nopikí	nákópikígu
	'I swayed'	'I did not sway'
2SG	wopikí	wákópikígu
3SG	opikí	kópikígu
1PL	topikí	tákópikígu
2PL	mópikí	mákópikígu
3PL	bópikí	ḃákópikígu

Anterior, intransitive, [+ATR], H tone

-ḃín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
1SG	noḃíni	nákóḃínígu
	'I danced'	'I did not dance'
2SG	woḃíni	wákóḃínígu
3SG	oḃíni	kóḃínígu
1PL	toḃíni	tákóḃínígu
2PL	móḃíni	mákóḃínígu
3PL	ḃóḃíni	ḃákóḃínígu

Anterior, intransitive, [+ATR], L tone

-sil-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
1SG	nošĩli ⁵⁶⁹	nákósilígu
	'I arrived'	'I did not arrive'
2SG	wosĩli	wákósilígu
3SG	osĩli	kósilígu

⁵⁶⁹ In other -CVC- verbs with primary L tone, the floating H tone is linked to the final vowel.

1PL	tošili	tákósilígu
2PL	mósili	mákósilígu
3PL	ḃóšili	ḃákósilígu

Anterior, transitive, [–ATR], H tone

-kúl-	'untie'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakúli ⁵⁷⁰ mémí 'I untied the goat'	náká ⁵⁷¹ kúlígu mémí 'I did not untie the goat'
2SG, 1.O	wakúli mémí	wáká ⁵⁷¹ kúlígu mémí
3SG, 1.O	akúli mémí	ká ⁵⁷¹ kúlígu mémí
1PL, 1.O	takúli mémí	táká ⁵⁷¹ kúlígu mémí
2PL, 1.O	má ⁵⁷¹ kúli mémí	máká ⁵⁷¹ kúlígu mémí
3PL, 1.O	ḃá ⁵⁷¹ kúli mémí	ḃáká ⁵⁷¹ kúlígu mémí
1SG, 2.O	nŭkúli ⁵⁷² ḃamémí 'I untied the goats'	nákúkúlígu ⁵⁷³ ḃamémí 'I did not untie the goats'
2SG, 2.O	wŭkúli ḃamémí	wákúkúlígu ḃamémí
3SG, 2.O	ŭkúli ḃamémí	kúkúlígu ḃamémí
1PL, 2.O	tŭkúli ḃamémí	tákúkúlígu ḃamémí
2PL, 2.O	múkúli ḃamémí	mákúkúlígu ḃamémí
3PL, 2.O	ḃúkúli ḃamémí	ḃákúkúlígu ḃamémí

Anterior, transitive, [–ATR], L tone

-pun-	'pick, gather'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	napuní musúkwá 'I picked a caterpillar'	nákápunígu musúkwá 'I did not pick a caterpillar'
2SG, 1.O	wapuní musúkwá	wákápunígu musúkwá

⁵⁷⁰ /na-^h-kúl-^hi/ 1SG-1.O-untie-FV.ANT.⁵⁷¹ /ná-ka-^h-kúl-í-gù/ 1SG-NEG-1.O-untie-FV.ANT-NEG.⁵⁷² /na-ŭ-kúl-^hi/ 1SG-2.O-untie-FV.ANT.⁵⁷³ /ná-ka-ŭ-kúl-í-gù/ 1SG-NEG-2.O-untie-FV.ANT-NEG.

3SG, 1.O	apuní musúkwá	kápunígu musúkwá
1PL, 1.O	tapuní musúkwá	tákápunígu musúkwá
2PL, 1.O	mápuní musúkwá	mákápunígu musúkwá
3PL, 1.O	ḃápuní musúkwá	ḃákápunígu musúkwá
1SG, 2.O	nǔpuní ḃasúkwá 'I gathered caterpillars'	nákúpunígu ḃasúkwá 'I did not gather caterpillars'
2SG, 2.O	wǔpuní ḃasúkwá	wákúpunígu ḃasúkwá
3SG, 2.O	ǔpuní ḃasúkwá	kúpunígu ḃasúkwá
1PL, 2.O	tǔpuní ḃasúkwá	tákúpunígu ḃasúkwá
2PL, 2.O	múpuní ḃasúkwá	mákúpunígu ḃasúkwá
3PL, 2.O	ḃúpuní ḃasúkwá	ḃákúpunígu ḃasúkwá

Anterior, transitive, [+ATR], H tone

-kúmb- 'carry on the back'

affirmative

negative

1SG, 1.O	nakúmbi míkí 'I carried my child'	náká ⁴ kúmbígu míkí 'I did not carry my child'
2SG, 1.O	wakúmbi míkí	wáká ⁴ kúmbígu míkí
3SG, 1.O	akúmbi míkí	ká ⁴ kúmbígu míkí
1PL, 1.O	takúmbi míkí	táká ⁴ kúmbígu míkí
2PL, 1.O	má ⁴ kúmbi míkí	máká ⁴ kúmbígu míkí
3PL, 1.O	ḃá ⁴ kúmbi míkí	ḃáká ⁴ kúmbígu míkí
1SG, 2.O	nǔkúmbi ḃomíkí 'I carried my children'	nákúkúmbígu ḃomíkí 'I did not carry my children'
2SG, 2.O	wǔkúmbi ḃomíkí	wákúkúmbígu ḃomíkí
3SG, 2.O	ǔkúmbi ḃomíkí	kúkúmbígu ḃomíkí
1PL, 2.O	tǔkúmbi ḃomíkí	tákúkúmbígu ḃomíkí
2PL, 2.O	múkúmbi ḃomíkí	mákúkúmbígu ḃomíkí
3PL, 2.O	ḃúkúmbi ḃomíkí	ḃákúkúmbígu ḃomíkí

Anterior, transitive, [+ATR], L tone

-vid-	'flay, peel'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	navidĩ mboḃú 'I flayed a small rodent'	nákávidĩgu mboḃú 'I did not flay a small rodent'
2SG, 1.O	wavidĩ mboḃú	wákávidĩgu mboḃú
3SG, 1.O	avidĩ mboḃú	kávidĩgu mboḃú
1PL, 1.O	tavidĩ mboḃú	tákávidĩgu mboḃú
2PL, 1.O	mávidĩ mboḃú	mákávidĩgu mboḃú
3PL, 1.O	ḃavidĩ mboḃú	ḃákávidĩgu mboḃú
1SG, 2.O	nūvidĩ ḃomboḃú 'I flayed small rodents'	nákúvidĩgu ḃomboḃú 'I did not flay small rodents'
2SG, 2.O	wūvidĩ ḃomboḃú	wákúvidĩgu ḃomboḃú
3SG, 2.O	ūvidĩ ḃomboḃú	kúvidĩgu ḃomboḃú
1PL, 2.O	tūvidĩ ḃomboḃú	tákúvidĩgu ḃomboḃú
2PL, 2.O	mūvidĩ ḃomboḃú	mákúvidĩgu ḃomboḃú
3PL, 2.O	ḃūvidĩ ḃomboḃú	ḃákúvidĩgu ḃomboḃú

CVCVC- verbal bases:

Anterior

-yúkum-	'breathe'	
-ḃíkut-	'throw'	
	<u>affirmative</u>	<u>negative</u>
1SG	noyúkúmi 'I breathed'	nákóyúkúmígu 'I did not breathe'
1SG	noḃíkítí 'I threw'	nákóḃíkítígu 'I did not throw'

2.2.1.1 Anterior 'not yet'

Anterior aspect has a second negative form, meaning 'not yet'.

Characteristics negative:

- TAM melody: prefixal High and a H tone on the final vowel
- the third person singular subject prefix is zero

- the negative prefix **ka-** (optional)
- additionally the prefix **-nà-**
- the final vowel **-i** ([+ATR] dominant)
- the negative enclitic **-gù**

Anterior 'not yet', intransitive, [–ATR], H tone and L tone

	-ngbút- 'sulk'	-pik- 'sway'
1 SG	nákánongbútígu ⁵⁷⁴ 'I did not yet sulk'	nákánopikígu 'I did not yet sway'
2 SG	wákánongbútígu	wákánopikígu
3 SG	kánongbútígu	kánopikígu
1 PL	tákánongbútígu	tákánopikígu
2 PL	mákánongbútígu	mákánopikígu
3 PL	ḡákánongbútígu	ḡákánopikígu

Anterior 'not yet', intransitive, [+ATR], H tone and L tone

	-ḡín- 'dance'	-sil- 'arrive'
1 SG	nákánoḡínígu ⁵⁷⁵ 'I did not yet dance'	nákánosilígu 'I did not yet arrive'
2 SG	wákánoḡínígu	wákánosilígu
3 SG	kánoḡínígu	kánosilígu
1 PL	tákánoḡínígu	tákánosilígu
2 PL	mákánoḡínígu	mákánosilígu
3 PL	ḡákánoḡínígu	ḡákánosilígu

Anterior 'not yet', transitive, [–ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1 SG, 1.O	nákánakúlígu ⁵⁷⁶ mémí 'I did not yet untie the goat'	nákánapunígu musúkwá 'I did not yet pick a caterpillar'
2 SG, 1.O	wákánakúlígu mémí	wákánapunígu musúkwá

⁵⁷⁴ /ná-ka-nà-ngbút-í-gù/ 1 SG-NEG-*yet*-sulk-FV.ANT-NEG.

⁵⁷⁵ /ná-ka-nà-ḡín-í-gù/ 1 SG-NEG-*yet*-dance-FV.ANT-NEG.

⁵⁷⁶ /ná-ka-nà-`-kól-í-gù/ 1 SG-NEG-*yet*-1.O-untie-FV.ANT-NEG.

