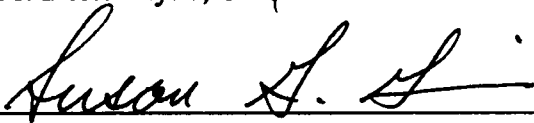VERB TONE IN IL-KEEKONYOKIE MAA
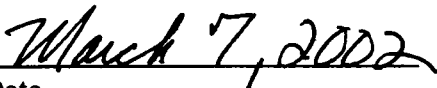
by

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A THESIS

Presented to the Department of Linguistics
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Master of Arts

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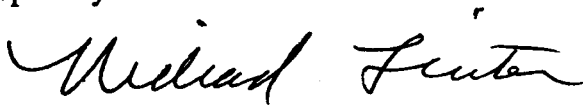
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in the Department of Linguistics   to be taken   March 2002

Title: VERB TONE IN IL-KEEKONYOKIE MAA

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The tone of verbs in Il-Keekonyokie Maa is discussed following an overview of tone in Maa and literature relevant to Maa and Nilo-Saharan phonology. Having placed Maa within a typology of tone languages and described the basic morphological structure of the Maa verb, an analysis of the tone in bound argument pronouns is given. For two of the major tone classes within the argument pronouns, one that results in an initial high word pitch pattern and the other an initial low pitch pattern, it is found that only that with the initial low pitch bears a lexical (i.e., Low) tone. The argument pronouns that give initial high word pitch patterns are argued to derive that high pitch through spreading from suffix High tone. This analysis is followed by five appendices which give data which has been carefully checked for tone, but not included in the analysis. This data is given in the hope that it will aid future research into Maa verb tone.

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to the glory of God

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CHAPTER I

This part may be conveniently omitted by those not interested in tones, but it should be

realized that the opportunities for ambiguity in speaking the language

are endless, unless tone is taken into account.

—A. N. Tucker and J. Tompo Ole Mpaayei
Introduction to A Maasai Grammar: With Vocabulary (1955)

INTRODUCTION

While tone has been "conveniently omitted" by many in the study and writing of

Maa, this thesis is part of an attempt to provide a comprehensive account of tone in Maa,

and therefore reduce some of the "opportunities for ambiguity", at least for those

interested in the whole system of Maa sounds.

The next chapter delineates the scope of the thesis, as well as gives the

conventions to be used throughout the thesis. Chapter III provides a context for this thesis

in the other literature about Maa and Nilotic tone in general. Chapter IV places Maa

within Hyman's (to appear) typology of tonal languages, describing what kind of tone

language it is. Chapter V overviews the segmental phonology of Maa, leaning heavily on

Wallace (1981), though adding significant modifications to that analysis. Chapter VI

presents the body of the novel analysis, showing the systematic nature of Maa argument

pronouns, and arguing for particular underlying forms. Chapter VII then summarizes the

analysis, pointing to places to look for answers in future work.

      The last part of the thesis is composed of five lengthy Appendices, four of which

contain the data that are either 1) not yet been included in the analysis (i.e., Appendixes

A, C, and D) or 2) covered by the analysis, but not needed to prove the analysis in

chapter VI (i.e., Appendices B and D). The fifth and final appendix presents data which

should be useful for those dealing with problems in orthography, including tonal minimal

pairs and homophones.

ABBREVIATIONS

DSCN	discourse marker *k*-, etc.	CONN	discourse marker *n*-, etc.
NEG	negative	PF	perfect aspect
II	Class II prefix	NPF	non-perfect aspect (morphologically unmarked)
DIS	discourse marker	BAP	bound argument pronoun
INCEP	inceptive	ISG	infinitive singular
CAUS	Class I causative	1SG	first person singular subject
MID	middle	1PL	first person plural subject
MID3	dynamic middle	2	second person subject
DAT	dative applicative	3	third person subject
INST	instrumental applicative, class II causative	3>1	third person subject acting on first person singular
AWAY	motion away/trans-locative	3>2>1	third person subject acting on second person singular, or second person subject acting on first person singular
VENT	ventive/cis-locative		
APAS	antipassive suffix	1>2	first person singular subject acting on second person singular
IMP	imperative	FOC	focus
		SUBJ	subjunctive
Nominal	Morphology		
FSG	feminine singular	PR	possessor
MSG	masculine singular	PSD	possessed
FPL	feminine plural	F	feminine
MPL	masculine plural	M	masculine
AGT	agent	TH	theme
DUP	reduplication	PRN	pronoun
P	preposition.	NMZR	nominalizer
REL	relativizer	DEM	demonstrative
SG	singular	PL	plural

CHAPTER II

SCOPE AND CONVENTIONS

2.1. <u>Scope</u>

A complete analysis of Maasai verb tone has proven to be beyond the scope of an

M.A. thesis, so this work will address only a portion of that task. This chapter lays out

the scope of this thesis, that is, what area of the tonal analysis for Maa verbs the thesis

seeks to analyze. It also gives a description of the data I have available, the focus of this

analysis and the domains in which the data should be trusted. At various points of the

thesis I will allude to extensions into other domains that seem to fit this analysis.

However, my highest degree of confidence in this analysis extends only to the scope

outlined in this chapter.

2.1.1. Il-Keekonyokie Maa

Maa is spoken over a vast area, by a number of peoples who see themselves as

distinct in some ways from one another, e.g., the Samburu, Chamus, and Maasai. The

Maasai are themselves divided into semi-geographic "sections", each with somewhat

distinct history and culture (Schnitzer 2002). Because these divisions are more political than linguistic, they don't necessarily represent dialectal differences, though there are some acknowledged differences between how most sections speak. Because the divisions were based on geography, they can serve as a rough approximation of dialects, though there is need for much more study before dialectal lines can be well drawn.

That being said, the data from this paper come from speakers of Maa from the Il-Keekonyokie Maasai, so they probably represent one major dialect, in the center of Maasailand, around Nairobi, Kenya. I would not want to claim that either this description or the analysis that follows from it holds true for all the Maa speakers, or even all Maasai, though it probably covers most of the Il-Keekonyokie Maasai.

In at least one way the data I have collected differs from that published for other Maa dialects. Levergood writes of Low (L) 'Raising' in Arusha. She describes the phenomenon in the following manner: "the first L vowel in these sequences, L1, is intermediate in pitch between the pitch of the preceding H or simplified Fall, H1, and L2"(p. 54).

(1) Staircase pattern of L tone vowels (from Levergood 1983, number (9))

	H1	L1	L2	…	Ln	(H2)
	[˥	˦	˨		˨	(˥)]

Among others, she gives the following word as an example of this tone pattern.

(2) ɔ̀l-árràbàl *'fight'* (Arusa)
    [˥ ˦ ˨]

In Il-Keekonyokie Maa, on the other hand, this Low Raising is not observed.

(3) ɔ̀l-árràbàl *'quarrel, battle, etc.'* (Il-Keekonyokie)
    [˥ ˨ ˨]

There is, however, the phonetic lowering of a spread High (H) tone when phrase final, which I have called 'Spread-High Assimilation' (Rasmussen and Payne, in review). This effect is shown in the following data, given in Il-Keekonyokie Maa, compared with the same data in Levergood (1983):

(4) ènkítéŋ sápʊ̀k   *'fat cow'* (Il-Keekonyokie)
    [˧   ˥˥   ˥ ˦]

(5) ènkítéŋ sáfʊ̀k   *'fat cow'* (Arusa)
    [˧   ˥˥   ˥ ˧]

As can be seen in (5), this effect is not seen in Arusa Maa. For a fuller treatment of this phonetic effect, see Rasmussen and Payne (2001).

To simplify the terminology, this thesis will simplisticly use the term "Maa" for the language spoken by the Il-Keekonyokie Maasai, though without the claim that this analysis extends to the entire community who identify their language as Maa.

2.1.2. Data Collection: Focused on Tone

Most of the data used in this thesis were collected for the sake of a tonal analysis, continuing the work initiated by Tucker and Mpaayei (1955; hereafter TM). Thus, in areas where the data and analysis of TM seem clear on segmental issues, I assume their analysis, and at times used it to guide transcription of the data (e.g., as in using morphophonemic alternations to determine the ATR value of a given word when the phonetic vowel contrasts are not clear to my American English ear). With regards to the

relative pitch of any given mora, however, I am highly confident of the objective

accuracy of these data.

This confidence of relative pitch is gained through a methodology with several

checks on the perception and transcription. In addition to the perception of relative pitch

in a given utterance, utterances were elicited in frames, often followed by *táàtá* 'today'.

Utterances are also whistled by the speaker, whenever the relative pitch remains at all

unclear. Finally, the Maasai consultants were trained in the phonetic transcription of

their language, and contributed their own understanding of a disputed transcription. That

is, most of the data were elicited on more than one occasion, in more than one context,

and checked whenever there was discrepancy of transcription.

Though I have confidence in the relative pitches of these data, I would caution

against using these data for ATR studies, as ATR values are not nearly so clear to my

ears as relative pitch. Given this difficulty, and the lack of immediate relevance to the

present study, I have at times assumed regularity when faced with the uncertainty of any

given ATR value.

In sum, aspects of the data not immediately relevant to the question at hand

should be used with greater care than those that were foremost to the problem of tone

during the collection. While I have tried to take every care with transcription of vowels

and consonants, including all ATR contrasts, I have not checked and rechecked the data

for those features to the same extent as I have the relative pitch.

2.1.3. Aspect

I will focus on forms in a single aspect, which TM call 'present tense' (1955:53). This is the morphologically most unmarked, and is called 'non-perfective' by Christa König (1993, see also Payne 1995); there is some indication that the aspect König calls 'perfective' includes perfect readings as well (Mitsuyo Hamaya, personal communication), at least in Il-Keekonyokie and Il-Wuasinkishu Maa. For the sake of having a consistent label, I will refer to the morphologically unmarked aspect as 'non-perfect,' and the marked aspect as 'perfect.'

2.2. Conventions of Orthography

The orthography in this paper follows TM, with four exceptions: I use 1) ɪ, ɛ, ɔ, and ʊ for the -ATR vowels; 2) tone marking (i.e., *á* – high; *à* – low) on all vowels, with $^{!}\!á$ for Downstepped High (TM's 'mid') tone, 3) ɲ for the palatal nasal (TM's 'ny'), 4) ww and yy for strong w and y, and 5) *y* and *w* for non-moraic *i/ɪ* and *u/ʊ*. While the last convention loses ATR information, it preserves moraic structure, which is essential for understanding tone; ATR is generally predictable from surrounding vowels.

Throughout the text capitalized High/Low or H/L is used when referring to phonemic tones, and lowercase high/low is used when referring to surface pitch patterns.

CHAPTER III

REVIEW OF PREVIOUS WORK ON MAA VERB TONOLOGY

Much work has already been done on the Maa language. This chapter lays out

some of the work that has already been done in the analysis of Maa verb tone. It will also

discuss other relevant works, as in Maa nominal tone work, and Nilotic tone work in

general.

There has been very little work done on Maa tone, particularly in verbs. Few

works even consistently give tone data. We are indebted to Tucker and Mpaayei (1955,

hereafter TM) for clearly and consistently marking and categorizing tone in their

grammar and word list, though they did not attempt any analysis of the tone system. It is

my hope that this thesis will make a major contribution to the work that eventually does

complete the tonal analysis of Maa.

3.1. Maa Tonology

Two scholars who have come close to publishing attempts at an analysis of Maa

tone. The first is Barbara Wallace, who published an analysis of verb morphophonemics

(1981). This article lays out very clearly the segmental interactions in the Maa verb.

However, she gives a footnote which reads "In Wallace 1979 I discussed nominal tone. I

have not as yet attempted to analyze verbal tone and I will therefore leave the tonology of the verbal complex to a later paper" (p. 87). In her conclusion, however, there is a note saying "Clearly part of what is needed for getting closer to a solution [of the morphophonemics] is a tonological analysis." No further publications have been forthcoming from her. Wallace 1979, given at the 10th Annual Conference on African Linguistics in Urbana, IL, attempts to analyze the nominal tone system of Maa, though it does not satisfy all the difficulties posed by Maa tonology. The author is aware of no published attempts at an analysis of the verb tone system.

By far the most significant contributor to the discussion on Maa verbal tonology is Barbara Levergood, who did much work on phonology in the Arusa Maa dialect. Among other topics, she established the mora as the tone bearing unit (or TBU) (1990), described phrasal tone effects (1987), and began an analysis of verb tone (1986). Unfortunately, her last paper (Levergood 1986) on the subject was not published. Most of the analysis is a description and categorization of the data, leading to the conclusion that tones associate to the first, second, or third from last mora, and which occurs when seems mainly stipulative (i.e., lexicalized). Most of her data, in addition to being from a different dialect area, are in the negative, subjunctive, or "*n* tense" (TM p. 61), all of which are found only tangentially in my data.

One conclusion she reaches, which has been confirmed in my data, is that phonemic "High tone placement" for verbs, similar to my "stem tone," is limited to three positions: the ultimate, pentultimate, and antepenultimate mora. That is, there are no five mora verbs where a High tone is spread from the second (i.e., fourth from the last) mora.

One issue she raises is wether there is "independent evidence for metrical structure in a tone language" (p13). This is, in fact, a question raised in my own analysis, which is unfortunately unresolved for Maa. For now these statements will stand as a summary of Levergood's work, though where relevant to this thesis, Levergood's description and analysis of Arusha Maa tone will be contrasted with that found by the author in Il-Keekonyokie Maa.

This thesis was begun with the desire to continue on the work started by these colleagues, and eventually provide a complete analysis of the Maa verb tone system, though the scope of the problem is beyond this work as well. The author's public contribution to the problem so far is limited to two papers. Rasmussen and Payne (under review) deals with downstep in Il-Keekonyokie Maa. In this dialect downstep operates somewhat differently than in the Arusa dialect described by Levergood. The other paper is Rasmussen (in press), which deals with the problem of person-marking tone, and which is also treated in chapter VI of this work. So, while work has been done to identify a system for Maa verb tone, the work is far from done.

3.2. Other Maa Work

This section briefly notes work done on Maa which are not directly related to tone, but which have been important in the delopment of scholarship in Maa, and provide an important background to this work.

The earliest publication on Maa is Hollis (1905), which presented tales of the Maa, as well as other grammatical information. This publication began the now widely

held tradition of not marking tone or all vowel contrasts, i.e, Advanced Tongue Root

(ATR) contrasts, thus leaving the data useless for tonal analysis, and for any syntactic,

etc., analysis that depends on tone (e.g., case). Greenberg (1959) shows the historical

origin of the Maa impersonal passive to be in third person plural morphology.

Among works done on Maa not directly related to tone is an extensive

encyclopedic dictionary by Father Franz Mol (1978, 1996). The 1996 work does

occasionally include tone and all vowel contrasts, though neither thoroughly nor reliably.

More recent works include those by Doris Payne, who has published several

articles on Maa Syntax and Semantics, looking into voice and inverse (with Hamaya and

Jacobs 1994), possessor raising (1997), gender (1998), and lexicography (2001). Other

work on Maa syntax includes Hamaya (1993), and Barshi and Payne (1996). Allan

(1989) also gives us an article on Maa discourse.

One article on Maa phonetics includes Austin Bush's baccalaureate thesis on

ATR. While this thesis did not establish the articulatory basis of ATR, it did establish

that the ATR contrast is not equivalent to a difference in either or both of tongue height

and or backness alone.

While these more recent works do not directly bear on the issue of Maa tonology,

they do all represent Maa tone and vowel contrasts, which is a helpful departure from the

undifferentiating tradition begun in Hollis (1905). The tradition remains alive in other

works however, including most publications of stories and cultural material, such as

Kipury (1983), and in the 1991 translation of the Bible. To show the value of writing

tone even in practical or non-technical works, Appendix E includes several problems that

arise in Maa which are resolved by writing tone (in addition to the ability to distinguish nominal case, as described in TM 1955).

3.3. Nilotic Tonology

Work on Nilotic tone systems beyond Maa include Creider and Creider (1989) and Dimmendaal (1983), grammars of Nandi (Southern Nilotic) and Turkana (Eastern Nilotic), respectively, which include much tonal detail. An analysis of Bari (Eastern Nilotic) tone is given in Yokwe (1988), and there is a good description of Shilluk (Western Nilotic) phonology in Gilley (1992). Regarding phrasal tonology, there is an excellent article on downstep and downdrift in Luo, Tucker and Creider (1975).

CHAPTER IV

TYPOLOGY OF MAA TONE

There have been several descriptions of the range of possibilites for how languages use pitch to convey information (Hyman, in press, Beckman 1986, Pulleyblank 1986). Among other characteristics, these typologies describe certain systems with more or less free pitch units (i.e., Tone), as opposed to others where the unit which determines pitch is more or less bound, limited, or culminative, as in having a single major stress per word (i.e., stress/pitch accent).

While many of these typologies agree on many of these points, it is useful at this point to hold up Maa to just one of these typologies, and show where it fits in that typology. The typology used in this chapter is Hyman (in press), which has set out a four-way typology for tone in languages. The characteristics of this typology are: phonological contrasts relevant to the tone system, function of tone, tone rules, and character of the system (i.e., dominantly tone vs. stress). In this chapter I will briefly describe Hyman's typology, and identify where Il-Keekonyokie Maa fits within this typology. Because the final parameter in Hyman's typology is the broadest in determinining the character of the tone system, I will treat it first.

4.1. Tone vs. Stress

The final parameter in Hyman's typology of pitch behavior is the character of the system. For languages where it is clear that pitch indicates phonological contrast, it may not be clear what kind of contrast it indicates. In some languages, pitch is said to act as an independent unit attached to a syllable or mora, while in others it is a word level contrast, like stress. Hyman describes four types of languages we might expect, with both tone and stress either playing a role or not.

TABLE 1: Hyman's Four Way Typology of Pitch in Languages

Type 1: [+tone, -stress]   e.g., Yoruba, Igbo
Type 2: [-tone, +stress]   e.g., English, Russian
Type 3: [-tone, -stress]   e.g, Korean, Berber, Gafat [Ethiopia]
Type 4: [+tone, +stress]   e.g., Fasu, Swedish, Palantla Chinantec [Mexico]

Hyman sees these four language types being best described by two prototypical system types, i.e., Type 1 (tone) and Type 2 (stress), with Type 3 not having word level pitch contrasts, and Type 4 (pitch-accent) sharing properties of both Types 1 and 2.[1] He then outlines the various properties that would define Types 1 and 2. These properties, given in Table 2, also give us the metric for determining where a language might fit on a continuum between types 1 and 2, as we observe which of these features is found in a given language. Where Maa fits into Hyman's typology will be addressed, one of the eight characteristics at a time.

Table 2: Hyman's Characteristics of Type 1 and Type 2 Languages

	Characteristic	Type 1 (Tone)	Type 2 (Stress)
1	Distribution	free	culminative
2	Lexical domain	morpheme	word
3	Function	distinctive (pardigmatic)	demarcative (syntagmatic)
4	Realization	pitch (F_0)	complex
5	Effect on phonology	self-contained (tones affect tones)	non-contained (affects many other features of phonology)
6	Effect from Phonology	affected by consonant types	affected by syllable weight
7	Interactions with grammar	compositional (morphemic)	integrated (phrase structure)
8	Rule types	similar to segmental features	no assimilation to features

The distribution of Maa tones is free (i.e., made of independent units), as shown by a simple statistical test. Because there is no more than one major stress/accent in a given word, one would expect no more than n+1 different pitch patterns for primary accent in a pitch accent/stress system, n being the number of pitch bearing units in a word (Pulleyblank 1986). This is because the main accent/stress can either be on one of the pitch bearing units (n possibilities), or on none of them (another 1), but not on more than one, or a combination thereof, as in a free system. Among the following three mora (n=3) words with near identical segments, we have 7 (more than 3+1=4) tone patterns:

(6)
  a. èydóŋ'ó   *'They will beat each other.'*
  b. èydóŋò   *'He/she/it/they is/are beaten.'*
  c. éydóŋó   *'He/she/it beat it.'*
  d. éydóŋô   *'They beat it.'*

e. áydóŋò   *'I beat him.'*
f. kéydóŋ˺ó   *'They will beat each other.'*
g. kéydóŋò   *'He/It/They is/are beaten.'*

There are other tone patterns on other three mora words. The following patterns

bring the total up to 14 different tone patterns over 3 mora, many more than expected

from an accent system (3+1=4).

(7)
a. ká˺ádɔ́   *'I am tall.'*
b. kíntùkù   *'We will wash it.'*
c. kédùŋú   *'He/she/they/it will cut it off of/from there.'*
d. ènǐŋú   *'He/she/they/it will understand/hear.'*
e. ɛ́shɔ́mɔ̂   *'They went.'*
f. áàbârn   *'He/She/They will shave me.'*
g. ètàbâ   *'He became/reached it.'*

This data shows that the behavior of pitch active in Maa today is more "free" than

we would expect from a system based on accent, allowing separate contrast on essentially

each mora, indicating a tone system.

A related issue is the domain of the contrast, the second line on Table 2, being

either the morpheme or the word. As can be seen from *kédùŋú*, above, it is possible to

have more than one locus of high pitch per word, and with *èydóŋò* we have more than

one locus of low pitch per word, so the domain of phonological pitch contrast must be

smaller than the word, again indicating a tone system.

Hyman's third criterion for distinguishing between tone and stress/accent is the

function of the tone, being either distinctive, with a particular value on a given pitch

bearing unit (for tone), or demarcative, marking the edges of various phonological

domains (for stress/accent). While there are some syntactic effects on the tone of a word

(see Appendix D), the tone of a word generally does not depend on the phrasal

environment. Most of the tonal alternations seem to distinguish a word from another word with different morphology, rather than showing where that word is in a sentence. Nevertheless, one example of demarcative tone function in Maa is the placement of non-automatic downstep, which occurrs only phrase finally. Maa tone is not as distinctive as some systems Hyman describes (i.e., Asian tone languages), though Hyman's typology does indicate that agglutinative morphology generally rules out highly distinctive tone systems.

Hyman's fourth criterion, complexity of phonetic realization, indicates that pitch is generally the sole indication of tone, while it combines with other factors (e.g., length, volume, phonology) to indicate stress/accent. Without any phonetic studies of Il-Keekonyokie Maa pitch and stress/accent, or even anecdotal evidence relating length, volume, etc. and pitch, I must remain silent regarding the complexity of the phonetic realization of stress. I know of no case where other aspects of the phonology interact with pitch, though this has not been thoroughly studied.

Hyman's fifth criterion for distinguishing tone and stress/accent involves the level of effect on the rest of the phonology. Tones affect tones, while stress can affect just about anything (e.g., pitch, vowel quality, phonological reduction). Again, there is little evidence of interaction between pitch and the rest of the phonology, though this has not been thoroughly studied.

The sixth criterion involves the affect of the phonology on pitch. Tones, according to Hyman (in press), may be affected by consonant types, whereas

stress/accent may be affected by syllable weight. I have found no evidence whatsoever of either kind of affect on pitch patterns, so this is again inconclusive.

Hyman's seventh criterion, interaction with the grammar, indicates a tonal analysis for Maa. There is also no evidence of pitch being affected by the grammar of the sentence, except perhaps with subjunctive verbs, though this may well be the effect of a tonal morpheme. The downstep, in addition to only being phrase final, is only found on declarative sentences (Levergood 1987), or at least not on interrogative sentences. With the exception of these two cases, the grammar has no known affect on the tone

The final criterion for determinining the character of a pitch system is the type of rules. Tones, unlike stress, "are affected by the same kind of assimilatory and dissimilatory rules to which segmental features are submitted." (p16) The tone system of Maa does show assimilation of one feature to another, as in Spread High Assimilation, as well as Non-Automatic Downstep (Rasmussen and Payne, under review).

For each criterion which indicates one or the other type of system, then, the system active in Il-Keekonyokie Maa fits Hyman's description of a tonal system. For each area where we have conclusive data, and there is no serious suggestion from data to the contrary. Being fairly confident, then, what kind of a tone system Maa has, we look to Hyman's other typological parameters to see what kind of tone system it is.

4.2. Phonological Contrasts

Hyman (in press) also gives several types of phonological contrasts by which we can distinguish the various tone language types. He categorizes several possible phonological contrasts relevant to tone languages in the following ways:

1. mora vs. syllable as the Tone Bearing Unit (TBU)

2. contour vs. register tones (or contour vs. tone cluster)

3. discrete vs. terrace-level (i.e., automatic downstepping)

4. other effects: Non-automatic downstep, floating tones, tone sandhi, tone to accent attraction, tone and non-tone interactions

Regarding the first point, tone systems can be based on either the mora or syllable. This is particularly relevant when dealing with long vowels, which may be two TBU's under the mora system, but only one under the syllable system. Levergood (1990) has established the mora as the TBU in Arusa Maa, and this conclusion is confirmed in Il-Keekonyokie Maa where I have checked.

For the second point, tone systems can vary in the pitch contrasts on a single TBU. Contour systems, generally found in Asia, may have a number of different pitches in a single tonal unit. Register tone systems, on the other hand, generally show a contrast between a small number of "registers", with each TBU generally having one level pitch. The tones of Maa, like most African tone systems, are register tones. Maa has two phonemic level tones. That is, any given mora can be said to be associated to either a High tone or a Low tone, or else one of a limited number of other possibilities, such as the composite High-Low tone. There is no evidence for phonemic contours, that is, a

contour that contrasts with the High and Low in all environments. There is a single falling pitch pattern, which starts high and goes low, over single moras. Although this is phonetically a contour, it only occurs word finally, indicating that it is not an independent phonemic unit.

Hyman's third point refers to the absolute frame of tone patterns. Discrete systems have essentially the same pitch for each High tone, while terrace systems have each sucessive High tone realized at a lower pitch, also known as automatic downstep. Automatic downstep has been confused with downdrift (as in TM:170-1). This distinction is drawn in Tucker and Creider (1975), between a gradual drop in pitch over time (downdrift), and a regular drop in pitch at each sucessive High tone (automatic downstep). That is, downdrift is a phonetic drop in pitch relative only to time (regarless of the number and value of tones), while automatic downstep is a drop in pitch that has been phonologized to coincide with each High tone (regardless of the amount of time between them). While it is not well documented, there is some description of Il-Keekonyokie Maa (TM:170-1) that matches automatic downstep, which matches my own perceptions. There is no conclusive indication that there is a drop in pitch over time independent of the drop in pitch at each High tone, though this has not been ruled out either.

Hyman's fourth point, categorizes languages according to other, more idiosyncratic rules. Maa also has non-automatic downstep, which is a phonemic (i.e., unpredictable) drop in register, but so far evidence of Hyman's other phenomena has not

been shown. There is no anecdotal evidence nor an acoustic investigation into upsweep, as found in the Western Nilotic language Luo (Tucker and Creider 1975).

4.3. Function of Tone

Hyman (in press) says that tone systems function essentially either lexically (i.e., distinguishing lexical morphemes) or grammatically (i.e., distinguishing lexical morphemes, or "in the inflectional morphology of the nominal or verbal paradigms" p.7). Il-Keekonyokie Maa verb tone is dominantly grammatical. Nominal case is determined by tone alone, as are certain distinctions in verb inflection, as I show in Chapter IX. Further, while all lexical items bear tone, there are only a couple lexical morphemes that are minimally distinct from another by tone alone. There are more words that are minimally distinct for tone, but they all include morphological derivation or inflection. While nouns have been sorted into several groups for tone, there are only two of what might be called tone classes in Maa verbs, and these are also distinguished by segmental morphology, as shown in the following paragraphs.

It can be argued that Maa verb roots are not themselves distinguished by tone. There are two morphological classes of verbs; Tucker and Mpaayei refer to these as Class I and Class II. At times the two classes bear different tone, but the tonal distinction may be attributed to the fact that Class II stems bear an obligatory prefix (*ɪ-*). Though verb roots may eventually prove to contribute to the tone of a verb form, the prima facie assumption is that they are toneless. One example of consistency across roots is seen in the derivation with the Antipassive suffix, which is given in (8)–(9):

(8) Antipassive derivations with various roots with third person subject (initial low pitch)

    a.   3-(II-) root -APAS   translation[2]

    b.   è-   àɲít -ˈíshɔ́   *'He is fond of respecting.'*

    c.   è-   dám -ˈíshɔ́   *'He will think.'*

    d.   è-   dúŋ -ˈíshó   *'(The child) is able to cut without using anything.'*

    e.   è-   dás -ˈíshó   *'He will milk by the mouth.'*

    f.   è-   gór -ˈíshó   *'He will strangle.'*

    g.   è-   lɛ́j -ˈíshɔ́   *'He is a liar.'*

    h.   è- y- bón -ˈíshó   *'He will foretell.'*

    i.   è- y- dóŋ -ˈíshó   *'He pounds.'*

    j.   è- y- gér -ˈíshó   *'He writes.'*

    k.   è- y- kén -ˈíshó   *'He is closing.'*

    l.   è- y- nɔ́s -ˈíshɔ́   *'He will eat.'*

    m.   è- y- ŋɔ́l -ˈíshɔ́   *'He is the person who stirs.'*

    n.   è- y- ŋɔ́r -ˈíshɔ́   *'He will look.'*

    o.   è- y- rrít -ˈíshɔ́   *'He is good at looking after cows.'*

    p.   è- y- mán -ˈíshɔ́   *'He always walks around.'*

    q.   è-   níŋ -ˈíshó   *'He can hear.'* / *'He is awake.'*

    r.   è-   řikín -ˈíshó   *'He/it is forgettable.'*

(9) First and second person forms (initial high pitch)

    a.   1SG/2- root -APAS translation

    b.   á-   áɲ -ˈíshɔ́   *'I wait.'*

    c.   á-   áɲít -ˈíshɔ́   *'I respect (people).'*

    d.   á-   dás -ˈíshɔ́   *'I am milking.'*

    e.   á-   gór -ˈíshó   *'I strangle.'* not 'angry'

    f.   á-   níŋ -ˈíshó   *'I can hear.'* / *'I am awake.'*

    g.   í-   gór -ˈíshó   *'You.SG strangle.'*

Here the data is consistently high over the last TBU of the root, and Downstepped High over the two suffixal morae. Comparing (8) and (9) shows that morae to the left of the last TBU of the root, wether that root is one mora (e.g., (8)e *è-dás-ˈíshɔ́* vs. (9)d *á-dás-ˈíshɔ́* or two morae (e.g., (8)b *è-àɲít-ˈíshɔ́* vs. (9)c *á-áɲít-ˈíshɔ́*), alternate according to a 'High/Low' split, which will be described in chapter VI.

       The data in (8)–(9), along with others like them, lead to the conclusion that if there is some contribution by the root to the tone of a verb, it is the same contribution

from each root (with one possible exception, discussed in the next paragraph). This analysis will assume, then, to say that verb roots are toneless, allowing for some minimal contribution of a High tone which might come from aspect or mood. There is therefore no distinction between lexical verb roots with regard to tone, and the tonal alternations we will see are grammatical, that is, according to the inflection of the verb.

A note is in order here, however, regarding a morphological classification common to all Nilotic languages. Class II is distinguished by an obligatory ɪ- prefix. This Class II prefix is not synchronically analyzable in Maa: it is obligatory on Class II roots, is unacceptable on Class I roots, and does not have any transparent component of meaning (e.g., *a-sój* 'to follow' vs. *a-y-sój* 'to wash'). The two classes also take different tone patterns in certain derivations (see Rasmussen, in progress, for details), though this may be attributable to the Class II prefix ɪ-. Because this is the only variation from the kind of consistent tone pattern, regardless of root shown in (8) and (9), and it is attached to the class II prefix (ɪ-), which does not have an analyzable component of meaning, the function of Maa verb tone is entirely grammatical, and is not used to distinguish between lexical items.

4.4. Tone Rules

Hyman makes a broad contrast between assimilation and dissimilation rules. These include phonological spreading of a tone, as well as surface phonetic relationships between tones. Tone in Maa spreads ("assimilates horizontally", in Hyman's terms) leftward, to the beginning of the word, though such spreading does not extend to the

gender prefix on nouns. This is shown in the association of the discourse marker *k-* to the leftmost mora, which does not further spread to TBU's on its right (Rasmussen and Payne 2001).

With regard to other assimilation processes in Maa, there is a surface phonetic assimilation of a single High mora toward a following Low tone, when it is the last mora of a domain of morae associated to a single High tone (Rasmussen and Payne 2001).

The only dissimilation process is downstep, as described in Rasmussen and Payne (2000). So far polar tones, "a common phenomenon in tone systems where a morpheme appears as H when adjacent to a L-tone, and as L when adjacent to a H-tone" (Pulleyblank 1986:203), are not shown to play a role in the Maa tone system.

There is only one case that might appear like the spreading of tone from one word to another, though it is not clear that they remain distinct phonological words. TM describe an effect of tone permanence accompanying the elision of word-final vowels (with non-high vowel quality; high vowels *i*, *ɪ*, *u*, *ʊ* form glides *y* and *w* rather than being elided). When a word final vowel is elided in favor of the following word initial vowel, the tone of the first vowel remains on the second vowel, though without further spreading.

(10) í-m-pòt-ó ɔ̀l-àyyónǐ   [ímpòtɔ́làyyónǐ]
     2-II-call-IMP
     'Call the boy!' (TM:172)

The only affect of tone from one word to another without this elision is non-automatic downstep, where separate words bring together two High tones, adjacent at the end of a phrase, and are separated tonally by downstep (Rasmussen and Payne 2001).

(11) ɛ́-dɔ́l   níɲè   èlé   ŋátúɲ   [ɛ́dɔ́l níɲè èlé ˈŋátúɲ]
  3-see   3.PRON.NOM   DEM   lion
    'He sees the lion.' (TM:172)

This non-automatic downstep occurs in declaratives only, as shown by the

following data, which are questions, and lack the downstep found in their indicative

counterparts:

(12)
  a. k-é-bɪ́k
      DSCN-3-stay
      'Will he stay?'

  b. k-é-bˈɪ́k
      DSCN-3-stay
      'They will stay.'

  c. ɛ́-kɪ́-dámʊ́
      DSCN-3>2>1-remember
      'Will you remember me?' or *'…they/he/she/it … you?'*

  d. ɛ́-kˈɪ́-dámʊ́
      DSCN-3>2>1-remember
      'You will remember me.' or *'They/she/he will remember you.'*

These two effects (elision joining words and downstep) can combine, as in (13),

where 'the cow,' with pitch pattern lhh, follows a vowel-final word, whose final vowel is

glided.
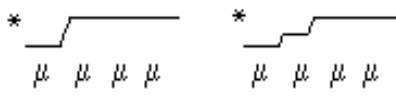
(13) è-àr-ʊ́   ɛ̀n-kɪ́téŋ   [èàrwɛ́ŋkˈɪ́téŋ]
  3-beat-VENT   FSG-cow.ACC
  'He will beat the cow this way.'

Otherwise, there is no regular spreading of tones from one mora onto another

which is already associated to a tone in Il-Keekonyokie Maa. Aside from these few

processes, the surface tone can be read more or less directly from the tone orthography

used in this thesis.[3]

I will assume that tone association and spreading operate from right to left, iterative to empty TBU's. While this remains an assumption, there is some reason for it, as in the following data.

(14) ádúŋókì. [aduŋokɨ̀] [4]   *'I will cut for him.'*

We see in this example, as in many others, that the pitch to the left is level, while the pitch to the right is somewhat complex. While there are words that are level to the end of the word, there are none that begin low, and then are level to the end of the word.

(15)

Thus, any evidence of spreading over a number of mora is either on the left of the word only, or across the whole word. If tone were spread to the right, one would expect at least some evidence that the right edges of words have spread tone, of which I have so far found none.

4.5. <u>Notes</u>

[1] This is not to say that all languages with both tone and stress are pitch accent, but when the acoustic realization of those two systems both affect fundamental frequency (i.e., pitch). Note that this is not necessarily the definition of 'pitch accent' used in any other given author's work.

[2] These words are all in the non-perfect form. As the least (morphologically) marked form, the meaning is also the least marked, and can in various contexts can have a future, habitual/timeless present, etc. sense.

[3] The roughly phonemic orthography used in this thesis describes the surface tone patterns of words, without making claim to the underlying tones associated to any given morpheme.

[4] This notation is given to show the finer phonetic effects which are neither phonemic nor conveniently displayed in the chosen orthography.

CHAPTER V

MAA MORPHOLOGY

The basic structure of Maa segmental morphology has been fairly well laid out (TM, Wallace 1981). This chapter proposes certain modifications to that laid out in Wallace 1981[1], however, and provides a schematic for the organization of the various verbal morphemes in Maa. Having laid out the basic ordering of the morphology, this chapter then gives other notes on verb structure not spoken to by that basic structure. The chapter ends with some notes on Maa phonology necessary for the identification of certain verbal morphemes.

5.1. Basic Verb Structure

The following chart is given for reference in the discussion of this section. It is modified significantly from that given in Wallace 1981, according to my own observations. The curly brackets indicate that one from the list of morphemes can be chosen, and the parentheses indicate that the presence of such a choice is optional. Note the list of abbreviations following Chapter I (p. 3).

Figure 1: My Version of Wallace's Verb Generation Rule

$$V \rightarrow (DIS)\left(\begin{bmatrix} NEG \\ SUBJ \end{bmatrix}\right)BAP \left(\begin{Bmatrix} \begin{bmatrix} II \\ CAUS \\ PF \\ IMP \\ SUBJ \end{bmatrix} \end{Bmatrix}\right)(DUP)BASE \left(\begin{Bmatrix} \begin{bmatrix} VENT \\ AWAY \\ DAT \\ PROG^a \end{bmatrix} \end{Bmatrix}\right)\left(\begin{Bmatrix} APAS \\ MID \end{Bmatrix}\right)(INCEP)\left(\begin{Bmatrix} \begin{bmatrix} INST \\ PF \\ IMP^b \\ SUBJ \end{bmatrix} \end{Bmatrix}\right)(PASS^b)$$

A few notes to be made that do not fit in a chart of this type:

a – If PROG is chosen, then APAS, MID and INST may not be chosen.
b – If PASS is chosen, then IMP may not also be chosen.
c – The type of base (e.g., stative, active, intransitive) may impose further restrictions.

5.1.1. Variety of Morphology

The first thing to notice from Figure 1 is that there is a wide variety of morphology available in the Maa verb. There are only two required slots, the bound argument pronoun (BAP) and the root (BASE), but there is potential for multiple[2] suffixes, in addition to a prefix before and after the bound argument pronoun.

(16)
    a. k-á-y-búk-ór-ǐ-yé
        DSCN-1SG-II-pour-AWAY-MID[3]-INST
        'I will use it to make it be poured out.'

    b. áà-sùj-ùɲ-yék-ǐ   èn-káy   árrǐ
        3>1-follow-VENT-INST   FSG-other   car
        'I will be followed using another car.'

    c. k-é-y-tùk-w-òkín-ˈó
        DSCN-3-II-wash-VENT-DAT-MID
        'They will wash for each other.'

d. k-é-ytà-bòrèy-ákˈín-í
DSCN-3-CAUS-fill-DAT-PASS
'They will fill it for him.'

e. áà-ytù-dùŋ-ǐshô-y
3>1-CAUS-cut-APAS-PASS
'People will make me cut.'

f. k-é-y-g̈is-ǐshó-rè-kǐ
DSCN-3-II-carve-APAS-INST-PASS
'It will be used to carve.'

5.1.2. Prefixes

Note also that there are three infections that are indicated both by a prefix and a

suffix: Perfect (PF), Imperative (IMP), and Subjunctive (SUBJ). The morpheme pairs for

each of these inflections are nearly identical in segmental form, though for each the

prefix (*-tV*) and suffix (*-a/o*) are different.[4]

(17)
a. tá-làm-à
IMP-avoid-IMP
 'Avoid him/it!' (inferred, [5] TM:73)

b. ɛ́-tá-lám-á
3-PF-avoid-PF
 'He avoided him/it.' (inferred, TM:73)

c. m-ɛ̀-tá-làm-à
SUBJ-3-SUBJ-avoid-SUBJ
 'That he would avoid him/it.' (inferred, TM:73)

Note in (17) that, for the same root vowel, the forms of each prefix are the same,

as for the suffixes, though the whole word tone is distinct for each word.

For Class I roots, these PF, IMP, and SUBJ (hereafter "PF, etc.") inflections are

all marked by both prefixes and suffixes, as in (17) and (18)a. However, if the Class II

prefix (II) *ɪ-* is present (e.g., (18)b), they are marked by a suffix only. In this way, II is in

compementary distribution with the prefixes for PF, etc.

(18)
   a. <u>ɛ́-tʊ́-sʊ́j-á</u>   '*He followed him.*'
        3-PF-follow-PF

   b. <u>é-y-sʊ́j-á</u>   '*He washed it.*'
        3-II-wash-PF

      The Class II *ɪ-* prefix is also in complementary distribution with the *ɪta-* causative

prefix (CAUS). This, along with the fact that Class I verb roots with CAUS conjugate as

Class II verb stems (TM:146) point to a possible historical and functional relationship

between II and CAUS.

      Because there is never co-occurence between CAUS and II, or between either of

them and any of the PF, etc. prefixes, there is no principled reason to separate the

paradims, so I have put all five prefixes in the same paradigm in Figure 1. Given the

segmental homophony and the similarity in distribution, a common origin for the three

PFV, etc. morphemes (and perhaps CAUS and II as well?) might seem likely, though it

has not yet been shown.

5.1.3. Suffixes

      This section will cover a few modifications to the arrangement of suffixes given

in Wallace (1981).

5.1.3.1. INST and CAUSII

     INST and CAUSII have the same form (-*ye*).

(19) á-dúŋ-yé   (ènk-álém)
   1SG-cut-INST   FSG-knife
    'I cut it with (a knife).' (TM:140)

(20) á-y-lép-yè
   1SG-II-rise-CAUSII
    'I (shall) raise it.' (TM:147)

This forces a decision between homonymy and polysemy. That is, the language has either two distinct morphemes with identical form, or a single morpheme with more than one function. While this distinction might be made on purely theoretical grounds (starting from one's definition of a morpheme, and how one determines when two morphemes are "the same"), it would be good to note the structural similarities and differences, in order to ground such a decision empirically.

     Wallace put the INST and CAUSII morphemes not only in adjacent paradigms, but placed the PF, etc. suffix paradigm between them. This would seem a difficulty for the hypothesis that INST and CAUSII are just different functions of a single morpheme, but let us consider evidence for placement of each of these morphemes in relation to the PF, etc. suffixal paradigm.

     Each of the PF, etc. suffixes normally occurs with a prefix, as in (17). However, INST and PF, etc. suffixes do not co-occur. Thus, when INST is present the only segmental indication of the PF, etc. aspect/modality is the prefixal portions of the PF, etc. ambifixes. This can be seen in the following examples, where (21) and (22) show verb forms for INST and PF, respectively, and (23) shows the verb form with both.

(21) á-dúŋ-yé   ɛ̀nk-álɛ́m
   1SG-cut-INST   FSG-knife.ACC
     'I (will) cut it with a knife.' TM:142

(22) á-tú-dúŋ-ò
   1SG-PF-cut-PF
     'I (have) cut it'

(23) á-tú-dúŋ-yè   ɛ̀nk-álɛ́m
   1SG-PF-cut-INST FSG-knife.ACC
     'I cut it with a knife.(PF)' (inferred)   TM:142

Both examples (22) and (23) have the perfect prefix *tV-* (the vowel quality is due to vowel harmony with the root – TM:56), but while (22) has both the prefix and the suffix, (23) lacks the PF suffix. That is, it is possible to get both instrumental and perfect readings at the same time, though not both suffixes together. While there might be several explanations for this pattern, one is that the INST and PF, etc. suffixes are in the same paradigm. Because the INST and PF, etc. suffixes do not coccur, there is no evidence that they are in adjacent paradigms, as given in Wallace (1981). Since they do not co-occur when a given word has both elements of meaning, as in (23), I have put INST in the same paradigm as the PF suffix.

In the same way as with INST on Class I forms, CAUSII -*ye* does not coccur with PF, etc. suffixes (TM:147).

(24) ɛ́-y-lɛ́p-á
   3-II-rise-PF
     'He/it/they have gone up.'

(25) è-y-lép-yè
   3-II-rise-CAUSII
     'He (shall) raise it.'(inferred, TM:147)

(26) é-y-lép-yé
  3-II-rise-CAUSII.PF[6]
    'He (has) raised it.'(inferred, TM:147)

This co-occurrence restriction makes the perfect morphology a bit more difficult to see, however, because the PF, etc. prefixes are never present on Class II forms, as in (18)b and (24). This double co-occurance restriction makes the PF, etc. prefixes (because of II) and suffixes (because of CAUSII) both absent in (26), though the form is clearly perfective. In first and second person Class II verb forms, the PF and non-perfect (NPF) forms are identical (TM:147), though in the third person they are distinguished by tone, as in (25) and (26).[7]

So INST and CAUSII are alike in that both exclude the PF, etc. suffixes. Further, INST and CAUSII do not occur with each other. These facts, together with their identity in form indicate that the apparent distinction is the result of a semantic shift on the part of -ye when it ocurrs on Class II verbs, to cover both instrumental and causative meanings.

The only evidence I have seen in TM and Wallace (1981) of a distinction between INST and CAUSII for Class II roots is that INCEP -ʋ(*n*) and INST clearly do not belong to the same paradigm.

(27)   á-pír-úŋ-yè   kʋ̀lɛ́
    1SG-fat-INCEP-INST   milk
      *'I will get fat on milk.'*TM:158.

If it is true that INCEP and CAUSII are in the same paradigm (as in the Wallace 1981 analysis), then (27), which shows that INCEP and INST may co-occur, could be argued to provide evidence that INST and CAUSII have to be considered different morphemes. Interestingly, Wallace (1981) does not herself present evidence for putting

INCEP and CAUSII in the same paradigm (though TM give no examples of them co-occuring, and Wallace's analysis is based on TM's data). Class I roots do not carry CAUSII, so there is no way to compare INCEP and CAUSII on Class I roots.

Because INST and CAUSII are formally identical in every way I have seen, and because of the functional similarity between causation and the use of intruments, I will assume that they are a single morpheme which is has arguably become polysemic on Class II roots, rather than independent morphemes that coincidentally have the same form. From this point onward, I will use the gloss "INST" for both readings, and drop the use of "CAUSII" altogether, unless there is a particular need to distinguish the two readings.

5.1.3.2. INCEP and FUT

TM describe both an "extra future tense" (p. 62) and an "inceptive form" (p140). Wallace's glosses "FUT" and "INCEP" seems to reflect this distinction, but I drop her "FUT", as I have no evidence that there is a "future" tense/aspect morphologically distinct from the -$u(n)$ inceptive (INCEP).[8] This situation is similar to that of INCEP and CAUSII, above, though there is a lot less in TM about -$u(n)$ "extra-future" vs. -$u(n)$ INCEP.

(28) á-ɲórr-ù
    1SG-love-INCEP (TM's "Extra Future tense", p62)
    'I shall love.'

(29) á-rók-ù
    1SG-be.black-INCEP
    'I shall be black.' (inferred, TM:141)

While there is some semantic difference between "Extra Future tense" and inceptive, it could be argued that the future reading is a metaphorical extension from the inceptive, and not otherwise distinct. Because there is no formal distinction, and they seem to never contrast semantically (there may be different readings on different roots, but never on the same root), I will drop the use of "FUT", and use "INCEP" to cover both readings.

5.1.3.3. Other Observations on Maa Verb Morphological Combinations

This section gives a few pieces of data showing other places where I depart from the organization of affixes in the analysis in Wallace (1981).

Wallace's note (a) claims that the -*ɪta* progressive (PROG) suffix can only co-occur ith the Class I Causative *ɪta*- prefix. If the PROG suffix is an aspectual marker, there could be functional reason why it does not occur with -*u*(*n*) inceptive (INCEP) and the ambi-fixed tense/aspect/modality markers PF, IMP, and SUBJ. Regarding the remainder of the morphemes, I have found that the -*ɪ* passive (PASS) and the -*akɪ*/*oki* dative (DAT) in fact can co-occur with PROG.

(30) PROG and PASS:
   è-nǐŋ-ít^ˈó-y
    3-hear-PROG-PASS
     'He is being heard.'

(31) DAT and PROG:
   áà-y-sùj-àk-ìtâ
   3>1-II-wash-DAT-PROG
   'He is washing for me.'

This second example, with PROG and DAT, was not allowed by Il-Keekonyokie Maa speakers, though it was given by an Il-Purko of Kajiado Maa speaker. Where (31) is valid, it necessitates a change in the verb formation rule, as PROG and DAT were given in the same paradigm in Wallace (1981).

It is not clear if the *ɪ-* Class II (II) prefix and reduplication (DUP) were intended to be excluded from co-occurrence with PROG, but they clearly can co-occur with it.

(32) PROG and II:
   á-y-kén-ítò
   1SG-II-close-PROG
   'I am shutting it.'

(33) PROG and DUP[9]:
   í-ø-rrág-ítá-tà
   2-II-lie.down-PROG-DUP
    'You (pl) are lying down.'

So it remains that PROG cannot occur *-ye* instrumental (INST), *-ɪshɔ/isho* antipassive (APAS), and *-a/o* middle (MID)[10].

Wallace's note (b), claims that MID and PASS cannot co-occur, unless accompanied by INST. This does not fit my data at all, as MID and PASS can co-occur without INST.

(34) è-dúŋ-ˈó-y   *'People will cut each other/be cut.'*
    3-cut-MID-PASS

This is in part because the Maa passive is impersonal (Greenberg 1959), with a third person plural unspecified "they/people" subject, so what might appear to be two detransitivizing suffixes do not pose a problem.

Contrary to the rule given in Wallace (1981), MID and INCEP are not in the same paradigm, but can co-occur.

(35) è-bùk-ún-ò-yú   *'It is pourable.'*
   3-pour-VENT-MID-INCEP

Also, APAS and CAUSII are also not in the same paradigm, as they also co-occur.

(36) k-á-y-bá-íshyò-ré   '*I will make him hate.'*
   DSCN-1SG-II-hate-APAS-CAUSII

This concludes my adaptions to Wallace's verb structure in general, leading to the midified verb formation rule given in Figure 1.

5.2. Inflectional Morphology

Other morphemes relevant to the structure of Maa verbs include the bound argument pronouns, which were not included in the rule of Wallace (1981). The paradigm of bound argument pronouns with third person objects is given in (37) – (42), with the verb stem *ybɔr*, 'be white'. The third person singular and plural forms are identical (with prefix *è-*), except in the perfect, which has a tonal difference for plurality. Similarly, the second person forms have the same argument prefix (*ɪ-*), with number of subject only distinguished by reduplication in the plural stem (e.g., (33), above). In contrast, the first person forms have entirely different prefixes for the plural (*kɪ-*) and the singular (*a-*). Other bound argument pronouns compose an inverse system (i.e., *kî-*:3>2>1[11], *áà-*:3>1, and *áa-*:2>1), which is triggered whenever a speech act participant (first or second person singular) is the grammatical object of the clause (see Payne, et al. 1994 for a complete analysis).

Discourse markers (DIS) appear before the bound argument pronouns. The behavior of discourse marker *k-* has been described in Rasmussen and Payne (under review). The discourse marker *n-* has been described in König (1993). Either of these, as well as the negative or subjunctive *m-*, may preceed the bound argument pronouns in the verb form.

5.3. Maa Phonology in General

A few phonological processes that will be relevant to identifying Maa morphology in subsequent chapters will be introduced here.

