Preface

It has been almost 30 years since I wrote my thesis on Sicite tone. After completing the thesis, I returned to the village of Kotoura in Burkina Faso, where I continued to live for several more years, living and working among the Sicite people. This allowed me refine some of my understanding of the Sicite language through further research. Two articles have since been published in the Journal of West African Languages, one on the challenging analysis of a variety of mid tones in the language, and the other on the phonological structure of the Senufo word. The latter corrects some of my misconceptions of the vowel system that I had at the time I wrote my thesis. This work led to the development of the Sicite orthography which resulted in literacy programs and publication of literature in Sicite. I am so thankful to God to be able to contribute in a small way to the development of the Sicite language and proud of those who continue to teach and write and read in Sicite. In this way, the results of my research are not relegated to a little-read thesis for a few linguists, but serve the people as a whole.

Two people in particular have contributed to my further understanding of the Sicite language: Moussa Traoré, who served as my language assistant, and transcribed hundreds of pages in his language, and Zanga Lassina Traoré, who enriched his linguistics studies by researching in his own language and by directing the first literacy program in Sicite; my whole hearted thank-you to these two friends and colleagues.

One person and one institution have greatly contributed to ensuring continued access to the original thesis despite the fact that it was not officially published: My father, Leonard W. Garber, a computer programmer, created special characters so that I could write my thesis on the computer way back in the 1980’s. Since then, he updated the fonts and the software, and put it online on my personal website. And now Max Planck Institute has gone one step further by ensuring a longer on-line life and incorporating it into their Language Description Heritage library. I want to thank both of these people for making it available to the linguists who want to investigate the Sicite language both now and in the future.

Finally, I want to give special thanks to both of my parents, Leonard and Doris Garber, and my husband, Daniel Kompaore, my most faithful supporters and encouragers in my quest to share with others what I have learned.

Anne Garber Kompaoré
Ouagadougou, Burkina Faso,
October 28, 2014
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A tonal analysis of Senufo: Sucite dialect

Garber, Anne Elizabeth, Ph.D.
University of Illinois at Urbana-Champaign, 1987

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WE HEREBY RECOMMEND THAT THE THESIS BY

A. E. ELIZABETH GARBER

ENTITLED A TONAL ANALYSIS OF SENUFO:

SUCITE DIALECT

BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE DEGREE OF DOCTOR OF PHILOSOPHY

Charles W. Kisseberth
Director of Thesis Research

Charles W. Kisseberth
Head of Department

Committee on Final Examination:

Charles W. Kisseberth, Chairperson

Michael Kestemberg

† Required for doctor's degree but not for master's.
Sucite, a Senufo language of the Gur language group, is spoken in southwestern Burkina Faso. Its tonal system of three level tones and several contour tones exhibits a considerable number of complex alternations.

This dissertation provides a descriptive analysis of the tonal alternations in Sucite. With the help of the autosegmental approach and Clements (1981) system of tone features, we propose a double tiered approach to tonal analysis in the attempt to analyse the behaviour of the various types of Mid tone found in the language.

The dissertation consists of an introduction and six chapters. In Chapter 1, we provide a brief description of the sound system, the morphology, and syntax of Sucite. Chapter 2 describes the tone and morphology of the verb and introduces the concept of two tiers for tonal analysis. The discussion of noun tone and morphology in Chapter 3 brings to light the need to re-examine the accepted universal of associating tones to segments from left to right.

Chapter 4 is a description and analysis of the tonal behaviour of verbs and verbal particles when preceded by nominal and verbal elements of various tones. In Chapter 5, we examine how the nominal elements affect each other tonally within a noun phrase. Both tonal behaviour across word boundaries and tonal alternations within complex nouns are examined and analysed with the use of the double-tiered approach. In particular, this chapter highlights the need for several different types of underlying representations for Mid tone. Chapter 6
discusses the tonal behaviour of the adverb Phrase, question formation, and the
noun class clitic, the latter of which poses special analytical Problems.
Finally, the ordering of the tonal rules presented in the thesis is discussed.
Dedicated to
my friends in Kotoura
and to
the One who is always with us
ACKNOWLEDGEMENTS

This study would not have been possible without the cooperative support of numerous people.

My first expression of gratitude must be directed to my language consultants who gladly provided the data used in this thesis. Primary consultants have been Ouattara Nama (farmer), Traoré Mamadou de Katien (student), Traoré Mamadou de Katile (student), Traoré Issiaka de Katile (younger farmer), and Traoré Gnodjoutien (school teacher).

I wish also to thank my friend and co-worker, Gail Wiebe Toevs, for her companionship and for sharing with me her insights on Suicide during our years together in Burkina Faso.

The Commission on Overseas Missions of the General Conference Mennonite Church and the Africa Inter-Mennonite Mission are also to be acknowledged for kindly permitting me to pursue the research required for this dissertation, as their employee, and for providing a measure of financial assistance.

Thanks also go to the members of my committee for their comments and suggestions, in particular, to my advisor, Charles Kisseberth for patiently guiding me through the numerous revisions required for the thesis.

Finally, I wish to thank all of my friends for the support they provided during this long ordeal, as well as my sister, Carolyn, who typed much of the appendix and helped to prepare the maps in this thesis. Thank-you!
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INTRODUCTION

The subject of this dissertation is the study of the tone of Sucite (Sûcité), a Senufo language of southwestern Burkina Faso, investigated on location by myself between the years 1982 and 1985. This introduction first situates the Senufo languages as a whole both geographically and genetically before discussing the relation of Sucite with the other Senufo languages. It continues with a review of the linguistic research in various Senufo languages and ends with a discussion of why and how the subject of Sucite tone is to be presented in the thesis.

Classification of Senufo within the Gur language group

It has been widely acknowledged by authors such as Laverne de Tressan (1953), Greenberg (1966) and Westermann (1970) that the Senufo languages belong to the Gur group of the Niger-Congo language family. The Gur or Voltaic languages are located primarily within the basin of the Volta River between the Sahara Desert to the north and the tropical forest to the south. In terms of political boundaries, this area stretches "from the southeast corner of Mali, across northern Ivory Coast, through a large part of Upper Volta (Burkina Faso), northern Ghana, northern Togo, northern Dahomey (Benin) into Nigeria." (Bendor-Samuel, p. 141, 1971)

Senufo languages are located in the southwestern corner of this area, bounded to the west by Mande languages, to the south by Kwa languages, and to the north and east by other Gur languages. Their area is split among primarily three countries: Ivory Coast boasts the largest number of speakers (over 700,000) (Mensah, 1983), Mali comes close behind (600,272) (Atlas, 1981) and Burkina Faso has an estimated 100,000 speakers. Northern Ghana also has a few
isolated groups.

Senufo languages are typical of Gur languages in that they have a noun class suffix system and verbs are marked for aspect (completive and incompletive). In general, the consonant and vowel systems of Senufo languages do not have any particularly striking features.

There is a distinct divergence in word order, however. Where most Gur languages are SVO, Senufo languages are SOVAdv. A few other neighboring Gur languages in Burkina Faso, such as Toussain, also have this word order.

Tonally, there is no one common pattern throughout Gur languages. Samuel-Bendor (1971) notes, however, that a two-tone downstep system appears to be an areal feature cutting across Gur language divisions spreading into the Kwa group. This two-tone areal feature stops short of the Senufo languages. To both the east (southeast) and west of the two-tone set of languages, we find entire blocks of languages with systems of three level tones. The Senufo languages, which are located to the west of the two tone systems, as well as a few other miscellaneous Gur languages bordering on the Senufo area, possess three level tones. On the western side of Senufo land, there are a number of Mande languages which have primarily two discrete tones. If MiNiyanjia, a Senufo language, does actually have only two level tones, as has been reported, it may be due to a more prolonged contact with Mande languages in the far northwestern corner of the Senufo area.

In the far southeastern corner, on the other hand, we find two reported four-tone Senufo languages, Jimini and TakPer, which just happen to be in the vicinity of several four-tone languages of other language groups — Bet (Kru), Attié (Kwa), and Gban (Mande) (See adjoining map for location). Again, it appears that language contact may play an important role in the development of
LANGUAGE GROUPS

Key:

Political Boundaries: ---
Language Group Boundaries: ----
Language Boundaries: -------
Mande: M
Gur: G
Kwa: Kw
Kru: Kr
a language's tonal system. Further comparative studies in the tonal systems of West Africa could potentially yield very interesting insights as to why and how tonal systems change and shift through the centuries.

**Sucite as a SENUFO LANGUAGE (dialect?)**

Until the last couple of decades, Senufo language classification was primarily a matter of speculation. In a personal communication to Bendor-Samuel (1968), R. Mills divided up Senufo languages into three dialect groups and labelled them Northern, Central, and Southern Senufo. Bendor-Samuel (1971) apparently agreed with these divisions. Two recent publications, Mensah (1983) and Mills (1984) avoid these geographic labels, but they group the Senufo languages into roughly the same categories as R. Mills (1968), apparently allowing for more fuzziness between group boundaries. In certain cases, individual dialects have not been adequately investigated for accurate classification. Added to that, the complication of multiple names for a number of dialects creates a complex and, as yet, ill-defined linguistic group of languages.

Before my arrival in Burkina Faso in 1982, I only knew of Sucite as "Tagba." Lavergne de Tressan (1953) (and perhaps before him, Tauxier), includes Tagba in his list of 30 Senufo dialects. He had apparently identified two locations for Tagba, one in northwest Ivory Coast and the other in Burkina Faso. He gave no indication of what relation it had to other Senufo languages. I speculated that Tagba might be related to Supyire, the Senufo language directly to the west across the border in Mali. My hunch proved to be correct, as I later discovered. For not only were Tagba and Supyire closely related, but the real name for Tagba, Sucite, was a reflection of the close phonological
KEY:

A Cepiri  
B Pogara  
C Kasere  
D Gbonzoro  
E Tangara  
F Fodonon  
G Gbonzoro  
H Fantara  
I Pantara  
J Nafana (Bondoukou)
correspondence between the two.

Both SUPYIRE and Sucite belong to the northern grouping of Senufo languages. According to Mill's (1984) map, no distinction is made between the two dialects; both are under the same label, SUPYIRE. SUPYIRE is located in the Sikasso area of southeastern Mali. Sucite is an eastward continuation of SUPYIRE into Burkina Faso. According to legend, the Sucite-speaking people originate in Mali and the Sucite say they speak the same language as the SUPYIRE. In fact, some people in Burkina Faso call their language 'SUPYIRE' rather than 'Sucite'. Chance encounters between individuals of the two groups has shown that the two dialects are quite mutually intelligible.

When speaking to an outsider, a Sucite-speaking person will say he speaks Senufo or perhaps Bamana, as non-Senufo outsiders would call him. Another Senufo group to the south will call these people Ta9ba. The word Ta9ba is geographical in nature. The Sucite people live on the Ta9ouara Plateau. Sucite is what the people call their own language. Derived from the same root are the words 'sïcë' (person) and 'sòpìle' (people).

The Sucite-speaking people in Burkina Faso number approximately 25,000 (actual figure unknown). They are located in the Koloko Préfecture in the Province of Kénédougou about 110 kilometres west of Bobo-Dioulasso in southwestern Burkina Faso. According to authorities in Koloko, there are 32 villages, but this figure is not exact since a few villages are not Ta9ba, and at least one Ta9ba village is located outside the Préfecture.

The linguistic neighbours of Sucite are Nanérguë, a northern Senufo language to the north, SUPYIRE, to the west, and a Central Senufo language to the south known as Senar of Kankalaba (Prost, 1964). To the east and southeast are a number of small and diverse groups: Turka (Gur), Samogo (Mande), Dicula
LANGUAGES OF SOUTHWEST BURKINA FASO

Key: 1 in. equals approximately 10 miles

Sucite: * * Media: ♦ Turka: ▽ North Toussian: ■
Senari (Kankalaba): y Nativoro: ♦ Gouin: △ South Toussian: □
Senari: x Dioula: o Seme: ♦ Road: —
(Mande), and Siamou or Semé (Kru). The latter has eluded classification, though it has been suggested by Person (1966) that Siamou is an isolated Kru language.

After visiting 6 major villages in the area, my partner, Gail Wiebe and I chose to live in Kotoura, a geographically centralized village of approximately 2,000 people. A few civil servants and a couple of Dioula speaking families lived on the periphery of the village but otherwise the village was purely Senufo. The period of language investigation began on arrival on November 25, 1982, and continued until my departure on June 9, 1985.

Senufo Language Research

Before the 1950's, tone was not given any importance in Senufo studies. Cheron's (1923) description of Minyanka does not even mention tone. Prost (1964) acknowledges the existence of tones but makes no attempt at transcription.

Serious research of Senufo languages began in the mid 1950's when Conservative Baptist missionaries settled in the Korhogo area of northern Ivory Coast. Their earliest descriptions of Cabara (Mills, 1967) reflect their realization that tone was an essential part of this major Senufo language. To date, numerous articles may be found on a variety of Senufo dialects and three theses or dissertations have been written, one on Tyebari (Laughren, 1973), another on Nyarafolo (Boese, 1983), and a third on Fodonon (Boutin, 1981). In addition, at least ten languages/dialects are currently being researched. A single book has been published in recent years: Senufo Phonology (1984) by Elizabeth Mills. All of these resources, published and unpublished, have proved helpful in the analysis of the basic features of Sucite.

The analysis of tone, however, has never been given much space in all of
these works. Mills as well as a few others do describe the basic tonal patterns of the languages that they have investigated, but little attempt has been made at a rigorous analysis. Bob Carlson is the first, to my knowledge, to attempt a tonal analysis on a Senufo language. He has written an unpublished descriptive draft of Supyire tone, as well as the article "Downstep in Supyire" (1983). His most recent unpublished paper, Supyire tone (1985), is his first attempt at a more comprehensive analysis, although the scope of his paper does not allow him to present a thorough examination of all tonal behaviour.

**Purpose, Approach and Presentation**

The purpose of this research is to explore the tonal patterns of Suci-te, a dialect which has not previously been investigated. It is hoped that the presentation of these data will further the knowledge of the tonal behaviour of Senufo languages in general.

The scope of this study will be limited to the analysis of the simple non-complex sentence in Suci-te. Tone in complex sentence structure and discourse will not be dealt with in detail for reasons of time, space, and lack of sufficient data. However, preliminary observations indicate that tonal rules outlined in the dissertation are not contradicted in complex sentence structures.

Several theoretical tools will be used in the attempt to provide a satisfactory analysis. Firstly, the underlying tones that provide the basis for rules will have to be determined. Research into the possible historical process of tonal development with the help of Clements' proposed feature system, as outlined in Chapter 2, contributes towards this end.

Secondly, an autosegmental approach to tonal analysis will be undertaken.
However, it will be quickly seen that the autosegmental approach, as it has been generally applied with reference to tone, may require some modifications here. In Chapter 3, it will be noted that the assumed Association Convention of Left to Right Linking poses some problems. An alternative solution of Right to Left linking is proposed, discussed, and finally adopted.

In addition, with the help of Clements' proposed feature system, which involves defining tone through the use of both a primary register as well as a subregister level, we borrow some basic concepts from the recent developments in non-linear Phonology and propose a double tiered approach to tonal analysis. This concept is first introduced in Chapter 2, and is briefly discussed in Chapters 3 and 4, while a more thorough presentation of a double tiered approach for tonal analysis can be found in Chapter 5.

Finally it will be noted in Chapters 5 and 6 that rule ordering is crucial for the proper application of tonal rules. Certain lexical rules will have to take place before other rules such as rules spreading tones from one morpheme to another.

The Presentation of data will be organized according to chapter. The first chapter will present the basic facts about the Sibilite language, including preliminary information about tonal behaviour. The second chapter will examine verb tone and morphology, while Chapter 3 will focus on non-complex noun tone and morphology. Chapter 4 will examine how the tonal environment in which the verb or verbal particle is placed, affects their tone, while Chapter 5 will concentrate on tone in complex nouns and noun phrases. Chapter 6 will complete this description by describing the tonal behaviour of adverb phrases and of the sentence as a whole. The noun class clitic, whose tonal behaviour can alter tone in the sentence in unexpected ways, will be the focus of attention here.
NOTES

1. For a general survey of Gur languages, see Bendor-Samuel (1971).

2. A discussion concerning the historical implications of word order in Senufo can be found in "Word Order Change and the Senufo Language", Garber (1980).

3. For descriptions of Toussian, see Prost (1964) and Burdon (1984).

4. Eunice Pike, upon preliminary investigation, suggested that Minyianka has two level tones and one falling tone.

5. Information from Mensah (1983) indicates that Jimini is a four tone language. However, Mensah, himself, questions the reliability of his source, which, unfortunately, he does not name. Wolfgang Stradner, a linguist working on Jimini wondered if Jimini might be underlyingly a two tone language. To my knowledge, little serious analysis of tone has been undertaken in Jimini.

6. For a phonological description of Takper, a Tagbana dialect of Senufo, see Herault (1973).


8. The reader is asked to refer to the 'Bibliography of Senufo Languages' located at the end of this dissertation for a full list of published and unpublished material on Senufo languages.
CHAPTER 1 - BASIC FACTS ABOUT SUCITE

I. INTRODUCTION

Chapter 1 outlines the sound, morphological, and syntactic structures of the language so that the reader may examine data in succeeding chapters with some degree of familiarity. Information on tone is limited to outlining the phonetic tones found in Sucite and listing various tonal combinations on three-syllable words.

After describing basic morphological structures of nouns, pronouns, and verbs, the word order of the sentence is discussed in relation to where tonal alternations take place among its constituents. Although examples of tonal changes are given, the rules involved are left for thorough examination in subsequent chapters.

II. THE SOUND SYSTEM

A. Consonants

In terms of frequency, voiceless consonants are generally more frequent in Sucite than their voiced counterparts. The voiced double stop, /gb/ is also quite common. On the other hand, the voiced consonants, /b/, /d/, /v/, and /z/ are relatively rare. The reader will note in chart (1), the complete absence of the voiced velar stop, /gL. Carlson analyses the Supyire velar fricative as being underlyingly /g/. It is possible that the velar fricative in Sucite, /x/ is also underlyingly /g/. However, at this point in time, I have opted to continue using the symbol /x/ in the transcriptions. This velar fricative appears to be either voiced or voiceless depending on its phonological environment. It is never found in word initial position.
Below is a chart of the consonants found in Sucité.

(1)

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Plosive</th>
<th>Fricative</th>
<th>Affricate</th>
<th>Glides</th>
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<tr>
<td></td>
<td>p</td>
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</tr>
<tr>
<td></td>
<td>ny</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>l</td>
<td>x</td>
<td></td>
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<tr>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fricative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>nd</td>
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</tr>
</tbody>
</table>

Nasal m  n  ny  n
Lateral  l  r
Fricative  f  fh  s  x
Affricate  c
Glides  w, wy  y

Supyire, a Senufo dialect closely related to Sucite, has a number of attested Palatalized consonants. The chart above shows three such consonants, /fy/, /ny/, and /wy/. However, in Sucite, it appears that this feature is in the process of being lost. In the examples below, the Palatalized consonant version of the word freely alternates with a non-Palatalized version.

(2) a. lèxo ~ lyàxo  ‘to get old, incomplete aspect’
    b. mèsè ~ myàxà  ‘name’

A more thorough analysis will have to be made before the status of Palatal consonants can be determined.
The symbol /c/ represents the alveopalatal affricate [t].

1. Pre-nasalized Consonants and Consonant Clusters

There are numerous environments where a nasal consonant can be immediately followed by a stop or by an affricate. In all cases, however, these consonant clusters are found in morpHEME initial position. In some instances, these nasal consonants are derived. For example, the future tense verbal particle consists of sî + n. When a verb follows immediately after this verbal particle, the nasal causes Prenasalization of stops and affricates, and voicing of fricatives as shown below in (3).²

\[(3)\]
\[
a. \text{Pan} \quad \text{come} \quad \text{ndà sî mPan [bban]} \quad 'I \text{ will come}'
b. \text{kári} \quad \text{go} \quad \text{ndà sî nkàri [ggàri]} \quad 'I \text{ will go'}
c. \text{li} \quad \text{eat} \quad \text{ndà sî ndî} \quad 'I \text{ will eat'}
d. \text{já} \quad \text{to be able} \quad \text{ndà sî njà} \quad 'I \text{ can'}
e. \text{gba} \quad \text{drink} \quad \text{ndà sî mgba} \quad 'I \text{ will drink'}
f. \text{yîrî} \quad \text{get up} \quad \text{ndà sî njîrî} \quad 'I \text{ will get up'}
g. \text{so} \quad \text{buy} \quad \text{ndà sî zà} \quad 'I \text{ will buy'}
\]

Some nouns with a nasal initial consonant cluster appear to be derived from verbs which do not have an initial nasal. The speculation then, is that prefixing a nasal to a verb in effect, nominalizes it, as is shown in the example below.

\[(4)\]
\[
a. \text{li} \quad \text{ndî} \quad \text{eat} \quad \text{food}
\]

There are however, pre-nasalized nouns and verbs for which there is no
evidence that the initial nasal is derived. Some of these are listed below.

(5) a. mbúxí 'open, reveal'
    b. mpá 'protect, defend'
    c. mPůló 'hill'
    d. njidè 'tongue'
    e. nkànľé 'tooth'

What I call pre-nasalized voiceless consonants are not phonetically realized as such. In the consonant chart (1), in (3a and b), and in (5b, c, and e) above, their phonetic transcription is given as a double voiced consonants. Supyire cognates of these words actually possess a phonetic pre-nasalized consonant. However, in Sucite, these pre-nasalized voiceless consonants sound like a delayed release voiced stop. The nasal not being pronounced, one has the impression that it is swallowed or that the airstream through the nasal passages is somehow blocked, the pressure builds up in the mouth and is released only after the articulation of the stop, giving the effect of a fortis voiced stop or a lengthened or geminate voiced consonant. They contrast with voiced stops as well as with voiceless and pre-nasalized voiced stops. Below are two sets of minimal Pairs to illustrate this fact.

(6) bi 'they'  mbi 'flour'
    Půló 'body'  mPůló [bbůló] 'hill'

2. Stress and Consonants

Consonants alternate in such a way that while the majority of consonants are allowed in morpheme initial position, these same consonants are not allowed to begin subsequent syllables of the same morpheme. All pre-nasal consonants, most
stops such as p, t, k, d, g, the affricates c and j, and most fricatives, f, fy, s, v, and z, are restricted to morpheme initial position. In (7) are some examples of these consonants in word initial position. The nouns in (8) are composed of two noun roots; thus the above consonants can be found at the beginning of each noun root.

(7) a. ọdàrà-xà 'yam, indefinite'
   b. tànólà-xo 'to lengthen, incomplete aspect'
   c. sùxàrí 'to shake, complete aspect'

(8) a. sà-cà 'Person'
   b. sa-kà 'goat'
   c. ka-là 'wind'

On the other hand, there is a very small set of consonants that are allowed only in non-morpheme initial position. These are c, x, and the glottal stop, ʔ. Below are a few examples.

(9) a. ọgu-cà-xo 'smoke'
   b. tuxú-rà 'load' (from tuxo 'to carry')
   c. kànà 'village'

Certain consonants such as nasals, the voiced bilabial, b, and the lateral, l, can be found in both positions:

(10) a. lo?o 'water, indefinite'  fọlà 'owner'
     b. qa?ala 'twist, wind, writhe'  fàm 'tell a lie'
     c. Dà 'twin'  kànà 'lather, foam'

The nasal velar, D, is most frequently found in non-morpheme initial
Position.

It would be conceivable to suggest that those consonants allowed only in non-morpheme initial position are in complementary distribution with certain morpheme initial consonants. For example, ñ, which occurs in morpheme initial position, alternates with ç, which is never found in morpheme initial position. Likewise, ñ may alternate with ç or ç.

One may also suggest that stress plays a role in the distribution of consonants. Stress placed on the first syllable of the morpheme would then allow for the multiplicity of consonants, while consonants found in weakly stressed positions are more limited and tend to be the weaker versions of their stressed counterparts.

Evidence that stress is located in word initial position can be found in the behaviour of the noun class clitic, which, as will be seen later in Chapter 6, cliticizes to its surrounding environment. When the noun class clitic, ka, is found in sentence initial position, as can be seen below in (11a), it possesses a consonant allowed only in morpheme initial position. However, when the clitic is preceded by a verbal particle in the sentence as seen in (11b), its stop consonant is fricativized, which would be expected if its position is now considered to be unstressed.

(11) a. Stressed: ka tûxò 'carry it'
   it carry

b. Unstressed: waà xa tûxò 'he carried it'
   he-TA it carry

It must be noted that the clitic is the only morpheme that alternates between
stressed and unstressed consonants.

One might be tempted to suggest that instead of stress being a factor, the intervocalic environment of stop consonants leads to their fricativization. However, if one takes a second look at compound nouns (3), it is seen that the consonant of the second root of the compound does not undergo fricativization even though it, too, is in intervocalic position. Thus, the hypothesis that stress is a major factor of these particular consonant alternations is put forward. The matter of stress will be considered again briefly in the discussion of vowels.

B. Vowels

Sùciété has 7 vowels, all of which are very common to West African languages.

\[
\begin{array}{l}
\text{(12) } i \\
\text{ e } [æ] \\
\text{ o } \\
\text{ a } \\
\text{ u }
\end{array}
\]

All vowels can be lengthened and nasalized. A lengthened vowel is transcribed with two vowels:VV. Nasalized vowels are written as Vn. The 'n' of the nasalized vowel, however, can be sometimes confused with the 'n' in /ny/ or in any pre-nasalized consonant. For example the noun zànyà 'rains' is written in our transcription as zànyà. Written as such, it is impossible to know whether
the 'n' nasalizes the previous vowel, \( [z\-y\-] \) or whether the 'n' along with the adjacent 'y' form a palatal nasal, \( [z\-ny\-] \). Therefore, to avoid an ambiguous reading of \( z\-y\-y\- \), an apostrophe is inserted to indicate syllable division: \( z\-n'y\-y\- \). In addition, when a 'n' is preceded by a vowel and followed by certain stop consonants, ambiguity arises in trying to discern whether the 'n' belongs to the preceding vowel or the following consonant. The word \( \text{kàkonké} \) could be phonetically either \( [k\-k\-k\-k\-] \) or \( [k\-k\-k\-g\-g\-k\-] \). The former is correct. To distinguish pre-nasalized consonants from nasalized vowels a superscript 'n' will be used for the former only in the situations where ambiguity arises. Therefore, in (13a) no superscript 'n' is written for the nasalized vowel, whereas in (b), there is no nasalized vowel but rather a pre-nasalized consonant. In cases where there is no ambiguity, the 'n' will not be in superscript, as is shown in (13c).

(13) a. \( \text{kàkonké} \ [k\-k\-k\-k\-] \ 'cold, cough'
    b. \( \text{ka\-kur\-} \ [k\-g\-g\-ur\-] \ 'five'
    c. \( \text{nkànl\-} \ [g\-g\-àl\-] \ 'tooth'

The reader will also note the presence of the schwa in square brackets in the vowel chart. The schwa is found in two specific environments. In both instances, it appears that the schwa is in complementary distribution with some other vowel.

The first vowel of any morpheme can be any of the eight vowels given in the chart above. However, the vowel /i/ is quite rare in this position, while the schwa is quite frequent, leading one to the suspicion that the schwa may be an underlying /i/ which is centralized in certain environments. While data is not sufficient to complete an investigation on this issue, the items given below
seem to indicate that a high front vowel (as the first vowel of the morpheme) tends to remain fronted when located between two palatal or dental type consonants (14), while it tends to be centralized elsewhere (15):

(14) a. jide 'breast'
    b. ncile 'balaphone'
    c. tidà 'creeping vine'

(15) a. sakà 'goat'    farà 'excrement'
    b. sàcà 'person'  tabe 'medicine'
    c. bàlè 'seed'    také 'tree-DEF'

However, even if we could explain these apparent exceptions by phonological conditioning by adjacent consonants, we are still faced with the following near minimal Pair contrasting i and a:

(16) a. fale 'approach'
    b. filè 'beat (a floor)'

Phonetically, the latter is not a long vowel. Whether underlying vowel length has something to do with this contrastive Pair will be left for analysis at a later date. For the time being, schwas have been retained in transcription.

The second environment in which schwas are found is in the second or third syllable of a morpheme where the syllable concerned is not in word final position. Consider the examples below:

(17) a. tònìlako 'to lengthen, incomplicative aspect'
    b. kapàrìki 'fingers'
    c. faràm 'urine'
    d. fálàxà 'rock'
The example in (a) consists of a simple verb with an incomplete suffix. The first syllable contains the vowel /o/. The second vowel is a schwa. It is in the second syllable of the morpheme and it is not in word final position. The third vowel is not a schwa and it is in word final position. The example in (b) has two nominal morphemes along with a nominal suffix. Neither the first nor the second vowel is a schwa - both are the first vowels of their respective morphemes. The third vowel is a schwa and it is the second vowel of the second morpheme and is not in final position of the word. In all the other examples, the same pattern is repeated; there is always a schwa when the vowel is in non-word final and non-morpheme initial position. The choice of vowels preceding and following the schwa does not seem to be a factor for schwa formation.

There are at least two possible analyses for the schwa in this position. The first is to suggest that it is underlyingly /i/, as was suggested for schwas in morpheme initial position. However, since the structural environment seems to be such a crucial factor for schwa formation, it may also be suggested that the schwa could be underlyingly any vowel found in this position.

In order to pursue this argument, it is necessary to take a look at the general distribution of vowels in a simple, non-complex word. It appears that each morpheme is specified for a single vowel regardless of the number of syllables it possesses. If a morpheme has two syllables, the following vowel patterns emerge:

(18) i filé 'beat (a floor)  u fulo 'Push'
a fale 'approach'
e gbere 'be short  o gbàxɔ 'meet together, group'
c Pèrè 'sell'  o tɔnɔn 'dilute, draw out'
a bà?à 'accuse'
Although the above are all verbs, the same patterns can also be found for nouns. If a morpheme has three syllables, a similar, but slightly altered pattern emerges, this time involving a schwa.

(19) i no verbs u kūrānā 'stumble, bump into'
   a yarānē 'raise, straighten'
   e yērānē 'stop, transitive' o tōrāxō 'send, accompany'
   e wērānē 'bother, heat'
   a kārānā 'govern, translate'

In each case of the examples in (19), the medial consonant is a schwa. Phonetically this particular vowel is both reduced in length and centralized. Because both the vowel preceding and the vowel following the schwa share some of the same features, one may be led to the conclusion that underlyingly, the schwa also shares these same features. This underlying vowel then, is reduced to a schwa when the structural conditions for schwa formation are met.

In the discussion on consonants, it was suggested that stress occurred on the first syllable of each morpheme. It may also be conceivable to suggest that the information concerning vowel features is specified for the first vowel of the morpheme while subsequent vowels adopt these features, which then are modified through rules such as vowel reduction and centralization. Rules for this behaviour will not be formulated, however, because the issue of vowel behaviour is a little more complicated than is presented here, and a more thorough analysis needs to be presented. Suffice it to say, however, that schwas will be retained in the orthography for the presentation of data in this thesis.
C. Tone

On the surface, there are three levels of tone in Sucite, High ('), Mid (unmarked), and Low ('). Glides forming any combination of these three levels can be found in the language. However, the most common are High-Low (HL) and Mid-Low (ML). The issue of underlying tones is rather complicated and will be the focus of attention in the following chapters.

Tonal rules operate within words, and between components of a verb phrase or a noun phrase. Noun class clitics, postpositions, verbs, and verbal particles are especially susceptible to the tonal environment immediately preceding them.

The possible combinations of tone within a three syllable noun (disregarding the number of morphemes therein) are quite numerous, as shown below in (20). As will be seen later, the distribution of tones within individual morphemes is limited. In addition, tonal rules do block possibilities for certain combinations while engendering others.

(20) (Number in angle brackets indicates the number of tonally identical three syllable indefinite singular nouns found in a list of approximately 362 three-syllable nouns):

<table>
<thead>
<tr>
<th>Number</th>
<th>Tone</th>
<th>Meaning</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L-L-L</td>
<td>kàsàxà' war</td>
<td>&lt;12&gt;</td>
</tr>
<tr>
<td>2</td>
<td>L-L-M</td>
<td>kàsàke war DEF</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>L-L-HL</td>
<td>kàyilë compound</td>
<td>&lt;13&gt;</td>
</tr>
<tr>
<td>4</td>
<td>L-L-H</td>
<td>kàyilné compound DEF</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>L-M-L</td>
<td>gànaà packrat</td>
<td>&lt;1&gt;</td>
</tr>
<tr>
<td>6</td>
<td>L-M-M</td>
<td>kàcoxo enclosure</td>
<td>&lt;31&gt;</td>
</tr>
</tbody>
</table>

'Unless otherwise marked, all nouns given here are in the indefinite form. Those marked DEF are definite nouns.
<table>
<thead>
<tr>
<th>Line</th>
<th>Syllable Pattern</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>L-M-H</td>
<td>kàcoké</td>
<td>enclosure-DEF</td>
</tr>
<tr>
<td>8.</td>
<td>L-H-H</td>
<td>mpađexə</td>
<td>rib</td>
</tr>
<tr>
<td>9.</td>
<td>L-H-M</td>
<td>kàmòlu</td>
<td>ant</td>
</tr>
<tr>
<td>10.</td>
<td>L-H-H</td>
<td>nyàpsib</td>
<td>bundle of grass</td>
</tr>
<tr>
<td></td>
<td>L-H-H</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>M-L-L</td>
<td>nanàlù</td>
<td>fish (species)</td>
</tr>
<tr>
<td>12.</td>
<td>M-L-M</td>
<td>ñoluñe</td>
<td>chief, owner-DEF</td>
</tr>
<tr>
<td>13.</td>
<td>M-L-H</td>
<td>zanlùñë</td>
<td>kidney-DEF</td>
</tr>
<tr>
<td>14.</td>
<td>M-L-H</td>
<td>zanlùñë</td>
<td>kidney</td>
</tr>
<tr>
<td>15.</td>
<td>M-L-L-M</td>
<td>càntòñë</td>
<td>umbrella</td>
</tr>
<tr>
<td>16.</td>
<td>M-M-L</td>
<td>sbunæñë</td>
<td>wall</td>
</tr>
<tr>
<td>17.</td>
<td>M-M-M</td>
<td>funkýaxë</td>
<td>diarrhea</td>
</tr>
<tr>
<td>18.</td>
<td>M-M-H</td>
<td>funkýakè</td>
<td>diarrhea-DEF</td>
</tr>
<tr>
<td>19.</td>
<td>M-M-H</td>
<td>kuruñbà</td>
<td>matted overhang</td>
</tr>
<tr>
<td></td>
<td>M-H-L</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>M-H-M</td>
<td>gbañbàne</td>
<td>room of a house-DEF</td>
</tr>
<tr>
<td>21.</td>
<td>M-H-M</td>
<td>lañalàñe</td>
<td>butterfly</td>
</tr>
<tr>
<td></td>
<td>M-H-H</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>H-L-L</td>
<td>pùnvèxè</td>
<td>clay</td>
</tr>
<tr>
<td>24.</td>
<td>H-L-M</td>
<td>pùnvèkke</td>
<td>clay-DEF</td>
</tr>
<tr>
<td>25.</td>
<td>H-L-H</td>
<td>tàñvùñjë</td>
<td>stump of a tree-DEF</td>
</tr>
<tr>
<td>26.</td>
<td>H-L-H</td>
<td>tàñvùñë</td>
<td>stump of a tree</td>
</tr>
<tr>
<td>27.</td>
<td>H-M-L</td>
<td>tàpàdà</td>
<td>beam</td>
</tr>
<tr>
<td>28.</td>
<td>H-ML-M</td>
<td>sùñtùñë</td>
<td>quail-DEF</td>
</tr>
<tr>
<td>29.</td>
<td>H-M-M</td>
<td>kàñmèñë</td>
<td>dew</td>
</tr>
</tbody>
</table>
III. MORPHOLOGY AND SYNTAX

A. Nouns

As is the case with many Niger Congo languages, Senufo nouns and Pronouns are marked for class. This class marker is suffixed to the noun. The class marker not only conveys class affiliation but also definiteness and plurality.