3SG, 1.O	kánakúlígu mémí	kánapunígu musúkwá
1PL, 1.O	tákánakúlígu mémí	tákánapunígu musúkwá
2PL, 1.O	mákánakúlígu mémí	mákánapunígu musúkwá
3PL, 1.O	ḃákánakúlígu mémí	ḃákánapunígu musúkwá
1SG, 2.O	nákánukúlígu ⁵⁷⁷ ḃamémí 'I did not yet untie the goats'	nákánũpunígu ḃasúkwá 'I did not yet gather caterpillars'
2SG, 2.O	wákánukúlígu ḃamémí	wákánũpunígu ḃasúkwá
3SG, 2.O	kánukúlígu ḃamémí	kánũpunígu ḃasúkwá
1PL, 2.O	tákánukúlígu ḃamémí	tákánũpunígu ḃasúkwá
2PL, 2.O	mákánukúlígu ḃamémí	mákánũpunígu ḃasúkwá
3PL, 2.O	ḃákánukúlígu ḃamémí	ḃákánũpunígu ḃasúkwá

Anterior 'not yet', transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	nákánakúmbígu míkí 'I did not yet carry my child'	nákánavidígu mboḃú 'I did not yet flay the small rodent'
2SG, 1.O	wákánakúmbígu míkí	wákánavidígu mboḃú
3SG, 1.O	kánakúmbígu míkí	kánavidígu mboḃú
1PL, 1.O	tákánakúmbígu míkí	tákánavidígu mboḃú
2PL, 1.O	mákánakúmbígu míkí	mákánavidígu mboḃú
3PL, 1.O	ḃákánakúmbígu míkí	ḃákánavidígu mboḃú
1SG, 2.O	nákánukúmbígu ḃomíkí 'I did not yet carry my children'	nákánũvidígu ḃomboḃú 'I did not yet flay small rodents'
2SG, 2.O	wákánukúmbígu ḃomíkí	wákánũvidígu ḃomboḃú
3SG, 2.O	kánukúmbígu ḃomíkí	kánũvidígu ḃomboḃú
1PL, 2.O	tákánukúmbígu ḃomíkí	tákánũvidígu ḃomboḃú
2PL, 2.O	mákánukúmbígu ḃomíkí	mákánũvidígu ḃomboḃú
3PL, 2.O	ḃákánukúmbígu ḃomíkí	ḃákánũvidígu ḃomboḃú

⁵⁷⁷ /ná-ka-nà-ũ-kúl-í-gù/ 1SG-NEG-yet-2.O-untie-FV.ANT-NEG.

-CVCVC- verbal bases:

Anterior 'not yet'

-yúkum-	'breathe'	-díkit-	'throw'
1 SG	nákánoyúkumígu	1 SG	nákánodíkitígu
	'I did not yet breathe'		'I did not yet throw'

2.2.2 Inchoative aspect

Characteristics affirmative:

- no TAM melody with H or L tones
- the Inchoative aspect prefix -^L**ná**^L-
- the final vowel -a
- a H tone on final vowel, which surfaces as Low if the preceding tone is High, see 4.6.6

Inchoative does not have a negative form.

Inchoative, intransitive, [-ATR], H tone and L tone

	-ngbút- 'sulk'	-pík- 'sway'
1 SG	naná ^L ngbúta ⁵⁷⁸	nanápíká
	'I am about to sulk'	'I am about to sway'
2 SG	waná ^L ngbúta	wanápíká
3 SG	aná ^L ngbúta	anápíká
1 PL	taná ^L ngbúta	tanápíká
2 PL	má ^L ná ^L ngbúta	má ^L nápíká
3 PL	ḡá ^L ná ^L ngbúta	ḡá ^L nápíká

Inchoative, intransitive, [+ATR], H tone and L tone

	-ḡín- 'dance'	-síl- 'arrive'
1 SG	nanó ^L ḡíno ⁵⁷⁹	nanósiló
	'I am about to dance'	'I am about to arrive'
2 SG	wanó ^L ḡíno	wanósiló

⁵⁷⁸ /na-^Lná^L-ngbút-a/ 1 SG-INCH-sulk-FV.

⁵⁷⁹ /na-^Lná^L-ḡín-a/ 1 SG-INCH-dance-FV.

3SG	anó ⁺ ḃíno	anósiló
1PL	tanó ⁺ ḃíno	tanósiló
2PL	má ⁺ nó ⁺ ḃíno	má ⁺ nósiló
3PL	ḃá ⁺ nó ⁺ ḃíno	ḃá ⁺ nósiló

Inchoative, transitive, [–ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1SG, 1.O	naná ⁺ kúla ⁵⁸⁰ mémí 'I am about to untie the goat'	nanápuná musúkwá 'I am about to pick a caterpillar'
2SG, 1.O	waná ⁺ kúla mémí	wanápuná musúkwá
3SG, 1.O	aná ⁺ kúla mémí	anápuná musúkwá
1PL, 1.O	taná ⁺ kúla mémí	tanápuná musúkwá
2PL, 1.O	má ⁺ ná ⁺ kúla mémí	má ⁺ nápuná musúkwá
3PL, 1.O	ḃá ⁺ ná ⁺ kúla mémí	ḃá ⁺ nápuná musúkwá
1SG, 2.O	nanúkúla ⁵⁸¹ ḃamémí 'I am about to untie the goats'	nanúpuná ḃasúkwá 'I am about to gather caterpillars'
2SG, 2.O	wanúkúla ḃamémí	wanúpuná ḃasúkwá
3SG, 2.O	anúkúla ḃamémí	anúpuná ḃasúkwá
1PL, 2.O	tanúkúla ḃamémí	tanúpuná ḃasúkwá
2PL, 2.O	má ⁺ núkúla ḃamémí	má ⁺ núpuná ḃasúkwá
3PL, 2.O	ḃá ⁺ núkúla ḃamémí	ḃá ⁺ núpuná ḃasúkwá

Inchoative, transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	naná ⁺ kúmbo míkí 'I am about to carry my child'	nanávidó mboḃú 'I am about to flay the small rodent'
2SG, 1.O	waná ⁺ kúmbo míkí	wanávidó mboḃú
3SG, 1.O	aná ⁺ kúmbo míkí	anávidó mboḃú
1PL, 1.O	taná ⁺ kúmbo míkí	tanávidó mboḃú
2PL, 1.O	má ⁺ ná ⁺ kúmbo míkí	má ⁺ návidó mboḃú

⁵⁸⁰ /na-^lná^l-^l-kól-a/ 1SG-INCH-1.O-untie-FV.⁵⁸¹ /na-^lná^l-^l-kól-a/ 1SG-INCH-2.O-untie-FV.

3PL, 1.O	ḡá'ná'kúmbo míkí	ḡá'návidó mboḡú
1SG, 2.O	nanúkúmbo ḡomíkí 'I am about to carry my children'	nanúvidó ḡomboḡú 'I am about to flay small rodents'
2SG, 2.O	wanúkúmbo ḡomíkí	wanúvidó ḡomboḡú
3SG, 2.O	anúkúmbo ḡomíkí	anúvidó ḡomboḡú
1PL, 2.O	tanúkúmbo ḡomíkí	tanúvidó ḡomboḡú
2PL, 2.O	má'núkúmbo ḡomíkí	má'núvidó ḡomboḡú
3PL, 2.O	ḡá'núkúmbo ḡomíkí	ḡá'núvidó ḡomboḡú

-CVCVC- verbal bases:

Inchoative

-yúkum-	'breathe'	-ḡikt-	'throw'
1SG	nanó'yúkumó 'I am about to breathe'	1SG	nanáḡiktá 'I am about to throw'

2.2.3 Perfective aspect

Characteristics:

- based on Past (specific) or on Anterior aspect
- the Perfective aspect suffix **-ní** ([+ATR] dominant)

The Perfective does not have a negative form.

2.2.3.1 Based on Past (specific)

Perfective (Past), intransitive, [–ATR], H tone and L tone

	-ngbút- 'sulk'	-pík- 'sway'
1SG	nóngbútóní ⁵⁸² 'I have sulked'	nópikóní 'I have swayed'
2SG	wóngbútóní	wópikóní
3SG	óngbútóní	ópikóní

⁵⁸² /ná-ngbút-á-ní/ 1SG^P-sulk-FV^P-PFV.

1PL	tóngbútóní	tópikóní
2PL	móngbútóní	mópikóní
3PL	ḡóngbútóní	ḡópikóní

Perfective (Past), intransitive, [+ATR], H tone and L tone

	-ḡín- 'dance'	-sil- 'arrive'
1SG	nóḡínóní 'I have danced'	nósilóní 'I have arrived'
2SG	wóḡínóní	wósilóní
3SG	óḡínóní	ósilóní
1PL	tóḡínóní	tósilóní
2PL	móḡínóní	mósilóní
3PL	ḡóḡínóní	ḡósilóní

Perfective (Past), transitive, [–ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1SG, 1.O	ná ⁵⁸³ kúlóní méṃ 'I have untied the goat'	nápunóní musúkwá 'I have picked up a caterpillar'
2SG, 1.O	wá ⁴ kúlóní méṃ	wápunóní musúkwá
3SG, 1.O	á ⁴ kúlóní méṃ	ápunóní musúkwá
1PL, 1.O	tá ⁴ kúlóní méṃ	tápunóní musúkwá
2PL, 1.O	má ⁴ kúlóní méṃ	mápunóní musúkwá
3PL, 1.O	ḡá ⁴ kúlóní méṃ	ḡápunóní musúkwá
1SG, 2.O	núkúlóní ḡamémí ⁵⁸⁴ 'I have untied the goats'	núpunóní ḡasúkwá 'I have gathered caterpillars'
2SG, 2.O	wúkúlóní ḡamémí	wúpunóní ḡasúkwá
3SG, 2.O	úkúlóní ḡamémí	úpunóní ḡasúkwá
1PL, 2.O	túkúlóní ḡamémí	túpunóní ḡasúkwá
2PL, 2.O	múkúlóní ḡamémí	múpunóní ḡasúkwá
3PL, 2.O	ḡúkúlóní ḡamémí	ḡúpunóní ḡasúkwá

⁵⁸³ /ná-`kól-á-ní/ 1SG^P-1.O-untie-FV^P-PFV.⁵⁸⁴ /ná-ũ-kól-á-ní/ 1SG^P-2.O-untie-FV^P-PFV.

Perfective (Past), transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	ná ⁴ kúmbóní míki 'I have carried my child'	návidóní mboḃú 'I have flayed the small rodent'
2SG, 1.O	wá ⁴ kúmbóní míki	wávidóní mboḃú
3SG, 1.O	á ⁴ kúmbóní míki	ávidóní mboḃú
1PL, 1.O	tá ⁴ kúmbóní míki	távidóní mboḃú
2PL, 1.O	má ⁴ kúmbóní míki	mávidóní mboḃú
3PL, 1.O	ḃá ⁴ kúmbóní míki	ḃávidóní mboḃú
1SG, 2.O	núkúmbóní ḃomíkí 'I have carried my children'	núvidóní ḃomboḃú 'I have flayed small rodents'
2SG, 2.O	wúkúmbóní ḃomíkí	wúvidóní ḃomboḃú
3SG, 2.O	úkúmbóní ḃomíkí	úvidóní ḃomboḃú
1PL, 2.O	túkúmbóní ḃomíkí	túvidóní ḃomboḃú
2PL, 2.O	múkúmbóní ḃomíkí	múvidóní ḃomboḃú
3PL, 2.O	ḃúkúmbóní ḃomíkí	ḃúvidóní ḃomboḃú

-CVCVC- verbal bases:**Perfective (Past)**

-yúkum-	'breathe'	-ḃíkt-	'throw'
1SG	nóyúkúmóní 'I have breathed'	1SG	nóḃíkítóní 'I have thrown'

2.2.3.2 Perfective aspect based on Anterior aspect**Perfective (Anterior)**, intransitive, [−ATR], H tone and L tone

	-ngbút- 'sulk'	-pík- 'sway'
1SG	nongbútíní ⁵⁸⁵ 'I have sulked'	nopikíni 'I have swayed'
2SG	wongbútíní	wopikíni
3SG	ongbútíní	opikíni
1PL	tongbútíní	topikíni

⁵⁸⁵ /na-ngbút-i-ní/ 1SG-sulk-FV.ANT-PFV.