While the form of the Class II prefix is *ɪ-*, it becomes /n-/ after another *ɪ-* (i.e., /ɪ-/ → /n-/ / ɪ+___).[12] This is shown in the second person singular (38), first person plural (40), and second person plural (41) forms of the following paradigm. This alternation also holds true for 3>2>1 (k*ɪ-*) forms, not given here.

(37) á-y-bórr-ù
    1SG-II-be.white-INCEP
    'I become white' (TM:140)

(38) í-*m*-bórr-ù
    2-*II*-be.white-INCEP
    'You (SG) become white' (inferred, TM:140)

(39) è-y-bórr-ù
    3-II-be.white-INCEP
    'He becomes white' (inferred, TM:140)

(40) kí-*m*-bòrr-ù
    1PL-*II*-be.white-INCEP
    'We become white' (inferred, TM:140)

(41) í-*m*-bórr-ú-rrù
  2-*II*-be.white-INCEP-DUP
  'You (PL) become white' (inferred, TM:140)

(42) è-y-bórr-ù
  3-II-be.white-INCEP
  'They become white' (inferred, TM:140)

    In another process, certain morpheme-final nasals are elided before most

continuants and nasals, i.e., *m, n, ɲ, ŋ, s, r, rr, l, w, ww, y, yy*, and vowels[13] (TM:xv-xvii,

55).[14] The result of this rule can be seen with a nasal in a diferent morpheme (the

feminine form of nouns), where the nasal is elided from the prefix *en-* before continuants

and non-low vowels.

(43) Nasals Retained Before Stops and the Low Vowel
a.	ɛ̀n-àydɔ́rrù	'migration' (TM:242)
b.	ɛ̀m-báɛ̀	'arrow, matter, affair' (TM:245)
c.	en-cán	'rain' c.f. à-shá 'to rain' (TM:246)
d.	ɛ̀n-dáà	'food' (TM:247)
e.	ɛ̀n-gámátá	'gripping' (TM:249)
f.	en-jyán	'swelling' (TM:257)
g.	ɛ̀n-kàɲàrátǐ	'phlegm' (TM:258)
h.	ɛ̀m-pìján	'sharpness, courage' (TM:271)
i.	ɛ̀n-tàánˈí	'nearness' (TM:278)

(44) Nasals Lost (or Merged) Before Continuant Consonants, Nasals and Other Vowels
a.	ɛ̀-ílátá	'fat, dripping' (TM:251)
b.	ɛ̀-léénòrè	'reconnaissance' (TM:262)
c.	ɛ̀-màɲíshɔ̀	'settlement' (TM:263)
d.	ɛ̀-náŋárò	'wrestling' (TM:266)
e.	ɛ̀-ŋámátá	'notch' (TM:267)
f.	ɛ̀-òrét	'broom' (TM:270)
g.	ɛ̀-ráɲátá	'singing, dancing' (TM:273)
h.	ɛ̀-sàánǐ	'plate' (TM:274)
i.	ɛ̀-únótó	'the establishing ceremony for warriors' (TM:280)
j.	ɛ̀-wálátá	'answer' (TM:280)
k.	ɛ̀-yyáŋáré	'slaughter' (TM:281)

These two processes, the nasalization of the high front vowel/glide, and the dropping of the nasal before certain segments, lead to the dropping entirely of the segmental content of the class II morpheme in certain cases, where the bound argument pronoun is either 2, 3>2>1 or 1PL, and when the root begins with a non-continuant consonant, as in (45).

(45) í-ɸ-sʊ̀j   (from *à-y-sʊ́j* 'to wash')
    2-II-wash
  'You (sg) will wash it.'

Note that the class II form in (45) remains tonally distinct from the similar Class I form in (46).

(46) í-sʊ́j
    2-follow
  'You (sg) will follow him.'

5.4. Notes

[1] Wallace (1981) gives the following rule for the Maasai verbal complex (not including bound argument pronouns or discourse markers), adapted to the abbreviations used in this thesis. Following the rule are four notes (a-d) she gives regarding the rule.

Wallace's Verb Generation Rule

$$
V \rightarrow \begin{Bmatrix} II^d \\ (CAUS^a) \begin{pmatrix} \begin{Bmatrix} PF \\ IMP^c \\ SUBJ \end{Bmatrix} \end{pmatrix} \end{Bmatrix} (DUP) BASE \begin{pmatrix} \begin{Bmatrix} VENT \\ AWAY \\ DAT \\ PROG^a \end{Bmatrix} \end{pmatrix} \dots
$$

$$
\dots \begin{pmatrix} \begin{Bmatrix} APAS \\ MID^b \\ INCEP \\ CAUSII^d \end{Bmatrix} \end{pmatrix} \begin{pmatrix} \begin{Bmatrix} PF \\ IMP^c \\ SUBJ \\ FUT \end{Bmatrix} \end{pmatrix} (INST^b)(PASS^{b,c})
$$

(Wallace's) Notes:
a – If PROG is chosen, then only the CAUS prefix also may be chosen.
b – If MID is chosen then PASS may also be chosen only if INST is chosen.
c – If PASS is chosen, then IMP may not also be chosen.
d – The CAUSII suffix is chosen only if the II prefix has also been chosen.

[2] Theoretically up to five, though there are constraints on affix combinations. I don't have examples with more than three suffixes.

[3] This allomorph of MID is found only following AWAY, and the combination is likely more portmanteau (and less analyzable) than my parsing indicates.

[4] See TM:56 for forms of the prefix and suffix, which vary according to quality of root vowel.

[5] Because much of TM's data is presented in paradigms, with a free translation for only one of the listed forms, the free translations of the remaining forms in any paradigm must be inferred.

[6] The gloss "CAUSII.PF" is an attempt to communicate the perfect reading into the morphological parsing. Obviously autosegmental morphemes, such as tone, do not fit in a linear parsing of morphemes like these. The indication ".PF" is given, then, to indicate the non-linear effect of the perfect aspect, and is not meant to imply any particular relationship with the CAUSII suffix.

[7] This double blocking of the PF, etc. prefixes by II, and PF, etc. suffixes by INST/CAUSII, leads to some interesting tonal minimal pairs, given in Appendix E.

[8] While TM do list the Inceptive and their "Extra-Future Tense" separately, p. 141 includes the following text under section 190, The Inceptive: "The present tense is identical in shape, and very similar in function, with the "Extra Future Tense" mentioned in section 68." The distinction is further difficult to accept in that I found the perfect form of the Inceptive given on no root other than the one they gave, which questions the productivity of that supposed paradigm.

[9] Example (33) shows the reduplication of the suffix, not the base, as the base is not reduplicated in forms with suffixes (Rasmussen 1998). If Wallace's intention was to exclude co-occurance of PROG with base reduplication only, then her statement fits my data well, in that *every* suffix (including PROG) excludes base reduplication.

[10] The last two of these suffixes can have aspectual qualities, either habitual (APAS) or stative (MID).

[11] Fuller glosses for the Inverse set of bound argument pronouns follow, though the first two are not included in the bulk of the analysis in Chapter VI. 3>2>1(*kî-*): Third person subject acting on second person singular, or second person subject acting on first person singular; 3>1 (*áà-*): third person subject acting on first person singular; 1>2 (*aa-*): first person singular subject acting on second person singular.

[12] While this rule is well attested, there is no apparent motivation for it, except for the dissimilation of the two morphemes, which would seem ironic in the cases where the nasal is then dropped anyway.

[13] Except /*a*/, and perhaps /*ɔ*/.

[14] These nasals are not elided before *sh* [ʃ] because this segment becomes non-continuant *c* [tʃ] after a set of consonants which includes at least [n] and [l] (TM:55,246). Also, the process before nasals is more likely coalescence than elision, as length not phonemic for Maa nasals, resulting in a single nasal phoneme.

CHAPTER VI

A TONAL SPLIT IN MAA BOUND ARGUMENT PRONOUNS

This chapter now examines the verb tone system in Maa, focusing on the bound argument prefixes. The tone of suffixes, both individually and in combination, are given in appendices, with the full analysis of their lexical tone patterns awaiting another work.

6.1. Overview

Rasmussen (2001) describes and models a tonal split between bound argument prefixes of Maa verbs with (apparently) High and Low tone. Data with the tonal split was given, followed by an analysis showing that the apparent High tone must be lexically unspecified for the first person singular and second person prefixes. This analysis is required because a true lexical High prefix tone in certain verbs would cause downstep, but downstep is not observed in these cases. Rather, the word-initial apparent High tone is spread from the stem tone, while the third person Low is indeed a lexical Low. In some contexts there is neutralization of the tone split; the data were presented and modeled in an analysis for each of the two morphological verb root classes. This chapter will not reproduce that paper in full, but will review the arguments in Rasmussen (2001), placing them in the context of the whole verb tone analysis.

6.2. Discourse Marker *k-*

Previous work on Maa has shown the marker *k-*, which precedes the bound argument pronouns, to bear a lexical High tone (Rasmussen and Payne, under review). This analysis is relevant to the issue of bound argument pronoun tone because in certain cases the tone from *k-* neutralizes the tonal split discussed in this chapter, as in (47)c.

(47)
    a. á-gór-ˈíshó   *'I will strangle.'*
        1SG-strangle-APAS

    b. è-gór-ˈíshó   *'He will strangle.'*
        3-strangle-APAS

    c. k-é-gór-ˈíshó   *'He will strangle.'*
        DSCN-3-strangle-APAS

The tone from *k-* also has the effect of causing downstep when there is only one other tone in the word, because two High tones are adjacent phrase finally $(]_p)$[1], as in (49)b.

(48) <u>Downstep</u>   (Rasmussen and Payne, under review)
    H → !H / H__$]_p$

(49)
    a. á-dúŋ-yé   *'I will use it to cut.'*
        1SG-cut-INST

    b. k-á-dˈúŋ-yé   *'I will use it to cut.'*
        DSCN-1SG-cut-INST

Because of the occasional effects on the tone of the rest of the word, the remainder of the data bearing this morpheme is included only in Appendix D.

6.3. Overview of Argument Pronoun Analysis

A tonal split between first and second persons verb forms, on the one hand, and third person verb forms on the other, has been observed in all three branches (Western, Eastern, and Southern) of the Nilotic languages (Rasmussen, in press).[2] Describing this split in Maa and providing a coherent analysis will be the purpose of this chapter. I first show data that evidences the split. I then show several analyses with lexical forms that might account for the split, and show the superior one to be that which analyzes the apparently High prefixes (e.g., first person singular) to be lexically unspecified for tone. After showing data which evidences a neutralization of this split, I show that the scope of the split does not include two-mora words, though for at least two independent reasons.

For presentation of this argument, I use the term 'morphologically complex' to cover those verb forms which have at least one morpheme which is not a root, bound subject pronoun, or class II prefix (ɪ-). This distiction between morphologically complex and simple (i.e., not complex) will be used to sort the data to see the tone patterns.

6.3.1. The Split, and Neutralization, in Maa

The split seen in several Nilotic languages (Rasmussen in press) is also seen in Maa verb forms, as in (50)–(52):

(50) á-gór-ˈíshó	(51) í-gór-ˈíshó	(52) è-gór-ˈíshó
1SG-strangle-APAS	2-strangle-APAS	3-strangle-APAS
'I strangle.'	*'You(SG) strangle.'*	*'He will strangle.'*

In this data the contrast is seen on the first mora, with surface high on the first person

singular and second person forms, and low on the third person form.

There is some difficulty, however, in seeing this split in the whole system of Maa,

because the simplest forms of almost all verbs neutralize the split. For example, TM:72 gives

the variety of bound argument pronouns for Maa, reproduced here in Table 3. In their table,

first and second person singular, as well as third person are tonally alike.

Table 3: Bound Argument Pronouns with *à-lám* 'to Avoid'

object: subject		him, her, it, them	thee (2SG)	me (1SG)
sing.	1	á-lám	áá-lám	--
	2	í-lám	--	kí-lám
	3	έ-lám	kí-lám	áà-lâm
pl.	1	kì-lâm	kì-lâm ïyíé	--
	2	í-lámílámà	--	kí-lámílámà
	3	έ-lám	kí-lám	áà-lâm

Neutralization of the tonal contrast can be seen in the first, second, and third person singular

forms with third person objects, all of which are High in tone on both syllables. However, the

pattern shown on these forms in Table 3 is not the unmarked tone pattern for Maa verbs

generally, but it is a phonologically conditioned neutralization of a lexical split in tone

between the first and second person singulars and third person bound argument pronouns

(see section 6.6).

The pattern of person marking seen in Table 3 holds true only for simple non-perfect

forms, though in essentially all roots. Recall that the bound argument pronouns do not

distinguish plurality for second and third persons. Notice also that the two rightmost

columns of Table 3 compose an inverse system, as described in Chapter V.

6.3.2. Overview of Tonal Contrasts by Person Marking

Maa verb person marking can be sorted into essentially three groups according to tone. The first has verbs beginning high in pitch, and is the most populous. In addition to the first (*a-*) and second person (*ɪ-*) singular subjects, this first group may also include two other prefixes: 1>2, as in *áá-lám*, which has a second person singular object and first person subject, and 3>2>1, as in *kɪ́-lám*, which has either a second person singular object and a third person subject, or a first person singular object and a second person subject (Payne, et al. 1994). According to available data, verbs with these two prefixes (1>2 and 3>2>1) bear the same tone as those with first or second singular subjects only (i.e., *a-* or *ɪ-*). The second group of person markings begins low, and includes only the third person subject prefix (*ɛ-*). This chapter will primarily present data demonstrating the contrast using first person singular and third person prefixes, only occasionally including data with second person subjects and these inverse prefixes.[3]

 The third category of prefix, which is ignored entirely here, includes the third person acting on first person singular prefix (*áà-lâm*) and the first person plural (*kɪ̀-lâm*)[4], both of which may evenutally be shown to have an initial High-Low tone contrast on the prefix.

 Remember also that in Maa, there are two morphological classes of verbs, with Class II forms distinguished by an obligatory *ɪ-* prefix.

6.3.3. Person Tone vs. Stem Tone

Because this chapter investigates the tonal split in argument prefixes, I take here an admittedly naïve view to the tone in the lexical representations of non-argument verb morphology. I assume that several factors may contribute to the tone of a given word, among them being person, class prefix, root, aspect, mood, and valence morphology. In this chapter, I consider the surface tone to result from either person prefixes, or from some combination of the rest of the morphemes which I refer to as the "stem" for sake of simplicity.   For now I assume that there is a contribution of a non-perfect/indicative High tone for verb forms that have no apparent lexical source of High tone, since every available non-perfect/indicative verb form has at least one High tone in the word, regardless of the stem morphology. I take the "stem tone" to be the portion of the surface form that does not vary between first person singular and third person forms. I use this stem tone as the input for the derivations in this chapter. For example, in (53), the arguments are indicated by the prefixes *a-* (1SG) and *ɛ-* (3), so the non-argument (i.e., stem) morphology includes *yta-bɛl-ɪshɔ*:

(53)

    a.   á-ytá-bɛ́l-ˈíshɔ́. (HHHˈHH)   b.   ɛ̀-ytɛ̀-bɛ́l-ˈíshɔ́. (LLHˈHH)
          1SG-CAUS-break-APAS   3-CAUS-break-APAS
          'I will make people break.'   *'He will make people break.'*

What I call the "stem tone" in this chapter, then, is the word final HˈHH, as the first two morae alternate between HH and LL.

6.4. The Tonal Split: Morphologically Complex Forms

The morphologically complex forms in this section show a split between an initial high pitch for first person singular – and an initial low pitch for third person (again recall that second person singular (57) and inverse prefixes 1>2 (58) and 3>2>1 (59) pattern like first person singular). This contrast is spread over a variable number of initial TBU's: over the first mora only, as in (54); the first two morae, as in (55); or the first several, as in (56).

(54) High/Low contrast on the first mora

a. á-níŋ-ˈíshó.
1SG-hear-APAS
'I can hear.'

b. è-níŋ-ˈíshó.
3-hear-APAS
'He can hear.'

c. á-y-súj-yè.
1SG-II-wash-INST
'I used/will use it to wash it.'

d. è-y-súj-yè.
3-II-wash-INST
'He will use it to wash it.'

e. á-dúŋ-ò.
1SG-cut-MID
'I am cut (in my flesh).'

f. è-dúŋ-ò níɲè/níncè.
3-cut-mid him/them.NOM
'He/they is/are cut.' (or each other)

g. á-ytó-nǐŋ.
1SG-CAUS-cut
'I will make him hear it.'

h. è-ytó-nǐŋ.
3-CAUS-cut
'He will make him hear it.'

(55) High/Low contrast on the first two morae

a. á-dúŋ-ókǐ.
1SG-cut-DAT
'I will cut for him.'

b. è̀-dùŋ-ókǐ.
3-cut-DAT
'He will cut it for him.'

c. á-ytá-gól-ˈókí.
1SG-CAUS-be.strong-DAT
'I will make it strong for him.'

d. è-ytà-gól-ˈókí.
3-CAUS-be.strong-DAT
'She will make it strong for him.'

e. á-y-dóŋ-ókïŋ-yé. or
   á-y-dóŋ-ókíɲ-yè.
   1SG-II-beat-DAT-INST
   'I will use it to pound for him.'

f. è-y-dòŋ-ókïŋ-yé. or
   è-y-dòŋ-òkíɲ-yè.
   3-II-beat-DAT-INST
   'She will use it to pound for him.'

g. á-dúŋ-yé.
   1SG-cut-INST
   'I will use it to cut.'

h. è-dùŋ-yé.
   3-cut-INST
   'He will use it to cut.'

i. á-ár-ʊ́   èn-kítéŋ
                   àjï.
   1SG-beat-VENT   FSG-cow
                   house
   *'I will beat the cow into the
   house.'*

j. è-àr-ʊ́.
   3-beat-VENT
   'He will bargain.'

(56) High/Low contrast on the first several morae (non-perfect minimal pairs
     unavailable)

a. á-ytɔ́-rɔ́k-ák˺á.
   1SG-CAUS-be.black-DAT.PF
   'I made it black for him.'

b. è-ytɔ̀-rɔ̀k-ák˺á.
   3-CAUS-be.black-DAT.PF
   'He made it black for him.'

c. á-tá-dám-ísh˺é.
   1SG-PF-think-APAS.PF
   'I thought.'

d. è-tà-dàm-ísh˺é.
   3-PF-think-APAS.PF
   'He thought.'

e. á-tá-gór-ókín-è.
   1SG-PF-strangle-DAT-MID.PF
   'I became angry at him.'

f. è-tà-gòr-òkín-è.
   3-PF-strangle-DAT-MID.PF
   'He became angry at him/her.'

In (54) – (56), the members of each pair (e.g., (54)a and (54)b) are segmentally

minimally different for the bound argument pronoun. The column on the left has first person

singular subject forms, and the column on the right has the third person subject forms. The

contrast in tone, however, may extend beyond the mora of the bound argument prefix. The

tonal contrast can spread to the second mora, either the root (e.g., (55)a and (55)b) or another

prefix (e.g., (53)a and (53)b). The contrast can spread as far as the third or fourth mora,

covering at least a prefix and the root (e.g., (56)a and (56)b), potentially including even a

suffix mora (e.g., (56)e and (56)e). The spreading of a single tone over (potentially) several TBU is strongly implied, since the tonal split can extend over several morae, though the two forms differ only by the single mono-moraic argument morpheme.

It should be noted that (54)–(56) include a large variety of verbal affix combinations. In fact, this tonal split holds true for all non-perfect morphologically complex verb forms. (The split also holds for most perfect verb forms, c.f. (56), but a complete description of the perfect aspect is beyond the scope of this thesis.) The only verb forms in the non-perfect aspect that do not show this split are certain morphologically simple forms, such as those shown in Table 3, which will be dealt with in section 6.6 of this chapter. For the remainder of this paper, the tone split in (54)–(56) between first singular and third persons will be referred to as the "High/Low" split.

As mentioned earlier, the above split is likely between third person and several argument prefixes, rather that just the first person singular. The following data shows the same pattern for the bound argument prefixes other than the first person singular prefix:

(57) 2SG

a. í-níŋ-ókǐ
   2-listen-DAT
   'You will agree with him.'

b. è-nǐŋ-ókǐ
   3-listen-DAT
   'He will agree with him.'

c. í-ntɔ́-ɲɔ̀rr
   2-CAUS-love
   'You will make him love it.'

d. ɛ̀-ytɔ́-ɲɔ̀rr
   3-CAUS-love
   'He makes him love it.'

(58) 1>2

a. áá-tá-gór-ókín-è
   1>2-PF-strangle-DAT-MID.PF
   'I became angry at you(SG).'

b. è-tà-gòr-òkín-è
   3-PF-strangle-DAT-MID.PF
   'He became angry at him/her.'

c. k-áá-ytá-gòr
DSCN-1>2-CAUS-strangle
'I will make you angry.'

d. è-ytá-gòr
3-CAUS-strangle
'He will make him angry.'

(59) 3>2>1

a. kí-dúŋ-ókɪ̀
3>2>1-cut-DAT
'You(SG) will cut for me.' or
'He/she will cut for you.'

b. è-dùŋ-ókɪ̀
3-cut-DAT
'He will cut it for him.'

c. kí-n-túk-ù
3>2>1-II-wash-VENT
'He will wash you.' or
'You(SG) will wash me.'

d. è-y-túk-ù
3>2>1-II-wash-VENT
'He will wash it.'

The data in (57)–(59), while not conclusive, does point toward including these

other bound argument prefixes in the analyis presented in this chapter.

6.5. Possible Analyses of the High/Low Split

The preceding section showed that the Maa bound argument pronouns evidence a

High/Low split. The question then arises as to the nature of that split lexically. Is there a

High tone on the first singular prefix and a Low tone on the third person prefix in the

lexicon? Or is the contrast based on more complex lexical representations (e.g., HL for

1SG vs. H for 3, H for 1SG vs. LH for 3, etc.) or more simple (e.g., H for 1SG vs. ø for

3)? In this section I outline three main analyses that might be proposed to account for the

contrast between first person singular and third person argument forms. These three

analyses consider the contrast to be between 1) two fully specified lexical tones on the

prefixes; 2) lexical High tone on the first singular prefix vs. the third person tone

underspecified and supplied by rule; and 3) lexical Low tone on the third person prefix

vs. the first person singular tone underspecified. The following sections will lay out

these possibilities, and explore their implications, showing the third to be the superior

analysis.

Because the High/Low split is neutralized in all short forms (section 6.7), and

because I have very few morphologically simple long forms, the following sections will

show derivations with morphologically complex forms, though with only one

derivational affix. The lexical entries given in the first step of the derivations (e.g., (61)a

and e) show lexical forms before the application of certain phonological rules, such as

vowel harmony (which includes /a/ $\rightarrow$ /o/ allomorphy for +ATR environments) and

word-final affixal consonant loss (Levergood 1987 and Wallace 1981, 1983).

6.5.1. Full Specification Analysis

The full specification analysis assumes that the underlying representations for

both first person singular and third person bear a tone which is fully specified in the

lexical form of the prefix, as in (60):

(60) Lexical entries for bound argument prefixes (full specification analysis)

    H   L

     a-   ɛ-

   1SG   3

This would lead to a derivation like (61), which compares (55)a with (55)b (recall

from Chapter IV that association and spreading appear to proceed from right to left in

Maa and that Class I verb roots are assumed to be toneless)[5]:

(61) Full specification analysis of (55)a and (55)b: 'I/He will cut for him.'

a.
```
H            H  L      (lexical entries)
a-   duŋ    -akɪ(n)
1SG  cut     DAT
```

e.
```
L            H  L
ɛ-   duŋ    -akɪ(n)
3    cut     DAT
```

b.
```
H            H  L      (association:RtoL)
 \            | /
a-   duŋ    -oki
1SG  cut     DAT
```

f.
```
L            H  L
 \            | /
e-   duŋ    -oki
3    cut     DAT
```

c.
```
H            H  L      (spreading:RtoL)
 ⋮ \          | /
a-   duŋ    -okí
1SG  cut     DAT
```

g.
```
L            H  L
 ⋮ \          | /
e-   duŋ    -oki
3    cut     DAT
```

d.   á-dúŋ-ókǐ.   (surface forms)

h.   è-dùŋ-ókǐ.

'I will cut for him.'   'He will cut for him.'

The primary difficulty of the full specification analysis is that for some first person singular forms it would predict downstep, when downstep does not actually occur in the surface form. Recall that downstep in Maa operates when adjacent High tones are phrase final (48). There is no problem where the adjacent High tones are not word-final, because the High tones would never be in the phrase-final environment. Word-finally, however, one would expect downstep if a High tone from the first person were adjacent to the High tone of the stem, as in *(62)c; but no downstep occurrs in the correct form (*á-dúŋ-yé*).

(62) Derivations with instrumental suffix: '*I/He will use it to cut.*'

a.
```
H               H        (Lexical entries)
   a-    duŋ    -ye(k)
  1SG    cut    INST
```

e.
```
L               H
   ɛ-    duŋ    -ye(k)
   3     cut    INST
```

b.
```
H               H        (association:RtoL)
  a-    duŋ    -ye
 1SG    cut    INST
```

f.
```
L               H
  e-    duŋ    -ye
  3     cut    INST
```

c.
```
H               H
  a-    duŋ    -ye        (spreading:RtoL)
 1SG    cut    INST
  *
```

g.
```
L               H
  e-    duŋ    -ye
  3     cut    INST
```

(downstep)

d.   *á-dúŋ-ˈyé.   (surface forms)   h.   è-dùŋ-yé.

'*I will use it to cut.*'   '*He will use it to cut.*'
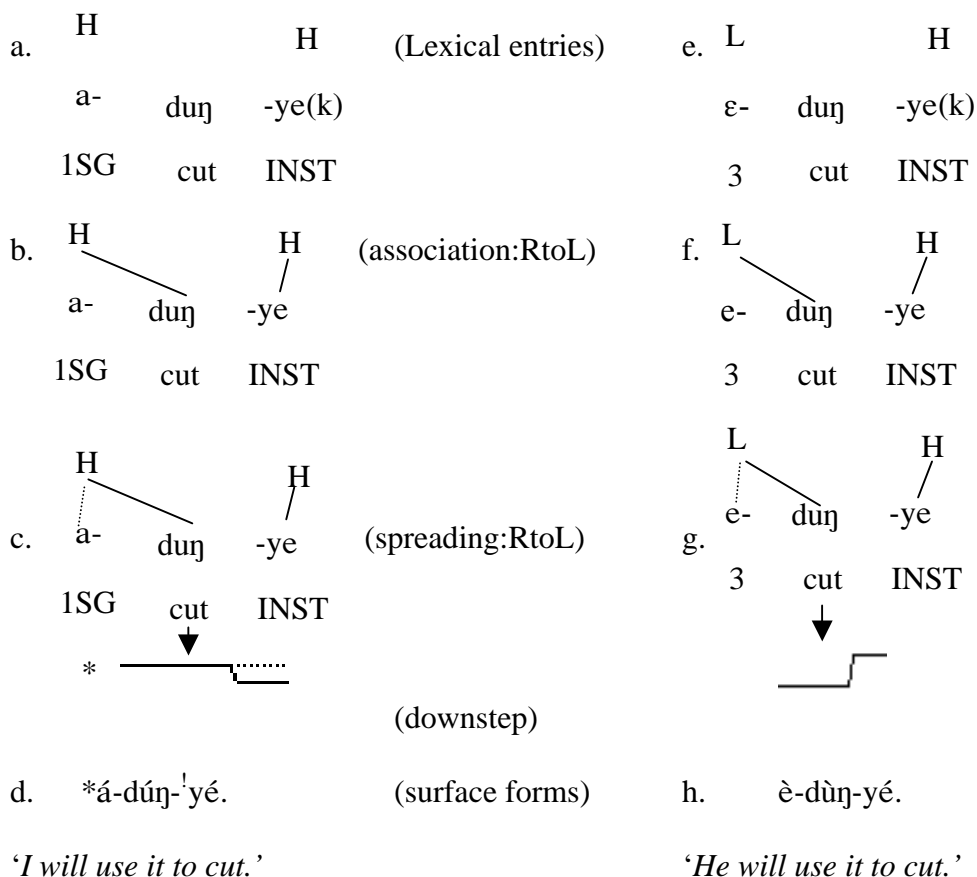
The instrumental suffix is hypothesized to have a High tone due to the final High third person tone pattern, as in (55)h. Thus, in (62)c, the High tone from the instrumental suffix would be adjacent to the High tone from first person singular bound argument pronoun, as well as word final, causing downstep. However, the correct first person singular form, given in (47)a, does not have downstep, but is High and level in tone.

The ventive suffix, as in (55)i and (55)j, would require an analysis tonally identical to that given in the (62) for the instrumental. Both morphemes have a single High tone in the third person forms, and both have a high and level pitch, without downstep, in the first person forms. If the first person singular prefix adds any lexical

tone to the word tone pattern, then the high and level pitch on the first person singular

form would be taken to be at least as complex tonally as the low-high pattern of the third

person form. Given that the first person forms in (47)a and (55)i have fewer surface tonal

contrasts than the third person forms in (55)h and (55)j, it is perhaps simpler to admit the

lack of lexical tone on the first person singular bound argument pronoun. Given these

instrumental and ventive data, the full specification analysis cannot work. The only way

to make such an analysis work would require a rule merging the adjacent High tones in

phrase-final position, but such a rule is not otherwise needed and would undermine the

understanding of downstep in Maa presented in Rasmussen and Payne (under review).

6.5.2. Third Person Underspecification with Default Low

Stevick (1969) has argued that proto-Bantu should be described as a one-tone

language, with TBU's not associated to such a tone 'normal' in pitch, rather than Low in

tone. This underspecification analysis allows for a simpler description of a language that

doesn't require two independent lexical tones to explain its pitch contrasts. This thesis

has been put forth for particular Bantu languages, e.g., Chichewa (Meyers 1998), and has

been proposed in a more limited form, positing a 'default' tone in certain cases, as

opposed to across the whole tone system. A default tone has phonological validity, but is

added by rule, rather than being lexically specified (Clark 1989, Pulleyblank 1986,

Snider 1999).

A 'third person underspecification' analysis could be proposed for Maa. Such an

analysis would assume a similar tone geometry for Maa as proposed for at least certain

Bantu languages, with the third person bound argument pronoun (ε-) lexically

unspecified for tone and the Low tone supplied by a default tone rule. The lexical

representations of the prefixes would be as in (63), leading to a derivation something like

either (64) or (65).

(63) Lexical Entries for Bound Argument Prefixes (Third Person Underspecification
   Analysis)

   H

   a- ε-

   1SG   3

As the following derivations show, the need for both a default Low assignment rule and

spreading causes a conflict. The derivation in (64) assumes ordering of spreading before

default tone association:

(64) Third Person Underspecification Analysis of 'I/He Will Cut for Him.' (Spreading
   Before Default Low Tone Assignment)

   a.   H   H L   (lexical entries)   f.   H L

        a-   duŋ   -akɪ(n) ε-   duŋ   -akɪ(n)

        1SG   cut   DAT   3   cut   DAT

   b.   H   H L   (association:RtoL)   g.   H L

        a-   duŋ   -oki   e-   duŋ   -oki

        1SG   cut   DAT   3   cut   DAT

c.
```
H                H  L          (spreading:RtoL)      h.                        H  L
|                |  /                                                          |  /
a-      duŋ     -oki                                       e-    duŋ      -oki
1SG      cut     DAT                                        3     cut      DAT
```

d. N.A.—No empty TBU's   (default assignment)   i. N.A.—No empty TBU's

   á-dúŋ-óki̋.   (surface form)   *é-dúŋ-óki̋.

'I will cut for him.'   'He will cut for him.'

This derivation gives the correct form for the first person, but not for the third person

form, since spreading occurs before the default Low tone is assigned.

   The third person form can be derived correctly by reversing the order of default

tone assignment and spreading, giving the derivation in (65):

(65) Third Person Underspecification Analysis of 'I/He Will Cut for Him.' (Default
   Assignment Before Spreading)

a.
```
H                H  L          (lexical entries)      e.                        H  L
|                |  /                                                          |  /
a-      duŋ     -akɪ(n)                                   ɛ-    duŋ      -akɪ(n)
1SG      cut     DAT                                        3     cut      DAT
```

b.
```
H                H  L          (association:RtoL)     f.                        H  L
|                |  /                                                          |  /
a-      duŋ     -oki                                       e-    duŋ      -oki
1SG      cut     DAT                                        3     cut      DAT
```

c.
```
    L  H        H  L
    |  |\        |  /
    |  | \       | /
    a-   duŋ    -oki

  1SG   cut    DAT
```
(default assignment)

g.
```
    L  L        H  L
    |  |\        |  /
    |  | \       | /
    e-   duŋ    -oki

   3    cut    DAT
```

d. N.A.—No empty TBU's   (spreading:RtoL)

    *à-dúŋ-ókĭ.   (surface form)

    'I will cut for him.'

h. N.A.—No empty TBU's

    è-dùŋ-ókĭ.

    'He will cut for him.'

With this ordering the third person form is correct, but the first person form is not, because an empty TBU was available for a default tone to be assigned in (65)c. This default tone assignment then doesn't allow the spreading of the High onto the leftmost TBU in (65)d, leaving the initial TBU incorrectly Low.

The problem for the default Low analysis is that the spreading rule and the default assignment rule use the same input (an unassociated TBU), but the two rules need to operate in different cases. For the first person forms, the correct surface form can only be achieved by ordering spreading first, leaving no unassociated TBU's for default tone assignment. The third person forms, however, would need the opposite ordering, with the default Low tone assigned before the suffix tone spread onto the empty TBU's.

We now turn to a third analysis, which also uses underspecification, but assumes no default tone assignment.

6.5.3. First Person Singular Underspecification (with Spreading)

A third possibile analysis would have the tone of the first person singular prefix unspecified, assuming lexical representations as in (66).

(66) Lexical entries for bound argument prefixes (High underspecification analysis)

```
        L

   a-    ε-

  1SG    3
```

Under this analysis, the High tone in the first person singular forms (54)–(56) doesn't come from the prefix, but is spread from the stem. For third person forms, the Low tone from the prefix associates after the stem tones (67)f, and spreads to empty TBU's on its left (because it is the last tone on the left – (67)g). The association of the Low tone from the third person prefix blocks the spreading from any suffixal High's, which associated further to the right. For the first person singular forms, there is no prefix tone, so the suffix High tone is the leftmost, which then spreads to the empty TBU's on its left, as shown in (67)c:

(67) High Underspecification analysis of 'I/He will cut for him.'

a.   H L   (lexical entries)   e. L   H L

   a-   duŋ   -akɪ(n)   ε-   duŋ   -akɪ(n)

   1SG   cut   DAT   3   cut   DAT

b.   H L   (association:RtoL)   f. L   H L

   a-   duŋ   -oki   e-   duŋ   -oki

   1SG   cut   DAT   3   cut   DAT

c.   H L   (spreading:RtoL)   g.   L   H L

      a-   dúŋ   -oki   è-   dùŋ   -oki

       1SG   cut   DAT   3   cut   DAT

d.   á-dúŋ-ókǐ.   (surface forms)   h.   è-dùŋ-ókǐ.

    'I will cut for him.'   'He will cut for him.'

According to this analysis, the suffixal High spreads to the beginning of the word in the first person singular form, while the association of the prefixal Low tone in (64)f blocks spreading of the suffixal High tone in the third person form. It produces the correct forms for both first person singular and third person, and doesn't cause conflicts with other aspects of the analysis, unlike the full specification analysis (section 6.5.1).

Given the data in (54)–(56), the best analysis for the alternation between first person singular and third person forms is underspecification of the first person singular prefix, as exemplified in this section. The initial High tone seen on the first person argument prefix is spread from the suffix leftward to the beginning of the word.

6.6. The Exception: Morphologically Simple Forms

The preceeding sections have shown data which evidence a tonal split between Maa bound argument pronouns. In this section, data which evidences a neutralization of that split is shown, beginning with morphologically simple forms.

While Maa verbs may take a large amount of morphology, e.g., (54)–(56), they are minimally composed of a root preceded by a bound argument pronoun, which may

compose an entire clause, as in (68)–(76). Here I use the term 'morphologically simple'

to refer to those inflected forms with only an argument pronoun and an unanalyzable

stem, including the Class II prefix *i-* for Class II roots (though these stems may be argued

to contain some default or unmarked aspect value).

'High and Level' Tone Patterns (Class I Roots)

(68) á-ló.   (71) í-ló.   (74) é-ló.
   1SG-go   2-go   3-go
   'I will go.'   *'You.SG will go.'*   *'He will go.'*

(69) á-ɲɔ́rr.   (72) í-ɲɔ́rr.   (75) ɛ́-ɲɔ́rr.
   1SG-love   2-love   3-love
   'I love (him).'   *'You.SG love it.'*   *'They/he/she loves.'*

(70) á-bík.   (73) í-bík.   (76) é-bík.
   1SG-stay   2-stay   3-stay
   'I will stay here.'   *'Will you stay here?'*   *'He will stay.'*

Unlike the data in sections 6.4 and 6.5, i.e., (54)–(59), the tone in (68)–(76) is the

same for all listed word forms, regardless of which bound argument pronoun is prefixed

to the stem. This high and level tone pattern is seen with these bound argument pronouns

on all morphologically simple Class I verb forms, except for nine forms given in (92),

below, which I address in section 6.7.1. The same tone patterns across the forms in (68)–

(76) might imply an hypothesis that the bound arguments are tonally identical (though

the data in section 6.4 clearly contradict it):

(77) <u>Splitless Analysis</u>
   The first person singular, second person, and third person bound argument prefixes
   bear an identical (probably High) lexical tone.

This analysis would also account for the morphologically simple class II forms in

(78)–(85), where the tone pattern is again the same for all word forms given, regardless

of bound argument pronoun. Here, however, the tone pattern is High-Low, as
class II stems are involved, rather than the high and level tone pattern for short
morphologically simple verbs with Class I stems. The second person forms in (81) and
(82) show the regular phonological rules discussed in Chapter V, dissimilating
bimorphemic high front vowels and dropping a nasal before a sibilant, etc.

High-Low Tone Patterns (Class II Roots)

(78) á-y-kèn.
   1SG-II-shut
   'I will shut it.'

(79) á-y-sùj.
   1SG-II-wash
   'I will wash it.'

(80) k-á-y-bèl.
   DSCN-1SG-II-rock
   *'I will rock from
   side to side.'*

(81) í-n-kèn.
   2-II-shut
   *'You.SG will
   shut it.'*

(82) í-ø-sùj.
   2-II-wash
   *'You.SG will
   wash it.'*

(83) é-y-kèn.
   3-II-shut
   'He will close it.'

(84) ɛ́-y-sùj.
   3-II-wash
   'They/he/she will wash it.'

(85) (k)é-y-bèl.
   3-II-rock
   *'He will rock from side to
   side.'*

The data in (78)–(85), by itself, could be accounted for with the Splitless
Analysis, along with the assumption that Class II stems, either in the Class II prefix or the
root, bear a lexical Low tone. The data in (86)–(89) suggest that this analysis works
regardless of root shape: CVC, CV, or VC:

(86) First person singular subjects
   with Class I roots
   a. á-bɔ́l. *'I hold/twist the cow's
      mouth.'*
   b. á-tɔ́n. *'I will stay/sit here.'*
   c. á-ár ɛn-kítéŋ. *'I will beat the
      cow.'*
   d. á-yá in-kírí. *'I will take the
      meat.'*

(87) Third person subjects with
   Class I roots
   a. ɛ́-bɔ́l. *'He will open the cow's
      mouth.'*
   b. ɛ́-tɔ́n. *'He will sit.'*
   c. ɛ́-ár. *'He beats / kills it.'*
   d. ɛ́-yá ɛn-gárrí. *'The car will take it.'*

(88) First person singular subjects
 with Class II roots
 a. á-y-gìs. *'I will jump.'*
 b. á-y-kàsh. *'I am better than
    him.'*

(89) Third person subjects with
 Class II roots
 a. ɛ́-y-gìs. *'He will jump'*
 b. ɛ́-y-kàsh. *'He is better than him.'*

As mentioned earlier, the data in (68)–(76) vs. (78)–(85) show a tonal distinction between Class I and Class II verb roots in the morphologically simple derivation, which also holds for the data in (86)–(89). So, the Splitless Analysis (77) could account for the morphologically simple forms in (68)–(89). But with addition of any other morphology on a verb, the Splitless Analysis fails. All of the morphological combinations given in section 6.4 showed a tonal contrast between first person singular and third person. Because the pairs of verbs that are minimally different for subject are also minimally different for tone, an hypothesis that first singular, second person, and third person are tonally identical is untenable.

Given, then, that the Splitless Analysis cannot account for the tonal split observed in section 6.4, the next section will resolve these two bodies of data into a single analysis by showing how the split observed in section 6.4 is neutralized in the data in (68)–(89).

6.7. Resolving the Split and Neutralized Data

In this section, I propose that the High/Low tone split from section 6.4 is a lexical tonal contrast, according to the analysis in section 6.5. That lexical contrast is neutralized in a specific environment, as found in both the high and level Class I and high-low Class II tone patterns of (68)–(89).

It has already been stated that the forms in (68)–(89) are morphologically simpler than those in (54)–(56); it should be noted that the forms in (68)–(89) are also entirely words with only two morae. Either length or morphological complexity might prove useful in understanding a morphophonemically conditioned split. But I show that the number of morae, rather than morphological simplicity, conditions the difference between the forms with the split, i.e., (54)–(56), and those without it, i.e., (68)–(89).

For reasons that will become clear, I address Class I and Class II roots independently. Section 6.7.1 considers a rule to account for the neutralization seen with Class I roots, making the initial assumption of length as the conditioning environment. Section 6.7.1.1 gives nine roots that are lexical exceptions to that rule, which also show the High/Low split. Section 6.7.1.2 presents further data which show that length, and not morphological simplicity, is the conditioning environment for neutralization. Neutralization in verbs with Class II roots is treated in section 6.7.2.

6.7.1. Class I Roots

One could hypothesize that the first person singular and second person forms in (68)–(73) work the same as the first person singular forms in (54)–(56), with the first person singular prefix associated to a stem High in all cases. The simple third person forms in (74)–(76) could then be accounted for by assuming the third person prefix is lexically Low, which would account for the third person forms in (54)–(56), with the following delinking and spreading rule. This is shown with the data from (74):

(90) Two-mora High Spread (TMHS)[6]

L H
ǂ| / #__#
V V
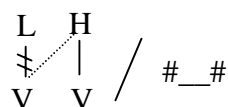
e.g., /èló/ → [éló]   'He will go.'

This rule claims that a High tone delinks a Low tone on a preceding vowel, and is

conditioned to apply when the only morae in the word are those two morae that are

involved in the rule. The phonetic motivation for this rule might be related to the

difficulty of raising the pitch over a period as short as two morae, which is not a problem

for longer words (Section 6.7.1.2).

      Given these assumptions, then, TMHS (90) accounts for the neutralization of the

split on the verb forms in (68)–(76) according to the derivations in (91). The tone

associates and spreads normally (i.e., right to left) onto the first person argument prefix,

which is lexically unspecified for tone. In the third person form, on the other hand, the

stem High tone delinks the prefixal Low tone, giving a high and level tone pattern. The

underlying forms are given according to the assumptions laid out in section 6.5.3, with

the High tone coming from aspect/mood.

(91) Derivation of TMHS neutralization of tone patterns ('I/He will go.')

a.	H	(lexical forms)	f.	L H
	a- lo			ɛ- lo
	1SG go			3 go
b.	H	(association:RtoL)	g.	L H
	a- lo			e- lo
	1SG go			3 go
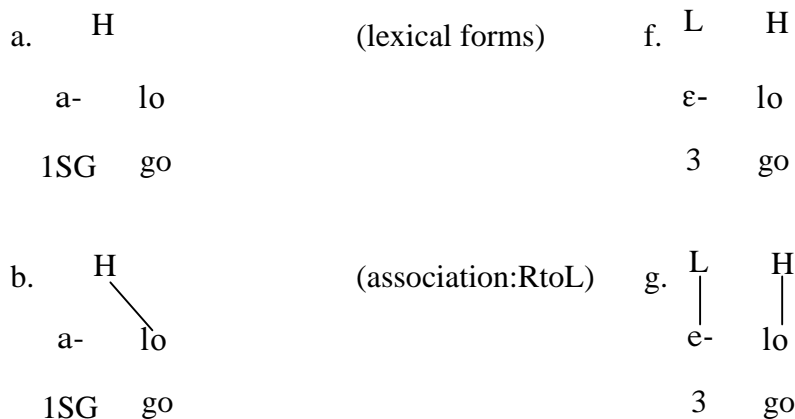
c.   H   (spreading:RtoL)   h. —no empty TBU's—
     ⁄⁀⟍
   a-   lo

    1SG   go

d.   —no application—   (TMHS)   i. L   H
                                          ǂ⟍ |
                                          e-   lo

                                           3   go

e.   H   (surface forms)   j.   H
     ⁄⟍   ⁄⟍
   a-   lo   e-   lo

    1SG   go   3   go

     á-ló   é-ló

    'I will go.'   'He will go.'

6.7.1.1. Lexical Exceptions to TMHS (90)

TMHS (90) predicts that there will not be a Low-High tone pattern on any 2-mora

verb. It should be noted, however, that there are at least a few verbs that do not undergo

this rule[7], and are pronounced low-high over only two morae. I exhaustively list those

that I have found here:

(92) Lexical exceptions to Two-mora High Spread
  a. è-dɔ́.   *'It is red.'*
  b. è-dwá.   *'He is bitter.'*
  c. è-gól ɔ̀-sòít.   *'The stone is hard.'*
  d. è-ykó.   *'He will do that.'*
  e. ɛ̀-yrɔ́.   *'He will speak.'*
  f. è-yshú.   *'He is alive.'*

g. è-ó ɔ̀l-máysùrí láy.   *'My banana has already ripened.' / 'My banana is ready.'*

h. è-pír ̀ɪn-tárè ínònó.   *'Your sheep are fat.'*

i. è-shá.   *'It will rain.' / 'It rains.'*

With any additional morphology, however, the roots in these verbs behave tonally like other Maa verb roots, e.g., (55)c and (55)d for *gol* 'be hard, strong, expensive' (92)c with the Class I causative (CAUS) and dative (DAT), repeated here as (93)a and b.

(93)

a. á-ytá-gól-ˈókí.
   1SG-CAUS-be.strong-DAT
   'I will make it strong for him.'

b. è-ytà-gól-ˈókí.
   3-CAUS-be.strong-DAT
   'She will make it strong for him.'

If the roots in (92) bore different lexical tone from other roots, one would expect to see the impact of that lexical tone contrast throughout the derivations involving that root, or at least in several derivations. These roots, however, are only exceptions in the simplest form, given in (92). This lack of further exceptionality suggests that they are lexically marked to disallow Two-mora High Spread (90), rather than being lexically distinct from other roots for tone. If these roots were taken to be tonally distinct in the lexicon, then one would have serious questions about the nature of these supposed derivations, and wether or not they are at all related to the tone of the individual morphemes in any given verb.[8]

Further, the first person singular inflections for the verbs in (92) are High and level in (94), like the simple first person singular forms with all other roots–c.f., (68)–(70).

(94) First person singular forms
    a.   á-gól.   *'I am strong.'*
    b.   á-yshú.   *'I am alive.'*
    c.   á-pír.   *'I am fat.'*

This means that the tonal distinction for these roots only affects the third person inflection, as the verbs in the first person singular inflection are tonally identical to verbs with other roots. Also, the forms in (92) and (94) show the same High/Low tonal split seen in (54)–(56).

The 'exceptions' to Two-mora High Spread in (92) are thus further evidence for a regular High/Low split between first person singular and third person. These roots, being excepted from the neutralization in (90), have the same argument prefix split as do the forms in (54)–(56). In other words, the forms in (92) are exceptions to Two-mora High Spread (90), but fall into the regular High/Low pattern, as in (54)–(56). This confirms that there really is just one pattern of High/Low split for 1SG vs. 3 subjects, and that there is a specific rule (90), with a specific phonological context (two morae), with specific lexical exceptions (92), that accounts for all exceptions to that split.

6.7.1.2. Longer Roots

TMHS (90) claims that length alone, and not morphological simplicity, is the environment that conditions the neutralization of argument prefixes in verbs with Class I stems. This is difficult to test with the available data, since most Maa verb roots in the available data have a (*ɩ*)CVC structure, and few are longer – so morphological simplicity and short length generally go together. To conclusively prove the environmnent for

TMHS (90), we need (a) verb forms which are longer than two morae, yet morphologically simple, as well as (b) verb forms that are only two morae, yet morphologically complex. If we find both (a) and (b), we might expect only one of them to neutralize the split, and which one does would indicate the correct environment for TMHS (90).

While there are not many (b) verb forms (short but complex), there are a few (a) verb forms which are longer but not apparently more complex, as shown in (95). Those familiar with Nilotic morphology may question the morphological simplicity of some of these pairs, such as c/d, which may historically have the ventive *-ʊ*, and e/f, which looks like it has the middle, though it has a different tone pattern from the normal middle form (which is High-Low on the final two morae– as in (54)e and f). At least a/b, g/h, and i/j however, have no apparent synchronic or diachronic analysis:

(95) Longer morphologically simple Class I forms:

a.	á-ádɔ́.	b.	ɛ̀-àdɔ́.
	1SG-be.tall		3-be.tall
	'I am tall.'		*'He is/they are tall.'*
c.	á-dámʊ́.	d.	ɛ̀-dàmʊ́.
	1SG-remember		3-remember
	'I remember.'		*'They/he/she remembers.'*
e.	á-lálá.	f.	ɛ̀-làlá.
	1SG-be.wide		3-be.wide
	'I am wide.'		*'It is wide.'*
g.	á-mʊ́rát.	h.	ɛ̀-mʊ̀rát.
	1SG-circumcise		3-circumcise
	'I will circumcise him.'		*'He will circumcise him.'*

i. á-rrúgúm.   j. è-rrùgúm.
   1SG-vomit   3-vomit
   'I will make him vomit.'   *'He will make him vomit.'*

As (90) predicts, the high and level pattern in (68)–(76) breaks down for longer Class I roots, as seen in b, d, f, h, and j. The tone pattern for longer simple third person forms is Low initially, then High on the final mora, while the first person forms are High and level. In fact, these longer roots show the same High/Low split found in (54)–(56), only here on morphologically simple roots. Since these roots have no evidence of morphological complexity and do not undergo neutralization, it cannot be maintained that morphological simplicity is the conditioning factor for the neutralization in (68)–(76).

In sum, the fact that the data in (95) show the same High/Low split as in (54)–(56) indicates that it is not morphological simplicity, but length, which is the environment that conditions the high and level neutralization in (68)–(76), and that there is, again, a single High/Low split pattern.

To establish length as the conditioning factor in (90) the only question left concerns the presence of (b) verbs: two-mora morphologically complex forms. Do these forms show neutralization of the split? The following data is at least diachronically morphologically complex, though the synchronic complexity is uncertain. But it is the only minimal pair of verbs avaliable with both no more than two morae and also (potentially) morphologically complex:

(96)
   a. á-bá-w.   b. é-bá-w.
     1SG-reach-VENT   3-reach-VENT
     'I will arrive.'   *'He will arrive.'*

The data in (96) show the neutralization of the High/Low split, unlike the ventive data in (55)i and j, which has a Low-High contrast in the third person form. This neutralization of the expected contrast may provide evidence that morphological simplicity does not condition the neutralization of that split. It is not clear, however, whether what is clearly the ventive morpheme diachronically is synchronically distinct from the root, or if they have become lexicalized into a single morpheme. Unfortunately other short but complex forms are unavaliable at this time.