The eight noun classes have been grouped into five genders, which include three singular/plural pairs and two mass/collective noun classes. Each class has two types of suffixing: Indefinite and Definite. Below is an example of each type for Gender 2 (Classes 3/4):

(21) a. 9ba-xa 'house' Indefinite (Singular) Class 3
    b. 9ba-ké 'the house' Definite (Singular) Class 3
    c. 9ba-ya 'houses' Indefinite (Plural) Class 4
    d. 9ba-nyé 'the houses' Definite (Plural) Class 4

Below is a noun chart showing the representative indefinite and definite forms for each class. Suffixes are underlined.
Although these nouns are representative of their respective classes, there are a substantial number of phonological alternations for each suffix, which will be described in Chapter 3. The complex tonal nature of nouns will be the topic of discussion in Chapters 3 and 5.

B. Pronouns

Each noun class has a general, emphatic, partitive, interrogative, demonstrative, and relative pronoun. The chart below provides a quick view of the shapes of some of these pronouns:

(23) Class 1 2 3 4 5 6 7 8

Clitic wu bi ka yi la ki ta ba
Emphatic wurà perà karà yirà larà kerà tarà parà
Partitive wà pi kà yà là ki tà pà
Demonstrative nga mpi nkà njì ndà nkí ntà mò
t Interrogative nga mpi nkà njì ndà nkí ntà mò
Below are examples of each Pronoun type. It must be noted that Pronouns (in particular, the emphatic and the demonstrative) can be understood best only in context of the discourse in which they are used.

(24) Clitic (functions as a Possessive, Reflexive or General Pronoun)
   a. \text{wu nyenăng} \quad \text{he is here}'
   b. \text{waa wë wëg} \quad \text{he him saw}'
   c. \text{waa wëvé gbëli} \quad \text{he injured himself}'
   d. \text{wu kaate} \quad \text{his meat}'

(25) Emphatic Clitic (also Referential)
   a. \text{wurà wë} \quad \text{'it's him}'
   b. \text{wurà kaate} \quad \text{'his (ref) meat'}
   c. \text{Ngà pari ya pari jubé káráne čen mèn}
      \text{but they-E Neg-T these-E words' meaning know not}
      \text{'But they did not understand the meaning of these words'}

(26) Partitive
   a. \text{mòlòne wë} \quad \text{'some rice'}
   b. \text{waa wë wëé} \quad \text{'he saw some'}
   c. \text{càrè wë ci nỳ̀n'än} \quad \text{'Some child was here'}

(27) Demonstrative
   a. \text{ndaà ngà so I this bought} \quad \text{'I bought this'}
   b. \text{ntà kaate} \quad \text{'this meat'}
   d. \text{ndi yà cen nkà mo ya mbirí mèn}
      \text{I Neg-T know what you T think Neg}
      \text{'I do not know what you are thinking'}

(28) Interrogative
   a. \text{nga tun wu yë} \quad \text{'who is it?'
There is also a class identifier, which surfaces in phrases, such as the following:

(29) a. nàà wi 'he's a man'
   b. nààne wi 'he's the man'
   c. nàmaa bi 'they are men'
   d. nàmaabi bi 'they're the men'

The tone of Noun class clitics is quite variable. In isolation or in sentence initial position, they are mid tone. Otherwise, they may be High, Mid, or Low depending on the tonal environment. (See p.35 for examples of tone variability and Chapter 6 for a tonal analysis of the noun class clitic.) The other Pronouns are more stable tonally.

**Personal Pronouns**

Below is a chart of the Personal Pronouns.

(30) ñde, ña 'I'       wùrì, wù 'we'
   mo, ma 'you,s.'   yìrì, yì 'you,pl.'
   wu 'he, she, it'   bi 'they'

The third Person Pronouns are the Classes 1 and 2 Pronouns.

**C. The Noun Phrase**

Súcíté, as well as other Senufo languages, creates a large number of words by compounding two simple nouns or by nominalizing a Noun + Verb expression.

In fact, the latter is quite Productive. Below are examples of each.

(31) a. kà-lò-xà thing + water + cl. 'shower room'
    b. ta-wa-xa Place + be dry + cl. 'desert, dry place'
    c. tò-pà-dà tree + spread across + cl. 'beam'
In these examples, the noun class marker is typically at the end of the word.

Noun + Adjective constructions are essentially the nominalization of the Noun + Verb and operate in the same way as the examples above. There seem to be very few real adjectives in Sùcîtè. The concepts normally handled by adjectives are found in stative verbs, as seen below.

(32) a. 9ba-kà lè 'the house is old'
    b. 9ba-lè-ke 'the old house'

The adjective 'good' may be one of the rare true adjectives. It cannot be accepted as either a noun or a verb in isolation. It is found only in adjectival or adverbial position.

(33) a. *kàa cènè 'it is good'
    b. *cènè wi 'it is Goodness'
    c. Pèn-cènè 'a good dog'
    d. waa Pèrè cèn-mi 'he sold well'

In Noun + Number constructions, each constituent retains its own noun class. Numbers belong to the 'wi' gender, i.e., Classes 1/2. As an indefinite (Class 1), it possesses no suffix (35a) while the noun which it modifies possesses the indefinite Class 4 suffix. In (b), both the noun and the number acquire the definite suffix of their respective noun classes.

(34) a. 9ba-ýi suunnì two houses, INDEF
    b. 9ba-nýi sùùnnà-né two houses, DEF

However, in Noun + Ordinal Constructions, there is only one noun class marker, which is located in word final position. Class is determined by the class of the noun.
In genitive constructions, constituents retain their own noun class markers. In the example below, the possessive noun is in Class 1, while the second noun is in Class 3.

(36) nàà-ŋə gba-ké    ‘the man's house’

Tonal ly, a string of nominal elements along with their suffixes operates as a unit. Each constituent is sensitive to tonal rules, which will be discussed later in greater detail. Below are a few examples of tonal perturbations within the Noun Phrase. The words on the left side of the arrow show the tone of the individual words as given in citation form, while the words on the right side of the arrow show what happens to the tone when the words are grouped together in noun phrases.

(37) a. nda kaâte    ---> ndà kââte    ‘my meat’

b. 9baYi suunnì    ---> 9baYi suunni    ‘two houses’

c. lûyô suûnnì    ---> lûyô suûnnî    ‘two creeks’

d. ntàrà + folà    ---> ntàràfòlg    ‘land chief’

e. mo folà    ---> mo fòlg    ‘your chief’

The Noun Phrase itself is not sensitive to the tonal environment surrounding it unless the Noun Phrase begins with a Noun Class clitic. This situation is discussed briefly on p. 34 and in detail in Chapter 6.
D. Verbs

The basic verb is obligatorily marked for aspect, either complete (Perfective, singular) or incomplete (continuous, Imperfective, plural). Bandor-Samuel (1971) suggested a singular - plural distinction for the two forms since the complete describes one complete, finished action whereas the incomplete describes a plurality or repetition of actions. In addition, he also pointed out (and this is true for Sordering) that the 'Plural' forms of the noun and verb are phonologically similar.

There also appears to be some transitivizing and activizizing suffixes, but the semantic load of verb suffixes has not yet been studied.

The complete form of the verb appears to have a zero morpheme. From the basis of this form, the incomplete aspect is derived. Tonally, an incomplete suffix varies according to the tone of the root. Segmentally, it can have a variety of shapes. The most common are '-i', '-ri', '-xo', '-ni', and '-li'. Some of these suffixes can have phonetic variants, to be seen in Chapter 2. There are also a few verbs which do not fit into any of these categories. Below are some examples showing these various suffixes:

(38) Complete

\begin{align*}
gbôxô & \quad gbôxô-i \quad \text{gather together} \\
cvè & \quad cvè-xo \quad \text{refuse} \\
kân & \quad kâ-ní \quad \text{boil} \\
và & \quad vû-li \quad \text{steal} \\
cù & \quad cû-rî \quad \text{catch, grab} \\
\end{align*}

The tonal nature of verbs is a topic reserved for discussion in Chapter 2.
The basic verb phrase consists of a verbal particle and a verb. The verbal particle contains information concerning tense, mode, and also aspect. As with other Niger-Congo languages, modal particles tend to have been verbs historically. Below are a few examples of tense and modal markers.

(39) a. wu à Pan → waà Pan 'he came'
b. wu nà Pan → wu nà Pàn 'he has come'
c. wu sî ba Pan → wu sî ba Pàn 'he will come'

he TAM come
d. wu sî Pan 'he will come'
e. wu sî kà Pan 'he will end up coming'

he TAM finish come
f. wu ya má 'he is coming'
g. wu sî da má. 'he will be coming'

he TAM come-incompl.
h. wu caa m 'he was coming'
he TAMM come-incompl.

Serial verbs or verbal chains are quite common in Sûcîtè, just as they are in many West African languages. In the examples below, the two verbs are separated by a type of connective which coalesces to the final vowel of the first verb.

(40) a. waa wà lâ-à Pan 'he brought it'

he-T it take- come
b. waa Pèrá-à kà 'he finished selling'

he-T sell- finish
Like the noun Phrase, the verb Phrase also operates as a unit tonally. If the verbal Particle and the verb are adjacent to each other, the tone of the Particle affects the tone of the verb. This is illustrated in the examples below.

(41) a. wu à Pan --> waà Pan 'he came'
b. wu ná Pan --> wu ná Pän 'he has come'
c. wu à kâri --> waa kâri 'he went'
d. wu ná kâri 'he has gone'

Unlike the noun Phrase, which, as a unit, is not affected by the tonal environment of the constituents preceding or following it, the verb Phrase is sensitive tonally to the noun Phrase which precedes. See (45) for examples of tonal variations on the verb Phrase, as well as Chapter 4 for a detailed analysis of these variations.

F. The Adverbial Phrase

The adverbial Phrase is located post verbally, and consists of a Noun Phrase + Postposition or Pronoun + Postposition. The tonal rules that operate between these two constituents are very similar to the rules that operate on the verb phrase. Below are a few examples:

(42) a. wu nye wu kâtoxà 'he is behind him'
b. wu nye mo kâtoxà 'he is behind you'
c. ka nye wu tàân 'it is beside him'
d. ka nye mo tàân 'it is beside you'
G. The Sentence

We have already talked about the noun Phrase and the verb Phrase as separate entities. In this section we will examine their location in the simple sentence and briefly discuss tonal phenomena that operate across phrasal boundaries. The basic word order is outlined below:

(43) Subject + Verbal Particle + Object + Verb Phrase + Adverb Phrase

\[ S(NP) \quad V.P. \quad O(NP) \quad VP \quad AdvP(NP+PP) \]

Tonally, nominal + verbal elements are grouped together as tonal units. A verbal element cannot be affected by the tone of a preceding nominal element, however. The linking in the illustration below demonstrates tonal sensitivity while the square brackets represent blocks to the application of tonal rules.

(44) [Noun P V.P.] [Noun P Verb P] [Noun P PostPosition]

The tone of verbal particles is affected by the tone of the noun subject. In addition, the tone of the verb is sensitive to the tonal nature of any word that precedes it whether that word is verbal or nominal. The examples below show various tonal variations of the underlined words.

(45) a. [Ndà sì] [mo wéé] 'I will look at you'

I fut you look at

b. [Ndà sì] [mo wéé] 'A man will look at you'

man fut you look at
c. [Ndà sì] [wa wéé] 'A man will look at some'

man fut some look at
d. [Ndà nà kári] 'A man has gone'

man Past leave
As mentioned earlier, a Noun Phrase is generally not sensitive to the surrounding tonal environment. However, if an NP begins with a noun class clitic, the clitic is sensitive to the tone of anything which precedes and as with any other noun, can also affect the tone of anything which follows, as shown below.

(46) clitic V.P. clitic Verb P clitic PostPosition

Below are examples which illustrate how the Presence of a noun class clitic or the lack thereof influences tonal changes on the sentence.

(47) a. wu à wu wëé -> waa wù wëé 'he looked at him'
b. wu ná wu wëé -> wu ná wù wëé 'he has looked at him'
c. wu à kàra wëé -> waa kàra wëé 'he looked at meat'
d. wu kàra wëé -> wu kàra wëé 'Look at his meat!'
e. wu à wu kàra wëé -> waa wù kàra wëé 'He looked at his meat'
f. wu ná kàra wëé -> wu ná kàra wëé 'he has looked at meat'
g. wu ná wu kàra wëé -> wu ná wù kàra wëé 'he has looked at his meat'
h. wu à wu kan nù-ùn -> waa wù kan nùùn 'he gave it to him'
i. wu à wu lù nù-ùn -> waa wù lù nùùn 'he took it from him'
j. wu à wu lù tònu-ù -> waa wù lù tònuù 'he took it from the father'
k. wu à wu lù wù tònu-ù -> waa wù lù wù tònuù 'he took it from his father'

If kàra, 'meat' is immediately preceded by the verbal Particle, it does not undergo tonal change. All other nouns behave in this way. However, if a noun class clitic is inserted, the tone of kàra is also affected. Any tonal changes
on the clitic can trigger tonal perturbations on the noun Phrase and verb Phrase elements which follow, as can be seen in the examples above. These phenomena will be discussed in greater detail in Chapter 6.

H. Negative Formation

The negative sentence is formed by inserting a negative morpheme immediately before the verbal particle and at the end of the sentence.

\[(48)\]
\[
\begin{align*}
\text{a. } & \text{wu à Pan } \rightarrow \text{waà Pan} \quad \text{he came} \\
\text{b. } & \text{wu Yi à Pan mén } \rightarrow \text{wu Yi Pan mén} \quad \text{'He did not come'} \\
& \text{he N T come N} \\
\text{c. } & \text{wu nà Pan} \quad \text{he has come} \\
\text{d. } & \text{wu Yi na Pan mén } \rightarrow \text{wì na Pan mén} \quad \text{'he has not come'}
\end{align*}
\]

As will be seen in Chapter 4, both parts of the negative morpheme can be affected by the tone of the preceding word. The negative particle, \(\text{Yì} \), can also affect the tone of the following verbal particle, while \(\text{mén} \) affects the tone of the Yes-No Question Marker.

I. Question Formation

Yes-no questions are formed by adding 'la' to any sentence.

\[(49)\]
\[
\begin{align*}
\text{a. } & \text{waà Pan} \quad \text{'he came'} \\
\text{b. } & \text{waà Pan la} \quad \text{'Did he come?'} \\
\text{c. } & \text{waà kàrì} \quad \text{'he left'} \\
\text{d. } & \text{waà kàrì la} \quad \text{'Did he leave?'} \\
\text{e. } & \text{ndà là} \quad \text{Me?'} \\
\text{f. } & \text{mo là} \quad \text{You?'}
\end{align*}
\]
As the examples above show, the tone of the Yes-no question marker, là, varies in relation to the tone of the preceding word.

Frontshifting takes place for WH questions. A Q marker 'yè' is also placed at the end of the sentence.

(50) a. Sán wasà kàri yè 'Where did he go?'
   Where he-T go Q
b. Sán wasà wù gbàrì yè [gbàrì] 'Where did he meet him?'
   Where he-T him meet Q
c. Nyàa wasa nyla yè [nya] 'What did he see?'
   What he-T see Q

A front shifted constituent is treated as an isolated tonal unit and therefore has no effect on the tone of the constituent which follows.

Frontshifting also takes place quite frequently in answers to WH questions.

(51) a. Sán mu ya sëè? 'Where are you going?'
   b. caanké la, ndi ya së 'I'm going to the market'
   market to, I am going

IV. SUMMARY

This chapter has been a sketch of the basic structure of Sucite. Those acquainted with Senufo languages will have recognized numerous patterns and structures typical of Senufo languages.

The inventory of Sucite consonants includes stops, fricatives, and laterals.
as well as pre-nasalized stops and palatalized consonants, which await further investigation. Seven vowels were isolated, while an eighth, the schwa, is tentatively considered not to have phonological status. However, not enough research has yet been done to clarify this point.

Both consonants and vowels appear to play a role in signaling stress on words. It was proposed that the first syllable of each word is stressed. This first syllable allows for the greatest variety of consonants, and it is also the position where a fully specified vowel appears to dictate the underlying vowel quality of the vowels in the remaining unstressed syllables of the word. Again, more research will have to be done on the relation between segmental behaviour and stress before any definite statements can be made.

It was also seen that there are three levels of tone, as well as two falling tones in Sucite. In sketching out sentence structure and word order, it was noted that nominal elements can affect the tone of following verbals but that verbals cannot affect the tone of nominals. The discussion concerning the topics of underlying tone, the distribution of tones in nouns and verbs, and the rules governing tonal changes in the sentence will be dealt with in succeeding chapters of this thesis.

NOTES

1. Whether these consonants are underlyingly palatalized or whether they consist of a combination of consonants is a matter that must wait until further research is done.

2. See Chapter 3 for nasal conditioning of consonants on noun class suffixes.

3. Transcriptions in this thesis do not always show a schwa in this position. Regardless of the transcription given, however, a vowel in morpheme medial position is always reduced in length and tends to be at least slightly central-ized. Further investigation with a language consultant should clear up these discrepancies in the transcriptions.
4. A significant number of disyllabic verbs possess a final /i/ instead of harmonizing with the initial vowel:

\[
\begin{align*}
\text{cèìì} & \quad \text{'spread out'} \\
\text{faanì} & \quad \text{'construct, build'} \\
\text{forì} & \quad \text{'go out, appear'}
\end{align*}
\]

5. There has been a question among those studying Senufo languages as to how to number and organize the noun class system. Those working on Cebara (Mills et al) have grouped singular and plural forms together, calling each grouping a class. Thus, the first three 'classes' contain both singular and plural forms and the last two contain mass and collective nouns. Because Mills set the precedent, a number of other people have followed their lead. Carlson adopted this system of organization but renamed the 'classes', 'Genders'. Recently, in a discussion with Mary Laughren, she suggested placing each singular and plural form in its own class and added that Jean Cauvin, who has written on Minyanka, a Senufo language, uses the same system. Carlson argues for his system in saying that there is not the mixing and matching of noun classes as is found in Bantu languages. In addition, he says that the singular and plural forms of each gender are closely linked and feels that the system used should reflect this intimate pairing of singulars and plurals.

One advantage of assigning a class number for each singular and each plural would be in capturing a certain generalization, to be seen in Chapter 3, that goes across the singular/plural distinction. Instead of discussing the singular indefinites and definites separately from the plurals, it might be more convenient to examine the singulars and plurals on the same level when discussing tonal and segmental behavior. The analysis would then not be referring to singular and plural forms but only to indefinite and definite suffixation of certain noun classes.

For the above reason, I have utilized the Laughren/Cauvin approach for analysis in Preference to Mills' and Carlson's. Chapter 1, however, does refer to Carlson's gender system when introducing Noun Classes.

6. Within the context of this dissertation, the term 'noun Phrase, narrowly refers to the string of nominal elements along with their suffixes.

7. The term 'verb Phrase' within the context of this thesis is meant to refer to a string of verbal elements only and not to the broader definition which also includes objects and adverbial Phrases.
CHAPTER 2 - THE SUCITE VERB

I. INTRODUCTION

In Chapter 1, we saw that verbs are marked for aspect. Segmentally, the completeive form of the verb is the basic stem, and the incompletive suffix is added to that stem. The first part of this chapter will provide a descriptive account of the morphophonology of the incompleteive suffix, based on a study of about 300 common Sucite verbs. The root tone of verbs sometimes changes when an incompleteive suffix is added. This study will also look at these tonal changes in an attempt to discover any general tendencies worthy of rule formulation. The possible underlying tone for the incompleteive suffix will also be discussed and tentative rules will be posited, though the analysis of a broader range of data is needed before definitive proposals can be made.

II. THE COMPLETEIVE VERB

A. Structural Description

The basic verb is composed of one, two, or three syllables with a limit of three Tone-bearing units. The following syllabic structures can be found on verbs:

1. CV
2. CVV
3. CVCV
4. CVVCV
5. CVCVCV

Any of these forms can be prenasalized in stem-initial position:

NCVCVCV ndúxáló 'smell'
There is also a small set of monosyllabic verbs that possess a diphthong in Phrase final position:

(2) fiù 'sProut' bié 'feed'
     Paon 'come' cie 'do'
     feo 'run' jíé 'wash'

A diphthong is not as long as a long vowel, and should be considered as a single Tone-bearing unit. Diphthongs imitate the tonal behaviour of verbs with short vowels rather than that of long vowels. As a result, it seems more feasible to consider them as having one Tone-Bearing unit rather than two. In the examples below, all of the verbs are High tone in citation form. However, when preceded by waa 'he-Recent Past', the disyllabic verb and the verb with the long vowel acquire a Low-High tone, while both the diphthongized verb and the verb with a short vowel acquire a simple Low tone.

(3) Verb Structure

CVCV Péré 'sell' waa Péré 'he sold'
CV: wée 'look' waa wée 'he looked'
CV lò 'take' waa lè 'he took'
CVV jíé 'enter' waa jìé 'he entered'

When a diphthongized verb is in Phrase medial position, the second vowel of the diphthong is lost.

(4) Paon waa Paon la 'did he come?'
     fiù waa fiù la 'did it sProut?'
     jíé waa jíé la 'did he come in?'
B. Tonal Description

Regardless of the number of syllables or tone-bearing units (TBU's) it may have, a verb in isolation has a choice of only three different tone patterns: High, Mid and Low. Underlyingly, there are no contour tones of any type. The examples below show the verbs in the imperative form.

(5) 1 TBU 2 TBU's 3 TBU's
a. H ló 'take' péřé 'sell' cúlāŋš 'be healthy'
b. M sā 'buy' tuxo 'carry' fuxari 'rummage'
c. L tē 'show' tuxi 'vomit' kārāŋa 'govern, turn'

It appears then, that only one tone need be specified for each verb. This tone would be placed on a tier separate from the segment, and be linked to all of the TBU's of the verb. Thus, as shown in the example below, there is a single High tone at the autosegmental level which can be linked either to a single TBU or to a multi TBU verb.

(6) ló 'take' péřé 'sell' cúlāŋš 'be healthy'

H H H

Mid tone and Low tone verbs can be described in the same way. The underlying nature of the Mid tone itself will be discussed later in this chapter.

III. THE INCOMPLETEIVE VERB

A. Structural Description

The Incompletive form of the verb is derived by suffixing to the basic Completive form of the verb. There are five basic types of incompletive suffixing from which, I propose, other types of suffixing are derived.
The first and most popular type is simple VOWEL SUFFIXATION. On verb stems with a single TBU, the high vowel suffix (let us suppose that it is underlyingly \( i \)) assimilates to the root vowel in terms of backness, then the final root vowel is raised to the level of the suffix vowel. However, if the root vowel is \( a \), then the suffix is lowered to \( a \). There are three exceptions to these descriptive rules. Below are three illustrations of the implementation of these rules, each followed by a short list of verbs which behave in the same way. The verbs in the first column are completive forms of the incompletive verbs, which are in the second column.

(7) \( fô \ + i \ \longrightarrow \ fô \ + ā \quad \text{'flow'} \) BACKING

\( fô \ + ā \ \longrightarrow \ fû ā \quad \text{RAISING} \)

a. \( nô \) \( nûn \quad \text{'draw a bow'} \)
b. \( kû \) \( kûn \quad \text{'finish'} \)
c. \( kûn \) \( kûn \quad \text{'cut off'} \)

(8) \( wê \ + i \ \longrightarrow \ N/A \quad \text{BACKING} \)

\( wê \ + i \ \longrightarrow \ wî \quad \text{'look'} \) RAISING

a. \( bî \) \( bî \quad \text{'feed, raise'} \)
b. \( fîn \) \( fîn \quad \text{'flower'} \)
c. \( kên \) \( kên \quad \text{'moan'} \)

exception: suffix lowering and partial raising

d. \( tê \) \( tê \quad \text{'show'} \)

(9) \( kà \ + i \ \longrightarrow \ kà \quad \text{'chew'} \) LOWERING

a. \( cà \) \( cà \quad \text{'look for, search'} \)
There is one small category of single syllable verbs where vowel raising or lowering takes place, but there appears to be no suffixing as such, or if there was, the suffix was deleted after the raising or lowering rule.

(10) Vowel Raising

a. se  si  "give birth, be born"
b. fo  fu  "emigrate"
c. jo  yu  "speak, say"
d. to  tu  "fall"
e. li  lí  "eat"
f. tí  tí  "weave, braid"

(11) Vowel lowering

a. Pan  má  "come"
b. yá  yá  "be sick, ache"

Disyllabic verb stems with two TBU's can also be suffixed by the High front vowel, -a. The final vowel of the root is then totally assimilated to the suffix vowel.

(12)a. saxe  sàxi-i  "wait"
b. tare  tàri-i  "grind"
c. célé  céli-i  "divine"
In Chapter 1, it was suggested that only the first vowel of a non-complex word is stressed and specified for features, while any subsequent vowels derived their shape from the first vowel. In the examples of (12), it appears that when the incomplete suffix is added to the verb stem, the unstressed second vowel adopts the features of the suffix vowel instead of from the stressed root vowel.

We have seen the behaviour of vowel suffixing on single TBU and double TBU verbs. Triple TBU verbs also have their distinct mode of behaviour. Instead of a high front suffix vowel, however, the final vowel of the verb root is replaced by the high back vowel, \( \text{\textasciitilde} \). This category includes not only verbs with three syllables (see (14)) but also any verb with three TBU's, such as disyllabic verbs with long vowels (13). Double TBU verbs whose second syllable begins with a nasal also belong to this group (15).

(13) Long-short verbs

| a. c\textasciitildennri | c\textasciitilde\textasciitildenn-\textasciitildeu | 'resolve, choose' |
| b. f\textasciitilde\textasciitilde\textasciitilde\textasciitildel | f\textasciitilde\textasciitilde\textasciitilde\textasciitilde-\textasciitildeu | 'balance' |
| c. f\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitildenn | f\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde-\textasciitildeu | 'be clean' |
| d. c\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitildelu | c\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde\textasciitilde-\textasciitildeu | 'belch' |
(14) Short-short-short verbs
a. ce7el cè7el-u 'insult, laugh at'
b. cèlènè cèlènè-ú 'heal, be healthy'
c. fùxàrì fùxàr-ú 'frighten'

(15) Final nasal syllable
a. Pàni pàni-u 'spin'
b. kàñà kàñ-u 'lather'

The suffix -u never occurs after the consonant, x. Rather it appears to be lowered to g.

(16) a. jàxì jàx-x ò 'sharpen'
b. wùráxì wùráx-ó 'mix up, mistake'
c. kàláxì kàláx-ó 'spoil, be spoiled'

This subcategory of verbs provides evidence for the fact that Su'a verbs allow, at the most, only three vowels or three tone-bearing units on the verb. If the incompleteive suffix is added, this restriction remains in force, and consequently the suffix replaces the final vowel of the verb with the -u suffix instead of adding a final vowel. In fact, this is the only type of suffix allowed on triple TBU verbs. At this point, I will not discuss whether the underlying form of the incompleteive vowel suffix is -i or -u.

The second type of suffix is -xo.

(17) a. lè lè-xô 'be old, get old'
b. Pèn Pèn-xô 'be unhappy, disgusted'
c. cvè cvè-xô 'refuse'
d. lîlî lîlî-xô 'be far, go far away'
Note that this suffix can be added to verbs with one or two tone-bearing units.

The third suffix, -LI, has been identified on single TBU roots.

(18) a. yé yé-li 'steal'
    b. kù kù-li 'die'

There is a certain set of verbs which exhibit a -DI suffix. From the examples given below, the reader will note that all of them have disyllabic verb roots and that these roots all end in /i/.

(19) càrì ———> càdi 'sneeze'
    pànì ———> pàdi 'lose'
    sìlì ———> sídi 'begin'
    tèxì ———> tèdì 'Place, Put'

Rather than suggest that -DI is a completely different suffix, one may speculate that it is underlyingly a -LI suffix. Two bits of evidence rally in support of this proposal. First of all, there are no examples of a disyllabic verb root acquiring a -LI suffix on the surface, while monosyllabic roots acquiring a -DI suffix do not exist. Thus, it is possible that these two suffixes are in complementary distribution. Secondly, there is evidence that -DI was derived from the deletion of the final /i/ and the coalescence of the final root consonant with the suffix consonant. In Chapter 3, it is seen that the coalescence of the /i/ of a noun root and the /l/ of a certain noun class suffix,
results in ɗi: cere + le --> cede 'calabash'. Although the mechanics of coalescence on verbal suffixes may be a little different than that on nouns, since a larger variety of final verb root consonants are involved, this example of coalescence on a noun does provide evidence that l→d in certain phonological environments.

The fourth type, -NI, is added only to single TBU roots. There are 25 verbs which use the -ni suffix. Of these, 17 possess nasal stems possibly indicating that the nasality of the suffix is conditioned by the nasal in the stem (20). The other eight show no evidence of nasality in the root (21).

(20) a. son sò-ni 'worship'
    b. tun tò-ni 'send (someone)'
    c. kàn ká-ni 'boil'
    d. no nò-ni 'bite'

(4 of 17)

(21) a. Pu pù-ni 'swell'
    b. wu wù-ni 'Pour, spill'
    c. su sù-ni 'defecate'
    d. tó tò-ní 'close, bury'

(4 of 8)

If the -ni suffix were a result of nasal conditioning, then one would have to seek out the underlying suffix. One likely candidate is -li. A complicating factor is the presence of -ni suffixed verbs like those in (21) that have no trace of nasality in the root. Although it is possible that they were historically nasal, there is no evidence as yet that this was the case or that synchronically, a l→n rule can be motivated². In addition, there are numerous
cases of co-occurrence of a nasalized vowel with ı in Suclte, where the ı is not nasalized. Below are a few such examples of completive verbs:

(22) kanla 'uproot' 
    finlɛ 'incline' 
    faanla 'flatter'

The fifth type of suffixation for the incompletive aspect is -RI.

(23) a. k6 k6-rI 'draw (water)'
    b. kun kun-rI 'crunch (in eating)'
    c. cù cù-rI 'catch, grab'
    d. j6 j6-rI 'swallow'

Most of the disyllabic verbs which take the -RI suffix have the final syllable of -xi or -2v in the completive form. In each case, the final syllable of the completive verb is replaced by the suffix, -RI, as shown below.

(24) a. s6-xi s6-rI 'burn'
    b. mbù-xi mbù-rI 'open'
    c. mbù-xi mbù-rI 'suck'

(25) a. so-so-rI 'cook'
    b. lâ-7â lá-rI 'return, go back'
    c. wa-?a wa-ri 'dry'
    d. ye-ri ye-ri 'call'

There is also a set of verbs whose completive and incompletive forms are identical segmentally. The common characteristic is that they each end in a
high vowel, ū or ĭ.

(26) a. sìili sìli 'be strong'
    b. cèli cèli 'shiver'
    c. nòè?ìn nòè?ìn 'stir'
    d. kùlu kùlu 'roll'

There are only a couple of suppletive examples.

(27) a. kàrì sè 'go'
    b. gbó kúlí 'kill'

Finally, there are a few verb forms where the completive and incompletive forms are obviously phonologically related to each other, but each pair stands in a class of its own. These have been grouped together below.

(28) a. lòxó ndùrú 'hear, listen'
    b. wùlò mùù 'Pick up, take off, from'
    c. tànìà tààn 'Please'
    d. nyèli nỳìnì 'cry'
    e. Pan má 'come'

In summary, it appears that all types of incompletive suffixing is characterized by the presence of a high vowel. In most cases, this vowel is ū, but it was seen that triple TBU verbs require the vowel, -û. There are only a few exceptions to this general statement.

Although the structure of a particular verb may limit it to a restricted set of suffixes, there seems to be no clear phonological rules conditioning the choice of incompletive suffix. The choice seems to be primarily arbitrary, and
with a few phonological constraints. It must be noted that other Senufo languages display an equally confusing variety of incompletedive suffixes. Comparative study may possibly shed some light on this problem.

It remains clear, however, that the number of tone-bearing units in the stem has a bearing on what type of incompletedive suffixing is available to that verb. Where monosyllabic stems have access to all the types of suffixing described above, disyllabic stems cannot use the -ni suffix, and all stems with three tone-bearing units (trisyllabic and long-short disyllabic verbs) are entirely limited to Vowel Suffication.

B. Tonal Behaviour of the Incompletedive Verb

1. The Underlying Tone of the incompletedive suffix

Although there are a variety of segmental shapes for incompletedive suffixes, the one feature that links them all together is tone. Regardless of the type of segmental suffixation, the incompletedive suffix is always High tone after a high tone verb, and Mid tone after Mid tone verbs.

(29) COMPLETEDIVE INCOMPLETEDIVE

| a. Péfé | Péfé-í 'sell' |
| b. ta-ßa | ta-çi 'Put (on fire)'

When the incompletedive suffix is attached to a Low tone verb, it is generally Mid tone, as the underlined suffixes in (30) indicate.