2PL	móngbútiní	mópikíní
3PL	ǒóngbútiní	ǒópikíní

Perfective (Anterior), intransitive, [+ATR], H tone and L tone

	-ǒm- 'dance'	-síl- 'arrive'
1SG	noǒíniní 'I have danced'	nosíliní ⁵⁸⁶ 'I have arrived'
2SG	wobíniní	wosíliní
3SG	oǒíniní	osíliní
1PL	toǒíniní	tosíliní
2PL	móǒíniní	mósíliní
3PL	ǒóǒíniní	ǒósíliní

Perfective (Anterior), transitive, [–ATR], H tone and L tone

	-kól- 'untie'	-pun- 'pick, gather'
1SG, 1.O	nakúliní ⁵⁸⁷ mémɪ 'I have untied the goat'	napuníni musúkwá 'I have picked up a caterpillar'
2SG, 1.O	wakúliní mémɪ	wapuníni musúkwá
3SG, 1.O	akúliní mémɪ	apuníni musúkwá
1PL, 1.O	takúliní mémɪ	tapuníni musúkwá
2PL, 1.O	má ⁴ kúliní mémɪ	mápuníni musúkwá
3PL, 1.O	ǒá ⁴ kúliní mémɪ	ǒápuníni musúkwá
1SG, 2.O	nukúliní ⁵⁸⁸ ǒamémí 'I have untied the goats'	nǔpuníni ǒasúkwá 'I have gathered caterpillars'
2SG, 2.O	wukúliní ǒamémí	wǔpuníni ǒasúkwá
3SG, 2.O	ukúliní ǒamémí	ǔpuníni ǒasúkwá
1PL, 2.O	tukúliní ǒamémí	tǔpuníni ǒasúkwá
2PL, 2.O	múkúliní ǒamémí	mǔpuníni ǒasúkwá

⁵⁸⁶ In other -CVC- verbs with primary L tone, the floating H tone of Anterior aspect is linked to the final vowel.

⁵⁸⁷ /na-`kól-i-ní/ 1SG-1.O-untie-FV.ANT-PFV.

⁵⁸⁸ /na-ǔ-kól-i-ní/ 1SG-2.O-untie-FV.ANT-PFV.

3PL, 2.O búkúliní ãamémí búpuníni ãasúkwá

Perfective (Anterior), transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	nakúmbiní míki 'I have carried my child'	navidíni mboóú 'I have flayed the small rodent'
2SG, 1.O	wakúmbiní míki	wavidíni mboóú
3SG, 1.O	akúmbiní míki	avidíni mboóú
1PL, 1.O	takúmbiní míki	tavidíni mboóú
2PL, 1.O	má ⁴ kúmbiní míki	mávidíni mboóú
3PL, 1.O	ãá ⁴ kúmbiní míki	ãavidíni mboóú
1SG, 2.O	nukúmbiní ãomíkí 'I have carried my children'	nūvidíni ãomboóú 'I have flayed small rodents'
2SG, 2.O	wukúmbiní ãomíkí	wūvidíni ãomboóú
3SG, 2.O	ukúmbiní ãomíkí	ūvidíni ãomboóú
1PL, 2.O	tukúmbiní ãomíkí	tūvidíni ãomboóú
2PL, 2.O	múkúmbiní ãomíkí	mūvidíni ãomboóú
3PL, 2.O	búkúmbiní ãomíkí	būvidíni ãomboóú

-CVCVC- verbal bases:

Perfective (Anterior)

-yúkum-	'breathe'	-díkt-	'throw'
1SG	noyúkúminí 'I have breathed'	1SG	nodíkítiní 'I have thrown'

2.2.4 Progressive aspect

Characteristics:

- an inflected form of the verb **-ik-** 'be' followed by Infinitive form of the main verb
- TAM melody on Infinitive: H tone on the final vowel
- a floating L tone preceding the Infinitive

Progressive aspect can refer to the Past, Present and Future. The time reference is indicated by the form of the verb **-ik-** 'be', e.g. **na** 'I am', **nă ndu** 'I was', **niko** 'I will

be'. The paradigms below present the Progressive aspect affirmative forms referring to the present. For other forms of **-ik-**, see 7.13.

Present Progressive, intransitive, [–ATR], H tone and L tone

	-ngbút- 'sulk'	-pik- 'sway'
1 SG	na kángbútá ⁵⁸⁹ 'I am sulking'	na kápiká 'I am swaying'
2 SG	wa kángbútá	wa kápiká
3 SG	a kángbútá	a kápiká
1 PL	ta kángbútá	ta kápiká
2 PL	má 'kángbútá ⁵⁹⁰	má 'kápiká
3 PL	ǎá 'kángbútá	ǎá 'kápiká

Present Progressive, intransitive, [+ATR], H tone and L tone

	-ǎín- 'dance'	-sil- 'arrive'
1 SG	na kóǎínó ⁵⁹¹ 'I am dancing'	na kósiló 'I am arriving'
2 SG	wa kóǎínó	wa kósiló
3 SG	a kóǎínó	a kósiló
1 PL	ta kóǎínó	ta kósiló
2 PL	má 'kóǎínó	má 'kósiló
3 PL	ǎá 'kóǎínó	ǎá 'kósiló

Present Progressive, transitive, [–ATR], H tone and L tone

	-kúl- 'untie'	-pun- 'pick, gather'
1 SG, 1.O	na ká'kúlá ⁵⁹² mému 'I am untying the goat'	na kápuná musúkwá 'I am picking a caterpillar'
2 SG, 1.O	wa ká'kúlá mému	wa kápuná musúkwá
3 SG, 1.O	a ká'kúlá mému	a kápuná musúkwá

⁵⁸⁹ /na ká-ngbút-á/ 1SG:be INF-sulk-FV.

⁵⁹⁰ Non-automatic downstep, see 4.6.5 and 7.7.5.

⁵⁹¹ /na ká-ǎín-á/ 1SG:be INF-dance-FV.

⁵⁹² /na ká-`-kúl-á/ 1SG:be INF-1.O-untie-FV.

1PL, 1.O	ta ká ⁴ kúlá mému	ta kápuná musúkwá
2PL, 1.O	má ⁴ ká ⁴ kúlá mému	má ⁴ kápuná musúkwá
3PL, 1.O	ḃá ⁴ ká ⁴ kúlá mému	ḃá ⁴ kápuná musúkwá
1SG, 2.O	na káukúlá ⁵⁹³ ḃamémí 'I am untying the goats'	na káũpuná ḃasúkwá 'I am gathering caterpillars'
2SG, 2.O	wa káukúlá ḃamémí	wa káũpuná ḃasúkwá
3SG, 2.O	a káukúlá ḃamémí	a káũpuná ḃasúkwá
1PL, 2.O	ta káukúlá ḃamémí	ta káũpuná ḃasúkwá
2PL, 2.O	má ⁴ káukúlá ḃamémí	má ⁴ káũpuná ḃasúkwá
3PL, 2.O	ḃá ⁴ káukúlá ḃamémí	ḃá ⁴ káũpuná ḃasúkwá

Present Progressive, transitive, [+ATR], H tone and L tone

	-kúmb- 'carry on the back'	-vid- 'flay, peel'
1SG, 1.O	na ká ⁴ kúmbó míki 'I am carrying my child'	na kávidó mboḃú 'I am flaying a small rodent'
2SG, 1.O	wa ká ⁴ kúmbó míki	wa kávidó mboḃú
3SG, 1.O	a ká ⁴ kúmbó míki	a kávidó mboḃú
1PL, 1.O	ta ká ⁴ kúmbó míki	ta kávidó mboḃú
2PL, 1.O	má ⁴ ká ⁴ kúmbó míki	má ⁴ kávidó mboḃú
3PL, 1.O	ḃá ⁴ ká ⁴ kúmbó míki	ḃá ⁴ kávidó mboḃú
1SG, 2.O	na káukúmbó ḃomíkí 'I am carrying my children'	na káũvidó ḃomboḃú 'I am flaying small rodents'
2SG, 2.O	wa káukúmbó ḃomíkí	wa káũvidó ḃomboḃú
3SG, 2.O	a káukúmbó ḃomíkí	a káũvidó ḃomboḃú
1PL, 2.O	ta káukúmbó ḃomíkí	ta káũvidó ḃomboḃú
2PL, 2.O	má ⁴ káukúmbó ḃomíkí	má ⁴ káũvidó ḃomboḃú
3PL, 2.O	ḃá ⁴ káukúmbó ḃomíkí	ḃá ⁴ káũvidó ḃomboḃú

⁵⁹³ /na ká-ũ-kúl-á/ 1SG:be INF-2.O-untie-FV.

CVCVC- verbal bases:

Present Progressive

-yúkum-	'breathe'	-díkt-	'throw'
1 SG	na kóyúkúmó	1 SG	na kádíkítá
	'I am breathing'		'I am throwing'

2.3 Conditional, Subjunctive, Imperative

2.3.1 Conditional

Characteristics affirmative:

- TAM melody: prefixal Low and a H tone on the final vowel
- the Conditional prefix **ka-**
- the third singular subject prefix is zero
- the final vowel **-a**

Characteristics negative:

- TAM melody: prefixal High and a H tone on the final vowel
- the Conditional prefix **ka-**
- the final vowel **-i** ([+ATR] dominant)

Conditional, intransitive, [−ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nakangbútá ⁵⁹⁴	nákóngbútí ⁵⁹⁵
	'if I sulk'	'if I do not sulk'
2 SG	wakangbútá	wákóngbútí
3 SG	kangbútá	kóngbútí
1 PL	takangbútá	tákóngbútí
2 PL	makangbútá	mákóngbútí
3 PL	ðakangbútá	ðákóngbútí

⁵⁹⁴ /nà-ka-ngbút-á/ 1SG-COND-sulk-FV.

⁵⁹⁵ /ná-ka-ngbút-í/ 1SG-COND-sulk-FV.NEG.