The data in (95), then, show that with more than two morae, morphologically simple verbs with Class I stems do not show neutralization, but rather the High/Low split. It is not entirely clear yet, but there is some evidence in (96), that morphological simplicity is not required for neutralization of the High/Low split. So verbs with only two morae exibit neutralization of the High/Low split, with or without morphological simplicity, and verbs with more than two morae do not. Thus length, and not morphological complexity, is established as the conditioning factor for TMHS (90).

6.7.2. Class II Roots

Section 6.7.1 showed that the 'splitless' tone pattern for Class I roots in (68)–(76) can be seen as a neutralization of the High/Low split, conditioned by length. Similarly, the high-low simple Class II pitch pattern in (78)–(85) can be seen as a neutralization conditioned by length, though in a slightly different manner. Rather than a lexical phonological rule that eliminates the split, this neutralization would be the result of the association of one tone to each TBU.

Looking at the stem tones (i.e., those that don't alternate for argument prefix -- recall section 6.3.3) in the data so far presented, one notices a fairly limited set of patterns. Depending on the derivation of the stem, the stem has a certain number of tones: either one (e.g., (55)g vs. (55)h), two (e.g., (54)e vs. (54)f), or three (e.g., (55)c vs. (55)d). These tones associate right to left, filling TBU's including the ultimate, penultimate, and antepenultimate, respectively. Assuming stem tones, being on the right, associate before argument tones, which are on the left, the number of stem tones will determine where the argument tones associate.

According to this way of looking at the data, the simple Class I roots (section 6.7.1) have one stem tone, so the High tone spreads from the ultimate mora in the first person singular forms, leftward to the beginning of the word. The third person Low tone, and thus the split in argument prefix tone, is realized on the penultimate mora, as in (95). The penultimate mora is also the first mora on two mora words (92), though this is neutralized in most forms by TMHS (90), as in (68)–(76).

Class II roots, on the other hand, have two stem tones, so these tones associate with the ultimate and penultimate TBU's (78)–(85). Because the stem tones completely fill the TBU's, the third person argument prefix Low tone cannot associate (and is presumably deleted), so the High/Low split does not surface. The derivations are given in (97):

(97) Analysis of simple Class II neutralization

	H L			L H L
	a-ygɪs			ε-ygɪs
	1SG-jump			3-jump
a.		Lexical entries:	d.	

```
        H  L                                    L  H  L
        /  |                                    /  |
      a-ygɪs                                  ɛ-ygɪs
      1SG-jump                                3-jump
  b.                      Association:RtoL   h.
  c.  –no empty TBU's–    Spreading:RtoL     i. –no empty TBU's–
  d.     áygɪ̀s            Surface form       j.    éygɪ̀s
```

With longer words, however, the antepenultimate tone associates to the

antepenultimate mora, so the High/Low split is again realized on the surface, as in (98):

(98) Simple Class II verb forms with three morae

    a. á-y-nínǐŋ.   b. è-y-nínǐŋ.
        1SG-II-listen.DUP   3-II-listen.DUP
        'I will listen.'   *'He is listening' (And we want him to.)*

    c. á-y-rɔ́wùà.   d. è-y-rɔ́wùà.
        1SG-II-be.hot   3-II-be.hot
        'I am hot.'   *'It is hot.'*

    e. á-y-térrè.   f. è-y-térrè.
        1SG-II-faint   3-II-faint
        'I will faint.'   *'He will faint.'*

    g. á-y-rʊ́rà.   h. è-y-rʊ́rà.
        1SG-II-sleep   3-II-sleep
        'I am asleep'   *'He is/they are asleep.'*

The additional TBU allows the prefix tone to associate, allowing the High/Low

split to surface, as in (99):

(99) Analysis of simple Class II non-neutralization

```
        H  L                                    L  H  L

      a-yrʊra                                  ɛ-yrʊra
      1SG-sleep                                3-sleep
  a.                      Lexical entries:    d.
        H  L                                    L  H  L
        \  |                                    |  \  |
      a-yrʊra                                  ɛ-yrʊra
      1SG-sleep                                3-sleep
  b.                      Association:RtoL    h.
```

```
     H  L
      \  |
   a-yrʊra
   1SG-sleep
```

c.   Spreading:RtoL   i. –no empty TBU's–

d.   áyrʊ́rà   Surface form   j.   èyrʊ́rà

This analysis neutralizes the High/Low split for verb forms with class II roots that have just two morae, but accounts for the split occurring on longer words.
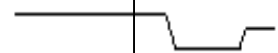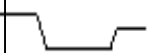
The analysis presented in this section for verbs with Class II stems accounts for the neutralization of the High/Low split in an entirely different way than the Two-Mora High Spread (90), which accounted for the neutralization in verbs with Class I stems (68)–(76). Because the analyses for verbs in each of these two classes of stems differ, we might expect the neutralizations to have differing properties. And this is what we find: unlike Two-mora High Spread (90), which is a phonological rule with several lexical exceptions, i.e., the roots in (92), the analysis in (99) has no room for lexical exceptions, as there is no rule which might be succeptible to lexical specification. The neutralization analysis in (99) is merely a matter of the relationship of the number of tones to the number of TBU's in a given verb. This prediction of an exceptionless split is met by the lack of exceptions (so far) to the simple class II High-Low tone pattern over two morae verbs, regardless of root.[9]

6.8. Unspecification of Apparently High Prefixes

The analysis presented in this chapter claims that every tone after (and including) the first High tone on the third person forms is due to the stem, indicating that the same

tones are also due to the stem in the first person singular forms. Consider the

first of the two forms given in each of (55)e and (55)f:
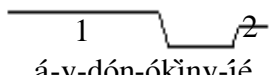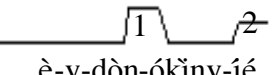
(100)

argument tones | stem tones

á-y-dóŋ-ókǐny-íé. 1SG-II-beat-DAT-INST
'I will use it to pound for him.'

è-y-dòŋ-ókǐny-íé. 3-II-beat-DAT-INST
'She used/will use it to pound for them.'

In (100), the stem tones are viewed as the same, since the pair of words is

minimally different for subject, and identical in stem. The initial High tone in the first

person singular form, then, is contiguous with a High tone from the stem. One could

claim that there are two distinct High tones in the first person singular forms, which are

not distinguished on the surface, but it would be simpler to just say that there are no more

High tones in the first person singular forms than in the third person forms, with adjacent

high morae considered to be associated to the same High tone, in accordance with the

OCP, which assumes that "sequences of identical autosegments are prohibited"

(Pulleyblank 1986:191):

(101)

1 _____2   = two high tones
á-y-dóŋ-ókǐny-íé.

a.

1 _____2   = two high tones
è-y-dòŋ-ókǐny-íé.

b.

Thus, if one were to claim that there is a lexical High tone on the first

person singular prefix, one would also need to claim that there is merger of adjacent

High's in each and every verb with an initial High tone. This would be the case because

the initial surface tone is not distinguished phonetically from the stem High tone; the

word tone is high and level from the beginning of the word to the same mora which is the

leftmost High tone in the third person form (i.e., the first stem tone).

Put differently, the domain of morae associated to the leftmost High tone in the

first person singular forms always includes one mora (the rightmost – before the vertical

line in (102)) which is also High in the same derivation with a third person subject, as

throughout (54)–(56).

(102)

initial H

á-y-dóŋ-ókĭny-íé.

è-y-dòŋ-ókĭny-íé.
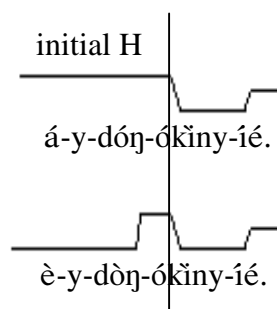
In other words, the first and third person forms share at least one High-toned mora, which

is contiguous with the word initial High tone in the first person singular forms of (54)–

(56). If one were to claim that the tone to the left of the vertical line in (102) were due to

the argument prefix for first person singular, one would also need to say that the third

person tone is Low-High – unless there is some reason that the high tone on *-ókĭ* should

come from the argument prefix in the first person singular form, but from the stem in the

third person form.

Alternatively, one might defend full specification by saying that the stems exibit tonal allomorphy for each of the argument prefixes, with one fewer High tone after first person singular forms, though this gains nothing over the analysis in section 6.5.3, but only adds complexity.

Thus, there is no clear empirical evidence that the High tone on first person singular, second person, etc. forms comes from those prefixes, as opposed to being spread from the stem. Requiring full spefication of tone also increases the complexity of the analysis unnecessarily and without any apparent benefit.

Beyond any considerations of economy, when the instrumental and ventive data discussed in section 6.5.1 are considered, it is clear that a lexically independent tone on the first person singular prefix is untenable.

6.9. Conclusion

The first person singular underspecification analysis may or may not match analyses proposed for other Nilotic person marking systems. The only published analysis including a bound-pronominal split, for any Nilotic language, is Dimmendaal's (1983) analysis of Turkana. His analysis for Turkana seems essentially the same as my Full Specification Analysis as given in 6.5.1 above.[10] While Full Specification may work for Turkana (and perhaps for other Nilotic languages), claiming a lexically specified High tone for the first person singular bound argument pronoun is not ideal for a synchronic analysis of Maa.

We have seen that for both class I and class II roots, the tonal alternation between first and third person is neutralized over only two morae. I propose that this neutralization occurs, on the one hand, by a spreading rule (90) that delinks the third person Low tone in most two-mora words with Class I roots, and on the other hand by having fewer TBU's in the word than tones in the word tonal melody for Class II roots, as in (99).

Given this analysis, then, we can say that there is a lexical split between first and third persons. Surface 'High' prefixes (1SG, 2, etc.) are lexically unmarked for tone and the 'Low' prefix (3) is lexically marked Low. Lexically toneless morae then receive tone by spreading from the stem on the right. All deviations from this split have been accounted for in Section 6.7.

While this chapter has focused on the contrast between the first person singular an the third person bound argument prefixes, it is likely that the the first person singular prefix is tonally identical to the second person prefix (i.e., *í-lám* from Table 3), as well as to the first person singular acting on second person singular prefix (i.e., *áá-lám* from Table 3), and to the third person acting on second person singular or second person acting on first person singular prefix (i.e., *kí-lám* from Table 3).

6.10. Notes

[1] This environment is admittedly not well defined. It includes at least utterance-final position, and may well include other phrasal boundaries.

[2] I thank Gerrit Dimmendaal for this observation.

[3] Unfortunately, I do not have carefully checked data available to prove this analysis for all these prefixes, though all the data I have with them is in accordance with the analysis presented in this paper, so it is likely a matter of collecting and presenting the data before they, too, will submit to this same analysis. What data I do have with these prefixes is included in Appendix A.

[4] Forms are given in Appendix A.

[5] One variation of this analysis has the prefix tone associating at a later stage than suffix tones, and in a left to right manner, followed by left to right spreading. This would differ from (61), above, in that for b and f, the prefixal tone would associate to the leftmost TBU (i.e., the prefix) then spread rightward to the root in c and g. Either analysis arrives at the same surface forms.

[6] This will probably ultimately be generalized to the following:

$$
\begin{array}{cc} L & H \\ \not{|} & | \\ V & V \end{array} \Big/ \left\{ \begin{array}{c} \# \\ H \end{array} \right\} \underline{} \#
$$
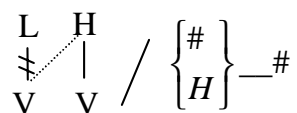
e.g., /èdùŋákìní/ → [èdùŋók'íní] 'He will be cut for.'

[7] It is difficult to find a phonetic motivation for these exceptions, though it is interesting to note that these roots are almost entirely CV or *t*CV roots. Those that are CVC have /l/ and /r/ as their final consonants. These do not constitute a phonological conditioning, however, as roots with these same environments undergo the rule, e.g., *lo* in (74). Another place to look for physiological motivation would be in frequency effects. While I don't have any data on this, my anecdotal perception is that *dɔ*, *gol*, and *pir* are fairly common, while *yko*, *yro*, and *yshu* are fairly uncommon – so frequency effects seem unlikely as a motivation, though it hasn't been empirically tested at this point.

⁸ I do not argue for or against this hypothesis at this point. See my comments in Chapter VII for my thought on where analysis of Maa verb tone might need to go to get answers.

⁹ The roots in (92)c and (92)d, above, however, may prove to be Class II, in which case they would seem exceptional. However, I don't have data with these roots in other derivations, so I am not sure if they are Class II stems. There is data indicating that (92)e is not a class II root. It is an interesting coincidence that they both have ɪCV stem structure, unlike the ɪCVC forms in (78)–(85) and (98).

¹⁰ While a fully specified pronominal tone split is given in Dimmendaal (1983), it is clearly not a focal point of the 1983 work, and it is not clear whether under-specification of any of those pronouns was considered. Thus, it may be of little consequence if Maa requires a different analysis.

CHAPTER VII

CONCLUSIONS

This thesis has investigated the bound argument pronoun tone system of Il-Keekonyokie Maa, and has established that the opposition between the apparent High and Low prefixes is in fact between Low and unspecified tone. The remainder of my data have not yet been resolved into a system, and so are appended to the body of this thesis.

A complete analysis of a verb tone system may be relatively simple for some languages, but it has proved to not be so for Maa. While the whole system remains currently out of reach, this work has set the stage for a comprehensive analysis of the whole verb argument prefix system of Maa, by presenting an analysis of the tones of the prefix system, along with appendices that contain data on the remainder of the verb tone. This combination should allow the interactions between the rest of the morphology on verbs to be studied.

It should be noted that a strictly synchronic analysis of this tone system ultimately may not succeed. The author is the third researcher to his knowledge (with Barbara Wallace-Gadsden and Barbara Levergood before me), who has tried unsuccessfully to resolve Maa verb tone to a system.

It may be, however, that the answer to this puzzle lies in history, and that the 'system' is not currently as systematic as we might hope. To investigate this hypothesis, we need more investigation into dialectal variation, with reliable tone transcription. Also, as our theory of the mind develops, we may come to believe that memorization of each form in what appear to be synchronic derivations is more reasonable than we had once thought.

When we look into tonal reconstructions of Proto-Maa, one place to start looking for the answer to the Maa tone system question is in the relationship between tone and accent. The synchronic tone pattern is one where a High tone reliably (except in a few cases) falls on the ultimate, penultimate, or antepenultimate mora. Also, when there is a High tone on the antepenultimate mora, there is almost always a High tone on the ultimate mora. This might be seen as suspiciously close to some kind of stress system, particularly since the words with longer suffixes have that High tone farther from the end – indicating a link between the number of morae in the suffixes and the number of tones in the tone melody.

For those interested in pursuing this matter, the following appendixes contain a majority of the remainder of my data, both for the remainder of the bound argument pronouns, and for the combinations of the various suffixes.

APPENDIX A

OTHER BOUND ARGUMENT PRONOUNS

This appendix includes bound argument pronouns that were not included in the analysis of Chapter IV. That is, they do not behave according to the High/Low split. The first two prefixes, 1PL and 3>1, seem to have a similar effect on word tone, which is something like a High-Low prefix tone pattern, though this has not been completely worked out. They are included here, though, for the sake of completeness. Regarding the other three sets of bound argument pronouns, I don't have aything more to say than what has already been said, so I will simply present some data which may be helpful to future researchers. The data is given according to various suffix combinations (though with aspect markings mixed in to each group), which may help in sorting the various tone patterns,

For each of the prefixes in this appendix, there seems to be some kind of "whole word" tone effect, where the tone indicated by the prefix overrides the tone one might expect from the suffixes in a given word. Again, this has not yet been worked out.

<u>A.1.</u> 1PL

The first person plural prefix has the segmental form *kɪ-*. The following first person plural forms have something like a two place contrast, something like either High-Low-High or Low-High-Low.

A.1.1. Class I Causative (CAUS), Middle (MID) and Plural Perfect (PF.PL)

kɪ́-ntà-gòr-ót-è	*'We used it to strangle ourselves.'*
1PL-CAUS-strangle-PF.PL-MID.PF	
kɪ́-ntò-nǐŋ-ót-è	*'We made each other hear.'*
kɪ́-ntɔ̀-ɲɔ̀rr-át-è	*'We made each other love.'*
kɪ́-ntɔ̀-ɲɔ̀rr-át-ɛ̀	*'We made each other loving.'*

A.1.2. Class I Causative (CAUS) and Perfect (PF)

kɪ́-ntò-nǐŋ-ô	*'We made him/them hear.'*

A.1.3. Motion Away (AWAY) and Plural Perfect (PF.PL)

kɪ́-tà-ŋòr-ò-yt-yê	*'We threw (a spear, away)'*

A.1.4. Ventive (VENT)

kɪ́-n-tùk-ù	*'We will wash it.'*

A.1.5. Antipassive (APAS) and Perfect (PF)

kɪ́-tà-gòr-ǐsh-ót-è	*'We strangled.'*
kɪ́-tà-ràɲ-ǐsh-ót-è	*'We did singing.'*

A.1.6. Dative (DAT)

kí-dùŋ-òkí   *'We will cut for him.'*

A.1.7. Dative (DAT) and Plural Perfect (PF.PL)

kí-tù-dùŋ-òk-ĭt-ô   *'We cut for him (already)'*

A.1.8. Dative (DAT) and Middle (MID)

kí-dùŋ-òkín-Ꞌ ó   *'We will cut for each other.'*

A.1.9. Middle (MID)

kí-dàmún-Ꞌ ɔ̀   *'We remember each other.'*
kí-dùŋ-ó   *'We are cut.'*
kí-gòr-ó   *'We will strangle each other.'*

A.1.10. Middle (MID) and Perfect (PF)

kí-tà-dàmùn-ót-è   *'We remembered each other.'*
kí-tà-gòr-ót-è   *'We became angry/were angry.'*   *'We strangled each other.'*
kí-tɔ̀-ɲɔ̀rr-át-è   *'We have loved each other.'*
kí-tò-rĭkĭn-ót-è   *'We forgot.'*
kí-tɔ̀-ɲɔ̀rr-ún-ɔ̀t-è   *'We will love each other.'*

A.1.11. Simple Non-perfect Forms

kì-bârn   *'We will shave.'*
kĭ-bôl   *'We will open it.'*
kĭ-bôl   *'We will open it.'*
kí-bòytá   *'We are together.'*
kì-dɔ̂   *'We are red.'*

kɪ̀-dɔ̂l	*'We will see.'*
kɪ̌-gôr	*'We will strangle(someone)'*
kɪ́-n-kén	*'We will shut it.'*
kɪ̂-m-píd	*'We jump (up and down)'*
kɪ̂-rrág	*'We will lie down.'*
kɪ̂-súj	*'We will wash it.'*
kɪ̂-kwɛ́t	*'We run with each other/together.'*
kɪ̌-nîŋ	*'We (will) hear.'*
kɪ̀-pɪ̂k	*'We will put it...'*
kɪ̌-pɪ̂r	*'We are fat.'*
kɪ̌-pwɔ̀	*'We will go.'*
kɪ̀-sʊ̂j	*'We will follow him.'*
kɪ̌-shûk	*'We will return (it)'*
kɪ̌-yyêr	*'We will cook it.'*
kɪ́-ádɔ̀	*'We are tall.'*
kɪ̀-ɲâ	*'Shall we eat?'*
kɪ̀-rʊ́rà	*'We are asleep.'*

A.1.12. Simple Perfect Forms

kɪ́-tà-bòl-ô	*'We opened it.'*
kɪ́-tɔ̀-dɔ̀r-ɔ̂	*'We became red.'*
kɪ́-tà-gòr-ô	*'We strangled someone.'*
kɪ́-n-kèn-ô	*'We shut it.'*
kɪ́-rràg-â	*'We lay down.'*
kɪ́-sùj-â	*'We washed it.'*
kɪ́-tà-lèp-ô	*'We milked it.'*
kɪ́-tò-nǐŋ-ô	*'We heard.'*
kɪ́-tɔ̀-ɲɔ̀rr-â	*'We have loved him/her/them.'*
kɪ́-tʊ̀-sùj-â	*'We followed him.'*
kɪ́-shɔ̀mɔ̂	*'We went.'* (1PL-go.PF)
kɪ́-tɔ̀-dɔ̀r-ɪ̀t-â	*'We became red (and still are...).'*

A.1.13. Simple Progressive (PROG) Forms

kɪ́-bòl-ɪ̌tò	*'We are opening it.'*
kɪ́-n-kèn-ɪ̌tò	*'We are shutting it.'*
kɪ́-lèp-ɪ̌tò	*'We are milking it.'*
kɪ́-nǐŋ-ɪ̌tò	*'We are hearing.'*
kɪ̌-pwó-ytò	*'We are going.'*

kí-sùj-ìtà   *'We are following him.'*

A.1.14. Inceptive (INCEP)

kídòrú   *'We will become red.'*

A.2. 3>1

The following 3>1 forms also have tone that is almost always High-Low on the first two morae, with a High again on the ultimate more in most cases, or with another High-Low contrast, or with no other contrast at all (e.g., instrumental, ventive). Because there is no change for the tone patterns for forms with *k-*, the forms will be listed together. Non-perfect and perfect, singular and plural, will be given together.

A.2.1. Combinations with the Class I Causative (CAUS)

A.2.1.1. CAUS only

Non-perfect forms

áà-ytὲ-bêl	*'He will make me break it.'*
3>1-CAUS-break	
áà-ytù-dûŋ ɔ̀lpáyyàn ènkǐtók ìnkírí	*'The man will make my wife cut the meat.'* *'He will make me cut'*
áà-ytà-gôr	*'He will make me angry.'*
áà-ytò-nǐŋ-ô	*'He made me hear it.'*
áà-ytù-dùŋ-ó	*'He made me cut.'*
áà-ytò-sój	*'She will force me to follow.'*
áà-ytò-sùj-á	*'He made it follow after me.'*
áà-ytò-nîŋ	*'They will make me hear it.'*
áà-ytὲ-shêt	*'They will make me plait(hair)/build(house).'*

k-áà-ytà-bôl èmǐláŋkò	*'He will make me open the door.'*
k-áà-ytù-dûŋ	*'He will make me cut.'*
k-áà-ytò-nǐŋ	*'He will make me hear it.'*
k-áà-ytè-shêt	*'They will make me plait(hair)/build(house).'*
k-áà-ytɔ̀-tɔ́n tèŋúɗǐ	*'They will make me sit using a stick.'*

Perfect forms

áà-ytù-dùŋ-ó	*'He made me cut'*
3>1-CAUS-break-PF	
áà-ytà-gòr-ó	*'He has caused me to strangle.'*
áà-ytà-lèp-ó	*'He made me milk it.'*
áà-ytà-dàm-ʊ̀t-w-â	*'They made me think.'*
áà-ytà-gòr-ô	*'They caused me to strangle.'*
áà-ytè-shèt-â	*'They made me plait(hair)/build(house).'*
k-áà-ytù-dùŋ-ó	*'He made me cut.'*
k-áà-ytè-yyèr-á	*'He made me cook.'*

A.2.1.2. CAUS and AWAY

áà-ytà-pèj-óò	*'He will make me burn (e.g., trash that is piled up).'*
áà-ytè-shèt-áà	*'He will make me plait(hair)/build(house) (one at a time).'*
áà-ytù-dùŋ-óò	*'He will make me cut it away from myself.'* *'He will become an obstacle to me accomplishing something.'*
k-áà-ytɔ̀-ɲɔ̀rr-áà	*'He will make me agree with that person.'*
k-áà-ytà-pèj-óò	*'He will make me burn (e.g., trash that is piled up).'*
k-áà-ytà-sòt-óò	*'He will make me gather them one at a time.'*
k-áà-ytè-shèt-áà	*'He will make me plait(hair)/build(house) (one at a time).'*
k-áà-ytɔ̀-shɔ̀l-áà	*'He will make me melt (e.g. fat) one at a time.'*
k-áà-ytù-dùŋ-óò	*'He will make me cut it away from myself.'* *'He will become an obstacle to me accomplishing something.'*

A.2.1.3. CAUS and AWAY (PF)

áà-ytɔ̀-ɲɔ̀rr-áyyè	*'He used it to make(force) me like it.'*
áà-ytɔ̀-ɲɔ̀rr-áyyè	*'He made me agree with that person.'*
áà-ytà-pèj-óyyè	*'He made me burn (e.g., trash that is piled up).'*
áà-ytà-sòt-óyyè	*'He made me gather them one at a time.'*
áà-ytè-shèt-áyyè	*'He made me plait(hair)/build(house) (one at a time).'*
áà-ytɔ̀-shɔ̀l-áyyè	*'He made me melt (e.g. fat) one at a time.'*

áà-ytù-dùŋ-óyyè   *'He did make me cut it away from myself.'*   *'He became an obstacle to me accomplishing something.'*

A.2.1.4. CAUS and VENT

áà-ytɛ̀-bél-ʊ̀	*'He will make me break it off.'*
3>1-CAUS-break-VENT	
áà-ytʊ̀-búl-ʊ̀	*'She will make me grow (by feeding me, etc.).'*
áà-ytà-dót-ù	*'He will make me pull it out.'*
áà-ytà-kéd-ù	*'He will make me climb (to something)'*
áà-ytà-mát-ù	*'He will make me drink (to finish it).'*
áà-ytɨ̀-pík-ʊ̀	*'He will make me remove it.'*
áà-ytʊ̀-sój-ʊ̀	*'She will force him to follow after me.'*
áà-ytà-rém-ù	*'He will make me remove (e.g., the medicine from a bottle with a syringe).'*
k-áà-ytɛ̀-bél-ʊ̀	*'He will make me break it off.'*
k-áà-ytʊ̀-búl-ʊ̀	*'She will make me grow (by feeding me, etc.)'*
k-áà-ytà-dót-ù	*'He will make me pull it out.'*
k-áà-ytà-kéd-ù	*'He will make me climb (to something)'*
k-áà-ytà-mát-ù	*'He will make me drink (to finish it).'*
k-áà-ytɨ̀-pík-ʊ̀	*'He will make me remove it.'*
k-áà-ytà-rém-ù	*'He will make me remove (e.g., the medicine from a bottle with a syringe).'*

A.2.1.5. CAUS and VENT (PF)

áà-ytɛ̀-bèl-w-á	*'He did make me break it off.'*
áà-ytʊ̀-bùl-w-á	*'She did make me grow (by feeding me, etc.).'*
áà-ytà-dòt-w-ó	*'He made me pull it out.'*
áà-ytà-kèd-w-ó	*'He did make me climb (to something)'*
áà-ytà-màt-w-á	*'He did make me drink (to finish it).'*
áà-ytʊ̀-pùk-w-á	*'He did make me remove it.'*
áà-ytʊ̀-sùj-w-á	*'She forced him to follow after me.'*
áà-ytà-rèm-w-ó	*'He made me remove (e.g., the medicine from a bottle with a syringe).'*
k-áà-ytʊ̀-sùj-w-á	*'She forced him to follow after me.'*
k-áà-ytɨ̌-p̀ik-w-á	*'He did make me remove it.'*
k-áà-ytʊ̀-sój-ʊ̀	*'She will force him to follow after me.'*

A.2.1.6. <u>CAUS and VENT (PL.PF)</u>

áà-ytʊ̀-bʊ̀l-ʊ̀t-w-â	*'They made me grow (by feeding me, etc.).'*
áà-ytà-dòt-ùt-w-ô	*'They made me pull it out.'*
áà-ytà-kèd-ùt-w-ô	*'They did make me climb (to something)'*
áà-ytʊ̀-pʊ̀k-ʊ̀t-w-â	*'They did make me remove it.'*
k-áà-ytǐ-pǐk-ùt-w-â	*'They did make me remove it.'*

A.2.1.7. <u>CAUS, VENT and INST</u>

áà-ytà-dòt-úŋ-yè	*'He will make me pull it₁ out (using it₂).'*
áà-ytà-dòt-ùŋ-yé	*'He made me pull it₁ out (using it₂).'*

A.2.1.8. <u>CAUS and APAS</u>

áà-ytà-dàm-íshò	*'He/she/they make me think.'*
áà-ytà-lèp-íshò	*'He/they will make me milk.'*
áà-ytà-dàm-ǐshé	*'he made me think'* *'He/she/they/it made me think.'*
áà-ytà-lèp-ǐshé	*'He made me milk.'*
áà-ytʊ̀-nǐŋ-ǐshé	*'He made me able to hear.'* *'He woke me up.'*
áà-ytà-dàm-ǐsh-ót-è	*'They made me think'*
áà-ytà-lèp-ǐsh-ót-è	*'They made me milk.'*
k-áà-ytà-lèp-íshò	*'He/they will make me milk.'*

A.2.1.9. <u>CAUS, APAS and PASS</u>

áà-ytʊ̀-dùŋ-ǐshô-y	*'People will make me cut.'*
?áà-ytà-lèp-ǐshèk-í	*'I was made to milk.'* (APAS.PF-PASS)
?k-áà-ytà-lèp-ǐshèk-í	*'I was made to milk.'*

A.2.1.10. <u>CAUS and DAT</u>

áà-ytʊ̀-pǐr-ókǐ ɛ̀nkɪ́téŋ	*'He will fatten the cow for me.'*
áà-ytɔ̀-ɲɔ̀rr-ìky-á	*'He made me agree with that person.'*
?áà-ytɔ̀-ɲɔ̀rr-ákǐ	*'He will make me agree with that person.'*

A.2.1.11. CAUS and INST

áà-ytà-dót-yè	*'He will use it to make me pull it out.'*
áà-ytò-ɲórr-yè	*'He/she will use it to make me like it.'*
áà-ytò-tóŋ-yè	*'He will make me sit using it.'*
áà-ytè-yyér-yè èŋúɗi.	*'He/they will use a stick to make me cook.'*
ʔáà-ytù-súj-yè	*'They will use it to make it follow me.'*
áà-ytù-dúŋ-yè	*'He/they will make me cut using it.'*
áà-ytà-dòl-yé	*'He made me see using it.'*
áà-ytà-dòt-yé	*'He used it to make me pull it out.'*
áà-ytù-dùŋ-yé	*'He made me cut using it.'*
áà-ytù-dùŋ-yè	*'He made me cut using it.'*
áà-ytò-ɲòrr-yé	*'He/she used it to make me like it.'*
áà-ytò-tòŋ-yé	*'He made me sit using it.'*
áà-ytè-yyèr-yé èŋúɗi.	*'He/they used a stick to make me cook.'*
áà-ytù-dùŋ-yê	*'They made me cut using it.'*
áà-ytò-ɲòrr-yè	*'They used it to make me like it.'*
ʔáà-ytù-sùj-yé	*'They used it to make it follow me.'*

k-áà-ytò-ɲórr-yè	*'He/she will use it to make me like it.'*
k-áà-ytò-tóŋ-yè	*'He will make me sit using it.'*
k-áà-ytè-yyér-yè èŋúɗi.	*'He/they will use a stick to make me cook.'*
ʔk-áà-ytù-súj-yè	*'They will use it to make it follow me.'*
k-áà-ytù-dúŋ-yè	*'He/they will make me cut using it.'*

A.2.1.12. CAUS, INST, and PASS

áà-ytù-dùŋ-yék-ɪ̌	*'I will be made to cut using it.'*
ʔáà-ytù-sùj-yék-ɪ̌ èŋúɗi	*'A stick will be used to make me follow it'*
áà-ytà-lèp-yék-ɪ̌ ènkúkúrí ènkítéŋ	*'I will be made to use the calabash to milk the cow.'*

áà-ytù-dùŋ-yèk-í	*'They made me cut using it.'*
áà-ytà-lèp-yèk-í ènkúkúrí ènkítéŋ	*'I was made to use the calabash to milk the cow.'*

k-áà-ytù-dùŋ-yék-ɪ̌	*'I will be made to cut using it.'*
k-áà-ytù-sùj-yék-ɪ̌ èŋúɗi	*'A stick will be used to make me follow it'*

A.2.1.13. CAUS and PASS

Non-perfect forms

áà-ytɛ̀-bɛ̀l-í	*'They will make me break it.'*
áà-ytɔ̀-dɔ̀r-í	*'I will be made red.'*
áà-ytù-dùŋ-í	*'They will make me cut '*
áà-ytà-gòr-í	*'I will be made angry.'*
áà-ytò-pĭr-í	*'I will be made fat.'*
áà-ytʊ̀-sʊ̀j-í	*'I will be made to follow.'*
áà-ytɛ̀-shɛ̀t-í	*'I will be made to plait(hair)/build(house).'*
k-áà-ytɛ̀-bɛ̀l-í	*'They will make me break it.'*
k-áà-ytɔ̀-dɔ̀r-í	*'I will be made red.'*
k-áà-ytà-gòl-í	*'I will be made strong.'*
k-áà-ytà-gòr-í	*'I will be made angry.'*
k-áà-ytò-pĭr-í	*'I will be made fat.'*
k-áà-ytʊ̀-sʊ̀j-í	*'I will be made to follow.'*
k-áà-ytɛ̀-shɛ̀t-í	*'I will be made to plait(hair)/build(house).'*

Perfect forms

áà-ytɛ̀-bɛ̀l-àkí	*'They made me break it.'*
áà-ytɔ̀-dɔ̀r-àkí	*'I was made red.'*
áà-ytù-dùŋ-òk-í	*'They made me cut '*
áà-ytà-gòl-òk-í	*'I was made strong.'*
áà-ytà-gòr-òk-í	*'I was made angry.'*
áà-ytɔ̀-ɲɔ̀rr-àkí	*'I was made to love.'*
áà-ytò-pĭr-òk-í	*'I was made fat.'*
áà-ytʊ̀-sʊ̀j-àkí	*'I was made to follow.'*
áà-ytɛ̀-shɛ̀t-àkí	*'I was made to plait(hair)/build(house).'*
*áà-ytɔ̀-dɔ̀r-ʊ̀t-àk-ì	*'I am being made red.'*

A.2.1.14. CAUS and PROG

áà-ytù-dùŋ-ĭtò	*'He is making me cut it.'*

A.2.2. Combinations with Motion Away (AWAY)

A.2.2.1. AWAY only

áà-dùŋ-óò	*'He will cut me away.'*
k-áà-y-bòŋ-áà	*'He will support me (along the way).'*
áà-tà-bòl-óy-yè	*'He has opened it for me'*
áà-tù-dùŋ-óy-yè	*'He cut me away.'*
áà-y-bòŋ-áy-yè	*'He caught (i.e., supported) me (all the way)'*
áà-y-kèn-óy-yè	*'He shut it on me (who am outside).'*
áà-y-kèn-ò-yt-yê	*'They shut it on me (who am outside).'*

A.2.2.2. AWAY and INST

áà-dùŋ-òr-yé	*'He will use it to cut me away (i.e., eliminate me).'*
áà-tù-dùŋ-òr-yé	*'He used it to cut me away (i.e., eliminate me).'*

A.2.2.3. AWAY and PASS

áà-y-kèn-òr-í	*'The door will be closed against me (who am outside).'*
k-áà-y-kèn-òr-í	*'The door will be closed against me (who am outside).'*
áà-y-kèn-òyyòk-í	*'The door was closed against me (who am outside).'*

A.2.3. Combinations with Ventive (VENT)

A.2.3.1. VENT only

Non-perfect forms

áà-bèl-ʊ́ ɔ̀làlây (tèŋúɗì)	*'He will knock my teeth out (with a stick).'*

áà-dùŋ-ú tɔ̀lchánǐ   *'He/she will cut me from the tree.'*

áà-y-bʊ̀ŋ-ʊ̀   *'He will catch (i.e., support) me'*

áà-y-pìk-ʊ̀ ɔ̀lálây   *'My teeth will project (more than others).'*

áà-y-pòt-ù   *'He will call me.'*

áà-y-shìr-ʊ̀   *'He will call me (by crying).'*

áà-y-tùk-ù   *'He will wash me.'*

áà-sʊ̀j-ʊ́ tènkáy árrǐ   *'He will follow me using the other car'*

áà-shùk-ú   *'He will return me.'*

áà-yyèr-ʊ́ ènkéráy ǐlkèék   *'My child will cook the medicine out of the herbs.'*

áà-y-pàr-ʊ̀ ènkèráy ìmbáà kúmòk   *'My child will ask many questions.'*

áà-y-kùm-ù (tèŋúdǐ)   *'He will snatch me out (i.e., of a group that doesn't want him to enter -- with a stick).'*

k-áà-bèl-ʊ́ ɔ̀làlây (tèŋúdǐ)   *'He will knock my teeth out (with a stick).'*

k-áà-dùŋ-ú tɔ̀lchánǐ   *'He/she will cut me from the tree.'*

k-áà-y-bʊ̀ŋ-ʊ̀   *'He will catch (i.e., support) me'*

k-áà-y-pàr-ʊ̀ ènkèráy ìmbáà kúmòk   *'My child will ask many questions.'*

k-áà-y-pìk-ʊ̀ ɔ̀lálây   *'My teeth will project (more than others)'*

k-áà-y-pòt-ù   *'He will call me.'*

k-áà-y-shìr-ʊ̀ (tèmòwwó)   *'He will call me (with a horn)'*

k-áà-y-tùk-ù   *'He will wash me.'*

k-áà-sʊ̀j-ʊ́ tènkáy árrǐ   *'He will follow me using the other car'*

k-áà-shùk-ú   *'He will return me.'*

k-áà-y-yyèr-ʊ́ ènkéráy ǐlkèék   *'My child will cook the medicine out of the herbs.'*

k-áà-y-kùm-ù (tèŋúdǐ)   *'He will snatch me out (i.e., of a group that doesn't want him to enter -- with a stick).'*

Perfect forms

áà-tè-bèl-w-á ɔ̀làlây   *'He broke my teeth off.'*

áà-tù-dùŋ-w-ó tɔ̀lchánǐ   *'He/she cut me from the tree.'*

áà-y-bʊ̀ŋ-w-á   *'He caught (i.e., supported) me'*

áà-y-kùm-w-ó   *'He did snatch me out (i.e.,of a group that didn't want him to enter)'*

áà-y-mìn-w-á ènkèráy   *'My child got lost.'*   *'My child went and reached his destination, but didn't know where he was going.'*

áà-y-pìk-w-á ɔ̀lálây   *'My teeth projected out (more than others)'*

áà-y-pòt-w-ó   *'He called me.'*

áà-y-shìr-w-á   *'He called me (by crying)'*

áà-y-tùk-w-ó   *'He washed me.'*

áà-tù-shùk-w-ó   *'He did return me.'*

áà-tè-bèl-ʊ̀t-w-â ɔ̀làlây   *'They broke my teeth off.'*

áà-y-mìn-ʊ̀t-w-â ǐnkér̓á   *'My children got lost.'* or *'My children went and reached their destination, but didn't know where they was going.'*

k-áà-tὲ-bὲl-ὸt-w-â ɔ̀làlây   *'They broke my teeth off.'*

A.2.3.2. <u>VENT and DAT</u>

k-áà-y-tùk-w-ókĭ   *'He will wash something for me.'*

A.2.3.3. <u>VENT and INST</u>

áà-bὲl-ὺŋ-yé ɔ̀làlây èŋúɗĭ   *'He will use the stick to knock my teeth out.'*
áà-y-kùm-úŋ-yè èŋúɗĭ   *'He will snatch me out (i.e.,of a group that didn't want him to enter) with a stick.'*
áà-y-shĭr-úŋ-yè èmówwó   *'He will call me with a horn.'*
áà-shùk-ὺŋ-yé ènkárrĭ éɲè   *'He will use his car to return me.'*
k-áà-bὲl-ὺŋ-yé ɔ̀làlây èŋúɗĭ   *'He will use the stick to knock my teeth out.'*
k-áà-y-kùm-úŋ-yè èŋúɗĭ   *'He will snatch me out (i.e.,of a group that didn't want him to enter) with a stick.'*
k-áà-y-shĭr-úŋ-yè èmówwó   *'He will call me with a horn.'*
k-áà-shùk-ὺŋ-yé ènkárrĭ éɲè   *'He will use his car to return me.'*
áà-tὲ-bὲl-ὺŋ-yé ɔ̀làlây èŋúɗĭ   *'He used a stick to knock my teeth out.'*
áà-y-kùm-ὺŋ-yé èŋúɗĭ   *'He did snatch me out (i.e.,of a group that didn't want him to enter) with a stick.'*
áà-y-shĭr-ὺŋ-yé èmówwó   *'He called me with a horn.'*
áà-tù-shùk-ὺŋ-yé ènkárrĭ éɲè   *'He did use his car to return me.'*
áà-y-shĭr-ὺŋ-yê èmówwó   *'They called me with a horn.'*
áà-sùj-ὺŋ-yék-ĭ ènkàí árrĭ   *'I will be followed using another car'*

A.2.3.4. <u>VENT and PASS</u>

  Non-perfect forms

áà-bὲl-ὸn-í ɔ̀làlây   *'I will be broken off in the teeth.'*
áà-y-bὺŋ-ὸn-í   *'I will be caught (i.e., supported)'*
áà-y-kùm-ùn-í   *'I will be hit/snatched out of a group.'*
áà-y-pòŋ-ùn-í   *'I will be hit (how?)'*
áà-shùk-ùn-í   *'I will be returned.'*
k-áà-bὲl-ὸn-í ɔ̀làlây   *'I will be broken off in the teeth.'*
k-áà-y-bὺŋ-ὸn-í   *'I will be caught (i.e., supported)'*
k-áà-y-bὺŋ-ὸn-í   *'I will be caught (i.e., supported)'*
k-áà-y-kùm-ùn-í   *'I will be hit/snatched out of a group.'*

k-áà-y-pòŋ-ùn-í 'I will be hit (how?)'
k-áà-shùk-ùn-í 'I will be returned.'

Perfect forms

áà-tὲ-bὲl-w-àk-í ɔ̀làlây 'I was broken off in the teeth.'
áà-y-bὺŋ-w-àk-í 'I was caught (i.e., supported)'
áà-y-kùm-w-òk-í 'I was hit/snatched out of a group.'
áà-y-pòŋ-w-àk-í 'I was hit (how?)'
áà-tὺ-sὺj-w-àk-í tὲnkáy árřì 'I was followed using the car'
áà-tù-shùk-w-òk-í 'I was returned.'
k-áà-y-tùk-w-òk-í 'I was washed.'
k-áà-tὺ-sὺj-w-àk-í tὲnkáy árřì 'I was followed using the car'

A.2.4. Combinations with Antipassive (APAS)

A.2.4.1. APAS only

áà-dùŋ-ǐshó ὲnkὲráy 'My child is able to cut.'
k-áà-nǐŋ-ǐshó ὲnkίt'éŋ 'My cow can hear.'
áà-nǐŋ-ǐshó ὲnkὲráy 'My child is awake.' 'My child can hear.'
áà-tὸ-nǐŋ-ǐshé ὲnkὲráy 'My child has woken up from sleep.' 'My child is now obedient.'

A.2.4.2. APAS and INST

áà-dùŋ-ǐshó-rὲ ὲnkὲráy ὲnkálém 'My child will cut with the knife.'
áà-y-pòt-ǐshò-ré 'He made me call'
áà-y-pòt-ǐshó-rὲ 'He will make me call'
áà-y-sùl-ǐshó-rὲ 'He will make me be an excellent person'
áà-y-shòp-ǐshó-rὲ ὲnkὲráy ǐròpíàní 'My child will use money to dress.'
áà-y-tùk-ǐshó-rὲ ὲnkὲráy ὲnkὲrây 'My child will use the basin to wash.'
ὲŋúďì áà-màn-ǐshó-rὲ ὲnkὲráy 'My child will walk around with a stick.'

k-áà-dùŋ-ǐshó-rὲ ὲnkὲráy ὲnkálém 'My child will cut with the knife.'
k-áà-y-pòt-ǐshó-rὲ 'He will make me call'
k-áà-y-sùl-ǐshó-rὲ 'He will make me be an excellent person'
k-áà-y-shòp-ǐshó-rὲ ὲnkὲráy ǐròpíàní 'My child will use money to dress.'

k-áà-y-tùk-ǐshó-rè ènkèráy ènkèrây   *'My child will use the basin to wash.'*

áà-tù-dùŋ-íshò-rè ènkèráy ènkálém *'My child cut with the knife.'*
áà-y-sùl-ǐshò-ré   *'He made me be an excellent person'*
áà-y-sùl-ǐshò-rè   *'He made me be an excellent person'*
áà-y-shòp-ǐshò-ré ènkèráy ǐròpíàní *'My child used money to dress.'*
áà-y-tùk-ǐshò-ré ènkèráy ènkèrây   *'My child used the basin to wash.'*

A.2.4.3. <u>APAS, INST and PASS</u>

áà-y-sùl-ǐshó-rèk-ǐ   *'I was made to be an excellent person'*
k-áà-y-sùl-ǐshó-rèk-ǐ   *'I was made to be an excellent person'*
áà-y-sùl-ǐshò-rék-ǐ   *'I will be made to be an excellent person'*

A.2.5. Combinations with Dative (DAT)

A.2.5.1. <u>DAT only</u>

Non-perfect forms

áà-y-pàr-ákǐ   *'He will question for me.'*
áà-bà-àkí   *'He will heal him for me.'*
áà-bùl-òkí   *'he will pierce it for me.'*
áà-dàɲ-àkí ènkɔ̀ŋú   *'He will break an eye for me.'*
áà-dùŋ-òkí   *'They/he will cut for me.'*
áà-y-bòn-ókǐ   *'He will foretell for me.'*
áà-y-gèr-ókǐ   *'He/they will write for me.'*
áà-y-kèn-ókǐ   *'He/they will shut for me.'*
áà-y-kèn-ákǐ   *'He/They will count for me.'*
áà-y-kùm-ókǐ   *'He will hit for me'*
áà-y-lèp-ákǐ   *'He will climb for me.'*
áà-y-pǐd-ókǐ   *'He will jump for me.'*
áà-y-pùŋ-ókǐ   *'He will go out for me.'*
áà-y-pòt-ákǐ   *'He will fill it up for me.'*
áà-y-pòt-ù-pòt-ákǐ   *'He will fill it up for me a little at a time.'*
áà-y-rùs-ókǐ   *'He will pierce someone for me.'*
áà-y-sùj-ákǐ   *'He will wash for me.'*

áà-y-shìr-ákí   *'He/they will cry for me.'*
áà-lèj-àkí   *'He will lie,cheat for me.'*
áà-lèp-òkí   *'He will milk it for me.'*
áà-mòr-àkí   *'He will plaster for me'*
áà-pèj-òkí   *'He will burn it for me.'*
áà-pùrr-òkí   *'He will steal for me'*
áà-ràɲ-àkí   *'He will sing for me'*
áà-rùm-òkí   *'He will prod someone for me.'*
áà-ròm-àkí   *'He will visit a sick person for me.'*
áà-sòr-àkí   *'He will paint for me'*
k-áà-àr-àkí mày-bùŋ-ây èldê tùŋán˩í   *'He will force me to support this person.'*
k-áà-bà-àkí   *'He will heal him for me.'*
k-áà-bèl-àkí   *'He will break it for me.'*
k-áà-bùl-òkí   *'he will pierce it for me.'*
k-áà-dàɲ-àkí èŋkɔ̀ŋú   *'He will break an eye for me.'*
k-áà-dyà-àkí   *'He will curse/insult for me.'*
k-áà-dùŋ-òkí   *'They/he will cut for me.'*
k-áà-dòt-ákì   *'Someone will choose for me'*
k-áà-y-bòn-ókì   *'He will foretell for me.'*
k-áà-y-gèr-ókì   *'He/they will write for me.'*
k-áà-y-kèn-ókì   *'He/they will shut for me.'*
k-áà-y-kèn-ákì   *'He/They will count for me.'*
k-áà-y-kùm-ókì   *'He will hit for me'*
k-áà-y-lèp-ákì   *'He will climb for me.'*
k-áà-y-pàr-ákì   *'He will question for me.'*
k-áà-y-pǐd-ókì   *'He will jump for me.'*
k-áà-y-pòr-ákì   *'he will face someone for me.'*
k-áà-y-pùŋ-ókì   *'He will go out for me.'*
k-áà-y-rùs-ókì   *'He will pierce someone for me.'*
k-áà-y-shìr-ákì   *'He will cry for me.'*
k-áà-lèj-àkí   *'He will lie,cheat for me.'*
k-áà-lèp-òkí   *'He will milk it for me.'*
k-áà-pèj-òkí   *'He will burn it for me.'*
k-áà-pèt-àkí   *'He will keep close to something on my behalf.'*
k-áà-pùrr-òkí   *'He will steal for me'*
k-áà-rùm-òkí   *'He will prod someone for me.'*
k-áà-sòr-àkí   *'He will paint for me'*

Perfect forms

áà-tù-dùŋ-òk-ó   *'He has given/cut part of it for me.'*
áà-tì-ɠìl-àk-á   *'He broke it for me.'*
áà-y-bòn-òk-ó   *'He foretold for me.'*

áà-y-gèr-òk-ó 'He did write for me.'
áà-y-gǐs-òk-ó 'He jumped for me.'
áà-y-kèn-òk-ó 'He did shut for me.'
áà-y-kèn-àk-á 'He did count for me.'
áà-y-kùm-òk-ó 'He did hit for me'
áà-y-lèp-àk-á 'He did climb for me.'
áà-y-pàr-àk-á 'He did question for me.'
áà-y-pǐd-òk-ó 'He did jump for me.'
áà-y-pùŋ-òk-ó 'He did go out for me.'
áà-y-shìr-àk-á 'He did cry for me.'
áà-tὲ-lèj-àk-á 'He did lie,cheat for me.'
áà-tà-lèp-òk-ó 'He did milk it for me.'
áà-tì-mìr-àk-á 'He plastered for me'
áà-tà-pèj-òk-ó 'He did burn it for me.'
áà-tù-pùrr-òk-ó 'He did steal for me'
áà-tì-sìr-àk-á 'He did paint for me'
áà-tà-gòr-òk-ó 'He/she strangled for me.'

       Plural perfect forms

áà-tù-dùŋ-òk-ǐt-ô 'They have cut for me.'
áà-tì-gìl-àk-ìt-â 'They broke it for me.'
áà-tà-gòr-òk-ǐt-ô 'they strangled for me'
áà-y-gèr-òk-ǐt-ô 'They did write for me.'
áà-y-gǐs-òk-ǐt-ô 'They jumped for me.'
áà-y-kèn-òk-ǐt-ô 'They did shut for me.'
áà-y-kèn-àk-ìt-â 'They did count for me.'
áà-y-shìr-àk-ǐt-â 'They did cry for me.'

A.2.5.2. <u>DAT and INST</u>

áà-dùŋ-òkíɲ-yè òlpáyǐàn ìnkírí ὲnkálém 'The man will use the knife to cut meat for me.'
áà-y-lèp-àkǐɲ-yé 'He has used it to climb it for me.'
áà-tù-dùŋ-òkǐɲ-yé 'He has cut for me using ...'
áà-y-lèp-àkíɲ-yè 'He will use it to climb it for me.'

A.2.5.3. <u>DAT and MID</u>

k-áà-y-bèl-òkín-ò òlchánǐ 'The tree will fall onto me.'

áà-tà-gòr-òkín-è   'He became angry at/for me.'
áà-y-bèl-òkín-è ɔlchánǐ   'The tree fell onto me.'
áà-tà-gòr-òkǐn-ót-è   'They became angry at/for me.'