(30) wú ya tùx-í la (he is vomiting Q) 'Is he vomiting?'
    wú ya xá kà-an mò (he is it giving you-to) 'He is giving it to you.'
    wú ya xá kà-an nànu (he is it giving man-to) 'He is giving it to the man'
However, if the Low tone incompletive verb is followed by a noun class clitic (as in (31b,c)) or is in Phrase final position (31a), the tone of the suffix is lowered to Low tone.

(31) a. wu ya tuxi-1 -> wu ya tuxi 'he is vomiting'
b. wu ya xà-kà-an ngà -> wu ya xà kà-an ngà 'he is giving it to him'
c. wu ya tuxi-1 wà la -> wu ya tuxi wà la 'he is vomiting on it'

Depending on the tonal environment, then, the incompletive suffix can be High tone, Mid tone, or Low tone.

Before trying to determine the underlying tone of the incompletive suffix let us observe the behaviour of incompletive suffix tone in Cebara, a major Senufo language in the Ivory Coast.4

In Cebara, the underlying tone for the incompletive suffix is High after Low and High tone verbs, but Mid after Mid tone verbs.

(32) Completive Incompletive Sucite English
Low tone kpàli kpàli gbèli, gbèllî wound, injure
Mid tone nyaari nyaari nyèri, nyèru walk, stroll
High tone Párá Párá pérè, pérî sell

(Mills, 1967?)

If we look at Cebara, we see that High tone follows Low and High tone verbs. This leads us to suspect that the underlying tone of the suffix is High tone. If historically, the indefinite suffix was High tone in Senufo languages in general, then it may be possible that this suffix is also underlyingly High tone in Sucite. However, positing an incompletive High tone for the Sucite incompletive suffix, would require an explanation of how this High tone was lowered to Mid and, in certain cases, to Low tone.
One possible way to account for high tone lowering after low tone is to trigger a low tone spreading rule, stated as follows:

\[(33)\] LOW SPREADING - When a low tone is followed by a high tone across a morpheme boundary, the low tone spreads to the right.

\[\text{X} \bigg\downarrow \text{L H}\]

The following example illustrates this spread:

\[(34)\]  

\[
\begin{array}{c}
\text{X} \\
\bigg\downarrow \text{L H}
\end{array}
\]

\(\text{tu} \text{x} \text{i} \text{i} \text{-i} \quad \text{vomit}\)

If the verb is in non-phrase final position, both high and low tone will remain linked to the suffix vowel. Since, generally a low-high contour is not pronounced on a single tone-bearing unit, this contour is simplified on the surface and becomes mid tone (see (30) for examples). High does delink after low tone spread only when the verb is in phrase final position or before noun class clitics*1. This low spread and high delinking is illustrated in the examples below.

\[(35)\]  

\[
\begin{array}{c}
\text{L H} \\
\bigg\downarrow \text{L H}
\end{array}
\]

\(\text{wu ya tu} \text{x} \text{i} \text{i} \text{-i} \# \# \quad \text{He is vomiting}\)

\(\text{L SPREADING} \quad \text{HIGH DELINKING}\)

\[(36)\]  

\[
\begin{array}{c}
\text{L H H} \\
\bigg\downarrow \text{L H H}
\end{array}
\]

\(\text{wu ya tu} \text{x} \text{i} \text{i} \text{-i} \text{w} \text{u} \text{l} \text{a} \quad \text{He is vomiting on it}\)

\(\text{LOW SPREAD} \quad \text{HIGH DELINKING}\)

*Only those words whose tones are relevant to the discussion at hand will be marked for tone at the autosegmental level. Their final surface tone will be indicated by the tone diacritics above the words.
Although we cannot proceed with a thorough analysis at this stage, we can already see that the High delinking of (36) is a result of a combination of Low tone spreading from the left and the High tone noun class clitic on the right. High delinking appears to be a way of decontouring a Low-High glide linked to the same TBU when a High tone follows or when it is in Phrase final Position. The proposed rule would be stated as follows.

(37) HIGH DELINKING - Delink a High tone which is preceded by a Low tone linked to the same TBU, and followed by a High tone linked to the following TBU or is in sentence final position. 

\[
\text{\begin{tabular}{c}
\hline \\
\text{L} & \text{H} & \text{H} \\
\hline \\
\text{##} \\
\end{tabular}}
\]

By positing an underlying high tone for the in completive suffix, the above analysis can easily account for the tonal behaviour of the suffix after High and Low tone verb stems. We are forced, however, to look for another explanation for why this putative High tone suffix is Mid tone after a Mid tone verb stem, rather than the expected High tone:

(38) *ta-ri 'be putting' Rather: ta-ri

What is the nature of Mid tone verbs that allows for this apparent anomaly? Do Mid tone verbs have a final floating Low tone that triggers Low tone spread onto the suffix? Or is the underlying tonal nature of the suffix something other than a Pure High tone? These questions cannot be fully answered until more data are presented. Later in Chapter 6, we shall see that the tonal behaviour of the noun class clitic and the in completive suffix is very similar. An analysis of the underlying tone of the clitic in Chapter 6 will show that this apparent peculiarity is not just restricted to the in completive suffix.
Before terminating this discussion, however, we must take a look at the root tone changes that take place when the incompletive suffix is added.

2. Root Tone Mutations in the Incompletive Verb

What has not been stated so far is that verb root tone often changes when an incompletive suffix has been added. The diagram below illustrates the root tone changes from completive to incompletive. The thickened lines indicate the most common tonal changes. The changes represented by the thin line account for 12 or 13 verbs each of the 300 in the corpus. For example, only 12 or 13 Mid tone verbs retain their Mid tone root when an incompletive suffix is added. The broken lines represent only 3 verbs each.

(39) Complettive tone                Incompletive root tone

The tone of High tone and Low tone roots normally do not change when the incompletive suffix is added:

(40) High tone

Férfi   Férfi-i   'sell'

célf   célfí   'divine'
The first striking observation is that **most** Mid tone verbs are lowered to Low tone when an incompletive suffix is added.

(42) a. waà sa la? 'he bought?'  
   b. wu ya múu la? 'he is buying?'  
   c. waà fuxàri la? 'he rummaged?'  
   d. wu ya fuxàru la? 'he is rummaging?'  

saxe  sàx?i  'wait'  
tare  tàrìi  'grind'  
cùnùnù  cùnùnù  'resolve, choose'  
ce?e?elu  cè?e?elu  'insult, laugh at'  
jòxì  jòxì  'sharpen'  
sòni  sòni  'worship'  
tùni  tòni  'send (someone)'
In fact, those Mid tone verbs that do not undergo root tone lowering are in a
definite minority and fall into distinct phonological categories, as will be
seen shortly.

Although Carlson (n.d.) did not identify root tone lowering as a common
result of incompletive suffixing in SuPyre, he did note that a number of Mid
tone verbs acquired the behavior of Low tone verbs in the incompletive. In
Cebara, no mention has been made of Mid tone lowering. In Sucite, however, Mid
tone lowering is so regular that some attempt must be made to account for the
change.

It is not known whether the tonal nature of the suffix has something to do
with the Mid tone Lowering, or whether the tonal structure of a Mid tone verb
itself lends itself to tone lowering whenever any suffix is added, regardless
of its tonal structure. Most likely, the tonal nature of both the root and the
suffix play a role in root tone lowering. If we look ahead to the tonal
behavior of suffixed nouns, we will see that root tone lowering takes place
only in the presence of a particular type of suffix as shown in (43b).

(43) a. ii-le 'balaPhon -IND' Class 5 Suffix
    b. ii-xale 'balaPhon-s-IND' Class 5 Suffix

If we suggest that the tonal nature of the suffix calls for root tone
lowering, we are forced to ask why and how. At this point, it is quite unclear
that a synchronic solution can be found to account for this root tone lowering.
For now, we shall call root tone lowering a tonal mutation. A mutation is a
phenomenon which occurs at the point that words are formed but before the
application of other tonal rules. Mid tone verbs which undergo the mutation of
tone lowering behave exactly like Low tone verbs, once the lowering has taken
place. This means that the incompletive formation of a Mid tone verb usually
first consists of Mid tone lowering, and then the adjusting of the tone of the incompleteive suffix in accordance with the fact that the verb root is now Low tone.

(44) $s\overset{\mbox{\tiny M\rightarrow L}}{\longrightarrow} \overset{\mbox{\tiny L\rightarrow H}}{\longrightarrow} \overset{\mbox{\tiny H\rightarrow LH}}{\longrightarrow}$ 'be buying'

While most verb roots maintain High and Low tone on verb roots when the incompleteive suffix is added, and lower Mid tone in this same environment, there is a small set of verbs where a Low tone root is raised to High tone in the incompleteive, while the Mid tone verb root remains Mid except in one or two cases, where it is also raised to High tone. Below is a list of the verbs which follow these Patterns:

(10)a. se si give birth, be born
b. fo fu emigrate
c. jo yu speak, say
d. to tu fall
e. lì lí eat
f. tì tì weave, braid

(11)a. Pan má come
b. yá yá be sick, ache

(23)a. kó kórí draw (water)
b. kún kórí crunch (in eating)
c. cù córí catch, grab
d. jò jòrí swallow

(24)a. só-xí só-rí burn
b. mbú-xí  mbú-rí open  
c. mbú-xí  mbú-rí suck  

(25) a. so-ro so-ri cook  
b. lá-ró lá-ri return, go back  
c. wa-ra wa-ri dry  
d. ya-ri ya-ri call  

(18) a. yú yúlí steal  
b. kú kúlí die  

The common characteristic of all these verbs is that they have monosyllabic, single tone-bearing roots. Even those verbs with disyllabic completive forms appear to be actually monosyllabic roots with a type of completive suffix that is replaced by an incompletive suffix (see (24) and (25)).

This set of exceptions is apparently quite old in Senufo because Cebara produces the exact same type of behaviour. In fact, the tonal correlation between the two languages for this set of exceptions is much higher than for the 'normal' tonal behaviour of incompletive suffixation. See examples of normal incompletive suffixation for Cebara in (32) above. Below are examples of the exceptional set of verbs in Cebara, along with the Sucite equivalents:

(45) Cebara          Sucite          English  

lǐlì, lìlì     lì, lì     eat  
lùgù, lùrù     ndùxì, ndùrì     Plant  
mùgù, múrù     mbùxì, mbùrì     suck  
tìgì, tìrì (Mills, 1967?)  tàxì, tèrì     descend  

It is instructive to note that non-lowered Mid tone verbs are found only
in this irregular group of verbs. Therefore, the problems discussed above for the behaviour of the incompleteive suffix tone after Mid tone verbs should not complicate the analysis of the underlying tone of the incompleteive suffix if we consider the incompleteive suffixation of non-lowered Mid tone verbs as irregular along with the raising of Low tone verbs to High tone.

Unfortunately, time and space do not allow for a more rigorous study of this type of tonal behaviour which raises Low tone verb roots to High tone and prevents the normal lowering of Mid tone verb roots to Low tone. With the present data, there appear to be some definite tendencies for tonal change based on syllable type and a particular type of incompleteive suffixing. The precise reasons for this deviation remains obscure, however, forcing us to remain at the descriptive level of the analysis. With this in mind, the Low Raising rule is posited below.

(46) LOW RAISING

When a single TBU verb root acquires an incompleteive suffix of the shapes, \( \emptyset \), -\( ri \), or -\( li \), High and Mid tone verbs generally retain their root tone, while Low tone roots are raised to High:

\[
\begin{align*}
L \rightarrow H/ & \quad \text{\( \emptyset \) suffix} \\
[X] & \quad \begin{cases}
-\text{\( ri \)} \\
-\text{\( li \)}
\end{cases}
\end{align*}
\]

root

In contrast, when a single TBU verb Possesses a Vowel suffix or the -\( ni \) suffix, the verb root tone follows the normal Pattern of lowering of the Mid tone root instead of raising a Low tone root to High tone.
IV. HISTORICAL SPECULATIONS AND TONAL FEATURES

Examination of these root tone mutations reveals one common tendency. In both the group where Mid tone lowering takes place, and the group where Low Raising occurs, the three way tonal distinction found in the completive is reduced to two tones in the incompletive. The largest group, which involves Mid tone lowering, distinguishes between High and Low tone, while the second, 'irregular' group contrasts High and Mid tone. There are no examples of a High or Low tone verbs mutating to Mid tone in the incompletive. As a result, the vast majority of incompletive verbs are either Low tone or High tone.

These observations lead us to speculate that historically, the Sucite tonal system may have evolved from a two tone system. Other evidence supporting this possibility can be found by examining minimal pairs. There are numerous minimal pairs that contrast High and Low tones as well as High and Mid tone verbs, but tonal pairs contrasting Mid and Low tone are relatively rare.

(47) a. High vs. Mid (15 of 28 minimal pairs in 300 verb corpus)

- fí 'grill'    fo 'blow, winnow, swell'
- fó 'flow, drip' fo 'emigrate'

b. High vs. Low (10 of 28 minimal pairs)

- mbûxî 'open'    mbûxî 'suck (an orange)'
- màni 'assemble, add'    màni 'light, plaster'

c. Mid vs. Low (3 of 28 minimal pairs)

- yiri 'call'    yiri 'get up'
- kûli 'gather'    kûli 'shave'

No minimal tonal triplets have been found for verbs. Below is near minimal triplet:

(48) tûxî 'dig'    tuxo 'carry'    tûxî 'vomit'
The same can be found for nouns; no Mid versus Low minimal Pairs have been attested. In addition there are many more High tone verbs than Mid or Low tone verbs (135 vs. 95 vs. 71 in a data sample of about 300 verbs).

This could mean that in the distant past, there was no tonal contrast between the Mid tone and Low tone, and as a result, the lexicon did not develop minimal Pairs.

It has been proposed by numerous authors throughout the years that Proto-Niger-Congo was a two tone language. Proto-Bantu, it has been suggested, was also two tone. Clements (1978) suggests that the agglutinative character of many Bantu languages may have been a factor in their trend toward an accent type system while isolating languages tended to retain the tonal distinctions and even to allow for proliferation of tonal contrasts. In West Africa, there are two, three, and four tone languages. It was noted in the Introduction that Senufo dialects have primarily three tones, while a few appear to have two or four tones. The possibility that Senufo may have evolved from a two tone system seems plausible in the light of proposals given by other linguists familiar with African languages.

The way that a three or four tone system may have evolved from a two tone system has been the object of study by various authors. Maddieson (1974) discusses the possible motivations for tonal change or 'tone-splitting', as the historical proliferation of tones is often termed. These include "the downdrift model" in which he suggests that "new constrastive tone levels" evolve "as a result of the superimposition of intonational patterns, such as downdrift" (p. 29), the "sandhi model" where tone sandhi rules can trigger Permanent lowering or raising of tones, and the "Phonation type' model" where tonal
change was triggered by segmental factors, such as certain types of consonants.

In discussing the 'tone sandhi' model, Maddieson invites us to "imagine how a language with two basic tone levels but with a tendency for high tones to be somewhat lowered when a low tone follows and for low tones to be somewhat raised when a high tone follows could develop into a language with four tone levels if the conditioning environment was lost or absorbed. This is essentially the kind of process that is sketched for Fe?Fe? by Hyman (1972) and for Dschang by Tadadjeu (1974). A merger of the raised low and lowered high tones into a mid tone could result in a three-level system evolving from an earlier two-level one."

(49) Maddieson: $h \rightarrow$ lowered $h \rightarrow ml$

$1 h \rightarrow$ raised $1 h \rightarrow mh$

Another type of tone splitting was suggested by Dwyer (via Maddieson): "Dwyer (1973:248-250) has suggested that Southwestern Mande did develop a third contrastive tone when the complementary distribution of mid and low phonetic levels in disyllabic nouns was 'spoiled' by the borrowing of low-low nouns from Northern Mande, and the distribution of the three tones does still largely reflect the earlier complementarity." (p.30)

(50) Dwyer: Southwestern Mande

$H$

$L / M$

$L + Low tone loanwords$

From Anderson (1978) we find that Stalhke notes that the four level Igede tone system "seems to have developed from an original two-level system, by the splitting of each level into two distinct registers" (p.171).
Clements' (1981) formalization of tonal features (as a revision of YiP's (1980) theory) reflects the theory of historical tone-splitting. First, he notes that in certain dialects of Ewe, the High, Mid, and Low tones do not stand in symmetrical relationship to each other. Rather the Mid and Low tones "alternate in highly productive patterns while neither tone alternates productively with the High tone." (p.57). This, Clements demonstrates, can be reflected in a system of tonal features which consists of two primary registers which can be split to create systems of three or four registers. "Thus, we could say, (in synchronic terms) that the Ewe system involves a split of the lower register into a higher and a lower subregister, normally designated as "Mid tone" and "Low" tone, respectively." (p.57) Clements represents the Ewe low tone split as given below:

(52) Clements: Ewe - three way split

\[ \begin{array}{c}
\text{h} \\
\text{l} / \text{h} \\
\text{l} / \text{l}
\end{array} \]  

(p.58)

A four tone system would naturally involve the splitting of both the high and low tone registers.

(53) Clements: four way split

\[ \begin{array}{c}
\text{h} \\
\text{l} / \text{h} \\
\text{l} / \text{h} \\
\text{l} / \text{l}
\end{array} \]
Studies in other languages such as Lendu (Trifkovic, 1977) have led to hypotheses that three tone and four tone languages evolved from two tones through the process of tone splitting. This tone splitting may have come about through the process of productive tone alternating rules developing into phonological tonal contrasts and through the introduction of loan words that helped to establish new tonal levels. The implications of these historical developments for synchronic analysis can be seen in Clements' proposed tonal feature system.

Clements integrates this tonal features proposal into the framework of autosegmental phonology by placing the features in rows. The top row includes the tones of the primary register, while the bottom row consists of tones assigned to the "subregister within the primary register defined by the entry in the first row." His representation of a M-H-L tonal sequence in Ewe is given as follows:

\[(54) \begin{array}{c}
1 & h & 1 \\
\hline
\hline
h & \dagger & 1 \\
\hline
1 & \dagger & \dagger \\
CV & CV & CV
\end{array}\]

The features above indicate that Mid tone is a result of a split of the Low tone register. The High tone register, on the other hand, did not undergo a split, and thus is represented only by a single feature given in the top row.

In Sucite, we have suggested that Mid and Low tones may have had a common origin, thus leading us to opt for the notion of a historical tone splitting of the Lower tone register. The feature system proposed by Clements then predicts that Mid tone as found on the verb will be represented by the features \(\text{L} \downarrow\) and Low tone with \(\text{L} \downarrow\). For purposes of reading ease, the primary register tone is
represented by a capital while the subregister tone is indicated by a small letter. In addition, instead of placing the two rows of features above the segment, the features will be placed below the segments with the primary register tone closer to the segment than the subregister tone, as shown below.

\[
\begin{array}{c|c}
\text{CVCV} & \text{CVCV} \\
\hline
L & L \\
\text{h} & \text{l}
\end{array}
\]

Previously we proposed that the underlying tone of the incompletion suffix was High tone. Since, at this point, there is no apparent tone splitting of High tone, the single feature, L, is sufficient. If the Mid tone verb, being analysed as underlyingly LH, is followed by a H suffix, it could potentially trigger the Low tone spreading rule, since the Low tone spreading rule has no tone specified on the subregister tier of the Low tone (see (33)). Theoretically, then, either LH or LL tones could spread onto High tone as shown below.

\[
\begin{array}{c|c}
\text{X} & \text{X} \\
\hline
\text{L} & \text{H} \\
\text{L} & \text{H} \\
\text{h} & \text{l}
\end{array}
\]

The possible consequence of LH tone spreading onto a High tone is the formation of a Mid-High contour tone on the suffix. This, unfortunately, is not an acceptable tonal shape for the incompletion suffix. If, however, we allowed a LH verb to spread onto a High tone suffix, but then motivated a rule deleting the subregister high tone, the correct surface form would be produced. In addition, this process would help to explain why a Mid tone verb is lowered to High tone before a High tone suffix. Below we see an example of this suggested

\[
\begin{array}{c|c}
\text{X} & \text{X} \\
\hline
\text{L} & \text{H} \\
\text{L} & \text{H} \\
\text{h} & \text{l}
\end{array}
\]
Procedure.

(57)  \[ su - \ddagger \rightarrow su - u \]  'be buying'

<table>
<thead>
<tr>
<th>[ \quad ]</th>
<th>[ \quad ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>H</td>
<td>H</td>
</tr>
</tbody>
</table>

L SPREAD  H DELETION

If historically, Ll and Lh were one single tone, capable of spreading onto high tones, then even after the splitting of the Low tone register, it is conceivable that this spreading continued to occur, but that it required subregister High tone deletion.

It will be seen, in Chapter 4, however, that Lh spreading onto High tone is not allowed across word boundaries, and it can be permitted across morpheme boundaries of a noun and verb only if subregister High tone deletion takes place. These limitations will suggest that only those Low tones not specified on the subregister tier for High tone can trigger Low tone spreading. Once evidence of this problem is presented, adjustments to the Low tone spreading rule will be made.

An alternative analysis is to motivate a rule deleting the subregister High tone of a Lh verb. Once this subregister High tone is deleted, the Low tone then spreads onto the following High tone as shown below.

(58)  \[ su - \ddagger \rightarrow su - u \]  'be buying'

<table>
<thead>
<tr>
<th>[ \quad ]</th>
<th>[ \quad ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>H</td>
<td>H</td>
</tr>
</tbody>
</table>

H DELETION  LOW SPREAD

Thus, if for some lexical reason, the subregister high tone is blocked from
deletion, Low tone spreading is also blocked from application. The importance of ordering the High Deletion rule before Low tone spreading will be made more clear in the following chapters since at this point, sufficient evidence is lacking.

The subregister High tone deletion rule can be tentatively stated as follows:

\[(59) \text{SUBREGISTER HIGH DELETION: Delete the subregister High tone of a Lh tone when it is followed by a High tone.}\]

\[
\begin{array}{c}
X \\
L \\
h
\end{array}
\begin{array}{c}
X \\
H
\end{array}
\]

As has already been noted, this rule applies to the majority of Mid tone verbs. However, the small group of Mid tone nouns which do not lower to Low when followed by an incomplete suffix do not allow for the application of the High deletion rule.

V. CONCLUSION

In summary, then, the posited four rules are listed below.

(46) Low Raising
(59) Subregister High tone Deletion
(33) Low tone Spreading
(37) High Delinking

We have already suggested that High Deletion must take Place before Low
tone spreading, so that those Lh verbs which have undergone High deletion can also trigger Low tone spreading. Low Raising, likewise, must take place before Low tone spreading but for the opposite reason: it must block Low tone spreading from taking place. In other words, both the High Deletion and the Low Raising rules are tone feature changing rules which affect the application of the Low Spread rule. The final rule, High Delinking, was seen to take place as a result of the Low Spread rule and therefore is obligatorily ordered after the Low Spread rule.

The major question addressed in this chapter was how to analyse a Phonetic Mid tone in Sucite. Clements' tone feature system was proposed along with the suggestion that Mid tone was an historical split from Low tone, citing as evidence the small number of Mid versus Low tone minimal pairs, as well as the rather productive alternation of tone between Mid and Low tone. According to Clements' system then, the Sucite Mid tone verb is underlingly Lh tone.

There are other possible analyses for the Mid tone, however, that need to be considered here. One possibility is that the Mid tone is underlingly toneless. If this is the case, then Mid tone would be assigned to the toneless segments at some point in the derivation. In addition, a rule assigning a Low tone to toneless segments which are followed by a High tone incomplete suffix would have to take the place of the Present High Deletion rule. This is a potentially plausible hypothesis for the Sucite verb. However, it will be seen, as data is presented in later chapters, that this hypothesis runs into serious problems.

A second alternative hypothesis is that Mid tone verbs are underlingly a contour tone consisting of a Low and High tone. These Low-High tones would then be simplified to Mid tone on the surface. The trouble with this analysis is
that theoretically, a disyllabic Low-High verb should have a Low tone linked to the first TBU and the High tone linked to the second TBU. In actuality, there are no such Low-High verbs. Mid tone verbs are Mid tone in completive form regardless of the number of tone-bearing units. Therefore the hypothesis that the Mid tone verbs are underlyingly Low-High tone cannot be accepted as a viable analysis.

We are left, then with our original analysis that Mid tone is a split from the Low tone, with its features given as Lh. Later chapters will reveal other types of Mid tones found on nouns and verbal particles which require differing analyses.

NOTES

1. It is possible that these medial nasals were historically tone-bearing or syllabic, and as a result still retain the type of suffixing required for triple TBU verb forms.

2. In skimming the verb list in the appendix, the reader will note that nasals on pre-nasalized consonants occur on both disyllabic and trisyllabic verbs. At this point, it does not appear that pre-nasals on verbs are tone bearing or syllabic, thus a verb with three TBU's can also allow a pre-nasalized consonant.

3. A l→n rule can possibly be motivated elsewhere in the language. In Chapter 3, where a distinction is made between noun roots with nasalized vowels and those with a proposed underlying final nasal consonant, the latter is seen to cause nasalization of the l, where the former does not. It is possible that the verbal suffix, -ni, is derived from -li in the same way. However, at this point, not enough research has been done to permit such a definitive proposal.

4. In his writings on Supyi re, Carlson gives very little attention to the tone of the incompletive verbs. From his descriptions and data, it appears that, according to him, there is no generally no change in tone between the completive and the incompletive forms.

5. It should be noted here that noun class clitics vary tonally themselves. They can be High, Mid, or Low tone depending on the tonal environment. After High tone verbs, clitics are always High tone, and they are also High tone after incompletive Low tone verbs. For more information concerning the tonal nature of the noun class clitic, the reader is asked to refer to Chapter 6.
CHAPTER 3 - THE NOUN

I. INTRODUCTION

The preceding chapter dealt with the morphology and tone of the verb. The examination of the tonal behaviour of the verb and the incomplete suffix yielded several tentative rules. It will be seen in this chapter on the noun that some of the tonal behaviour identified on the verb is also found on the noun. For example, it was proposed in Chapter 2 that the low tone of the verbal root spread onto the high tone of the completive suffix. Likewise, it is proposed in this chapter that certain nominal suffixes which are high initial are lowered to mid tone through the process of low tone spread. Another point of similarity is the fact that nominal roots with certain types of tone lower to low tone when followed by a particular kind of high initial suffix, just as mid tone verbs lower to low when followed by the high tone incomplete suffix.

Other issues in this chapter concern the melodic nature of the noun and a complication in applying the Association Convention of Left to Right Linking. The matter of linking tones to segments is further complicated by the structural behaviour of certain nominal suffixes. One nominal suffix which, depending on several factors, can undergo various types of segmental deletions, poses problems for the relinking of tones which have lost their segments to deletion. These and other issues, such as the underlying tone of the various nominal suffixes, will be the focus of discussion in this chapter. The discussion of the underlying tone of the nominal roots themselves will, however, have to wait until Chapter 5 where a fuller discussion of the noun phrase as a whole will enable one to examine nominal tonal behaviour in the context of the phrase.

This chapter will first survey the general morphological and tonal structure of nouns as well the different types of nominal suffixing found in Sucite. It
will then examine each type of suffix, providing a descriptive account of its segmental behaviour before describing and analyzing the tonal behaviour.

A. Noun Structure

Non-complex noun roots are normally composed of a noun root and a suffix. Noun roots are either monosyllabic or disyllabic and contain, at the most, two vowels. The syllabic sequences allowed on noun roots are noted below:

(1) a. CV jə 'son'
   b. CVCV folə 'owner, chief, head of ...
   c. CVV əl 'Python'

The initial consonant of a noun root may be pre-nasalized.

   d. NCV ndə 'food (from 1ə 'to eat')
   e. NCVCV əgura-xo smoke-suffix (from wə 'to blacken')

B. Noun Classes and Suffixing

All nouns in Sucite are grouped into noun classes which are most frequently marked by a suffix. There are 8 noun classes in Sucite, three singular, three plural, and two mass / collective classes. Each class has an indefinite and a definite suffix. For the purposes of analysis, these classes are grouped into two categories (labeled Type I and Type II), according to the phonological shape of the indefinite suffixes. Below are examples of definite and indefinite nouns for each noun class with the suffixes being underlined.


Sucite nouns exhibit nine different tonal patterns. All except one can be found on Class 1 nouns with a 0 suffix. The ninth, Low-High tone, can be found only on nouns that possess a class suffix.

(3) High <6>  wérf  'money'
    High-Mid <16>  fyáa  'fish'
    High-Low <5>  j9  'Pocket'
    Mid <42>  gba  'river'
    Weak Mid <39>  caan  'market'
    Mid-Low <7>  cong  'younger sibling'
    Mid-Low W <42>  jà  'son'
    Low <77>  cà  'child'
    Low-High <22>  gbón-là  'granary'

Although there are a variety of tonal shapes on nouns, word final tone is

*< > = number of examples in a data sample of simple non-complex nouns of all classes.*
either High, Mid or Low tone. It will be seen later in Chapter 4 that each of these three tones affects the following verbal element in different ways. On the surface there are also only three levels of tone word initially. However, it will be seen in Chapter 5 that the initial tone of nouns exhibits a four way contrast. The labels, High, Mid, Weak Mid and Low represent this four-way contrast, which becomes evident when the noun in question is preceded by another nominal in a noun phrase.

There are three types of High initial nouns, High, High-Mid, and High-Low. Although all of these nouns can trigger tonal rules, their own tone never changes. Almost all High and most High-Low nouns are loan words. High-Mid nouns seem to be more indigenous to Senufo'. One characteristic of the latter is that they seem to require two tone bearing units. Altogether High initial nouns account for only 27 nouns in the data sample of about 255 nouns. The question that immediately comes to mind is, why such a small number? This question will be dealt with in Chapter 5 when we discuss the underlying tone of nouns.

A distinction is made between weak Mid nouns and Mid nouns because, although they have the same pitch in citation form, they differ in tonal behaviour in other contexts. The weak Mid nouns as well as the Mid-low W nouns, are more susceptible to certain tonal changes than are Mid and Mid-Low S nouns. This will be made clear in Chapter 5.

There are two types of Low initial nouns, Low and Low-High. Low tone nouns form the largest group in the data sample (about 77 nouns). Low initial nouns are subject to a High Spreading rule, which will be described and discussed in chapter 5.

Since most nouns possess a suffix of some type, further discussion of nominal tone can be found in section II.B.
II. THE INDEFINITE SUFFIX - TYPE I

A. Structure

As was mentioned above, there are two types of indefinite suffixes. Type I indefinite suffixing is the simplest. Its basic form is -CV. The consonant varies according to class affiliation (See chart (2) above) and the vowel is either the same or very similar to the vowel of the noun root, regardless of class affiliation. The only vowels not allowed on the suffix are the high vowels, /i/ and /u/. It appears, from looking at the examples below in (4), that the suffix vowel is essentially a copy of the root vowel except when the root vowel is [+high], at which point the suffix vowel is [-high], but it acquires the same feature for [+ or - back] as the root vowel (see (4f, g) below). The only feature that seems to be consistent for the Type I suffix vowel, then, is the [-high] feature.

(4) a. gba-xV -> gba-xa 'house'
    b. cën-xV -> cën-xe 'sauce'
    c. gbôn-lV -> gbôn-lə́ 'granary'
    d. fô-xV -> fô-xò 'corn'
    e. kà-rV -> ka-rà 'meat'
    f. sô-lV -> sô-lə́ 'floor'
    g. ci-lV -> ci-lə́ 'thigh'

Whether the Type I class suffix vowel is underlyingly featureless or whether it does possess the [-high] feature is an issue that cannot be fully addressed here, within the scope of the thesis. However, investigation of the data in the Noun Lexicon, which is located in the appendix, will reveal the patterns of behaviour very briefly sketched above.
All the nouns of Noun Classes 1, 3, 4, 5, 7 and 8 possess the Type I indefinite suffix. As was mentioned above, the basic shape of the suffix is -CV. However, not all Type I nouns bear this basic shape. Some appear to have no suffix at all. The left side column of chart (5) indicates that three classes have examples of suffixless nouns. While only the minority of nouns in Classes 3 and 8 are suffixless, the majority of Class 1 suffixes are in this group. One possible reason for this is that the -CV suffix for Class 1 nouns, -wV, was historically reduced to a vowel and then finally deleted. However, at this stage, there is no evidence of an earlier -wV suffix on most suffixless Class 1 nouns (but see discussion of disyllabic noun roots, p. 79). Because there is no apparent indefinite suffix on this set of nouns, it is difficult to ascertain at this point to which class they actually belong. However, in chart (90) in section IV, on the definite suffix, class affiliation is made clear by the Type of definite suffix used.

(5) Monosyllabic Noun Roots

<table>
<thead>
<tr>
<th>Class</th>
<th>Suffix</th>
<th>-CV Suffix</th>
<th>-(N)CV Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl.1</td>
<td>jà 'son' &lt;33&gt;**</td>
<td>ce-wà 'woman' &lt;1&gt;</td>
<td>cèn-nà 'antelope' &lt;1&gt;</td>
</tr>
<tr>
<td>Cl.3</td>
<td>nà 'fire' &lt;3&gt;</td>
<td>tè-xè 'place' &lt;33&gt;</td>
<td>wye-nè 'leaf' &lt;25&gt;</td>
</tr>
<tr>
<td>Cl.4</td>
<td>0</td>
<td>tè-yè 'Places'</td>
<td>wyen'yè 'leaves'</td>
</tr>
<tr>
<td>Cl.5</td>
<td>0</td>
<td>ci-lè 'thigh' &lt;37&gt;</td>
<td>sc-ne 'sting' &lt;5&gt;</td>
</tr>
<tr>
<td>Cl.7</td>
<td>0</td>
<td>su-rò 'main dish' &lt;19&gt;</td>
<td>kòò-nò 'cotton' &lt;1&gt;</td>
</tr>
<tr>
<td>Cl.8</td>
<td>juu 'speech' &lt;2&gt;</td>
<td>te-be 'medicine' &lt;1&gt;</td>
<td>sa-mè 'millet beer' &lt;10&gt;</td>
</tr>
</tbody>
</table>

** Numbers in angled brackets indicate the number of like examples in the data sample of simple non-complex nouns, represented by the word in the chart. For example, jà <33> means there are approximately 33 monosyllabic Class 1 nouns, in a lexicon of about 255 simple monosyllabic and disyllabic nouns.
There is another set of nouns which have primarily nasal indefinite suffixes. Although data on Definite suffixing (see chart (90)) provides clearer evidence for class affiliation, the right side column of chart (5) provides examples of nasalized indefinite suffixes for each class. What seems to be happening is that there exists a set of noun roots which possess a final underlying nasal consonant. When this consonant is followed by an indefinite suffix it assimilates to the indefinite suffix, which in turn, becomes [+nasal]. The two coalesce and become a single nasal consonant, as shown in (6) below.