Conditional, intransitive, [–ATR], L tone

-pɪk-	'sway'	
	<u>affirmative</u>	<u>negative</u>
1SG	nakapɪká	nákópikí
	'if I sway'	'if I do not sway'
2SG	wakapɪká	wákópikí
3SG	kapɪká	kópikí
1PL	takapɪká	tákópikí
2PL	makapɪká	mákópikí
3PL	ɓakapɪká	ɓákópikí

Conditional, intransitive, [+ATR], H tone

-ɓín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
1SG	nakoɓínó ⁵⁹⁶	nákóɓíní ⁵⁹⁷
	'if I dance'	'if I do not dance'
2SG	wakoɓínó	wákóɓíní
3SG	koɓínó	kóɓíní
1PL	takoɓínó	tákóɓíní
2PL	makoɓínó	mákóɓíní
3PL	ɓakoɓínó	ɓákóɓíní

Conditional, intransitive, [+ATR], L tone

-sil-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
1SG	nakosiló	nákósilí
	'if I arrive'	'if I do not arrive'
2SG	wakosiló	wákósilí
3SG	kosiló	kósilí

⁵⁹⁶ /nà-ka-ɓín-á/ 1SG-COND-dance-FV.⁵⁹⁷ /ná-ka-ɓín-í/ 1SG-COND-dance-FV.NEG.

1PL	takosiló	tákósilí
2PL	makosiló	mákósilí
3PL	ḡakosiló	ḡákósilí

Conditional, transitive, [–ATR], H tone

-kúl-	'untie'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakakúlá ⁵⁹⁸ mému 'if I untie the goat'	náká ⁵⁹⁹ *kúlí mému 'if I do not untie the goat'
2SG, 1.O	wakakúlá mému	wáká ⁵⁹⁹ *kúlí mému
3SG, 1.O	kakúlá mému	ká ⁵⁹⁹ *kúlí mému
1PL, 1.O	takakúlá mému	táká ⁵⁹⁹ *kúlí mému
2PL, 1.O	makakúlá mému	máká ⁵⁹⁹ *kúlí mému
3PL, 1.O	ḡakakúlá mému	ḡáká ⁵⁹⁹ *kúlí mému
1SG, 2.O	nakukúla ⁶⁰⁰ ḡamémí 'if I untie the goats'	nákúkúlí ⁶⁰¹ ḡamémí 'if I do not untie the goats'
2SG, 2.O	wakukúla ḡamémí	wákúkúlí ḡamémí
3SG, 2.O	kukúla ḡamémí	kúkúlí ḡamémí
1PL, 2.O	takukúla ḡamémí	tákúkúlí ḡamémí
2PL, 2.O	makukúla ḡamémí	mákúkúlí ḡamémí
3PL, 2.O	ḡakukúla ḡamémí	ḡákúkúlí ḡamémí

Conditional, transitive, [–ATR], L tone

-pun-	'pick, gather'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakapuná musúkwá 'if I pick a caterpillar'	nákápuní musúkwá 'if I do not pick a caterpillar'
2SG, 1.O	wakapuná musúkwá	wákápuní musúkwá

⁵⁹⁸ /ná-ka-`-kúl-á/ 1SG-COND-1.O-untie-FV.<sup>599</sup> /ná-ka-`-kúl-í/ 1SG-COND-1.O-untie- FV-NEG.⁶⁰⁰ /ná-ka-ŭ-kúl-á/ 1SG-COND-2.O-untie-FV.⁶⁰¹ /ná-ka-ŭ-kúl-í/ 1SG-COND-2.O-untie- FV-NEG.

3SG, 1.O	kapuná musúkwá	kápuní musúkwá
1PL, 1.O	takapuná musúkwá	tákápuní musúkwá
2PL, 1.O	makapuná musúkwá	mákápuní musúkwá
3PL, 1.O	ðakapuná musúkwá	ðákápuní musúkwá
1SG, 2.O	naköpuná basúkwá 'if I gather caterpillars'	nákúpuní basúkwá 'if I do not gather caterpillars'
2SG, 2.O	waköpuná basúkwá	wákúpuní basúkwá
3SG, 2.O	köpuná basúkwá	kúpuní basúkwá
1PL, 2.O	taköpuná basúkwá	tákúpuní basúkwá
2PL, 2.O	maköpuná basúkwá	mákúpuní basúkwá
3PL, 2.O	ðaköpuná basúkwá	ðákúpuní basúkwá

Conditional, transitive, [+ATR], H tone

-kúmb-	'carry on the back'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakakúmbó míki 'if I carry my child'	náká ⁴ kúmbí míki 'if I do not carry my child'
2SG, 1.O	wakakúmbó míki	wáká ⁴ kúmbí míki
3SG, 1.O	kakúmbó míki	ká ⁴ kúmbí míki
1PL, 1.O	takakúmbó míki	táká ⁴ kúmbí míki
2PL, 1.O	makakúmbó míki	máká ⁴ kúmbí míki
3PL, 1.O	ðakakúmbó míki	ðáká ⁴ kúmbí míki
1SG, 2.O	nakukúmbó ðomíkí 'if I carry my children'	nákúkúmbí ðomíkí 'if I do not carry my children'
2SG, 2.O	wakukúmbó ðomíkí	wákúkúmbí ðomíkí
3SG, 2.O	kukúmbó ðomíkí	kúkúmbí ðomíkí
1PL, 2.O	takukúmbó ðomíkí	tákúkúmbí ðomíkí
2PL, 2.O	makukúmbó ðomíkí	mákúkúmbí ðomíkí
3PL, 2.O	ðakukúmbó ðomíkí	ðákúkúmbí ðomíkí

Conditional, transitive, [+ATR], L tone

-vid-	'flay, peel'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nakavidó mboóú 'if I flay a small rodent'	nákávidĩ mboóú 'if I do not flay a small rodent'
2SG, 1.O	wakavidó mboóú	wákávidĩ mboóú
3SG, 1.O	kavidó mboóú	kávidĩ mboóú
1PL, 1.O	takavidó mboóú	tákávidĩ mboóú
2PL, 1.O	makavidó mboóú	mákávidĩ mboóú
3PL, 1.O	ɓakavidó mboóú	ɓákávidĩ mboóú
1SG, 2.O	naküvidó ɓomboóú 'if I flay small rodents'	náküvidĩ ɓomboóú 'if I do not flay small rodents'
2SG, 2.O	waküvidó ɓomboóú	wáküvidĩ ɓomboóú
3SG, 2.O	küvidó ɓomboóú	küvidĩ ɓomboóú
1PL, 2.O	taküvidó ɓomboóú	táküvidĩ ɓomboóú
2PL, 2.O	maküvidó ɓomboóú	máküvidĩ ɓomboóú
3PL, 2.O	ɓaküvidó ɓomboóú	ɓáküvidĩ ɓomboóú

-CVCVC- verbal bases:

-yúkum-	'breathe'	
-ɗíkut-	'throw'	
	<u>affirmative</u>	<u>negative</u>
1SG	nakoyúkúmó 'if I breathe'	nákóyúkúmí 'if I do not breathe'
1SG	nakaɗíkítá 'if I throw'	nákóɗíkítí 'if I do not throw'

2.3.2 Subjunctive

Characteristics affirmative:

- TAM melody: prefixal High and a H tone on the final vowel
- the final vowel -ɪ

Characteristics negative:

- TAM melody: prefixal Low

- the negative prefix **ka-**
- the third singular subject prefix is zero
- the final vowel **-a**
- the negative Subjunctive suffix **-ní** ([+ATR] dominant)
- the Insistive enclitic **-tɔ́**
- the negative enclitic **-gù** (optional)

The negative Subjunctive without the negative enclitic **-gù** is presented only with the first verb.

Subjunctive, intransitive, [–ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
1SG	nángbúttí ⁶⁰²	nakongbútoní 'tɔ́gu ⁶⁰³ / nakongbútonító
	'that I sulk'	'that I not sulk'
2SG	wángbúttí	wakongbútoní 'tɔ́gu / wakongbútonító
3SG	ángbúttí	kongbútoní 'tɔ́gu / kongbútonító
1PL	tángbúttí	takongbútoní 'tɔ́gu / takongbútonító
2PL	mángbúttí	makongbútoní 'tɔ́gu / makongbútonító
3PL	ɓángbúttí	ɓakongbútoní 'tɔ́gu / ɓakongbútonító

Subjunctive, intransitive, [–ATR], L tone

-pík-	'sway'	
	<u>affirmative</u>	<u>negative</u>
1SG	nápíkí	nakopikoní 'tɔ́gu
	'that I sway'	'that I not sway'
2SG	wáptíkí	wakopikoní 'tɔ́gu
3SG	ápíkí	kopikoní 'tɔ́gu
1PL	táptíkí	takopikoní 'tɔ́gu
2PL	máptíkí	makopikoní 'tɔ́gu
3PL	ɓáptíkí	ɓakopikoní 'tɔ́gu

⁶⁰² /ná-ngbút-í/ 1SG-sulk-FV.SUBJ.

⁶⁰³ /ná-ka-ngbút-a-ní 'tɔ́-gù/ 1SG-NEG-sulk-FV-NEGSUBJ INS-NEG.

Subjunctive, intransitive, [+ATR], H tone

-ḡín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nóḡíní ⁶⁰⁴	nakobínóní 'tǵu
	'that I dance'	'that I not dance'
2 SG	wóḡíní	wakobínóní 'tǵu
3 SG	óḡíní	kobínóní 'tǵu
1 PL	tóḡíní	takobínóní 'tǵu
2 PL	móḡíní	makobínóní 'tǵu
3 PL	ḡóḡíní	ḡakobínóní 'tǵu

Subjunctive, intransitive, [+ATR], L tone

-síl-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nósílí	nakosiloní 'tǵu
	'that I arrive'	'that I not arrive'
2 SG	wósílí	wakosiloní 'tǵu
3 SG	ósílí	kosiloní 'tǵu
1 PL	tósílí	takosiloní 'tǵu
2 PL	mósílí	makosiloní 'tǵu
3 PL	ḡósílí	ḡakosiloní 'tǵu

Subjunctive, transitive, [–ATR], H tone

-kúl-	'untie'	
	<u>affirmative</u>	<u>negative</u>
1 SG, 1.O	ná ⁶⁰⁵ kúlí mémɛ	nakakúloní 'tǵu ⁶⁰⁶ mémí
	'that I untie the goat'	'that I not untie the goat'
2 SG, 1.O	wá ⁶⁰⁵ kúlí mémɛ	wakakúloní 'tǵu mémí
3 SG, 1.O	á ⁶⁰⁵ kúlí mémɛ	kakúloní 'tǵu mémí
1 PL, 1.O	tá ⁶⁰⁵ kúlí mémɛ	takakúloní 'tǵu mémí

⁶⁰⁴ /ná-ḡín-í/ 1SG-dance-FV.SUBJ.⁶⁰⁵ /ná-ḡ-kúl-í/ 1SG-1.O-untie-FV.SUBJ.⁶⁰⁶ /ná-ka-ḡ-kúl-a-ní¹ 'tǵ-gù/ 1SG-NEG-1.O-untie-FV-NEGSUBJ INS-NEG.