A.2.5.4. DAT and PASS

Non-perfect forms

áà-dùŋ-òkǐn-í ènkǐrǐŋó   'The meat will be cut for me.'
áà-gìl-àkìn-í ɔlpáékí   'The maize will be broken for me.'
áà-gòr-òkǐn-í ènkíné   'The goat will be strangled for me.'
áà-y-gìs-àkìn-í ɔlpánkʼá   'My knife will be cut/sliced.'
áà-y-kùm-òkǐn-í èngúmótó tènáùnǐr.   'He will make a hole for me with a sharp
                                        post'
k-áà-dùŋ-òkǐn-í ènkǐrǐŋó   'The meat will be cut for me.'
k-áà-gìl-àkìn-í ɔlpáékí   'The maize will be broken for me.'
k-áà-gòr-òkǐn-í ènkíné   'The goat will be strangled for me.'
k-áà-y-gìs-àkìn-í ɔlpánkʼá   'My knife will be cut/sliced.'
k-áà-y-kùm-òkǐn-í èngúmótó tènáùnǐr.   'He will make a hole for me with a sharp
                                         post'
            Perfect forms

áà-tù-dùŋ-òk-òk-í   'I was cut(i.e., something was cut for me)'
áà-tì-gìl-àk-àk-í ɔlpáékí 'The maize was broken for me.'
áà-tà-gòr-òk-òk-í   'It was strangled for me.'
áà-y-gìs-àk-àk-í ɔlpánkʼá 'My knife was cut/sliced.'
áà-y-kùm-òk-òk-í èngúmótó tènáùnǐr.   'He made a hole for me with a sharp post'

k-áà-y-gìs-àk-àk-í ɔlpánkʼá 'My knife was cut/sliced.'
k-áà-y-kùm-òk-òk-í èngúmótó tènáùnǐr.   'He made a hole for me with a sharp post'

A.2.6. Combinations with Instrumental (INST)

A.2.6.1. INST only

Non-perfect forms

áà-sùj-yè ènkáy árrǐ   'He will follow me using the other car'

áà-bà-yè	*'He last saw me.'*
áà-dùŋ-yè táàtá	*'The man will use the knife to cut today.'*
áà-dùt-yè ïlkùlík¹áy	*'Someone will choose me compared to the others.'*
áà-y-gèr-yè	*'He will make me write.'*
áà-y-kèɲ-yè	*'He will make me shut it.'*
áà-y-kèɲ-yè	*'He will make me count it.'*
áà-y-lèp-yè	*'He will make me climb '*
áà-y-rràg-yè	*'he will lay me down'*
áà-y-shǐr-yè	*'He will make me cry.'*
áà-pèt-yè	*'He will keep close to something for me.'*
k-áà-bà-yè	*'He last saw me.'*
k-áà-y-gèr-yè	*'He will make me write.'*
k-áà-y-kèɲ-yè	*'He will make me shut it.'*
k-áà-y-kèɲ-yè	*'He will make me count it.'*
k-áà-y-lèp-yè	*'He will make me climb '*
k-áà-y-rràg-yè	*'He will lay me down.'*
k-áà-y-shǐr-yè	*'He will make me cry.'*
k-áà-sùj-yè ènkáy árrǐ	*'He will follow me using the other car'*
m-áà-bà-yè	*'He has not seen me yet.'*

Perfect forms

áà-tà-bòl-yé	*'He used it to open me'* *'He used me to open it.'*
áà-tù-dùŋ-yé	*'He cut me using it.'*
áà-tà-gòr-yé	*'He/etc. strangled me (using/for …).'*
áà-tà-gòr-yé òlgòsôy	*'She strangled me using the rope.'*
áà-y-gèr-yé	*'He made me write.'*
áà-y-kèɲ-yé	*'He did make me shut it.'*
áà-y-kèɲ-yé	*'He did make me count it.'*
áà-y-lèp-yé	*'He did make me climb '*
áà-y-rràg-yé	*'he laid me down'*
áà-y-shǐr-yé	*'He did make me cry.'*
áà-tò-ɲòrr-yé	*'He/she loved me because of …' / 'He/she used something to love me.'*
áà-tà-gòr-yê	*'They strangled me (using/for …).'*
áà-y-gèr-yê	*'They made me write.'*
áà-y-kèɲ-yê	*'They did make me shut it.'*
áà-y-kèɲ-yê	*'They did make me count it.'*
áà-y-lèp-yê	*'They did make me climb '*
áà-y-shǐr-yê	*'They did make me cry.'*
áà-tò-ɲòrr-yê	*'They loved me because of …'*

A.2.6.2. INST and MID

k-áà-àr-à-ré	*'He will fight with me.'*
k-áá-wwàs-à-ré èntĩtó	*'The girl is proud of me.'*
áà-dùŋ-ò-ré ènkàlém ˇınkírí	*'My knife was used to make the meat cut.'*
áà-tà-dál-à-rè	*'He played with me.'*

A.2.6.3. INST and PASS

áà-dùŋ-yék-ˇı ènkálém	*'The knife will be used to cut me.'*
áá-gòr-yék-ˇı	*'Someone will use it to strangle me.'*
k-áà-dùŋ-yék-ˇı ènkálém	*'The knife will be used to cut me.'*
k-áá-gòr-yék-ˇı	*'Someone will use it to strangle me.'*
k-áá-shèt-yék-ˇı	*'I (i.e., my hair) will be plaited with it.'*
áà-tù-dùŋ-yèk-í ènkálém	*'The knife was used to cut me.'*
áà-tà-gòr-yèk-í	*'I was used to strangle.'*
áà-tè-pèt-yèk-í	*'I was kept close to.'*
áà-tù-sùj-yèk-í ènkàí árrˇı	*'They followed me using the other car.'*

A.2.7. Middle (MID)

áà-màŋ-á	*'I live ...."(i.e., ...here)'*
k-áà-ɗıp-á ènkèráy	*'My child is dependable/helpful.'*
áà-dùŋ-ó ènkèráy/ˇınkérˈá	*'My child/ren is/are cut.'*
áà-gòr-ó ènkínè/ènkínèĵi	*'My goat/s is/are (being) strangled.'*
áà-tà-gòr-é ènkèráy	*'My child became/was angry.'*
áà-tò-řıkín-è	*'I forgot.' (lit. it/they forgot me)'*
áà-tù-dùŋ-é ènkèráy	*'My child has become cut.' (on the flesh, completely or split into two)'*
áà-tà-gòr-ót-è	*'My children were/became angry.'*
áà-tò-řıkˇın-ót-è	*'They have forgotten me.'*

A.2.8. Passive (PASS)

Non-perfect forms

áà-àr-í ènkíné	*'(They) will kill my goat.'*
áà-dàmòn-í	*'I will be remembered.'*
áà-gòr-í ènkíné táysérè	*'My goat will be strangled tomorrow.'*
áà-ɲɔ̀rr-í	*'People love me.'*
áà-yá-y	*'I will be taken.' / 'I will be married.'*
áà-tɔ̀n-í	*'(e.g. My cows) will stay.'*

k-áà-tâ-y	*'I am there.'*
k-áà-yà-ytâ-y	*'I'm being had/owned.'*
k-áà-dàmòn-í	*'I will be remembered.'*
k-áà-gòr-í	*'I will be strangled.'*
k-áà-y̌in-í	*'I will be born.'*
k-áà-tùm-í	*'They will get me (e.g., I'm lost, and someone is looking for me)'*

Perfect forms

áà-tà-bà-àk-í	*'I was healed.'*
áà-tù-bùl-òk-í	*'I was pierced.'*
áà-tà-dàmw-àk-í	*'I was remembered.'*
áà-tà-dàɲ-àk-í ènkɔ̀ŋú	*'My eye was broken'*
áà-tù-dùŋ-òk-í	*'I was cut.'*
áà-tà-gòr-òk-í	*'I was strangled.'*
áà-y-pàr-àk-í	*'I was questioned.'*
áà-y-rùs-òk-í	*'I was pierced.'*
áà-y-sòj-àk-í	*'I was washed.'*
áà-tò-ni̋ŋ-òk-í	*'I was heard.'*
áà-tɔ̀-ɲɔ̀rr-àk-í	*'I was loved.' / 'People have started loving me.'*
áà-tù-rùm-òk-í	*'I was prodded.'*
áà-tò-ròm-àk-í	*'I was visited (while sick).'*

k-áà-tɛ̀-dyà-àk-í	*'I was cursed/insulted.'*
k-áà-tù-dùt-àk-í	*'I was chosen.'*
k-áà-y-pìr-àk-í	*'I was faced.'*

áà-ni̋ŋ-ìtô-y	*'I am being heard. (PROG)' 'People are hearing me.'*
áà-ɲɔ̀rr-�òn-í	*'(They) will love me.' (but maybe don't now)*

A.2.9. Perfect (PF)

áà-tà-bà-á	*'He healed me.'*
áà-tà-dàmw-á	*'He/she has remembered me.'*
áà-tɔ̀-dɔ̀r-ɔ́ ɛ̀nkèráy	*'My child has become red.'*
áà-tù-dùŋ-ó yyéyyóò	*'My mother cut me.'*
áà-tà-gòr-ó	*'He has strangled me.'*
áà-y-kàsh-á ɛ̀nkèráy	*'My child became/is better.'*
áà-y-mìn-á ɛ̀nkèráy	*'My child is lost.'*
áà-y-rùt-ô ɛ̀nkèráy	*'My child was frightened.'*
áà-tò-nǐŋ-ó	*'He/she has heard me.'*
áà-tɔ̀-ɲɔ̀rr-á	*'He/she have loved me.'*
k-áà-tà-gòl-ó ɛ̀nkàlém	*'My knife became hard'*
áà-tà-gòr-ó ɛ̀nkèráy ɔ̀lmáŋát̃intá	*'The child has strangled my enemy.'*
áà-tà-gòr-ô ìnkérâ ...	*'My children have strangled ...'*
áà-tàá ɛ̀nkínè ìnkírí	*'My goat has become meat.'* (3>1-be.PF)
áà-tà-dàm-ʊ̀t-w-â	*'They have remembered me.'*
áà-tɔ̀-dɔ̀r-ìt-â ìnkér̩á	*'My children became red.'*
áà-tù-dùŋ-ô	*'The warriors cut me.'*
áà-y-sʊ̀j-â	*'They washed me.'*
áà-tò-nǐŋ-ô	*'They have heard me.'*
áà-tɔ̀-ɲɔ̀rr-â	*'They have loved me.'*
k-áà-tò-nǐŋ-ô	*'They have heard me.'*

A.2.10. Progressive (PROG)

áà-bàk-ìtà	*'He is making me heal.'*
áà-dùŋ-ĭtò ɛ̀nkèráy	*'The child is cutting me.'*
áà-y-rùt-ĭtò ɛ̀nkèráy	*'My child is frightened now.'*
	'He is following me.'
k-áà-dùŋ-ĭtò ɛ̀nkèráy	*'The child is cutting me.'*
k-áà-màn-ìtà ɛ̀nkèráy	*'My child is moving about.'*

A.2.11. Inceptive (INCEP)

áà-dòr-ú ɛ̀nkèráy	*'My child will become red.'*
áà-y-kàsh-ù ɛ̀nkèráy	*'My child will become more better.'*
áà-y-làsh-ù ɛ̀nkèráy	*'My child will become proud.'*

áà-y-mǐn-ù ènkèráy	*'My child will get lost (on the way).'*
k-áà-gòl-ú ènkàlém	*'My knife will become hard'*
k-áà-y-kàsh-ù ènkèráy	*'My child will become (more) better.'*
k-áà-y-làsh-ù ènkèráy	*'My child will become proud.'*
k-áà-pǐr-ú ènkèráy	*'My child will become fat.'*
k-áà-ròk-ú ènkèráy	*'My child will became black.'*
áà-ɲòrr-ú	*'They started loving me (i.e., but don't yet)'*
k-áà-dòr-ú ènkílàní òlêŋ	*'My clothes will become very red.'*
k-áà-ɲòrr-ú	*'They started loving me (i.e., but don't yet)'*

A.2.12. Data with Morphologically Simple Stems

k-áà-y-shû ènkèráy	*'My child is alive.'*
áà-àkú ènkèráy ènkítéŋ	*'My child will become a cow.'*
áà-âr ènkínè	*'The goat will kill me.'*
áà-bârn	*'He/she will shave me.'* or *'The child will shave my head.'*
áà-dɔ́ ènkèráy	*'My child is red.'*
áà-dûŋ ènkèráy ènkǐřìŋó	*'My child will cut the meat.'*
áà-dûŋ òlmòrràní òlchàní	*'My warrior will cut the tree.'*
áà-gǐrá àytèbél	*'He is making me break it.'*
áà-gǐrá àytùdúŋ	*'He is making me cut.'*
áà-y-kâsh ènkèráy	*'My child is better.'*
áà-y-mín ènkèráy	*'My child will be lost.'*
áà-y-rút ènkèráy	*'My child will become frightened.'*
áà-y-rrág ènkàyná	*'My arm is lying down.'*
áà-kwét ènkítèŋ	*'My cow will run.'*
áà-mî ènkàyná âŋ.	*'My arm hurts.'*
áà-tûm	*'He will meet me.'*
k-áà-bǐk èmpúús tèné	*'My cat will stay here.'*
k-áà-dôl	*'He will see me.'*
áà-dùtâ	*'Someone will choose me'*
k-áà-y-mín ènkèráy	*'My child will be lost.'*
k-áà-y-nèpò	*'He will meet me.'*
k-áà-y-sóm	*'He will make me read (i.e., using his money)'*
k-áà-yú	*'She will give birth to me.'*
k-áà-tûm	*'He will meet me.'*
k-áà-yyêr	*'He will cook me.'*
áà-àdɔ̀ ènkèráy	*'My child is tall.'*
áà-àkú ènkèráy ènkítéŋ	*'My child will become a cow for my benefit.'*
áà-ťíí ènkáɟì èmbátá ɔ́lkèjú	*'My home is by the river.'*
áà-bârn	*'They will shave me.'*
k-áà-bârn	*'They will shave me.'*

áà-âɲ	'He will refuse me.'
áà-dàmʊ́	'They/he/she (will) remember me.'
áà-y-shû ɛ̀nkɛ̀ráy	'My child is alive.'
áà-ɲɔ̂r	'They/he/she loves me.'
k-áà-àkʊ́ nànù	'He will become me.'
k-áà-dàmʊ́	'They/he/she (will) remember me.'
áà-pîr ɩ̀ntárɛ̀	'My sheep are fat.'

A.3. Second Person Plural

These forms almost all have a tone pattern which is high up to the last mora, which is low. The penult High mora is depressed to a phonetic mid pitch before a word final Low, when it occurrs phrase finally (Rasmussen and Payne, in review). There are other tone patterns for second person plural verbs, though, and it is not clear what drives the consistency of the tone patterns we find (i.e., with penultimate mid pitch), and what allows for exceptions.

A.3.1. With Class I Causative (CAUS)

ɛ́kɩ́-ntá-dám-íshɔ́-shɔ̀	'You (pl) will make me think.'
í-ntá-gór-ó-rò	'You (pl) will use it to strangle yourselves.'
í-ntɔ́-ɲɔ́rr-á-rrà	'You (pl) will make each other love.'
í-ntó-níŋ-ót-ɛ̀	'You (pl) made each other hear it.'
í-ntɔ́-ɲɔ́rr-àt-ɛ̀	'You (pl) made each other love something.'
í-ntɔ́-ɲɔ́rr-í-ɲɔ́rr-ɔ̀	'You (pl) will make him love.'
ɛ́kɩ́-ntó-níŋ-í-níŋ-ɩ̀	'You (pl) will make me hear it.'
ɛ́kɩ́-ntɔ́-ɲɔ́rr-í-ɲɔ́rr-ɔ̀	'You (pl) will make me like/love it.'
kɩ́-ntá-kwéɲ-ˈá	'You (pl) made me laugh.'
kɩ́-ntɔ́-ɲɔ́rr-ˈá	'You (pl) have made me love it.'

A.3.2. Motion Away (AWAY)

| í-bwáy-á-yà | 'You (pl) go on shouting.' |

í-púá-yá-yà   *'You (pl) will go roaming around aimlessly.'*
í-tá-ŋór-ó-yt-yè   *'You (pl) threw (a spear, away)'*

A.3.3. Ventive (VENT)

í-ɲɔ́rr-á-yú-yù   *'You (pl) are lovable.'* or
í-ɲɔ́rr-á-yù-yù

A.3.4. Antipassive (APAS)

í-bárn-íshɔ́-shɔ̀   *'You (pl) will shave.'*
í-gór-íshó-shò   *'You (pl) strangle.'*
í-ɲɔ́rr-íshɔ́-shɔ̀   *'You (pl) will love.'*
í-tá-ráɲ-ísh-òt-è   *'You (pl) did singing.'*

A.3.5. With Dative (DAT)

í-dúŋ-ókí-kì̀   *'You (pl) will cut for him.'*
í-gór-ókín-ó-nò   *'You (pl) will be angry at...'*
kí-dúŋ-ókíɲ-yé-ɲyè   *'You (pl) will cut for me using...'*
í-dúŋ-ókín-ó-nò   *'You (pl) will cut for each other.'*
í-tá-gór-ókín-òt-è   *'You (pl) became angry at him.'*

A.3.6. Instrumental (INST)

í-bá-yé-yè   *'You (pl) last sighted them.'* (non-perfect form)
í-bá-yé-yè ïyyóók   *'You (pl) last sighted us.'*   (non-perfect form)
ɛ́kí-bá-yé-yè   *'You (pl) last sighted me.'*   (non-perfect form)
kí-tá-gór-ˈyé   *'You (pl) strangled me using/for...'*

A.3.7. Middle (MID)

í-ár-á-rà   *'You (pl) will fight (reciprocal)'*
í-bárn-á-nà   *'You (pl) will shave yourself/be shaved.'*
í-dámʊ́n-ɔ́-nɔ̀   *'You (pl) will remember each other.'*

í-gór-ó-rò   *'You (pl) will strangle each other.' / 'You (pl) become angry (habitual)'*
í-ríkín-ó-nò   *'You (pl) will forget.'*
í-shíp-á-pˈá   *'You (pl) are happy today.'*
í-tá-gór-òt-è   *'You (pl) became angry.' / 'You (pl) strangle each other.'*
í-rúr-àt-è   *'You (pl) are (already) asleep.'*
í-tó-ɲórr-àt-è   *'You (pl) have loved each other.'*
í-tó-ríkín-ót-è   *'You (pl) forgot.'*
í-ɲórr-á-yú-yù   *'You (pl) will love each other.'*

A.3.8. Perfect (PF)

kí-tá-dám-ùt-w-â   *'You (pl) have remembered me.'*
kí-tá-gór-ˈó   *'You (pl) strangled me.'*
í-súj-ˈá   *'You (pl) washed it.'*
kí-súj-ˈá   *'You (pl) washed me.'*
í-tó-níŋ-ˈó   *'You (pl) have heard.'*
í-tó-ɲórr-ˈá   *'You (pl) have loved.'*
í-tú-súj-ˈá   *'You (pl) followed him.'*
έkí-súj-ˈá   *'You (pl) washed me.'*

A.3.9. Progressive (PROG)

í-ból-ító-tò   *'You (pl) are opening it.'*
í-rrág-ítá-tà   *'You (pl) are lying down.'*
í-níŋ-ító-tò   *'You (pl) are hearing.'*
í-súj-ítá-tà   *'You (pl) are following him.'*

A.3.10. Inceptive (INCEP)

í-ádór-ú-rù   *'You (pl) will become tall.'*
í-ɲórr-ú-rrò   *'You (pl) will become loving.'*
έkí-ɲórr-ú-rrò   *'You (pl) will love me.'*

A.3.11. Roots Only

í-ádɔ́-dɔ̀   *'You (pl) are tall.'*

í-ákʊ́-kʊ̀	*'You (pl) will become ...'*
í-áɲ-í-áɲ-à	*'You (pl) will refuse.'*
í-áp-í-áp-à	*'You (pl) will be pregnant before circumcision.'*
í-ár-í-ár-à	*'You (pl) will beat someone, put out (fires), etc.'*
í-bá-ú-ù	*'You (pl) will arrive.'*
í-bá-yá-yà	*'You (pl) will arrive there.'*
í-ból-í-ból-ò	*'You (pl) will open it.'*
í-bɔ́-ytá-tà	*'You (pl) will be together.'*
í-dámʊ́-mʊ̀	*'You (pl) can/will remember.'*
kí-dámʊ́-mʊ̀	*'You (pl) remember me.'*
í-dɔ́-dɔ̀	*'You (pl) are red.'*
í-dɔ́l-í-dɔ́l-ɔ̀	*'You (pl) will see it.'*
kí-dɔ́l-í-dɔ́l-ɔ̀	*'You (pl) will see me.'*
í-gór-í-gór-ò	
í-níŋ-í-níŋ-ǐ	*'You (pl) hear.'*
í-ɲá-ɲà	*'You (pl) will eat.'*
í-ɲɔ́rr-í-ɲɔ́rr-ɔ̀	*'You (pl) love.'*
í-pír-í-pír-ǐ	*'You (pl) are fat.'*
í-yyér-í-yyér-è	*'You (pl) will cook it.'*

A.4. Infinitives

Infinitive forms in Maa can be described as verbs that are not inflected for person of subject or object, though they still vary for number of the subject, and they may still take other affixes. Infinitive tone has been described clearly by TM, with singular having "the same shape as the 1st person sing. of the Present Tense (non-perfect aspect), except that its high tone is on the last syllable."(p217) and plural having a long prefix *áà-*, which has a high-low pitch, with the remainder of the word being low (p218). These infinitive forms are also the citation forms of the verbs.

à-gór	*'to strangle'*
à-àkʊ́	*'to become'*
à-dàm-ìshɔ́	*'to think'*
à-dùŋ-ìshó	*'to be able to cut'*
à-gòr-ìshó	*'to strangle'*
à-nǐŋ-ìshò-yú	*'to learn a lesson'*

áà-dùŋ-ù-dùŋ   *'to cut into pieces'*

Infinitives may also follow an inflected auxiliary/serial verb (Hamaya 1993, TM:96-102).

áàgìrá à-ytɛ̀-bél   *'He is making me break it.'*
ágírà à-dùŋ-yé ɛ̀nkálém   *'I'm using the knife to cut it.'*
ègírà à-gòr-yé   *'He is using it to strangle.'*
ègír˙áy áà-dùŋ-yè ɛ̀nkálém   *'The knife is being used to cut it.'*
ègír˙áy áà-shèt-yè ǐŋápétà   *'The posts are being used to build.'*
áàgìrá à-ytù-dúŋ   *'He is making me cut.'*
áytér˙wá à-ɲɔ̀rr-ʊ́   *'I have started loving.'*
áytér˙wá à-nǐŋ-ǐshò-yú   *'I have started hearing.' (i.e., can now hear)'*
áytér˙wá à-níŋ   *'I've started learning.'*
áydípà à-tɔ̀-ɲɔ́rr-à   *'I finished loving.'*

A.5. Imperatives

For imperatives, I have no insights past what TM have already said (pp73-77, etc.), though I do have the following data.

ɛ́-ntà-gòr-ɔ̀tó   *'You strangle each other!'*
ɛ́-ntà-dàmʊ́   *'You (pl) remind him/her/them/us!'*
í-ntà-dàmʊ́   *'You.SG remind him/her/them/us!'*
í-ntù-dùŋ-ó ɛ̀nkálém ɔ̀lchàní *'You cause the knife to cut the tree!'*
ɛ́-ntù-dùŋ-ó ɛ̀nkálém ɔ̀lchàní   *'(You all) make the knife cut the tree!'*
ɛ́-ntà-gòr-yék-ǐ   *'(2pl) Strangle me using..!'*
tí-gìrà-yú   *'Keep silent!'*
ɛ́-ntù-dùŋ ɔ̀lchàní   *'Cut the tree!'*

APPENDIX B

NON-PERFECT TONE PATTERNS BY AFFIX

Chapter VI took an admittedly naïve view toward the suffixal contribution to the tone of the words, focusing instead on the variation by person prefix. This appendix gives data showing tone on the remainder of the word, with tone patterns for forms with each of the affixes when not in combination with other affixes. Rather than make many firm hypotheses at this time about underlying forms (which would only have to be retracted in the face of the data in Appendix C), this appendix merely lists the data that I have collected and checked, with a minimum of commentary.

Due to the difficulty emerging from the combination of affixes for the tone analysis, the following data is limited to that with no more than one suffix or the Class I causative (CAUS), and is grouped into sections by those affixes. The heading of each section gives the name and gloss of the affix, followed by the stem tone pattern found on verb forms with just that affix. The stem tone pattern given will be the stem tone, i.e., the tone which is constant in both first and third person forms (from Chapter VI). Where the distinction between morphological Class I and Class II affects the whole word tone, the words are given in two distinct sections.

Within each section, data are arranged into two groups. The first group includes those with third person subjects. The next group includes those with subject prefixes on initial-high verbs, that is, those subject prefixes that are lexically unspecified (Chapter VI), given according to the bound argument pronoun. For the sake of simplicity, the remaining person prefixes are not included in this appendix (see Appendix A for some data). In each section of verb forms that differ only by root, the first is parsed and glossed, while the remainder is parsed only. Each has its own free translation.

B.1. The Class I Causative (CAUS)

The Class I Causative stem tone pattern is High-Low. The form of the prefix is *-ɪtV*, according to the vowel harmony described in TM:56,146. Recall from Chapter V that the Class I Causative prefix derives a Class II stem. It would thus seem reasonable that the stem tone pattern on stems with only the causative is like that on simpler Class II stems: High-Low.

B.1.1. Third person subject (3) forms:

ɛ̀-ytá-dàl	*'He will make him play.'*
3-CAUS-play	
ɛ̀-ytɔ́-dɔ̀	*'He will make him red.'*
ɛ̀-ytú-dùŋ	*'He will make him cut it.'*
ɛ̀-ytɨ́-g̀ɪr	*'He will make him silent.'*
ɛ̀-ytá-gòr	*'He will make him angry.'*
ɛ̀-ytá-làl	*'He will make it wide.'*
ɛ̀-ytú-lùb	*'He will make him greedy.'*
ɛ̀-ytɛ́-mɛ̀r	*'He will make him drunk.'*
ɛ̀-ytá-nàn	*'He will make it soft.'*
ɛ̀-ytó-nɪ̌ŋ	*'He will make him hear it.'*

è-ytɔ́-ɲɔ̀r   *'He makes him love (habitual)'*
è-ytí-ŋ̀d   *'He will make him proud.'*
è-ytí-shɨ̀p   *'He will make him happy.'*
è-ytá-wwàs   *'He will make him proud.'*

    exception:

è-ytɔ̀-rík̍ínó   *'He will make him forget.'*

B.1.2. Non-third Person Forms with Initial Surface High:

á-ytó-nǐŋ   ɨ̀ntáy   *'I will make you (pl) hear it.'*
1SG-CAUS-hear   you.pl

í-ntɔ́-ɲɔ̀rr   *'You will make him love it.'*
2-CAUS-love

í-ntɔ́-ɔ́dɔ̀   *'You will make him tall.'*

    exceptions:

á-ytá-d̍ámʊ́ ɨ̀ntáɨ́   *'I will remind you (pl).'*
1SG-CAUS-remember

áá-ytá-d̍ámʊ́   *'I will remind you (sg).'*
1>2-CAUS-remember

B.2. The Motion Away Suffix (AWAY) -- Class I

    The stem tone pattern for *-áà/-ɔ́ɔ̀* AWAY, which includes meanings of both

motion away from the speaker and iterative action, is High-Low for Class I roots. This

data would lead to an initial hypothesis of a HL tone pattern for this affix.

B.2.1. Third Person Subjects

è-bèl-áà	*'She will break them (one at a time).'*
3-break-AWAY	
è-dàl-áà	*'He will play going away.'*
è-dùŋ-óò ènkèráí ìnkújít	*'The child will cut the grass.'* (04.161)
è-gìr-áà élóytô	*'He will be silent as he goes.'*
è-nĭŋ-óò	*'He will hear it, wherever it is.'*
è-ɲɔ̀rr-áà	*'He/she accepts it/will accept it.'*
è-ŋ̀ìd-áà	*'He will be proud while going.'*
è-nàn-áà	*'They are soft, one after another.'*

B.2.2. Non-third Person Forms with Initial Surface High:

á-ɲórr-áà	*'I will agree with it.'*
1SG-love-AWAY	
á-dás-áà kòná kíshú	*'I will milk those cows (one at a time).'*
í-bárn-áà	*'You go around shaving people.'*
2-shave-AWAY	
í-bá-yà	*'You (sg) will arrive there.'*

B.3. The Motion Away Suffix (AWAY) -- Class II

Class II roots with AWAY have a High-Downstepped High stem tone pattern. This data might lead to an initial hypothesis of a H�devedH (i.e., two distinct H's in succession) tone pattern for this affix, though clearly there is some interaction from the Class II stems (see Section B.17).

B.3.1. Third Person Subjects

è-y-bùk-ó˥ó	*'He will pour it out.'*
3-II-pour-AWAY	

è-y-dòŋ-ó ꜜó	*'He will beat them one at a time.'*
è-y-gèr-ó ꜜó	*'He will write them one at a time.'*
è-y-kèn-ó ꜜó	*'He will close it against the outside.'*
è-y-nɔ̀s-á ꜜá	*'He will eat it as he goes.'*
è-y-rrɪ̀t-á ꜜá	*'He/they will look after cows as they go.'*
è-y-tùkw-ó ꜜó	*'He will wash them, one at a time.'*

B.3.2. Non-third Person Forms with Initial Surface High:

á-y-rrág-á ꜜá	*'I will sleep from one house to the next.'*
1SG-II-sleep-AWAY	
á-y-rrít-á ꜜá	*'I will look after them (cows) as they go.'*
í-ø-súd-ó ꜜó (kèwán)	*'You will hide (yourself).'*
2-II-hide-AWAY (self)	
í-íd-á ꜜá	*'You will jump from place to place.'*

B.4. The Ventive Suffix (VENT) – Class I

Class I roots with the Ventive *-ʋ(n)* have a High stem tone pattern. That is, there is a final High tone for third person verbs, and a high and level tone pattern in 1SG forms, where the one High tone is spread to adjacent empty TBU's (see Chapter VI, examples 55i and 55j). This data would lead to an initial hypothesis of a H stem tone pattern for this affix.

B.4.1. Third Person Subjects

ɛ̀-bàrn-ʊ́	*'He will shave.'*
3-shave-VENT	
è-bùk-ú	*'He will pour it out.'*
è-dàl-ʊ́	*'He will play coming.'* or *'It is sunny/hot out.'*
è-dùŋ-ú ɛ̀nkèráí ɛ̀ŋúdì ...	*'The child will cut a stick from ...'*
è-lòt-ú	*'My goat will come to bleat.'*
è-lùb-ú ɛ̀lòtú	*'He will pierce it as he is coming.'*

è-n̈ŋ-ú   *'He will understand.'*
ɛ̀-ŋ̀d-ʊ́   *'He will be proud when coming.'*
ɛ̀-wwàs-ʊ́ ɛ̀-lòt-ʊ́   *'He will become proud as he was coming.'*

B.4.2. Non-third Person Forms with Initial Surface High:

á-ár-ʊ́ ɛ̀nkítéŋ àjí   *'I will beat the cow into the house.'*
1SG-beat-VENT
á-bá-w   *'I will arrive.'*
á-sʊ́j-ʊ́   *'I will follow him.'*
á-yyér-ʊ́   *'I will cook (herbs) to get the medicine out of them.'*

B.5. The Ventive Suffix (VENT) – Class II

The Ventive suffix for Class II roots also has the segmental form -ʊ(*n*), but the

stem tone pattern is High-Low. There is some variation among the few first person forms

in Class II (not all were sufficiently clear to be included here), so there is not sufficient

data to be sure of this surface form, though the present data might lead to an initial

hypothesis of a HL stem tone pattern for this affix on Class II stems.

B.5.1. Third Person Subjects

ɛ̀-y-bál-ʊ̀   *'It will be visible as it comes.'*
3-II-be.visible-VENT
è-y-dóŋ-ù   *'He will beat it off.'*
è-y-gér-ù   *'He will write it from (e.g., from a reference or*
                                photocopying).'
è-y-kén-ù   *'He will close them in this diretion.'*
ɛ̀-y-nɔ́s-ʊ̀   *'He will eat it coming.'*
è-y-pót-ù   *'He will call him to come.'*
è-y-túk-ù   *'He will wash it.'*
ɛ̀-y-rrít-ʊ̀ ĭnkíshú   *'He/they will look after cows as they come.'*

B.5.2. Non-third Person Forms with Initial Surface High:

á-y-pár-ʊ̀   ǐmbáà kúmòk *'I will ask many questions.'*
1SG-II-wash-VENT

áá-y-túk-ù   *'I will wash you.'*
1>2-II-wash-VENT

B.6. The Antipassive Suffix (APAS)

The Antipassive *-ɪshɔ(r)* stem tone pattern is High-Downstepped High-

Downstepped High for both Class I and Class II verbs. This data would lead to an initial

hypothesis of a HᵎH tone pattern for this affix, with the word-final H lexically associated

to the *í* (penultimate mora, with the tone then spread to the ultimate mora).

B.6.1. Third Person Subjects

è-àɲít-ˈíshɔ́   *'He is fond of respecting.'*
3-respect-APAS
è-dám-ˈíshɔ́   *'He will think.'*
è-dás-ˈíshɔ́   *'He will milk by the mouth.'*
è-dúŋ-ˈíshó ènkèráy   *'The child is cutting / able to cut without using anything.'*
è-gór-ˈíshó   *'He will strangle.'*
è-y-bón-ˈíshó   *'He will foretell.'*
è-y-dóŋ-ˈíshó   *'He pounds.'*
è-y-gér-ˈíshó   *'He writes.'*
è-y-kén-ˈíshó   *'He is closing.'*
è-y-mán-ˈíshɔ́   *'He always walks around.'*
è-y-nɔ́s-ˈíshɔ́   *'He will eat.'*
è-y-ŋɔ́l-ˈíshɔ́   *'He is the person who stirs.'*
è-y-ŋɔ́r-ˈíshɔ́   *'He will look.'*
è-y-pót-ˈíshó ìlpáyyàní   *'The men will call.'*
è-y-rrít-ˈíshɔ́   *'He is good at looking after cows.'*
è-lɛ́j-ˈíshɔ́   *'He is a liar.'*
è-níŋ-ˈíshó   *'He can hear.' 'He is awake.'*

è-řkín-ꜛíshó   *'He/it is forgettable.' (NOT 'forgetful')*

B.6.2. Non-third Person Forms with Initial Surface High:

á-dás-ꜛíshɔ́   *'I am milking. (...with a calabash)'*
1SG-milk-APAS
á-gór-ꜛíshó   *'I strangle.'*
á-níŋ-ꜛíshó   *'I can hear.'   'I am awake.'*
á-áɲ-ꜛíshɔ́   *'I wait.'*
á-áɲít-ꜛíshɔ́   *'I respect (people)'*

í-gór-ꜛíshó   *'You (sg) strangle.'*
2-milk-APAS

B.7. The Dative Suffix (DAT) – Class I

Certain roots (e.g., *la* 'miss') take the suppletive form -*iki* for the Dative, rather than the more common -*akɪ/-oki*. The stem tone pattern with the Dative suffix is High-Low for Class I roots. This data would lead to an initial hypothesis of a HL tone pattern for this affix.

B.7.1. Third Person Subjects

è-lá-ykǐ   *'He will miss it for him.'*
3-miss-DAT
è-nǐŋ-ókǐ   *'He will agree with him.'*
è-wwàs-ákì   *'He will become proud on behalf of him.'*
è-bèl-ákì   *'She will break it(stick) for him.'*
è-bùk-ókǐ   *'He will pour it into it.'*
è-dàl-ákì   *'He will play for him.'*
è-dùŋ-ókǐ ɛ̀nkɛ́ráy ...   *'He will cut it for him.'*
è-gìl-ákì   *'She will break it for him.'*
è-gòr-ókǐ   *'He will strangle for him.'*

è-lùb-ók̀ì	*'He will be greedy on his behalf.'*
ὲ-ŋèr-ák̀ì	*'She will tear it for him.'*
ὲ-ŋ̀ìd-ák̀ì	*'He is proud because of him.'*
ὲ-tɔ̀n-ík̀ì	*'He will sit for someone.'*

B.7.2. Non-third Person Forms with Initial Surface High:

á-dúŋ-ók̀ì	*'I will cut for him.'*
1SG-cut-DAT	
á-gór-ók̀ì	*'I will strangle for him.'*
á-níŋ-ók̀ì	*'I will agree with him.'*
í-níŋ-ók̀ì	*'You will agree with him.'*
2-hear-DAT	
kí-dúŋ-ók̀ì	*'You (sg) will cut for me.'*
3>2>1-cut-DAT	
kí-ból-ók̀ì	*'He will open it for you.'*

B.8. The Dative Suffix (DAT) – Class II

With Class II roots, the Dative stem tone pattern is a High-Downstepped High-Downstepped High. This data would lead to an initial hypothesis of a H$^!$H tone pattern for this affix. I have no data with initial High forms.

B.8.1. Third Person Subjects

ὲ-y-bál-ˈákí	*'He will reveal it to him.'*
3-II-reveal-DAT	
ὲ-y-dóŋ-ˈókí	*'He will pound (the grain) for him.'*
ὲ-y-gér-ˈókí	*'She will write it for him.'*
ὲ-y-kén-ˈókí	*'She will close it for him.'*
ὲ-y-lép-ˈákí	*'She will climb it for him.'*
ὲ-y-rrít-ˈákí páyyàn ̀ìnkíshú	*'He will look after cows for the man.'*
ὲ-íd-ˈákí èldésòìt	*'The woman will jump onto the/that rock.'*
ὲ-íd-ˈákí èldésòìt	*'The woman will jump onto the/that rock.'*

B.9. The Instrumental Suffix (INST) – Class I

The Instrumental -*ie(k)* stem tone pattern is High for Class I roots. First and second person forms in Class I are high and level. This data would lead to an initial hypothesis of a H tone pattern for this affix.

B.9.1. Third Person Subjects

è-bèl-yé	*'He will use it to break it.'*
3-break-INST	
è-bà-yé ɔ̀lpáyyàn ènkǐtók	*'The man last sighted the woman.'*
è-bò-yé	*'He will use it to remove the front lower teeth.'*
è-bòl-yé	*'He will use it to open it.'*
è-bùl-yé	*'He will use it to pierce it.'*
è-dùŋ-yé ɔ̀lpáyyàn ǐnkírí	*'The man will use it to cut the meat.'*
è-gòr-yé	*'I will use it to strangle.'*
è-lèp-yé ènkúkúrí ènkítéŋ	*'He will use the calabash to milk the cow.'*
è-nǐŋ-yé	*'He will hear him with it.'*
è-shèt-yé	*'He will use it to build.'*
è-shùk-yé	*'He will use it to fold it.'*

B.9.2. Non-third Person Forms with Initial Surface High:

á-dól-yé ǐnkíshú	*'I see the cows with (i.e., using) it.'*
1SG-see-INST	
á-báy-yé	*'I last saw him/her/it/them.'*
á-dúŋ-yé	*'I will use it to cut.'*
á-gór-yé	*'I will use it to strangle.'*
á-lép-yé ènkúkúrí ènkítéŋ	*'I will use the calabash to milk the cow.'*
èŋúdì á-lót-yé	*'I will walk with a stick.'*
áá-bá-yé	*'I last saw you.'*
1>2-reach-INST	

<u>B.10.</u> <u>The Instrumental Suffix (INST) – Class II</u>

The instrumental stem tone pattern is High-Low for Class II roots. This data

would lead to an initial hypothesis of a HL tone pattern for this affix.

B.10.1. Third Person Subjects

ɛ̀-y-bál-yè	*'He will make it visible.'*
3-II-reveal-INST	
è-y-bél-yè	*'He will use it to roll it.'*
è-y-bók-yè	*'He will use it to hinder him.'*
è-y-búŋ-yè	*'He will use it to support him.'*
ɛ̀-y-dǐŋ-yè	*'It will make it crowded.'*
è-y-dóŋ-yè	*'He will use it to pound (grain).'*
è-y-dúr-yè	*'He will use it to migrate.'*
è-y-gér-yè	*'He will use it to write.'*
è-y-kén-yè	*'He will use it to close it.'*
è-y-súj-yè	*'He will use it to wash it.'*
è-y-shúr-yè	*'She will make it overcooked.'*
ɛ̀-y-rrág-yè ɛ̀nkàyná	*'My arm is lying down.'*
è-y-rrít-yè	*'He will use it to look after cows.'*

B.10.2. Non-third Person Forms with Initial Surface High:

á-y-súj-yè	*'I will use it to wash it.'*	*'I used it to wash it.'*
1SG-II-wash-INST		

B.10.3. Exceptions:

è-y-térrˈé-yé	*'He will make/made him faint.'*
è-y-shúˈ-yé	*'He is alive because of (food)'*
è-y-rrítˈá-yé	*'He used it to look after cows (as they went?).'*

B.11. The Middle Suffix (MID)

For Class I roots the non-perfect middle stem tone pattern is High-Low. Note that this form includes the dynamic middle (reciprocal and reflexive) as well as reslultant state semantics for Class I roots. In Class II roots, dynamic middle readings are only available for a different form, given in section B.12. For Class II roots, the form in the present section only refers to stative readings. This data would lead to an initial hypothesis of a HL stem tone pattern for this affix.

B.11.1. Third Person Subjects

è-ár-à	*'He is beaten.'*
3-beat-MID	
è-ás-à ìnâ	*'This is done/already done, complete, finished.'*
è-bárn-à táàtá	*'They are shaving each other.'*
è-ból-ò kíshòmǐ	*'The gate was opened; the gate is opened (right now).*
è-bɔ́r-à	*'He/they is/are injured.' 'They will injure each other.'*
è-dál-à	*'He will play.'*
è-dás-à ɛ̀ndá kítéŋ	*'That cow is (already) milked.'*
è-dyá-à	*'He is cursed.(condition)'*
è-dúŋ-ò	*'He/they is/are cut.' / 'They will cut each other.'*
è-dúà-à ìlpáyyàní	*'The men see each other.'*
è-gír-à	*'He will be silent.'*
è-gór-ò	*'It was strangled.'/'He becomes angry.' 'They will strangle each other.'*
è-y-bál-à	*'It is visible.'*
è-y-bó-ò	*'They/He are/is hindered.'*
è-y-díŋ-à	*'It is crowded.'*
è-y-dóŋ-ò	*'He/It/They is/are beaten.'*
è-y-gér-ò	*'It/they is/are written/employed.'*
è-y-gís-à	*'They/It are/is carved/sliced.'*
è-y-kén-ò èmílàngò	*'It/they is/are closed.'*
è-y-mál-à ɛ̀ná kítòk	*'She is given to (you can see her cows).'*

è-y-mán-à	*'He drags himself due to laziness.'*
è-y-nɔ́s-à ɛ̀ndáà	*'It/they is/are eaten.'*
è-y-ŋɔ́l-à	*'It is stirred.'*
è-y-ŋɔ́r-à	*'She/They is/are looked at.'*
è-y-pár-à	*'He/They is/are questioned.'*
è-y-pɔ́sh-à	*'He will wander off due to (stressful) problems.'*
è-y-pót-ò	*'He/They is/are called.' 'They will call each other.'*
è-y-rɔ́sh-à	*'It is thick.'*
è-y-rɔ́r-à	*'He is asleep.'/'They are asleep.' (may just be in bed)'*
è-y-rrít-à ˈinkíshú	*'He/they will look after them (cows)'*
è-y-sís-à	*'He/They is/are praised.'*
è-y-sɔ́j-à	*'He will wash himself.' 'She/They is washed.' 'He/They is/are bathing.'*
è-lá-à	*'It is tied off.'*
è-lép-ò	*'It is milked.'*
è-lú-à	*'It is spread.' 'He has spread it out.'*
è-lúb-ò	*'He is/they are greedy.'*
è-mɛ́r-à	*'The man is busy drinking./ He is (being) drunk.'*
è-níŋ-ò	*'He/it is heard.'*
è-ɲɔ́rr-à níɲè	*'He is loved.'*
è-ɲɔ́rr-à níncè	*'They loved each other.'*
è-ŋíd-à	*'He is proud.'*
è-shɛ́t-à	*'He is plaited. / They will plait each other.'*
è-shíp-à	*'He etc. are happy.'*
è-túm-ò	*'They meet/they gather.'*
è-wwás-à	*'He is proud.'*

B.11.2. Non-third Person Forms with Initial Surface High:

á-dúŋ-ò 1SG-cut-MID	*'I am cut (in my flesh).'*
á-gór-ò	*'I will become angry (habitual).'*
á-y-dóŋ-ò	*'I am beaten.'*
á-y-rɔ́r-à	*'I am asleep.'*
á-y-sɔ́j-à	*'I am washed (but don't know who did it).'*
á-níŋ-ò	*'I am heard.'*
á-shíp-à táàtá	*'I am happy today.'*
á-shíp-à tãĩsérˈé	*'I'll be happy tomorrow (and am happy now, too).'*
í-bárn-à 2-cut-MID	*'You (sg) will shave (yourself/be 'Shaved.')'*
í-gór-ò	*'You are strangled.'/'You are angry.'*

í-shíp-à táàtá   *'You are happy today.'*

<center>B.11.3. exceptions:</center>

ɛ́-y-mán-à	*'He draggs himself (from laziness).'*
ɛ̀-y-rràbál-ˈá	*'He will lie on his stomach.'*
ɛ́-áp-á	*'She is pregnant before circumcision.' (condition)*
ɛ̀-ás-ˈá ɛ̀síây táàtá	*'The work is done today.'*
ɛ̀-nàn-á	*'It is soft.' (This may be just a long root).*
ɛ̀-r̃kín-ˈó	*'They/he/she forgets.' 'He will forget him.'*
í-ríkín-ˈó	*'You (sg) will forget.'*

<center>B.12. <u>The Dynamic Middle Suffix (MID3) – Class II</u></center>

This form, referred to in the last section, indicates reciprocal or reflexive action

on Class II stems. The stem tone pattern is High-Downstepped High. This form is not

avaliable for Class I forms, where the semantics of the dynamic middle are included in

the other middle form. This data would lead to an initial hypothesis of a HˈH tone pattern

for this affix.

<center>B.12.1. Third Person Subjects</center>

ɛ̀-y-kén-ˈó	*'It/They will be closed.'*
3-II-close-MID3	
ɛ̀-y-pár-ˈá níɲɛ̀	*'He is questioned.'*
ɛ̀-y-shúr-ˈá	*'It (might be) overcooked.' (or a little, but not completely).'*
ɛ̀-y-bó-ˈó níncɛ̀	*'They will hinder each other.' (*himself)'*
ɛ̀-y-dóŋ-ˈó	*'They will beat each other.'*
ɛ̀-y-gér-ˈó ὶlpáyyàní	*'The men will employ each other.'*
ɛ̀-y-gís-ˈá níncɛ̀	*'They will carve each other.'*
ɛ̀-y-mál-ˈá	*'They will give each other's wives cows.'*
ɛ̀-y-nɔ́s-ˈá ílŋɔ́ɲɲàá	*'They will eat each other.'*
ɛ̀-y-ŋɔ́r-ˈá	*'They will look at each other.' 'He will look at himself.'*
ɛ̀-y-pár-ˈá níncɛ̀	*'They will question each other.'*

è-y-pót-ˈó ìlpáyyànì	*'The men will/are call/ing each other.'*
è-y-sís-ˈá níncè	*'They will praise each other.'*

B.13. The Passive Suffix (PASS)

Forms with the Passive -*ɪ* (which derives historically from a 3rd person plural

subject suffix; Greenberg 1959), have a High stem tone pattern. Because passive forms

always have a third person plural grammatical subject, the inverse forms are used for

clauses involving first and second person patients, who remain the grammatical objects.

Thus, there are no forms with both PASS and *a-* or *ɪ-* bound argument pronouns prefixes.

Based on extrapolation from available data involving the inverse *kɪ-* (3>2>1), however, it

can be assumed that the first and second person singular forms would be high and level,

as with the other initial High forms in section B.13.2 and in Appendix D. This data would

lead to an initial hypothesis of a High tone pattern for this affix.

B.13.1. Third person (acting on third person) subjects

è-bɔ̀r-í	*'He will be injured.'*
3-injure-PASS	
è-dùŋ-í nìɲé	*'It/He will be cut.'*
è-y-dòŋ-í	*'It will be beat.'*
è-y-kèn-í kútókàjí.	
è-y-kòd-í	*'He will be decorated.'*
è-y-lèp-í shúmátá	*'Up is go-able /will be ascended to. We will go to heaven.'*
è-y-ŋɔ̀r-í	*'He will be looked at.'*
è-y-pàr-í	*'He will be questioned.'*
è-y-pǐm-í	*'He will be measured.'*
è-y-rr̀t-í ˇnkíshú	*'The cattle must/will be looked after.'*
è-lèj-í	*'He will be lied to.'*
è-mìr-í	*'He will be chased.'*
è-ɲɔ̀rr-í	*'He is loved.'*

è-tùm-í   *'He will be met.'*
è-yá-y ᵼnkᵼshˈú   *'The cows will be taken.'*

B.13.2. Forms with Non-third Person Patients, with Initial Surface High:

ʔkᵼ-bwák-í   *'You will be shouted (by many).' (said to 'noise')*
ʔkᵼ-áp-í   *'You will be conceived by a girl.' (said to a fetus)*

The majority of the passive forms with initial high pitch contain the *ɛkɪ-* prefix, and are given in the Appendix D.

B.13.3. Exceptions

è-àkún-ˈí   *'People become elders.'*
3-become-PASS
è-áɲˈít-í   *'(The old man) is respected.'*
è-dàmún-ˈí   *'People are remembered.'*
è-mùrát-ì   *'He will be circumcised.'*
è-gírˈá-y áábáw   *'Arriving is happening.' / 'They are arriving.'*

B.14. Forms with the Progressive (PROG) Suffix Only

The progressive suffix is *-ɪta/-ito.* For the following progressive forms, the stem tone pattern is High-Low. This data would lead to an initial hypothesis of a HL tone pattern for this affix.

B.14.1. Third Person Subjects

è-bòl-ítò   *'He/they is/are opening it.'*
è-dùŋ-ítò   *'He is cutting.'*
è-gòr-ítò ènkèráy ɔ̀lmáŋáťìntá   *'The child is strangling the enemy.'*
è-y-nĭnĭŋ-ítò   *'He is listening.' (And we want him to)*

è-y-pàr-ítà	*'He is questioning him.'*
è-y-pòt-ítò	*'He is calling someone.'*
è-y-sòj-ítà	*'He is washing it.'*
è-y-gèr-ítò èlô	*'He is writing as he goes..'*
è-y-dòŋ-ítò	*'They/he are/is beating it.'*
è-y-rràg-ítà	*'They/He is lying down.'*
è-lèp-ítò	*'He is milking it.'*
è-lèp-ítò	*'He is milking it.'*
è-lòt-ítò	*'He is going.'*
è-sòj-ítà	*'He is following him.'*
è-nǐŋ-ítò	*'They are hearing.'*

B.14.2. Initial Surface High Forms

á-ból-ítò	*'I am opening it.'*
á-dɔ́l-ítà	*'I am seeing the woman..'*
á-dúŋ-ítò	*'I am cutting.'*
á-y-kén-ítò	*'I am shutting it.'*
á-y-sǔj-ítà	*'I am washing it.'*
á-lót-ítò	*'I am going.'*
á-níŋ-ítò	*'I am hearing' (now).'*
á-pét-ítà	*'I am going near (the post).'*
á-pík-ítà	*'I am putting it.'*
á-sǔj-ítà	*'I am following him.'*
á-ytúk-ítò	*'I am washing it (now).'*
í-ból-ítò	*'You (sg) are opening it.'*
í-n-kén-ítò	*'You (sg) are shutting it.'*
í-rrág-ítà	*'You (sg) are lying down.'*
í-lép-ítò	*'You (sg) are milking it.'*
í-lót-ítò	*'You (sg) are going.'*
í-wé-ítò	*'You are bleeding.'*

B.15. Forms with Inceptive (INCEP) Only

The inceptive suffix is *-u(n).* The following inceptive forms, with no other

morphology, have a High-Low stem tone pattern. From the first paradigm in TM140,

there doesn't seem to be a Class I/II distinction, but I don't have any Clas II data myself.