(6) fuN-xV -> fuN-xV -> fuN-xV -> fuN-xV -> fuN-xV -> fuN-xV 'inside'

Since there is no such thing as a word that ends in a nasal consonant in Sucite, it may be debatable whether one can posit an underlying nasal consonant in these cases. An alternative analysis is to suggest final nasalized vowels, which are indeed plentiful in the language. However, the examples below, (7), indicate that nasalized vowels apparently do not trigger the nasalization of indefinite suffixes:

(7) a. cœn-xe 'sauce' *cœn-xe

b. 9bon-l₃ 'firePlace' *9bon₃

For this reason, we propose that it is an underlying final nasal consonant which causes the nasalization of indefinite suffixes. Further research needs to be done, however, on the nature of nasality in Sucite.
Disyllabic roots follow the same Patterns of suffixation. The reader will recall that the types of consonants allowed on unstressed syllables (i.e. non-initial syllables) are extremely limited. As a result, the consonants allowed on the second syllable of nouns are restricted to the ones given below in Row a. of chart (8). Noun roots which are terminated by a nasal are given in Row b.

(8)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>r-VN</th>
<th>r-VN</th>
<th>x-VN</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>-l-</td>
<td>-r-</td>
<td>-u-</td>
<td>-x-</td>
</tr>
<tr>
<td>b.</td>
<td>l-VN</td>
<td>r-VN</td>
<td>r-VN</td>
<td>x-VN</td>
</tr>
</tbody>
</table>

Cl. 1 a. folà (22) | sàru (10) | fỳèxà (2)  
'owner' | 'bee' | 'earring'  

Cl. 2 a. gbàlà-xà (7) | gbàlà-yè (7)  
'well' | 'wells'  

Cl. 3 a. gbàlà-xà (7) | gbàlà-yè (7)  
'well' | 'wells'  

Cl. 4 a. gbàlà-xà (7) | gbàlà-yè (7)  
'well' | 'wells'  

Cl. 5 a. kù-dà (14) | sà-nà (1)  
'chair' | 'large basket'  

Cl. 6 a. kòdà (2)  
'dance'  

Cl. 7 a. kòdà (2)  
'dance'  

Cl. 8 a. no examples  

b. ferà-mè (2)  
'urine'
A couple of Class 1 disyllabic roots shown in chart (8) have a final high backed vowel. It was mentioned earlier that the proposed underlying suffix for Class 1 is -wV, which, in many cases appears to be totally deleted. In the examples given above, however, it appears that the -w- of the suffix may have caused the raising of the final root vowel before being deleted, as shown below:

(9) sárv-wV \( \rightarrow \) sáru-wV \( \rightarrow \) sáru 'bee'

In Class 3 of chart (8), the noun roots that possess a glottal stop appear to have no suffix. It is possible that the suffix coalesces with the glottal-ized syllable, resulting in a single syllable (kán?á - xà \( \rightarrow \) kán?à). When the root is marked for a final nasal, this coalescence does not take place:

(10) mën?èN - wV \( \rightarrow \) mën?èNè *mën?è 'stories'

Class 5 (11) has a number of nouns where the second syllable of the root is underlyingly -LV. However, the consonant of this second syllable coalesces with the suffix consonant, -LV, producing a surface -d-.

(11) kùrv - LV \( \rightarrow \) kur -LV \( \rightarrow \) kùdò 'chair'

We know that there is an underlying -r- by looking at the Plural class (Class 6) of this group of words. The indefinite Plural of 'kùdò' is 'kòra-lo'.

### B. The Tonal Nature of Indefinite Nouns - Type I

In isolation, the Type I indefinite noun has the following tonal patterns:

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Examples in data</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Key</td>
<td>( )</td>
</tr>
<tr>
<td>Class number</td>
<td>(L)</td>
</tr>
<tr>
<td>Loanword</td>
<td>( )</td>
</tr>
<tr>
<td>Syllables</td>
<td>( )</td>
</tr>
<tr>
<td>Number of</td>
<td>( )</td>
</tr>
<tr>
<td>examples</td>
<td>( )</td>
</tr>
</tbody>
</table>

- **High**
  - 1 syllable: 'money (L)'
  - 2 syllables: 'rock (L)'

- **High-Mid**
  - 1 syllable: 'fish'
  - 2 syllables: 'bee'
  - 3 syllables: 'orphan'

- **High-Low**
  - 1 syllable: 'Pocket'
  - 2 syllables: 'floor'
  - 3 syllables: 'strength (L)'

- **Mid**
  - 1 syllable: 'river'
  - 2 syllables: 'house'
  - 3 syllables: 'dream'

- **Weak Mid**
  - 1 syllable: 'market'
  - 2 syllables: 'bush'
  - 3 syllables: 'urine'

- **Mid-Low**
  - 1 syllable: 'younger sibling'
  - 2 syllables: 'son'
  - 3 syllables: 'inside'

- **Mid-Low Weak**
  - 1 syllable: 'son'
  - 2 syllables: 'inside'
  - 3 syllables: 'load'

- **Low**
  - 1 syllable: 'child'
  - 2 syllables: 'body'
  - 3 syllables: 'mat'

- **Low-High**
  - 1 syllable: 'granary'
  - 2 syllables: 'yam'

There are many fewer tonal minimal pairs on nouns than there are on verbs.

---

*Mid Weak nouns differ from Mid tone nouns in that they are more susceptible to certain tonal changes, which will be discussed in Chapter 5.*
This is likely partially due to the fact that there is more of a variety of tonal shapes on nouns and that the plurality of noun classes alter the segmental shape. The most common minimal pairs seem to involve a Low tone noun. High-Mid nouns are the only High tone nouns involved.

(13) a. Low vs. Mid-Low

\[
\begin{align*}
kùdò, kù-ne & \quad \text{'seat, the seat'} & kudò, kù-ne & \quad \text{'road, the road'} \\
nà & \quad \text{'cow'} & nè & \quad \text{'mother'} \\
sàmè, sàm-be & \quad \text{'oil'} & sàmè, sàm-be & \quad \text{'sorghum beer'}
\end{align*}
\]

b. Low vs. High-Mid

\[
\begin{align*}
sètèlè, sètè-ne, sètè-ù & \quad \text{'basket, the basket, baskets, the baskets'} \\
sètètè, sètè-nè, sètè-ù & \quad \text{'palm nut, the p.n., Palm nuts, the p.n.'}
\end{align*}
\]

c. Low vs. Low-High

\[
\begin{align*}
lùlò, lùlù-ne & \quad \text{'bile, the bile'} & lùlò, lùlù-nè & \quad \text{'shea nut, the shea n.'} \\
bàlè, bà-ne & \quad \text{'seed, one of'} & bàlè, bà-nè & \quad \text{'ground nut, the gr pea'}
\end{align*}
\]

d. Low vs. Weak Mid

\[
\begin{align*}
nàdàxè, nàdà-ke & \quad \text{'root, the root'} & nàdàxè, nàdà-kè & \quad \text{'ear, the ear'}
\end{align*}
\]

e. Mid-Low vs. Mid

\[
\begin{align*}
kàrà-xè, kàrà-ke & \quad \text{'inheritance, the inheritance'} \\
kàrà-xà, kàrà-kè & \quad \text{'brick mold, the brick mold'}
\end{align*}
\]

f. Weak Mid vs. Mid

\[
\begin{align*}
sàxe, sa-kè, ndà sà-ke & \quad \text{'bush, the bush, my bush'} \\
sàxe, sa-kè, ndà sà-kè & \quad \text{'feather, the feather, my feather'}
\end{align*}
\]

A tiny handful of minimal triplets have been found which involve morphological tone:
9. Low-High (Fall)  mànè  'a sweet ground nut'
    Low High  mànè  'the sweet ground nut'
    Low Mid  màne  'sweet ground nuts'

10. Low Mid  sïi n  'People'
    Mid-Low  sïi n  'relative, family'
    Mid-Low Mid  sïi n  'Parents'

Note that there are no minimal pairs involving Low tone and Mid tone, though there is one contrasting pair of Low and Weak Mid tone nouns. Note in (13f) that Weak Mid tone nouns are more susceptible to tonal changes than are regular mid tone nouns. These differences will be discussed in Chapter 5.

1. The tone of the Indefinite Suffix - Type I

The first question that must be asked concerns the underlying tonal nature of the indefinite suffix. Upon examination of the examples in chart (12), one sees that the suffix, which is separated from the rest of the word by a hyphen, can have a High, Mid, or Low tone. The tone on the final syllable of the root does not seem to be a factor in determining the tone of the suffix either, for a Low tone suffix can be preceded by a High, Mid or Low tone root. A Mid tone suffix can be preceded by a High or Mid tone root, while Low and High tone can precede a High tone suffix. Since there is such variability for the tone of the suffix, it is rather difficult to discern any underlying tone for the suffix.

We are then faced with the possibility that the indefinite suffix may not be marked for any particular tone. If one surveys the tonal patterns of indefinite nouns, one discovers that the melodic patterns seem to include the indefinite suffix. If a noun is Low tone, one tonal feature, Low, can be used to link to
all the TBU's (tone-bearing units) of the noun, including the indefinite suffix.

(14) cà 'child' pû-là 'body' fâlà-xê 'mat'

If the noun has a contour tone, such as Mid-Low, the following pattern emerges.

On a noun with a single TBU, the Mid and the Low tone are linked to the same TBU:

TEBU: jà 'son'

When a noun has two TBU's, the Mid tone links to the first TBU, while the Low tone links to the final TBU, regardless of whether that final TBU is an indefinite suffix or not:

A noun with three TBU's normally consists of a disyllabic noun root and an indefinite suffix. If the tone of the suffix were simply considered to be a tonal copy of the final tone of the noun root, one might expect a Mid-Low-Low pattern. Instead, a Mid-Mid-Low pattern emerges:

In fact there are never any cases of a Mid-Mid-Low tonal pattern to be found on non-complex nouns. Since all nouns which carry a Mid tone and a Low tone have a predictable way of linking to the segments of the noun, one can suggest that Sukite nominal tone is melodic in nature.

The behaviour of the other contour tones such as High-Low, Low-High, and
High-mid further supports this melodic hypothesis. All of them have a predictable way of linking tone to segments and all of them link tone to segments according to the same pattern described above for Mid-Low nouns. That is, if a noun root with two TBU's as well as an indefinite suffix possesses a contour tone, the second tone of the contour links only to the final TBU of the word.

This is shown below for all contour tones:

(15) tuxu-rə 'load' cárə-ne 'orphan' ndərə-xə 'yam' bərá-xə 'strength'

2. Association conventions and the Indefinite Noun

Now that a melodic pattern for these Indefinite nouns has been isolated, it is appropriate to discuss the conventions or rules needed to associate the tones to the segments in a predictable way.

Pulleyblank (1983) proposed the following version for the linking of tone to tone-bearing units on the segmental tier:

(16) "(14) Association Conventions:

Map a sequence of tones onto a sequence of tone-bearing units,

a) from left to right

b) in a one-to-one relation." (p. 31)

Any leftover tone-bearing units, he continues, will be assigned tones according to language specific rules only and any leftover tones will be assigned a TBU only if specified by a language specific rule. This approach is a little different from authors such as Williams (1971) who propose to include the linking of extra tones and TBU's as part of the universal Association Conventions. At this point, there does not seem to be any need to posit separate rules for this extra linking in Sucite. Thus, any extra TBU's will be
associated to the adjacent tone, while any extra tones will be linked to the adjacent TBU, as shown below.

(17) fålê-xà 'mat' jà 'son' jà 'Pocket'

Let us consider the convention of Left to Right Linking. If we apply Left to Right linking to nouns with contour tones, we immediately run into problems. It was stated above that the final tone of the contour is found only on the last TBU of the noun. Linking tones from left to right across the word, however, would incorrectly predict that the second tone of the contour is linked to both the second and third TBU of a three TBU word. From the example with three TBU's above (17), it is clear that the second tone of the contour is not linked to the second TBU of the noun. Considering that the last TBU of a three TBU noun is a toneless indefinite suffix, one could devise adjustment rules in which the second tone of the contour would also link to this final TBU, and then the first tone of the contour would spread onto the second TBU; finally, the second tone of the contour would be delinked from the second TBU, producing an acceptable tonal Pattern for the three TBU noun. This proposed sequence of rules is illustrated by the example given below.

(18) tuxû-rg -> tuxû-rà -> tuxu-rà "load"

Association Spreading Delinking

This seems to be a cumbersome way to deal with what seems to be a rather simple Pattern. However, before we discard this approach and seek better alternatives, it is interesting to note that the neighbouring Senufo dialect, Supyire, seems
to have evidence supporting the rule of spreading of the first tone of the contour onto the second TBU and motivating a rule delinking the second tone of the contour from the second TBU. In the Supyire case, however, the first tone of the contour continues spreading to the final TBU of the word as well, and triggers the delinking of the final tone of the contour, such that the surface output of the noun produces no tonal contour. In fact, there are no surface contour tones on indefinite nouns in Supyire. However, tonal behaviour indicates that certain nouns do have underlying contour tones.

Let us consider one example of this type of spreading in Supyire. What are called Low-High nouns in Suciite are referred to as Low-weak Mid by Carlson (1985) in Supyire. He motivates a total Low Spreading rule where a Low is spread onto the following TBU which is linked to a weak Mid tone. This weak Mid tone is then delinked as a result of Carlson's Low-Mid Simplification Rule. The Low-spreading and LM Simplification Rules are then repeated for any remaining TBU's in the word, until all TBU's in the word are linked to Low tone.

(19) a. twu-go → twu-go → twu-go → twu-go → twu-go
   L  L  L  L
   MW MW MW MW
   L-SPread LM-Simplification L-SPread LM-Simp.

Carlson also shows how this pattern of rule application works for Mid-Low nouns.

One wonders, however, whether this is a viable analysis for Suciite. If we motivated these rules for spreading and delinking in Suciite, we would have to block this spreading and delinking from applying to the final TBU of the noun, for unlike Supyire, the final tone of a tonal contour is preserved on the final
TBU of the noun. The second problem with this approach involves data that will be dealt with in Chapters 4 and 5. Since a Mid tone spreading rule and a Low tone spreading rule can be motivated elsewhere in the language, it is conceivable that they could also be motivated word internally. However, a High tone spreading rule cannot be motivated in Su'ite (though it can in SuPyre); therefore it would be somewhat cumbersome to allow a High spreading rule word internally for High-Mid and High-Low nouns while blocking its application elsewhere in the language.

An alternative solution is to forego the linking of tones to the segments until the adding of the indefinite suffix, and then to link the tones from right to left across the word, as seen below.

(20) cará-ñe 'orphan' tuxu-rò 'load' bár-xà 'strength' ndàrà-xà 'yam'

This approach of Right to Left Linking seems to be a much more efficient way to deal with basic tonal patterns of nouns in Su'ite. It eliminates the need for a series of rules word internally, and allows the natural tonal pattern of nouns to be represented in a simple and uncomplicated way. In addition, the arguments presented here will be supported by more evidence in the ensuing chapters.

3. Tone and Pre-nasalized Consonants

It was mentioned in Chapter 1 that there exists a set of nouns with pre-nasalized consonants. Careful scrutiny of the tonal behaviour of nouns with pre-nasalized consonants revealed that some of these consonants bear a Low tone while others do not seem to be marked for any particular tone. The distinction
between those that carry a Low tone nasal and those which do not is barely perceptible in citation form. However, in connected speech, this distinction is made clearer. The low tone of a nasal is often linked to the final syllable of the preceding word (see 21a and c), while those nouns that do not carry a Low tone pre-nasal have no apparent effect on the tone of the preceding word (b and d).

(21)  a. nda ̀nkùnà  ->  ndà  nkùnà  'my wooden bowl'
    b. nda mgbìnè  'my bamboo mat'
    c. ndi ya ̀nkùnà nyàà  ->  ndi ya  nkùnà nyàà  'I am seeing a bowl'
    d. ndi ya mgbìnè nyàà  'I am seeing a bamboo mat'

Word initial nasal consonants are also sometimes found to be tone bearing. This is represented by doubling the nasal in some cases, though in reality, long nasals are not always perceptible. Below are list of examples showing that a Low tone nasal can be found preceding Mid and High initial nouns.

(22)  a. L-Mid S  ìPi (2) 'rabbit'
     ìma (1) 'gift'
    b. L-Mid W  àbi (8) 'flour'
     ànya (3) 'grass'
     ànyo (3) 'mouth'
    c. L-High-Mid  àà (1) 'scorpion'
     ànó-lu (5) 'guinea hen'
     àà (1) 'twin'
    d. L-High  à̀bè (1) 'good luck charm (Loan)'
    e. L-High-Low  àkùnà (3) 'wooden bowl'

If one applied the Right to Left Linking Convention to Low initial words
with Prenasalized consonants, however, an incorrect surface form would be
produced, as shown below.

(23) *njeëne rather: njeëne stone
\[LHM\]

*ntide rather: ntide 'bat'
\[LM\]

This problem could be easily remedied with the suggestion that tone-bearing
nasals be specified for Low tone and that this Low tone is linked to the nasal
before the application of the Association Conventions. The low tone is linked
to the nasal and the remaining tones are linked from right to left.

4. High final nouns

The preceding noun charts have included High final nouns. However, in
citation form or in Phrase final position these High final indefinite nouns,
namely, High and Low-High tone nouns, exhibit a final falling tone.

(24)a. ndra-x9 'yam'
   fálá-x9 'rock'

Indefinite nouns which acquire a final High tone through rule application also
exhibit a final High falling tone.

b. soxo nàx sóxè 'man's mortar'
   'mortar' Poru sóxè 'daughter's mortar'

This falling tone disappears, however, when the high tone is not in Phrase
final position.
(25) waa ndɔrɔɔxɔ wéé  'he looked at a yam'
    waa ndɔrɔɔxɔ nyà  'he saw a yam'

In contrast, High tone verbs and Postpositions, and High final definite nouns have no final falling tone. The natural first assumption that one is likely to make is that final High falling nouns actually have a final Low tone. In order to test this possibility, one must compare the behaviour of these nouns with those that are known to have a Low final tone. Low final nouns are known to trigger Low tone spreading onto High tone verbs (see Chapter 4 for details):

(26) a. waa mɔłɔ wéé -> waa mɔłɔ wéé  'He looked at rice'

However, fálexà and ndɔrɔɔxɔ do not trigger Low tone spreading:

b. waa ndɔrɔɔxɔ wéé -> *waa ndɔrɔɔxɔ wéé  'he looked at a yam'

c. waa fálexà wéé -> *waa fálexà wéé  'he looked at a rock'

Therefore, one is led to conclude that the falling tone exhibited on High final nouns is a Phonetic Peculiarity which is manifest only when a High final indefinite noun is in Phrase final Position. In order to characterize this Phrase final tonal adjustment, a Low tone insertion rule may be formulated:

(27) LOW TONE INSERTION: Insert a Low tone to the final TBU of a High final noun when it is in Phrase final Position.

\[
\begin{array}{c}
X \# \# \rightarrow X \# \\
| \quad | \\
H \quad H \# L
\end{array}
\]

This Low tone Insertion would effectively create a falling tone on a High final
noun: féléx@ -> féléx` 'rock'

III. THE INDEFINITE SUFFIX - TYPE II (Classes 2 and 6)

A. Structure

We have just examined the tonal behaviour of nouns which use the Type I indefinite suffix. The nouns of Classes 2 and 6, however, use a different type of suffix, labeled here as the Type II indefinite suffix. As plural classes, they have the same noun roots as Classes 1 and 5, respectively. Although their indefinite suffixes are underlyingly disyllabic, the surface form is often monosyllabic. Tonally, the two class suffixes behave in the same way. The initial tone of both suffixes alternates between High, Mid and Low tone depending on the tonal environment, while the final tone tends to be a more stable Mid tone. Because of the complexity of both the segmental and tonal processes, I have chosen to discuss the segmental changes first before dealing with tone.

1. Class 6 Indefinite Suffix. In Cebara, the Class 6 suffix is -$ale$, whereas in Supyire, it is -$sili$ or -$lV$. In Sucite, we have a variety of suffixing which probably can be attributed to the same underlying morpheme, -$xVLV$. In certain cases, described below, the vowel is high. How vowel height can be accounted for using the present underlying representation, -$xVLV$, will not be discussed here. Examples with the full disyllabic suffix are given below:

   (28) CLASS 5      CLASS 6 <24>

   a. Pù-là   Pò-xalo  'bodies, trunks'
   b. ci-lè    cì-xale  'thighs'
   c. nci-le   nci-xale 'balaphons'
Sometimes the fricative velar is glottalized:

(29) CLASS 5
a. co-lò cò-ʔalò 'clay Pots'
b. fo-ła fò-ʔalò 'debts'

Many times, however, the disyllabic suffix is partially deleted or practically disappears altogether. A few nouns lose the final syllable of the suffix, -LV in a process that shall be called SUFFIX FINAL DELETION. When this happens, the suffix vowel is always high.

(30) CLASS 6 <4> SFD
a. kòrà - xVLV -> kò-rà-xi 'seat, chairs'
ti - xVLV -> tì-xi 'cock's combs'

In certain cases, this shortened suffix is also nasalized. Note that nasalization is not triggered necessarily by a nasal environment:

CLASS 6 <12>

b. mPù - xVLV -> mPù-ŋì 'hills'
ntàn - xVLV -> ntà-ŋì 'courtyards'
jàrà - xVLV -> jà-rà-ŋì 'breasts'

It is interesting to note that when suffix final deletion takes place, single TBU roots compensate for the loss of a syllable by lengthening the root vowel to two TBU's (see (31a)), while roots with two underlying TBU's do not change (31b).

(31) a. Single TBU roots
mPù-ŋì 'hills'
ti-ĩ-xi 'cock's combs'
ntà-ã-ŋì 'courtyard'

b. Double TBU roots

jârâ-ni 'breasts'
sâ?â-ni 'basket'
sê?ê-Â 'palm nut'

The final result is that all of the above forms possess three TBU's. A second look at the data reveals that all Class 6 noun roots with two underlying TBU's seem to require some kind of suffix deletion, in order to maintain the limit of three TBU's for a Type II noun, while single TBU roots with partially deleted suffixes require a lengthened vowel to keep up a three TBU minimum.

SUFFIX INITIAL DELETION is another way to reduce the size of the suffix. Some disyllabic noun roots with a second syllable of the shape, \(\text{xV-xV}\), trigger the deletion of the first syllable of the suffix instead of the second.

(32) CLASS 6 <8> SID

\[
\begin{align*}
\text{kîrâ - x\text{VlV} \rightarrow kl-ra-le} & \quad \text{'countries'} \\
\text{cèrè - x\text{VlV} \rightarrow cè-ra-le} & \quad \text{'eggs'}
\end{align*}
\]

There are also a few examples where the entire indefinite Plural suffix is reduced to a single vowel (SUFFIX REDUCTION):

(33) CLASS 6 <4> SUFFIX RED

\[
\begin{align*}
\text{nvè - x\text{VlV} \rightarrow n\text{v-l-i}} & \quad \text{'eyes'} \\
\text{yè - x\text{VlV} \rightarrow y\text{è-e}} & \quad \text{'years'} \\
\text{fön - x\text{VlV} \rightarrow f\text{û-un}} & \quad \text{'Peanuts'}
\end{align*}
\]

Note that this set of nouns does not require a final output of three TBU's, as is the case for other forms of the Class 6 suffix.
Finally, there are a few cases where the only indication of plurality is the tonal change. In the examples below, the Class 5, or singular form, is compared with Class 6:

(34) CLASS 5 CLASS 6 <3>
   a. mānē māne 'sweet ground nuts'
   b. bālē bāle 'ground nuts'

We will not attempt to formulate rules here to account for suffix reduction and partial suffix deletion. Some Senufo dialects maintain the entire suffix, while others reduce it to a minimal unit. There may be some synchronic Phonologically conditioning rules for suffix reduction, but, from these examples, it is not clear that any such rules exist. However, it will be seen shortly that the final tonal shape of a word will depend on the type of suffix deletion.

2. Class 2 Indefinite Suffix. The Class 2 indefinite (Plural) suffix is historically disyllabic also, but in Sucite, the final output is monosyllabic. In Cebara, of Ivory Coast, the plural form is bēla. In SuPyire, the Class 2 suffix is either -li, or -mili. In Sucite, the most common form of suffixation is -lV (Perhaps through SUFFIX INITIAL DELETION):

(35) sōnlu - CV1V - sōnlu - lV - sōnla-lc 'parakeets'

Below are other examples in comparison with their singular counterparts of Class 1.

(36) CLASS 1 CLASS 2 <38>
    Pāln Pān-la 'alligators'
    fya fya-la 'fish'
Nouns with single TBU roots exhibit a long vowel. The second TBU of the long vowel may be a result of compensatory lengthening of the root vowel or it is possible that in these cases, only the initial consonant was deleted.

(37) **ja - CVlv** → **ja - LV** → **ja-V-VlV** → **ja-a-la**

**SUFFIX INITIAL DELETION** **VOWEL LENGTHENING.**

or **ja -CVlV** → **ja - VlV** → **ja-a-la** **CONSONANT DELETION**

a. **ja** j66-lj 'Packets'

b. **ja** jaâ-la 'sons'

For reasons that may seem arbitrary for the moment, I shall choose the rule of Suffix Initial Deletion where both the consonant and the vowel are deleted. If we chose Consonant only Deletion, the noun roots with two TBU's (36), would require an additional rule of vowel deletion.

There are examples indicating that the underlying (or historical) form of the suffix may have been -mili or -mVlv. These nouns have dropped the -lv part of the suffix (SUFFIX FINAL DELETION), but retained the first part in the form of -mi.

(38) **CLASS 1** **CLASS 2 <10> SFD**

a. **hânaa** hânâa-mi 'scorpions'

b. **cênhê** cênh-mi 'antelopes'

c. **cêrênh** cêrê-mi 'orphans'

Again, as in Class 6 above, there are a few cases where the only indication of indefinite is the addition of a tone-bearing vowel (SUFFIX REDUCTION).
(39) CLASS 1 CLASS 2  SUFFIX RED
   a. n3 nǐ 'mothers'
   b. folà fèe 'owners, chief, head of ...'
   c. ncà nçàa 'sheep'

It should be noted that in Kangala, a village situated 5 kilometres from Kotoura, the speakers have not allowed Suffix Reduction. Here, instead of saying fèe 'owners', they retain the -LV suffix: fèele.

3. Summary. The following chart provides a summary of the different types of suffixing for TYPE II Indefinite Nouns:

(40)

<table>
<thead>
<tr>
<th>Suffix Type</th>
<th>Class 6</th>
<th>Class 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Pà-xalo &lt;24&gt; 'bodies'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cò-êalo &lt;11&gt; 'clay pots'</td>
<td></td>
</tr>
<tr>
<td>Suffix Final DEL</td>
<td>tii-xi &lt;4&gt; 'cock's combs'</td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>ntàâ-âi &lt;12&gt; 'courtyards'</td>
<td>cèën-mi &lt;10&gt; 'antelopes'</td>
</tr>
<tr>
<td>Suffix Initial</td>
<td>kíra-le &lt;8&gt; 'countries'</td>
<td>jaà-la &lt;38&gt; 'sons'</td>
</tr>
<tr>
<td>Deletion</td>
<td>nyâ-i &lt;4&gt; 'eyes'</td>
<td>nî-i 'mothers'</td>
</tr>
<tr>
<td>Suffix Reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone Change Only</td>
<td>mà-ne &lt;3&gt; 'sweet ground peas'</td>
<td></td>
</tr>
</tbody>
</table>

Single TBU noun roots can retain the entire suffix as well as undergo any type of suffix deletion. Nouns roots with two TBU's obligatorily undergo either Suffix Final Deletion or Suffix Initial Deletion but never Suffix Reduction. Other than these general guidelines, however, there do not seem to be any phonological reasons governing the choice of the shape of the suffix.
B. Tone of Type II Indefinite Suffixes

The two Type II Indefinite Suffixes share the same tonal behaviour and thus seem to have the same underlying tone. There are several factors that contribute to the tonal changes of the suffix. First of all, the tone of the noun root does affect the tone of the suffix. Secondly, the segmental changes on the suffix affect the way tone is linked to the word. Finally, it will be seen that the segmental nature of the suffix actually contributes to tonal change of the noun root. The interplay of these three factors can create a rather complicated tonal situation. The following is an attempt to discuss each separately and also in conjunction with the other factors.

1. Tonal Behaviour of the Suffix

Let us first examine how the tone of the noun root affects the tone of the Type II suffix. Basically, if the root is Low tone, the suffix tone is Mid. If the root is High, Mid, or Low-High, then a High-Mid shape generally evolves. After Mid-Low roots the tonal shape of the word is Mid-Low-Mid#. In the chart below, the singular form of each noun is also given, under the label, Type I. The singular form of the nouns give a clearer idea of the underlying tone of the noun root:

<table>
<thead>
<tr>
<th>Root tone</th>
<th>Type I</th>
<th>Type II</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Low</td>
<td>Pà-lò, Pà-xàlo</td>
<td>'body, bodies'</td>
<td></td>
</tr>
<tr>
<td>b. Low-High</td>
<td>gbàn-lò, gbàn-xàlo</td>
<td>'granary, granaries'</td>
<td></td>
</tr>
<tr>
<td>c. Mid</td>
<td>gbà, gbà-shà</td>
<td>'river, rivers'</td>
<td></td>
</tr>
<tr>
<td>d. High</td>
<td>mgbí-nè, mgbí-nàle</td>
<td>'bamboo mat, bamboo mats'</td>
<td></td>
</tr>
<tr>
<td>e. Mid-Low</td>
<td>jà, ja-àlè*</td>
<td>'son, sons'</td>
<td></td>
</tr>
</tbody>
</table>
In observing the examples in (41) one discovers that the only environment in which a High-Mid tonal shape is not found is when the final tone of the root is Low tone, in which case the tone of the suffix is Mid tone. If an underlying High-Mid suffix is posited, then a rule lowering a High tone to Mid tone must be sought. In Chapter 2, a rule spreading Low tone onto a following High tone was proposed, which in certain cases, resulted in a Low-High contour simplifying to Mid tone. This same Low tone spread rule (33) can be used here.

Consider the example, pò-xélo (41a). If the underlying suffix tone is High-Mid, Low tone can then be motivated to spread onto the High tone of the suffix, as shown in the derivation below.

(42) Pò-xélo \( \rightarrow \) Pò-xélo \( \rightarrow \) Pò-xélo  
\[ \begin{array}{c}
\text{L} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{M}
\end{array} \]

The lack of High tone in (41e) can also be explained by the application of the Low Spread rule.

The noun shón-xélo (41b) appears to have a Low tone on the noun root. However, a look at the tone of the root in its singular form reveals a Low-High tone. The resulting surface pattern can be explained if we apply the High Delinking rule (37) proposed in Chapter 2, where the High tone of a Low-High contour is delinked if it is followed by another High tone. The application of this rule is illustrated below.
2. Segmental Deletion and Tonal Behaviour

Segmental deletion of the suffix complicates the analysis somewhat, however, in that some of the suffix tone is linked to segments of the noun root. This may be confusing when trying to determine the distinction between the underlying tone of the noun root and the tone of the suffix. The following discussion will help to clarify these ambiguities and will also attempt to establish a formulation for linking tones to nouns with partially deleted indefinite suffixes.

The chart below provides examples of what happens when the various tones of the noun roots meet up with the various segmental types of suffixing. Since the number of TBU's on the root is a factor affecting the tonal behaviour, examples of noun roots with single TBU's and double TBU's are given. An asterisk indicates that there are no acceptable examples for that particular category, while a dotted line indicates that while it is conceivable that there exists an example, no example has been found to date. In addition, this chart shows that some noun roots are lowered to Low tone in certain environments. This phenomenon will be discussed later in the chapter. These lowered noun roots are marked in bold.

(43) gbôn-xêlo -> gbôn-xêlo

\[ \begin{array}{ccc}
\text{LH} & \text{H} & \text{M} \\
\text{LH} & \text{H} & \text{M} \\
\end{array} \]
In the discussion of Type I Indefinite noun tone, it was suggested that the Type I indefinite suffix be added to the noun root before the application of
the Association Conventions, so that the final tone of the root could link
directly to the toneless suffix. Type II suffixation can also take place before
the application of the Association Conventions. The crucial question to be
asked here is, however, should segmental deletion also take place before the
application of the Association Conventions? For many cases, this is a very
practical approach for assigning the correct tones to segments. After the
deletion of the various segments, it is a simple matter to link the tones from
right to left in a one to one fashion across the word. High, Low-High, and Mid
tone nouns are especially amenable to this approach, as shown in the rule
derivations below.

(45) a. High tone root - suffix undergoes Suffix Initial Deletion

\[ \text{mõbíné - CVLV} \rightarrow \text{mõbíné - le} \rightarrow \text{mõbíné - le} \rightarrow \text{mõbíné} \text{le} 'bamboo mats' \]

\[
\begin{array}{ccc}
H & H & M \\
H & H & M \\
H & M & M
\end{array}
\]

SUF INI DEL AC (ASSOCIATION CONVENTIONS)

b. 2 TBU Mid tone root - suffix undergoes Suffix Initial Deletion

\[ \text{cale -CVLV} \rightarrow \text{cale - le} \rightarrow \text{ca lé - la} 'pigs' \]

\[
\begin{array}{ccc}
M & H & M \\
M & H & M \\
M & H & M
\end{array}
\]

SID AC

c. 1 TBU Mid tone root - suffix undergoes Suffix Final Deletion

\[ \text{se- cvlv} \rightarrow \text{se- ñi} \rightarrow \text{se-ê-ñi} \rightarrow \text{se-ñi} 'stings' \]

\[
\begin{array}{ccc}
M & H & M \\
M & H & M \\
M & H & M
\end{array}
\]

SFD V LENGTH* AC
d. 1 TBU Low-High tone root - suffix undergoes Suffix Final Deletion

\[
\text{mpù - CVLV} \rightarrow \text{mpù - ŋi} \rightarrow \text{mpù ŋi} \rightarrow \text{mpù ŋi} \rightarrow \text{mpù ŋi} \quad \text{'hills'}
\]

\[
\text{LH H M LH H M LH HM LH H M LH H M}
\]

SFD V LENGTH AC H DELINKING

Note in (45d) that the rule of High tone Delinking also takes place, since, after the application of the Association Conventions, a Low and a High tone are linked to the same TBU and are followed by another High tone.