2PL, 1.O	má ⁴ kúlí mémi	makakúloní ⁴ tógu mémi
3PL, 1.O	há ⁴ kúlí mémi	hakakúloní ⁴ tógu mémi
1SG, 2.O	nókúlí ⁶⁰⁷ bamémi 'that I untie the goats'	nakukúloní ⁴ tógu ⁶⁰⁸ bamémi 'that I not untie the goats'
2SG, 2.O	wókúlí bamémi	wakukúloní ⁴ tógu bamémi
3SG, 2.O	ókúlí bamémi	kukúloní ⁴ tógu bamémi
1PL, 2.O	tókúlí bamémi	takukúloní ⁴ tógu bamémi
2PL, 2.O	mókúlí bamémi	makukúloní ⁴ tógu bamémi
3PL, 2.O	bókúlí bamémi	bakukúloní ⁴ tógu bamémi

Subjunctive, transitive, [–ATR], L tone

-pun-	'pick, gather'	
	<u>affirmative</u>	<u>negative</u>
1SG, 1.O	nápuní musúkwá 'that I pick a caterpillar'	nakapunoní ⁴ tógu musúkwá 'that I not pick a caterpillar'
2SG, 1.O	wápuní musúkwá	wakapunoní ⁴ tógu musúkwá
3SG, 1.O	ápuní musúkwá	kapunoní ⁴ tógu musúkwá
1PL, 1.O	tápuní musúkwá	takapunoní ⁴ tógu musúkwá
2PL, 1.O	mápuní musúkwá	makapunoní ⁴ tógu musúkwá
3PL, 1.O	hápuní musúkwá	hakapunoní ⁴ tógu musúkwá
1SG, 2.O	núpuní basúkwá 'that I gather caterpillars'	nakūpunoní ⁴ tógu basúkwá 'that I not gather caterpillars'
2SG, 2.O	wūpuní basúkwá	wakūpunoní ⁴ tógu basúkwá
3SG, 2.O	ūpuní basúkwá	kūpunoní ⁴ tógu basúkwá
1PL, 2.O	tūpuní basúkwá	takūpunoní ⁴ tógu basúkwá
2PL, 2.O	mūpuní basúkwá	makūpunoní ⁴ tógu basúkwá
3PL, 2.O	būpuní basúkwá	bakūpunoní ⁴ tógu basúkwá

⁶⁰⁷ /ná-ŭ-kúl-í/ 1SG-2.O-untie-FV.SUBJ.

⁶⁰⁸ /nà-ka-ŭ-kúl-a-ní ⁴tó-gù/ 1SG-NEG-2.O-untie-FV-NEGSUBJ INS-NEG.

Subjunctive, transitive, [+ATR], H tone**-kúmb-** 'carry on the back'affirmativenegative

1SG, 1.O	ná ⁴ kúmbí míkí 'that I carry my child'	nakakúmboní ⁴ tógu míkí 'that I not carry my child'
2SG, 1.O	wá ⁴ kúmbí míkí	wakakúmboní ⁴ tógu míkí
3SG, 1.O	á ⁴ kúmbí míkí	kakúmboní ⁴ tógu míkí
1PL, 1.O	tá ⁴ kúmbí míkí	takakúmboní ⁴ tógu míkí
2PL, 1.O	má ⁴ kúmbí míkí	makakúmboní ⁴ tógu míkí
3PL, 1.O	ḡá ⁴ kúmbí míkí	ḡakakúmboní ⁴ tógu míkí
1SG, 2.O	núkúmbí ḡomíkí 'that I carry my children'	nakukúmboní ⁴ tógu ḡomíkí 'that I not carry my children'
2SG, 2.O	wúkúmbí ḡomíkí	wakukúmboní ⁴ tógu ḡomíkí
3SG, 2.O	úkúmbí ḡomíkí	kukúmboní ⁴ tógu ḡomíkí
1PL, 2.O	túkúmbí ḡomíkí	takukúmboní ⁴ tógu ḡomíkí
2PL, 2.O	múkúmbí ḡomíkí	makukúmboní ⁴ tógu ḡomíkí
3PL, 2.O	ḡúkúmbí ḡomíkí	ḡakukúmboní ⁴ tógu ḡomíkí

Subjunctive, transitive, [+ATR], L tone**-vid-** 'flay, peel'affirmativenegative

1SG, 1.O	návidí mboḡú 'that I flay a small rodent'	nakavidoní ⁴ tógu mboḡú 'that I not flay a small rodent'
2SG, 1.O	wávidí mboḡú	wakavidoní ⁴ tógu mboḡú
3SG, 1.O	ávidí mboḡú	kavidoní ⁴ tógu mboḡú
1PL, 1.O	távidí mboḡú	takavidoní ⁴ tógu mboḡú
2PL, 1.O	mávidí mboḡú	makavidoní ⁴ tógu mboḡú
3PL, 1.O	ḡávidí mboḡú	ḡakavidoní ⁴ tógu mboḡú
1SG, 2.O	núvidí ḡomboḡú 'that I flay small rodents'	nakūvidoní ⁴ tógu ḡomboḡú 'that I not flay small rodents'
2SG, 2.O	wúvidí ḡomboḡú	wakūvidoní ⁴ tógu ḡomboḡú
3SG, 2.O	úvidí ḡomboḡú	kūvidoní ⁴ tógu ḡomboḡú
1PL, 2.O	túvidí ḡomboḡú	takūvidoní ⁴ tógu ḡomboḡú

2PL, 2.O	múvidĩ bomboḃú	makũvidoní 'tǒgu bomboḃú
3PL, 2.O	ḃúvidĩ bomboḃú	ḃakũvidoní 'tǒgu bomboḃú

-CVCVC- verbal bases:

-yúkum-	'breathe'	
-ḃikut-	'throw'	
	<u>affirmative</u>	<u>negative</u>
1 SG	nóyúkúmí	nakoyúkumoní 'tǒgu
	'that I breathe'	'that I not breathe'
1 SG	náḃíkítí	nakodíkítoní 'tǒgu
	'that I throw'	'that I not throw'

2.3.3 Imperative and Hortative

Characteristics affirmative Imperative:

- TAM melody: H tone on the final vowel
- no subject prefix
- the class 1 object prefix **mu-**
- the final vowel **-a**
- the Plural Addressee suffix **-nì** ([+ ATR] dominant)
- the Insistive enclitic **-tǒ**, which indicates that the addressee has to perform the action, but not necessarily immediately (optional)
- the Supplicative enclitic **-nḃ** (optional, not in combination with the Insistive enclitic)

Characteristics affirmative Hortative:

- the affirmative Subjunctive form with the first person plural subject prefix
- the Plural Addressee suffix **-nì** ([+ ATR] dominant)
- the Supplicative enclitic **-nḃ** (optional)

For the Insistive and the Supplicative enclitic, I refer the reader to 7.7.4.

Imperative and Hortative do not have a separate negative form. Negative Imperative and negative Hortative are expressed by the negative Subjunctive, repeated here with Imperative or Hortative meaning.

Imperative and Hortative, intransitive, [–ATR], H tone

-ngbút-	'sulk'	
	<u>affirmative</u>	<u>negative</u>
2SG	ngbútá	wakongbútoní 'tǒgu wakongbútonító
2PL	'sulk!'	'do not sulk!'
	ngbútóní ⁶⁰⁹	mákongbútoní 'tǒgu mákongbútonító
1PL	'sulk! (pl)'	'do not sulk! (pl)'
	tóngbútíni ⁶¹⁰	takongbútoní 'tǒgu takongbútonító
	'let us sulk'	'let us not sulk'

Imperative and Hortative, intransitive, [–ATR], L tone

-pík-	'sway'	
	<u>affirmative</u>	<u>negative</u>
2SG	píká	wakopikoní 'tǒgu 'do not sway!'
2PL	pikóni	mákopukoní 'tǒgu
1PL	tópikíni	takopikoní 'tǒgu 'let us sway'

Imperative and Hortative, intransitive, [+ATR], H tone

-ḡín-	'dance'	
	<u>affirmative</u>	<u>negative</u>
2SG	ḡínó	wakoḡínoní 'tǒgu 'do not dance!'
2PL	ḡínóni	mákoḡínoní 'tǒgu
1PL	tóḡíníni	takoḡínoní 'tǒgu 'let us dance'

Imperative and Hortative, intransitive, [+ATR], L tone⁶⁰⁹ /ngbút-á-nì/ sulk-FV.IMP-ADDR.⁶¹⁰ /tá-ngbút-í-nì/ 1PL-sulk-FV.SUBJ-ADDR.

-sil-	'arrive'	
	<u>affirmative</u>	<u>negative</u>
2SG	siló	wakosiloní 'tógu
	'arrive!'	'do not arrive!'
2PL	silóni	mákosiloní 'tógu
1PL	tósilíni	takosiloní 'tógu
	'let us arrive'	'let us not arrive'

Imperative and Hortative, transitive, [–ATR], H tone

-kúl-	'untie'	
	<u>affirmative</u>	<u>negative</u>
2SG, 1.O	mukúlá ⁶¹¹ mémí	wakakúloní 'tógu mémí
	untie the goat!	do not untie the goat!
2PL, 1.O	mukúlóni mémí	mákakúloní 'tógu mémí
1PL, 1.O	tá ⁶¹² kúlíni mémí	takakúloní 'tógu mémí
	'let us untie the goat'	'let us not untie the goat'
2SG, 2.O	úkúlá ⁶¹³ ɓamémí	wakukúloní 'tógu ɓamémí
	untie the goats!	do not untie the goats!
2PL, 2.O	úkúlóni ɓamémí	mákukúloní 'tógu ɓamémí
1PL, 2.O	túkúlíni ⁶¹⁴ ɓamémí	takukúloní 'tógu ɓamémí
	'let us untie the goats'	'let us not untie the goats'

Imperative and Hortative, transitive, [–ATR], L tone

-pun-	to pick, to gather	
	<u>affirmative</u>	<u>negative</u>
2SG, 1.O	mupuná musúkwá	wakapunoní 'tógu musúkwá
	pick a caterpillar!	do not pick a caterpillar!
2PL, 1.O	mupunóni musúkwá	mákapunoní 'tógu musúkwá

⁶¹¹ The class 1 object prefix **mu-** occurs in the affirmative Imperative. Otherwise, class 1 object prefix is **ʔ-**.