This Class I data would lead to an initial hypothesis of a HL tone pattern for this affix.

B.15.1. Third Person Forms

è-dór-ù	*'It will become red.'*
ɛ̀-gól-ù	*'It will become hard..'*
è-lá-ù	*'He will miss it (try to borrow it, but it's unavaliable).'*
è-ɲórr-ù	*'They/he/she will love.'*
*è-lá-yù	**'He is strandable.' **'He will become (more) stranded.'*

B.15.2. Initial Surface High Forms

á-dór-ù	*'I will become red.'*
á-náúr-ù	*'I will be tired.'*
á-ɲórr-ù	*'I will love.'*
í-ɲórr-ù	*'You (sg) will love.'*
ékí-ɲórr-ù	*'You (sg) will love me, etc.'*

B.16. Forms with Class I Roots Only

This section is essentially redundant with Chapter VI, except that it lays out the rest of the data, where Chapter VI presented only a portion of this data. Note again that there is some source of High tone evident here, as there is no form without at least a single High mora. The stem tone pattern is High, with that tone spread across the word in all cases with only two morae (as in Chapter VI).

B.16.1. Third Person Subjects

ɛ́-bárn	*'They will shave.'*
3-shave	
ɛ́-áp	*'She will be pregnant (before circumcision).'*
ɛ́-ár àòtĩkí	*'He beats it / kills it intentionally.'*
é-bík	*'He will stay.'*
ɛ́-bɔ́l	*'He will open the cow's mouth.'*
ɛ́-bwák	*'He will bark/shout.'*
é-dúŋ	*'He will cut.'*
é-kéd	*'He will climb.'*
é-ló	*'He will go.'*
ɛ́-lɔ́	*'He will spread it out.'*
é-lúá	*'He will spread it out.'*
ɛ́-máɲ .... ènê	*'The cattle/elephants/etc. will settle here.'*
ɛ́-mí ènkàyná ín'ú.	*'His arm hurts.'*
é-níŋ	*'They/he/she hear.' 'They/he/she will hear.'*
ɛ́-ɲá	*'He will eat.'*
ɛ́-ɲɔ́rr	*'They/he/she loves.'*
é-pwó	*'They will go.'*
ɛ́-tɔ́n	*'He will sit.'*
ɛ́-yá èngárrí...	*'The car will take it.'*
ɛ́-yyɛ́r	*'They/he/she will cook it.'*

B.16.2. Non-third Person Forms with Initial Surface High:

á-ádɔ́	*'I am tall.'*
1SG-be.tall	
á-áɲ	*'I will refuse it.'*
á-ár ènkítéŋ	*'I will beat the cow.'*
á-bárn	*'I will shave (someone else)'*
á-bárn nǐncé	*'I will shave them.'*
á-bík	*'I will stay here.'*
á-ból	*'I will open it.'*
á-ból	*'I hold/twist the cow by the mouth.'*
á-bʉ́l	*'I increase.'*
á-dámʉ́	*'I remember.'*
á-dɔ́l	*'I see them/him.'*
á-dúŋ	*'I will cut a person.'*
á-dúŋ ɔ̀ltʉ̀ŋánǐ	*'I will cut a person.'*
á-gól	*'I am strong.'*

á-gór	*'I will strangle.'*
á-yshú	*'I am alive.'*
á-jút	*'I will wipe/rub him (e.g., with a cloth)'*
á-lálá	*'I am wide.'*
á-ló	*'I will go.'*
á-máɲ	*'I will settle.'*
á-mí	*'I feel pain.'*
á-mír ̀ìnkíshú	*'I chase/sell the cows.'*
á-múrát	*'I will circumcise (him).'*
á-níŋ	*'I hear / I will hear.'*
á-ɲór	*'I love.' (habitual)'*
á-pét	*'I go near (the post).'*
á-pík	*'I will put it/can I put it?'*
á-pír	*'I am fat.'*
á-rá	*'I am one.'*
á-rrúgúm	*'I will make him vomit.'*
á-tón	*'I will stay here/sit here.'*
á-úré	*'I'm afraid.'*
á-yá ̀ìnkírí ...	*'I will take it.'*
á-yyér	*'I will cook it.'*
í-ból	*'You (sg) will open it.'*
2-open	
í-dámú	*'You (sg) remember (him?)'*
í-ló	*'You (sg) will go.'*
í-ɲórr	*'You (sg) love it.'*
í-bík	*'Will you stay here?'*
í-pír	*'You are fat?'*
áá-bárn	*'I will shave you.'*
1>2-shave	
áá-dámú	*'I remember you.'*
áá-náp	*'I will carry you.'*
kí-bárn	*'He will shave you (sg).'*
3>2>1-shave	
kí-ból	*'He will open you.'*
kí-dúŋ	*'You (sg) will cut me.'*
kí-mé	*'You(r arm) is hurt.'*
kí-pír ̀ìntárè	*'Your sheep are fat.'*

B.16.3. Exceptions

This section gives the remainder of the data I have to prove the various potential

exceptions discussed in Chapter VI.

B.16.3.1. With Class II tone:

è-ákʊ̀ ɪ̀ltʊ̀ŋànák ɪ̀nkɪ́shú	*'People will become cows.'*
è-átà òmóm	*'He will be/was lucky.'*
è-bɔ́ytà ɪ̀nkɪ́lànɪ́	*'The clothes are together.'*
è-ɡírà áàdàmʊ̀	*'They are remembering.'*
ɛ́-kwèt ɪ̀nkɪ́shù ...	*'The cows will run ...'*
á-ákʊ̀ ènkɪ́téŋ	*'I will become a cow.'*
á-dáà	*'I, who am goat, am eating.'*
á-ɡírà àdùŋyé ènkálém	*'I'm using the knife to cut it.'*
á-kwèt	*'I run (habitual)'*
á-ò	*'I will bleed.'*
í-ákʊ̀	*'You (sg) will become...'*
í-kwèt	*'You will run.'*
í-wò	*'You will bleed.'*

B.16.3.2. Other Exceptions:

è-bâ nˈánʊ́	*'Is he the same as me?'*
è-lâ	*'He will be stranded.'*
è-tɪ́ˈɪ́ àjí	*'It is in the house.'*
á-tɪ́ˈɪ́ èmbátá ɔ́lkèjú	*'I am by the river.'*

B.17. Forms with Class II Roots Only

Synchronic Class II roots have a now-frozen prefix *i-*. The stem tone pattern is

High-Low, as discussed in Chapter VI.

B.17.1. Third Person Subjects

é-y-bèl	*'He will rock from side to side.'*
3-II-rock	
é-y-bòk	*'He will hinder it.'*
é-y-dòŋ	*'He will beat it.'*
ɛ́-y-gìs	*'He will jump.'*
ɛ́-y-kàsh	*'He is better than him.'*
é-y-kèn	*'He will close it.'*
é-y-kèn	*'He will count.'*
è-y-nínǐŋ	*'He is listening.' (and we want him to)*
ɛ́-y-pɔ̀sh	*'It will make him wander off due to (stressful) problems.'*
è-y-rɔ́wùà	*'It is hot.'*
ɛ́-y-rùg	*'He will bend him over.'*
ɛ́-y-rràg	*'They will lie down.'*
ɛ́-y-sʊ̀j	*'They/he/she will wash it.'*
è-y-tɛ́rrɛ̀	*'He will faint.'*

B.17.2. Potential exceptions – class uncertain:

èykó	*'He will do that.'*
ɛ́yrɔ́	*'He will speak.'*
èyshú	*'He is alive.'*

B.17.3. Initial Surface High forms

á-y-dòŋ kèwán	*'I will beat myself.'*
1SG-II-beat self	
á-y-gìs	*'I will jump.'*
á-y-gǐs	*'I carve/slice.'*
á-y-kàsh	*'I am better than him.'*
á-y-kèn	*'I will shut it.'*
á-y-lèp	*'I will go up/climb the hill.ACC.'*
á-y-nínǐŋ	*'I will listen.'*
á-y-ŋòr	*'I will watch over (something), using my eyes.'*
á-y-pàŋ	*'I will go out.'*
á-y-pǐd	*'I jump (nothing)'*
á-y-rɔ́wùà	*'I am hot.'*
á-y-rràg	*'I will lie down.'*

á-y-sùj   *'I will wash it.'*
á-y-shǐr   *'I will cry.'*
á-y-térrè   *'I will faint.'*

í-n-cù   *'You are alive.'*
2-II-be.alive
í-ø-sùj   *'You (sg) will wash it.'*

áá-y-sùj   *'I will wash you.'*
1>2-II-wash

APPENDIX C

MORPHOLOGICALLY COMPLEX FORMS

The last appendix layed out the stem tone patterns of each of the affixes when not in combination with another stem affix. Up to that point, lexical representations of affix tone could be (somewhat naïvely) assumed to be read off the surface form directly. Once suffixes are combined, however, some unexpected stem tone patterns result. While there are many hypotheses concerning an analysis of this data, it has not yet been resolved into a unified system. Thus this appendix is limited to presenting the data with the surface tone patterns, without having a thorough and consistent analysis worked out.

As with the data in the last appendix, major tone divisions exist between third person forms and initial high forms, and the data has been laid out accordingly. For third person forms, the presence of *k-* gives a change in stem tone pattern, so these forms are listed separately. The forms with *k-* are listed together with the forms without *k-* for the initial high forms, unless there is some change in tone for these forms.

<u>C.1.</u> <u>Combinations with Class I Causative (CAUS)</u>

C.1.1. CAUS and Perfect Aspect

The following singular perfect forms, with the class I causative (CAUS) *ɪtV-* only, have a high-downstepped high-high stem tone pattern. Some cases have non-CVC syllables, such as *ŋu* 'be smelly, rotten' and *la* 'be stranded', and don't have two downstepped high moras.

<u>C.1.1.1.</u> <u>Third Person Forms</u>

ɛ̀-ytá-dˈál-á	*'He made him play.'*
3-CAUS-play-PF	
ɛ̀-ytɔ́-dˈɔ́r-ɔ́	*'He made it red.'*
ɛ̀-ytú-dˈúŋ-ó	*'He made him cut it.'*
ɛ̀-ytí-gˈír-á	*'He made him silent.'*
ɛ̀-ytá-gˈór-ó	*'He has made him angry.'*
ɛ̀-ytá-l-ˈá	*'He made him stranded.'*
ɛ̀-ytá-lˈál-á	*'He made it wide.'*
ɛ̀-ytú-lˈúb-ó	*'He made him greedy.'*
ɛ̀-yté-mˈér-á	*'He made him drunk.'*
ɛ̀-ytá-nˈán-á	*'He made it soft.'*
ɛ̀-ytó-nˈíŋ-ó	*'He/she made him/them hear.'*
ɛ̀-ytɔ́-ɲˈɔ́rr-á	*'He made him love it.'*
ɛ̀-ytí-ŋˈíd-á	*'He made him proud.'*
ɛ̀-ytí-shˈíp-á	*'He made him happy.'*
ɛ̀-ytá-wwˈás-á	*'He made him proud.'*
*k-ɛ-yta-ba	*'He made him reach.'*

C.1.1.2. Initial Surface High Forms

á-ytɔ́-ɔ́dˈɔ́r-ɔ́   èn-kèráy   *'I made the child tall.'*
1SG-CAUS-be.tall-PF FSG-child
á-ytú-dˈúŋ-ó ènkálém òlchàní   *'I caused the knife to cut the tree.'*
á-ytó-nˈíŋ-ó   *'I made him hear it.'* sounds the same as nPF mid.
áá-ytó-nˈíŋ-ó   *'I made you hear'(by showing).'*
á-ytɔ́-ɲˈɔ́rr-á   *'I made him/them love food.'*
á-ytó-ŋˈw-á   *'I made it smelly/rotten.'*
í-ntɔ́-ɔ́dˈɔ́r-ɔ́   *'You made him tall.'*
í-ntɔ́-ɔ́dˈɔ́r-ɔ́   *'You made him tall.'*
í-ntó-nˈíŋ-ó   *'You made him hear it.'*
í-ntó-nˈíŋ-ó kèwán   *'You made yourself hear it.'*
kí-ntɔ́-ɲˈɔ́rr-á   *'You.SG have made me love it.'*
kí-ntɔ́-ɲˈɔ́rr-á   *'You made me love.'*
kí-ntá-kwˈéɲ-á   *'You.SG made me laugh.'*

C.1.1.3. Exceptions

è-ytà-bórèy-à   *'He filled it.'*
kí-ntó-níŋ-ò   *'You made me hear it.'*   *'He made you hear it.'*

C.1.2. CAUS and Perfect Aspect (Plural)

The plural perfect verbs with CAUS show two tone patterns. First is the pattern

seen on many other plural perfect forms, which is high and level, followed by a falling

tone (or downstepped high). On some forms, including some in this section, the initial

mora is low. The second form has a high-low-falling stem tone pattern. The variation on

the first TBU in the first (high-falling) forms is possibly the product of dialect or speaker

variation. I don't think I have ever had a minimal difference show up in this variety (i.e.,

initial high contrasting with initial low), however, and have been in situations where a

speaker was unable to tell the variant forms apart. The tone pattern on the second form is

essentially invariant, and comes with the plural perfect *-ıt* morpheme. This morpheme

appears to break up otherwise unanalyzable suffix combinations (see AWAY.PF,

DAT.PF), and roots (e.g., *e-ta-yyól-it-ô* 'They have known (i.e., come to know.)'). I have

all third person forms.

é-ytá-bóréy-ˈá	*'They filled it.'*
3-CAUS-be.full-PF.Pl	
è-ytá-dál-ˈá	*'They made him play.'*
è-ytà-dál-ìt-â	*'They made him play.'*
ɛ́-ytɔ́-dɔ́r-ˈɔ́	*'They made it red.'*
è-ytɔ̀-dɔ́r-ìt-â	*'They made it red.'*
è-ytí-gír-ˈá	*'They made him silent.'*
è-ytì-gír-ìt-â	*'They made him silent.'*
ɛ́-ytá-l-ˈá	*'They made him stranded.'*
è-ytá-là-yt-â	*'They made him stranded.'*
è-ytà-lál-ìt-â	*'They made it wide.'*
è-ytú-lúb-ˈó	*'They made him greedy.'*
è-ytù-lúb-ìt-ô	*'They made him greedy.'*
è-ytè-mér-ìt-â	*'They made him drunk.'*
è-ytà-nán-ìt-â	*'They made it soft.'*
è-ytó-níŋ-ˈó	*'They made him/them hear.'*
è-ytí-ŋíd-ˈá	*'They made him proud.'*
è-ytì-ŋíd-ìt-â	*'They made him proud.'*
è-ytí-shíp-ˈá	*'They made him happy.'*
è-ytì-shíp-ìt-â	*'They made him happy.'*
è-ytà-wwás-ìt-â	*'They made him proud.'*
*è-ytò-řikín-ìt-ô	*'They made him forget.'*
*è-ytá-wwás-ˈá	*'They made him proud.'*
*è-ytá-lál-ˈá	*'They made it wide.'*
*è-yté-mér-ˈá	*'They made him drunk.'*

C.1.3. CAUS and Motion Away (AWAY)

The following non-perfect forms with CAUS and AWAY have a high-

downstepped high stem tone pattern.

C.1.3.1. All Third Person Forms

è-ytà-dàl-á⌐á   *'He will make him play going away.'*
3-CAUS-play-AWAY
è-ytù-dùŋ-ó⌐ó   *'He will make him cut it off.'*
è-ytì-ɡ̀l-á⌐á   *'He will make him break it off.'*

C.1.3.2. Forms with *k-*

k-ɛ́-ytɛ̀-bɛ̀l-á⌐á   *'He will make him break them one at a time.'*
DSCN-3-CAUS-play-AWAY
k-ɛ́-ytà-dàl-á⌐á   *'He will make him play going away.'*
k-ɛ́-ytù-dùŋ-ó⌐ó   *'He will make him cut it off.'*
k-ɛ́-ytì-ɡ̀l-á⌐á   *'He will make him break it off.'*

C.1.4. CAUS and Motion Away (AWAY), Perfect Aspect

The follow perfect forms with CAUS and AWAY have a high-low stem tone

pattern.

C.1.4.1. Third Person Forms

è-ytɛ̀-bɛ̀l-áyyè   *'He made him break them one at a time.'*
3-CAUS-play-AWAY.PF
è-ytà-dàl-áyyè   *'He made him play going away.'*
è-ytù-dùŋ-óyyè   *'He made him cut it off.'*

C.1.4.2. Initial Surface High Forms

áá-ytɔ́-ɲɔ́rr-áyyè   *'I used it to make(force) you to like it.'*
1>2-CAUS-love-AWAY.PF

C.1.5. *CAUS and Ventive (VENT)

For the following, with CAUS and VENT, I only have one initial high form.

áá-ytú-sój-w-ˈá	*'I made him follow you.'*
1>2-CAUS-follow-VENT-PF	
*a-ytu-buk-u	*'I will make him pour it out.'*
*k-a-ytu-buk-u	*'I will make him pour it out.'*

C.1.6. CAUS and Antipassive (APAS)

The following non-perfect forms, with CAUS and APAS, have a high-downstepped high-high stem tone pattern. There is one first person singular form that doesn't seem to fit the pattern.

C.1.6.1. Third Person Forms

è-ytè-bél-ˈíshɔ́	*'He will make people break.'*
3-CAUS-break-APAS	
è-ytà-dál-ˈíshɔ́	*'He makes people play.'*
è-ytì-gír-ˈíshɔ́	*'He makes people be silent.'*
è-ytà-gór-ˈíshó	*'He is the kind of person who made people angry.'*
è-ytá-l-ˈíshɔ́	*'It will make stranded.'*
è-ytè-léj-ˈíshɔ́	*'He is the kind of person who makes people lie.'*
è-ytà-nán-ˈíshɔ́	*'It will make things soft.'*
è-ytò-níŋ-ˈíshó	*'People hear (e.g., by opening people's ears).'*
è-ytì-ŋíd-ˈíshɔ́	*'He makes people happy/proud.'*
è-ytò-řkín-ˈíshó	*'He will make him forgettable.'*
è-ytì-shíp-ˈíshɔ́	*'He is the kind of person who always makes people happy.'*
è-ytà-wwás-ˈíshɔ́	*'He makes people proud.'*
è-ytɔ̀-ɲɔ́rr-ˈíshɔ́	*'He/she/they make people like (it)'/'He/she/they will make him/them love.'*
*è-ytù-lúb-ˈíshó	*'He mades him greedy.'*

C.1.6.2. Forms with *k-*

k-ɛ́-ytɛ̀-léj-ˈíshɔ́	*'He is the kind of person who makes people lie.'*
DSCN-3-CAUS-lie-APAS	or
k-ɛ́-yté-léj-ˈíshɔ́	
k-ɛ́-ytò-řkín-ˈíshó	*'He will make him forgettable.'*

C.1.6.3. Initial Surface High Forms

á-ytá-bɛ́l-ˈíshɔ́	*'I will make people break.'*
1SG-CAUS-break-APAS	
á-ytá-gór-ˈíshó	*'I am the kind of person who makes people angry.'*
á-ytó-níŋ-ˈíshó	*'I will make him hear.'* or *'I will wake him up.'*
á-ytɔ́-ɲɔ́rr-ˈíshɔ́	*'I (habitually) make people like it/be loving.'*
k-á-yté-léj-ˈíshɔ́	*'I am the kind of person who makes people lie.'*

C.1.7. CAUS and Antipassive (APAS), Perfect Aspect

The following singular perfect forms, with CAUS and APAS, have a high-downstepped high stem tone pattern

C.1.7.1. Third Person Forms

è-ytè-bèl-íshˈé	*'He made people break.'*
3-CAUS-break-APAS.PF	
è-ytà-dàl-íshˈé	*'He made people play.'*
è-ytǐ-gǐr-íshˈé	*'He made people be silent.'*
è-ytà-gòr-íshˈé	*'He was the kind of person who made people angry.'*
è-ytà-l-íshˈé	*'It made stranded.'*
è-ytè-lèj-íshˈé	*'He was the kind of person who made people lie.'*
è-ytà-nàn-íshˈé	*'It made things soft.'*
è-ytò-nǐŋ-íshˈé	*'He woke people up.'*
è-ytǐ-ŋǐd-íshˈé	*'He made people happy/proud.'*
è-ytò-řkǐn-íshˈé	*'He made him forgettable.'*

è-ytĭ-shĭp-íshˈé   *'He was the kind of person who always makes people happy.'*

è-ytà-wwàs-íshˈé   *'He made people proud.'*

è-ytò-ɲòrr-íshˈé   *'They/she/he made people like it'/'They/he/she made - him/them love.'*

*è-ytù-lùb-íshˈé   *'He made people greedy.'*

C.1.7.2. Initial Surface High Forms

á-ytó-ɲórr-íshˈé   *'I used it to make him be a loving person.'*
1SG-CAUS-break-APAS.PL

C.1.8. CAUS and Antipassive (APAS), Perfect Aspect (Plural)

The following plural perfect forms, with CAUS and APAS, have a high-low-low

stem tone pattern. I have all third person forms.

è-ytè-bèl-ísh-òt-è   *'They made people break.'*
3-CAUS-break-APAS-PL.PF-APAS.PF

è-ytà-dàl-ísh-òt-è   *'They made people play.'*

è-ytĭ-ǧìr-ísh-òt-è   *'They made people be silent.'*

è-ytà-gòr-ísh-òt-è   *'They were the kind of people who made people angry.'*

è-ytà-l-ísh-òt-è   *'They (inanimate) made stranded.'*

è-ytè-lèj-ísh-òt-è   *'He was the kind of person who made people lie.'*

è-ytà-nàn-ísh-òt-è   *'They made things soft.'*

è-ytò-nĭŋ-ísh-òt-è   *'He made them hear.'*

è-ytò-ɲòrr-ísh-òt-è   *'They made people loving.'*

è-ytĭ-ŋĭd-ísh-òt-è   *'They made people happy/proud.'*

è-ytò-řkĭn-ísh-òt-è   *'They made him forgettable.'*

è-ytĭ-shĭp-ísh-òt-è   *'They were the kind of people who always made people happy.'*

è-ytà-wwàs-ísh-òt-è   *'They made people proud.'*

C.1.9. CAUS and Dative (DAT)

The following non-perfect forms, with CAUS and DAT, have a high-

downstepped high-high stem tone pattern.

C.1.9.1. Third Person Forms

è-ytɔ̀-dɔ́r-ˈákɨ́	'He will make it red for him.'
3-CAUS-be.red-DAT	
è-ytà-gól-ˈókɨ́	'She will make it strong for him.'
è-ytà-nán-ˈákɨ́	'He will make it soft for him.'
è-yt̀-ŋ́íd-ˈákɨ́	'He will make him proud for someone.'
è-ytò-pír-ˈókɨ́	'He will fatten it for him.'
è-ytɔ̀-rɔ́k-ˈákɨ́	'He will make it black for him.'
*è-ytà-l-ákɨ̀	*'He will make him stranded on behalf of someone.'

C.1.9.2. Forms with *k-*

k-ɛ́-ytà-bòréy-ˈákɨ́	'He will fill it for him.'
DSCN-3-CAUS-be.full-DAT	
k-ɛ́-ytɔ̀-dɔ́r-ˈákɨ́	'He will make it red for him.'
k-ɛ́-ytà-nán-ˈákɨ́	'He will make it soft for him.'
k-ɛ́-ytò-pír-ˈókɨ́	'He will fatten it for him.'
k-ɛ́-ytɔ̀-rɔ́k-ˈákɨ́	'He will make it black for him.'

C.1.9.3. Initial Surface High Forms

á-ytá-gól-ˈókɨ́	'I will make it strong for him.'
1SG-CAUS-be.strong-DAT	
á-ytó-pír-ˈókɨ́	'I will fatten it for him.'
á-ytɔ́-rɔ́k-ˈákɨ́	'I will make it black for him.'
k-á-ytó-pír-ˈókɨ́	'He will fatten it for him.'
k-á-ytá-gɔ́l-ˈókɨ́	'I will make it strong for him.'
k-á-ytɔ́-rɔ́k-ˈákɨ́	'I will make it black for him.'

C.1.10. CAUS and Dative (DAT), Perfect Aspect

The following perfect forms, with CAUS and DAT, have a high-downstepped

high stem tone pattern.

C.1.10.1. Third Person Forms

ɛ̀-ytà-bòrèy-ák¦á	*'He filled it for him.'*
3-CAUS-be.full-DAT.PF	
ɛ̀-ytɔ̀-dɔ̀r-ák¦á	*'He made it red for him.'*
ɛ̀-ytà-gòl-ók¦ó	*'He made it strong for him.'*
ɛ̀-ytà-nàn-ák¦á	*'He made it soft for him.'*
ɛ̀-ytǐ-ŋìd-ák¦á	*'He made him proud for someone.'*
ɛ̀-ytò-pǐr-ók¦ó	*'He fattened it for him.'*
ɛ̀-ytɔ̀-rɔ̀k-ák¦á	*'He made it black for him.'*
*ɛ̀-ytà-l-ák¦á	**'...on behalf of someone.'*

C.1.10.2. Initial Surface High Forms

á-ytɔ́-rɔ́k-ák¦á	*'I made it black for him.'*
1SG-CAUS-be.black-DAT.PF	

C.1.11. CAUS and Dative (DAT), Perfect Aspect (Plural)

The following plural perfect forms, with CAUS and DAT, have a high-low-falling

stem tone pattern. I have all third person forms.

ɛ̀-ytà-bòrèy-ák-ìt-â	*'They filled it for him.'*
3-CAUS-be.full-DAT-PF.PL-DAT.PF	
ɛ̀-ytà-gòl-ók-ǐt-ô	*'They made it strong for him.'*
ɛ̀-ytà-nàn-ák-ìt-â	*'They made it soft for him.'*
ɛ̀-ytǐ-ŋìd-ák-ìt-â	*'They made him proud for someone.'*
ɛ̀-ytò-pǐr-ók-ǐt-ô	*'They fattened it for him.'*
ɛ̀-ytɔ̀-rɔ̀k-ák-ìt-â	*'They made it black for him.'*

C.1.12. CAUS and Dative (DAT), Middle (MID)

For plural perfect words with CAUS, DAT, and MID, the stem tone pattern is

high-low-low. I have one third person form.

è-ytà-l-àkín-òt-è   *'They made each other stranded.'*
3-CAUS-miss-DAT-PL.PF-MID.PL
*è-ytà-l-àkǐn-ò   *'He made himself stranded.'*

C.1.13. CAUS, Dative (DAT), and Passive (PASS)

I have one third person form (with *k-*).

k-é-ytà-bòrèy-ák˥ín-í   *'They will fill it for him.'*
DSCN-3-CAUS-be.full-DAT-PASS

C.1.14. CAUS and Instrumental (INST)

For non-perfect and singular perfect words with CAUS and INST, the stem tone

pattern is high-downstepped high-high.

C.1.14.1. Third Person Forms

è-yté-b˥él-yé   *'He used/will use it to make him break it.'*
3-CAUS-break-INST
è-yté-sh˥ét-yé   *'He used/will use it to build for him.'*
è-ytó-t˥óɲ-yé   *'He did/will use it to make him sit.'*
è-ytá-d˥ál-yé   *'He did use it to make him play.'*
è-ytú-d˥úŋ-yé   *'He used it to make him cut it.'*
è-ytí-g˥ír-yé òlpáyyàn ènkǐtók èɲúɗì.   *'The man made the woman quiet with a -*
                 stick.'
è-ytá-g˥ór-yé   *'He used it to make him strangle.'*
è-ytá-k˥éd-yé   *'He used it to make him climb.'*

è-ytá-n⸴áɲ-yé   *'He used it to make it soft.'*
è-ytó-ɲ⸴órr-yé   *'she/he used it to make him/her like it.'*
è-ytí-sh⸴íp-yé   *'He used it to make him happy.'*
è-ytá-l⸴ép-yé   *'He used/will use it to milk it.'*
è-ytá-ww⸴ás-yé   *'He used/will use it to make people proud.'*
*è-ytù-l-yè   *'He used/will use it to make him stranded.'*
*è-ytù-lùb-yè   *'He used/will use it to make him greedy.'*
*è-ytò-řkǐɲ-yé   *'He used/will use it to make people forget.'*
*è-ytǐ-ŋ̌d-yè   *'He used/will use it to make people proud.'*

C.1.14.2. Forms with *k-*

k-έ-ytá-d⸴ál-yé   *'He will use it to make him play.'*
k-έ-ytí-sh⸴íp-yé   *'He will use it to make him happy.'*
k-έ-ytá-n⸴áɲ-yé   *'He will use it to make it soft.'*
k-έ-yté-b⸴él-yé   *'He used/will use it to make him break it.'*
k-έ-ytú-d⸴úŋ-yé   *'He will use it to make him cut it.'*
k-έ-ytá-g⸴ór-yé   *'He will use it to make him strangle.'*
k-έ-ytá-k⸴éd-yé   *'He will use it to make him climb.'*
k-έ-ytó-ɲ⸴órr-yé   *'He will use it to make him like it.'*
k-έ-yté-sh⸴ét-yé   *'He used/will use it to build for him.'*
k-έ-ytó-t⸴óɲ-yé   *'He did/will use it to make him sit.'*
k-έ-ytá-ww⸴ás-yé   *'He will use it to make people proud.'*
k-έ-ytí-g⸴ír-yé   *'He made her quiet with it.'*
k-έ-ytá-l⸴ép-yé   *'He will use it to milk it.'*

C.1.14.3. Initial Surface High Forms

á-ytú-d⸴úŋ-yé   *'I used it to make him cut it.'*
1SG-CAUS-break-INST
á-ytá-g⸴ór-yé   *'I used it to make him strangle.'*
á-ytó-ɲ⸴órr-yé   *'I used it to make him like it.'*
k-á-ytú-d⸴úŋ-yé   *'I will use it to make him cut it.'*
k-á-ytó-ɲ⸴órr-yé   *'I will use it to make him like it.'*
áá-ytó-ɲórr-⸴yé ̌yyé   *'I used it to make you.SG like it.'*

C.1.15. CAUS and Instrumental (INST), Perfect Aspect (Plural)

For plural perfect forms with CAUS and INST, the stem tone pattern is high-high-downstepped high. I have all third person forms.

è-yté-bél-ˈyé   *'He used it to make him break it.'*
3-CAUS-break-INST
è-ytá-dál-ˈyé   *'They used it to make him play.'*
è-ytú-dúŋ-ˈyé   *'They used it to make him cut it.'*
è-ytí-gír-ˈyé   *'They used it to make him silent.'*
è-ytá-kéd-ˈyé   *'They used it to make him climb.'*
è-ytá-lép-ˈyé   *'They used it to milk it.'*
è-ytá-náɲ-ˈyé   *'They used it to make it soft.'*
è-ytó-ɲórr-ˈyé   *'They used it to make him/her like/love it.'*
è-yté-shét-ˈyé   *'They used it to build for him.'*
è-ytí-shíp-ˈyé   *'They used it to make him happy.'*
è-ytó-tóɲ-ˈyé   *'They used it to make him sit.'*
è-ytá-wwás-ˈyé   *'They used it to make people proud.'*

C.1.16. CAUS and Middle (MID)

For third person words with CAUS and MID, the stem tone pattern is high-downstepped high.

C.1.16.1. Third Person Forms

è-ytè-bél-ˈá   *'They will make each other break.'*   **'He …himself'*
3-CAUS-break-MID
è-ytà-dál-ˈá   *'They will make each other play.'*
è-ytù-dúŋ-ˈó   *'They will make each other cut.'*
è-ytì-gír-ˈá   *'They will make each other silent.'*
è-ytà-gól-ˈó   *'They will make each other strong.'*
è-ytá-l-ˈá   *'They will make each other stranded.'*
è-ytè-léj-ˈá   *'They will make each other lie.'*
è-ytù-lúb-ˈó   *'They will make each other greedy.'*
è-ytà-nán-ˈá   *'They will make each other soft.'*

è-ytò-níŋ-ˈó   *'They will make each other hear.'*
è-ytɔ̀-ɲɔ̀rr-árˈó   *'each of them will make the other like it.'* (AWAY.MID)
è-ytɔ̀-ɲɔ́rr-ˈá   *'They make each other love something else (habitually).'*
                                   *'He will make himself love.'
è-ytì-ŋíd-ˈá   *'They (known) will make each other proud.'*
è-ytò-řkín-ˈó   *'They will make each other forget.'*
è-ytè-shét-ˈá   *'They will make each other build/plait.'*
è-ytì-shíp-ˈá   *'They will make each other happy.'*
è-ytù-shúk-ˈó   *'They will make each other fold/bend.'*
è-ytà-wwás-ˈá   *'They will make each other proud.'*

C.1.16.2. Forms with *k-*

k-é-ytè-bél-ˈá   *'They will make each other break.'*   **'himself'*
k-é-ytà-dál-ˈá   *'They will make each other play.'*
k-é-ytì-gír-ˈá   *'They will make each other silent.'*
k-é-ytà-gól-ˈó   *'They will make each other strong.'*
k-é-ytá-l-ˈá   *'They will make each other stranded.'*
k-é-ytè-léj-ˈá   *'They will make each other lie.'*
k-é-ytù-lúb-ˈó   *'They will make each other greedy.'*
k-é-ytà-nán-ˈá   *'They will make each other soft.'*
k-é-ytò-níŋ-ˈó   *'They will make each other hear.'*
k-é-ytɔ̀-ɲɔ́rr-ˈá   *'They make each other love something else.'* **'himself'*
k-é-ytì-ŋíd-ˈá   *'They (known) will make each other proud.'*
k-é-ytì-shíp-ˈá   *'They will make each other happy.'*
k-é-ytù-shúk-ˈó   *'They will make each other fold/bend.'*
k-é-ytà-wwás-ˈá   *'They will make each other proud.'*
*k-è-ytà-mìr-à   *'They will make each other chase.'*

C.1.16.3. Initial Surface High Forms

      For these two first and second person words with CAUS and MID, the stem tone

pattern is high-downstepped high-high.

á-ytó-nˈíŋ-ó   *'I will make myself listen.'*
í-ntó-nˈíŋ-ó   *'You will make yourself listen.'*

C.1.16.4. Third Person Perfect Forms

*è-ytè-bèl-è	*'He made himself break.'
*è-ytà-dál-è	*'He made himself play.'
*è-ytɨ-gír-è	*'He made himself be silent.'
*è-ytà-gòl-è	*'He made himself strong.'
*è-ytè-lèj-è	*'He made himself lie.'
*è-ytù-lúb-è	*'He made himself be greedy.'
*è-ytà-nán-è	*'He made himself soft.'
*è-ytò-níŋ-è	*'He made himself hear it.'
*è-ytò-řkǐn-è	*'He made himself forget.'
*è-ytè-shèt-è	*'He made himself build/plait.'
*è-ytɨ-shíp-è	*'He made himself happy.'
*è-ytà-wwás-è	*'He made himself be proud.'

C.1.16.5. Initial Surface High Perfect Forms

á-ytó-nˈíŋ-é	'I made them hear.'

C.1.17. CAUS and Middle (MID), Perfect Aspect (Plural)

The following plural perfect words with CAUS and MID have a high-low-low

stem tone pattern. I have all third person forms.

è-ytè-bél-àt-è	'They made each other break.'
3-CAUS-break-PF.PL-MID.PF	
è-ytà-dál-àt-è	'They made each other play.'
è-ytɨ-gír-àt-è	'They (known) made each other be silent.'
è-ytà-gól-òt-è	'They made each other strong.'
è-ytá-l-àt-è	'They made each other stranded.'
è-ytè-léj-àt-è	'They made each other lie.'
	'They lied to each other.'
è-ytù-lúb-òt-è	'They made each other greedy.'
è-ytà-nán-àt-è	'They made each other soft.'
è-ytò-níŋ-òt-è	'They made each other hear it.'
è-ytɔ-ɲɔ́rr-àt-è	'They made each other love it.'
è-ytɨ-ŋíd-àt-è	'They made each other proud.'
è-ytò-řkín-òt-è	'They made each other forget.'

è-ytɛ̀-shét-àt-ɛ̀   *'They made each other build/plait.'*
è-ytì-shíp-àt-ɛ̀   *'They made each other happy.'*
è-ytù-shúk-òt-ɛ̀   *'They made each other fold/bend.'*
è-ytà-wwás-àt-ɛ̀   *'They made each other proud.'*

C.1.18. CAUS and Middle (MID), Passive (PASS)

Non-perfect verbs with CAUS, MID and PASS have a high-downstepped high

stem tone pattern. I have all third person forms.

è-ytù-dúŋ-ˈó-y   *'People will make each other cut.'*
3-CAUS-cut-MID-PASS
è-ytì-ŋíd-ˈá-y   *'They (unknown) will make each other proud.'*
è-ytà-wwás-ˈá-y   *'People will make each other proud.'*

C.1.19. CAUS and Middle (MID), Passive (PASS), Perfect Aspect

Perfect verbs with CAUS, MID and PASS have the stem tone pattern high-low-

high. I have all third person forms.

è-ytì-g̀ìr-át-ɛ̀k-í   *'They (unknown) made each other be silent.'*
3-CAUS-cut-PF.PL-MID-PASS
è-ytà-l-át-ɛ̀k-í   *'People made each other stranded.'*
è-ytì-ŋ̀ìd-át-ɛ̀k-í   *'They (unknown) made each other proud.'*
è-ytò-řiǩin-ót-ɛ̀k-í   *'They (unknown) made each other forget.'*
è-ytà-wwàs-át-ɛ̀k-í   *'People made each other proud.'*

C.1.20. CAUS and Passive (PASS)

Non-perfect verbs with CAUS and PASS have a high-downstepped high-high

stem tone pattern. Exceptions are *bore* and *la,* which have vowel final stems, and lose a

downstepped high mora.

C.1.20.1. All Third Person Forms

è-ytà-bór˩é-y	*'Someone will/did fill it.'*
3-CAUS-be.full-PASS	
è-ytá-ww˩ás-í	*'He will be made proud.'*
è-ytɔ̀-ɔ́d˩ɔ́r-í	*'it will be made long/tall.'*
è-ytá-d˩ál-í	*'He will be made to play.'*
è-ytú-d˩úŋ-í	*'He will be made to cut it.'*
è-ytí-g˩ír-í	*'He will be made silent.'*
*è-ytà-l-í *ètyál˩í	*'He will be made stranded.'*
è-ytá-l˩á-y	*'He will be made stranded.'*
è-ytú-l˩úb-í	*'He will be made greedy.'*
è-ytá-n˩án-í	*'It will be made soft.'*
è-ytí-ŋ˩íd-í	*'He will be made proud.'*
è-ytó-p˩ír-í	*'He will be made fat.'*
è-ytò- rík˩ín-í	*'(He) will make him be forgotten.'*
è-ytɔ́-r˩ɔ́k-í	*'He will be made black.'*
è-ytá-sh˩ám-í	*'He will be made to love it.'*
è-yté-sh˩ét-í	*'He will be made to build.'*
è-ytí-sh˩íp-í	*'He will be made happy.'*

C.1.20.2. Forms with *k-*

k-ɛ́-ytà-bór˩é-y	*'Someone will/did fill it.'*
k-ɛ́-ytò-rík˩ín-í	*'He will make him be forgotten.'*
k-ɛ́-ytɔ̀-ɔ́d˩ɔ́r-í	*'it will be made long/tall.'*
k-ɛ́-ytú-d˩úŋ-í	*'He will be made to cut it.'*
k-ɛ́-ytí-g˩ír-í	*'He will be made silent.'*
k-ɛ́-ytú-l˩úb-í	*'He will be made greedy.'*
k-ɛ́-ytá-n˩án-í	*'It will be made soft.'*
k-ɛ́-ytí-ŋ˩íd-í	*'He will be made proud.'*
k-ɛ́-ytɔ́-r˩ɔ́k-í	*'He will be made black.'*
k-ɛ́-ytá-sh˩ám-í	*'He will be made to love it.'*
k-ɛ́-yté-sh˩ét-í	*'He will be made to build.'*
k-ɛ́-ytí-sh˩íp-í	*'He will be made happy.'*

C.1.21. CAUS and Passive (PASS), Perfect Aspect

Perfect verbs with CAUS and PASS have a high-low-high stem tone pattern.

C.1.21.1. Third Person Forms

ὲ-ytà-àdɔ́r-ɔ̀k-í	*'They were made tall.'*
3-CAUS-be.tall-PF-PASS	
ὲ-ytà-bòréy-àk-í	*'Someone filled it.'*
ὲ-ytà-dál-àk-í	*'He/they was/were made to play.'*
ὲ-ytɔ̀-dɔ́r-àk-í	*'They were made to become red.'*
ὲ-ytù-dúŋ-ɔ̀k-í	*'He was made to cut it.'*
ὲ-ytì-gír-àk-í	*'He was made to be silent.'*
ὲ-ytà-gór-ɔ̀k-í	*'They were made angry.'*
ὲ-ytá-l-àk-í	*'He was made stranded.'*
ὲ-ytù-lúb-ɔ̀k-í	*'He was made greedy.'*
ὲ-ytà-nán-àk-í	*'It was made soft.'*
ὲ-ytɔ̀-ɲɔ́rr-àk-í	*'He was made to love it.'*
ὲ-ytì-ŋíd-àk-í	*'He was made proud.'*
ὲ-ytò-pír-ɔ̀k-í	*'They/he were/was made fat.'*
ὲ-ytò-řkín-ɔ̀k-í	*'He made him be forgotten.'*
ὲ-ytɔ̀-rɔ́k-àk-í	*'He was made black.'*
ὲ-ytà-shám-àk-í	*'He was made to love it.'*
ὲ-ytὲ-shɛ́t-àk-í	*'He was made to build.'*
ὲ-ytì-shíp-àk-í	*'He/they was/were made happy.'*
ὲ-ytà-wwás-àk-í	*'He was made proud.'*

C.1.21.2. Initial Surface High Forms

kí-ntú-dúŋ-ɔ̀k-í	*'You were caused to cut it.'*
kí-ntɔ́-ɲɔ́rr-àk-í	*'You.SG were made to love (food).'*

C.1.22. CAUS and Passive (PASS), Progressive (PROG)

Progressive verbs with CAUS and PASS have a high-downstepped high stem tone pattern. I have all third person forms.

è-ytù-dùŋ-ít ̍ó-y	*'He is being made to cut it.'*
3-CAUS-cut-PROG-PASS	
è-ytò-pǐr-ít ̍ó-y	*'He is being made fat.'*
è-ytɔ̀-rɔ̀k-ít ̍á-y	*'He is being made black.'*
è-ytà-shàm-ít ̍á-y	*'He is being made to love it.'*
è-ytɛ̀-shɛ̀t-ít ̍á-y	*'He is being made to build.'*

C.2. Forms with MOTION AWAY (AWAY)

C.2.1. *AWAY and Antipassive (APAS)

Forms with APAS and AWAY seem to be not permissable.

*è-dùŋ-ísh ̍óyó	*'He is a cutter (away, iterative).'*

C.2.2. AWAY and Instrumental (INST)

The following forms, with INST and AWAY, have a high-downstepped high stem tone pattern.

C.2.2.1. Third Person Forms

è-bɛ̀l-ár- ̍yé	*'He will use it to break them (one at a time.).'*
3-break-AWAY-INST	
è-dùŋ-ór- ̍yé	*'He will use it to cut it off.'*
è-gòr-ór- ̍yé	*'He will use it to strangle them (one at a time.).'*

è-y-bùk-ór-ˈyé   *'He used it to pour it out.'*
                                    'He will make/made him pour it out.'
è-y-dòŋ-ór-ˈyé   *'He will use it to pound them one at a time.'* also have
è-y-dóŋ-ˈór-yé
è-y-gèr-ór-ˈyé   *'He will use it to write them one at a time.'* also have
è-y-gér-ˈór-yé
è-y-nòs-ár-ˈyé   *'He used/will use it to eat as he went.'*
è-lèp-ór-ˈyé   *'He will use it to milk cows, one after the other.'*
è-ŋúɗi è-màn-ár-ˈyé (níɲè) *'He will use a stick to walk around, away from his home.'*
è-shèt-ár-ˈyé   *'He will use it to build them (one house at a time.).'*
è-tèm-ár-ˈyé   *'They will use it to test one person at a time.'*

C.2.2.2. Forms with *k-*

k-é-bèl-ár-ˈyé   *'He will use it to break them (one at a time.).'*
k-é-dùŋ-ór-ˈyé   *'He will use it to cut it off.'*
k-é-y-bùk-ór-ˈyé   *'He will use it to pour it out.'*
k-é-y-dòŋ-ór-ˈyé   *'He will use it to pound them one at a time.'*
k-é-y-gèr-ór-ˈyé   *'He will use it to write them one at a time.'*
k-é-y-nòs-ár-ˈyé   *'He will use it to eat as he goes.'*
k-é-y-ŋòl-ár-ˈyé   *'He will use it to stir up (waters), one after the other.'*

C.2.2.3. Initial Surface High Forms

á-dúŋ-ór-ˈyé   *'I will use it to cut it off.'*
á-y-búk-ór-ˈyé   *'I will make him pour (it out).'*
                                'I used it to pour.'
                                'I made him pour (it out).'
á-shét-ár-ˈyé   *'I will use it to build them (one house at a time.).'*
k-á-dúŋ-ór-ˈyé   *'I will use it to cut it off.'*
k-á-y-búk-ór-ˈyé   *'I will make him pour.'*
                                'I will use it to pour.'
k-á-y-ŋól-ár-ˈyé   *'I will use it to stir up (waters), one after the other.'*
k-á-y-ŋól-ˈár-yé
k-áy-dóŋ-ór-ˈyé èŋúɗi ˇimùshàkwèní *'I will use a stick to beat the corn cob off.'*
k-áy-dóŋ-ˈór-yé èŋúɗi ˇimùshàkwèní
èn-kúkúrí á-dás-ár-yé kùná kíshú   *'I will milk those cows one at a time with a*
                                   calabash.'

C.2.2.4. <u>Third Person Perfect Forms</u>

The perfect forms of the AWAY and INST are identical to the non-perfect forms,

except for PF prefix.

è-tè-bèl-ár-ˈyé	*'He used it to break them (one at a time.).'*
3-PF-break-AWAY-INST	
è-tù-dùŋ-ór-ˈyé	*'He used it to cut (away).'*
è-tà-gòr-ór-ˈyé	*'He used it to strangle them (one at a time.).'*
è-y-kèn-ór-ˈyé	*'He used it to close it against someone leaving.'*
è-y-kén-ˈór-yé	
è-y-lèp-ár-ˈyé (èŋúɗì)	*'He used (a stick) to climb up.'*
è-y-ŋɔ̀l-ár-ˈyé	*'He used it to stir up (waters), one after the other.'*
è-tà-lèp-ór-ˈyé	*'He used it to milk cows, one after the other.'*
èŋúɗì è-tà-màn-ár-yè	*'He has used a stick to walk around, away from his home.'*
è-tè-shèt-ár-ˈyé	*'He used it to build them (one house at a time.).'*

C.2.2.5. <u>Forms with *k-*</u>

k-é-y-kèn-ór-ˈyé	*'He used it to close it against someone leaving.'*
k-é-y-kén-ˈór-yé	

C.2.2.6. <u>Initial Surface High Perfect Forms</u>

á-tú-dúŋ-ór-ˈyé	*'I used it to cut it off.'*
á-y-dóŋ-ór-ˈyé èŋúɗì ǐmùshàkwèní	*'I used a stick to beat the corn cob off.'*
á-y-dóŋ-ˈór-yé èŋúɗì ǐmùshàkwèní	
á-y-ŋɔ́l-ár-ˈyé	*'I used it to stir up (waters), one after the other.'*
á-y-ŋɔ́l-àr-ˈyé	
á-té-shét-ár-ˈyé	*'I used it to build them (one house at a time.).'*

C.2.3. AWAY and Instrumental (INST), Perfect Aspect (Plural)

Plural perfect forms with INST and AWAY have a high-falling stem tone pattern.

I have two Third Person Forms.

é-tú-dúŋ-ór-yê	*'They used it to cut (away).'*
é-y-búk-ór-yê	*'They made him pour it out.'*

C.2.4. AWAY and Instrumental (INST), Middle (MID)

This form, with INST, MID and AWAY, has a high-low-high stem tone pattern. I

have one initial high form.

k-á-y-búk-ór-ĭy-yé   *'I will use it to make it poured out.'*
DSCN-1SG-II-pour-AWAY-MID-INST

C.2.5. AWAY and Middle (MID)

The following forms, with MID and AWAY, have a high-low stem tone pattern.

C.2.5.1. Third Person Forms

è-y-bùk-ór-ĭ (níɲè) (ŋòlé)	*'It became poured (yesterday).'*
3-II-pour-AWAY-MID	
è-y-bùk-ór-ĭ tènákàtá	*'It will be poured now.'*
è-y-sòj-ár-ĭ ɩ̀nkɩ́lànɩ́	*'It will be washed away.' (not by anyone - maybe the rain).'*
è-dùŋ-ór-ĭ ɔ̀lpáyyàn	*'The man will cut himself off.'*
	'It will be cut off.'
è-bèl-ár-ĭ kùlórík⸢án	*'The chairs will be broken one at a time.'*
	'The chairs will be broken off.'
è-tù-dùŋ-ór-ĭ	*'He cut himself off.'*
	'He became cut off.'
è-tè-bèl-ár-ĭ níɲè/níncè	*'He/They broken himself off.' '…is cut off.'*
*è-y-dòŋ-ór-ĭ níɲè	*'beat'*
*è-y-pòt-ór-ĭ	*'call'*

*è-y-gèr-ór-ǐ èmpàlá níɲè   *'write'*

C.2.5.2. Forms with *k-*

k-ɛ́-y-sʉ̀j-ár-ǐ   *'It will be washed off.'*
k-ɛ́-dùŋ-ór-ǐ èndá kêr   *'That goat will be cut off.'*
k-ɛ́-wwàs-ár-ǐ èlòytò   *'He will become proud as he goes.'*
                              'He will walk proudly.'

C.2.5.3. Initial Surface High Forms

í-súd-ór-ǐ   *'You hide yourself.'*

C.2.6. AWAY and Middle (MID), Perfect Aspect (Plural)

The following plural perfect form, with MID and AWAY, has a high and level

stem tone pattern. This apparently has something of a stative reading, as well as the

perfect. I have all third person forms.

ɛ́-tɛ́-bɛ́l-ár-í níncè (*níɲè)   *'They broke themselves off.'* or *'...is cut off.'*
3-PF-break-AWAY-MID they (*he)
ɛ́-y-sʉ́j-ár-í kùldô lpáyyàní   *'Those men washed themselves off.'* or *'...are....'*

C.2.7. AWAY and Middle (MID), Inceptive (INCEP)

The following inceptive form, with MID and AWAY, has a high-low-high stem

tone pattern. I have all third person forms.