Low tone noun roots which have undergone Suffix Initial Deletion also conform easily to linking tone to segments after segmental deletion of the suffix. Note in the example below, that Low tone spread is triggered once the tones have been linked.

e. 2 TBU Low tone root - suffix undergoes Suffix Initial Deletion

\[
\text{kìrà - CVLV} \rightarrow \text{kìrà - le} \rightarrow \text{kìrà-le} \rightarrow \text{kìrà-le} \quad \text{'countries'}
\]

\[
\text{L H M L H M L H M L H M}
\]

SID AC L SPREAD

f. 1 TBU Low tone root - suffix undergoes Suffix Initial Deletion

\[
\text{cò - CVLV} \rightarrow \text{cò -lo} \rightarrow \text{cò -o-lo} \rightarrow \text{cò-o-lo} \rightarrow \text{còolo} \quad \text{'nets'}
\]

\[
\text{L H M L H M L H M L H M L H M}
\]

SID V LENGTH AC L SPREAD

Certain Low final nouns, however, have problems with applying the Association Conventions after segmental deletion. The derivations below show how such a rule ordering produces incorrect results.
All of these counterexamples consist of a Low final root; the application of AC after segmental deletions produces an incorrect Mid tone on the penultimate TBU, rather than the appropriate Low tone. It might be suggested that the correct surface form could be arrived at by using a High Delinking rule after Low tone spread, as shown below.

(47)  \[
\text{jára-} - \text{ni} \\
\text{LHM}
\]

The Problem with this proposal, however, is that there is already a High Delinking rule (37), which works in a very restricted environment. The rule
stipulates that a High of a Low-High contour is delinked if it is followed by a
High tone (See Chapter 2, p.54) as shown in (48a) below. It was also shown that
before Low and Mid tones the High of a Low-High contour was prohibited from
delinking (48b).

(48) a. wu ya xé kàn ȵů 'He is giving it to him'
   | | | \| |
   M M H LH H

   b. wu ya xé kàn la 'Is he giving it?'
   | | | | | |
   M M H LH M

Therefore, if one tried to motivate High Delinking in the setting illustra-
ted in (47) above, this attempt would contradict the restrictions set for
the High Delinking rule.

If, however, the Association Conventions applied before segmental deletion,
the correct surface forms would be produced for the examples below.

(49) a. kārā-ȵyLV -> kārā-ŋi -> kārā-ŋi
   | | | | |
   L H M L H M L H M

   AC     SFD      L SPREAD

   b. cēn - mVLV -> cēn - mi -> cē-ën-mi -> cēënmi -> cēn-mi 'antelope'
   | | | | | |
   L H M L H M L H M L H M

   SFD LENGTHENING L SPREAD

   c. nca- CVLV -> nca- a -> ncaā 'sheep, pl.'
   | | | | | |
   L H M L HM LHM

   AC     SUF RED      L SPREAD
Since ordering AC before Segmental Deletions seems to work so well in these cases, let us test this ordering on other Type II nouns. In general, if tones are linked before segmental deletion, once segmental deletion and subsequently, vowel lengthening take place, there are free tones and TBU's that will require linking. Although the manner of linking is definitely predictable, the rules needed to motivate correct linking are not immediately clear and the tonal and morphological situation is complex.

One reason for the complexity of tonal Patterns is the morphological nature of the suffixes. Nouns which have undergone SID link their tones in a slightly different way than nouns which have undergone SFD. In addition, Mid tone nouns which have undergone SFD, behave in a different way than SFD Low tone nouns. Finally, it is noted that Patterns isolated for the Previous groups of nouns are violated by certain nouns whose root tone is a contour tone.

The analysis below attempts to account for these varying behaviours. It should be noted that High-Mid and High-Low nouns have been excluded from this present analysis because of their somewhat unpredictable behaviour. A description of their behaviour will be given following the analysis.

Let us first consider those nouns which have undergone Suffix Initial Deletion. Below are examples of nouns which have already undergone SID and Vowel Lengthening but have not yet had tones and TBU's relinked. The final surface form is given alongside each example.

\[(50)\]
\[
\begin{array}{c}
\text{a. } 9ba-a-\text{la} \rightarrow 9ba\text{la} \text{ 'rivers'} \\
\text{M H M} \\
\text{b. } \text{cal-}a-\text{la} \rightarrow \text{cal\text{ala} \text{ 'Pigs'}} \\
\text{V I M H M} \\
\text{c. } \text{ki-}r\text{e-}l\text{e} \rightarrow \text{kirale \text{ 'countries'}} \\
\text{L H M} \\
\text{d. } \text{co-o-lo} \rightarrow \text{c\text{olo} \text{ 'Pots'}} \\
\text{L H M}
\end{array}
\]
In each case, we must deal with a high tone which has lost the segment to which it was linked. In the examples (a) and (d), an extra TBU has been created through Vowel Lengthening. Since both a free tone and a free TBU are found adjacent to each other, the Association Conventions can be reapplied at this point, linking the two.

(51) \(\text{gba-ála} \)

\[
\begin{array}{c|c|c|c}
\text{M} & \text{H} & \text{M} \\
\end{array}
\]

The other examples have no free TBU's, however. Judging from the final output of all of the examples, it is clear that High tone does not link to the final TBU. All final TBU's are linked only to a Mid tone. In (50b) there is clear evidence that the High tone is linked to the second TBU. The derivation below shows that the Mid tone must also be delinked from the second TBU in order to simplify the Mid-High contour.

(52) \(\text{calé-la} \)

\[
\begin{array}{c|c|c|c}
\text{M} & \text{H} & \text{M} \\
\end{array}
\]

At this point, I will not discuss the rule of Mid tone Delinking except to note the M, being on the left side of the contour delinks from a TBU linked to High when it already linked to the preceding TBU.

(53) MID TONE DELINKING: 

\[
\begin{array}{c|c|c}
\text{X} & \text{X} \\
\text{M} & \text{H} \\
\end{array}
\]
The surface form of the example in (50c) does not show a High tone on a second TBU, but rather a Mid tone. This can be explained if the free High tone is linked to the second TBU and the Low tone is not delinked, as shown below:

(54) \[ \begin{array}{c} \text{kíra} \quad \text{le} \\ \text{L} \quad \text{H} \quad \text{M} \end{array} \]

Recall that in Chapter 2 a Low-High contour which was created by means of a Low tone spreading onto a High tone, simplified to a Mid tone on the surface.

In the example in (50d), the High tone is linked to the free second TBU by the universal Principle of tone Association. The final surface Mid tone on that TBU can be explained by triggering Low tone to spread onto the High tone TBU, as shown below:

(54) \[ \begin{array}{c} \text{cò òlo} \rightarrow \text{cò oló} \\ \text{L} \quad \text{H} \quad \text{M} \\ \text{L} \quad \text{H} \quad \text{M} \end{array} \]

LOW SPREAD

Finally, the free High tone of the example in (50e) can also be linked to the second TBU, though in this case, the linking is hardly necessary, since there is already a High tone from the noun root linked to it.

(55) \[ \begin{array}{c} \text{mgbíná} \quad \text{le} \\ \text{H} \quad \text{H} \quad \text{M} \end{array} \]

All five of these examples, then, undergo a process where the free High tone links to the second TBU. Since this is not, in all cases, predictable by way of the Association Conventions, a rule must be formulated, specifying the linking. In attempting to formulate a rule, one may pose a question as to why the free High tone links to the left rather than to the right. It has been suggested in
the literature (obtained through personal communication with C. Kisseberth) that tone will gravitate in the direction of the trigger of the segmental deletion rule. In this case, the left syllable of the suffix was deleted. As a result, the preceding TBU shoulders the responsibility of carrying the TBU of the suffix. Taking into consideration these observations, then, the rule can be stated as follows:

(56) **SUFFIX HIGH LINKING**: Link the free High tone of the Type II suffix to the first TBU to the left.

```
X \ /  
\ /  H M
```

The second set of nouns to discuss are those which have undergone Suffix Final Deletion. In these particular examples (57), it is the Mid tone rather than the High tone which loses its segment. Unlike the High tone of the previous examples, the Mid tone here has no choice of segments to link to, and thus it links to the same segment as the High tone.

(57) a. \( s\,e\,\text{-}e\,\text{-ni} \rightarrow \text{ste'ni} \ 'stings' \)

```
M H M
```

b. \( \text{me}\,\text{-}e\,\text{-ni} \rightarrow \text{mene'ni} \ 'corners' \)

c. \( j\,\text{ara}\,-\text{ni} \rightarrow \text{jar'a-ni} \ 'breasts' \)

We know, however, that the final output does not allow a HM contour on the final TBU, so somehow, the High tone must be delinked from the final TBU. The surface forms of examples (a) and (b) show that High tone of the suffix ends up on the final TBU of the noun root. This can be explained by way of positioning a
rule labeled High tone Shift, stated as follows:

(58) HIGH TONE SHIFT: Given that 'shift' means delinking a tone from one TBU and relinking it to an adjacent TBU, shift a High tone of a Type II suffix linked to the same TBU as a Mid tone of the suffix, to the final TBU of the noun root (i.e. the second TBU of the word).

\[
\begin{array}{c}
X \quad \rightarrow \quad X \\
\text{H} \quad \text{M} \\
\end{array}
\]

Such a rule then, can be applied to the noun given in (57a) above, as follows:

(59) a. se'-t-ŋi \rightarrow se=tŋi 'stings'

\[
\begin{array}{c}
\text{M} \\
\text{H} \quad \text{M}
\end{array}
\]

H SHIFT

Before jumping to the possible conclusion that this proposed High Shift rule and the Suffix High tone Link rule (56), which links a free High tone to the TBU on the left, can be generalized into one single rule formulation, the reader is asked to consider the examples in (57b) and (57c). In these examples, it is clear that High tone does not shift to the preceding TBU. What might be the reason for this? One thing these two examples have in common is that they both have a Low tone noun root. Instead of allowing Tone Shift, it appears that these two nouns trigger the Low tone to spread onto the following High tone suffix, as shown in (60) below.

(60) InitStruct
Once this happens, the Low and High are simplified to Mid tone, with the final output remaining an acceptable Mid tone.

One way to prevent High tone Shift from taking place on these Low tone nouns is to order the High tone Shift rule *after* Low tone Spread. If Low tone Spread occurs, as in (60) above, there are two reasons for the High tone not to shift: 1) the simplified Low-High tone linked to the same TBU results in a surface Mid tone and thus, since there is no surface contour tone, there is no reason for the High tone to shift; and 2) High tone cannot, by virtue of the well-formedness condition which states that the Association lines cannot cross, link to the Preceding TBU without crossing the Association line linking the Low tone to the final TBU.

If the High tone Shift rule must take place after Low tone Spread and the Suffix High tone Linking rule (56) takes place *before* Low tone Spread, as was illustrated in (54), then it becomes clear that it is theoretically not viable to try to make one rule formulation for the two Processes.

Nouns that undergo Suffix Reduction do not produce any additional complications for analysis. When a suffix is reduced to a single vowel, the only tone allowed on the root is Low tone. In the example below (61), we see the Low tone spreading onto the following High tone, creating a Low-High contour tone which simplifies to Mid tone:

(61) ncà-a

The rules posited so far, however, still do not cover all examples in the data. We have purposely left the nouns with contour tones until last. The two most common contour tones found on nouns are Low-High and Mid-Low. Low-high
nouns do not pose a problem for the analysis, as given thus far. In the first example below, High Linking takes place once the initial part of the suffix is deleted, while in the second example, High Shift takes place after Suffix Final Deletion.

(62) mará - CVLV -> mará - la -> mará-la 'elephantiasis'

\[
\begin{array}{cccc}
\text{L} & \text{H} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{HM} \\
\end{array}
\]

AC SID H LINK

(63) mpu-\text{-m} -> mpu-\text{-mi} -> mpu-\text{-mi} 'hills'

\[
\begin{array}{cccc}
\text{LH} & \text{HM} & \text{LH} & \text{HM} \\
\end{array}
\]

H SHIFT H DELINKING

The following Low-high noun (63) has only one TBU in the root. Vowel Lengthening after SFD creates an additional TBU, which acquires a High tone after High tone Shift. A Low-High contour followed by another High then triggers the High Delinking rule, introduced in Chapter 2.

The following Mid-Low noun (64), causes problems, however. Since it undergoes SID, one might expect High tone Linking to occur, after which Low tone Spread would place take place. This unfortunately would result in the incorrect surface tone of ML-M-M.
It is conceivable to suggest that single TBU noun roots with contour tones are exceptions to the stated rules. Let us suggest then, that if a contour tone (linked to a single TBU) is followed by a free TBU, the relinking of the second tone of the contour to the following TBU takes precedence over any other linking possibilities. Let us call this rule the Contour Shift rule (C Shift).

(65) CONTOUR TONE SHIFT:

Given that 'shift' means delinking of a tone and linking it to an adjacent TBU, the second tone of a contour tone linked to the same TBU shifts to any free TBU to the right.

\[
\begin{array}{c}
X \\
T_1 \quad T_2
\end{array} \rightarrow \begin{array}{c}
X \\
T_1 \quad T_2
\end{array}
\]

This rule is not part of the Association Conventions. It is a rule that allows for the relinking of contour tones for the purposes of simplifying the contour and giving each tone its TBU. Below is an example of a derivation using the C Shift rule.

(66) ja-a-la -> ji-a-la -> ja a la -> ja a la -> ja a la

\[
\begin{array}{c}
\text{ML} \quad \text{H} \quad \text{M} \\
\text{AC} \quad \text{SID} \quad \text{V LENGTH} \quad \text{C Shift} \quad \text{L SPREAD}
\end{array}
\]

Since the second tone of the contour is now linked to the second TBU, one may
wonder to which TBU the free High tone of the suffix may be linked. If the High tone Link rule is allowed to operate after the C Shift rule, there is nothing to keep it from linking to the second TBU, too. This, unfortunately would yield an incorrect surface form: \[ *jaala. \]

\[
\begin{array}{c|c|c|c}
\text{ML} & \text{HM} & \text{H LINK} \\
\hline
/ & \wedge & 1 \\
\end{array}
\]

Therefore, High Linking must be prevented from linking after the C Shift rule. If instead, it occurred before C Shift, High Linking would incorrectly eliminate the environment for the C Shift rule: \[ *jaala. \]

\[
\begin{array}{c|c|c|c}
\text{ML} & \text{HM} & \text{HIGH LINK} \\
\hline
/ & \wedge & 1 \\
\end{array}
\]

We see, then, that High tone linking can be allowed neither before or after the C Shift rule, but rather, when the C Shift rule applies, it excludes the right for High tone linking to apply, even though the conditions for rule application, outlined in the formulation of the High Linking rule, are met. As a result, in order to predict a correct output, an additional condition will have to be inserted into the formulation of the rule. Below is a restatement of the rule (56) with the new condition.

(67) SUFFIX HIGH LINKING: Link the free High tone of the Type II suffix to the first TBU to the left, on condition that the Contour linking rule has not already linked a tone to that TBU.\[1^{*}\]

\[
\begin{array}{c|c|c|c}
X & X & \text{H} & \text{M} \\
\end{array}
\]

The free High tone of \textit{jaala}, then is not allowed to link to the second TBU through the High Linking rule. The only options left to it are 1) to link to the final TBU, at which point, the Low tone Spread rule would be triggered, spreading the Low tone onto the High tone, thus creating a Low-High Contour
which simplifies to Mid tone (see (68a)) or 2) not to link at all (see (68b)).
In either case, the correct surface form would result. My preference is to link
the High tone, if possible, since in general, the High tone tends to be linked
to at least some TBU.

(68) a. jaalla
\[ /\stackrel{\text{ML HM}}{/} \]
ML HM

b. jaalla
\[ /\stackrel{\text{ML HM}}{/} \]
ML HM

LOW SPREAD

The other contour tone word in this data sample poses no problems for this
new C Shift rule. Below is a derivation of mpùûî.

(69) mpu-CVIV -> mpu-u-û -> mpu Ú æ û -> mpu Ú æ û -> mpu Ú æ û
\[ \begin{array}{cccc}
\text{LH} & \text{H} & \text{M} & \text{LH} \\
\text{H} & \text{M} & \text{LH} & \text{H} \\
\text{LH} & \text{HM} & \text{LH} & \text{HM} \\
\end{array} \]
AC SFD & V LENGTH C SHIFT H SHIFT

The behaviour of suffixed High-Mid nouns is somewhat problematic. When
SUFFIX FINAL DELETION occurs, two possible shapes surface: HHM or HMM. The
former is more frequent.

(70)a. HHM

\[ \begin{array}{ll}
v'\text{enlu} & \text{véénmi} \quad \text{'crickets'} \\
c'\text{aránc} & \text{cárámi} \quad \text{'orPhans'} \\
s'\text{éni} & \text{sé?énji} \quad \text{'Palm nuts'} \\
\end{array} \]

b. HMM

\[ \begin{array}{ll}
t'\text{úmi} & \text{túumi} \quad \text{'caterPillars'} \\
'\text{nya} & \text{ñjeëni} \quad \text{'stone'} \\
\end{array} \]

When SUFFIX INITIAL DELETION takes place, again both HHM and HMM are possible
tonal shapes of the noun, though in this case, the latter is more frequent.

(71) a. HMM

\[
\begin{align*}
\text{fy\textcircled{a}a} & \quad \text{fy\textcircled{a}ala} \quad \text{fish} \\
\text{k\textcircled{e}l\textcircled{e}} & \quad \text{k\textcircled{e}el\textcircled{e}} \quad \text{monkey} \\
\text{s\textcircled{n}l\textcircled{a}l\textcircled{a}} & \quad \text{s\textcircled{n}l\textcircled{a}l\textcircled{a}} \quad \text{Parakeets}
\end{align*}
\]

b. HMM

\[
\begin{align*}
\text{mp\textcircled{u}l\textcircled{u}} & \quad \text{mp\textcircled{u}\textcircled{l}\textcircled{e}lo?*} \quad \text{spiders’} \\
\text{k\textcircled{n}\textcircled{l}\textcircled{9}} & \quad \text{k\textcircled{l}\textcircled{e}lo} \quad \text{beads’}
\end{align*}
\]

What is happening here is that two High-Mid sequences are vying for the three available TBU’s. Possible reasons for a lack of an adequate analysis are 1) the tonal nature of Mid tone in a High Mid noun root is unknown, 2) lack of accurate transcription, 3) arbitrary, lexical exceptions, or 4) simply free variation on the part of the speakers.

The two High-Low nouns in the data sample behave differently from each other. One optionally maintains the Low final root tone, the other does not.

(72) a. j\textcircled{g} j\textcircled{g}\textcircled{\textcircled{l}}\textcircled{a} \quad \text{‘Pockets’} \\

\[
\begin{align*}
\text{b. s\textcircled{l}l\textcircled{a\textcircled{9}}} & \quad \text{s\textcircled{x}l\textcircled{a\textcircled{0}}, s\textcircled{x}l\textcircled{a\textcircled{2}}} \quad \text{‘floors’}
\end{align*}
\]

It should be noted that since all High and High-Mid tone nouns possess two TBU’s, they are all either subject to Suffix Final or Suffix Initial Deletion. There are no instances where the entire suffix has been retained or reduced.

In summary, then, it has been established that the Association Conventions must apply before the segmental deletion rules. As a result, several new rules

\* Accuracy of tone transcription uncertain.
are required to provide for the relinking of freed TBU's or tones. According to the discussions above, it has been seen that these rules apply in the following order:

Association Conventions

Segmental Deletions: Suffix Initial Deletion, Suffix Final Deletion, Suffix Reduction

Vowel Lengthening

(65) Contour tone Shift OR (67) Suffix High Linking

(33) Low tone Spread (Ch.2)

(53) Mid tone Delinking

(58) High tone Shift

(37) High tone Delinking (Ch.2)

3. Root tone lowering (High Deletion)

One item that complicates the analysis of the tonal behaviour of nouns with Type II suffixes somewhat is the frequent lowering of the tone of noun roots when the suffix is added. All types of Mid initial nouns as well as Low-High nouns can also be subject to root tone lowering, while High initial noun roots never lower. Below are examples of nouns with lowered root tone:

(73) Underlying TYPE I TYPE II

Root Tone

Mid nci-le nci-xale 'balaphon, balaphons'
Weak Mid fo-la fə-ʔolə 'debt, debts'
Mid-Low ti-də tər-əle 'liana, lianas'
Low-High nkən-ła nkən-ʔala 'tooth, teeth'
In order to analyze the behavior of Root tone Lowering, both the tonal and segmental environment must be considered. It will be noted in the following discussion that a High tone suffix seems to play a role in the root tone lowering of both nouns and verbs. In addition, examination of the data reveals that root tone lowering is most common on nouns with either full or reduced Type II suffixes, while very little root tone lowering occurs on nouns with Partially deleted suffixes (i.e. those which have undergone either Suffix Initial or Suffix Final Deletion).

Let us first consider the types of tones which have a tendency to lower to Low tone and attempt to determine whether an underlying generalization can be made about them. The examples above in (73) indicate that Mid, weak Mid, Mid-Low and Low-High nouns can all undergo root tone lowering. One possible way to motivate the lowering of the Low-High tone to Low tone is to simply posit a High deletion rule: \( H \rightarrow 0 \). When the High tone is deleted, the Low tone remains. In Chapter 2, it was proposed that Mid tone verbs were underlyingly \( Lh \), that is, they possessed a Low tone on the Primary tier, while being specified on the subregister tier for High tone. It was suggested, there, that Mid tone verbs were lowered to Low tone through the Process of subregister High tone deletion: \( h \rightarrow 0 \). The application of this rule then resulted in a remaining Low tone on the Primary tier. If the Mid tones of weak Mid, Mid, and Mid-Low nouns could all be posited as possessing a Low tone on the Primary tier and a High tone on the subregister tier, the rule of subregister High tone deletion could also effectively apply to each of these tones to produce a Low tone. It must be noted, however, that at this point, the underlying tone of Mid tone nouns has not been analyzed; therefore the hypothesis here remains tentative until a thorough investigation of Mid tone nouns is made in Chapter
5. Assuming that the hypothesis is correct, however, we see that the lowering of both Low-High and Mid initial nouns can be triggered by a High Deletion rule for the former the deletion of the High tone on the Primary tier, while the second set undergoes the deletion of the subregister High tone. Since these two processes parallel each other in behavior, let us propose a single rule to cover for both, labeled simply, the High Deletion rule.

This High Deletion rule will not only indicate that the High tone to be deleted can be on either tier, it must also indicate another fact that all of these proposed underlying tones have in common, namely a Low tone. In all cases, a Low tone is found on the Primary tier either adjacent to a Primary tier High tone or linked by a High tone on the subregister tier. With this information, the following rule is proposed:

(74) HIGH DELETION: Delete a High tone on the Primary or subregister tier if a Primary Low tone is found to the left of a Primary High tone or linked to a subregister High tone.

\[
\langle H, h \rangle \rightarrow \emptyset / \begin{array}{c}
\text{L} \\
\text{L}
\end{array}
\]

The examples given below show how this rule would work:

(75) LH: nkan-?ála  M: nci-xále  ML: tirále

\[
\begin{array}{c}
\text{H} \\
\text{L} \\
\text{H}
\end{array}
\]

Once the root tone is lowered to Low tone, its tonal behavior is identical
to that of underlying Low tone roots in that the Low tone of the root spreads onto the High tone of the Type II suffix, as shown in the example below.

(76) ncì - xàlé \(\rightarrow\) ncì - xàlé \(\rightarrow\) ncì - xàle \(\rightarrow\) 'balaphons''

\[\begin{array}{c}
\text{L} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{M}
\end{array}\]

'AC H DELETION L SPREAD'

(77) nkàn - ?àla \(\rightarrow\) nkàn - ?àla \(\rightarrow\) nkà - ?àla \(\rightarrow\) nkà - ?àla \(\rightarrow\) 'teeth''

\[\begin{array}{c}
\text{LH} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{M} \\
\text{L} & \text{H} & \text{M}
\end{array}\]

'AC HIGH-DELETION L-SPREAD'

Since High Deletion does provide the environment for Low tone Spread, it must then be ordered before the Low tone Spread rule. This rule ordering is in contrast to the High Delinking rule introduced in Chapter 2, where a Low tone spreading onto a High tone TBU contributes to the environment needed for High Delinking. Recall that when an incomplete suffix has been subject to Low tone spreading, the High tone is delinked if it is followed by a High tone noun class clitic, as is shown in the example below:

(78) wú ya xà kà-an ñùù \(\rightarrow\) wú ya xà kà-an ñùù \(\rightarrow\) 'He is giving it to him''

\[\begin{array}{c}
\text{M} & \text{M} & \text{H} & \text{L} & \text{H} & \text{H} \\
\text{M} & \text{M} & \text{H} & \text{L} & \text{H} & \text{H}
\end{array}\]

'LOW SPREAD HIGH DELINKING'

The two examples given below have the same underlying tonal shapes. Yet one undergoes High deletion (a), while the other, for unknown lexical reasons, is
exempt from High Deletion. Instead, it undergoes High Delinking (b).

(79)a. nkàn - tíla --> nkàn - tíla --> nkà - tíla --> nkà - tíla 'teeth'

\[
\begin{array}{llll}
\text{HLM} & \text{LHM} & \text{LHM} & \\
\end{array}
\]

HIGH-DELETION L-SPREAD

b. gbôn -xálo --> gbôn -xálo 'granary'

\[
\begin{array}{llll}
\text{LHM} & \text{LHM} & \\
\end{array}
\]

H DELINKING

These two rules clearly yield different results. In the first, the final output is LMM while in the second, it is LHM. If High Deletion were ordered after Low tone spread, the derivation would yield the same results as High Delinking, illustrated in (79b) above. In this set of examples, then, the primary difference between High Delinking and High Deletion is where they are ordered in respect to Low tone spreading. High Deletion takes place at a lexical level of the derivation, whereas High Delinking can take place at both the lexical and the phrasal level.

The above discussion has centered around how the tonal nature of Mid initial and Low-High tones can contribute to the phenomenon of root tone Lowering, now known as High tone Deletion. There are, however, environmental factors, both tonal and segmental, which also seem to be present when the root tone of the noun is lowered to Low tone. The following discussion will examine each of these factors in an attempt to determine whether they should be considered in the formulation of the High Deletion rule.

Let us consider first the tonal environment for the High Deletion rule. High Deletion occurs on nouns when the noun root is followed by a High initial Type
II suffix. When one recalls that High Deletion on verb roots also takes place when followed by the High tone incompletive suffix as in (80), one begins to suspect that perhaps a High tone suffix is a crucial factor in the application of High tone deletion.

(80) \[ \text{ka-\-án} \rightarrow \text{ka-\-án} \rightarrow \text{ka-\-an} \]  
\[ L \ H \ L \ H \ L \ H \]
\[ h \ H \]

H-DELETION  L-SPREAD

The proposed revision of the rule would then include the stipulation that High Deletion takes place when followed by a High tone suffix, as shown below:

(81) HIGH DELETION: Delete a High tone on the Primary or subregister tier if a Primary Low tone is found to the left of a Primary High tone or linked to a subregister High tone, and followed by a High initial suffix.

\[ \langle H, h \rangle \rightarrow 0 / [L \_\_] + H \]
\[ L \]
\[ [\text{suffix}] \]

Note again that the environment for High tone deletion is surprisingly similar to that required for High delinking. In both cases, the High tone is deleted or delinked when followed by another High tone. As mentioned above, however, High Deletion is limited to applying at the word level, while High Delinking can take place across word boundaries and the two are ordered differently with respect to Low Spread.

Examination of the data shows that not all words with Mid initial or Low-High tones are subject to High deletion when followed by the High initial Type
II suffix. Either the choice for High Deletion is primarily arbitrary or else there is another environmental factor to take into consideration. The data given on the following pages shows that the segmental environment seems to play a role in determining which Mid initial and Low-High tones are subject to High Deletion.

It was noted in the introduction to this section that root tone lowering (now high Deletion) occurs almost without exception on nouns with reduced suffixes and on nouns with full suffixes, while tone lowering is less likely on nouns with partially deleted suffixes. The three subsections below describe (a) Tone lowering with reduced suffixes, (b) Tone lowering with full suffix and (c) Partial suffix deletion and resistance to tone lowering.

a. High Deletion with Suffix Reduction

When a Type II class suffix undergoes Suffix Reduction, the root tone is always Low tone. Any mid, weak mid, Mid-Low, or Low-High nouns which undergo Suffix Reduction are also subject to High Deletion.

(82) Mid-Low

<table>
<thead>
<tr>
<th>Class 1</th>
<th>Class 2</th>
</tr>
</thead>
</table>
| a. n3   | nì-i    | 'cow, cows'
| b. p3n  | pù-un   | 'dog, dogs'
| c. tò   | tì-i    | 'father, fathers'
| d. ceewè| cè-e    | 'woman, women'
| e. fòlì  | fè-e    | 'chief, chiefs'

Mid-Low

<table>
<thead>
<tr>
<th>Class 5</th>
<th>Class 6</th>
</tr>
</thead>
</table>
| f. nyelè| nyl-i   | 'eye, eyes'

Weak Mid Class 6 No Suffix Reduction
Both Cebara and Supyire experience root tone lowering on Mid Low nouns which have reduced suffixes. Interestingly, Mills (1984) and Carlson (1980) have chosen the same examples to illustrate this lowering. Root tone lowering (High Deletion) also takes place in the Sucite cognates of these words, as seen below:

(83) Cebara Supyire Sucite English
a. Pèna, Pèna PPun, PPè-un Pèn, Pùn 'dog, dogs'
b. calè, càbala ce-e-è, cè-e ce-è, cèe 'woman, women'
c. sikaà, sikaàla sika, siXXà-a sikà, sikà 'goat, goats'

The latter example is compound in structure. In compounds, only roots in contact with the suffix are susceptible to tone lowering. Carlson (1980) states that in Supyire, most of the Mid Low nouns experience Root tone lowering. Mills (1984) calls root tone lowering "irregular", but states that many "lîi class and some wii class nouns" acquire a Low-Mid pattern, without identifying the original tone of the root. Her examples show High, Mid, and Mid-Low noun roots that have experienced tone lowering.
b. **High Deletion with Full Suffix**

High Deletion also tends to occur on noun roots with the full suffix.

(84) **Mid-Low**

<table>
<thead>
<tr>
<th>Class 6</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ciddles</td>
<td>cí-xóle 'thigh, thigs'</td>
</tr>
<tr>
<td>Weak Mid</td>
<td></td>
</tr>
<tr>
<td>b. ṣamoló</td>
<td>ṣamá-ʔaoló 'knife, knives'</td>
</tr>
<tr>
<td>c. folo</td>
<td>fò-ʔoló 'debt, debts'</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
</tr>
<tr>
<td>d. ncile</td>
<td>nci-xóle 'balaphon, balaphons'</td>
</tr>
<tr>
<td>Weak Mid</td>
<td></td>
</tr>
<tr>
<td>e. lala</td>
<td>là-ʔala,la-xála 'Pregnancy, Pregnancies'</td>
</tr>
<tr>
<td>f. ñmala</td>
<td>ñmá-ʔala 'bud, buds'</td>
</tr>
<tr>
<td>g. pelé</td>
<td>Pè-ʔolé 'bowl, bowls'</td>
</tr>
<tr>
<td>Low-High</td>
<td></td>
</tr>
<tr>
<td>h. lèleló</td>
<td>là-xalo 'shea nut, shea nuts'</td>
</tr>
<tr>
<td>i. nkànlé</td>
<td>nkàn-ʔenla 'tooth, teeth'</td>
</tr>
</tbody>
</table>

**Exception:** j. gbôn-gó gbön-xálo 'granary, granaries'

All weak Mid nouns (except for a couple of possible contradictory cases) take the full indefinite suffix and all of them undergo High Deletion. There are no weak Mid Class 2 nouns. Cebara has one example, in its list of irregular plurals, of a cognate of a Sucite weak mid noun which lowers when a Class 2 suffix is added:

(85) **Cebara**   **Sucite**   **English**

<table>
<thead>
<tr>
<th>Cebara</th>
<th>Sucite</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ṣamoló, ṣamóla</td>
<td>ṣamá-ʔaoló 'knife, knives'</td>
<td></td>
</tr>
</tbody>
</table>

It is not known if there is a tonal category of nouns in Cebara which
corresponds to the 'weak Mid' category of Sucite. Weak Mid nouns do exist in Supyire. In fact, it was Carlson who introduced the term Weak Mid. Of the few Weak Mid examples that Carlson provides, only one did not undergo root tone lowering.

(86) Supyire

<table>
<thead>
<tr>
<th>Class 1</th>
<th>Class 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>fya</td>
<td>fyà-a</td>
</tr>
<tr>
<td>shin</td>
<td>shì-in</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>sin-ɛ</td>
<td>sɨŋ-ii</td>
</tr>
<tr>
<td>la-a</td>
<td>là-hii</td>
</tr>
</tbody>
</table>

c. Partial Suffix Deletion and Resistance to High Deletion

It has also been observed that when a suffix has undergone either Suffix Initial Deletion or Suffix Final Deletion, the noun roots are less likely to undergo High Deletion. In the examples below, the few nouns which do undergo High Deletion are marked in bold.

(87)a. Mid-Low Class 2 nouns

| jà   | jaàla  | 'sons' |
| siìn | siínlɛ | 'family, relatives' |
| kälɛ | kälɛɛl | 'gods' |

b. Mid-Low Class 6 nouns

| kudò  | ku(x)ùxi | 'roads' |
| njidè | njiràle | 'tongues' |
| njedè | njàrèle | 'livers' |
| tidè  | tàrale  | 'llanas' |
c. Mid Class 2 nouns

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>9ba</td>
<td>9baàla</td>
</tr>
<tr>
<td>fiin</td>
<td>fiínnen, fiínni</td>
</tr>
<tr>
<td>calou</td>
<td>caléla</td>
</tr>
<tr>
<td>Poru</td>
<td>Porálo</td>
</tr>
</tbody>
</table>

d. Mid Class 6 Nouns

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>léde</td>
<td>lèrali</td>
</tr>
<tr>
<td>nyen</td>
<td>nyëneni</td>
</tr>
<tr>
<td>tile</td>
<td>ti(x)ëxi</td>
</tr>
<tr>
<td>sent</td>
<td>sëntë, sëntë</td>
</tr>
<tr>
<td>ntide</td>
<td>nterële</td>
</tr>
<tr>
<td>mpudo</td>
<td>mporëlo</td>
</tr>
</tbody>
</table>

e. Low-High Class 6 Nouns

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mbilë</td>
<td>mbilëni</td>
</tr>
<tr>
<td>mpùlë</td>
<td>mpùlëni</td>
</tr>
<tr>
<td>ntànlë</td>
<td>ntànlëni</td>
</tr>
<tr>
<td>fàrà</td>
<td>fàrála</td>
</tr>
<tr>
<td>Pàlà</td>
<td>Pàlëmi</td>
</tr>
</tbody>
</table>

Previous to the discussion of the segmental environment, it was mentioned that High Deletion takes Place before Low tone Spreading, so that the derived Low tone can also trigger Low tone Spreading. Now we need to examine the rule ordering of segmental deletions and High Deletion. In the above description it was assumed that High Deletion followed segmental deletion. However, before arguing for this rule ordering, let us take a look at the viability of ordering High Deletion before segmental deletions.
Most non-derived Low tone roots take Partially deleted suffixes, while most derived Low tone roots take full or reduced suffixes. If High Deletion were ordered first, there would be no way to distinguish derived Low tones from Low tone roots, and thus no way to predict that the derived Low tone roots tend to opt for full or reduced suffixes, while underlying low tone roots prefer Partially deleted suffixes. In addition, if High Deletion occurred first, deciding which Mid, Mid-Low, or Low-High tone root to lower to Low tone would be primarily an arbitrary decision.