⁶¹² /tá-ʔ-kúl-í-nì/ 1PL-1.O-untie-FV.SUBJ-ADDR.

⁶¹³ /ʔ-kúl-á/ 2SG-2.O-untie-FV.IMP.

⁶¹⁴ /tá-ʔ-kúl-í-nì/ 1PL-2.O-untie-FV.SUBJ-ADDR.

1PL, 1.O	tápuníni musúkwá 'let us pick a caterpillar'	takapunoní 'tógu musúkwá 'let us not pick a caterpillar'
2SG, 2.O	őpuná basúkwá gather caterpillars!	wakőpunoní 'tógu basúkwá do not gather caterpillars!
2PL, 2.O	őpunóni basúkwá	mákőpunoní 'tógu basúkwá
1PL, 2.O	tūpuníni basúkwá 'let us gather caterpillars'	takūpunoní 'tógu basúkwá 'let us not gather caterpillars'

Imperative and Hortative, transitive, [+ATR], H tone

-kumb-	to carry on the back	
	<u>affirmative</u>	<u>negative</u>
2SG, 1.O	mukúmbó míkí carry the child!	wakakúmboní 'tógu míkí do not carry the child!
2PL, 1.O	mukúmbóni míkí	mákakúmboní 'tógu míkí
1PL, 1.O	tá'kúmbíni míkí 'let us carry the child'	takakúmboní 'tógu míkí 'let us not carry the child'
2SG, 2.O	ukúmbó bomíkí carry the children!	wakukúmboní 'tógu bomíkí do not carry the children!
2PL, 2.O	ukúmbóni bomíkí	mákukúmboní 'tógu bomíkí
1PL, 2.O	túkúmbíni bomíkí 'let us carry the children'	takukúmboní 'tógu bomíkí 'let us not carry the children'

Imperative and Hortative, transitive, [+ATR], L tone

-vid-	to peel, to flay	
	<u>affirmative</u>	<u>negative</u>
2SG, 1.O	muvidó mboǒú flay a small rodent!	wakavidóní 'tógu mboǒú do not flay a small rodent!
2PL, 1.O	muvidóni mboǒú	mákavidóní 'tógu mboǒú
1PL, 1.O	távidǒni mboǒú 'let us flay the small rodent'	takavidóní 'tógu mboǒú 'let us not flay the small rodent'
2SG, 2.O	ővidó bomboǒú flay small rodents!	wakővidóní 'tógu bomboǒú do not flay small rodents!
2PL, 2.O	ővidóni bomboǒú	mákővidóní 'tógu bomboǒú

1PL, 2.O	túvidĩni bomboóú 'let us flay the small rodents'	takũvidoní 'tógũ bomboóú 'let us not flay the small rodents'

-CVCVC- verbal bases:

Imperative

-yúkum-	'breathe'
-dikít-	'throw'

	<u>affirmative</u>	<u>negative</u>
2SG	yúkúmó 'breathe!'	wakoyúkumoní 'tógũ 'do not breathe!'
2SG	dikítá 'throw!'	wakodikitoní 'tógũ 'do not throw!'

References and Selected Bibliography

- Ameka, F.K. 2001. Ideophones and the nature of the adjective word class in Ewe. In F.K. Erhard Voeltz and C. Killian-Hatz (eds.), *Ideophones*, 25-48. Amsterdam and Philadelphia: John Benjamins Publishing Company.
- Archangeli, D. and D. Pulleyblank. 1994. *Grounded Phonology*. Cambridge, MA: MIT Press.
- Asebeangwe Bakesa. 1988. *Esquisse phonologique et morphologique de langue lika*. Bunia: ISP-Bunia, travail de fin d'etudes.
- Augustin, M. 2010. *Selected features of syntax and information structure in Lika (Bantu D.20)*. M.A. thesis. Graduate Institute of Applied Linguistics. Dallas, Texas.
- Baković, E. 2000. *Harmony, Dominance and Control*. New Brunswick, NJ: Rutgers University dissertation.
- Banane, NG. 1979. *Esquisse grammaticale de la langue liliko*. Kisangani: ISP Kisangani, travail de fin d'etudes.
- Bearth, T. 2003. Syntax. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 121-142. London: Routledge.
- Boone, D.W. 1989. *Kilika entrance survey*, ms.
- Boone, D.W. and K.S. Olson. 1995. Bua Bloc Survey Report. In *Compendium of Survey Reports*. Vol. 3: Other Bantu Languages, 73pp. Bunia: SIL.
- Bryan, M.A. 1959. *The Bantu Languages of Africa*. Published for the International African Institute by the Oxford University Press. London, New York, Cape Town.
- Buell, L.C., K. Riedel and J. van der Wal. 2011. What the Bantu languages can tell us about word order and movement. *Lingua* 121 (2011) 689-701.
- Casali, R.F. 1998. *Resolving Hiatus*. New York, London: Garland.
- 2002. [–ATR] Dominance in underlying five-height vowel systems. Paper presented at the 33rd Annual Conference on African Linguistics, Ohio University, Athens, Ohio, 22-24 March.
 - 2003. [ATR] value symmetries and underlying vowel inventory structure in Niger-Congo and Nilo-Saharan. *Linguistic Typology* 7, 307-382.
 - 2004. *A Phonology Sketch of Lika*. ms, SIL, Bantu Phonology Project.

- 2008. ATR Harmony in African Languages. *Language and Linguistics Compass* 2: 496-549.
- Cassimjee, F. and C.W. Kisseberth. 1992. The Tonology of Depressor Consonants: Evidence from Mijikenda and Nguni. Special Session on the typology of Tone Languages. In *Proceedings of the Eighteenth Annual Meeting of the Berkeley Linguistics society*, 26-40. Berkeley Linguistics Society.
- Crystal, D. 2003. *A Dictionary of Linguistics and Phonetics*. Fifth Edition. Oxford: Blackwell Publishers Inc.
- Demolin, D. 1992. *Le Mangbetu: Etude phonétique et phonologique*. PhD dissertation. Université Libre de Bruxelles, Belgium.
- de Blois, K.F. 1970. The augment in Bantu languages. In *Africana Linguistica*, IV, 85-165. Tervuren: Musée Royal de l'Afrique Centrale.
- de Wit, G. 2004. Adjectives in Lika. Paper presented at the 34th CALL, University of Leiden.
- 2006. ATR vowel harmony effects in writing. Paper presented at the 36th CALL, University of Leiden.
- 2007. *Manuel d'orthographe Lika*. Isiro, Democratic Republic of Congo: Projet de Traduction de la Bible et d'Alphabétisation en Langue Lika.
- 2009. High tone noun prefixes in Lika. Paper presented at the 39th CALL, University of Leiden.
- 2010a. *Lika phonologie*. SIL Electronic Working Papers, Dallas.
- 2010b. *Dictionnaire liká-français et français-liká*. Edition d'essai, version 1.1. Isiro, Democratic Republic of Congo: Projet de Traduction de la Bible et d'Alphabétisation en Langue Lika.
- 2010c. The behaviour of Lika depressor consonants. Paper presented at the 40th CALL, University of Leiden.
- 2014. Word Order and Information Structure in Liko. Paper presented at the 44th CALL, University of Leiden.
- de Wit, G., G. Engama Magbangbau and C. Nederveen 2002. *Phonologie de la langue liká*. Isiro, Democratic Republic of Congo: Projet de Traduction de la Bible et d'Alphabétisation en Langue Lika.
- Dik, S. et al. 1981. On the typology of focus phenomena. In T. Hoekstra, H. van der Hulst and M. Moortgat (eds.), *Perspectives on Functional Grammar*, 41-75. Dordrecht: Foris Publications.

- Dixon, R.M.W. 1982. *Where have all the adjectives gone? and other essays in semantics and syntax*. Berlin: Mouton.
- Dixon, R.M.W. and A.Y. Aikhenvald (eds.), 2004. *Adjective classes, A cross-linguistic typology*. Oxford: Oxford University
- Downing, L.J. 2005. On the ambiguous status of nasals in homorganic NC sequences. In M. Van Oostendorp and J. van de Weijer (eds.), *The Internal Organization of Phonological Segments*, 183-215. Berlin-New York: Mouton de Gruyter.
- 2011. The prosody of 'dislocation' in selected Bantu languages. *Lingua* 121 (2011) 772–786
- Edema, Atibakwa K. 1979. *Aspects phonologiques de la langue lika (D.20)*. Travail de fin d'études présenté en vue de l'obtention de grade de Gradué en Langue et Littérature Africaines. Université Nationale du Zaïre. Campus de Lubumbashi.
- Engama, Magbangbau G. 1988. *Essai d'une grammaire générative et transformationnelle de la langue lika*. Buta: ISP-Buta, travail de fin d'études.
- 1991. *Correspondences lexico-sémantiques Lika-Boa*. Buta: ISP-Buta, mémoire de licence.
- 2002. *Morphologie liko*. ms, 12pp.
- Fricke-Kappers, C. 2005. Diminutive floating High tone attached to nominal prefixes in Budu D35 /D332. Paper presented at the 34th CALL, Leiden.
- 2007. *The Creative Use of Genre Features; Continuity and Change in Patterns of Language Use in Budu, a Bantu Language of Congo (Kinshasa)*. PhD dissertation. Free University of Amsterdam, The Netherlands.
- Foley, W.A. 2007. A typology of information packaging in the clause. In Timothy Shopen (ed.), *Language Typology and Syntactic Description*. 2nd Edition. Volume 1: Clause Structure. 362-446. Cambridge University Press.
- Forde D. (ed.). 1958. *Linguistic Survey of the Northern Bantu Borderland*, Oxford University Press for the International African Institute, London. Vol. 3.
- Goldsmith, J. 1976. An Overview of Autosegmental Phonology. In: *Linguistic Analysis*, Volume 2, Number 1, 23-68.
- Grégoire, C.L. 1975. *Les locatifs en bantou*. Tervuren: MRAC. Annales Sciences humaines 83.
- Hyman, L.M. 2002. Suffix ordering in Bantu: a morphocentric approach. In G.E. Booij (ed.), *Yearbook of Morphology 2002*, 245-282. Dordrecht, London: Kluwer.