è-y-bùk-ór-òy-ú   *'It is pourable.'*

C.2.8. *AWAY and Middle (MID), Passive (PASS)

Apparently MID and AWAY cannot co-occurr with PASS.

*è-y-sʊ̀j-ár-àk-í   *'People get washed away.'*

C.2.9. AWAY and Dynamic Middle

The following forms, with the Dynamic Middle and AWAY, have a high-downstepped high stem tone pattern.

C.2.9.1. All Third Person Forms

è-àr-ár-ˈó	*'He has been chased away.'*
3-beat-AWAY-MID	
è-dʊ̀ŋ-ór-ˈó	*'He has been cut off.'*
è-bèl-ár-ˈó	*'It is broken off.'*
è-dʊ̀ŋ-ór-ˈó ŋòlé	*'He was cut off yesterday.'*
	'Yesterday he became cut off.'
è-y-bùk-ór-ˈó (ŋòlé)	*'It is poured (out).'*
	'It became poured out.'
è-dʊ̀ŋ-ór-ˈó tãĩsérè (*ŋòlé)	*'People will cut each other (one at a time) tomorrow.'*
è-dʊ̀ŋ-ór-ˈó òlpáyyàn/ĭlpáyyàní	*'The men will cut each other off (or one at a time).'*
	'The man/men has/have been cut off.'
è-y-dòŋ-ór-ˈó	*'He/they is/are beaten as he goes.'*
	'They will beat each other as they go.'
è-y-pòt-ór-ˈó níɲè/níncè bɔ̀ɔ́	*'He/They is/are called outside.' (i.e., stative - he is.).'*
	'They will call each other outside.'
è-y-sʊ̀j-ár-ˈó ènkílàní	*'It is washed away.'*
	'They will wash each other away.'
	'The clothes are/will be washed one at a time.'
	'They will wash each other one at a time.'
è-y-gèr-ór-ò̀ èpwò (*èlô)	*'They will employ each other as they go.'*
è-bùròkùsh-ár-ˈó	*'Their legs are dislocated.'*
*è-y-sʊ̀j-ár-à	*'It is washed away.'*
*è-tè-bèl-ár-ˈó	*'It is broken away.'*

C.2.9.2. Form with *k-*

k-é-y-dòŋ-ór-ꜜó   *'They will beat each other as they go.'*
                      'one at a time.'

C.2.10. AWAY and Passive (PASS)

The following forms, with PASS and AWAY, have a high-downstepped high

stem tone pattern.

C.2.10.1. All Third Person Forms

è-y-pòt-ór-ꜜí   *'He will be called out.'*
3-II-call-AWAY-PASS
è-bèl-ár-ꜜí kùldó òríkàn   *'People will break the chairs off.'*
è-bòl-ór-ꜜí   *'It will be opened out.'*
è-mìr-ár-ꜜí   *'It will be chased away.'*
è-dùŋ-ór-ꜜí   *'It will be cut from.'*   *'People will cut it off.'*
è-y-bùk-ór-ꜜí nìɲɛ́   *'It is/will be poured out.'*
è-y-dòŋ-ór-ꜜí nìɲɛ́   *'He became beaten.'*
è-y-gèr-ór-ꜜí èmpáláy èpòytôy.   *'The letter will be written as he goes.'*
è-y-gìs-ár-ꜜí   *'They will be carved one at a time.'*
è-y-kèn-ór-ꜜí   *'It will be closed out (i.e., against the outside.).'*
è-y-nɔ̀s-ár-ꜜí   *'It will be eaten as we go.'*
è-y-sùj-ár-ꜜí ìnkĭlánꜜí   *'It will be washed away.' (by someone).'*
è-ɲɔ̀rr-ár-ꜜí   *'He will be loved/accepted.'*
*è-tù-dùŋ-ór-ꜜí   *'cut'*
*è-tè-bèl-ár-ꜜí níɲè/níncè   *'break'*

C.2.10.2. Forms with *k-*

k-é-bòl-ór-ꜜí   *'It will be opened out.'*
k-é-dùŋ-ór-ꜜí   *'It will be cut from.'*
k-ɛ́-gìl-ár-ꜜí   *'It will be broken from.'*
k-é-y-bùk-ór-ꜜí   *'It will be poured out.'*

k-ɛ́-y-g̀s-ár-ˈí   *'They will be carved one at a time.'*
k-ɛ́-y-kèn-ór-ˈí   *'It will be closed out (i.e., against the outside.).'*
k-ɛ́-y-nɔ̀s-ár-ˈí   *'It will be eaten as we go.'*
k-ɛ́-mìr-ár-ˈí   *'It will be chased away.'*

C.2.11. AWAY and Passive (PASS), Perfect Aspect

The following perfect forms, with PASS and AWAY, have a high-low-high stem

tone pattern. I have all third person forms.

è-tà-bòl-óyòk-í   *'It was opened out (i.e., for someone to leave.).'*
3-PF-open-AWAY.PF-PASS
è-tù-dùŋ-óyòk-í   *'It was cut from.'*
è-tì-g̀l-áyòk-í   *'It was broken from.'*
è-y-bùk-óyòk-í   *'It was poured out.'*
è-y-gìs-áyòk-í   *'They were carved one at a time.'*
è-y-kèn-óyòk-í   *'It was closed out (i.e., against the outside.).'*
è-y-nɔ̀s-áyòk-í   *'It was eaten as we went.'*
è-y-sùj-áyòk-í   *'It was washed away.'*
è-tì-mìr-áyòk-í   *'It was chased away.'*

C.2.12. AWAY and Perfect Aspect

The following perfect forms, with AWAY, have a high-low stem tone pattern.

C.2.12.1. Third Person Forms

è-tè-bèl-áyyè   *'She broke them (one at a time.).'*
3-PF-break-AWAY.PF
è-tà-bòl-óyyè   *'He has opened it for him.'*
è-tà-dàl-áyyè   *'He played going away.'*
è-tù-dùŋ-óyyè   *'He went about cutting.'*
     'He cut it off.'
è-tì-g̀l-áyyè   *'He broke it away(stick-like).'*
è-tì-g̀r-áyyè éló́ytô   *'He was silent as he went.'*
è-y-bàl-áyyè   *'He became visible as he went.'*

è-y-dòŋ-óyyè	*'He went around beating.'*
	'He beat it off.'
è-y-kèn-óyyè	*'He shut it (against the outside.).'*
è-y-nɔ̀s-áyyè	*'He at a bit at a time (as on a journey.).'*
è-y-rrɨ̀t-áyyè	*'He looked after cows as they went.'*
è-tà-màn-áyyè tèŋúɗɨ	*'He has walked around using a stick (away from his home.).'*
è-tò-nɨ̌ŋ-óyyè	*'He must have heard it, wherever he was.'*
è-tɔ̀-ɲɔ̀rr-áyyè	*'He has agreed.'*
è-tɨ̀-ŋɨ̀d-áyyè	*'He was proud while going.'*
è-tà-ŋòr-óyyè	*'He threw (a spear, away).'*
è-tɨ̀-shɨ̀p-áyyè élóytô	*'He became happy while coming.'*
è-tà-wwàs-áyyè élóytô	*'He became proud as he went.'*
è-tà-dàl-á-yt-yè	*'They played going away.'*
è-tù-dùŋ-ó-yt-yè	*'They went about cutting.'*
	'They cut it off.'
è-tɨ̀-gɨ̀l-á-yt-yè	*'They broke it away(stick-like).'*
è-tɨ̀-gɨ̀r-á-yt-yè élóytô	*'They was silent as he went.'*
è-y-bàl-á-yt-yè	*'They became visible as they went.'*
è-y-dòŋ-ó-yt-yè	*'They went around beating.'*
	'They beat it off.'
è-y-kèn-ó-yt-yè	*'They shut it (against the outside.).'*
è-y-nɔ̀s-á-yt-yè	*'They at a bit at a time (as on a journey.).'*
è-y-rrɨ̀t-á-yt-yè	*'They looked after cows as they went.'*
è-y-tèrr-yé-yt-yè	*'They fainted.'*
è-tɨ̀-ŋɨ̀d-á-yt-yè	*'They were proud while going.'*
è-tà-ŋòr-ó-yt-yè	*'They threw (a spear, away).'* or
ɛ́-tá-ŋór-ó-yt-yè	
è-tɨ̀-shɨ̀p-á-yt-yè épóytô	*'They became happy while coming.'*
è-tà-wwàs-á-yt-yè épóytô	*'They became proud as they went.'*
*è-l-áyyè	*'be stranded'*
*è-lùb-óyyè	*'be greedy'*
*è-tà-nàn-áyyè	*'be soft'*

C.2.12.2. Forms with *k-*

k-é-y-kèn-óyyè	*'He closed it against the outside.'*
k-ɛ́-tɔ̀-ɲɔ̀rr-áyyè	*'Has he/she accepted it?.'*
k-ɛ́-tà-báy-yè òshíí táàtá àjá ïròpïàní náàbàyá nàïróbǐ tèkárèn?	
	'How much is the fare nowadays from Karen to Nairobi?.'
*k-é-rǐkǐn-óyyè	*'forget'*

C.2.12.3. Initial Surface High Forms

á-y-dóŋ-óyyè ˇimùshàkwèní tèŋúdǐ   *'He beat the corn cob off with a stick.'*
á-y-pút-áyyè   *'I filled (several things) one at a time (i.e., several*
                               containers of water or milk.).'
á-tá-ŋór-óyyè   *'I threw (a spear, away).'*
í-tɔ́-ɲɔ́rr-áyyè   *'You have agreed.'*
í-tá-ŋór-óyyè   *'You threw (a spear, away).'*

C.3. Forms with Ventive (VENT)

C.3.1. *VENT and Antipassive (APAS)

The following forms, with APAS and VENT, are apparently not possible.

*è-dùŋ-wíshò *è-dùŋ-ˇishòrù *'He cuts toward himself.'*

C.3.2. VENT and Dative (DAT), Middle (MID)

The following forms, with VENT, DAT, and MID, have a high-downstepped high

stem tone pattern.

C.3.2.1. Third Person Form

è-y-tùk-w-òkín-ˈó   *'They will wash for each other.'*

C.3.2.2. Form with *k-*

k-é-y-tùk-w-òkɪ́n-ˈó   *'They will wash for each other.'*

C.3.3. VENT and Instrumental (INST)

    The following forms, with VENT and INST, have a high-low stem tone pattern

for Class I forms, and a high-low-low stem tone pattern for class II forms.

C.3.3.1. Third Person Forms

è-dùŋ-úɲ-yè	*'He will use it to cut it.'*
3-cut-VENT-INST	
è-bèl-úɲ-yè	*'He will use it to break it from (e.g., a tree.).'*
è-jĭp-úɲ-yè	*'He will use it to wedge it from something.'*
è-bùk-úɲ-yè	*'He will use it to pour them from them.'*
è-bùl-úɲ-yè	*'He will use it to pierce it toward himself.'*
è-kèd-úɲ-yè	*'He will use it to climb towards something.'*
è-nĭŋ-úɲ-yè	*'He will use it to hear him coming.'*
è-ŋèr-úɲ-yè	*'He will use it to tear it out.'*
è-shùk-úɲ-yè	*'He will use it to return it.'*
	'He will come back.'

è-y-gér-ˈúɲ-yé	*'He will use it to write from something.'*
è-y-nós-ˈúɲ-yé	*'He will use it to eat as he comes.'*
è-y-túk-ˈú-yyé	*'He will use it to wash.'*
	'He used it to wash.'

C.3.3.2. Forms with *k-*

k-é-bèl-úɲ-yè	*'He will use it to break it from (e.g., a tree.).'*
k-é-nĭŋ-úɲ-yè	*'He will use it to hear him coming.'*
k-é-ŋèr-úɲ-yè	*'He will use it to tear it out.'*

k-é-y-dóŋ-ˈúɲ-yé	*'He will use it to pound it off.'*

k-é-y-gér-ˈúɲ-yé   'He will use it to write from something.'
k-é-y-nós-ˈúɲ-yé   'He will use it to eat as he comes.'
k-é-y-pót-ùɲ-yé   'He will use it to call him to come.' or
k-é-y-pót-ˈúɲ-yé
k-é-y-rrít-ˈúɲ-yé ïnkíshú èŋúɗi.   'He will look after cows as they came with a stick.'
k-é-y-shír-ˈúɲ-yé   'He will use it to call for help.'
k-é-y-túk-ˈú-yyé   'He will use it to wash.'

C.3.3.3. Initial Surface High Forms

á-búk-úɲ-yè   'I will use it to pour from something.'
á-dúŋ-úɲ-yè   'I will use it to cut it this way.'
á-súl-úɲ-yè   'I will use it to make it fall over (straight down) this way.'
á-úr-úɲ-yè   'I will use it to knock it over (e.g., a cliff) this way.'

á-y-nós-úɲ-ˈyé   'I will use it to eat as I come.'
k-á-y-shír-ˈúɲ-yé   'I will use it to call for help.'

C.3.4. VENT and Instrumental (INST), Perfect Aspect

The perfect forms with VENT and INST are a bit more confusing, with variation

between high-low-high and high-downstepped high-high for both Class I and II verb

stems.

C.3.4.1. Third Person Forms

è-tè-bél-ùɲ-yé   'He used it to break it from (e.g., a tree.).'
3-PF-break-VENT-INST
è-tù-búl-ùɲ-yé   'He used it to pierce it toward himself.'
è-y-rrít-ˈúɲ-yé ïnkíshú èŋúɗi. 'He looked after cows with a stick as they came.'
è-y-shír-ˈúɲ-yé   'He used it to call for help.' or
è-y-shír-ùɲ-yé   or
è-y-shìr-úɲ-yè
è-ťi-jíp-ùɲ-yé   'He used it to wedge it from something.'
è-tà-kéd-ùɲ-yé   'He used it to climb towards something.' or

è-tà-kèd-úŋ-ˈyé   or
è-tà-kèd-úŋ-yè
è-tò-níŋ-ùŋ-yé   *'He used it to hear him coming.'* or
è-tò-níŋ-ˈúŋ-yé   or
è-tò-nǐŋ-úŋ-yè
è-tè-ŋér-ùŋ-yé   *'He used it to tear it out.'* or
è-tè-ŋér-ˈúŋ-yé   or
è-tè-ŋèr-úŋ-yè
è-tù-shúk-ùŋ-yé   *'He used it to return it.'*
è-y-dóŋ-ˈúŋ-yé   *'He used/will use it to pound it off.'* or
è-y-dóŋ-ùŋ-yé
è-y-pót-ùŋ-yé   *'He used/will use it to call him to come.'* or
è-y-pót-ˈúŋ-yé   or
è-y-pòt-úŋ-yè

C.3.4.2. Initial Surface High Forms

á-y-shír-ˈúŋ-yé èmówwó   *'I called for help with a horn.'*
k-á-ytá-bárn-ùŋ-yé nìɲé   *'I will use him to shave (hairs.).'*

C.3.5. VENT and Instrumental (INST), Perfect Aspect (Plural)

The following plural perfect forms, with VENT and INST, have a high-falling/downstepped high stem tone pattern. I have all third person forms.

é-té-bél-úŋ-ˈyé   *'They used it to break it from (e.g., a tree.).'*
3-PF-break-VENT-INST
é-tú-búl-úŋ-ˈyé   *'They used it to pierce it toward themselves.'*
è-y-rrít-úŋ-ˈyé ïnkíshú èŋúɗì. *'They looked after cows as they came with a stick.'*
é-tí-jíp-úŋ-ˈyé   *'They used it to wedge it from something.'*
é-tá-kéd-úŋ-ˈyé   *'They used it to climb towards something.'*
é-tó-níŋ-úŋ-ˈyé   *'They used it to hear him coming.'*
é-té-ŋér-úŋ-ˈyé   *'They used it to tear it out.'*

C.3.6. VENT and Middle (MID)

The following non-perfect forms with VENT and MID have a high-downstepped high stem tone pattern. One exception is *ɪsʊj,* which seems to have middle semantics, but the combination of VENT and MID gives a different form (i.e., *ʊʊ*).

C.3.6.1. Third Person Forms

ὲ-àr-ún-ˈó ὲnkítὲŋ (àjí)	*'The cow is beaten this way (into the house.).'*
3-beat-VENT-MID	
è-bὲl-ún-ˈó	*'It is broken off.'*
è-y-bùk-ún-ˈó	*'It/they is/are poured (from).'*
è-y-dòŋ-ún-ˈó	*'It is beaten off.'*
	'They will beat each other as they come.'
	'They/he is beaten as he comes.'
è-y-nòs-ún-ˈó ïlòmón	*'The news has already been narrated.'*
è-y-pòt-ún-ˈó	*'He is called. (i.e., that's why he's here.).'*
è-y-túkw-ˈó	*'It is (already) washed.'*
è-y-túkw-ˈó	*'He has washed.'*
è-lùb-ún-ˈó	*'It is pierced (in).'*
è-shùk-ún-ˈó	*'It is returned.'*
ὲ-yà-ún-ˈó	*'It has been brought.'*
è-gïl-ún-ˈó	*'It is broken off.'*
è-ɲòrr-ún-ˈó	*'They will love each other.'*
è-y-túkw-ˈó	*'He/They is washing himself.'*
*è-y-dòŋ-ún-ò	*'beat'*
*è-l-ùn-ˈó	*'be stranded'*
*è-ŋïd-ún-ˈó	*'be proud'*
*ὲ-wwàs-ún-ˈó	*'be proud'*
*k-è-rïkïn-ùn-ˈó	*'forget'*
ὲ-y-sʊ́j-ˈʊ́ʊ́	*'He will wash himself off.'*

C.3.6.2. Forms with *k-*

k-ɛ́-yà-ún-ˈó	*'It has been brought.'*

k-é-ár-ún-Ꞌ΄ó   *'They will beat each other as they come.'*
k-é-y-túkw-Ꞌ΄ó   *'They will wash each other.'*

C.3.7. VENT and Middle (MID), Perfect Aspect

The following singular perfect forms with VENT and MID have a high-low stem

tone pattern.

C.3.7.1. Third Person Forms

è-tè-bèl-úɲ-è   *'It was broken off from.'*
3-PF-break-VENT-MID.PF
è-y-dòŋ-úɲ-è   *'It will be/became beaten off.'*
è-y-túk-w-è   *'He washed himself.'*
                           'He became washed.'
è-tù-shùk-úɲ-è   *'He came back.'*
è-bùk-úɲ-è   *'It is poured out.'*
ɛ̀-dàl-úɲ-è   *'They are playing as they come.'*
ɛ̀-tà-dàl-úɲ-è   *'He played coming.'*
*è-y-túk-w-Ꞌé   *'wash'*
*è-tà-l-ùɲ-Ꞌé   *'be stranded'*
*è-tà-nàn-úɲ-è   *'be soft'*
*è-ŋĭd-úɲ-Ꞌé   *'be proud'*
*ɛ̀-nàn-úɲ-è   *'be soft'*

C.3.7.2. Forms with *k-*

k-é-shĭp-úɲ-è   *'It will make him happy as he comes.'*
*k-è-rĭkĭn-úɲ-Ꞌé   *'forget'*

C.3.7.3. Initial Surface High Forms

á-dúŋ-úɲ-è   *'I will cut myself off of something bigger.'*
á-y-nós-úɲ-è   *'I will eat myself (i.e., become gradually annoyed) in this*
                           direction.'

á-súl-úŋ-è   *'I will fall over (straight down) this way.'*
á-úr-úŋ-è   *'I will fall over (e.g., a cliff) this way (on my own.).'*

C.3.8. VENT and Middle (MID), Perfect Aspect (Plural)

The following plural perfect forms with VENT and MID have a high-falling (or with a final downstepped high) tone pattern. One exception is *ituku*, probably because VENT, if it is there, doesn't behave the same as in other words. I have all third person forms.

έ-tá-dál-úŋ-ê   *'They played coming.'*
3-PF-play-VENT-MID.PF
é-y-shúŋ-è ǐnkàryák nàyrɔ̀bì   *'The waters of Nairobi are finished.'*
é-y-shúŋ-ê kʊ́lè   *'The milk is finished.'*
è-y-túk-w-òt-è   *'They washed each other.'*
                                 'They became washed.'
é-tí-shíp-úŋ-ê èlòtú   *'They made him happy as he came.'*
*è-tà-l-ún-òt-è   *'be stranded'*

C.3.9. VENT and Middle (MID), Inceptive (INCEP)

The following inceptive forms, with VENT and MID, have a high-low-high stem tone pattern.

C.3.9.1. All Third Person Forms

è-bùk-ún-ò-yú   *'It is pourable.'*
3-break-VENT-MID-INCEP
è-bùk-ún-ò-yú   *'It is pourable (from.).'*
è-y-bùŋ-ún-ò-yú   *'He is supportable.'*
è-y-túk-w-ˈó-yú   *'It is washable.'*

C.3.9.2. Form with *k-*

k-é-bùk-ún-ò-yú   *'It is pourable.'*

C.3.10. VENT and Middle (MID), Instrumental (INST)

The following form, with VENT, MID and INST, has a high-low-high stem tone

pattern. I have one third person form.

è-shùk-ún-ò-ré   *'He will use it to come back.'*

C.3.11. VENT and Passive (PASS)

The following non-perfect forms, with VENT and PASS, have a high-

downstepped high stem tone pattern

C.3.11.1. Third Person Forms

è-àr-ʊ́n-ˈí ɛ̀n-kítéŋ àjí	*'The cow will be beaten into the house.'*
3-beat-VENT-PASS	
è-bòl-ún-ˈí	*'It will be opened for someone inside (i.e., to go out.).'*
è-bùk-ún-ˈí kʊ̀lé tènkíkòmpè	*'The milk will be poured from the glasses.'*
è-mìr-ʊ́n-ˈí	*'It will be chased home.'*
è-y-bʊ̀ŋ-ʊ́n-ˈí	*'It will be caught (i.e., supported).'*
è-ɲɔ̀rr-ʊ́n-ˈí	*'He will be loved.'*
*è-y-kèn-ún-ˈí	**'It will be closed in (i.e., against the outside.).'*

C.3.11.2. Forms with *k-*

k-ɛ́-y-nɔ̀s-ʊ́n-ˈí	*'It will be eaten as we come.'*
k-é-bòl-ún-ˈí	*'It will be opened for someone inside (i.e., to go out.).'*
k-é-dùŋ-ún-ˈí	*'They will be cut off of/ from..'*

k-ɛ́-gɪ̀l-ʊ́n-ˈɪ́   *'It will be broken from.'*
k-ɛ́-y-bʊ̀ŋ-ʊ́n-ˈɪ́   *'It will be caught (i.e., supported).'*
k-ɛ́-mɪ̀r-ʊ́n-ˈɪ́   *'It will be chased home.'*

C.3.12. VENT and Passive (PASS), Perfect Aspect

The following perfect forms, with VENT and PASS, have a high-low-high stem tone pattern. I have only Third Person Forms.

è-tè-bél-w-àk-í   *'It was broken this way.'*
3-PF-beat-VENT-PF-PASS
è-tà-ból-w-òk-í   *'It was opened for someone inside (i.e., to go out.).'*
è-tù-búk-w-òk-í kʊ̀lɛ́ tènkɪ́kɔ̀mpè   *'The milk was poured from the glasses.'*
è-tù-dúŋ-w-òk-í   *'They were cut down.'*
è-tĭ-gíl-w-àk-í   *'It was broken from.'*
è-y-búŋw-àk-í   *'It was caught (i.e., supported).'* or
è-y-bʊ̀ŋ-w-àk-í
è-y-dóŋ-w-òk-í kùldó páɛ́k tɔ̀ɔ́mʊ̀shàkwèní   *'This corn was hit off of the maize cob.'*
è-y-nós-w-àk-í   *'It was eaten as we came.'*
è-y-túk-w-òk-í   *'It was washed.'*
è-tĭ-mír-w-àk-í   *'It was chased home.'*
è-tù-shúk-w-òk-í   *'He was returned.'*

C.3.13. VENT and Perfect Aspect

For singular perfect forms with VENT, the stem tone pattern is high-downstepped high.

è-tà-bárn-w-ˈá   *'He has shaved off.'*
3-PF-shave-VENT-PF
è-tù-búl-w-ˈó   *'He pierced it (toward himself).'*
è-tà-dál-w-ˈá   *'He played coming.'*
è-tù-dúŋ-w-ˈó   *'He cut it from ..'*

è-tì-gír-w-ꞌá	*'He was silent while coming.'*
è-y-bál-w-ꞌá	*'It became visible as it came.'*
è-y-bók-wꞌó	*'He hindered it (this way.).'*
è-y-dóŋ-wꞌó	*'It is beaten off.'*
è-y-kén-wꞌó	*'He closed them in this diretion.'*
è-y-páŋ-w-ꞌá	*'It has come out.'*
è-y-pík-w-ꞌá níɲè	*'He projected (up).'*
è-y-rrít-w-ꞌá	*'He looked after cows as they came.'*
è-tù-lúb-w-ꞌó	*'He has pierced it.'*
è-tò-níŋ-w-ꞌó	*'He understoond.'*
è-tì-ŋíd-w-ꞌá	*'He was proud when coming.'*
è-tì-shíp-w-ꞌá èlòtú	*'He became happy while coming.'*
è-tà-wwás-w-ꞌá èlòtú	*'He became proud as he came.'*
*è-tà-l-w-ꞌá	*'be stranded'*
*è-tà-nàn-w-ꞌá	*'be soft'*
*k-è-tò-řikǐn-w-ꞌó	*'forget'*

C.3.13.2. Initial Surface High Forms

á-y-tér-w-ꞌá àníŋ	*'I've started learning.'*
á-y-túk-w-ꞌó	*'I washed it.'*

C.3.13.3. exceptions

è-y-pár-w-à ènkèráy ìmbáà kúmòk	*'The child asked many questions.'*
á-y-pút-w-à ìròpìàní	*'I filled the money a bit at a time (i.e., saving to buy something).'*

C.3.14. VENT and Perfect Aspect (Plural)

For plural perfect forms with VENT, the stem tone pattern is high-low-falling. I

have all third person forms.

è-tà-bá-ùt-w-â	*'They have reached ..'*
3-PF-reach-PL.PF-VENT-PF	
è-tù-búl-ùt-w-ô	*'They pierced it (toward themselves).'*

è-tà-dál-ùt-w-â	*'They played coming.'*
è-tù-dúŋ-ùt-w-ô	*'They cut it from ..'*
è-tĭ-gír-ùt-w-â èpònú	*'They were silent as they came.'*
è-y-bál-ùt-w-â	*'They became visible as they came.'*
è-y-dóŋ-ùt-w-ô	*'They beat it towards themselves.'*
è-y-kén-ùt-w-ô	*'They closed them in this diretion.'*
è-y-pík-ùt-w-â níncè	*'He projected (up).'*
è-y-rrít-ìt-w-â	*'They looked after cows as they came.'*
è-tò-níŋ-ùt-w-ô	*'They understoond.'*
è-tì-ŋíd-ìt-w-â	*'They were proud when coming.'*
è-tì-shíp-ùt-w-â èpònú	*'They became happy while coming.'*
è-tà-wwás-ùt-w-â èpònú	*'They became proud as they came.'*

C.4. Forms with Dative (DAT)

C.4.1. DAT and Perfect Aspect

For perfect forms with DAT, the stem tone pattern is high-downstepped high.

C.4.1.1. Third Person Forms

è-tè-bèl-ák-ˈá	*'She did break it(stick) for him.'*
3-PF-break-DAT-PF	
è-tà-bòl-ók-ˈó	*'He opened it for him.'*
è-tà-dàl-ák-ˈá	*'He played for him.'*
è-tù-dùŋ-ók-ˈó	*'He cut it for him' / 'He gave it to him.'*
è-tì-gìl-ák-ˈá	*'She broke it for him.'*
è-tà-gòr-ók-ˈó	*'He strangled for him.'*
è-y-bàl-ák-ˈá	*'He revealed it to him.'*
è-ìd-ák-ˈá òsőít	*'He jumped onto the rock.'*
è-y-dòŋ-ók-ˈó	*'He beat for him.'*
è-y-gèr-ók-ˈó	*'She did write it for him.'*
è-y-kèn-ók-ˈó	*'She did close it for him.'*
è-y-lèp-ák-ˈá	*'She did climb it for him.'*
è-y-rrìt-ák-ˈá	*'He looked after cows for him.'*
è-tù-lùb-ók-ˈó	*'He was greedy on his behalf.'*

è-tò-nǐŋ-ók-ˈó   *'He heard for him.'*
è-tɔ̀-ɲɔ̀rr-ák-ˈá   *'He did agree with him.'*
è-tè-ŋèr-ák-ˈá   *'She did tear it for him.'*
è-tù-shùk-ók-ˈó   *'He returned it for him.'*
è-tà-wwàs-ák-ˈá   *'He became proud on behalf of him.'*
*è-tì-g̀ìr-ák-ˈá   *'be silent'*
*è-tà-l-ákˈá   *'be stranded'*
*è-tà-l-ák-ìt-â
*è-nàn-ák-ˈá   *'be soft'*
*è-tì-ŋ̀ìd-ák-ˈá   *'be proud'*
*è-tò-řǩin-ók-ˈó   *'forget'*
*è-tì-shìp-ák-ˈá   *'be happy'*

C.4.1.2. Initial Surface High Forms

á-té-bél-ák-ˈá   *'I did break it(stick) for him.'*
á-tí-gíl-ák-ˈá   *'I broke it for him.'*
á-tá-gór-ók-ˈó   *'I strangled for him.'*
á-y-dóŋ-ók-ˈó   *'I pounded (the grain) for him.'*
á-y-gér-ók-ˈó   *'I did write it for him.'*
á-té-ŋér-ák-ˈá   *'I tore it for him.'*

C.4.2. DAT and Perfect Aspect (Plural)

For plural perfect forms with DAT, the stem tone pattern is high-low-falling. I

have all third person forms.

è-tè-bèl-ák-ìt-â   *'They did break it(stick) for him.'*
3-PF-break-DAT-PF.PL-DAT.PF
è-tà-bòl-ók-ìt-ô   *'They opened it for him.'*
è-tà-dàl-ák-ìt-â   *'They played for him.'*
è-tù-dùŋ-ók-ìt-ô   *'They cut it for him.'*
è-tì-g̀ìl-ák-ìt-â   *'They broke it for him.'*
è-tà-gòr-ók-ìt-ô   *'They strangled for him.'*
è-y-dòŋ-ók-ìt-ô   *'They beat for him.'*
è-y-gèr-ók-ìt-ô   *'They wrote it for him.'*
è-y-kèn-ók-ìt-ô   *'They closed it for him.'*
è-y-lèp-ák-ìt-â   *'They climbed it for him.'*

è-y-rr̀it-ák-ìt-â	*'They looked after cows for him.'*
è-y-rr̀it-ák-ìt-â	*'They looked after cows for him.'*
è-tù-lùb-ók-ǐt-ô	*'They were greedy on his behalf.'*
è-tò-nǐŋ-ók-ǐt-ô	*'They heard for him.'*
è-tɔ̀-ɲɔ̀rr-ák-ìt-â	*'They agreed with him.'*
è-tɛ̀-ŋèr-ák-ìt-â	*'They tore it for him.'*
è-tù-shùk-ók-ǐt-ô	*'They returned it for him.'*
è-tà-wwàs-ák-ìt-â	*'They became proud on behalf of him.'*
*è-tì-ŋ̀d-ák-ìt-â	*'be proud'*

C.4.3. *DAT and Antipassive (APAS)

The following form, with DAT and APAS, is apparently not valid.

*è-dùŋ-òkǐn-íshꞋó	*'He cuts for him.'*
*è-dùŋ-ǐshòr-òkǐ	

C.4.4. DAT and Instrumental (INST)

The following forms, with DAT and INST, have a variety of stem tone patterns, from high-low-high to high-downstepped high-high, to high-low. In these examples, the several forms seem not to be distinguished in the non-perfect readings, and aspect seems to not be distingquished on Class II forms (see *yduŋ*). Perhaps stem tone patterns that used to be distinct have become confused (see TM Class I/II patterns.)

C.4.4.1. Third Person Forms

è-bèl-ákǐɲ-yé	*'He will use it to break it for them.'* or
è-bèl-àkíɲ-yè	
3-break-DAT-INST	
è-dùŋ-ókǐɲ-yé	*'He will use it to cut it for them.'* or
è-dùŋ-òkíɲ-yè (*st)	or
è-dùŋ-ókꞋíɲ-yé	
è-gòr-ókǐɲ-yé	*'He will use it to strangle it for them.'* or

è-gòr-òkíɲ-yè   or
è-gòr-ók ɪ́ɲ-yé
è-lèp-ókĭɲ-yé   *'He will use it to milk for him.'* or
è-lèp-òkíɲ-yè
è-shùk-ókĭɲ-yé   *'He will use it to return it to him.'*
è-shùk-òkíɲ-yè

è-tè-bèl-ákĭɲ-yé   *'He used it to break it for them.'*
è-tù-dùŋ-ókĭɲ-yé   *'He used it to cut it for them.'*
è-tà-gòr-ókĭɲ-yé   *'He used it to strangle it for them.'*

è-y-dòŋ-ókĭɲ-yé   *'She will use it to pound for them.'*
è-y-dòŋ-òkíɲ-yè   or
è-y-dòŋ-ók ɪ́ɲ-yé
è-y-kòd-ókĭɲ-yé   *'He will use it to decorate for him.'* or
è-y-kòd-òkíɲ-yè
è-y-dòŋ-ókĭɲ-yé   *'He will use it to pound for them.'* or
                                'He used it to pound for them.'

è-y-gèr-ókĭɲ-yé   *'He used it write it for him.'*
è-y-kèn-ókĭɲ-yé   *'She used it to close it for him.'*

è-tà-lèp-ókĭɲ-yé   *'He used it to milk for him.'*
è-tè-shèt-ákĭɲ-yé   *'He used it to build for him.'* or
è-tè-shèt-ák ɪ́ɲ-yé
è-tù-shùk-ókĭɲ-yé   *'He used it to fold/return for him.'* or
è-tù-shùk-ók ɪ́ɲ-yé

C.4.4.2. Forms with *k-*

k-ɛ́-bèl-ákĭɲ-yé   *'He will use it to break it for them.'* or
k-ɛ́-bèl-àkíɲ-yè   or
k-ɛ́-bèl-ák ɪ́ɲ-yé
k-ɛ́-gòr-ókĭɲ-yé   *'He will use it to strangle it for them.'* or
k-ɛ́-gòr-òkíɲ-yè   or
k-ɛ́-gòr-ók ɪ́ɲ-yé
k-ɛ́-lèp-ókĭɲ-yé   *'He will use it to milk for him.'* or
k-ɛ́-lèp-òkíɲ-yè   or
k-ɛ́-lèp-ók ɪ́ɲ-yé
k-ɛ́-shèt-ákĭɲ-yé   *'He will use it to build for him.'* or
k-ɛ́-shèt-àkíɲ-yè   or

k-é-shèt-ák˦íɲ-yé
k-é-shùk-òkíɲ-yè   *'He will use it to return it to him.'* or
k-é-shùk-ókĭɲ-yé   or
k-é-shùk-òkíɲ-yè

k-é-y-dòŋ-ókĭɲ-yé   *'She will use it to pound for them.'* or
k-é-y-dòŋ-òkíɲ-yè
k-é-y-gèr-ókĭɲ-yé   *'He will use it write it for him.'* or
k-é-y-gèr-òkíɲ-yè
k-é-y-kèn-ókĭɲ-yé   *'She will use it to close it for him.'* or
k-é-y-kèn-òkíɲ-yè

k-é-y-kòd-ókĭɲ-yé   *'He used it to decorate for him.'*

C.4.4.3. Initial Surface High Forms

á-y-dóŋ-ókĭɲ-yé   *'I used it to pound for him.'* or
á-y-dóŋ-ókĭɲ-yé   *'I will use it to pound for him.'* or
á-y-dóŋ-ókíɲ-yè
k-á-y-dóŋ-ókĭɲ-yé   *'I will use it to pound for him.'* or
k-á-y-dóŋ-ókíɲ-yè

C.4.5. DAT and Middle (MID)

The following non-perfect forms, with DAT and MID, have a high-downstepped

high stem tone pattern.

C.4.5.1. Third Person Forms

è-là-ykín-˦ó   àshɔ́m˦ɔ́   *'He won't be able to go.'*
3-break-DAT-MID
è-bà-ykín-˦ó   *'The child was visited/reached (where in the hospital).'*
è-bùk-òkín-˦ó   *'It is poured into.'*
è-gìr-àkín-˦ó   *'He (Leonard) is keeping silent to him (Keswe.).'*
è-ìd-àkín-˦ó òsŏít   *'The rock has been jumped onto.'*
è-dàl-àkín-˦ó   *'They will play for each other.'*

è-dùŋ-òkín-ˈó	*'They will cut for each other.'*
è-gòl-òkín-ˈó	*'They will be strong for each other.'*
è-lùb-òkín-ˈó	*'They will be greedy for each other.'*
è-ŋ̀id-àkín-ˈó	*'They will be proud for each other.'*
è-pèj-òkín-ˈó	*'They will burn it for each other.'*
è-rìp-àkín-ˈó	*'They will sew for each other.'*
è-sìr-àkín-ˈó	*'They will paint for each other.'*
è-shèt-àkín-ˈó	*'They will build for each other.'*
è-shìp-àkín-ˈó	*'They will be happy for each other.'*
è-tɔ̀n-ǐkín-ˈó	*'They will stay for each other.'*
è-yyàŋ-àkín-ˈó	*'They will slaughter for each other.'*
è-rùt-òkín-ˈó	*'They will collect honey for each other.'*
è-bà-ykín-ˈó	*'They visit/reach one another'/'it is reachable.'*
è-wwàs-àkín-ˈó	*'They will become proud for each other.'*
è-y-bùŋ-àkín-ˈó	*'They will help each other (i.e., join together for some sucess).'*
è-y-dòŋ-òkín-ˈó	*'They will pound (e.g., grain) for each other.'*
è-y-gèr-òkín-ˈó	*'They will write for each other.'*
è-y-gìs-àkín-ˈó	*'They will carve for each other.'*
è-y-nɔ̀s-àkín-ˈó	*'They will eat for each other.'*
è-y-pàr-àkín-ˈó	*'They will question for each other.'*
è-y-pèr-àkín-ˈó ǐlkèék ǐlkùlíkˈáy.	*'The wood will be split onto the other.'*

C.4.5.2. Forms with *k-*

k-é-dùŋ-òkín-ˈó	*'They will cut for each other.'*
k-ɛ́-mìr-àkín-ˈó	*'They will sell/chase for each other.'*
k-ɛ́-gòl-òkín-ˈó	*'They will be strong for each other.'*
k-ɛ́-gòr-òkín-ˈó	*'They will become angry at him.'*
k-ɛ́-y-bùŋ-àkín-ˈó	*'They will help each other (i.e., join together for some sucess).'*
k-ɛ́-y-dòŋ-òkín-ˈó	*'They will pound (e.g., grain) for each other.'*
k-ɛ́-y-gèr-òkín-ˈó	*'They will write for each other.'*
k-ɛ́-y-nɔ̀s-àkín-ˈó	*'They will eat for each other.'*
k-ɛ́-y-ŋɔ̀r-àkín-ˈó ǐnkíshú	*'They will look after each other's cows.'*
k-ɛ́-y-pàr-àkín-ˈó	*'They will question for each other.'*
k-ɛ́-y-rrìt-àkín-ˈó ǐnkíshú	*'They will look after each other's cows.'*
k-ɛ́-lùb-òkín-ˈó	*'They will be greedy for each other.'*
k-ɛ́-ŋ̀id-àkín-ˈó	*'They will be proud for each other.'*
k-ɛ́-pèj-òkín-ˈó	*'They will burn it for each other.'*

k-ɛ́-rɪ̀p-àkɪ́n-ˈó   *'They will sew for each other.'*
k-ɛ́-rùt-òkɪ́n-ˈó   *'They will collect honey for each other.'*
k-ɛ́-sɪ̀r-àkɪ́n-ˈó   *'They will paint for each other.'*
k-ɛ́-tɔ̀n-ɪ̆kɪ́n-ˈó   *'They will stay for each other.'*
k-ɛ́-yyàŋ-àkɪ́n-ˈó   *'They will slaughter for each other.'*

C.4.5.3. Initial Surface High Forms

á-gór-ókɪ́n-ˈó   *'I will be angry at..'*
á-íd-ákɪ́n-ˈó   *'I will jump into it.'*
k-á-gór-ókɪ́n-ˈó   *'I will be angry at..'*

C.4.6. DAT and Middle (MID), Perfect Aspect

The following perfect forms with DAT and MID have a high-falling stem tone

pattern.

C.4.6.1. Third Person Forms

è-tì-gìr-àkɪ́n-è   *'He (Leonard) kept silent to him (Keswe.).'*
3-PF-be.silent-DAT-MID
è-tì-gìl-àkɪ́n-è ɔ̀lcátá òɽikây. *'The branch is broken, and will fall onto the other one.'*
è-tà-gòr-òkɪ́n-è   *'He became angry at him/her.'*
è-y-kèn-òkɪ́n-è èmílànkò ènkâŋ.   *'The door is closed into the other.'*
è-y-kòb-òkɪ́n-è òltúpà ɔ̀ɽikây.   *'The bottle is pushed into the other one, making it hard to remove.'*
è-y-kùm-òkɪ́n-è èncátá èngúmótó. *'The stick is pounded into the hole, such that it is difficult to remove.'*
è-y-làsh-àkɪ́n-è èntítò ènkây.   *'The girl is showing off to the other.'*
è-y-mɪ̀s-òkɪ́n-è ènkáɟĭ ènây. *'The house sunk into the other one. (i.e., an upper storey collapsed into a lower one.).'*
è-y-ŋàsh-àkɪ́n-è   *'He doubts whether he will do it.'*
è-y-ŋɔ̀l-àkɪ́n-è ènkáɾɛ́ ènkây.   *'The water is stirred (to become dirty) and directed into the other.'*
è-y-pèr-àkɪ́n-è ɔ̀lcátá ɔ̀ɽikây.   *'The wood is split onto the other one.' (i.e., falls into the other one as it is split.).'*

è-tà-là-ykín-è àshɔ́mꜜɔ́   *'He is unable to walk.'*
è-tù-lùb-òkín-è   *'He became angry to him.'*
è-tì-ŋ̀d-àkín-è   *'He was proud to him.'*
è-tà-pèj-òkín-è ɔlcúmá ɔ̀ĩ̀kây.   *'The one iron is burnt to the other one (i.e., to join them.).'*
è-tì-rìp-àkín-è èmóĩ̀ ènkây.   *'The pot is stuck into the other (so it can't be removed easily.).'*
è-tù-shùk-òkín-è   *'He came back to him (on his own.).'*
è-wwàs-àkín-è   *'He became proud to him.'*

C.4.6.2. Ungrammatical Third Person Forms

*è-tà-bòl-òkín-è
*è-tà-gòl-òkín-è
*è-y-bùŋ-àkín-è
*è-y-ɗìk-àkín-è
*è-y-ɗìm-àkín-è
*è-y-dòŋ-àkín-è
*è-y-gèr-òkín-è
*è-y-gĭs-òkín-è
*è-y-kàsh-àkín-è
*è-y-kòd-òkín-è
*è-y-lèp-àkín-è
*è-y-lèp-òkín-è
*è-y-lèt-òkín-è
*è-y-lùg-òkín-è
*è-y-màl-àkín-è
*è-y-nɔk-àkín-è
*è-y-nɔs-àkín-è
*è-tò-rùt-òkín-è
*è-tì-sìr-àkín-è
*è-tè-shèt-àkín-è
*è-tɔ-tɔn-àkín-è
*è-tè-yyàŋ-àkín-è

C.4.6.3. Initial Surface High Forms

á-tá-gór-ókín-è   *'I became angry at him.'*

áá-tá-gór-ókín-è   *'I became angry at you.SG.'*

C.4.7. DAT and Middle (MID), Perfect Aspect (Plural)

The following plural perfect forms, with DAT and MID, have a high-low-low

stem tone pattern. I have all third person forms.

è-tà-dàl-àkín-òt-è   *'They played for each other.'*
3-PF-play-DAT-PL.PF-DAT.PF
è-tù-dùŋ-òkín-òt-è   *'They cut for each other.'*
è-tì-gìr-àkín-òt-è   *'They kept silent to him.'*
è-tà-gòl-òkín-òt-è   *'They became strong for each other.'*
è-tà-gòr-òkín-òt-è   *'They became angry at him/her/each other.'*
è-y-dòŋ-òkín-òt-è   *'They pounded (e.g., grain) for each other.'*
                              'They made each other pound.'
è-y-gèr-òkín-òt-è   *'They did write for each other.'*
è-y-gìs-àkín-òt-è   *'They did carve for each other.'*
è-y-lèp-àkín-òt-è   *'They climbed for each other.'*
                              'They made each other climb.'
è-y-nɔ̀s-àkín-òt-è   *'They ate for each other.'*
è-y-pàr-àkín-òt-è   *'They questioned for each other.'*
è-tù-lùb-òkín-òt-è   *'They were greedy/hungry to each other.'*
è-tì-ŋ̀d-àkín-òt-è   *'They became proud for each other.'*
                              'They were proud to each other.'
è-tà-pèj-òkín-òt-è   *'They burned for each other.'*
è-tì-rìp-àkín-òt-è   *'They sewed for each other.'*
è-tù-rùt-òkín-òt-è   *'They collected honey for each other.'*
è-tì-sìr-àkín-òt-è   *'They painted for each other.'*
è-tè-shèt-àkín-òt-è   *'They built for each other.'*
è-tɔ̀-tɔ̀n-àkín-òt-è   *'They stayed for each other.'*
è-wwàs-àkín-òt-è   *'They became proud for each other.'*
è-tè-yyàŋ-àkín-òt-è   *'They slaughtered for each other.'*

C.4.8. DAT and Middle (MID), Inceptive (INCEP)

The following inceptive forms, with DAT and MID, have a high-low-high stem

tone pattern.

C.4.8.1. Third Person Form

è-bà-ykín-ò-yú òréyyˈét   *'The river is reachable/can be reached.'*
3- reach-DAT-MID-INCEP

C.4.8.2. Forms with *k-*

k-é-dùŋ-òkín-ò-yú   *'It is cuttable for him.'*
k-é-bà-ykín-ò-yú ɛ̀nkèráy   *'The child is reachable/visitable. (i.e., not sick, bad tempered).'*

C.4.9. DAT and Passive (PASS)

The following non-perfect forms, with DAT and PASS, have a high-downstepped

high-high stem tone pattern.

C.4.9.1. All Third Person Forms

è-bòl-ókˈín-í   *'It will be opened for him.'*
3-open-DAT-PASS
è-y-bùk-ókˈín-í   *'It will be poured into it.'*
è-y-dǐk-ókˈín-í   *'(Someone) will join it for him.'*
è-y-dòŋ-ókˈín-í   *'(Someone) will join it for him.'*
è-y-gìs-ákˈín-í   *'(Someone) will carve for him.'*
è-y-lèp-ákˈín-í   *'(Someone) will climb for him.'*
è-jìŋ-ákˈín-í   *'(Someone) will enter for him.'*
è-bùk-ókˈín-í   *'It will be poured into it.'*
è-dàs-ákˈín-í   *'It will be milked for him.'*
è-gòr-ókˈín-í   *'(Someone) will strangle on his behalf.'*
è-mìr-ákˈín-í   *'(Someone) will sell/chase for him.'*
è-mùk-ákˈín-í   *'(Someone) will brew for him.'*

C.4.9.2. Forms with *k-*

k-é-bùk-ók˩ín-í	*'It will be poured into it.'*
k-é-y-bùk-ók˩ín-í	*'It will be poured into it.'*
k-é-y-dǐk-ók˩ín-í	*'(Someone) will join it for him.'*
k-é-lèj-ák˩ín-í	*'Someone will lie for him.'*

C.4.10. DAT and Passive (PASS), Perfect Aspect

The following perfect forms, with DAT and PASS, have a high-low-high stem

tone pattern.

C.4.10.1. All Third Person Forms

è-tà-bòl-ók-òk-í	ènkǐtók ènkàjí.	*'The house has been opened for the woman.'*
3-PF-open-DAT-PF-PASS		
è-tù-bùk-ók-òk-í		*'It was poured into it.'*
è-ytù-dùŋ-ók-òk-í		*'He forced someone to cut it for him.'*
è-tà-gòr-ók-òk-í		*'(Someone) strangled for him.'*
è-y-dǐk-ók-òk-í		*'(Someone) joined (rope, etc.) for him.'*
è-y-dòŋ-ók-òk-í		*'(Someone) pounded it for him.'*
è-y-gìs-ák-àk-í		*'(Someone) carved for him.'*
è-y-lèp-ák-àk-í		*'(Someone) climbed for him.'*
è-tì-jìŋ-ák-àk-í		*'(Someone) entered for him.'*
è-tè-lèj-ák-àk-í		*'(Someone) lied for him.'*
è-tì-mìr-ák-àk-í		*'(Someone) entered for him.'*
è-tù-mùk-ák-àk-í		*'(Someone) brewed for him.'*
è-tɔ̀-ɲɔ̀rr-ák-àk-í		*'He was agreed with.'*

C.4.10.2. Initial Surface High form

kí-tú-dúŋ-ók-òk-í	*'It was cut for you.'*

C.5. Forms with Middle (MID)

C.5.1. MID and Inceptive (INCEP)

For inceptive forms with MID, the stem tone pattern is high-downstepped high-high, except for stative roots that have a final -*a/o* which may be called 'frozen', though that final vowel is not obligatory in forms of these stative roots (e.g., *èytánàn*, *'He will make it soft'*). It is not clear to me what is happening with the 1/2SG forms here.