On the other hand, ordering High Deletion after segmental deletion would bring some Predictability to the rules. While the type of segmental deletion would be Partially an arbitrary decision, once the deletions are made, High Deletion would be obligatory on any Mid initial or Low-High noun with a full suffix or a reduced suffix, and rare on such noun roots with Partially deleted suffixes.

With the segmental Deletions rule ordered before High deletion, then, one can now use segmental information in the formulation of the High Deletion rule. The revised High Deletion rule given below in (88) would now include the information that High Deletion occurs on nouns with full or reduced suffixes. (88) HIGH DELETION: Delete a High tone on the Primary or subregister tier if a Primary Low tone is found to the left of a Primary High tone or linked to a subregister High tone, and followed by a High initial suffix. If the suffix is a nominal suffix, it must have undergone either no segmental alteration or else have undergone Suffix Reduction.

\[ \langle H,h \rangle \to 0 / \left( L \quad \right)^+ H \]

\[ L \]

[ suffix - if N, then full or reduced]
This rule may seem somewhat odd in that it includes not only tonal information but also segmental and morphological information as well. However, at this point, these are precisely the factors that seem to govern high tone deletion.

Below is a final example illustrating the ordering of high deletion after segmental deletion and before low tone spread.

\[(89) \quad \text{sós} - \text{xálo} \rightarrow \text{sós} - \text{o} \quad \rightarrow \text{sós} \quad \rightarrow \text{sós} \quad \rightarrow \text{sós} \quad \rightarrow \text{sós} \]

\[
\begin{array}{cccc}
\text{LH} & \text{H} & \text{M} & \\
\text{LH} & \text{HM} & \\
\text{LH} & \text{HM} & \text{LHM}
\end{array}
\]

'millet' \quad \text{SUF RED} \quad \text{H-DELETION} \quad \text{L-SPREAD}

This completes a lengthy discussion of the Type II indefinite suffix, which are found on the two plural noun classes, 2 and 6. We have seen that there are several factors affecting the tone of nouns with Type II indefinite suffixes. First of all, the tone of the root can alter the tone of the suffix. Specifically, the low tone of the root can spread onto the high tone of the suffix. Secondly, the types of segmental deletions that take place not only help to determine how the remaining tones and TBU's can be relinked; they can also play a role in triggering high tone deletion (or root tone lowering) of the noun root tone.

IV. THE DEFINITE SUFFIX

This section discusses the structure and tonal behaviour of the definite suffix. Since the structure of the definite suffix of the Type I nouns is somewhat different from that of Type II nouns, they shall be discussed separately. Their tonal behaviour, however, is similar enough that it shall be discussed together in one subsection.
A. Structure - Type I

The Definite form of Type I nouns, that is, nouns which take the Type I indefinite suffix, is derived by replacing the indefinite with the definite suffix. In the chart below, the definite form of the noun is given beneath the indefinite form. Those nouns which have a 0 indefinite suffix are given in the first row, while those with -CV and (N)CV suffixes are given in the succeeding rows.

<table>
<thead>
<tr>
<th>Suffix 1 ((w))</th>
<th>2 ((k))</th>
<th>3 ((y))</th>
<th>4 ((l))</th>
<th>5 ((t))</th>
<th>7 ((n))</th>
<th>8 ((p))</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>jà &lt;33&gt;</td>
<td>nà &lt;3&gt;</td>
<td>na-(y)</td>
<td>0</td>
<td>0</td>
<td>juu &lt;2&gt;</td>
</tr>
<tr>
<td></td>
<td>jà-(e)</td>
<td>nà-(e)</td>
<td>nà-ny(e)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'son'</td>
<td>'fire'</td>
<td>'fires'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CV</td>
<td>ce-(w)</td>
<td>te-x&lt;33&gt;</td>
<td>te-(y)</td>
<td>ci-l&lt;37&gt;</td>
<td>su-r&lt;19&gt;</td>
<td>ta-be &lt;1&gt;</td>
</tr>
<tr>
<td></td>
<td>ce-(e)</td>
<td>te-(e)</td>
<td>te-ny(e)</td>
<td>ci-(e)</td>
<td>su-te</td>
<td>ta-(e)</td>
</tr>
<tr>
<td></td>
<td>'woman'</td>
<td>'Place'</td>
<td>'Places'</td>
<td>'thigh'</td>
<td>'mush'</td>
<td>'medicine'</td>
</tr>
<tr>
<td>(N)CV</td>
<td>cèn-(e)</td>
<td>wèn-(e)</td>
<td>wën(y)</td>
<td>cè-(e)</td>
<td>kò-(n)</td>
<td>sa-m&lt;10&gt;</td>
</tr>
<tr>
<td></td>
<td>cèn(e)</td>
<td>wèn-(e)</td>
<td>wën(y)</td>
<td>cè-né</td>
<td>kò-(n)</td>
<td>sa-m(e)</td>
</tr>
<tr>
<td></td>
<td>'antelope'</td>
<td>'leaf'</td>
<td>'leaves'</td>
<td>'sting'</td>
<td>'cotton'</td>
<td>'sorghum beer'</td>
</tr>
</tbody>
</table>

The Type I definite suffix is composed of a consonant indicating noun class and definiteness and a Mid front vowel. Generally, the consonants of the indefinite and definite suffix of the same noun class are at the same Point of articulation, while the manner of articulation may vary. For example, the consonants in Classes 3 and 7 suffixes are converted from [-stop] to [+stop] (\(x\) -> \(k\), \(r\) -> \(t\)). This contrasts with the dialectal variation found in some neighbouring villages (Koloko) as well as (to the west) across the border in Mali, where Classes 3 and 7 definite suffix consonants remain the same as those of the indefinite suffix.
Dialectal variation

gba-xa, gba-ké (3) ~ gba-xa, gba-xé 'the house'
su-ro, sù-te (7) ~ su-ro, sù-re 'the mush (main dish)'

Noun stems with final nasals cause voicing of voiceless consonant suffixes of Classes 3 and 7:

fuN ke (3) --> fùn-ge 'inside'
kò̀n-te (7) --> kòn-de 'cotton'

Aside from the nasal influence of some noun roots, nasality seems to be a feature for the definite suffixes of Classes 1, 4 and 5. Instead of a [+stop] consonant replacing a [-stop] consonant, as is the case for Classes 3 and 7, a nasal consonant in the definite suffix is at the same point of articulation as its indefinite counterpart. This is illustrated below.

<table>
<thead>
<tr>
<th>Class</th>
<th>Indefinite C</th>
<th>Definite C</th>
<th>Example</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>w</td>
<td>ŋ</td>
<td>ce-wè, ceè-ne</td>
<td>'woman'</td>
</tr>
<tr>
<td>4</td>
<td>y</td>
<td>ny</td>
<td>te-yè, tè-nye</td>
<td>'Places'</td>
</tr>
<tr>
<td>5</td>
<td>l</td>
<td>n</td>
<td>ci-lè, ciò-ne</td>
<td>'thigh'</td>
</tr>
</tbody>
</table>

When a Class 5 noun is suffixed for definiteness, the vowel of the root is lengthened. It is possible, in this case, that the indefinite suffix was never totally deleted; with the addition of the definite suffix, the -l- dropped out creating a long vowel. In Supyire, this indefinite -l- never does show up on the surface.

Sucite Supyire

Indefinite gbòn-lè gbòùn ‘granary’
Definite gbòn-né gbòùn-né ‘the granary’

Vowel lengthening does occur sporadically in the definite suffixation of other
noun classes. However, there does not seem to be any predictable pattern as is found in the Class 5 nouns.

The disyllabic roots follow the same pattern of definite suffixation. The only exception is in the case of Class 5 nouns which have the extended -rv-root. Unlike monosyllabic Class 5 nouns which seem to retain some semblance of the indefinite suffix when adding the definite suffix, these nouns drop both the final syllable of the noun root, -rv-, and the indefinite suffix before adding the definite suffix.

(95) kùdè [kùrâ-là] → kù-ne 'the chair' *kù-ù-ne *kùrâ-ne

Below is chart (96) with the definite forms of disyllabic nouns. Please refer to (8) for English glosses.

(96) 1 (wi) 3 (ki) 5 (li) 7 (ti) 8 (pi)
-1- IND folà <22> gbàlàxè <7>
   DEF folà-ùe gbàlà-ke
-7- sàru <10> ñgurâko <12> kùdò <14>
   sàra-ùe ñgura-ke kù-ne
-7-V(N) cáráni <1> nkùrànà <2> feramè <2>
   cára-ùe nkùrànà-ùe
-7- kàñà <6> sèñèlè <1> kòdàrò <1>
   kàñà-ke sèñè-ùe kòdà-ùe
-7-V(N) nùañà <6> sèñètnè <1>
   nùañà-ùe sèñè-ùe
-7-x- fàñù <2> tuxurà <2>
   fàñù-ùe tuxù-ùe
-7-V(N) ndùxànà <1>
   ndùxà-ùe
B. Structure - Type II nouns

The Definite Suffixes of Type II nouns are similar in structure to the definite suffix of Type I nouns in that the initial consonant of the suffix is at the same point of articulation as the consonant of the indefinite suffix. Thus for class 2, the definite suffix is bilabial, as shown below in (97a) and for Class 6, it is velar.

(97)Class Indefinite C Definite C    Indef.    Definite
   a.  2   m.b -> b  ìná-mi -> ìná-m-bí 'sons'
   b.  6   x -> k  pà-xà -> pà-xà-kí 'bodies'

In citation form, as given in (97), it appears that the definite suffix of Type II nouns is monosyllabic. However, when followed by a vowel initial morpheme, such as the verbal particle, ì, which coalesces to the final vowel of the subject, one observes the appearance of an -ì-, as seen below.

(98) Class 6  nyìì-kí 'eyes'  nyìì-kììà-à wù yá  'the eyes hurt him'
   Class 2  sakàà-bí 'goats'  sakàà-bììà-à foori  'the goats have gone out'

This observation leads to the hypothesis that the underlying shape of these suffixes are: Class 2 - bìì and Class 6 - kìììì.

Instead of replacing the indefinite suffix with the definite suffix, as was the case for Type I nouns, Type II definite nouns are formed by adding the definite suffix to an indefinite suffixed noun stem. Thus, for the noun ì-ì 'eyes', the definite form is ì-ì-kí. However, when the indefinite suffix consists of two TBU's, the addition of the definite suffix causes the reduction of the two TBU suffix to one TBU, as shown in (99).
The effect is that definite Type II nouns consistently have only three TBU's, the first TBU being reserved for the noun root, the second for the indefinite suffix, and the third for the definite suffix. Below are examples of ways the indefinite suffix of Class 6 nouns is reduced to one mora when followed by a definite suffix.

\[(99) \text{ Pò } - \text{xolo } - kì \rightarrow \text{ Pò } - \text{xà } - kì \ 'the bodies'}

\begin{tabular}{l|l|l|l}
CL 5 IND & CL 6 IND & CL 6 DEF \\
\hline
a. pòlò & Pò-xolo & Pò-xà-kì 'body, trunk' \\
b. colò & cò-?olo & cò-?à-kì 'clay Pot' \\
c. jide & jàrà-?i & jàrà-?à-gì 'breast' \\
d. senc & seè-?i & seè-?à-gì 'sting' \\
e. tile & tiì-xì & ti-xà-kì 'cock's crest' \\
f. kòdè & kìra-le & kìr-à-kì 'country' \\
g. kudò & ku-xì & ku-xà-kì 'rule, road' \\
h. cedè & cerè-le & cer-?à-kì 'calabash, gourd' \\
i. nyèlè & nyì-i & nyì-i-kì 'eye'
\end{tabular}

Whatever \(-łv\) suffixing there was in the indefinite form is deleted with the addition of the definite suffix. However, the initial syllable of the indefinite suffix tends to be maintained (examples a, b). In the case of the nasalized indefinite suffix, the nasal is retained and as a result, it causes voicing of the Class 6 definite suffix consonant (c, d). The extended \(-rV-\) roots tend to
retain this extension, causing the segmental deletion of the entire indefinite suffix, \( (f, h) \). There is, however, one instance of the \(-rV-\) deleting, allowing the first syllable of the indefinite suffix to remain \( (g) \).

Class 2 nouns undergo the same type of segmental reduction processes, as seen below:

(101) Class 2

<table>
<thead>
<tr>
<th>CL 1 IND</th>
<th>CL 2 IND</th>
<th>CL 2 DEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. j3</td>
<td>j66-la</td>
<td>j6o-bí</td>
</tr>
<tr>
<td>b. fyêa</td>
<td>fyêa-la</td>
<td>fyêa-bí</td>
</tr>
<tr>
<td>c. Pànn</td>
<td>Pàn-la</td>
<td>Pànn-bí</td>
</tr>
<tr>
<td>d. Poro</td>
<td>Poro-lo</td>
<td>Poro-bí</td>
</tr>
<tr>
<td>e. sônlu</td>
<td>sônla-la</td>
<td>sônla-bí</td>
</tr>
<tr>
<td>f. ñnáa</td>
<td>ñná-mi</td>
<td>ñná-m-bí</td>
</tr>
<tr>
<td>g. n3</td>
<td>nì-i</td>
<td>nì-i-bí</td>
</tr>
</tbody>
</table>

C. Definite Suffix Tone

The tone of the definite suffix varies according to the noun of the root. For both Type I and Type II nouns, the definite suffix is Mid tone when preceded by Low final and High tone roots and High tone when preceded by a Mid final or a Low-High noun. Examples for Type I definite nouns are given below in (101). Note that the entire contour of Mid-Low nouns is linked to the noun root when followed by a definite suffix \((b)\), while Low-High nouns link only the Low tone of the contour to the root. This contrast in behaviour will be explained shortly.
In certain cases to be discussed in Chapter 5, a Low tone root becomes Mid tone when preceded by another Mid tone word. When this happens, the definite suffix is subsequently High tone: mo mòlà-ñe -> mo mölà-ñe 'your rice.'

Recall that Type II definite nouns are formed by adding a definite suffix to an indefinite suffixed noun. Since all Type II indefinite noun stems end in a Mid tone, the definite suffix, when added to Type II nouns, is predictably High tone. The examples in (103), (104), (105), and (106) make this point clear. In each set of examples, the indefinite singular (of Classes 1 and 5) for each Type II noun (Plural classes 2 and 6) is given, followed by the indefinite form of the Type II noun, and finally in the right hand column, by the definite Type II noun.

The examples in (103) are nouns with a Mid tone noun root. The High-Mid tones of the indefinite suffix are both linked to the second TBU of the definite noun. In the structural description of the Type II definite noun it was shown that the noun root, the indefinite suffix, and the definite suffix
are each given a single mora. In the examples below, it will be noted that there are no segments that could be labeled as belonging to the indefinite suffix. Yet, the tone of the indefinite suffix still shows up on the second TBU. The same is true for the nouns with Low-High noun roots found in (104).

(103) M-HM -> M-HM-H

Ind Sg. Ind. Pl. Def. Pl.
a. ｇｂａ ｇｂａﻻ ｇबाｂि 'river'
b. ｎｔｉदे ｎतेरेले ｎतेरेकि 'bat'
c. ｃａलु ｃａलेला ｃालेबि 'pig'

(104) L-HM -> L-HM-H

a. ｍｇｂिले ｍगｂिलि ｍगबिलि 'threshing stick'
b. ｆारा ｆारेला ｆारेबि 'winnowing basket'

High-Mid nouns invariably have only a Mid tone linked to the second TBU.

(105) H-HM or HM-M -> H-M-H

a. ｍगबिने ｍगबिनेले ｍगबिनाबि 'bamboo mat'
b. ｊो ｊोले ｊोबि 'Pocket'
c. ｆयाला ｆयालिया ｆयाबि 'fish'
d. ｓेठे ｓेठेले ｓेठेबि 'palm nut'

Low tone noun roots exhibit slightly different behaviour. Recall that the Low tone Spreading rule spreads the Low tone of the root onto the High tone of the indefinite suffix, creating a surface Mid tone. When a definite suffix is added to such a noun stem, as shown below in (106), the definite suffix is predictably High tone. However, the tone of the second TBU is not Mid tone, as
might be expected, but rather Low tone. The reader is asked to refer to Chapter 5 for a proposed analysis of this behaviour.

(106) L-MM or LL-M $\rightarrow$ L-L-H

a. cɔ  cɔdɔlɔ  cɔdɔbí  'net'
b. ɡmɛli  ɡmɛlɛɲi  ɡmɛlɛɲi  'corner, angle'
c. kidɛ  kiriɛle  kɛrɛkí  'country'
d. lùlò  lɔxɔlɔ  lɔxɔkí  'bile'
e. ceewɛ  cɛɛ  cɛɛbí  'woman'
f. njedɛ  njɛrɛle  njɛrɛkí  'tongue'
g. ɡbɔnlɔ  ɡbɔnʔɔlɔ  ɡbɔnʔɔkí  'fireplace'
h. folɔ  fɔʔɔlɔ  fɔʔɔkí  'debt'
i. ncile  ncilɛxɛle  ncilɛxikí  'balaPhon'
j. nkànlnɔ  nkànʔənla  nkànʔânkí  'tooth'

The underlying tone of the definite suffix is not at all straightforward. Although the definite suffix tone is either High or Mid tone on the surface, it also seems to possess a final floating Low tone which never links to the suffix. This is suspected because it triggers the same type of tonal behaviour as other Low final nouns. It will be seen in Chapters 4 and 5 that Low final nouns trigger Low tone spread onto adjacent High tone verbs and weak Mid and Mid-Low nouns. All definite suffixed nouns also do this regardless of whether the surface definite suffix tone is High or Mid. The examples below show that the definite suffixed noun causes a High tone verb to become Low-High.

(107) a. waa ɡbakɛ pɛrɛ /pɛrɛ/  'he sold the house'
b. waa mɛlɛɲe pɛrɛ /pɛrɛ/  'he sold the rice'
c. waa ɡbuûnne pɛrɛ /pɛrɛ/  'he sold the granary'
Early observations revealed that the definite suffix tone was one up from the final root tone and one down from a high tone root. It was clear, too, that the definite suffix never had the same tone as the final root tone.

If we were to suggest that the definite suffix tone is High(Low), then the presence of a Mid tone after High tone and Low tone nouns would then have to be explained. We have already proposed a Low tone spreading rule in other contexts where a Low-High contour was simplified to Mid tone. Might a Mid tone suffix after Low tone noun root be a result of Low tone spread onto High tone? Such a possibility is illustrated by the example below.

(108) mälâ-nte ‘→ mälâ-ne  ‘the rice’

\[
\begin{array}{c}
\text{L} \\
\text{H(L)} \\
\text{L} \\
\text{H(L)}
\end{array}
\]

LOW SPREAD

An observant reader may recall that High tone delinking takes place in phrase final position and before High tones. The lack of any type of High tone delinking taking place here can be explained by the pervasive presence of the final floating Low tone.

Low-High nouns in the definite form possess only a Low tone root on the surface. They are distinguished from real Low tone verbs, however, by the fact that the definite suffix is High tone and not Mid tone:

(109) Ind Def

Low-High bà-lê → bà-né  ‘ground nut’

Low bàlê → bà-ne  ‘seed’

This can be easily explained by the fact that Low-High roots are not Low final and therefore do not trigger Low tone spreading onto the suffix. The Low-High example in (109) is also subject to High tone delinking rule (37) in order to
simplify the Low-High contour before a High tone, as shown below:

\[ \text{bà-né} \quad \text{`ground nut'} \]

This Process is to be expected here because both the Low and the High are linked to the same TBU. However, the motivation for High delinking is not quite so obvious on Low-High nouns with two TBU's, such as ndàrà-ké. Both left to right and right to left linking conventions would link ndàràké in the same manner and produce the form, ndàrà-ké. However, the final surface form is not ndàràké but rather ndàràké. It appears then, that in addition to the linking conventions that some morpheme internal Low tone spreading has been taking place, followed by High delinking:

\( \text{(110) ndàrà-ké} \rightarrow \text{ndàrà-ké} \quad \text{`the yam'} \)

High tone nouns create a Problem, however. Why would a High tone suffix lower to Mid after another High? There are a couple of clues. In Supyire of Farakala (Mali), there is a very productive downstep rule, stating that when two adjacent High's are adjacent to each other, the second automatically downsteps to mid (Carlson, 1983). We do not have this same productiveness in Sucite but there are a few hints of such a downstep Phenomenon in word formation Processes. Earlier, we observed that the truly Senufo (non-loan) High nouns generally adopted a HM contour. In addition, Mills (1984) states that in Cebara, HM is an allotone of High tone nouns. Secondly, there are variant pronunciations in some indefinite High tone Class 4 nouns. Normally, the tonal Pattern is HHH but in some cases, it may be HHM. Below is an example of the variant tonal Pattern:
The words that accept this variation are forced plurals, that is, plurals of words that are not normally pluralized.

Whatever the motivation may be, there seems to be a kind of downstepping phenomenon (or lowering of the second High tone) in the definite suffixation process.

A second alternative analysis is to suggest that the definite suffix is underlingly Mid tone. It has already been proposed that Mid tone is a composite of two features placed on separate but linked tiers. This would be a relatively simple solution for High and Low tone nouns since the Mid tone remains unchanged.

(112) mòlè-ñe / \ L     M(L)
        'the rice'

(113) fálè-ke / \       H     M(L)
        'rock'

However, after Mid tone nouns and Low-High Nouns, this Mid tone becomes High tone.

(114) gba-ke --> gba-kè   'the rice'
    ndèrà-ke --> ndèrà-kè   'the yam'

Perhaps if Mid tone consisted of a complex of High and Low tone features this apparent raising phenomenon could possibly be explained by some type of Low tone deletion. Earlier in Chapter 2, the lowering of Mid tone verbs to Low tone was explained by the Process of High deletion of the complex LH tonal features.
It is possible that some type of Low deletion process could be motivated for the definite suffix. However, at this point, this approach cannot be adequately defended. Therefore, the problem of the definite suffix will be taken up again when the general tone analysis of Sucite has been further developed in Chapter 5.

V. CONCLUSION

This chapter has been a discussion of noun morphology and tone. Two types of indefinite suffixes were identified. The Type I Indefinite Suffix was shown to possess no underlying tone of its own while the Type II suffix was posited as having a High-Mid tone. Each suffix type brought with it problems of associating tone to segments. Having established that nominal tone was melodic, it was given a separate tier. Discussion of the Type I indefinite nouns revealed the need to change the direction of associating tones and TBU's from the conventional Left to Right Linking to Right to Left Linking.

The various types of segmental deletions of the Type II indefinite suffix brought up the issue of when tones should be associated to TBU's. It was established that the Association Conventions be ordered before the Segmental deletions. As a result, adjustment rules were required to link leftover TBU's and tones. The reader may refer to p. 116 for a list of these rules.

In addition to the problems encountered concerning the association of tones to the segments, tonal variation on both noun roots and suffixes was observed. The lowering of a High tone definite suffix (115a) and the High-Mid Type II suffix (115b) to Mid tone before Low tone roots was explained by proposing the Low tone Spread rule of Chapter 2 (33). This Low Spreading is illustrated below.
The High tone Delinking rule of Chapter 2 (37) also found its application in nouns, specifically in Low-High nouns which were followed by a High initial definite suffix (116a) and Type II suffix (116b).

Finally, it was observed that the root tone of some Mid initial and Low-high nouns changed to Low tone when followed by the High tone Type II suffix. It was also seen that the Mid tone verb lowered to Low tone when followed by a High tone incompleteive suffix. A tentative solution for both nouns and verbs involved the use of a double tiered approach for tone and the positioning of a High Deletion rule, which initially was formulated in Chapter 2 as deleting a High tone on the subregister tier when linked to Low tone on the Primary tier (59), but revised in Chapter 3 to also include the deletion of High tone on the Primary tier (88). It was acknowledged, however, that this proposed rule remains quite tentative pending a more thorough analysis of Mid tones in Chapter 5.

NOTES

1. Mills noted that High tone nouns in Cebara may be followed by a final Mid: "Allotones ['] and ['-'] are features of the grammatical class of nouns. The final mid tone following high or rising tones occurs only on noun suffixes, on some noun stems, and on adjective stems. This could be extended to noun phrases, as some adjectives bear the high-mid allotone." (1984, p.117)

2. The word final vowel tends to be lowered slightly after High vowel roots.

\[
\begin{align*}
ci-1v & \rightarrow ci-1i \rightarrow ci-1a & \text{'thigh'} \\
câ-1v & \rightarrow co-1a \rightarrow co-1a & \text{'clay Pot'}
\end{align*}
\]

Low vowels remain as they are:
Similar behaviour is found in other Senufo languages such as Cebara.

3. See a brief description of a similar type of coalescence in Chapter 2.

4. In Supyire, there is a set of Mid-Low nouns which, in the indefinite form, are realized on the surface as Mid tone nouns. It is only when a definite suffix has been added that the Mid-Low contour surfaces:

<table>
<thead>
<tr>
<th>Indefinite</th>
<th>Definite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supyire sika,</td>
<td>sikè-ni</td>
</tr>
<tr>
<td></td>
<td>'goat, goat-DEF'</td>
</tr>
<tr>
<td>Sucite sikè,</td>
<td>sikè-nè</td>
</tr>
<tr>
<td></td>
<td>'goat, goat-DEF'</td>
</tr>
</tbody>
</table>

5. There is a set of compound-like nouns exhibiting a High falling tone on the final noun root which do behave like Low final nouns, however. Perceptually there is no tonal difference between the pitch of the underlying final High tone and the tone of the final syllable of this set of nouns. However, like Low final nouns, they trigger Low tone spreading onto High tone verbs, as shown below.

\[
\begin{array}{c}
\text{waa nàfàn wèé} \rightarrow \text{waa nàfàn wèé} \quad \text{he looked at a brick'} \\
\text{wàl kuru-gbà wèé} \rightarrow \text{wàl kuru-gbà wèé} \quad \text{he looked at a shelter'}
\end{array}
\]

These nouns are primarily loan words. They behave like compound nouns tonally and segmentally in that they are composed of two stressed components, each possessing its own tonal melody. If the last component of the ‘compound’ possesses only one TBU and has a High-Low tonal melody, this High-Low tone being linked to a single TBU produces a High falling tone on the surface, as shown in the two examples, below.

\[
\begin{array}{c}
\text{kuru-gbà} \quad \text{'shelter (grass overhang)'}
\end{array}
\]

\[
\begin{array}{c}
\text{tèmà-tà} \quad \text{'tomato' (French, tomate)}
\end{array}
\]

When a High-Low tonal melody is assigned two TBU's, each tone links to a TBU. The second component of the compound nouns given below illustrate this.

\[
\begin{array}{c}
\text{fù-gbélè} \quad \text{'Senufo basket'}
\end{array}
\]

\[
\begin{array}{c}
\text{lù-fìì} \quad \text{'water python'}
\end{array}
\]

\[
\begin{array}{c}
\text{mpù-fà} \quad \text{'Porridge' (Dioula, baga)}
\end{array}
\]
6. Cebara follows a surprisingly similar pattern. Observe the examples below:

<table>
<thead>
<tr>
<th>High</th>
<th>Mid</th>
<th>Low</th>
<th>Mid-Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>bûrú=ɓélé</td>
<td>tjari=ɓélé</td>
<td>lî=ɓele</td>
<td>ko-ɓi:=ɓélé</td>
</tr>
</tbody>
</table>

'bread' (pl)
'.calabashes'
'meals'
'Paths'

Mills (1984)

7. In Supyire, the High of the High-Mid suffix shifts to the root of a Mid tone noun, with the result that the Mid tone of the root is completely deleted. Below are a couple of examples with corresponding words in Suciite:

<table>
<thead>
<tr>
<th>Supyire</th>
<th>Suciite</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. cɓi-li</td>
<td>calé-la</td>
<td>'pigs'</td>
</tr>
<tr>
<td>b. sɛŋ-ii</td>
<td>sɛŋ-ŋi</td>
<td>'stings'</td>
</tr>
</tbody>
</table>

8. Supyire also has a set of underlying Mid-Low nouns corresponding to the same group in Suciite, but this ML contour is simplified to Mid when adding indefinite suffixes. As a result, when adding Type II suffixes, the output is a MM sequence instead of MLM. Compare the Supyire and Suciite example below:

<table>
<thead>
<tr>
<th>Supyire</th>
<th>Suciite</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>cɛn=lii</td>
<td>ciɛn-le</td>
<td>'younger siblings'</td>
</tr>
</tbody>
</table>

9. V LENGTH refers to a rule not discussed in this thesis. It frequently happens that if the suffix is partially deleted, a noun root with a single TBU will lengthen its vowel. This process seems to be a part of a more general attempt to maintain three TBUs on nouns with Type II indefinite suffixes.

10. This rule refers to the derivational history of the word in its formulation. Although certain authors have used derivational history in the formulation of their rules, this approach has been contested in the literature (through personal communication, C. Kisseberth). While acknowledging the controversial nature to this approach, I shall keep this formulation of the Suffix High Linking rule until such time that a more satisfactory solution may be found.

11. The same informant gave both forms in the space of a couple of minutes. Both were pronounced in isolation.

12. In fact, it is possible that historically, definite suffixes were suffixed to indefinite noun stems. Whether this kind of information would be helpful for synchronic analysis remains to be seen.

13. Cebara definite suffixes for these same classes are bisyllabic: Class 2 - bele, and Class 6 - gele.
CHAPTER 4 - TONE IN THE SUCITE VERB PHRASE

I. INTRODUCTION

The preceding two chapters discussed the tonal behaviour of noun and verb roots with their suffixes. Several rules were proposed, including Low tone Spreading (33 – Ch. 2), High Delinking (37 – Ch. 2), and High Deletion (88 – Ch. 3), which were found to apply to both nouns and verbs.

The purpose of this chapter is to examine the tone behaviour of verbs across word boundaries. The discussion will be focused on analyzing how the tone of the verb and verbal particle are affected by the tone of the preceding nominal and verbal elements. It will be seen that two rules which operate across morpheme boundaries word internally, also occur across word boundaries: Low tone Spread and High Delinking. However, with the introduction of new data, the formulations of these two rules as well as the Association Conventions will be required to undergo minor revisions.

This chapter will first review the domains within which verbal tone may be altered, and then proceed with a description and analysis of how the final tone of noun objects can affect the tone of the verb. Once the rules have been formulated and thoroughly discussed, the tonal behaviour of verbal particles will be examined, revealing that rules already proposed can also apply to verbal particles.

Domain of Verb Tone Behaviour

In Chapter 1, we learned that tonal changes take place between elements of a verb phrase. It was also stated that the noun phrase (NP) immediately preceding the verb phrase affects verbal tone. Therefore, as illustrated below, the tone of the subject NP affects the tone of the following verbal particle,
which in turn, can influence tonal change on the verb.

(1)a. Subject + Verbal Particle + Verb

If a string of verbal elements is split up by the insertion of a direct object, that direct object will also affect the tone of the immediately following verbal element. In contrast, however, the tone of the verbal element cannot affect the tone of the noun object. This barrier to tonal change is illustrated by the use of square brackets below.

b. [Subject + Verbal Particle] + [Noun Object + Verb]

II. NOUN OBJECT TONE AND THE VERB: DESCRIPTION AND ANALYSIS

A. Description

Let us first look at how the tone of the noun object affects the tone of the verb. We have already seen that a verb is either High, Mid, or Low tone. Nouns have a variety of tonal shapes; however, in examining their behavior with verbs, they can be categorized into three groups according to their word final tone: High final, Mid final, and Low final nouns and Pronouns affect the verb in different ways.

Low tone verbs undergo one tonal change. When a High or Low final noun precedes it, the Low tone verb undergoes no change. However, after Mid final nouns a Low tone verb becomes Mid-High.

(2)a. L + L --> L L

nàà shàrà

'meet a man'

b. H + L --> H L

fálókhà shàrà

'meet a rock'
It is interesting to note how this resulting Mid-High tonal contour is linked to verbs with varying numbers of TBU's. If a verb has only one TBU, both tones are linked to that single TBU. If there are two TBU's, each tone links to separate TBU's, while on a three TBU verb, the High tone of the Mid-High contour is linked only to the final TBU of the verb.

Mid tone verbs remain Mid after M and L nouns but are lowered to Low after H final nouns when the verb is in sentence final position.

(3)a. L + M ——> L M  
   nàlà nva                  'see a man' 

b. M + M ——> M M  
   Poru nva                  'see a daughter' 

c. H + M ——> H L  
   fáláxá nva ## ——> fáláxá nva 'see a rock' 
   fáláxá tuxo ## ——> fáláxá tuxo 'carry a rock' 
   fáláxá cè?èlè ## ——> féláxá cè?èlè 'insult a rock' 

When the Mid tone verb is no longer in phrase-final position, this tone lowering rule is blocked from applying.

(4) a. waà fáláxá nva la  'Did he see a rock?' 
   waà fáláxá nva la 

b. waà fáláxá tuxo la  'Did he carry a rock?'
High tone verbs remain High except when preceded by a Low final noun. Any noun which ends in a Low tone including Mid-Low, High-Low and all definite suffixed nouns, whose final Low tone is never linked to the suffix itself (see Ch. 3), spreads its final Low tone onto the High tone verb lowering all tone-bearing units of the verb except the final unit of multiple TBU verbs. A single TBU verb is simply lowered to L in Phrase final Position.