- 2003. Segmental Phonology. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 42-58. London: Routledge.
- Hyman, L.M. and J.T. Mathangwane. 1998. Tonal Domains and Depressor Consonants in Ikalanga. In L.M. Hyman and C.W. Kisseberth (eds.), *Theoretical Aspects of Bantu Tone*, 195-229. Stanford, CA: CSLI.
- Kadima, M. 1969. *Le système des classes d'accord en Bantu*. Leuven: Vander.
- Kamba Muzenga, J.G. 2003. *Substitutives et possessives en bantou*. Louvain: Peeters.
- Katamba, F. 2003. Bantu nominal morphology. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 103-120. London: Routledge.
- Kisseberth, C. and D. Odden. 2003. Tone. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 59-70. London: Routledge.
- Kutsch Lojenga, C. 1994. KiBudu: a Bantu language with nine vowels. *Africana Linguistica* XI, 127-33. Tervuren: Musée Royal de l'Afrique Centrale.
- 1999. The Vowel System of Lika: first impressions. Paper presented at the 29th Colloquium on African Languages and Linguistics, University of Leiden, August 29th – September 1st.
- 2000. Depressor Consonants in African Languages. Paper presented at the Tone Symposium, Tromsø, Norway.
- 2002. Vowel Harmony: The vowel /a/ in [+ATR] environment. Paper presented at the Workshop on the Phonology of African Languages, Vienna, November 1st – 3rd.
- 2003. Bila (D32). In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 450-74. London: Routledge.
- 2005. ATR Vowel harmony in the Northern Bantu Borderland: Budu and Lika. Paper presented at Tervuren (Musée Royal de l'Afrique Centrale), Belgique.
- 2009. Nine vowels and ATR vowel harmony in Lika, a Bantu language in D.R. Congo. *Africana Linguistica* XIV, 63-84. Tervuren: Musée Royal de l'Afrique Centrale.
- Lambrecht, Knud. 1994. *Information structure and sentence form: Topic, focus, and the mental representation of discourse referents*. Cambridge: Cambridge University Press.
- Larochette, J. 1958. *Grammaire des dialectes Mangbetu et Medje, suivi d'un manuel de conversation et d'un lexique*. Tervuren: Musée Royal de l'Afrique Centrale.

- Leitch, Myles. 1996. *Vowel harmonies of the Congo basin: An optimality theory analysis of variation in the Bantu zone C*. Ph.D. dissertation, University of British Columbia.
- Lenselaer, Alphonse. 1983. *Dictionnaire swahili-français*. Paris:Karthala
- Lewis, M.P., G.F. Simons and C.D. Fennig (eds.). 2014. *Ethnologue: Languages of the World, Seventeenth edition*. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>
- Maddieson, I. 2003. The sounds of the Bantu languages. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 13-41. London: Routledge.
- Maganga, C. and Schadeberg, T.C. 1992. *Kinyamwezi; Grammar, Texts, Vocabulary*. Cologne: Rüdiger Köppe Verlag.
- Maho, J.F. 1999. *A comparative study of Bantu noun classes*. Gothenburg: Acta Universitatis Gothoburgensis.
- Meeussen, A. 1967. Bantu grammatical reconstructions. In: *Africana Linguistica*, III, 79-121. Tervuren: Musée Royal de l'Afrique Centrale.
- Moeller, A. 1936. *Les grandes lignes des migrations des Bantous de la province Orientale du Congo Belge*. ARSOM 6. Brussels.
- Motingea Mangulu, A. 2005. *Leboale et lebaate: Langues bantoues du plateau des Uélé, Afrique Centrale*. Tokyo: ILCAA.
- Mous, M.P.G.M. 2003. Nen (A44). In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 283-306. London: Routledge.
- Ndagba, Ambinende, A. 2008. *Aperçu historique du projet Lika*. ms.
- Nederveen, C. 2004. Noun class suffixes in Lika. Paper presented at the 34th Colloquium on African Languages and Linguistics, Leiden.
- Nicolle, S. 2014. Discourse functions of demonstratives in Eastern Bantu narrative texts. *SAL*, Vol. 43, 2:125-144.
- Nurse, D. 2008. *Tense and Aspect in Bantu*. Oxford: Oxford University Press.
- Odden, D. 1998. Predictable Tone Systems in Bantu. In H. van der Hulst and N. Smith (eds.), *Autosegmental Studies on Pitch Accent*, 225-251. Dordrecht: Foris.
- Riedel, K. 2009. *The Syntax of Object Marking in Sambia. A comparative Bantu perspective*. PhD dissertation. University of Leiden, The Netherlands.
- Schadeberg, T.C. 1995. Object diagnostics in Bantu. In E. 'Nolue Emenanjo & Ozo-mekuri Ndimele (eds.), *Issues in African Languages and Linguistics*:

- Essays in Honour of Kay Williamson*. 173-180. National Institute for Nigerian Languages, Aba.
- 2003a. Derivation. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 71-89. London: Routledge.
 - 2003b. Historical Linguistics. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 143-163. London: Routledge.
- Snider, K. 1999. *The Geometry and Features of Tone*. Dallas: SIL and the University of Texas at Arlington.
- Thomas, P. 1994. Bantu noun-class reflexes in Komo. In *Africana Linguistica*, XI, 177-196. Tervuren: Musée Royal de l'Afrique Centrale.
- Vansina, J. 1990. *Paths in the Rainforests. Towards a History of Political Tradition in Equatorial Africa*. Madison: The University of Wisconsin Press.
- van der Hulst, H. 1988. The geometry of vocalic features. In H. van der Hulst and N. Smith (eds.) *Features, segmental structure and harmony processes*, vol. 2, 77-125. Dordrecht: Foris.
- van der Hulst, H. and J. van de Weijer. 1995. Vowel Harmony. In J.A. Goldsmith (ed.) *The Handbook of Phonological Theory*, 495-534. Oxford and Cambridge (USA): Blackwell.
- Van de Velde, M. 2013. The Bantu connective construction. In A. Carlier and J.-C. Verstraete (eds.), *The Genitive*. Amsterdam: John Benjamins.
- van der Wal, J., 2009. *Word order and information structure in Makhuwa-Enahara*. Ph.D. Thesis. Leiden University, The Netherlands.
- Van Geluwe, H. 1960. *Les Bali et les peuplades apparentées (Ndaka-Mbo-Beke-Lika-Budu-Nyari)*. Tervuren: Musée Royal de l'Afrique Centrale.
- Van Otterloo, K. 2011. *The Kifuliiru Language: Volume 1. Phonology, Tone, and Morphological Derivation*. Dallas: SIL.
- Van Otterloo, R. 2011. *The Kifuliiru Language: Volume 2. A Descriptive Grammar*. Dallas: SIL.
- Voegelin, C.F. and F.M.R. Voegelin. 1977. *Classification and Index of the World's Languages*. New York: Elsevier.
- Watters, J.R. 2003. Grassfields Bantu. In D. Nurse and G. Philippson (eds.), *The Bantu Languages*, 225-56. London: Routledge.
- Williams, A. and M. Beattie. 2008. *Dictionnaire Illustré Lika-Français*. Kampala: SIL and Lika Projet de Traduction de la Bible et d'Alphabétisation en Langue Lika.

Samenvatting in het Nederlands

Dit proefschrift beschrijft de fonologie, het toonsysteem en de grammatica van het Liko. Deze Bantoetaal wordt gesproken in het noordoosten van de Democratische Republiek Congo in Midden-Afrika, en is één van de talen van het zogenaamde noordelijk Bantoe grensgebied. De buurtalen van het Liko zijn het Budu, ook een Bantoetaal, en het Mangbetu, een Nilo-Saharaanse taal. De talen waarmee de Liko sprekers zich het meest verwant voelen, het Bali en het Bua, worden verder naar het zuiden en het westen gesproken. Het is interessant om te zien hoe het Liko zich als Bantoetaal heeft gehandhaafd in een complexe taalsituatie. Volgens informatie van de lokale overheid zijn er ongeveer 70.000 sprekers van de taal. Eén van de drie varianten van de taal is door het Liko taalcomité aangewezen als de standaardvariant voor taal-ontwikkeling. Deze variant is beschreven in dit boek.

In hoofdstuk 1 worden de taal, de dialectsituatie en de sprekers geïntroduceerd, alsook de context waarbinnen deze studie is verricht. Het onderzoek heeft plaatsgevonden in de context van de initiële ontwikkeling van het Liko als geschreven taal en van een programma van Bijbelvertaalwerk. Dit hoofdstuk bevat verder een weergave van het veldwerk dat door mij tussen 2001 en 2013 is verricht en van eerdere publicaties en presentaties over deelonderwerpen van de taal.

De hoofdstukken 2 en 3 behandelen de fonologische structuur en de fonologische processen van de taal. Omdat toon zo'n belangrijke rol speelt in het Liko, is er een apart hoofdstuk aan gewijd, hoofdstuk 4. Kennis van de fonologische processen en de toon is van belang voor het lezen van de daaropvolgende hoofdstukken.

In hoofdstuk 2, de fonologische structuur, worden de fonemen, de lettergrepen en de structuur van woorden beschreven. Het Liko heeft 9 klinkers (veel Bantoetalen hebben een systeem met zeven klinkers) en 27 medeklinkers inclusief complexe medeklinkers, zoals de labiovelaire plofklanken $/kp/$, $/gb/$, $/ᵐgb/$. Het Liko heeft 3 typen open lettergrepen: CV (een medeklinker en een klinker), V (alleen een klinker) en CGV (een medeklinker, een glijklank (j of w) en een klinker). Er zijn beperkingen op posities in een woord waarop klinkers en medeklinkers kunnen voorkomen en op het samen voorkomen van een aantal klinkers binnen een woord.

Hoofdstuk 3 gaat over fonologische processen die bepalen hoe onderliggende klinkers aan de oppervlakte uitgesproken worden. In het Liko is het proces van klinkerharmonie overal in de taal werkzaam. De taal heeft twee klinkerseries, de [+ATR] klinkers /i, u, e, o/ en de [–ATR] klinkers /ɪ, ʊ, ɛ, ɔ, a/. Het gedrag van de /a/ is afwijkend. Het klinkerharmoniesysteem in het Lika is [+ATR] dominant: niet alleen verandert een [–ATR] klinker van een voor- of achtervoegsel in een [+ATR] klinker onder invloed van een stam met [+ATR] klinkers, maar zelfs veroorzaken achtervoegsels met een [+ATR] klinker dat het hele woord, inclusief een [–ATR] stam, [+ATR] wordt. De spreiding van het [+ATR] kenmerk vindt plaats binnen een bepaald domein. Daarbij is het opmerkelijk dat zelfs voorvoegsels die niet als lettergreep worden gerealiseerd, relevant zijn bij de bepaling van de linkergrens van het domein. Bijzonder aan het Liko is dat de taal bij hoge klinkers [+ATR] spreiding toestaat over de ondoorzichtige [–ATR] klinker /a/ in een stam en dat de taal enclitische morfemen heeft met een [–ATR] klinker die invloed uitoefenen op voorafgaande niet-hoge klinkers. Naast klinkerharmonie kent de taal veel situaties waarin twee klinkers naast elkaar komen te staan op de grens van twee morfemen. Er zijn verschillende manieren waarop het Liko daarmee omgaat: de eerste klinker wordt verwijderd, beide klinkers smelten samen tot één nieuwe klinker, de eerste klinker verandert in een glijklank, of beide klinkers blijven staan.