C.5.1.1. Third Person Forms

è-bɛ́l-ˈá-yú	*'It is breakable.'*
3-break-MID-INCEP	
è-dúŋ-ˈó-yú	*'It is cutable.'*
è-y-dɨ́ŋ-ˈá-yú	*'It will become crowded.'*
è-y-dóŋ-ˈó-yú	*'It is poundable.'* also *'He warrants a beating.'*
è-y-gér-ˈó-yú	*'It is writeable.'*
è-y-kén-ˈó-yú kʊ̀tʊ́kàjí	*'The door is closeable.'*
è-y-kó-ˈó-yú	*'He is advisable.'*
è-y-nɔ́s-ˈá-yú	*'It is edible.'*
è-y-ŋɔ́l-ˈá-yú	*'It is stirrable.'*
è-y-ŋɔ́r-ˈá-yú	*'It is (always) visible.'*
è-y-pér-ˈá-yú	*'It is splittable.'*
è-y-rósh-ˈá-yú	*'It will become thick.'*
è-y-shʊ́r-ˈá-yú	*'It will become overcooked.'*
è-kéd-ˈó-yú	*'It is climbable.'*
è-níŋ-ˈó-yú	*'It will be heard.'*
	'It is audible.'
è-shɛ́t-ˈá-yú	*'It is plaitable.'*
ɛ́-dʊ́á-ˈá-yú	*'The child is visible/can be seen.'*
è-y-rrít-ˈá-yú	*'It/They can be looked after.'*
è-nán-ˈáw	*'It/they will become soft.'*
è-ɲɔ́rr-ˈá-yú	*'They are lovable.'*

C.5.1.2. Forms with *k-*

k-é-y-dóŋ-ˈó-yú	*'It is beatable.'*
k-έ-bél-ˈá-yú	*'It is breakable.'*
k-έ-dúŋ-ˈó-yú	*'It is cutable.'*
k-έ-y-dĭŋ-ˈá-yú	*'It will become crowded.'*
k-έ-y-kó-ˈó-yú	*'He is advisable.'*
k-έ-y-nɔ́s-ˈá-yú	*'It is edible.'*
k-έ-y-rúsh-ˈá-yú	*'It will become thick.'*
k-έ-y-shűr-ˈá-yú	*'It will become overcooked.'*
k-έ-kéd-ˈó-yú	*'It is climbable.'*
k-έ-shét-ˈá-yú	*'It is plaitable.'*
k-έ-y-bál-ˈá-yú	*'It/They will become visible.'*
k-έ-y-rrít-ˈá-yú	*'It/They can be looked after.'*
k-έ-nán-ˈá	*'It/they will become soft.'*
*k-ὲ-nàn-ˈá-yú	

C.5.1.3. Initial Surface High Forms

á-shíp-á-yù tầsérè	*'I'll be happy tomorrow (and I'm not happy now).'*
í-dámún-ò-yú	*'You.SG are worthy of being remembered.'*
í-ɲɔ́rr-ˈá-yú	*'You (sg) are loveable.'*

C.5.1.4. Stative Roots

ὲ-dàl-á-yù	*'He can play.'*
	'He will become better at playing.'
ὲ-lùb-ó-yù	*'He will become greedy.'*
ὲ-nɔ̀t-á-yù ὲnkítɔ̀k tὲnkáràkí ɔ̀lpàyyán	*'The woman will become pregnant because of the man.'*
ὲ-ŋ̀d-á-yù	*'He will become proud.'*
ὲ-shὶp-á-yù	*'He will become happy.'*
ὲ-řkín-ò-yú	*'It is easily forgotten.'*
ὲ-wwàs-á-yù	*'He will become proud.'*
ὲ-gìr-á-yù	*'He/they will become silent later.'*
k-έ-àɲít-à-yú	*'The man will be respectable.'*

k-ɛ́-dàl-á-yù   *'He can play.'*
                              'He will become better at playing.'
k-ɛ́-dòp-á-yù ènkírǐŋò   *'The meat will be chewable(in the future).'*
k-ɛ́-dòp-á-yù níɲè   *'He will become a dependable person.'*
k-ɛ́-lùb-ó-yù   *'He will become greedy.'*
k-ɛ́-ŋ̀d-á-yù   *'He will become proud.'*
k-ɛ́-řkín-ò-yú   *'It is easily forgotten.'*

C.5.1.5. Other exceptions

ɛ̀-dàmɔ́n-ò-yú   *'They/he/she are/is worth remembering.'*
ɛ̀-y-sɔ́j-à-yú   *'He/They is/are washable.'*
k-ɛ́-nǐŋ-ó-yù   *'It will be heard.'*

C.5.2. MID and Antipassive (APAS)

The following form, with MID and APAS, is not acceptable.

*e-l-a-isho

C.5.3. MID and Instrumental (INST)

The following non-perfect forms, with MID and INST, have a high-downstepped

high-high stem tone pattern.

C.5.3.1. Third Person Forms

ɛ̀-shíp-ˈá-rɛ́   *'He is happy due to it.'*
3-be.happy-MID-INST
ɛ̀-wwás-ˈá-rɛ́   *'He will become proud because of it.'*
ɛ̀-bél-ˈá-rɛ́   *'It is broken, by something.'*
ènkúkúrí ɛ̀-dás-ˈá-rɛ́ èndá kítéŋ   *'The calabash was used to make the cow milked.'*
ènkálém ây ɛ̀-dúŋ-ˈó-ré   *'He/they will be cut (using my knife).'*
                              'He will use it to cut himself.'

è-gír-ˈá-ré   'He will (continue to??) be silent.'
è-y-dóŋ-ˈó-ré   'He/It is beaten with (a stick.).'
è-y-gér-ˈó-ré   'It is written with (a pen.).'
è-y-gís-ˈá-ré   'It is carved with (a knife.).'
è-y-kód-ˈó-ré   'He will use it to decorate.'
è-y-nós-ˈá-ré   'It is eaten with (a spoon.).'
è-y-ŋól-ˈá-ré   'It is stirred with (a stirring rod.).'
è-y-sój-ˈá-ré   'He will use it to wash himself.'
è-lúb-ˈó-ré   'He is always greedy when it is there.'
è-ŋíd-ˈá-ré   'He is proud because of him (the child.).'
è-pét-ˈá-ré   'He will keep close to it.'
è-shét-ˈá-ré   'His hair is plaited with it.'
èmówwó è-y-pót-ˈó-ré ìlpáyyàní   'The men will call each other with a horn.'
è-tém-ˈá-ré   'They will use it to test each other.'
è-dál-ˈá-ré   'He/they will play with it.'
*è-l-ˈá-ré   'be stranded'
*è-nàn-ˈá-ré   'be soft'
*è-yrrítà-rè   'guard/herd'

C.5.3.2. Forms with *k-*

k-é-wwás-ˈá-ré   'He will become proud because of it.'
k-é-ár-ˈá-ré   'He will fight with her.'
k-é-gír-ˈá-ré   'He will (continue to??) be silent.'
k-é-y-dóŋ-ˈó-ré   'He/It is beaten with (a stick.).'
k-é-ykód-ˈó-ré   'He will use it to decorate.'
k-é-dál-ˈá-ré   'He/they will play with it.'

C.5.3.3. Initial Surface High Forms

á-dúŋ-ˈó-ré   'I am cut (using the knife).'
                                        'I will use it to cut myself.'
ènkálém á-dúŋ-ˈó-ré   'I am cut (using the knife).'
á-pét-ˈá-ré   'I will keep close to it.'
á-shét-ˈá-ré   'My hair is plaited with it.'
k-á-ár-ˈá-ré   'I will fight with him.'
k-á-pét-ˈá-ré   'I will keep close to it.'
k-á-túm-ˈó-ré   'I shall meet (to) him.'
í-ár-ˈá-ré   'You will fight with her.'

C.5.4. MID and Instrumental (INST), Perfect Aspect

The following singular perfect forms, with MID and INST, have a high-low-low stem tone pattern.

C.5.4.1. Third Person Forms

ὲ-tὲ-bél-à-rὲ	*'It was broken, by something.'*
3-PF-break-MID-INST	
ὲ-tà-dál-à-rὲ	*'He used it to play.'*
ὲ-tù-dúŋ-ò-rὲ	*'He used it to cut himself.'*
ὲ-tì-ɡír-à-rὲ	*'He was silent to him.'*
è-y-gér-ò-rὲ	*'It was written with it.'*
è-y-ɡís-à-rὲ	*'It was carved with it.'*
ὲ-y-kód-ò-rὲ	*'He used it to decorate.'*
ὲ-y-nɔ́s-à-rὲ ὲnǩǐjíkɔ̀	*'It was eaten with a spoon.'*
	'He used it to eat himself.'
ὲ-y-ŋɔ́l-à-rὲ	*'It was stirred with (a stirring rod.).'*
	'He used it to stir himself.'
ὲ-y-sɔ́j-à-rὲ	*'He used it to wash himself.'*
è-tù-lúb-ò-rὲ	*'He was always greedy when it was there.'*
ὲ-tà-nán-à-rὲ ὲélátá.	*'It became soft due to the oil.'*
ὲ-tì-ŋíd-à-rὲ	*'He was proud because of him.'*
ὲ-tὲ-pét-à-rὲ	*'He kept close to it.'*
ὲ-tὲ-shét-à-rὲ	*'His hair was plaited with it.'*
ὲ-tì-shíp-à-rὲ	*'He was happy due to it.'*
è-tù-túm-ò-rὲ	*'He has met him.'*
ὲ-tà-wwás-à-rὲ	*'He became proud because of it.'*
*ὲ-tà-là-rὲ	

C.5.4.2. Initial Surface High Forms

á-tá-ár-á-rὲ	*'I fought with him.'*
á-tá-dá-rὲ ̀ìnǩǐřìŋó	*'I ate the meat.'*
á-tú-dúŋ-ò-rὲ	*'I used it to cut myself.'*
á-té-pét-à-rὲ	*'I kept close to it.'*

á-té-shét-à-rè   *'My hair was plaited with it.'*
á-tú-túm-ò-rè   *'I have met him.'*

C.5.5. MID and Instrumental (INST), Perfect Aspect (Plural)

The following plural perfect forms, with MID and INST, have a highs-falling (or

a final downstepped high) tone pattern. I have all third person forms.

ɛ́-tá-dál-á-rɛ̂   *'They used it to play.'*
3-PF-play-MID-INST
é-tú-dúŋ-ó-rˈé   *'They used it to cut themselves.'*
é-tú-dúŋ-ó-rê
ɛ́-tí-gír-á-rˈɛ   *'They were silent to him.'*
èmówwó é-y-pót-ó-rè ǐlpáyyàní   *'The men called each other with a horn.'*
è-y-rrít-ˈá-ré   *'The cows were looked after with a stick.'*
é-tú-lúb-ó-rˈé   *'They were always greedy when it was there.'*
ɛ́-tá-nán-á-rˈɛ   *'They became soft due to it.'*
ɛ́-tí-ŋíd-á-rˈɛ   *'They were proud because of him.'*
ɛ́-tí-shíp-á-rˈɛ   *'They were happy due to it.'*
ɛ́-tá-wwás-á-rˈɛ   *'They became proud because of it.'*

C.5.6. MID and Passive (PASS)

The following non-perfect forms, with MID and PASS, have a high-downstepped

high stem tone pattern. It is not clear why there are two variant *shɪpa* forms, the second

with a final falling tone.

C.5.6.1. All Third Person Forms

è-túm-ˈó-y   *'They meet/they gather.'*
3-meet-MID-PASS
è-gír-ˈá-y   *'People are silent.'*
è-dúŋ-ˈó-y   *'People will cut each other/be cut.'*
è-ár-ˈá-y   *'People fight.'*
è-dál-ˈá-y   *'They will play.'*

è-ɗí-ˈá-y	*'People will curse each other.'*
è-gór-ˈóy	*'People will strangle each other.'*
è-y-mál-ˈá-y	*'People will give each other's wives cows.'*
è-y-ŋɔ́r-ˈá-y	*'People will look at each other.'*
è-y-pár-ˈá-y	*'People will question each other.'*
è-y-pót-ˈó-y	*'People will call each other.'*
è-y-rrít-ˈá-y kòndá kíshú (or èndá kítéŋ)	*'The cows will be looked after.'*
è-y-rrɔ́sh-ˈá-y	*'People will be found out.'*
è-lúb-ˈó-y	*'They (unknown) are greedy.'*
è-ɲíd-ˈá-y	*'People are happy/proud.'*
è-řkín-ˈó-y	*'He will be forgotten.'*
è-shét-ˈá-y	*'People will plait each other.'*
è-shíp-ˈá-y	*'People are happy (now).'*
è-shìp-â-y	*'People are happy.'*
è-wwás-ˈá-y	*'People are proud.'* or *'Arrogance happens.'*
*è-nán-ˈá-y	
*k-ɛ́-bɛ́l-ˈá-y	
*k-ɛ́-dɛ́k-ˈá-y	

C.5.6.2. Forms with *k-*

k-ɛ́-y-rrít-ˈá-y ìnkíshú	*'The cows will be looked after.'*
k-ɛ́-dál-ˈá-y	*'They will play.'*
k-é-řkín-ˈó-y	*'He will be forgotten.'*

C.5.7. MID and Passive (PASS), Perfect Aspect

The following perfect forms, with MID and PASS, have a high-low-high stem

tone pattern. I have all third person forms.

è-tì-gìr-át-èk-í	*'People were silent.'*
3-PF-be.silent-MID-PF-PASS	
è-tà-àr-át-èk-í	*'People fought.'*
è-tà-dàl-át-èk-í	*'People played.'*
è-tè-ɗì-át-èk-í	*'People cursed each other.'*
è-tù-dùŋ-ót-èk-í	*'People have cut/ broken the line.'* *'(They) cut each other.'*
è-tà-gòr-ót-èk-í	*'People have become angry.'*

è-y-màl-át-èk-í   'People gave each other's wives cows.'
è-y-ŋɔ̀r-át-èk-í   'People looked at each other.'
è-y-pàr-ót-èk-í   'People questioned each other.'
è-y-pòt-ót-èk-í   'People called each other.'
è-y-rrɔ̀sh-át-èk-í   'People were found out.'
è-tà-l-át-èk-í   'People were stranded.'
è-tù-lùb-ót-èk-í   'They (unknown) were greedy.'
è-tɔ̀-ɲɔ̀rr-át-èk-í   '(say) the people have loved each other today.'
è-tì-ŋ̀d-át-èk-í   'People became happy/proud.'
                                 'People were happy/proud.'
è-tò-ř ǐkǐn-ót-èk-í   'He was forgotten.' (*each other).'
è-tè-shèt-át-èk-í   'People plaited each other.'
è-tì-shì̀p-át-èk-í   'People were happy.'
                                 'People became happy.'
è-tà-wwàs-át-èk-í   'People were proud.'
*è-tà-nàn-át-èk-í
*è-y-rrì̀t-át-èk-í

C.6. Forms with Antipassive (APAS)

C.6.1. APAS and Perfect Aspect

For singular perfect forms with APAS, the stem tone pattern is high-downstepped high.

C.6.1.1. Third Person Forms

è-tà-dàl-íshˈé   'He became more playful.'
3-PF-play-APAS.PF
è-tà-dàm-íshˈé   'He thought.'
è-tà-dàs-íshˈé   'He milked by the mouth.'
è-tù-dùŋ-íshˈé   'He was the cutter.'
è-tà-gòr-íshˈé   'He strangled.'
è-y-bòn-íshˈé   'He foretold.'
è-y-dòŋ-íshˈé   'He pounded.'
è-y-gèr-íshˈé   'He wrote.'

è-y-kèn-ísh˩é	*'He did the closing.'*
è-y-nòs-ísh˩é	*'He ate.'*
è-y-ŋòl-ísh˩é	*'He was the person who stirs.'*
è-y-ŋòr-ísh˩é	*'He looked.'*
è-y-pòsh-ísh˩é	*'He was a shaker/churner.'*
è-y-pòt-ísh˩é	*'He called.'*
è-y-rr̆ìt-ísh˩é	*'He became better at looking after cows.'*
è-y-sĭk-ísh˩é	*'He ran away (habitually).'*
è-tà-l-ísh˩é	*'He missed it. (i.e., he tried to borrow it, but it wasn't avaliable).'*
è-tè-lèj-ísh˩é	*'He was a liar.'*
è-tò-mòn-ísh˩é	*'He has borrowed.'*
è-tò-nĭŋ-ísh˩é	*'He heard.'*
è-tà-ràɲ-ísh˩é	*'He did singing.'*
è-tò-r̆ik̆ĭn-ísh˩é	*'He/it was forgettable.'*
*è-tĭ-ğĭr-ísh˩é	
*è-y-shĭr-ísh˩é	**'He was a cryer.'*
*è-tù-lùb-ísh˩é	
*è-tà-nàn-ísh˩é	
*è-tĭ-ŋĭd-ísh˩é	
*è-tĭ-shĭp-ísh˩é	
*è-tà-wwàs-ísh˩é	
*è-y-bàl-ísh˩é	

C.6.1.2. <u>Initial Surface High Forms</u>

á-tá-dám-ísh˩é	*'I thought.'*
á-y-níníŋ-ísh˩é	*'I heard what was being said' (somethat one must be very attentive to hear).'*
á-tó-níŋ-ísh˩é	*'I have started hearing.' or 'I have learned a lesson.' or 'I have started waking up from sleep.'*
á-tá-ráɲ-ísh˩é	*'I did singing.'*
í-tá-ráɲ-ísh˩é	*'You (sg) did singing.'*

C.6.2. APAS and Perfect Aspect (Plural)

For plural perfect forms with APAS, the stem tone pattern is high-low-low. I

have all third person forms.

è-tà-dàl-ísh-òt-è   *'They became more playful.'*
3-PF-play-APAS-PL.PF-APAS.PF
è-tù-dùŋ-ísh-òt-è   *'They were the cutters.'*
è-y-bòn-ísh-òt-è   *'He foretold.'*
è-y-dòŋ-ísh-òt-è   *'They have done the beating.'*
è-y-kèn-ísh-òt-è   *'They did the closing.'*
è-y-pòsh-ísh-òt-è   *'They were shakers/churners.'*
è-y-pòt-ísh-òt-è ìlpáyyàní   *'The men called.'*
è-y-rřìt-ísh-òt-è   *'They became better at looking after cows.'*
è-y-sǐk-ísh-òt-è   *'They ran away (habitually).'*
è-tà-l-ísh-òt-è   *'They missed it.' (i.e., tried to borrow it, but it wasn't*
                                  avaliable.).'
è-tè-lèj-ísh-òt-è   *'They were liars.'*
è-tò-mòn-ísh-òt-è   *'They have borrowed.'*
è-tò-nìŋ-ísh-òt-è   *'They heard.'*
è-tà-ràŋ-ísh-òt-è   *'They did singing.'*
è-tò-řìkǐn-ísh-òt-è   *'They were forgettable.'*

C.6.3. APAS and Inceptive (INCEP)

For inceptive forms with APAS, the stem tone pattern is high-low.

C.6.3.1. All Third Person Forms

è-dùŋ-ìshó-yù   *'He is becoming good at cutting.'*
3-cut-APAS-INCEP
è-dàs-ìshó-yù   *'He will milk (later) by the mouth. (i.e., He will become*
                                  better at it.).'
è-gòr-ìshó-yù   *'He will become better at strangling.'*
è-y-bòn-ìshó-yù   *'He will become better at foretelling.'*
è-y-dòŋ-ìshó-yù   *'He will become better at pounding.'*
è-y-gèr-ìshó-yù   *'He will become better at writing.'*
è-y-kèn-ìshó-yù   *'He is becoming better at closing.'*
è-y-nòs-ìshó-yù   *'He will become a better eater.'*
è-y-nòl-ìshó-yù   *'He will become a better stirer.'*
è-y-nòr-ìshó-yù   *'He will become better at looking.'*
è-y-pòsh-ìshó-yù   *'He will become better at churning.'*
è-y-pòt-ìshó-yù   *'He will become better at calling.'*
è-òmòn-ìshó-yù   *'He will become more of a borrower.'*

è-nǐŋ-ǐshó-yù   *'He/she will learn a lesson.'*

C.6.3.2. Forms with *k-*

k-é-dùŋ-ǐshó-yù   *'He will be able to cut.'*
k-é-ykèn-ǐshó-yù   *'He will be able to close (i.e., later).'*
                                'He is becoming better at closing.'

C.6.4. APAS and Instrumental (INST)

The following non-perfect forms, with APAS and INST, have a high-low-high

stem tone pattern.

C.6.4.1. Third Person Forms

è-bèl-íshò-ré   *'He will use it to break.'* or
έ-bél-íshò-ré
3-break-APAS-INST
è-dùŋ-íshò-ré ènkèráy ènkálέm   *'The child will use a knife to cut.'*
è-gòr-íshò-ré òlgòsôy   *'He will use a rope to strangle.'*
è-y-gèr-íshò-ré ènkàlám˥ú   *'He will write with a pen.'*
è-y-gǐs-íshò-ré   *'He will use it to carve.'*
è-y-kòd-íshò-ré   *'He will use it to decorate.'* or
é-ykód-íshò-ré
è-lèp-íshò-ré   *'He will use it to milk.'*
èŋúđì è-màn-íshò-ré   *'He always walks around with a stick.'*
è-shùk-íshò-ré   *'He will use it to fold.'*
è-y-shòp-íshò-ré ǐròpǐàní èɲénàk   *'He will use his money to dress.'*
èmówwó è-y-pòt-íshò-ré ìlpáyyàní *'The men will use a horn to call.'*

C.6.4.2. Forms with *k-*

k-é-bèl-íshò-ré   *'He will use it to break.'*

k-é-gòr-íshò-ré òlgòsôy   *'He will use a rope to strangle.'*
k-é-y-dòŋ-íshò-ré   *'He will make people pound.'*
k-é-y-gǐs-íshò-ré   *'He will use it to carve.'*
k-é-y-kòd-íshò-ré   *'He will use it to decorate.'*
k-é-y-shòp-íshò-ré ïròpïàní èɲénàk *'He will use his money to dress.'*
k-é-shùk-íshò-ré   *'He will use it to fold.'*

C.6.4.3. Initial Surface High Forms

á-dás-íshò-ré ènkúkúrí   *'I am milking with a calabash.'*
á-gór-íshò-ré   *'I will use it to strangle.'*
á-y-shóp-íshò-ré ïròpíàní èɲánàk   *'I will use his money to dress.'*
k-á-y-shóp-íshò-ré ïròpíàní èɲánàk *'I will use his money to dress.'*
k-á-y-bá-íshyò-ré   *'I will make him hate.'*

C.6.5. APAS and Instrumental (INST), Perfect Aspect

The following perfect forms, with APAS and INST, have a high-low-low stem

tone pattern.

C.6.5.1. Third Person Forms

è-tè-bèl-íshò-rè   *'He used it to break.'* or
é-té-bél-íshò-rè
è-tù-dùŋ-íshò-rè ènkálém ây   *'He has cut with my knife.'*
è-tà-gòr-íshò-rè òlgòsôy   *'He used a rope to strangle.'*
è-y-gǐs-íshò-rè   *'He used it to carve.'* or
é-y-gís-íshò-ré
è-y-kòd-íshò-rè   *'He used it to decorate.'*
è-mówwó é-y-pót-íshò-rè òlpáyyàn *'The man used a horn to call.'*
è-tù-shùk-íshò-rè   *'He used it to fold.'*
è-y-shòp-íshò-rè ïròpïàní èɲénàk   *'He used his money to dress.'*
è-y-dòŋ-íshò-rè   *'He did/will make people pound.'*

C.6.5.2. Initial Surface High Forms

á-tá-dás-íshò-rè ènkúkúrí   *'I was milking with a calabash.'*
á-tá-gór-íshǐò-rè   *'I used it to strangle.'*

C.6.6. APAS and Instrumental (INST)

The following forms, with APAS and INST, have a high-falling/downstepped

high stem tone pattern. I have all third person forms.

é-té-bél-íshó-rˈé   *'They used it to break.'*
é-tú-dúŋ-íshó-rˈé   *'They used it to cut.'*
é-tá-gór-íshó-rˈé   *'They used it to strangle.'*
é-y-gís-íshó-rˈé   *'They used it to carve.'* or
é-y-gís-íshó-rê
é-y-kód-íshó-rˈé   *'They used it to decorate.'*
èmówwó é-y-pót-íshó-rˈé ìlpáyyàní *'The men called with a horn.'*
é-tú-shúk-íshó-rˈé   *'They used it to fold.'*
é-y-shóp-íshó-rˈé ìròpǐàní èɲénàk   *'They used their money to dress.'*

C.6.7. APAS and Instrumental (INST), Passive (PASS)

The following forms, with APAS, INST, and PASS, have a high-low-low stem

tone pattern. This tone pattern holds for perfect and non-perfect forms, unlike most

passives, where perfect has a high-low-high stem tone pattern.

C.6.7.1. All Third Person Forms

è-bèl-ǐshó-rèk-ǐ   *'It will be used to break.'*
é-bél-íshó-rèk-ǐ
3-break-APAS-INST-PASS
è-dùŋ-ǐshó-rèk-ǐ   *'It will be used to cut.'*
é-dúŋ-íshó-rèk-ǐ
è-gòr-ǐshó-rèk-ǐ   *'It will be used to strangle.'*

è-y-gǐs-ǐshó-rèk-ǐ   *'It will be used to carve.'*
è-y-kòd-ǐshó-rèk-ǐ   *'It will be used to decorate.'*
è-y-lèp-ǐshó-rèk-ǐ   *'It will be used to climb.'*
è-y-pàr-ǐshó-rèk-ǐ   *'He is being questioned.'*
è-y-pòt-ǐshó-rèk-ǐ   *'It will be used to call.'*
è-y-shòp-ǐshó-rèk-ǐ   *'It was used to wear/dress.'*
è-shùk-ǐshó-rèk-ǐ   *'It will be used to fold.'*
è-tè-bèl-ǐshó-rèk-ǐ   *'It was used it to break.'* or
é-té-bél-íshó-rèk-ǐ
è-tù-dùŋ-ǐshó-rèk-ǐ   *'It was used to cut.'*
è-tà-gòr-ǐshó-rèk-ǐ   *'It was used to strangle.'*
è-y-gǐs-ǐshó-rèk-ǐ   *'It was used to carve.'*
è-y-kòd-ǐshó-rèk-ǐ   *'It was used to decorate.'*
è-y-pòt-ǐshó-rèk-ǐ   *'It was used to call.'*
è-y-shòp-ǐshó-rèk-ǐ   *'It was used to wear/dress.'*
è-tù-shùk-ǐshó-rèk-ǐ   *'It was used to fold.'*

C.6.7.2. Forms with *k-*

k-é-y-gǐs-ǐshó-rèk-ǐ   *'It will be used to carve.'*
k-é-y-kòd-ǐshó-rèk-ǐ   *'It will be used to decorate.'*
k-é-y-lèp-ǐshó-rèk-ǐ   *'It will be used to climb.'*
k-é-y-pòt-ǐshó-rèk-ǐ   *'It will be used to call.'*
k-é-y-shòp-ǐshó-rèk-ǐ   *'It was used to wear/dress.'*

C.6.8. *APAS and Middle (MID)

The following form, with APAS and MID, is apparently not valid.

*è-dùŋ-íshˈóró   *'He cuts himself.'*

C.6.9. APAS and Passive (PASS)

The following non-perfect forms, with APAS and PASS, have a high-downstepped high stem tone pattern.

C.6.9.1. All Third Person Forms

è-bèl-íshꜜó-y   *'The breaking is being done.'*
3-break-APAS-PASS
è-dùŋ-íshꜜó-y   *'The cutting is being done.'*
è-shèt-íshꜜó-y   *'The building is being done.'*
è-y-dòŋ-íshꜜó-y   *'The beating is being done.'*
è-y-gèr-íshꜜó-y   *'The writing is being done.'*
è-y-gìs-íshꜜó-y   *'Carving will be done.'*
è-shùk-íshꜜó-y   *'The folding is being done.'*

C.6.9.2. Forms with *k-*

k-é-y-gèr-íshꜜó-y   *'The writing is being done.'*
k-ɛ́-y-gìs-íshꜜó-y   *'Carving will be done.'*

C.6.10. APAS and Passive (PASS), Perfect Aspect

The following perfect forms, with APAS and PASS, have a high-low-high stem

tone pattern. I have all third person forms.

è-tè-bèl-ǐsh-ót-èk-í   *'The breaking was done.'*
3-PF-break-APAS-PL.PF-APAS-MID-PASS
è-tù-dùŋ-ǐsh-ót-èk-í   *'People cut' (or, 'give beer').'*
è-y-gèr-ǐsh-ót-èk-í   *'The writing was done.'*
è-y-gìs-ǐsh-ót-èk-í   *'Carving was done.'*
è-y-rrǐt-ǐsh-ót-èk-í   *'People looked after cows.'*

<u>C.7.</u> <u>Forms with Instrumental (INST)</u>

C.7.1. INST and Inceptive (INCEP)

I'm not sure what to do with these three data. They seem to have both INCEP and INST semantics, but this combination of affixes could use more checking, particularly with other stative-like verbs.

<u>C.7.1.1.</u> <u>All Third Person Forms</u>

è-tù-lùbó-ǐɲ-yé ɔ̀lgáɽ̀i   *'He became greedy because of ugali.'*
3-PF-be.greedy-INCEP-INST
é-tú-lúbó-íɲ-ˈyé ɔ̀lgáɽ̀i   *'They became greedy because of ugali.'*

<u>C.7.1.2.</u> <u>Form with *k-*</u>

k-é-lùbò-íɲ-yè ɔ̀lgáɽ̀i   *'He will become greedy because of ugali.'*

C.7.2. INST and Passive (PASS)

The following forms, with INST and PASS, have a high-low stem tone pattern for non-perfect and perfect aspects.

<u>C.7.2.1.</u> <u>All Third Person Forms</u>

è-bòl-yék-ǐ   èmbɔ̀lét.   *'The key will be used to open it.'*
3-open-INST-PASS
è-dùŋ-yék-ǐ ɛ̀nkálέm   *'The knife will be used to cut it.'*

è-tòŋ-yék-ǐ   'It will be used to sit.'
è-y-dòŋ-yék-ǐ òřìnká shímpǐ 'The club was/will be used to beat the salt.'
è-y-bòk-yék-ǐ èŋúđì   'The stick will be/was used to block.'
è-tè-bèl-yék-ǐ   'It was used to break it.'
è-tà-bòl-yék-ǐ òlbòlét ènkàjí.   'The key was used to open the house.'
è-tù-dùŋ-yék-ǐ ènkálém   'The knife was used to cut it.'
è-y-bòk-yék-ǐ èŋúđì   'A stick will be/was used to hinder/block it.'
è-y-đìk-yék-ǐ   'It was used to join them.'
è-y-mǐs-yék-ǐ   'He will be/was sunk.'
è-tò-òsh-yék-ǐ òřìnká èmàkát   'The club was used to beat the salt.'
è-tè-shèt-yék-ǐ ìŋápétà   'The posts were used to build.'
                           'My hair was plaited with it.'
è-tò-tòŋ-yék-ǐ   'It has been sat on.'
è-tò-tòŋ-yék-ǐ òlóřìkà.   'The chair was used to sit.'

C.7.2.2. Forms with *k-*

k-é-y-bòk-yék-ǐ èŋúđì   'A stick will be used to hinder/block it.'
k-é-y-lèp-yék-ǐ   'He will use it to make him climb.'
k-é-y-đìk-yék-ǐ   'It will be used to join them.'
k-é-y-dòŋ-yék-ǐ òřìnká shímpǐ   'The club will be used to beat the salt.'
k-é-y-mǐs-yék-ǐ   'He will be sunk.'
k-é-shèt-yék-ǐ ìŋápétà   'The posts will be used to build.'
k-é-y-rřìt-yék-ǐ   'The cows will be looked after with a stick.'

C.8. Forms with Passive (PASS)

C.8.1. PASS and Progressive (PROG)

For progressive forms with PASS, the stem tone pattern is high-downstepped

high.

C.8.1.1. Third Person Forms

è-bèl-ítˈá-y	*'It is being broken.'*
3-break-PROG-PASS	
è-bɔ̀r-ítˈá-y	*'He is being injured.'*
è-dùŋ-ítˈó-y	*'He is being cut.'*
è-dùŋ-ítˈó-y tènkálém	*'The knife is being used to cut it.'*
è-gòr-ítˈó-y	*'It is being strangled.'*
è-y-bèl-ítˈó-y	*'It is being rocked from side to side.'*
è-y-bòk-ítˈó-y tèŋúɗi	*'A stick is being used to hinder/block it.'*
è-y-dòŋ-ítˈó-y	*'It is being pounded.'*
è-y-gèr-ítˈó-y	*'The writing is being done.'*
è-y-kèn-ítˈó-y	*'It is being closed.'*
è-y-kòd-ítˈó-y	*'He is being decorated.'*
è-y-ŋɔ̀r-ítˈá-y	*'He is being looked at.'*
è-y-pàr-ítˈá-y	*'He is being questioned.'*
è-y-pǐm-ítˈó-y	*'He is being measured.'*
è-lèj-ítˈá-y	*'He is being lied to.'*
è-mìr-ítˈá-y	*'He is being chased.'*
è-nǐŋ-ítˈó-y ìntáy	*'You.PL are being heard.'*
è-nǐŋ-ítˈó-y	*'He is being heard.'*
è-nǐŋ-ítˈó-y ïyyóók	*'we are being heard.'*
è-ɲɔ̀rr-ítˈá-y	*'People are loving him'/'People love him'(habitually).'*
è-shèt-ítˈá-y	*'It is being plaited/built.'*
è-shèt-ítˈá-y tɔ́ɔ́ŋàpètá	*'The posts are being used to build.'*
è-tɔ̀n-ítˈá-y tòlóřìkà	*'The chair is being used to sit.'*

C.8.1.2. Forms with *k-*

k-é-y-gǐs-ítˈó-y	*'Jumping is now being done.'*
k-é-nǐŋ-ítˈó-y ìntáí	*'You.PL are being heard.'*

C.8.1.3. Initial Surface High Forms

kí-níŋ-ítˈó-y	*'You.SG are being heard.'*
ɛ́-kí-ɲórr-ítˈá-y	*'People are loving you'/'People love you'(habitual).'*

C.8.2. PASS and Inceptive (INCEP)

For these inceptive forms with PASS, the stem tone pattern is high-downstepped high.

C.8.2.1. All Third Person Forms

è-ɲòrr-ún-ꜜí	*'He will be loved.'*
3-love-INCEP-PASS	
è-pɪ̌r-ún-ꜜí	*'People will grow fat.'*

C.8.2.2. Forms with *k-*

k-é-ɲòrr-ún-ꜜí	*'He will be loved.'*
k-é-túm-ꜜó-y	*'They meet/they gather.'*

C.9. PL and Perfect Aspect

For plural perfect forms, the tone pattern is either level-falling or level-downstepped. It is not clear at all which is the regular word tone pattern, with some speakers giving final falling tones, and others final downstepped high tones. Another variation from these word tone patterns is that the first mora (only) may be pronounced low – which is distinguished from the normal third person word tone pattern where each mora before the last mora of the word is pronounced high. I think these word tone patterns do not contrast lexically, though it would require more investigation to be sure.

C.9.1. All Third Person Forms

ɛ́-tá-ás-ˈá	*'They have done it.'*
3-PF-do-PF	

ὲ-té-bɛ́l-ˈá	*'The children broke the glass.'*
ὲ-tá-ból-ˈó	*'They opened it.'*
ɛ́-tá-bóréy-ˈá nínckè	*'They became full.'*
ɛ́-tɔ́-dɔ́r-ˈɔ́	*'They became red.'*
ɛ́-tú-dúŋ-ˈó	*'They have cut (it).'*
ɛ́-tá-ɡól-ˈó	*'They have become hard.'*
ɛ́-y-dóŋ-ˈó	*'They beat it.'*
ɛ́-y-kén-ˈó	*'They shut it.'*
ɛ́-y-pík-â	*'They projected.'*
ὲ-y-rɔ́píj-ˈá	*'They became cold.'*
ɛ́-y-rúɡ-ˈó	*'They bent him over.'*
ὲ-y-rrít-â ìn-k-íshú	*'They looked after cows.'*
ɛ́-té-jˈy-á	*'They swelled.'*
ὲ-tó-níŋ-ˈó	*'They heard it.'*
ɛ́-tɔ́-ɲɔ́rr-ˈá	*'They have loved it.'*
ɛ́-tí-píj-ˈá	*'They became brave.'*
ɛ́-shɔ́mɔ̂	*'They went.'*
ὲ-tɔ́-tɔ́n-ˈá	*'They sat.'*
ɛ́-tú-rrúɡúm-ˈá	*'They made him vomit.'* or
ɛ́-tú-rrúɡúm-â	
*ὲ-tá-lál-ˈá	*'They were/became wide.'*
*ὲ-tá-nán-ˈá	*'They were/became soft.'*

C.9.2. Forms with ɪt Morpheme

The plural perfect morpheme ɪt has not been exhaustively investigated, though something can be said of it. The quality of the vowel in this morpheme shows the same harmony as the epenthetic vowel between reduplicated roots. That is, it is ɪ/i, but harmonizes to a following high back vowel, i.e., ʊ/u (TM:221). Here the stem tone pattern is high-low-falling.

è-tà-dám-ùt-w-â	*'They remembered.'*
è-tɔ̀-dɔ́r-ìt-â	*'They became red.'*
è-tà-gól-ĭt-ô	*'They have become harder.'*
è-y-bɔ́rr-ìt-â	*'They became white.'*
è-y-pɔ́sh-ìt-â	*'They made him wander off due to (stressful) problems.'*
è-y-rɔ̀píj-ìt-â	*'They became cold.'*
è-y-rɔ̀wwáj-ìt-â	*'They (inan.) became hot.'*
	'They were hot.'
è-y-rúg-ĭt-ô	*'They bent him over.'*
è-y-térr-ìt-y-â	*'They fainted.'*
é-té-jyé-yt-ˈá	*'They swelled.'*
è-tà-lá-yt-à	*'They have missed it.'*
è-tà-lál-ìt-â	*'They were wide.'*
è-tà-nán-ìt-â	*'They were/became soft.'*
è-tà-ɲɔ̀kyén-ĭt-ô	*'They became brown.'*
è-tì-píj-ìt-â	*'They became brave.'*
è-tò-pír-ĭt-ô	*'They became fat.'*
è-tɔ̀-rɔ́k-ìt-â	*'They became black.'*
è-tà-sás-ìt-â	*'They became thin.'*
è-tà-yyól-ĭt-ô	*'They have known (i.e., come to know.).'*
*è-tà-dál-ìt-â	*'play'*
*è-tì-gír-ìt-â	*'be silent'*
*è-y-rràbál-ìt-â	*'lied/lay on stomach'*
*è-tá-l-ìt-â	*'be stranded'*
*è-tù-lúb-ĭt-ô	*'be greedy'*
*è-tὲ-mέr-ìt-â	*'be drunk'*
*è-tì-ŋíd-ìt-â	*'be proud'*
*è-tò-rĭkín-ĭt-ô	*'forget'*
*è-tù-rrùgúm-ìt-â	*'vomit'*
*è-tì-shíp-ìt-â	*'be happy'*
*è-tà-wwás-ìt-â	*'be proud'*

C.9.3. Forms with *k-*

k-è-tá-ból-ˈó	*'They opened it.'*
k-é-tà-bá-yt-à án-ˈá nánˈʊ́	*'They have become the same as me.'*
k-é-tɔ̀-rɔ́k-ìt-â	*'They became black.'*

APPENDIX D

SYNTACTIC EFFECTS ON TONE

In this Appendix, I give first data with tone patterns that seem to be impacted by the syntax of Maa, though a complete analysis is not presented. In the subjunctive, the verb is either not clause initial, or it is joined to a prior clause in some close way. The second part of the appendix gives data with discourse markers, which seem to be word level morphemes with their own tone. For where I have much data (i.e., DSCN *k*-) the tone effects are highly regular (see Rasmussen and Payne, under review).

D.1. Subjunctive

The most common place to find the subjunctive tone pattern, described in the following sections, is following *peê*, 'so that, for which, etc.'. This tone pattern may also be found after *ashʋ*, and directly following other verbs in certain constructions. Recall that the falling tone in Maa simplifies to a High tone when not phrase final, i.e., when followed by another word, as on the *peê* in all the following examples. There are several different apparent variations from the indicative tone pattern due to this context, and these are given in the following sections according to change from the corresponding indicative tone pattern.

D.1.1. Simple Forms

The following are morphologically simple forms, i.e., no morphology beyond the bound argument pronoun and root, including the Class II prefix for Class II roots. Only the first person singular data has been well checked.

pèé à-áp	*'...so that I will be pregnant before circumcision.'* (vulgar)
pèé à-ár	*'...so that I will beat it.'*
pèé à-ból	*'...then I will open it.'*
pèé à-dól ...	*'...then I will see them/him.'*
pèé à-súj	*'...so that I will follow him.'*
pèé à-yá	*'...so that I will take it.'*
àshó à-tón	*'...or I will sit.'*

D.1.2. Complex Forms

The following sections are categorized according to the tone pattern found on these forms in the indicative mood.

D.1.2.1. Forms That Would Have Final High Tone in Indicative

(47) Third person subject (3) forms:

pèé è-sùj-ú	*'...so that he will follow him (in this direction).'*
pèé è-yyèr-ú	*'...so that he will cook (herbs) to get medicine out of them.'*
pèé è-ɲɔ̀rr-ú	*'...so that he will love it.'*

(48) Forms with initial high:

pèé à-sùj-ú	*'...so that I will follow him (in this direction.)'*
pèé à-yyèr-ú	*'...so that I will cook (herbs) to get medicine out of them.'*
pèé à-dòl-yé	*'...so that I will use it to see it.'*
pèé à-lèp-yé	*'...so that I will use it to milk.'*

D.1.2.2. Forms with Final High-Low in Indicative

(49) Third person subject (3) forms:
pèé è-dùŋ-òkí...   *'...so that he will cut (it) for him.'*
pèé è-nǐŋ-òkí   *'...then he will agree with him.'*

(50) Forms which would have initial high in indicicative:
pèé à-ákʊ̀ òltùŋán⟨í   *'...then I will become a man.'*
pèé à-nǐŋ-ókǐ   *'...then I will agree with him.'*
pèé ǐ-nǐŋ-ókǐ   *'...then you will agree with him.'*
pèé ǐ-dùŋ-òkí-kǐ   *'...then you (pl) will cut for him.'*

D.1.3. Forms with Same Tone as in the Indicative

pèé á-y-sʊ̀j   *'...so that I will wash it.'*
pèé áá-y-sʊ̀j   *'...so that I will wash you.'*
pèé áà-dɔ̂l   *'...so that he will see me.'*

D.2. Discourse Markers

There are three apparent discourse markers for which I have tone data. They are

presented here in order of increasing volume. The first is TM's '*n* tense', of which I have

almost none. The second is an allomorph of *kɪ-* (either 3>2>1 or 1PL), which seems

similar to the discourse marker *k-* in its tone effect. Finally, data with *k-* are presented,

organized in the same manner as in Appendix B for comparison.

D.2.1. Forms with the CONN *n-* Morpheme

Recall that this underlined data is from the Il-Wuasinkishu section of the Maasai.

For each of these words, the tone pattern without *n-* begins Low (Chapter VI).

n-é-bwàk-í	'(and) people made noise.' or '(and) noise was made.'
n-ɛ́-àkʊ̀n-í	'(and) the people became ...'
n-ɛ́-ytà-àdɔ̀r-í	'(and) they were made tall.'
n-ɛ́-mʊ̀ràt-ì	'(and) they were circumcised.'
n-í-ntá-dɔ̂r	'(and) you made him tall.'
m-áà-bà-yè	'He has not seen me yet.'

D.2.2. Forms with ɛkɪ-

The two bound argument pronouns with segmental form *kɪ-* (i.e., 1PL and 3>2>1) have allomorphs (*ɛkɪ-*), which may be interpreted as the same morpheme with an additional DSCN prefix *ɛ-*. The tonal affect of this allomorph seems to be the same as that of the *k-* form for vowel initial bound argument pronouns, i.e., an additional initial High tone. Note that as the two *kɪ-* morphemes have different tonal implications on their verbs, so the tonal implications of each *ɛkɪ-* are also different from each other.

D.2.2.1. DSCN for 1PL

I have indicated that there is a word internal falling tone on some of these words, which appears nowhere else in Maa phonology. It is not clear to me what the underlying etiology of these word-interal 'falling' tones are: whether they are phonemically long vowels or a single vocalic mora, with the second tone being born by the following sonorants.

ékî-n-kén	'We will shut it.'
ékî-m-píd	'We jump (up and down)'
ɛ́kî-rrág	'We will lie down.'
ékî-sój	'We will wash it.'
ɛ́kí-pwà-yá	'We will go roaming around.'

ɛ́kɪ́-pòn-ú	*'We will come.'*
ɛ́kɪ́-gòr-ó	*'We will strangle each other.'*
ɛ́kɪ́-màɲ-á	*'We live....(somewhere)'*
ɛ́kɪ́-tùm-ó	*'We shall meet together (e.g., for a talk, cup of tea, etc.)'*
ɛ́kɪ́-bòytá	*'We will be together.'*
ɛ́kɪ́-ɲɔ̀rr-ʊ́	*'We will love him/her/them.'*
ɛ́kɪ́-dùŋ-òkɪ́	*'We will cut for him.'*
ɛ́kɪ́-dàmʊ́	*'We can remember/we will remember.'*
ɛ́kǐ-bârn	*'We will shave.'*
ɛ́kǐ-dɔ̂	*'We are red.'*
ɛ́kǐ-dɔ̂l	*'We will see.'*
ɛ́kǐ-gôr	*'We will strangle(someone)'*
ɛ́kǐ-kwêt	*'We run with each other/together.'*
ɛ́kǐ-nɪ́ŋ	*'We will hear.'*
ɛ́kǐ-pîk	*'We will put it.'*
ɛ́kǐ-púò	*'We will go.'*
ɛ́kǐ-sɔ̃j	*'We will follow him.'*
ɛ́kǐ-yyêr	*'We will cook it.'*
ɛ́kɪ́-ntɔ̀-ɲɔ̂r	*'We make him love.'*
ɛ́kɪ́-ádɔ̀	*'We are tall.'*
ɛ́kɪ́-nǐŋ-ǐshó-yù	*'We will learn a lesson.'* or *'We will wake up from sleep.'*
ɛ́kɪ́-rʊ̀rà	*'We are/will be asleep.'*
ɛ́kɪ́-bòl-ǐtò	*'We are opening it.'*
ɛ́kɪ́-ntò-nɪ́ŋ-ˈó	*'We will make each other hear it.'*
ɛ́kɪ́-bà-ykɪ́n-ˈó	*'We will be visiting/meeting one another.'*

D.2.2.2. DCSN for 3>2>1

ɛ́kɪ́-n-túk-ù	*'You will wash me.'* or *'He ... you.'* etc. (This section)
DSCN.3>2>1-II-wash-VENT	
ɛ́kɪ́-ntɔ́-ɲɔ̀r	*'You will make me love it.'*
ɛ́kɪ́-máɲà	*'You live....(somewhere)'*
ɛ́kɪ́-gírà áàbɔ̀ytàrè	*'You (pl) are with me.'*
ɛ́kɪ́-ɲɔ́rr-ʊ̀	*'You (sg) will love me.'*
ɛ́kɪ́-bá-yé-yè	*'You (pl) last sighted me.'*
ɛ́kɪ́-ɲɔ́rr-ʊ́-rrʊ̀	*'You (pl) will love me.'*
ɛ́kɪ́-bárn-í-bárn-à	*'You (pl) will shave me.'*
ɛ́kɪ́-ntá-dám-íshɔ́-shɔ̀	*'You (pl) will make me think.'*
ɛ́kɪ́-ntó-nɪ́ŋ-í-nɪ́ŋ-ǐ	*'You (pl) will make me hear it.'*
ɛ́kɪ́-ntɔ́-ɲɔ́rr-í-ɲɔ́rr-ɔ̀	*'You (pl) will make me like/love it.'*
ɛ́kɪ́-kwèt ɛ̀n-kɪ́tˈéŋ	*'Your cow will run.'*

ékɪ́-súj˩á	*'You (pl) washed me.'*
ék˩ɪ́-bárn	*'You (sg) will shave me.'*
DSCN.3>2>1-shave	
ék˩ɪ́-ból	*'He will open you.'*
ék˩ɪ́-dámʊ́	*'They/she/he will remember you.'*
ék˩ɪ́-dɔ́l	*'You will see me.'*
ék˩ɪ́-gór	*'You will strangle me.'*
ék˩ɪ́-pík	*'He will put you by the river.'*
ék˩ɪ́-pír	*'Your sheep are fat.'*
ék˩ɪ́-yyér	*'He will cook you/you will cook me.'*
ék˩ɪ́-báye	*'You (sg) last sighted me.'*
ék˩ɪ́-gór-í	*'You will be strangled.'*
DSCN.3>2>1-strangle-PASS	
ék˩ɪ́-náp-í	*'You will be carried.'*
ék˩ɪ́-ɲɔ́rr-í	*'You are loved.'*
ékɪ́-yét˩á-y	*'You are being had/owned.'*
ékɪ́-dámʊ́n-˩í	*'You will be remembered.'*
ékɪ́-ín-˩í	*'You will be born.'*
ékɪ́-ɲɔ́rr-ít˩á-y	*'People love you.'*

D.2.3. DSCN *k-* (by Affix)

Rasmussen and Payne (under review) showed that the discourse morpheme *k-*

bears a High tone, along with some implications this fact has for Maa phonology, such as

the analysis of non-automatic downstep (discussed in Chapter IV, Section 4). Appendix

B gave forms showing the contribution of suffixes to the tone of verbs, only having

briefly mentioning forms with the discourse marker *k-* in Chapter VI. Because this form

is very common in Il-Keekonyokie Maa, the data behind analysis of this prefix

(Rasmussen and Payne, under review) is given here. In this section, I will focus on the

forms of the word with *k-*, showing the tone patterns for those forms. This chapter uses

the same groupings as Appendix B, and gives the tone of the forms without *k-* for

comparison.

D.2.3.1. The Class I Causative (CAUS)

These forms have a High-Low stem tone pattern.

(51) Third person subject (3) forms:
k-ɛ́-ytá-dàl	*'He will make him play.'*
DSCN-3-CAUS-play	
k-ɛ́-ytɔ́-dɔ̀	*'He will make him red.'*
k-ɛ́-ytú-dùŋ	*'He will make him cut himself.'* or *'He will make him cut it.'*
k-ɛ́-ytí-ɡ̀ìr	*'He will make him silent.'*
k-ɛ́-ytá-là	*'He will make him stranded.'*
k-ɛ́-ytá-làl	*'He will make it wide.'*
k-ɛ́-ytú-lùb	*'He will make him greedy.'*
k-ɛ́-ytɛ́-mèr	*'He will 'Make him drunk.'*
k-ɛ́-ytá-nàn	*'He will make it soft.'*
k-ɛ́-ytó-nǐŋ	*'He will make him hear it.'*
k-ɛ́-ytɔ́-ɲɔ̀r	*'He makes him love.'*
k-ɛ́-ytí-ŋ̌ìd	*'He will make him proud.'*
k-ɛ́-ytí-shìp	*'He will make him happy.'*
k-ɛ́-ytá-wɔ̀àr	*'He will make him proud.'*

(52) Forms with initial high:
k-á-ytí-ɡ̀ìr	*'I will make him quiet.'*
DSCN-1SG-CAUS-hear	
k-á-ytó-nǐŋ kèwán	*'I will make myself hear it.'*
k-á-ytó-ŋù	*'I will make it smelly/rotten.'*
k-á-ytɛ́-yyèr	*'I will make him cook.'*
k-áá-ytá-gòr	*'I will make you angry.'*
DSCN-1>2-CAUS-be.angry	
k-áá-ytɔ́-ɲɔ̀r	*'I will make you love it.'*

(53) exceptions:
k-ɛ́-ytò-řkín꜓ó	*'He will make him/each other forget.'*
k-á-ytó-p꜓íú	*'I will make it be alive.'*
k-áá-ytá-d꜓ámɔ́	*'I will remind you (sg).'*

D.2.3.2. The Motion Away Suffix (AWAY) -- Class I

The stem tone pattern has a High-Low stem tone pattern for class I roots.

(54) Third person subjects
k-ɛ́-bèl-áà   *'She will break them (one at a time.)'*
DSCN-3-break-AWAY
k-ɛ́-dàl-áà   *'He will play going away.'*
k-ɛ́-dùŋ-óò   *'He will cut it off.'*
k-ɛ́-ɡ̀ìl-áà   *'He will break it away(stick-like)'*
k-ɛ́-màn-áà   *'He will walk around (away from his house).'*
k-ɛ́-ɲɔ̀rr-áà   *'He/she accepts it/will accept it.'*
k-ɛ́-ŋ̀ìd-áà   *'He will be proud while going.'*
k-ɛ́-nàn-áà   *'They are soft, one after another.'*

(55) Initial high forms
k-á-dúŋ-óò   *'I will cut it away from (e.g., a tree) '*
DSCN-1SG-love-AWAY

D.2.3.3. The Motion Away Suffix (AWAY) -- Class II

These data show a High-Downstepped High stem tone pattern for Class II roots.