(5) a. H + H → H H
   fáláìì pére → 'sell a rock'

   b. M + H → M H
   gbaxa pére → 'sell a house'

   c. L + H → L L H
   mólë la → mólë la 'take rice'
   mólë wâè → mólë wâè 'look at rice'
   mólë pére → mólë pére 'sell rice'
   mólë kálëki → mólë kálëki 'spoil rice'

When in non-Phrase final Position, a lowered single TBU High verb is generally Mid (as seen in (6b-d)), while multi-syllabic verbs remain Low-High. However, example (6e) shows that it remains Low if a noun class clitic follows.

(6) a. waa mólë la 'He took rice'

   b. waa mólë la la 'Did he take rice?'

   c. waa mólë la nàjù 'He took rice from the man'

   d. waa mólë la fálákuù 'He took rice from the rock'

   e. waa mólë la ngù 'He took rice from him'

Incomplete verbs which are formed by suffixing an underlying High tone
morpheme to the completive stem, are subject to the same tonal phenomena as completive verbs. Recall that on the surface, the incompletive suffix is Mid tone after Low and Mid tone verbs and High after High tone verbs.

(7)a. M + L-M --> MH
   gbaxa tæe --> gbaxa teé 'showing a house'

b. H + M --> H L
   tælíné tæri --> tælíné tæri 'placing a rock (on)'

c. L + H --> L LH
   mɔlà li --> mɔlà li 'eating rice'
   mɔlà lʊù --> mɔlà lʊù 'taking rice'

These, then, are the basic tonal changes on verbs. Each tonal category of verbs is affected by one tonal change:

L(noun) H(verb) --> L L H
M(noun) L(verb) --> M M H
H(noun) M(verb) --> H L

The following discussion involves the examination and analysis of each one of these tonal changes. It appears that the first two alternations represented above involve spreading rules, whereas the last one seems to display a type of dissimilation phenomenon, which operates only in phrase final position.

B. Analysis

1. Low Spreading Rule

The first tonal change to be discussed here is the matter of the High tone verb acquiring a Low-High contour when preceded by a Low final noun. In
Chapters 2 and 3, a similar phenomenon was observed where a High tone suffix became Mid tone when preceded by a Low tone noun or verb root. This lowering to Mid tone was analyzed to be the result of the Low tone of the noun root spreading onto the High tone of the suffix, creating a Low-High contour which, in most cases, simplified to Mid tone. This Low tone Spread rule was stated in Chapter 2 as follows:

(33) LOW SPREADING - When a Low tone is followed by a High tone across a morpheme boundary, the Low tone spreads to the right.

\[
\begin{align*}
&X1 \, X \\
&L \, H
\end{align*}
\]

This rule as stated, can also apply across word boundaries. As a result, one can propose that the Low tone of the noun spreads onto a following High tone verb. This is particularly clear on single TBU verbs, such as the one shown below.

(8)a. माल ले 'take rice' LOW SPREAD

\[
\begin{align*}
&V \, L \, H \\
&L \, H
\end{align*}
\]

If a High tone verb which has undergone Low tone Spread, has only one TBU and is found in Phrase final position, the conditions for High tone Delinking are met. Recall that the High tone Delinking rule, as formulated in Chapter 2, states that the High tone of a Low-High contour tone linked to a single TBU will be delinked if found in Phrase final position or if followed by another High tone. In effect, this is what happens to single TBU High tone verbs, as shown in the example, below.
b. m3l3 ls ## HIGH DELINKING

High Delinking also takes place after noun class clitics, which are, in this particular environment, High tone. When a single TBU verb is subject to Low tone Spread, the derived Low-High contour is followed by another High tone. As a result, High Delinking goes into effect delinking the High of the contour tone.

c. waa m3l3 ls nuu -> waa m3l3 ls nuu -> waa m3l3 ls nuu 'He took rice

L H H L H H L H H

L SPREAD H DELINKING

However, if anything but a Noun class clitic follows, the resulting Low-High contour on the High tone verb is simplified on the surface to Mid tone. This Mid tone could be explained by the failure of the High tone to delink in non-Phrase final position.

d. waa m3l3 ls la -> waa m3l3 ls la 'Did he take rice'

L H M

L SPREAD

The above analysis of Low tone Spreading involved the nouns which are Low tone. It has also been suggested in both Chapters 2 and 3 that Mid tone be analyzed as raised Low tone. A distinction of two types of Low tone leads to a double tiered approach to tonal analysis where both types of Low tone are given a Low tone on the primary tier while the raised Low tone (or Mid tone) is posited with a High tone on the subregister tier and the Low tone, with a
subregister Low tone, as shown below:

(9) Low X Mid X

Therefore, if both of these tones possess a Low tone on the Primary tier, then theoretically both should be able to spread onto High tone verbs, since the Low tone Spreading rule as stated above, does not specify a tone for the subregister tier. The example below in (10) illustrates this theoretical possibility. However, as the derivation shows, a Lh tone spreading onto a High tone produces an incorrect surface form. In fact, no tonal alternation occurs on High tone verbs when preceded by a Mid tone noun.

(10) waa 9baxa 15 \[\rightarrow \] *waa 9baxa 15 \[\rightarrow \] Rather, waa 9baxa 15

\( V \\quad V \quad L \quad H \quad L \quad H \quad 'he took at a house' \)

LOW SPREAD

Because Lh tone must be blocked from spreading the Low tone Spread rule must be reformulated to allow the spreading of only Ll tones onto High tone nouns. This revised Low Spreading rule is restated below.

(11) LOW SPREAD

When a Ll tone is followed by a High tone across a morpheme boundary, the Low tone spreads to the right.

\( X \) \( X \)
\( L \) \( H \)

\( L \)
Let us now consider Low tone spreading on High tone double TBU verbs. In the following derivation (12), the Low tone spreads onto the first High tone linked TBU. This results in a Low-High contour on the first TBU of the verb, while the final TBU is still linked to the High tone, thus creating the environment needed for the delinking of the High tone of the Low-High contour.

(12) \text{waa mólê pûré} \rightarrow \text{waa mólê pûré} \rightarrow \text{waa mólê pûré} 'He sold rice'}
\begin{array}{c}
\text{L} \quad \text{H} \\
\text{L} \quad \text{H} \\
\text{L} \quad \text{H}
\end{array}
\text{L SPREAD} \quad \text{H DELINKING}

The setting for High Delinking in (12) is slightly different from the situations described earlier (see (37), Ch. 2). In the earlier instances, the second High tone, which, in effect, triggered High Delinking, was linked to the following word or morpheme. In this case, there is no separate High tone linked to a different morpheme. Rather, the same High tone is linked to both TBU's: to the one with the Low-High contour and to the following TBU. Therefore, the High Delinking rule can be generalized to include the delinking of a Low-High contour which is followed by any TBU which is also linked to a High tone regardless of whether that High tone belongs to another morpheme or not. Below is a reformulation of the High Delinking rule.

(13) \text{HIGH DELINKING} - \text{Delink a High tone which is Preceded by a Low tone linked to the same TBU, and 1) is followed by a TBU which is also linked to a High tone, or 2) is in sentence final Position.}
\begin{array}{c}
\text{X} \quad \text{X} \\
\text{L H} \\
\{ \# \}
\end{array}\quad \text{or} \quad \begin{array}{c}
\text{X} \quad \text{X}^1 \\
\text{L H} \\
\{ \# \}
\end{array}
Triple TBU verbs pose a bit of a problem. As the derivation below shows, simply applying Low tone Spread and High Delinking does not produce the correct surface form.

\[
\begin{align*}
(14) \quad \text{waa mələ kələxɨ} & \rightarrow \text{waa mələ kələxɨ} \rightarrow \text{*waa mələ kələxɨ} \\
& \quad \text{L} \quad \text{H} \quad \text{L} \quad \text{H} \quad \text{L} \quad \text{H}
\end{align*}
\]

'He spoiled rice' \hspace{1cm} L-SPREAD \hspace{1cm} H DELINKING

In order to produce the correct surface form of \text{waa mələ kələxɨ}, one would have to apply Low tone Spread and High Delinking, a second time, as shown below.

\[
\begin{align*}
(15) \quad \text{waa mələ kələxɨ} & \rightarrow \text{waa mələ kələxɨ} \rightarrow \text{waa mələ kələxɨ} \\
& \quad \text{L} \quad \text{H} \quad \text{L} \quad \text{H} \quad \text{L} \quad \text{H}
\end{align*}
\]

'He spoiled rice' \hspace{1cm} L-SPREAD \hspace{1cm} H DELINKING

\[
\begin{align*}
\rightarrow \text{waa mələ kələxɨ} & \rightarrow \text{waa mələ kələxɨ} \\
& \quad \text{H} \quad \text{L} \quad \text{H} \quad \text{H}
\end{align*}
\]

LOW SPREADING \hspace{1cm} H DELINKING

However, allowing Low Spread and High Delinking to apply a second time, in other words, iteratively, seems somewhat cumbersome. In addition, if iterative Spreading were allowed, there is nothing in the rules to prevent Low tone Spread and High Delinking to apply to the last TBU as well, thus producing a Low tone on all three TBU's. In fact, the final TBU of a two or three TBU verb is never Low tone in any environment\(^2\). Therefore any iterative spreading and delinking rules would have to be constrained with the condition that Spreading and Delinking do not occur on the final TBU of a multiple TBU noun.
An alternative solution would be to limit the application of the Association Conventions by having each tone linking to only one TBU. Such a restraint would require the following reformulation of the Association Conventions:

(16) ASSOCIATION CONVENTIONS

Map a sequence of tones onto a sequence of free tone-bearing units
1) from right to left
2) in a one-to-one relation until all tones have been linked.

Recalling that in Súcito, tones are linked from right to left, a three TBU High tone verb would then initially have only the final TBU linked to the High tone, as shown below:

(17) kalaxi

\[ \text{Delaying the linking of the other TBU's to the High tone would allow more freedom for the spreading of the Low tone across the word.} \]

As the derivation below shows, the Low tone spreading rule as stated above (11), has the Low tone spreading and linking to the final High tone linked TBU as well as all of the intervening TBU's:

(18) waa m\text{\textipa{a}}l\text{\textipa{a}} kalaxi \rightarrow waa m\text{\textipa{a}}l\text{\textipa{a}} kalaxi \rightarrow waa m\text{\textipa{a}}l\text{\textipa{a}} kalaxi \rightarrow waa m\text{\textipa{a}}l\text{\textipa{a}} kalaxi

\[ \text{'He spoiled rice' L-SPREAD L DELINKING} \]

Since it already has been stated that a High tone cannot be delinked from the final TBU of a multiple TBU verb, we know that High Delinking cannot apply
here. To prevent High Delinking from taking place, a rule delinking the Low tone of the resulting Low-High contour must be formulated.

First of all, Low Delinking involves Delinking the tone on the left side of the contour rather than on the right side as is the nature of the High tone Delinking rule. It must be noted that Low tone does not delink from a Low-High linked segment if it is linked to only one TBU (19a) or if it has spread to only one TBU (19b).

(19) a. əbən-ci 'granary-good'
    \[ \begin{array}{c} \text{L} \\ \text{H} \end{array} \]
    b. waa mələ la 'the rice took?'
    \[ \begin{array}{c} \text{L} \\ \text{H} \end{array} \]

It delinks only if the Low tone is allowed to link to other TBU's within the word that has been subject to L spreading, as illustrated below in (c)

(19) c. waa mələ kələni
    \[ \begin{array}{c} \text{L} \\ \text{H} \end{array} \]

Therefore, LOW DELINKING can be stated as follows:

(20) LOW DELINKING

Delink a Low tone from a Low-High contour when the Low tone has already linked to other TBU's in the word:

\[ \begin{array}{c} \text{X} \\ \text{L} \end{array} \]

There are a few environments where both Low tone Delinking and High tone Delinking can be motivated according to the specifications given above. For example, if a multiple TBU verb which has been subject to Low tone spread is
also followed by the High tone noun class clitic, which, as we have already seen, triggers High tone Delinking of a Preceding Low-High contour, which rule takes precedence? Such a dilemma is illustrated below.

(21) waa wa əbəxəlé rəmə  'He made one for him'

In order to make the correct Prediction, one must order Low Delinking before High Delinking. However, when the High tone verb consists of only one TBU, High tone delinking takes place, as seen in (22) below. Why? We see that the conditions for Low tone delinking cannot be met - Low tone has spread to only one TBU of the word - therefore High tone delinking can take place.

(22) waa wa lə rəmə  

In conclusion, the analysis Proposed here requires the reformulation of the Low tone Spreading rule (11), the High Delinking rule (13), and the Association Conventions for Sukite (16), as well as the addition of the Low Delinking rule (20). The new Low Delinking rule was seen to be ordered after the Low tone Spreading rule but before High tone Delinking.

2. High Tone Spreading

The second tonal Process to be examined here involves the raising of Low tone verbs to Mid-High tone when Preceded by a Mid tone. This Process can be more easily analyzed on Low tone incompleitive verbs than on completive verbs. Recall that Low tone incompleitive verbs consist of a Low tone verb root followed by a High tone incompleitive suffix, as seen below in (23). The most
obvious solution would be to motivate a type of Mid tone spreading rule, which would spread the Mid tone onto the Low tone root. Since there is no trace of a Low tone on the verb after this Mid tone spread, either the spreading would automatically have to trigger deletion of the Low tone, or a separate Low Deletion rule would have to be formulated.

(23)a. CV CV-CV
   \(\text{L} \quad \text{M} \quad \text{H}\)

The difference between Mid spreading and Low spreading is that when a Low tone spreads onto a High tone, that High tone can still effect tonal changes on following words, while Mid spreading onto a Low tone obliterates any Power that Low tone may have had to trigger tonal changes. Thus we say that Mid spreading triggers Low tone deletion, while Low spreading, on the other hand calls for delinking of the High tone only when certain conditions are met.

We run into problems, however, when trying to apply the Mid spreading rule as stated above, to Low tone completive verbs. It was stated earlier that a Low tone verb becomes Mid-High when preceded by a Mid tone noun. For incompletive suffixes, all we had to do was to motivate a Mid tone spreading rule onto Low tone. The resulting Mid tone verb followed by a High tone suffix resulted in a Mid-High tone on the verb. There is, however, no High tone suffix on a completive verb. As a result, simply spreading Mid tone onto a Low tone completive verb would not produce the desired Mid-High tone, as shown below.

(24) CV CV-CV \(\rightarrow\) CV CV-CV
   M L \(\text{M SPREAD}\)
   \(\text{Poru Sbərə} \rightarrow \text{*Poru 9bərə}\)
   \(\text{rather: Poru 9bər}\)

It will be seen that Mid spreading onto Low tone nouns yields the predict-
able result of a simple Mid tone, so why a Mid-High contour would surface on Low tone verbs is somewhat puzzling. The first attempt at a solution would be to establish whether a completive verb has a tonal structure consisting of a root tone followed by a tonal morpheme. One possible historical explanation is that the completive morpheme did contain a High tone at one stage. In Chapter 2, we suggested that a Mid tone completive verb may have been a raised Low tone. If we speculated that the former Low tone was raised by a High tone completive morpheme, then we can extract a tiny bit of evidence that this High tone came from a historical High tone completive morpheme, whose trace can still be seen in the application of a Mid tone spread rule. Whether this theory holds any validity or not, however, does not really bear upon a satisfactory synchronic solution, because in all other environments, Low tone completive verbs never behave as though they have a final High tone. For example, they contrast with Low tone incomplete verbs (which do have an underlying High tone suffix) when followed by a Noun Class clitic. In (25) below, note that both verbs are Low tone on the surface. However, the clitic is Mid tone (underlined) when preceded by a completive Low tone verb (a) and High tone after an incomplete Low tone verb (b). The example in (c) indicates that the clitic is also High tone after completive and incomplete High tone verbs.

(25) a. Compleitive Low tone verb
   waà wu wùlò wù là 'he took (C) it off of him'

b. Incompleteive High tone
   wu ya fiñù wù là 'he lied (C) on him'

c. Compleitive and incompleteive High tone.
   waa wù lò pùg 'he took (C) it from him'
   wu ya wù wùg wù là 'he is taking (IN) it off of him'
Low tone completive verbs, therefore, contrast with High final verbs in behaviour, and as a result, cannot be considered to bear an underlying High final tone.

Since positing an underlying High tone suffix morpheme is not feasible, some type of rule will have to be motivated to allow for a Mid-High contour. One possible solution is that, in addition to positing a Mid tone Spread and Low Deletion rule on a Low tone verb, a High tone insertion rule is also introduced to insert and link a High tone to the final TBU of the verb. This particular development would also require the rule of Mid tone Delinking (53), already introduced in Chapter 3 (p.106), in order to simplify a Mid-High contour on a single TBU. This tentative series of rules is illustrated below.

(26) mo kàràná -> mo karàná -> mo karàná ‘guide you’

\[ \text{CV CV CV CV} \rightarrow \text{CV CV CV} \rightarrow \text{CV CV CV} \]

\[ \text{M SPREAD} \quad \text{H INSERTION} \quad \text{M DELINKING} \]

Another possible solution is to take advantage of the suggestion already made in this thesis that the underlying features of Mid tone are best represented on two tonal tiers, with Low tone posited on the primary tier and High tone on the secondary or subregister tier, as shown below in (27a). Although Clements did not introduce the idea of linking the two tiers nor the possibility of linking a subregister tone to more than one tone on the primary tier, (as shown in (b)), nor the unlikely suggestion that tones of the subregister tier may also link directly to the segmental tier (c), the following analysis will propose that these ideas are not only feasible, they also prove to be very practical for this particular analytical problem.
If we allow multiple linking of the subregister tier, then logically tone spreading rules could also be motivated at this level. Returning to Mid tone spreading on incomplete verbs, one can see how the spreading of tone on the subregister tier can create the effect of Mid tone spreading.

When the High tone of the subregister tier spreads to the following Low tone, it triggers the deletion of the subregister Low tone. The reason for this deletion is that the linking of two subregister tones to one primary register tone cannot be allowed by virtue of the fact that such a construction has no conceivable surface realization. If, historically, Mid tone was considered a raised Low tone, it is conceivable that a raised Low tone could raise the tone of subsequent Low tones. Thus the lower level b represents this 'raising' phenomenon through the spreading to following Low tones.

Let us now consider the more complicated case of Mid tone spreading onto compleative verbs where Mid tone spreading results in a Mid-High contour. If the subregister h spreads onto primary register tones, would it also be possible for the h to also independently link to the segmental tier? If so, then a Mid-High contour could be motivated.
It seems that the lower register high tone not only raised the Low tone through the process of 'spreading', it continued that raising effect by linking independently to the segmental tier. The effect of independent linking creates a contour tone. The question is whether this is just a fancy mechanism to describe an otherwise inexplicable derived contour tone or whether this approach can be motivated elsewhere in the language or even in other languages.

In Supyire, a neighbouring dialect in Mali, Mid tone does not spread onto Low tone verbs (although a Mid tone spreading rule operates on nouns in the exact same way as it does in Sucite). Instead, Low tone verbs acquire an High-Low contour when preceded by High final or Mid final nouns.

(30) u nyë na fùn shùù /shùù/ 'he is buying Peanuts'  
he TA TA Peanuts buy Sucite: wú ya fùn suú

u nyë na mpa shùù 'he is buying a sheep'  
he TA TA sheep buy Sucite: wú ya mpa suú

This slightly different phenomenon could be explained by the independent linking of the subregister High tone to the Low tone segment without linking to the Low tone itself, and thereby creating a High-Low contour.

(31) fùn shùù 'buying peanuts' fáágá shùù 'buying rocks'

\[
\begin{array}{ll}
\text{CV CV} & \text{CV CV} \\
L / L & H / L \\
/ H & / H \\
h & h
\end{array}
\]
In his analysis of SuPyire tone, Carlson refuses to posit an underlying tone for this set of verbs, because Low becomes High-Low in so many environments. The approach presented above can motivate an underlying Low tone verb which has been subject to independent spreading of the subregister high tone.

Therefore, independent subregister High tone spreading does receive some support in SuPyire\(^2\). However, this description still does not explain why independent spreading of a subregister High tone to a segment should take place on verbs but not on nouns.

The question also remains as to whether this notion of independent linking of the subregister tone can be defended within the theoretical framework of autosegmental phonology. The notion of linking and spreading of the subregister level to the primary register level is a rather novel idea in itself. It has been proposed that this subregister level is on a separate tier from the tone on the primary register tier. However, it was pointed out that in accordance with the tone feature system as proposed by Clements, this subregister tier is simply a fine-tuning of the primary register tone, existing only as a function of the primary register tone. Within the Clements system, the subregister tone does not operate as a separate and full tone itself. Therefore, with these limitations in mind, it would be somewhat problematic conceptually, to grant independent linking of the subregister tier to the segmental tier.

One possible approach is to elevate the status of the subregister tone. Clements based his model on the concept of tone-splitting. What if the notion of tone splitting could be further stretched theoretically with the concept of fusing\(^3\) tones from two separate but independent tiers?
The notion of hierarchy would by necessity still remain. If not, then Hl and Lh would not be distinguishable within the model. In Chapter 5, the necessity of this distinction will be demonstrated. Yet the notion of fusion of two tones would allow possible linking of the lower level tone to independently link in certain limited environments. One may be tempted to speculate that this synchronic fusion process was preceded historically by the presence of a sequence of tones that eventually fused into one. It has already been stated that no precise statements can be made at this time about the historical evolution of tone in Sucite.

For the Purposes of this thesis, we shall place the second tier of tones below the first and yet allow the second or subregister tier to link to the segmental tier by process of transformation of the subregister tone to a Primary register tone as it passes through the first tier as seen in (33) below.

(33) \[ \text{L} \rightarrow \text{LH} \]

The effect is that of raising a tone to the extent that it leaves the Low tone register and moves into the High tone register.

Returning to the Sucite example, then, let us examine the environment of subregister High tone linking. The subregister High spreads to the Primary
tier Low tone of the verb as well as to the segmental tier only when that subregister High is lexically linked to a Low tone itself, as shown in (34a).

If the subregister High was lexically linked to a High tone then no High spreading would take place (34b).

(34) a) X X
    L L
    h 1

   b) *X X
    H H
    h 1

This is in contrast to Supyire where independent High spreading occurs on Low tone verbs from both Hh and Lh final nouns (see (31) above). At this stage then, a subregister high spreading rule would be stated as follows:

(35) HIGH SPREADING

A subregister high, lexically linked to a Low tone, spreads to a following Low tone, thus deleting any subregister tone formerly linked to that Low tone.

X X
L L
h 1

A separate rule must be devised for independent High spreading.

(36) HIGH SPREADING TO TBU

Spread a subregister h, lexically linked to a Low tone, to the final TBU of a Low tone verb.

CV CV
L L
h ~
This assumes that High tone has already spread to the Low tone, deleting the subregister Low tone. Below is an example showing both High Spreading rules.

\[(37) \text{Poru } \text{t̥} \rightarrow \text{Poru t̥} \]

\[
\begin{array}{c}
\text{L } L \\
\text{h } ① \\
\text{H SPREAD} & \text{H SPREAD TO TBU}
\end{array}
\]

It would be more convenient, perhaps, to state these two rules in one rule, since both of them are triggered by the same environment and one is a follow-up of the other. It will be seen, however, that the first, but not the second rule applies to nouns. Therefore, at this juncture, High spread to the primary tone register and High spread to a TBU shall remain separate rules.

Low tone verbs with more than one TBU which are subject to High Spreading require some additional adjustment rules in order to link the tones to all the TBU's. From the discussion on Low tone Spreading it was decided that the Association Conventions link tones from Right to Left, linking a tone to only one TBU. Therefore, the Low tone is linked to the final TBU of a Low tone double TBU verb, as shown in the derivation in (38). The High tone Spreading rule specifies that the subregister High tone spreads to the primary tier Low tone of the verb. Note that if it was allowed to spread to any segments preceding the Primary tier Low tone, a incorrect High-Mid tone would evolve on multiple TBU verbs (b). Therefore, the subregister High tone is restrained to spreading initially to the Primary Low tone. Secondly, we observe the rule of spreading the High tone to the final TBU of the verb and linking it to the TBU after the Low tone of the verb. This now results in a Mid-High contour tone linked to the final TBU and no tone linked to the first TBU. In order to
correct this problem, some linking adjustments will have to be made. A rule
called Linking must be formulated (see (39) below) to link the remaining TBU's
of the verb to the verb tone. Whether this is done before or after high tone
spread is not crucial, but such a linking process must take place after low
tone spread so that the low tone can have the freedom to spread to the right-
most TBU (see preceding discussion on low tone spread). After Linking takes
place, then, the mid-high contour tone is simplified by delinking the mid tone,
that is, the tone on the left side of the contour.

(38) a. waà Poru gbàrà \(\rightarrow\) waà Poru gbàra \(\rightarrow\) waà Poru gbàra \(\rightarrow\) wàa Poru gbàra

\(\begin{array}{c}
\text{H spread} \\
\text{H spread to TBU} \\
\text{Linking} \\
\text{Mid delinking}
\end{array}\)

b. *waà Poru gbarà

\(\begin{array}{c}
\text{ML} \\
\text{L} \\
\text{L'}
\end{array}\)

\(\begin{array}{c}
\text{h} \\
\text{l}
\end{array}\)

(39) Linking - Link any free TBU's to the tone of the morpheme to which it
belongs.

\[ \begin{bmatrix} X \mid X \end{bmatrix} \]

\[ \text{T} \]

The rule labeled Mid Delinking is very similar to the Low Delinking rule
(20) stated above. In both cases, the left side of the contour tone is delinked
when that tone is also linked to another preceding TBU within the morpheme
boundary. For this reason, I propose a more general rule to cover both mid tone
Delinking and Low tone Delinking - Leftside Delinking (LS Delinking):

(40) LEFTSIDE DELINKING

Delink the tone from the left side of a contour tone when the leftside tone has already linked to other preceding TBU's in the word.

\[
\begin{array}{c}
\text{X} \\
\text{T}_1 \text{T}_2
\end{array}
\]

In example (39a) above, we have see how LS Delinking applies to verbs. In Chapter 5, it will be shown that LS Delinking is equally applicable to nouns.

The analysis of High tone spreading onto Low tone verbs produced the complication of trying to determine how High tone spreading could yield a Mid-High contour. Two rules were proposed to cover for this phenomenon, the High Spread and the High tone Spread to TBU. Although the High tone Spread to TBU rule may seem to pose some theoretical problems, and thus stand on a shaky ground, it will be seen in Chapter 5, that the notion of linking a subregister tone independently to a segment can be further substantiated.

Because the Association Conventions as stated in the discussion on Low tone spreading limit the linking of tones to TBU's, an additional rule is required to link any remaining free TBU's to tones after the application of the spreading rules. This rule, stated above, has been called the Linking rule (39).

Finally, it was considered necessary to revise the Low Delinking rule to include the delinking of any tone on the left side contour tone given the conditions in the rule (40).

In summary, then, the rules are given below:
3. Mid Tone Lowering

The final rule we shall discuss with in this section is a sentence final rule involving Mid tone verbs. A Mid tone verb is lowered to Low when preceded by a High final noun or Pronoun and found to be in sentence final position.

\[ M \rightarrow L / H \quad \# \# \]

\[
\begin{array}{c|c}
CV & CV \ \text{CVCV} \\
\hline
H & M \\
M & H \\
\end{array}
\]

\[
\begin{array}{c|c|c|c|c}
wàà fàëšxà tuxà & wàà fàëšxà tuxà \\
\hline
H & M & H & L
\end{array}
\]

"He carried a rock"

Why a High tone would force the lowering of a Mid tone is unclear at this point. At the outset it appears to be a type of a dissimilation Process. A few Parallels can be drawn with other sentence final Phenomena. First of all, recall from Chapter 3 that High final indefinite nouns exhibit a falling tone phonetically when in sentence final Position (see (42a) below). A Phrase final Low tone Insertion rule (27) was Proposed. It seems that this tendency for a High tone to fall is transferred to the Mid tone verb, which collapses from the weight of the fall and becomes Low tone (42b). Note that the High final noun, which would normally exhibit a falling tone in sentence final Position, no longer falls when followed by a Mid tone verb or any other element. That fall is transferred to a Mid tone verb, however, only as long as the verb itself is
in sentence final Position. As soon as something else follows the verb, no falling phenomena takes place, as shown in (42c).

(42) a. fáléxâ 'rock'
    b. waà fáléxâ tuxo → waà fáléxâ tuxò 'He carried a rock'
    c. waà fáléxâ tuxo la 'Did he carry a rock?'

One may ask why a Mid tone verb would be susceptible to this fall but not a High tone verb, for example. If a Mid tone verb is analyzed as a raised Low tone, as has already been suggested, this falling phenomenon could be described as Pushing the raised Low tone back to Low, or in terms of features, as h deletion or h delinking.

(43) CV CVCV
    |   |
    H  L
    |  ‡|
    h  h

Such a High Delinking rule may be formulated as follows.

(44) SUBREGISTER HIGH DELINKING: Delink a subregister High tone from a Primary level Low tone when Preceded by a Hh tone and in Phrase final Position.

    X  X ##
    |   |
    H  L
    |  ‡|
    h  h

The motivation of this High delinking is not entirely clear, however. Recall,
also, another Phrase final rule, also labeled High Delinking, but which involves the delinking of a Primary tier High tone in Phrase final Position when it shares a TBU with a spreading Low tone, as shown below:

(45) CV CV ##
    L H

Although the Lh feature bundle is not a sequence of tones and therefore, not a contour, it is possible that some feature simplification process not unlike contour simplification of delinking a Primary High tone of a Low-High contour, is taking place on Lh verbs, triggering the delinking of the subregister High from the Low tone.

The falling of the High final noun in sentence final Position and the lowering of Mid tone verbs after High final nouns in sentence final Position may also lead one to suspect that these two processes are motivated by the same underlying feature. A falling tone on a High final noun can be represented through the insertion of a Low tone feature in sentence final Position:

(46a) fa'ifəxə ™ ™
    H L

However, if one inserted a final Low tone after a Mid tone noun, a Mid-Low tone rather than Low tone is produced, as shown below.

(46b) fa'ifəxə nyə ™ ™
   H L L
   h h

If the Low tone was inserted between the noun and the verb, a Low-Mid contour
would result on the verb. In either event, High Delinking would still have to be motivated, in order to delink the subregister High tone.

In spite of the parallel that can be found between the behaviour of the High final noun and Mid tone verbs which are preceded by High final nouns, there does not seem to be a clear way to capture this generalization in a single rule.

The rule of subregister High Delinking is also very similar to the rule of High Deletion, introduced in Chapter 2. Both rules either delete or delink the subregister High tone of a Lh verb and both have the same effect of lowering a Mid tone verb to Low tone. However, they occur in different environments and at different stages in the derivation. High Deletion takes place early in the derivation before Low tone spread within word boundaries, while High Delinking takes place in a specific phrasal environment. Thus High Deletion appears to be a lexically based rule while High Delinking takes place at the Phrase level.

This High Delinking rule, then, is similar to other tonal phenomena found in the language. It takes place at the same stage of derivation as the Primary register High Delinking rule and the Low tone insertion rule, and it also produces the same surface form as High Deletion. Any possibility of making a generalization covering all of these similar characteristics will have to wait for further research.
III. THE VERBAL PARTICLES

This section examines the tonal nature of the verbal particles in addition to discussing how their tone affects the tone of the verb. As the tone of the verb is sensitive to the tone of the preceding NP, namely the object, so the Verbal Particle is subject to tonal rules triggered by the tone of the preceding Subject NP. Verbal Particles are typically never found in isolation; their underlying tone can only be determined in the context of the verb phrase and sentence. An attempt at analysis is further complicated by the fact that even though Verbal Particles possess only one, or at the most, two, tone-bearing units, they appear to be tonally complex. This study will attempt to discover what the underlying tones might be, and outline an analysis that would account for this complexity.

A. Order Within the Verb Phrase

Before going on to discuss tone, it might be helpful to examine briefly the nature of this Verbal Particle 'slot' within the verb phrase. A variety of verbal particles can be inserted in this position immediately preceding the verb. A direct object, by its position in the sentence, however, can separate all of these particles from the main verb. No nominal elements can be inserted among the verbal particles. The terms, Tense, Aspect, Modal (TAM) markers, would not adequately cover for all of these particles, because the negative marker is also included, and there are a couple of particles preceding the TAM markers that I simply refer to as pre-tense markers, for lack of a better label. Preceding even the negative marker, which normally precedes all Verbal Particles, Pre-tense markers seem to be somewhat adverbial in function. Below is a schema of the allowed order of these particles. Tense and Modal markers
are often marked for either Complete (C) or Incomplete (I) Aspect (A).

(PRE-TENSE NEGATIVE - HABITUAL-A TENSE-A MODAL-A)

sèn?e yì mà?a ní whereas 'again'

Mà PAST (C) sàa 'go' (U)
m ná PAST (U) caà PAST (C)

'so'' 

Unmarked for aspect = (U) sì FUT (C) baa 'come' (I)

(normal normally indicates complete)

Completfive = (C) sì da FUT (I)

Incomplete = (I) yà PRES (I)

nà?ë PRES (I)

Though this list contains most verbal particles, it is not exhaustive. Within narratives, a number of these particles also carry discourse functions, combining in numerous ways. It is not within the scope of this thesis to discuss the semantics and discourse properties of these particles. The purpose is to present most of the particles and examine their tonal behavior within the simple sentence. Below are some possible combinations of particles.

(48) a. mo nà caà sà ò 'You had cooked'

you PAST(U) PAST(C) cook(C)

b. mo nà caà sà dì 'You had been cooking'

you PAST(U) PAST(I) cook(I)

c. mo mà?a sì Pèrë 'You will sell habitually'

you HAB FUT(C) sell(C)
d. mo nîl saa Pèriî 'You went to sell'
   you PAST(C) M'go'(I) sell(I)

e. mo sen?é nîl Pan 'You have come again'
   you again PAST(C) come(C)

f. mo mà yi nîl Pan mën 'You did not come either'
   you also NEG PAST(C) come(C) NEG

Note that the translations of these particles are not precise. For instance, I have not indicated at what Points in the Past each Past tense marker is used for. Determination of the exact meanings of these particles is rather complicated and requires a rather rigorous study of the discourse behavior.

B. Aspect in the Verb Phrase

Completeive aspect on TAM markers is sometimes unmarked, that is, possessing no segmental or tone features. More frequently, however, the completeive aspect is characterized by a final low tone sometimes associated with the vowel -à. The incompleteive aspect, on the other hand, is consistently Mid tone and sometimes associated with the vowel -à. Below are some examples of unmarked and marked completeives in contrast to their incompleteive counterparts.