Hoofdstuk 4 laat zien dat het Liko een toontaal is met twee onderliggende tonen: Hoog en Laag, die zowel lexicale als grammaticale tooncontrasten opleveren. Twee naamwoorden met alleen een verschillende toonhoogte hebben een verschillende betekenis (lexicaal tooncontrast). Een voorbeeld van grammaticaal tooncontrast in het Liko is het verschil in tijd: een hoge toon geeft verleden tijd aan, terwijl een lage toon toekomstige tijd aangeeft. De lettergreep draagt de toon. Een lage en een hoge toon kunnen samen voorkomen op één lettergreep, wat leidt tot een LaagHoog toon. De volgorde HoogLaag op één lettergreep is niet toegestaan in de taal. Bepaalde stemhebbende medeklinkers hebben invloed uitgeoefend, of doen dat nog, op een volgende hoge toon, met als gevolg dat die LaagHoog of zelfs Laag is geworden of wordt. Het Liko heeft automatische downstep (ook downdrift genoemd), d.w.z. dat de toonhoogte van hoge tonen in een zin of zinsdeel steeds wat lager wordt als er een lage toon tussen staat, en niet-automatische downstep, d.w.z. dat de toonhoogte van een hoge toon een niveau verlaagd wordt onder

invloed van een voorafgaande lage toon die niet (meer) verbonden is met een lettergreep. Het Liko heeft werkwoordsvoor- en achtervoegsels zonder onderliggende toon, die verbonden worden met een toon via toonregels. De volgende toonregels zijn beschreven: spreiding van een hoge toon, herverdeling van een LaagHoog toon, verbinding van niet-verbonden tonen, verwijdering van een lage toon, niet-automatische downstep, reparatie van inbreuken op het Obligatory Contour Principle en polaire toon.

Karakteristiek voor Bantoetalen is een systeem van naamwoordklassen met diverse corresponderende series van voorvoegsels voor verschillende woordsoorten. Elk naamwoord behoort tot een klasse. In de Bantoe taalfamilie zijn ongeveer 20 klassen geïdentificeerd. Het Liko heeft 13 klassen, waarbij de klassen 1 en 9 verder onderverdeeld zijn in subklassen. In een aantal klassen hebben naamwoorden ook een achtervoegsel; de meeste woorden met een achtervoegsel bevinden zich in de klassen 7, 8, 13 en 15. De keuze van de voorvoegsels van het bijvoeglijk naamwoord, het telwoord, het associatief element, en de keuze van de vorm van persoonlijke en aanwijzende voornaamwoorden hangt af van de klasse van het naamwoord. In afwijking van wat gangbaar is in Bantoetalen heeft de werkwoordsvorm in het Liko geen classespecifiek voorvoegsel voor het onderwerp. In veel Bantoetalen worden bezitsrelaties uitgedrukt met classespecifieke voorvoegsels in een associatieve constructie; het Liko heeft hier één onveranderdelijk genitief voorvoegsel voor.

In hoofdstuk 5 wordt het systeem van naamwoordklassen behandeld, gevolgd door een beschrijving van bijvoeglijke naamwoorden, associatieve constructies en telwoorden. Het Liko heeft een kleine woordklasse van acht bijvoeglijke naamwoorden: de paren 'klein/groot', 'kort/lang', 'niet gaar, onrijp/gaar, rijp', een woord voor 'zwaar', en een woord voor 'groot, lang, hoog'. Opmerkelijk in het Liko is een grote groep woorden die bijvoeglijk gebruikt worden, maar niet het voorvoegsel nemen van het bijvoeglijk naamwoord, noch die van het naamwoord. In plaats daarvan worden deze woorden voorafgegaan door een associatief element of door het algemene voorvoegsel *bi-*, dat ook voorkomt bij bijwoorden en ideofonen. Deze groep woorden wordt in dit boek met de algemene term 'nominal modifiers' aangeduid, in afwachting van een specifiekere term, die wellicht komt als er meer bekend is van naburige en nauw verwante talen. Alleen de telwoorden

één t/m vier hebben een voorvoegsel dat overeenkomt met de klasse van het naamwoord. Andere telwoorden zijn onveranderlijk.

In hoofdstuk 6 staan persoonlijke, aanwijzende en bezittelijke voornaamwoorden, gevolgd door voorzetsels, vraagwoorden, bijwoorden, ideofonen en uitroepen. Het Liko heeft persoonlijke voornaamwoorden voor de eerste en tweede persoon enkelvoud en meervoud en daarnaast 'substitutives', woorden die in plaats van een naamwoord voorkomen. Substitutives corresponderen met de klasse van de referent. Het Liko heeft drie typen aanwijzende voornaamwoorden; type II duidt aan dat de referent dichtbij is, type I wordt gebruikt voor verder weg en voor verwijzing naar een referent die eerder is genoemd. Type III is een aanwijzend voornaamwoord dat met name exclusiviteit aangeeft. Bezittelijke voornaamwoorden worden gevormd door het genitief voorvoegsel **ka-** en een vorm voor persoon en aantal. Het Liko heeft drie voorzetsels. Locatie wordt verder weergegeven met behulp van locatieve naamwoorden, zoals **kógǔ** 'bovenkant'. Ideofonen zijn expressieve woorden met bijzondere klankeigenschappen, o.a. het nabootsen van een geluid; zij worden in het Liko veel gebruikt.

Hoofdstuk 7 gaat over het werkwoord. Werkwoordsvormen in het Liko bestaan uit een werkwoordstam, gebonden morfemen en de 'laatste klinker'. De gebonden morfemen vóór de stam zijn de voorvoegsels voor onderwerp, negatie, voorwaarde, aspect en object (lijdend of meewerkend voorwerp). Afleidingen van het werkwoord, in beschrijvingen van Bantoetalen 'extensies' genoemd, zijn gebonden morfemen tussen de stam en de laatste klinker. Extensies zijn van invloed op het aantal syntactische argumenten van het werkwoord. Het Liko heeft de volgende extensies: causatief, applicatief, benefactief, resultatief, neuter, associatief en pluractioneel. Voorwaardelijke werkwoordsvormen en aanvoegende en gebiedende wijs worden in aparte secties beschreven. Het Liko heeft vijf toonmelodieën voor bevestigende en drie voor ontkennende werkwoordsvormen, die samen met voorvoegsels van aspect en met de laatste klinker de wijze, de grammaticale tijd en/of het aspect van het werkwoord bepalen. De werkwoordsvorm in het Liko is complex. De structuur kan bestaan uit vele morfemen, klinkers kunnen verdwijnen of veranderen op morfeemgrenzen, klinkers kunnen veranderen onder invloed van de klinkerharmonie, elke werkwoordsvorm heeft een toonmelodie en er zijn toonregels die toegepast moeten worden. Voor verwijzingen naar verleden en

toekomst, dichterbij en verder weg, kent het Liko een aantal bijwoorden van tijd die volgen op het werkwoord. Dit hoofdstuk sluit af met afleidingen van werkwoorden (tot naamwoorden, bijvoeglijke naamwoorden en bijwoorden) en een paradigma van het werkwoord 'zijn'.

Hoofdstuk 8 behandelt een selectie van syntactische onderwerpen: de argumenten van het werkwoord (intransitief en transitief, afleidingen met extensies), objectmarkering, woordvolgorde, relatieve bijzinnen, informatiestructuur, vergelijkingen en complexe zinnen, waarbij ook voegwoorden en zinnen met een infinitiefvorm van het werkwoord besproken worden. Het Liko is een taal met een strikte SVO woordvolgorde, d.w.z. het subject staat vóór het werkwoord en de objecten erna. Objectmarkering bestaat uit een voorvoegsel in de werkwoordsvorm. Anders dan in veel Bantoetalen is deze markering in het Liko zeer beperkt. Alleen als het object een eerste of tweede persoon is of behoort tot naamwoordklasse 1 of 2 is objectmarkering mogelijk én verplicht. Bij de overige naamwoordklassen is geen objectvoorvoegsel in het werkwoord toegestaan. De objectmarkering verwijst alleen naar het eerste object na het werkwoord. Welk object als eerste op het werkwoord volgt, in het geval er meer dan één object is, wordt bepaald door de extensie van het werkwoord. Hoewel het in verschillende Bantoetalen moeilijk is om onderscheid te maken tussen object en adjunct (voorwerp en bepaling), biedt de grammatica in het Liko een manier om dit wel te doen. Bij relatieve bijzinnen en bij dislocatie naar links van een adjunct moet het woord **minó** voorkomen na het werkwoord. In geval van een object is het verplicht afwezig. Het Liko laat zien dat tests met vraagwoorden om focusmarkering te identificeren ook kunnen aantonen dat een taal geen specifieke markering voor deze vorm van focus heeft. Het Liko heeft wel een markering voor contrastieve focus, d.m.v. het woord **áka** aan het eind van een zinsdeel.

Bijlage 1 bevat een tiental teksten van verschillende genres, voorzien van een interlineaire en een vrije vertaling. Het zijn mondelinge volksverhalen, technische instructies, morele adviezen, een verhaal over besnijdenis zoals het vroeger ging en een tekst die, anders dan de andere, zijn oorsprong niet heeft in de orale traditie, maar geschreven is ten behoeve van alfabetiseringswerk.

Bijlage 2 beschrijft het scala van modaliteit, grammaticale tijd en aspect door middel van een paradigmatische samenvatting van het systeem met alle mogelijke werkwoordsvormen op basis van acht werkwoorden, onderscheiden door de kenmerken transitiviteit, primaire toon van de werkwoordstam en ATR.

Curriculum vitae

Gerrit de Wit was born in Ridderkerk, The Netherlands, on 13 June 1963. After secondary school, he studied Dutch Language and Literature and General Linguistics at Leiden University. He graduated in 1987 in General Linguistics. From 1987 until 1992, he worked with an ERP-software company in programming and software design, interspersed with SIL-courses and French language study. From 1992 until 1995, he and his wife worked as language surveyors for SIL International in the eastern part of the Democratic Republic of the Congo (DRC). Since the end of 1995, he has been working part-time as linguist with SIL International and part-time as project manager or consultant in the ICT sector. In 2006, he started with this thesis under supervision of Professor Maarten Mous, within the context of the LUCL. Four fieldwork periods were conducted in the DRC since 2006, adding on language data gathered during earlier fieldwork.