(56) Third person subjects
k-ɛ́-y-bùk-ó˧ó   *'He will pour it out.'*
DSCN-3-II-pour-AWAY
k-ɛ́-y-bàl-á˧á épwô   *'It will become visible as it goes.'*
k-ɛ́-y-dòŋ-ó˧ó   *'He will beat them one at a time.'*
k-ɛ́-y-gèr-ó˧ó   *'He will write them one at a time.'*
k-ɛ́-y-kèn-ó˧ó   *'He will close it against the outside.'*
k-ɛ́-y-nɔ̀s-á˧á   *'He will eat it as he goes.'*
k-ɛ́-y-tùkw-ó˧ó   *'He will wash them, one at a time.'*

(There are no initial high forms available.)

(57) Exceptions
k-ɛ́-y-pòt-óò   *'They/he will call someone away from his house.'*

D.2.3.4. The Ventive Suffix (VENT) – Class I

The data in this section show a High stem tone pattern for verbs with Class I roots. On the forms of *ba* the tone pattern is identical to that on CVC roots without suffixes, leaving open the possibility that VENT is ultimately toneless (or at least that *ba* and VENT together give the same tone as CVC roots). With the High-toned discourse marker, the initial High forms show a downstep, showing that they bear only one tone in the form without the discourse marker. I'm not sure what this potential exception of *baw* means. It may be that *baw* is not synchronically analyzable, or it may be that this is the product of TMHS.

(58) Third person subjects
k-ɛ́-pwòn-ú tomon	*'Ten will come.'*
DSCN-3-shave-VENT	
k-ɛ́-àr-ʊ́	*'He will bargain.'*
k-ɛ́-bàrn-ʊ́	*'He will shave.'*
k-ɛ́-bùk-ú	*'He will pour it out.'*
k-ɛ́-bʊ̀l-ʊ́	*'He will grow up.'*
k-ɛ́-dàl-ʊ́	*'He will play coming.'*
k-ɛ́-dùŋ-ú	*'He will cut (the stick) off of/ from...'*
k-ɛ́-gìl-ʊ́	*'He will break it off of it.'*
k-ɛ́-lòt-ú	*'My goat will come to bleat.'*
k-ɛ́-ŋìd-ʊ́	*'He will be proud when coming.'*

(59) Initial high forms
k-á-ˈár-ʊ́	*'I will beat(force) myself (e.g., out of bed).'*
DSCN-1SG-beat-VENT	
k-á-bˈá-w	*'I will arrive.'*
k-á-yyˈɛ́r-ʊ́	*'I will cook (herbs) (i.e., to get the medicine) out of them.'*

(60) Exceptions:
ɛ́-bá-w	*'He will arrive.'*
3-reach-VENT	
k-ɛ́-bˈá-w	*'He will arrive.'*
DSCN-3-reach-VENT	

D.2.3.5. The Ventive Suffix (VENT) – Class II

These data show a High-Low stem tone pattern for Class II roots. The High-toned discourse marker *k-* does not cause downstep in the Initial high forms, because there is a word final Low tone.

(61) Third person subjects
k-é-y-bál-ʊ̀   *'It will be visible as it comes.'*
DSCN-3-II-be.visible-VENT
k-é-y-rrít-ʊ̀ ɩ̀nkɩ́shú   *'He/they will look after cows as they come.'*
k-é-y-dóŋ-ù   *'He will beat it off.'*
k-é-y-gér-ù   *'He will write it from something (e.g., reference material, photocopying.)'*
k-é-y-nɔ́s-ʊ̀   *'He will eat it coming.'*
k-é-y-pót-ù   *'He will call him to come.'*
k-é-y-túk-ù   *'He will wash it.'*

(62) Initial high forms
k-á-y-pár-ʊ̀ ɩ̀mbáà kúmòk   *'I will ask many questions.'*
DSCN-1SG-II-ask-VENT
k-á-y-nɛ́p-ʊ̀   *'I will meet him.'*

D.2.3.6. The Antipassive Suffix (APAS)

The stem tone pattern is High-Downstep High-High for both Class I and Class II.

(63) Third person subjects
k-é-gór-ˈíshó   *'It is a strangler.' / 'He will strangle.'*
DSCN-3-respect-APAS
k-é-y-bá-yshˈɔ́   *'He hates.'*
k-é-y-bón-ˈíshó   *'He will foretell.'*
k-é-y-dóŋ-ˈíshó   *'He pounds.'*
k-é-y-gér-ˈíshó   *'He writes.'*
k-é-y-nɔ́s-ˈíshɔ   *'He will eat.'*
k-é-y-ŋɔ́l-ˈíshɔ   *'He is the person who stirrs.'*
k-é-y-ŋɔ́r-ˈíshɔ   *'He will look.'*

k-é-y-pósh-ˈíshó	*'He will shake/churn.'*
k-é-y-pót-ˈíshó ìlpáyyàní	*'The men will call.'*
k-é-řĭkín-ˈíshó	*'He/it is forgettable.' (NOT forgetful.)'*
k-é-yá-íshˈɔ́ òlmóřìjóy	*'The poison arrow tree can take (i.e., kill)'*

This data shows the non-iterative nature of the *k-* tone association. Where there is only one initial Low TBU on the form without k-, the form with k- is high and level, as in *kégóŕˈíshó* above. With more than one low TBU in the non-k- form, however, there is an initial High-Low stem tone pattern, as in *kéřĭkínˈíshó*, above.

D.2.3.7. The Dative Suffix (DAT) – Class I

The stem tone pattern is High-Low for Class I roots.

(64) Third person subjects

k-ɛ́-bɛ̀l-ákĭ	*'She will break it(stick) for him.'*
DSCN-3-break-DAT	
k-ɛ́-g�̀l-ákĭ	*'She will break it for him.'*
k-ɛ́-gòr-ókĭ	*'He will strangle for him.'*
k-ɛ́-ŋèr-ákĭ	*'She will tear it for him.'*
k-ɛ́-tɔ̀n-íkĭ	*'He will sit for someone.'*

(65) Initial high forms

k-á-bɛ́l-ákĭ	*'I will break it(stick-like) for him.'*
DSCN-1SG-break-DAT	
k-á-ár-ákĭ mɛ̀tíshìpàyú	*'I will force her to be happy.'*
k-á-dúŋ-ókĭ	*'I will cut for him.'*
k-á-gíl-ákĭ	*'I will break it for him.'*
k-á-gór-ókĭ	*'I will strangle for him.'*
k-á-j-ókĭ mɛ̀shómò	*'I will tell him to go.'*
k-á-ɲɔ́rr-ákĭ	*'I will agree with him.'*
k-á-ŋɛ́r-ákĭ	*'I will tear it for him.'*

k-áá-ɲɔ́rr-ákĭ	*'I will agree with you.'*
DSCN-1>2-love-DAT	

D.2.3.8. The Dative Suffix (DAT) – Class II

The stem tone pattern is a High-Downstepped High-High for Class II roots.

(66) Third person subjects
k-é-y-bál-ˈákí   *'He will reveal it to him.'*
DSCN-3-II-reveal-DAT
k-é-y-dóŋ-ˈókí   *'He will pound (the grain) for him.'*
k-é-y-gér-ˈókí   *'She will write it for him.'*
k-é-y-kén-ˈókí   *'She will close it for him.'*
k-é-y-lép-ˈákí   *'She will climb it for him.'*
k-é-y-rrít-ˈákí   *'He will look after cows for him.'*

(67) Initial high forms
k-á-y-dóŋ-ˈókí   *'I will pound (the grain) for him.'*
DSCN-1SG-II-beat-DAT
k-á-y-gér-ˈókí   *'I will write it for him.'*

D.2.3.9. The Instrumental Suffix (INST) – Class I

The stem tone pattern is High for Class I, giving a high and level word pitch

pattern for first and second person forms without *k-*. With *k-*, these forms are

downstepped after the first TBU.

(68) Third person subjects
k-é-bèl-yé   *'He will use it to break it.'*
DSCN-3-break-INST
k-é-bò-yé   *'He will use it to remove the front lower teeth.'*
k-é-bòl-yé   *'He will use it to open it.'*
k-é-bùl-yé   *'He will use it to pierce it.'*
k-é-gòr-yé   *'I will use it to strangle.'*
k-é-lèp-yé ènkúkúrí   *'He will use the calabash to milk it (cow).'*
k-é-shèt-yé   *'He will use it to build.'*
k-é-shùk-yé   *'He will use it to fold it.'*

(69) Initial high forms
k-á-dˈúŋ-yé   *'I will use it to cut.'*
DSCN-1SG-cut-INST
k-á-gˈór-yé   *'I will use it to strangle.'*

k-á-l'ép-yé ènkúkúrí ènkítéŋ   *'I will use the calabash to milk the cow.'*
k-á-sh'é-tyé   *'I will use it to plait/build them.'*

D.2.3.10. The Instrumental Suffix (INST) – Class II

The stem tone pattern is High-Low for Class II. Exceptions are

ɪrɔwʋa, ɪtɛrrɛ, and *ishu.*

(70) Third person subjects
k-ɛ́-y-bál-yè   *'He will make it visible.'*
DSCN-3-II-reveal-INST
k-é-y-shúr-yè   *'She will make it overcooked.'*
k-é-y-bél-yè   *'He will use it to roll it.'*
k-é-y-bók-yè   *'He will use it to hinder him.'*
k-é-y-búŋ-yè   *'He will use it to support him.'*
k-é-y-díŋ-yè   *'It will make it crowded.'*
k-é-y-dóŋ-yè   *'He will use it to pound (grain.)'*
k-é-y-dúr-yè   *'He will use it to migrate.'*
k-é-y-gér-yè   *'He will use it to write.'*
k-é-y-rúsh-yè   *'He will make it thick.'*
k-é-y-rrág-yè ènkàyná   *'My arm is lying down.'*
k-é-y-rrít-yè   *'He will use it to look after cows.'*

(71) Initial high forms
k-á-y-dóŋ-yè èŋúɗì ìlpáèk   *'I will use a stick to beat the maize.'*
DSCN-1SG-II-beat-INST
k-á-kwét-yè   *'I will make him run.'* (as class II tone form)

(72) Exceptions
k-é-y-rɔ́w'wáj-yé   *'He will make it hot.'*
k-é-y-térr'é-yíé   *'He will make/made him faint.'*

D.2.3.11. The Middle Suffix (MID)

The stem tone pattern is High-Low. Exceptional roots are *rikin, irrabala*, and

damʊ. Perhaps *nana* is just a long root. Note that this Middle form includes the

Dynamic Middle semantics for Class I roots (as in Appendix B).

(73) Third person subjects
k-ɛ́-ár-à	*'He is beaten.'*
DSCN-3-beat-MID	
k-ɛ́-ár-à	*'They will fight.'*
k-ɛ́-áŋ-à máàtɛ̀	*'They will refuse each other (not necessarily people).'*
k-ɛ́-bárn-à	*'They are shaving each other.'*
k-ɛ́-dál-à	*'He will play.'*
k-ɛ́-dǐ-à	*'He is cursed. / They will curse each other.'*
k-ɛ́-dúŋ-ò	*'They will cut each other.'*
k-ɛ́-dʊ́p-à níncɛ̀	*'They are dependable/helpful.'*
k-ɛ́-gír-à	*'He will be silent.'*
k-ɛ́-gór-ò	*'They will strangle each other.' 'They will be made angry.'*
k-é-y-dǐŋ-à	*'It is crowded.'*
k-é-y-dóŋ-ò	*'It is beaten.'*
k-é-y-gér-ò	*'It is written.'*
k-é-y-gís-à	*'It is carved/sliced.'*
k-é-y-kén-ò	*'It is closed.'*
k-é-y-nɔ́s-à	*'It is eaten.'*
k-é-y-ŋɔ́l-à	*'It is stirred.'*
k-é-y-pɔ́sh-à	*'He will wander off due to (stressful) problems.'*
k-é-y-rrít-à ˋinkíshú	*'He/they will look after the cows'*
k-é-y-rʊ́r-à	*'He is sleeping.' (may just be in bed, not actually asleep.)'*
k-é-y-rʊ́sh-à	*'It is thick.'*
k-é-y-mán-à	*'He draggs himself (from laziness.)'*
k-ɛ́-lúb-ò	*'He is/they are greedy.'*
k-ɛ́-mɛ́r-à	*'He is drinking deliberately.' 'He is drunk.'*
k-ɛ́-ŋíd-à	*'He is proud.'*
k-ɛ́-shɛ́t-à	*'He is plaited. / They will plait each other.'*
k-ɛ́-túm-ò	*'They meet/they gather.'*
k-ɛ́-wʊ́ás-à	*'He is proud.'*

(74) Initial high forms
k-á-dǐ-à	*'I am cursed/insulted.'*
DSCN-3-curse-MID	
k-á-gír-à	*'I will keep silent.'*

k-á-gór-ò	*'I will become angry (habitual).'*
k-á-yrór-à	*'I am asleep.'*
k-á-yrrít-à ˇ ɪ̀nkíshú	*'I will look after them (cows)'*
k-á-shíp-à tã̀ɪsér¦é	*'I'll be happy tomorrow (and am happy now, too.)'*

(75) exceptions:

k-ɛ́-y-rràbál-¦á	*'He will lie on his stomach.'*
DSCN-3-II-lie.down-MID	
k-ɛ́-dàmón-¦ɔ́	*'They will remember each other.'*
k-ɛ́-rˇɪkín-¦ó ɪ̀ntáy	*'He (you (pl)) will forget.'*
k-ɛ́-nàn-á	*'It is soft.'*

D.2.3.12. The Dynamic Middle Suffix (MID2) – Class II

The stem tone pattern is High-Downstepped High. This dynamic middle form is not avaliable for Class I stems; rather, the semantics of the dynamic middle are included in the other middle form (Section D.2.3.11). Also due to the plural semantics, there is no 1SG or 2SG form. I do not have any 2PL forms, though one would be theoretically possible.

(76) Third person subjects

k-ɛ́-y-dóŋ-¦ó	*'They will beat each other.'*
3-II-beat-MID2	
k-ɛ́-y-mál-¦á	*'They will give each other's wives cows.'*
k-ɛ́-y-nɔ́s-¦á	*'They will eat each other.'*
k-ɛ́-y-pár-¦á	*'They will question each other.'*
k-ɛ́-y-pík-¦á níncè	*'They will project each other.'*
k-ɛ́-y-pót-¦ó ɪ̀lpáyˇɪ̀àní	*'The men will call each other.'*
k-ɛ́-y-kén-¦ó	*'It/they will be closed.'*

D.2.3.13. The Passive Suffix (PASS)

The stem tone pattern is a High. Based on extrapolation from available data (e.g. that with 3>2>1 *kɪ-* morpheme from Section D.2.2.2 above), it is assumed that the first and second person singular forms would be High and level.

(77) Third person subjects

k-ɛ́-àɲ-í ènkíné ây	*'My goat will be refused.'*
k-ɛ́-bɛ̀l-í	*'They will be broken.'*
k-ɛ́-bɔ̀r-í	*'He will be injured.'*
k-é-dùŋ-í	*'It/He will be cut.'*
k-é-ydòŋ-í	*'It will be pounded.'*
k-é-ygĭs-í	*'Jumping will be done.'*
k-é-ykòd-í	*'He will be decorated.'*
k-é-yŋɔ̀r-í	*'He will be looked at.'*
k-é-ypàr-í	*'He will be questioned.'*
k-é-ypĭm-í	*'He will be measured.'*
k-ɛ́-yrrìt-í ïnkíshú	*'They must/will be looked after.'*
k-ɛ́-lèj-í	*'He will be lied to.'*
k-ɛ́-mìr-í	*'He will be chased.'*
k-ɛ́-ɲɔ̀rr-í	*'He is loved.'*
k-ɛ́-tùm-í ènkˈíríná	*'The bracelet will be found.'*

(78) Exceptional forms.

k-ɛ́-àkún-ˈí	*'People become ...'*
DSCN-3-become-PASS	
k-ɛ́-yˈá-y	*'The cows will be taken.'*
k-ɛ́-tɔ́n-ˈí	*'They will sit.'*
k-ɛ́-dàmún-ˈí	*'The orphan child will be remembered.'*
k-ɛ́-ín-ˈí	*'They/he/she will be born.'*
k-ɛ́-átà-y ˈíná búkò	*'That book was owned.'*

D.2.3.14. Forms with PROG Only

k-ɛ́-bòl-ítò	*'He/they is/are opening it.'*
k-ɛ́-tɔ̀n-ítà ént̃ító èmbártá	*'The girl is seated on the horse..'*
k-á-dɔ́l-ítà èndá kér	*'I am seeing the goat..'*

k-á-áɲ-ítà	*'I am waiting for/refusing it.'*
k-á-ból-ítò	*'I am opening it.'*
k-á-dúŋ-ítò	*'I am cutting.'*
k-á-y-kén-ítò	*'I am shutting it.'*
k-á-y-kén-ítà	*'I am counting.'*
k-á-y-sój-ítà	*'I am washing it.'*
k-á-ló-ytò	*'I am going.'*
k-á-mán-ítà	*'I'm moving about.'*
k-á-náp-ítà	*'I am carrying it'*
k-á-sój-ítà	*'I am following him.'*

D.2.3.15. Forms with INCEP Only

k-é-dór-ù	*'It will become red.'*
DSCN-3-be.red-INCEP	
k-é-gól-ù	*'The skin will become hard.' (or strong, expensive).'*
k-ɛ́-lá-ù	*'He will miss it (i.e., try to borrow it, but it's unavaliable).'*
k-é-ɲórr-ù	*'They/he/she will love.'*
k-é-rók-ù	*'He/they will became black.'*
*k-ɛ́-láy-ù	**'He is strandable.' *'He will become (more) stranded.'*

k-á-aɲ-u	*'I will wait for it.'*
k-á-dór-ù	*'I will become red.'*
k-á-jyé-yù	*'I will swell.'*
k-á-ɲórr-ù	*'I will become loving.'*
k-á-ŋwó-yù	*'I will become smelly/rotten.'*

D.2.3.16. Forms with Class I Roots Only

The stem tone pattern is High and level. Exceptions include Class I *kwɛt* 'run',

as mentioned above, which seems to have some Class II properties, though it doesn't bear

the Class II prefix (*-ɪ).* As far as I can see, these roots behave the same as other Class I

roots elsewhere.

(79) Third person subjects
k-é-bˈík   *'They will stay.'*
DSCN-3-stay

k-é-ˈár ènkàlém ɔ̀ltʊ̀ŋánǐ   *'A knife can kill a person.'*
k-é-bˈárn   *'The woman will shave the man.'*
k-é-bˈɔ́l   *'He will open the cow's mouth.'*
k-é-bˈwák   *'He will bark/shout.'*
k-é-ɡˈól   *'My skin of a lion is hard.'*
k-é-lˈó   *'He will go.'*
k-é-lˈɔ   *'He will spread it out.'*
k-é-ˈó   *'It is ripe.'(with emphasis)'*
k-é-shˈúk   *'He will bend it.'*
k-é-tˈɔ́n ènt̃itó tèmbàrtá   *'The girl will sit on the horse.'*
k-é-yˈá   *'(the car) will take it.'*
k-é-dˈɔ   *'They/it(the rock) is red.'*
k-é-dˈɔ́l   *'They/she will see it.'*
k-é-ɲˈɔ́rr   *'They/he/she loves (today).'*
k-é-pˈí   *'He/they are brave.'*
k-é-pˈír   *'He/They is/are fat.'*
k-é-rˈɔ́k   *'He/They is/are black.'*
k-é-yyˈér   *'They/he/she will cook it.'*

(80) Initial high forms
k-á-ˈádɔ́   *'I am tall.'*
DSCN-1SG-be.tall

k-á-ˈáɲ   *'I will refuse it.'*
k-áˈá-bárn   *'I will shave you.'*
k-á-bˈík   *'I will stay here.'*
k-á-bˈɔ́l   *'I hold/twist the cow by the mouth.'*
k-á-bˈɔ́lbɔ́l   *'I hold/twist the cow by the mouth.'*
k-á-dèk   *'I will curse him.'*
k-á-dˈɔ   *'I am red.'*
k-á-dˈɔ́l   *'I see them/him.'*
k-á-ɡˈól   *'I am strong.'*
k-áˈá-gór   *'I will strangle you.'*
k-á-yˈú   *'I will give birth to him.'*
k-á-jˈí   *'I will sift.'*
k-á-jˈút   *'I will wipe him (e.g., with a cloth)'*
k-áˈá-léj   *'I will lie to you.'*
k-áˈá-náp   *'I will carry you.'*
k-á-ŋˈú   *'I am smelly/rotten.'*
k-á-pˈét   *'I go near (the post) (i.e., and will be touching it)'*
k-á-pˈír   *'I am fat.'*
k-á-tˈɔ́n   *'I will stay here/sit here.'*
k-á-tˈúm   *'I shall meet him.'*
k-á-yˈá   *'I will take it.'*

k-á-yyꜝɛ́r   *'I will cook it.'*
k-á-ybꜝá   *'I hate him.'*
k-á-yshꜝú   *'I am alive.'*

The following second person singular data show the tonal alternation that is seen

with and without k- on other initial high forms (i.e., a downstep instead of high and level

to the end of the word). A reasonable hypothesis would be that there is one tonal

alternation for all forms, which includes a *k-* in all forms except the second person. The

k- would be dropped here because together with the second person bound pronoun (i.e.,

k-ɪ-), the two morphemes would confused with *kɪ-* (either 1PL or 3>2>1).

ɪ́-ꜝádɔ́   *'You are tall.'*
DSCN.2-be.tall
ɪ́-ꜝáp   *'You will give birth before circumcision.'*
ɪ́-bꜝárn   *'You will shave.'*
ɪ́-bꜛɪ́k   *'You will stay here.'*
ɪ́-dꜝɔ́l   *'You see him.'*
ɪ́-dꜝúŋ   *'You will cut.'*
ɪ́-gꜝór   *'You will strangle.'*
ɪ́-yꜝú   *'You will give birth to him.'*
ɪ́-nꜛɪ́ŋ   *'You hear/will hear.'*
ɪ́-pꜛɪ́r   *'You are fat.'*
ɪ́-yyꜝɛ́r   *'You will cook it.'*

Forms without TMHS (long roots and lexical exceptions):
k-ɛ́-àdɔ́   *'He is/they are tall.'*
DSCN-3-be.tall
k-ɛ́-dàmʊ́   *'They/she/he will remember the people.'*
k-ɛ́-làlá   *'It is wide.'*
k-ɛ́-rrùgúm   *'He will make him vomit.'*

(81) Other exceptions
k-ɛ́-ákʊ̀ ɛ̀nkɪ́téŋ   *'It will become a cow.'*
DSCN-3-become
k-ɛ́-átà òmóm   *'He will be/was lucky.'*
k-ɛ́-bà ánꜝá nánʊ́?   *'Is he the same as me?'*
k-ɛ́-bóytà kʊ́lꜝɛ́   *'The milk will be together.'*
k-ɛ́-là   *'He will be stranded.'*
k-ɛ́-ò   *'It leaks.'(with emphasis)'*

k-é-shéykǐ àyrrìtá ĩnkíshú.   *'He persistently watches over cows.'*
k-é-bór˦é   *'It is/was full.'*

k-á-ákʊ̀   *'I will become.'*
DSCN-1SG-become
k-á-dáà   *'I will eat.'*
k-á-gírà àànʊ́   *'I am waiting for it.'*
k-á-kwèt   *'I run (habitual)'*

<u>D.2.3.17.</u> <u>Forms with Class II Roots Only</u>

      The stem tone pattern is High-Low.

(82) Third person subjects
k-é-y-bèl   *'He will rock from side to side.'*
DSCN-3-II-rock
k-é-y-bòk   *'He will hinder it.'*
k-é-y-dòŋ   *'He will beat it.'*
k-é-y-gìs   *'He will jump.'*
k-é-y-kàsh   *'He is better than him.'*
k-é-y-kèn   *'He will close it.'*
k-é-y-kèn   *'He will count.'*
k-é-y-mìn   *'It will be lost.'*
k-é-y-mǐs   *'They will sunk.'*
k-é-y-ŋɔ̀l   *'He will stirr it.'*
k-é-y-pìk   *'They/He will project.'*
k-é-y-pɔ̀sh   *'It will make him wander off due to (stressful) problems.'*
k-é-y-pòt   *'He will call him.'*
k-é-y-rràg   *'They will lie down.'*
k-é-y-rɔ́wùà   *'It is hot.'*
k-é-y-rùg   *'He will bend it over.'*
k-é-y-sʊ̀j   *'They/he/she will wash it.'*
k-é-y-tɛ́rrɛ̀   *'He will faint.'*

(83) Initial high forms
k-á-y-bèl   *'I will rock from side to side.'*
DSCN-1SG-II-rock
k-á-y-bòk   *'I will hinder it.'*
k-á-y-gèr èmpál˦áy ...   *'I will write a letter ...'*
k-á-y-gìs   *'I will jump.'*
k-á-y-gǐs   *'I carve/slice.'*
k-á-y-kàsh   *'I am better than him.'*

k-á-y-kèn	*'I will shut it.'*
k-á-y-kèn	*'I will count.'*
k-á-y-lèp	*'I will go up/climb the hill.ACC.'*
k-á-y-pàŋ	*'I will go out.'*
k-á-y-rràg	*'I will lie down.'*
k-á-y-sùj	*'I will wash it.'*

(84) Potential exceptions – class uncertain:

k-ɛ́-yb˥á	*'He hates him.'*
DSCN-3-II?.hate	
k-é-yk˥ó	*'He will do that.'*
k-é-ysh˥ú	*'He is alive.'*

APPENDIX E

THE IMPORTANCE OF WRITING TONE

As mentioned in the earlier chapters of the thesis, there is something of a tradition in Maa scholarship of not indicating tone and ATR vowel contrasts. While evidence against this practice might be found in several places, it seemed good to give here some of the difficulties posed in Maa when the segmental parts of words (letters) are considered without regard to tone. It is my hope that this information be used to help those who speak Maa to develop a writing system that will allow them to read and write their language more widely and proficiently.

For the most part, this appendix deals with systematic confusions, rather than those that might exist for just one or two roots. The words I have are listed, though I presume that each section could be extended to words with most other roots as well. As this thesis deals with verb tone, I do not deal with other indications of the importance of writing tone, such as the case system for nouns (i.e., *nínè* 'he' vs. *nìné* 'him'), which is also indicated by tone alone.

E.1. Tonal Minimal Pairs

There are many minimal tone pairs among Maasai verbs, that is, different words that would be written the same without tone marks, but which are pronounced differently

because of the tone. That is, the difference in meaning is only conveyed in the tone. It should be clear from this section that tone carries a lot of information in Maa verbs, and that Maa often uses tone to distinguish between two forms that might otherwise be written the same.

Most of these fall into a limited number of categories, based on certain parts of the verb inflection paradigms. The following sections give those categories. The first pair in each set is parsed and glossed, and the remainder in each is given without morpheme breaks.

E.1.1. 3>1 vs. 1>2

The first set of minimal pairs comes from two bound argument prefixes which are segmentally identical but tonally distinct. Whatever the underlying tone of the 3>1 *áà*-morpheme is, it is tonally but not segmentally distinct from the 1>2 morpheme, as the following minimal pairs show.

(1)
a.	áà-bârn	*'He/she/it/they will shave me.'*
	3>1-shave	
b.	áá-bárn	*'I will shave you.'*
	1>2-shave	

káàbârn	*'They will shave me.'*
ká^ꜜábárn	*'I will shave you.'*

áàdàmú	*'They/he/she (will) remember me.'*
áádámú	*'I remember you.'*

áàtàgòròkínè	*'He/She became angry at/for me.'*
áátágórókínè	*'I became angry at you (sg).'*

áàbàyyè	*'He/She last saw me.'*
áábáyyé	*'I last saw you.'*

áàytɔ̀ɲɔ̀rráyyè	*'He/She used it to make(force) me like it.'*
ááytɔ́ɲɔ́rráyyè	*'I used it to make(force) you to like it.'*

áàytòɲòrryé	*'He/She used it to make me like it.'*
ááytóɲórrʼyé	*'I used it to make you (sg) like it.'*

<div align="center">

E.1.2. Inverse Marker 3>2>1 vs. 1PL

</div>

The following forms show the tonal distinction between the bound argument pronouns for first person plural (i.e., *kǐ-*) and 3>2>1 (i.e., *kɪ-*). The underlying tone of the first person plural is not clear, as mentioned in chapter 5, but I will continue to assume something like HL for now. In contrast, the inverse 3>2>1 prefix seems to pattern like the first person singular prefix *a-*, so we could say that it is lexically toneless with surface high spreading onto the prefix from the stem (see Chapter VI).

(2) Non-perfect forms
    a.   kí-bárn   *'He will shave you (sg).'/'You will shave me.'*
        3>2>1-shave
    b.   kɪ̀-bârn   *'We will shave.'*
        1PL-shave

kíból	*'He will open you.'*
kɪ̌bôl	*'We will open it.'*

kípír ̀ntárè	*'Your sheep are fat.'*
kɪ̌pɪ̂r	*'We are fat.'*

kídúŋókɪ̌	*'You (sg) will cut for me.'*
kídùŋòkí	*'We will cut for him.'*

kíntúkù	*'He will wash you.'*
kíntùkù	*'We will wash it.'*

(3) Perfect forms

a. kí-ntó-níŋ-ò   *'You made me hear it.'* / '*'he made you hear it.'*
   3>2>1-CAUS-hear-PF

b. kí-ntò-nǐŋ-ô   *'We made him/them hear.'*
   1PL-CAUS-hear-PF

kísʊ́jà   *'You (sg) washed me.'*
kísʊ̀jâ   *'We washed it.'*

kítágórò   *'You (sg) strangled me.'*
kítàgòrô   *'We strangled someone.'*

kítɔ́ɲɔ́rrà   *'You have loved me.'*
kítɔ̀ɲɔ̀rrâ   *'We have loved him/her/them.'*

kítóríkínòtè   *'They have forgotten you.'*
kítòrǐkǐnótè   *'We forgot.'*

kítóníŋókǐ   *'You (sg) were heard.'*
kítóníŋòkí   *'We heard you.'*

kítúdúŋókǐ   *'You (sg) have been cut.'*
kítúdúŋòkí   *'We were cut.'*

Both 1PL and 3>2>1 have allomorphs with the form *ɛ-kɪ-*, which may be

something like a discourse marker attached to the *kɪ-* form, as mentioned in Appendix D.

This *ɛ-* formative, like the DSCN marker *k-* (Appendix D), has a High tone, giving the

following forms.

(4) Non-perfect forms

a. ɛ́-kˈɪ-bárn   *'You will shave me.'* or *'He will shave you (sg).'*
   DSCN-3>2>1-shave

b. ɛ́-kɪ̀-bârn   *'We will shave.'*
   DSCN-1P-shave

ɛ́kˈɪdɔ́l   *'You will see me.'* or *'He will see you.'*
ɛ́kɪ̀dɔ̂l   *'We will see.'*

ɛ́kˈɪgór   *'You will strangle me.'*
ɛ́kǐgôr   *'We will strangle(someone)'*

ékíntɔ́ɲɔ̀rr	*'You will make me love it.'*
ékíntɔ̀ɲɔ̂rr	*'We make him love.'*
ék˥ípík	*'He will put you by the river.'*
ékìpî̀k	*'We will put it.'*
ékíkwèt ènkít˥éŋ	*'Your cow will run.'*
ékĭkwêt	*'We run with each other/together.'*
ék˥íyyér	*'He will cook you/you will cook me.'*
ékìyyêr	*'We will cook it.'*
ék˥ídámú	*'You will remember me.' / 'they/etc. will remember you.'*
ékídàmú	*'We can remember/we will remember.'*
ékímáɲà	*'You live....(somewhere)'*
ékímàɲá	*'We live....(somewhere)'*
ékíntúkù	*'You will wash me.'*
ékíntùkù	*'We will wash it.'*
ékíɲɔ́rrɔ̀	*'You (sg) will love me.'*
ékíɲɔ̀rrú	*'We will love him/her/them.'*

E.1.3. Plural vs. Singular (Perfect)

Perfect forms show somewhat different tone patterns than the non-perfect forms given in the majority of this thesis. I have not discussed this in the body of the thesis because this hasn't yet been reduced to a system, though number of third person subject clearly gives tonal minimal pairs in the perfective aspect. This data shows a final High tone in the singular perfect form and a falling tone in the plural perfect form, whatever the person markers are. It would seem reasonable that another TBU (such as the archaic -í plural (Greenberg 1959) still seen in some verbs, e.g., *tɔn* 'sit', *gol* 'be.hard, be.strong, etc.') was lost, leaving the tone to combine with the prior TBU.

(5) 3>1 Forms with the Instrumental Suffix
  a. áà-tà-gòr-yé   *'He/etc. strangled me (using/for ...)'*
      '3>1-PF-strangle-INST
  b. áà-tà-gòr-yê-ø   *'They strangled me (using/for ...)'*
      3>1-PF-strangle-INST-PL

áàtòɲòrryé   *'He/she loved me because of / used something to love me.'*
áàtòɲòrryê   *'They loved me because of ...'*

áàygèryé   *'He made me write.'*
áàygèryê   *'They made me write.'*

áàykèɲyé   *'He did make me shut it.'*
áàykèɲyê   *'They did make me shut it.'*
                     (+ATR from INST makes this identical to 'count'.)

áàykèɲyé   *'He did make me count it.'*
áàykèɲyê   *'They did make me count it.'*
                     (+ATR from INST makes this identical to 'shut'.)

áàylèpyé   *'He did make me climb.'*
áàylèpyê   *'They did make me climb.'*

áàyshǐryé   *'He did make me cry.'*
áàyshǐryê   *'They did make me cry.'*

áàytùdùŋyé   *'He made me cut using it.'*
áàytùdùŋyê   *'They made me cut using it.'*

áàytòɲòrryé   *'He/she used it to make me like it.'*
áàytòɲòrryê   *'They used it to make me like it.'*

(6) Other 3>1 Perfective Forms

áàtàgòró ènkèráy òlmáɲáɦìntá   *'The child has strangled my enemy.'*
áàtàgòrô ìnkèráy ...   *'My children has strangled ...'*

áàtònǐŋó   *'He/she has heard me.'*
áàtònǐŋô   *'They have heard me.'*

áàtɔɲɔ̀rrá   *'He/she have loved me.'*
áàtɔɲɔ̀rrâ   *'They have loved me.'*

áàtùdùŋó yyéyyóò   *'My mother cut me.'*
áàtùdùŋô   *'They cut me.'*

áàytàgòró   *'He has caused me to strangle/be.angry.'*
áàytàgòrô   *'They caused me to strangle/be.angry.'*

The following perfect pairs, rather than showing a falling tone for the plural form,

show a Downstepped High on the final syllable. This indicates some kind of relationship

between the falling tone and the downstepped High, as they often appear in the same

place, either in differing dialects, or in different varieties used by a single speaker. These

data also show some variation on the initial pitch, which is sometimes low, but it is

unclear what motivates this difference.

(7) Simple Third Person Forms
  a. é-tá-ás-á   *'He did it.'*
    3-PF-do-PF
  b. é-tá-ás-ˈá   *'They have done it.'*
    3-PF-do-PF.PL

étábóló   *'He opened it.'*
ètábólˈó   *'They opened it.'*

kétˈábóló   *'He opened it.'*
kétábólˈó   *'They opened it.'*

étágóló òlcóní̀.   *'The skin has become hard.'*
étágólˈó   *'They have become hard.'*

étóɲórrá   *'He has loved.'*
ètóɲórrˈá   *'They have loved it.'*

ètɔ́dɔ́rɔ́   *'He became red.'*
ètɔ́dɔ́rˈɔ́ or ètɔ́dɔ́rɔ̂   *'They became red.'*

étóníŋó   *'She/he heard.'*
ètóníŋˈó or étóníŋô   *'They heard it.'*

étɔ́tɔ́ná   *'He sat.'*
étɔ́tɔ́nˈá òr étɔ́tɔ́nâ   *'They sat.'*

éykénó	*'He shut it.'*
èykén˦ó òr éykén˦ó	*'They shut it.'*

In some roots, the singular form is downstepped on the penultimate mora, rather than level and high to the end (as in (7) above). The plural form remains Downstepped High or Falling on the last mora.

(8) Forms with the Class I Causative

è-ytó-n˦íŋ-ó	*'He/she made him/them hear.'*
3-CAUS-hear-PF	
è-ytó-níŋ-˦ó also -ô	*'They made him/them hear.'*
3-CAUS-hear-PF.PL	

èytɔ́ɲ˦ɔ́rrá	*'He made him love it.'*
èytɔ̀ɲɔ́rr˦á	*'They make each other love something else (habitually).'*

èytɔ́ɲ˦ɔ́rryé	*'She/he used it to make him/her like it.'*
èytɔ́ɲɔ́rry˦é also -ê	*'They used it to make him/her like it.'*

kíntákw˦éɲá	*'You (sg) made me laugh.'*
kíntákwéɲ˦á	*'You all made me laugh.'*

kíntɔ́ɲ˦ɔ́rrá	*'you (sg) have made me love it.'*
kíntɔ́ɲɔ́rr˦á	*'you (pl) have made me love it.'*

In the following pairs, the singular has a final low tone, which becomes Downstepped High in the plural form. These are all second person forms.

(9)

í-súj-à	*'You (sg) washed it.'*
2-wash-PF	
í-súj-˦á	*'You (pl) washed it.'*
2-wash-PF.PL	

ítóníŋò	*'You (sg) have heard.'*
ítóníŋ˦ó	*'You (pl) have heard.'*

ítɔ́ɲɔ́rrà	*'You (sg) have loved it.'*
ítɔ́ɲɔ́rr˦á	*'You (pl) have loved.'*

ítúsújà   *'You (sg) followed him.'*
ítúsúj˩á   *'You (pl) followed him.'*

The following pair shows that the singular/plural distinction holds, even with the

3>2>1 prefix.

(10)
kí-súj-à   *'You (sg) washed me.'*
3>2>1-wash-PF
kí-súj-˩á   also kí-súj-â   *'You (pl) washed me.'*
3>2>1-wash-PF.PL

E.1.4. Perfect Passive vs. Dative for Class II

These data show that verbs that are in the perfect aspect with the Passive suffix

would be written the same as those in the non-perfect aspect with the Dative suffix,

except for the tone.

(11)
   a.   áà-y-sùj-àk-í   *'I was washed.'*
        3>1-II-wash-PF-PASS
   b.   áà-y-sùj-ákì   *'He will wash for me.'*
        3>1-II-wash-DAT

áàypàràkí   *'I was questioned.'*
áàypàrákì   *'He will question for me.'*

káàypìràkí   *'I was faced.'*
káàypìrákì   *'He will face someone for me.'*

áàyrùsòkí   *'I was pierced.'*
áàyrùsókĭ   *'He will pierce someone for me.'*

áàysùjàkí   *'I was washed.'*
áàysùjákì   *'He will wash for me.*

èydòŋókĭ   *'They are beaten.'*
èydóŋòkĭ   *'He will pound (the grain) for him.'*

E.1.5. Perfect vs. Non-Perfect with Class I Causative and Instrumental

On forms that have 3>1 *áà-*, as well as both the Class I causative (-*ɪtV*) and the

instrumental suffix (-*ye*), the non-perfect form has a High-Low stem tone pattern, with

the High stem tone pattern on the perfect (as in Appendix A).

(12)
    a.   áà-ytà-dòt-ùɲ-yé   *'He made me pull it₁ out (using it₂).'*

        3>1-CAUS-pull-VENT-INST
    b.   áà-ytà-dòt-úɲ-yè-ø   *'He will make me pull it₁ out (using it₂).'*

        3>1-CAUS-pull-VENT-INST-PF

áàytàlèpyèkí ènkúkúrí ènkítéŋ

                             'I was made to use the calabash to milk the cow.'

áàytàlèpyékǐ ènkúkúrí ènkítéŋ

                             'I will be made to use the calabash to milk the cow.'

áàytèyyèryé èŋúɗì.	*'He/they used a stick to make me cook.'*
áàytèyyéryè èŋúɗì.	*'He/they will use a stick to make me cook.'*
áàytòtòɲyé	*'He made me sit using it.'*
áàytòtóɲyè	*'He will make me sit using it.'*
áàytòɲòrryé	*'He/she used it to make me like it.'*
áàytòɲòrryè	*'They used it to make me like it.'*
áàytòɲórryè	*'He/she will use it to make me like it.'*
áàytùdùŋyé	*'He made me cut using it.'*
áàytùdùŋyê	*'They made me cut using it.'*
áàytùdúŋyè	*'He/they will make me cut using it.'*
áàytùdùŋyèkí	*'They made me cut using it.'*
áàytùdùŋyékǐ	*'I will be made to cut using it.'*
áàytùsùjyé	*'?(pl)They used it to make me follow.'*
áàytùsújyè	*'?(pl)They will use it to make me follow.'*
áàytùsùjyèkí èŋúdˈì	*'a stick was used to make me follow.'*
áàytùsùjyékǐ èŋúdˈì	*'?a stick will be used to make me follow.'*

With the class II causative (-*ye*), there seems to be no ultimate High at all in the

non-perfect, though the perfect maintains the High stem tone.

(13)
áàygèryé	*'He made me write.'*
áàygèryê	*'They made me write.'*
áàygèryè	*'He will make me write.'*

áàykèɲyé	*'he did make me shut it.'*
áàykèɲyê	*'They did make me shut it.'*
áàykèɲyè	*'he will make me shut it.'*

áàykèɲyé	*'he did make me count it.'*
áàykèɲyê	*'They did make me count it.'*
áàykèɲyè	*'he will make me count it.'*

áàylèpyé	*'He did make me climb '*
áàylèpyê	*'They did make me climb '*
áàylèpyè	*'He will make me climb '*

áàyshǐryé	*'He did make me cry.'*
áàyshǐryê	*'They did make me cry.'*
áàyshǐryè	*'He will make me cry.'*

E.1.6. Perfect vs. Middle

Because the perfect suffix and the middle suffix have the same segmental form

(i.e., *a/o-*), when the perfect prefix is blocked (as in these words with Class II stems), the

spelling is the same apart from tone. The next three sections show a comparison of these

two forms and the dymanic middle, which is also distinguished only by tone. When the

plural perfect forms (Section E.1.3) are included, this gives a four-way minimal

difference, as in the first four forms of example (6) from Chapter 4.1 (p. 16).

(14)
   a. é-y-bó-ó   *'He hindered it.'*
       3-II-hinder-PF

b. è-y-bó-ò níncè/níɲè   *'They/He are/is hindered.'*
   3-II-hinder-MID

éydóŋó   *'He beat it.'*
éydóŋò   *'They beat it.'*
èydóŋò   *'He/It/They is/are beaten.'*

éykénó   *'He shut it.'*
éykénò   *'They shut it.'*
èykénò èmílàngò   *'It/they is/are closed.'*

éypárá   *'He questioned him.'*
èypárà   *'He/They is/are questioned.'*

éypóshá   *'It made him wander off due to (stressful) problems.'*
èypóshà   *'He will wander off due to (stressful) problems.'*

éypótó   *'He called him.'*
èypótò (níɲè)   *'He/They is/are called.'* or *'They will call each other.'*

èyrrít⌐á níɲè/níncè ̀ìnkíshú   *'He/They looked after cows.'*
èyrrítâ ̀ìnkíshú   *'They looked after cows.'*
èyrrítà níɲè/níncè ̀ìnkíshú   *'He/they will look after cows.'*

kélùà   *'He has spread it out.'*
kél⌐úá   *'He will spread it out.'*

E.1.7. Perfect vs. Dynamic Middle

These forms are similar to those in section E.1.7, except that the perfect here is

compared with the dynamic middle.

(15)
   a. á-y-sój-à   *'I washed it.'*
      1SG-II-wash-PF
   b. á-y-sój-⌐á   *'I will wash myself.'*
      1SG-II-wash-MID2

íntóníŋ⌐ó   *'you made him hear it.'*
íntón⌐íŋó   *'You will make yourself listen.'*

éybóó	*'He hindered it.'*
èybóʼó níncɛ̀ (*nípɛ̀)	*'They will hinder each other.' (*himself)*
éydóŋó	*'He beat it.'*
éydóŋʼó	*'They beat it.'*
èydóŋʼó	*'They will beat each other.'*
éykénó	*'He shut it.'*
éykénʼó	*'They shut it.'*
èykénʼó	*'It/They will be closed.'*
éypárá	*'He questioned him.'*
èypárʼá níncɛ̀	*'They will question each other.'*
éypótó	*'He called him.'*
èypótʼó ìlpáyyàní (*ɔ̀l-)	*'The men will/are call/ing each other.' (*man)*
èysʊ́jʼá	*'They washed it.'*
èysʊ́jà nípɛ̀/níncɛ̀	*'He/They is/are/will be bathing (later.)'*

E.1.8. Stative Middle vs. Dynamic Middle for Class II

As mentioned in Appendix B, there is a tonal distinction for Class II roots between the stative and dynamic readings for the middle. Because this is only a distinction by tone, it also contributes a long list of minimal tone contrasts. Note that some of the semantic contrasts in these forms do not easily fall into the categories of stative and dynamic, particularly for verb roots that are inherently stative, where this contrast seems indicate some type of aspectual distinction indicated.

(16) MID
    a. è-y-bó-ò nípɛ̀/níncɛ̀   *'They/He are/is hindered.'*
       3-II-hinder-MID
    b. èybóʼó níncɛ̀ (*nípɛ̀) *'They will hinder each other.' (*himself)'*
       3-II-hinder-MID3

(17) Other forms

èydóŋò	*'He/It/They is/are beaten.'*
èydóŋꜜó	*'They will beat each other.'*
kéydóŋò	*'It is beaten.'*
kéydóŋꜜó	*'They will beat each other.'*
èygérò	*'It/they is/are written/employed.'*
èygérò ìlpáyyàní (*níɲè)	*'The men will employ each other.'*
èygísà níɲè/níncè	*'They/It are/is carved/sliced.'*
èygísꜜá níncè (*níɲè)	*'They will carve each other.'*
èykénò èmílàngò	*'It/they is/are closed.'*
èykénꜜó	*'It/They will be closed.'*
kéykénò	*'It is closed.'*
kéykénꜜó	*'It/they will be closed.'*
èymálà èná kítòk	*'She is given to (you can see her cows.)'*
èymálꜜá	*'They will give each other's wives cows.'*
èynɔ́sà	*'It/they is/are eaten.'*
èynɔ́sꜜá ìlŋɔ́ĵɲàá	*'They will eat each other.'*
kéynɔ́sà	*'It is eaten.'*
kéynɔ́sꜜá	*'They will eat each other.'*
èyŋɔ́rà níɲè/níncè	*'She/They is/are looked at.'*
èyŋɔ́rꜜá	*'They will look at each other.'* or *'He will look at himself.'*
èypárꜜá níncè	*'They will question each other.'*
èypárà	*'He/They is/are questioned.'*
èypótò (níɲè)	*'He/They is/are called.'*
èypótꜜó ìlpáyyàní (*ɔ̀lpáyyàn)	*'The men will/are call/ing each other.'*
èysísà níɲè/níncè	*'He/They is/are praised.'*
èysísꜜá níncè (*níɲè)	*'They will praise each other.'*
èysújà níɲè/níncè	*'He will wash himself.'* or *'She/They is/are washed.'*
	'He/They is/are bathing (now.)'
èysújꜜá níɲè/níncè	*'He/They is/are/will be bathing (later.)'*

E.1.9. Perfect Class I Causative vs. Imperative

As mentioned in Chapter IV, the perfect and imperative affixes are identical in segmental form. This leads to minimal tone pairs, such as the following.

(18)
    a. í-ntú-dúŋ-ò ènkálém ɔ̀lchàní   *'You caused the knife to cut the tree.'*
        2-CAUS-cut-PF
    b. í-ntù-dùŋ-ó ènkálém ɔ̀lchàní   *'You cause the knife to cut the tree!'*
        2-IMP-cut-IMP

E.1.10. Mid vs. Vowels Final Roots

There are a few cases where there seems to be a vowel without synchronic semantic weight, being homonymous with the same root with a given affix. For example, the following illustrates the perfective (19)a, in contrast with an unknown formative in (19)b, which appears whenever another suffix is not present on this root.

(19)
    a. á-y-rrít-ꜝá   *'I guarded (cows).'*
        1SG-II-guard-PF
    b. á-y-rrít-à   *'I will look after them (cows).'*
        1SG-II-guard-??

E.2. <u>Tonal Homophones</u>

There are only two complete homophones that I know of in the verb system, one where different verb conjugations end up with identical segmental and tonal information, and the other which maybe a part of language shift over time. For both, the segmental similarity comes from the fact that the perfect prefix is blocked (in the first by the Class II prefix, in the second by the Class I Causative prefix).

In the first set of homophones, the Middle suffix takes the same form as the

perfect suffix, and the tonal contribution from each of these combination of forms come

out the same, resulting in total homophony for the initial high (i.e., lexically unmarked)

bound argument pronouns, such as the first person singular *a-*.

(20)
á-y-dóŋ-ò	*'I beat him.'*
1SG-II-beat-PFV	
á-y-dóŋ-ò	*'I am beaten.'*
1SG-II-beat-MID	
á-y-sʊ́j-à	*'I washed it.'*
1SG-II-wash-PFV	
á-y-sʊ́j-à	*'I am washed (but don't know who did it.)'*
1SG-II-wash-MID	

In the second case, the instrumental blocks the perfective suffix, giving no

segmental indication of aspect. While these may have been tonally distinct at one time,

the distinction seems to be lost, with one form (or both) standing for both aspects.

(21) Non-perfect

èytébˈélyé	*'He used/will use it to make him break it.'*
èytébˈélyé	*'He used it to make him break it.'*
kéytádˈályé	*'He will use it to make him play.'*
èytádˈályé	*'He did use it to make him play.'*
èytéshˈétyé	*'He used/will use it to build for him.'*
èytéshˈétyé	*'They used it to build for him.'*
èytótˈóɲyé	*'He did/will use it to make him sit.'*
èytótóɲˈyé	*'They used it to make him sit.'*

E.3. Summary

This appendix has given selections of words that show that what Tucker and Mpaayie

called "opportunities for ambiguity" (p. xiii) are both systematic and not limited to certain parts of the system. They have to do with the inflection of each root, and are not limited by one root or another. These potential confusions are also not just present in one or two ways to inflect verb roots, but they are present between person markings, aspects, suffixes, and in combinations where person, aspect, and suffixes may be confused one with another. One example was given in Section 4.1, which I will repeat here. It combines the contrasts given in Sections E.1.3, E.1.6, E.1.7, E.1.8):

èydóŋ˥ó	*'They will beat each other.'*	*Dynamic Middle*
èydóŋò	*'He/she/it/they is/are beaten.'*	*Stative Middle*
éydóŋó	*'He/she/it beat it.'*	*Perfective Aspect, Singular Person*
éydóŋô	*'They beat it.'*	*Perfective Aspect, Plural Person*

And this systematic potential confusion can be found on almost any Class II stem. Thus, an incredible amount of systematic information is lost if tone is not written.

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