(49)

<table>
<thead>
<tr>
<th>Completeive (Unmarked)</th>
<th>Incompleteive</th>
</tr>
</thead>
<tbody>
<tr>
<td>wu ná sá só?ò /so?ò/ cook</td>
<td>wu ná sá-a sóèòi /soorí/</td>
</tr>
<tr>
<td>wu ná sá Pèriî sell</td>
<td>wu ná sá-a Pèriî</td>
</tr>
<tr>
<td>'he had gone to cook, sell'</td>
<td>'he had gone to be cooking, selling'</td>
</tr>
<tr>
<td>Completeive (with I tone)</td>
<td>Incompleteive</td>
</tr>
<tr>
<td>wu ná ca-à so?ò la cook</td>
<td>wu ná ca-à soorí la</td>
</tr>
<tr>
<td>'he had cooked?'</td>
<td>'he had been cooking?'</td>
</tr>
</tbody>
</table>
Aspect is marked on connectives between verbs in a verbal chain, as seen in
the examples below.

(50) Complete (C)

a. wu à pérfi à kò → waa pérlfi kò 'he finished selling'
   he C sell C finish

b. wu à wu lò à Pan → waa wù lò Pan 'he brought it'
   he C it take C come

c. wu à tòxì à sùlù → waa tòxìà sùlù 'He vomited too much'
   he C vomit C surpass

d. nda à wèrí à yèrí → ndaa wèrlé yèrlé 'I got up early'
   I C be early C get up

(51) Incomplete (IN)

a. wu ya wèrlé na sè 'he is hurrying to go'
   he IN be early IN go(IN)

b. wu ya fyàlè na mà 'He is hurrying and coming'
   he IN hurry IN come(IN)

(52) Complete + Incomplete

a. wu à kò na pérlé → wàà ko na pérlé 'He finished selling'
   he C finish IN sell

b. wu à kò na soorì → wàà ko na soorì 'He finished cooking'
   he C finish IN cook

1. The Incomplete Aspect

The Incomplete aspect marker consistently manifests a Mid tone. As a
result, one would expect it to be considered underlingly Lh and thus trigger
High tone spread onto Low tone verbs, since this is the behaviour of Mid final
nouns. However, as the example in (33a) shows, such High tone Spreading
produces an incorrect surface form.

(33a) wu ya tuxi --> *wu ya tuxif 'he is vomiting'

Rather: wu ya tuxi.

However, the incompletive tone behaves in the same manner as a High final noun
by lowering Mid tone verbs to Low tone in Phrase final Position, as shown
below:

b. wu ya soori --> wu ya sodri 'He is cooking'

c. wu si nta soori --> wu si nta sodri 'He will be cooking'

d. wu ca-a soori --> wu ca-a sodri 'He had been cooking'

This observation leads us to suspect that the incompletive marker is underly-
ingly High final. If we propose that the underlying shape of the incompletive
marker is a combination of a Low tone and a High tone, the linking of both
tones to one tone bearing unit would create a Mid tone on the surface. This
High final particle would then trigger High Delinking on a following HL verb,
as shown below.

(54) wu ca-a soori ## --> wu ca-a sodri ##

      LHH LHH

H DELINKING

This discussion, then, shows that there are at least two types of Mid tones
in Suceite, the Lh tone tentatively posited for nouns and verbs, and the LH tone
for the incompletive aspect. The Lh tone can trigger High tone Spreading while
a LH tone cannot. On the other hand, the LH incomplete can trigger High tone Delinking on a following LH verb in Phrase final Position. While the LH tone can be subject to tonal change, through such rules as High Deletion or High Delinking, the LH tone of the incomplete never undergoes tonal changes. It does not even undergo the Primary register High Delinking rule when followed by a High tone verb. Recall that High Delinking takes Place on a Low-High contour when it is followed by another High tone. The example below shows that High Delinking would produce an incorrect surface form.

\[(55) \text{wu ya péří-} \rightarrow \text{wu ya péří-} \rightarrow \text{he is selling} \]
\[\text{LH} \quad \text{H} \quad \text{H} \quad \text{LH} \quad \text{H} \quad \text{H} \quad \text{Rather: wu ya péří} \]
\[\text{lh} \quad \text{h} \quad \text{h} \quad \text{lh} \quad \text{h} \quad \text{h} \quad \text{HIGH DELINKING} \]

Therefore, it is necessary to block the LH tone of the incomplete from High tone Delinking. Since most Low-High contours found elsewhere in the language do undergo High Delinking, it seems that the only alternative here is to lexically mark the LH incomplete to refrain from High Delinking.

2. The Completeive Aspect Marker

Earlier, it was noted that the most salient feature of the completeive aspect was that it was Low tone, and that it was often associated with the vowel å. Since it is vowel initial, it coalesces with the vowel of the preceding word, be it a verbal particle (56a), noun or Pronoun (b), or verb (c).

\[(56) \text{a. wu ca-å pan} \quad \text{he had come} \]
\[\text{b. wu å pan} \rightarrow \text{wa-å pan} \quad \text{he came} \]
\[\text{c. wu-å wå lå å pan} \rightarrow \text{wåå wå lå-å pan} \quad \text{he took it and came} \]
Like Low final nouns, the Low tone of the complelve aspect markeralso
triggers Low tone spreading onto the following verb. This is illustrated in the
examples below. In (57b), note that the complelve aspect is located in two
positions in the sentence, the first immediately after the subject, and the
second as a connective between the two verbs. Both trigger Low tone spread onto
the following High tone.

(57) a. wu ca-à kàrí -> wu ca-à kàrí  'He had gone'
   \H H\  \H H\  
   l h   l h

   LOW SPREAD   LS DELINKING

   \H H\  \H H\  
   l h   l h

   LOW SPREAD   LS DELINKING

The above derivations, however, are not yet quite complete. When the
complelve marker is followed by a Low tone, the Low tone on the marker is
itself delinked and it assumes the tone of the word to which it has coalesced.
This happens regardless of whether the Low Spread has taken place or not.
Therefore, if the marker has coalesced to a word whose surface tone is Mid tone
(58a and c), it becomes Mid tone, and it becomes High tone after a High final
word (58b, d, and e).

(59)a. wu ca-à kàrí -> wu caa kàrí  'He had gone'
   \L H\  \L H\  
   l h   l h
After Low tone words, however, there is a slight deviation from the Pattern given above. As a connective, it remains Low tone (59a), but when in verbal Particle Position, after the subject, it acquires a Mid-Low tone (b and c).

(59) a. waa tuxi a suurì → waa tuxaa suurì 'He vomited too much'
   b. wu-ä yala na bi gbûnn 'We should hit them'
      we-TA should IN them hit-IN
   c. nàà-ä yala mà kalè tân wù yo 'Man should love God'
      man-TA should __ God please him self-to

This Mid-Low contour shows up only when Preceded by a Low final nominal subject. It is entirely possible that in this position, the segment, à, is morphologically complex, containing the completive marker as well as perhaps some indication of tense, and thus making à more tonally complex. The reason for this slight complication, however, remains unknown at this particular stage of research.

Let us return to the discussion of the completive Low tone delinking when followed by a Low tone. The issue facing us here is how to formulate a rule for
this tonal behaviour. This type of Low tone Delinking appears to be the same type of contour simplification rule as High tone delinking in that both trigger the delinking of the right side of the contour tone when the following tone is the same tone as the right side contour tone. This Low tone delinking is compared with High tone delinking in the examples below.

(60)a. Low Delinking  \[\text{waa 9bèrà} \]
[ML \checkmark L]

b. High Delinking  \[\text{waa wà l'à gu} \]
[\checkmark L H H]

If one made a generalized rule delinking the right side of a contour tone when the following tone is the same as the right side contour tone, then the two tonal processes illustrated above in (60) can be collapsed into one rule. The only complication that arises is that Low Delinking involves a contour tone on a long vowel, which in Sucite, represents two tone-bearing units, while High Delinking involves only one TBU. Even with this problem, however, it would not be difficult to propose a single rule for both processes. This rule, labeled Rightside Delinking, is stated below:

(61) RIGHTSIDE DELINKING: Delete the rightside of a tonal contour of either a long vowel, composed of 2 TBU's or a single vowel, when 1) it is followed by a surface tone which is the same as the rightside tone of the contour, or 2) when it is in sentence final position.

\[(v, v)\]

\[
\frac{X}{T_1 T_2} \begin{cases} X \mid T_2 \\ \#\# \end{cases}
\]
This rule would work well for the examples given above. Unfortunately, however, this rule does not apply in all cases. In (62a) below, a Mid-Low tone on a single TBU does not undergo RS Delinking when followed by a Low tone, while in (b), a noun with a contour tone on a long vowel is does not submit to the rule.

(62) a. waà jà gbàrà ‘he met a son’
   \[\text{ML} \quad \text{L}\]

   b. waà fyàa nya ‘he saw a fish’
   \[\text{HM} \quad \text{M}\]

Both of these counter examples involve nouns, and neither involve a Low-high tone. Therefore, it appears that this RS Delinking has a fairly limited application - delinking the High of a Low-High contour (this has been attested on nouns as well as verbs), and the delinking of a completive Low tone when it is followed by a Low tone. These problems bring into doubt the feasibility of motivating the RS Delinking rule. However, despite its controversial position, this rule shall be used for the Purpose of convenience.

It was mentioned in the RS Delinking rule that the tone of the following TBU must be the same on the surface as the Right side tone of the contour. This means that if a completive Low tone is followed by a Low-High contour which has simplified to Mid tone, then no RS Delinking takes Place. This can be seen in the example below.

(63) wu à lì la \(\rightarrow\) waà lì la \(\rightarrow\) waà lò la ‘Did he take?’
   \[\text{ML} \quad \text{HM} \quad \text{L-1} \quad \text{HM}\]
   \[\text{LOW SPREAD} \quad \text{RS DELINKING N/A}\]
However, if RS Delinking of the Low-High contour on the verb takes place, as shown in (64), then the completive Low tone, which immediately precedes this Low-High contour, also undergoes RS Delinking.

\[(64)\text{a. } \text{waa lə nʊʊ } \rightarrow \text{ waa lə nʊʊ} \]

\[\begin{array}{c|c|c}
\text{ML} & \text{H} & \text{ML} \\
\text{H} & \text{H} & \text{H}
\end{array}\]

It is clear from the above example that the RS Delinking of the Low-High contour must take place before the Delinking of the completive Low tone. This may lead one to raise the question that these two tone processes might be better stated in two different rules, and that the one, High tone Delinking, be ordered to apply before the other, Low tone delinking. However, another way to approach the Problem is to suggest that RS Delinking applies from right to left across the sentence. Thus, if High tone is delinked from the Low-High contour, a surface Low tone results, creating a suitable environment for the delinking of the completive Low tone, situated to the left of the Low-High contour.

C. Tense, Modal, and Other Particles

1. The NA Particle

The na Particle is a Past tense marker, but it differs in use from the simple recent past -nə, discussed above. Carlson gives an apt description of na for Sùpyiré, which seems to apply equally well to Sùcîté: "The function of na in situating events relative to each other may have something to do with its development into a past tense marker. As a T/A marker, its commonest use is to set the tense in the first clause of a narrative." (1985, p.12) He goes on to say that na is not used in subsequent clauses. This is also true for Sùcîté. In addition, he says "Another function of na is emphatic. It is used to assert
strongly that something did take place when doubt has been expressed."

Although ná may be accompanied by a completive Low tone marker (65a), it is
often occurs alone without any other verbal particle. When it occurs alone, ná
is consistently followed by verbs in the completive aspect (b).

(65) a. wu náa kàrí 'he went'
   b. wu ná kàrí 'he went'

Its tonal behavior is identical to the tonal behavior of High tone verbs. When
preceded by a mid or high tone subject, ná is High tone, as shown in the
examples below.

(66) a. wu ná kàrí 'He has gone'
   b. mo ná kàrí 'You have gone'
   c. Poru ná kàrí 'A daughter has gone'
   d. fáláxá ná kàrí 'a rock has gone'

When preceded by a Low final subject, the Low tone spreads onto ná creating a
Low-High contour, as shown below. This contour tone then simplifies to Mid tone
if it is followed by a non high tone verb (67a). However, if followed by a High
tone verb, the environment for RS Delinking is created resulting in a surface
Low tone for ná (b).

(67) a. nàá nà gbarà → nàá nà gbarà → nàá nà gbarà 'A man agreed'

\[ L \ H \ L \ L \ H \ L \ L \ H \ L \]

L-SPREADING LINKING

b. nàá ná kàrí → nàá nà kàrí → nàá nà kàrí 'A man has gone'

\[ L \ H \ H \ L \ H \ L \ H \ H \]

LOW-SPREADING LINKING & RS DELINKING
Since ประเทศไทย is High tone, it triggers the lowering of Mid tone verbs in final Position through subregister High Delinking (c), even when it has been subject to Low tone Spread (d).

\[ \text{c. } \text{wū nā Pan} \rightarrow \text{wū nā Pān} \quad \text{'he came'} \]

\[ \text{HIGH DELINKING} \]

\[ \text{d. } \text{nā̀ nā Pan} \rightarrow \text{nā̀ nā Pān} \rightarrow \text{nā̀ na Pān} \quad \text{'A man has come'} \]

\[ \text{L-SPREADING \ LINKING \& HIGH DELINKING} \]

2. The Nīi Particle

The Nīi Particle signals Past tense. The precise semantic function of this Particle is not known at the present time. When used without other verbal Particles, it is always accompanied by a completive verb.

\[ \text{(68) } \text{wū nīi Pan} \quad \text{'he came'} \]

Nīi is composed of a High Plus Low tone. It is believed that this Low tone indicates the presence of a Low tone completive marker. This Low tone triggers Low tone spread onto High tone verbs, and then, is itself subject to RS Delinking, as seen below.

\[ \text{(69) } \text{wū nīi kārī} \rightarrow \text{wū nīi kārī} \rightarrow \text{wū nīi kārī} \rightarrow \text{wū nīi kārī} \quad \text{'He went'} \]

\[ \text{L-SPREADING \ LS DELINKING \ RS DELINKING} \]
When *ni* is preceded by a Low tone, it is also subject to Low-spreading. The resulting LH contour on *ni* is simplified to Mid tone:

\[ \text{LH} \rightarrow \text{Mid} \]

(70) \( \text{nà̀ nì Pan} \rightarrow \text{nà̀ nì Pan} \rightarrow \text{nà̀ nì Pan} \)

\[ \text{LHL} \rightarrow \text{LHL} \rightarrow \text{1} \]

\[ \text{1 h 1 h} \]

LOW SPREADING

3. The Future Tense

The future tense morpheme is characterized by a H tone segment, *sí* (n).

Because of the final nasal of the morpheme, the consonant of any verbal element immediately following the future marker is nasalized:

\( \text{ndà sì n wée} \rightarrow \text{ndà sì ngè} \) 'I will look'.

However, if an object intervenes, the nasal disappears:

\( \text{ndà sì xà wée} \) 'I will look at you'.

When a future tense morpheme is marked for completed aspect, a Low tone is linked to the particle, creating a HL contour.

(71) \( \text{mo sì mPan} \). 'You will come'

\[ \text{HL} \]

This final L triggers Low tone spreading onto High tone verbs and is subsequently subject to RS Delinking.

(72) \( \text{wu sì nkà̀ rí} \rightarrow \text{wu sì nkà̀ rí} \rightarrow \text{wu sì nkà̀ rí} \rightarrow \text{wu sì nkà̀ rí} \) 'a man will go'

\[ \text{MHL} \rightarrow \text{MHL} \rightarrow \text{MHL} \rightarrow \text{MHL} \]

L-SPREADING LS DELINKING RS DELINKING

When *sì* is itself subject to Low Spread by a preceding Low tone, the resulting LHL tonal contour is simplified to Mid-Low, as seen below.
When the future tense marker is used with the incompleteive aspect, it is followed by the incompleteive aspect particle, Ɂa. This particle is apparent in incompleteive imperative forms of the verb:

(74) ta sèè 'be going!'
    ta wiį 'be looking!'

When followed by the future tense particle, the Ɂ is nasalized, producing the Phonetic form, [dəd] of /nta/: wu sì nta sè 'he will be going'. The Particle, Ɂa is Mid tone on the surface and is never susceptible to any tonal changes. However, as with other incompleteive particles, Ɂa triggers the High Delinking of Lh verbs and therefore has been posited as being underlyingly Low-High. The derivation below shows how this underlying Low-High tone triggers High Delinking on the Lh verb:

(75) wu sì nta sòorì --> wu sì nta sòdri --> wu sì nta sòdri 'he will be cooking'

The future tense Particle, sì, in conjunction with the incompleteive aspect particle, continues to be subject to Low Spread when Preceded by a Low final subject, as shown below. In this case, the resulting Low-High contour is simplified to Mid tone.
4. The Incompletive náʔá

The incompletive Progressive Particle, náʔá, is also marked for the incom­pletive LH tone. The latter is attached to the final tone-bearing unit of náʔá, creating a HM contour on the final TBU:

(77) wu náʔá má. 'He is coming'

When náʔá is subject to L-sprading, the following takes place:

(78) ná náʔá má → ná náʔá má -> ná náʔá má → ná náʔá má

5. The CA Particle

The meaning of ca seems to indicate action further in the past than the focal Point of the narrative. It is frequently combined with the ná past tense marker. The Particle ca may have been derived from the verb ca, meaning 'to do'. The verb ca and the Particle ca are both Mid tone. Ca is not subject to any tonal rules. It is not known whether ca is underlyingly Low-High tone or Lh, since ca is always followed by an incompletive or a completive marker, whose tonal behaviour do not reveal any clues as to the possible underlying tone of ca.

When followed by a completive Low tone, the resulting complex Particle, caá,
triggers Low tone Spreading onto High tone verbs, as shown in (79a). When followed by the LH incompleteive marker, High Delinking takes place on any following Mid tone verb (80b).

(79) Completive
   a. wu caà so?o 'He had cooked'
   b. wu ca-à kàrî --> wu caa kàrî 'He had gone' (L SPREADING)

(80) Incompletive
   a. wu caa sé 'He had been going'
   b. wu caa soori --> wu caa sóôrî 'He had been cooking' (H DELINKING)

6. The Habitual mà?à

   When the Habitual marker is in a completive Phrase it is not marked with the completive Low tone. In fact, in most environments, the difference between the completive and incompleteive forms is not perceptible. The examples given below show that in both completive and incompleteive Phrase, mà?à triggers High tone Delinking on both forms of the Mid tone verb, thus lowering a Mid tone verb to Low tone.

(81) COMPLETIVE   wu mà?à s373 /so?o/ 'He cooked habitually'
                     INCOMPLETIVE wu mà?à sóôrî /soori/ 'He is cooking habitually'

However, when followed by a High tone verb, the completive and incompleteive Phrases exhibit different behaviour. In the completive Phrase, mà?à is completely Low tone (82a) while in (b) it remains Low-Mid.

(82) a. COMPLETIVE   wu mà?à kàrî 'He usually went'
     b. INCOMPLETIVE wu mà?à sé 'He was usually going'
If one posited the underlying tone of mà7a to be underlyingly Low-High, with an internal Low tone spreading rule spreading the Low of the first TBU onto High tone of the second TBU, the final syllable of mà7a can then be linked to both a Low and a High tone, creating a final Mid tone, as shown in the first Part of the derivation in (83). Once the Low Spreading takes place, a Low-High contour followed by a High tone verb is the environment needed for RS Delinking.

\[(83) \text{mu mà7a kàrí } \rightarrow \text{mu mà7a kàrí} \quad \text{'He usually went'}\]

\[
\begin{array}{c}
\text{L H H} \\
\text{L H H} \\
\end{array}
\]

LOW SPREAD \quad LINKING & RS DELINKING

However, when the LH incompletive tone is associated to the final TBU of mà7a, RS Delinking is blocked because the sequence of two High tones required for the application of the RS Delinking rule on Low-high contours, has been broken up by the LH marker. This is illustrated below.

\[(84) \text{mu mà7a sè} \]

\[
\begin{array}{c}
\text{L H LH H} \\
\end{array}
\]

Subject tone does not seem to affect the tone of mà7a. One might expect High tone spreading to take place when the habitual marker is preceded by a Mid final subject. This, in effect, does not take place.

\[(85) \text{mu mà7a mà } \rightarrow \text{*mu mà7a mà} \quad \text{'You are usually coming'}\]

\[
\begin{array}{c}
\text{L L H LH H} \\
\text{L L H LH H} \\
\text{h l h l h} \\
\text{h l h l h} \\
\end{array}
\]

LOW SPREAD \quad HIGH SPREAD

The Compleitive Low tone is also impervious to High tone spread, as shown below.
(86) mu à Pan —> mod Pan, *moo Pan, 'you came'

Perhaps it is peculiar to verbal particles that they are not susceptible to High tone spread. The reason for such an exception is unknown at the present time.

The Modals

Modal never occur alone in a verbal particle string. A TA particle always precedes a modal.

7. The Modal SA

The modal, SA is derived from the High tone verb, sa, meaning 'to go'. In a completive phrase, SA is unmarked for aspect. Below are two charts facilitating a quick overview of the effect of different combinations of tone within the completive sentence on the modal. In (87), a High tone verb is used while the examples in (88) feature a Mid tone verb. A brief glance at the two charts will reveal that SA alternates between a Low and High tone when a High tone verb follows while it alternates between Mid and High tone before a Mid tone verb. It is also seen in (88) that a Mid tone verb is always Low tone after SA, indicating that in all settings SA has an underlying High final tone. Each of the charts has three rows and two columns. Each row features a different TA marker, while each column features a different subject. Note that the tone of the modal varies according to the underlying tone of the preceding verbal particle. The presence of the two columns shows that while the tone of the TA marker may vary according to the tone of subject, the tone of the modal which follows the TA marker, remains unaffected by the tone of the subject.
If one posited \( \text{sa} \) as being underlyingly High tone, the tonal alternations given above can be easily explained. The first two TA markers in each chart, being Low final, would trigger Low tone Spreading onto \( \text{sa} \), which, once having acquired the Low-High contour, undergoes RS Delinking if followed by the High tone verb, but is simplified to Mid tone if followed by a Mid tone verb. The derivations of (87a) and (88a) are given below to illustrate how the tone of both the verb and the preceding verbal particle affect the surface tone of \( \text{sa} \).

(87a) \( \text{wa\aa \aa P\text{\textipa{r}}} \rightarrow \text{wa\aa \aa P\text{\textipa{r}}} \rightarrow \text{wa\aa \aa P\text{\textipa{r}}} \)

\[
\begin{array}{cccc}
\text{ML} & \text{H} & \text{H} & \text{ML} \\
\text{H} & \text{H} & \text{H} & \text{H}
\end{array}
\]

LOW SPREAD  LINKING & RS DELINKING

(88a) \( \text{wa\aa \aa so?o} \rightarrow \text{wa\aa \aa so?o} \rightarrow \text{wa\aa \aa so?o} \rightarrow \text{wa\aa \aa so?o} \rightarrow \text{wa\aa \aa so?o} \)

\[
\begin{array}{cccc}
\text{ML} & \text{H} & \text{L} & \text{ML} \\
\text{H} & \text{L} & \text{L} & \text{L}
\end{array}
\]

LOW SPREAD  HIGH DELINKING  RS DELINKING N/A
For the incompletive of sa, the LH incompletive suffix, -a, is added. Since it too is High final, the incompletive form of sa also triggers High Delinking of Mid tone verbs. The examples below, show the incompletive sa with (89a) a High tone verb, (b) a Mid tone verb, and (c) a Low tone verb.

(89) a. mo nə sa-a péřřřř "You Past going agreeing"
b. mo nə sa-a sòòòò /soorī/ "You Past going cooking" c. mo nə sa-a gbàrí "You Past going agreeing"

When the incompletive sa is preceded by a Low tone, it is naturally subject to Low tone Spread. However, it no longer undergoes RS Delinking when followed by a High tone verb, because the intervening incompletive suffix destroys the environment for RS Delinking. The resulting surface tone for the incompletive sa is Mid tone. This can be seen in the derivation below.

(90) waã sa-a Péřřřř --> waã sa-a Péřřřř "he was (going) selling"

LOW SPREAD & LINKING

8. The BA Modal

The Modal, ba is probably derived from the Mid tone verb, pan. It is consistently Mid tone on the surface, though underlingly, it is clearly High final, since it triggers High Delinking on Mid tone verbs. Thus, ba appears to have the same underlying tone as the incompletive aspect, LH. The fact that ba appears to have derived from a Mid tone verb which is analyzed as being underlingly LH (that is a raised Low tone) may indicate that there is some historical connection between a Low-High contour tone and a raised Low tone.
When used in a completive phrase, ba remains unmarked for aspect. When the
incompletive suffix, -a, is added, it remains Mid tone on the surface but is
underlyingly High final. Below is a chart showing ba in combination with
various verbs and verbal particles, both in the completive and the incompletive
form. In all cases, ba remains Mid tone. The sentences in (91b) and (g) show
that both the completive and incompletive forms trigger High tone Delinking of
Mid tone verbs.

(91) Completive                      Incompletive
a. wu ná ba Péřé
   f. wu ná ba-a Péříí
   'he ___ sell'
b. wu ná ba sòìì /sɔɾ̥i/    g. wu ná ba-a sòìì /sɔɾ̥i/    'he ___ cook'
c. wu ná ba gbàrà
   h. wu ná ba-a gbàrìì
   'he ___ agree'
d. wáà ba gbàrà
   i. wáà ba-a gbàrìì
   'he ___ agree'
e. wáà ba Péřé
   j. wáà ba-a Péříí
   'he ___ sell'

9. The Pre-Tense Particles

Pre-Tense Particles appear at the beginning of the Verbal particle string. I
have identified two such particles: sànàví means 'again' indicating that the
action of the verb phrase has been repeated a second time. The particle mbó
seems to have a closer connection with the subject, in that it means 'also'.
The subject, in addition to another previously mentioned subject, commit the
same act. It appears that this is the only position in the sentence where
either particle is allowed.

Both sànàví and mbó may be combined with numerous other tense and modal
particles both in the incompletive and completive aspect. They are not marked
for aspect themselves. Since they both end in an underlying High tone they
behave as typical High final words in that they trigger the High tone Delinking
of Mid tone verbs. Both are susceptible to rules triggered by the tone of the subject.

Let us take a look at mām. As expected, when preceded by a Mid tone, mām remains High (see (92a)), but when preceded by a Low tone, Low tone Spreading goes into effect and a LH contour results (92b and c). Because mām has two TBU's, the LH contour does not simplify to Mid tone.

(92) a. mo mām ya sōdrī 'you also are cooking'
b. nā mām ya sōdrī 'a man is also cooking'
c. cəewə mām ya sōdrī 'a woman is also cooking'

The Particle sənʔe remains Low-Mid on the surface (93a and c) until it is preceded by a Mid tone element (d). When this is the case, the Particle is Mid-High in tone. This behaviour can be explained if sənʔe is posited as having an underlying Low-High tone with an internal Low tone spreading rule. Thus, the Low tone would spread onto the second TBU of the Particle creating a Low-Mid tone. This is illustrated in (a) below. When sənʔe is followed by a High tone verbal particle, as in (b), it undergoes RS delinking, producing a surface Low tone on the final TBU of the Particle.

(93) a. nā sənʔe ya mə L L H LH H 'a man is coming again'
   LOW SPREAD

b. nā sənʔe ná kərī → nā sənʔe ná kərī L L H H H H L L H H H 'a man has gone again'
   LOW SPREAD LINKING & RS DELINKING
c. fállékë sëÒë ya mä 'a rock is coming again'

When preceded by a Mid tone however, it appears that High tone spreading takes place before Low tone spreading has a chance to apply, as the derivation below shows, thus producing a Mid-High tone.

d. mo sëÒë ya mä —> mo sëÒë ŋa mä 'you are coming here'

10. The Negative Particle

The negative particle has been dealt with last, but this is not because it is particularly complicated. It is a simple Low tone which triggers the Low Spreading rule if the conditions have been met, and optionally vulnerable to High tone Spread. High Spreading onto the Negative Particle seems to be a matter of free variation among speakers of Sùcîte. Vi comes after the pre-tense particles mentioned above, but before any other particles. The Negative sentence is formed by the insertion of Vi in the verbal particle string and by placing the morpheme mën at the end of the sentence. The only other element that is allowed to come after mën is the yes-no question marker, la. Here, then, are some assertive sentences with their negative counterparts:

(94) Assertive                Negative
a. mu mäk në pän        b. mo mäk Vi na pän mën      'you also did not come'
c. mu mäk mä?a së?ë      d. mu mäk Vi mä?a së?ë    'you also did not Hab-cook'
e. wu ni{k kërlë          f. wi{l ni{k kërlë mën      'he did not go'
In (94) \( \mathbf{\ddot{w}} \) coalesces with the subject: \( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \rightarrow \mathbf{\ddot{w}} \mathbf{\ddot{w}} \). With the recent Past Particle, \( \dddot{a} \) and the present incomplete Particle, \( \mathbf{\ddot{y}} \mathbf{\ddot{a}} \), the tonal presence of \( \mathbf{\ddot{w}} \) is less perceptible:

(95) Assertive Negative

a. \( \ \mathbf{\ddot{w}} \mathbf{\ddot{a}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he did not come'

b. \( \ \mathbf{\ddot{w}} \mathbf{\ddot{a}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he is not cooking'

c. \( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{r}} \mathbf{\ddot{i}} \) 'he did not come'

d. \( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{s}} \mathbf{\ddot{\ddot{O}}} \mathbf{\ddot{r}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he is not cooking'

Below is an example of free variation concerning the use of the High spreading rule:

(96) a. \( \mathbf{\dddot{m}} \mathbf{\ddot{u}} \mathbf{\ddot{i}} \mathbf{\ddot{n}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'You have come'

b. \( \mathbf{\ddot{m}} \mathbf{\ddot{u}} \mathbf{\ddot{i}} \mathbf{\ddot{n}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'You have not come'

c. \( \mathbf{\ddot{m}} \mathbf{\ddot{u}} \mathbf{\ddot{i}} \mathbf{\ddot{n}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'You have come'

In (96b), Low Spreading occurred because High Spreading was not in effect. In (c), however, High Spreading has Preceded Low Spreading thus blocking the latter from applying.

The sentence final negative morpheme, \( \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{a}} \mathbf{\ddot{r}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \), operates tonally, much like the definite suffix. It is High tone after Mid tone verbs and Mid after High and Low verbs:

(97) \( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he did not come'

\( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he did not go'

\( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he did not agree'

\( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he is not meeting'

\( \mathbf{\ddot{w}} \mathbf{\ddot{y}} \mathbf{\ddot{a}} \mathbf{\ddot{P}} \mathbf{\ddot{a}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \mathbf{\ddot{e}} \mathbf{\ddot{i}} \mathbf{\ddot{m}} \mathbf{\ddot{e}} \mathbf{\ddot{n}} \) 'he is not meeting'
In the latter example, the incompletive form of ǝbàrǝ possesses a final underlying High tone incompletive suffix which is subject to Low tone Spread and finally to Right Side Delinking.

IV. CONCLUSION

The discussion in Chapter 4 has led to the reformulation of several rules as well as the introduction of new ones. Low tone Spread required only minor revision (11), while the analysis of Low tone Spread onto multiple TBU verbs led to the the reformulation of the Association Conventions (16) allowing, in the initial linking of tones to TBU's, the linking of a tone to no more than one TBU. The rule of High Delinking (37 - Ch.2) was renamed RS (Rightside) Delinking (61) to include other contour tones whose rightside tone delinks in a specific environment. In addition, the rule of Mid tone Delinking (53) introduced briefly in Chapter 3, and the delinking of the Low tone in a Low-High contour, were found to take place in the same general environment. Thus, the rule of LS (Leftside) Delinking (40) was formulated to include both Processes.

The new rules introduced were Subregister High tone Delinking (44), Subregister High tone Spread (35), Subregister High tone Spread to TBU (36), and Linking (39). The first three employed the use of the subregister tier to formulate rules depicting respectively 1) the lowering of Mid tone to Low tone in Phrase final environment, 2) the raising of Low tone to Mid tone after Mid final nouns, and 3) the creation of a final High tone on Low verbs which had been raised to Mid tone, respectively. The rule of Linking involved a linking procedure usually assumed to be part of the Association Conventions, and that is, the linking of leftover TBU's of a morpheme to its tones after the application of other rules such as High tone Spread.
These rules, which were formulated in the discussion on the tonal behaviour of the verb were also tested for use on verbal particles. While it was observed that verbal particles could trigger Low tone Spread as well as be subject to the same rule, they tend to neither undergo nor trigger High tone Spread onto Low tone verbs. Since they are never found in Phrase final position, they were also never subject to subregister High tone Delinking.

Since the Mid tone verb behaved slightly differently from the Mid tone verbal particle, it was proposed that these two possessed different underlying tones. The Mid tone verbal particle, which triggered High tone Delinking was posited as being underlyingly Low-High, while the Mid tone verb was considered to be a raised Low tone, Lh.

Although not all questions could be resolved in these discussions, it will be seen in the final chapters of this thesis, that the rules proposed here can be used elsewhere in the language. The following is a summary of the rules in order of their application:

(16) Association Conventions
(11) Low Spread
(35) High Spread
(36) High Spread to TBU
(39) Linking
(40) LS Delinking
(44) High Delinking
(61) RS Delinking
NOTES

1. One may suggest, as a generalizing feature, to invoke the Oblatory Contour Principle, which simplifies a series of like tones into one and then to posit a rule such as the one below, i.e., delinking a High tone which is linked to the same TBU a Low tone and is also linked to the following TBU. X X
   \[ /H \]
   L H

   It will be seen in Chapter 5, however, that OCP can apply only in a very restricted environment. Although more research may need to be done, it was not deemed feasible to invoke the OCP in this situation.

2. Spreading of the Low tone to all TBU's of a High tone verb is actually what happens in Suyiire (Carlson, 1983, 1985). Low tone spreads onto High tone verbs and delinks High tone from all TBU's. As a result, the High tone word, wiil, acquires a surface Low tone when followed by a Low final noun, as shown below.

   \[
   \text{baaga wiil} \rightarrow \text{baaga wii} \quad \text{'it's a house'}
   \]
   \[
   \text{Mw L H} \quad \text{Mw L H}
   \]

3. The use of the double tiered approach for analysis in Suyiire is not used by Carlson, himself, though he does attempt a more traditional autosegmental approach.


5. This statement is debatable. Data will have to be scrutinized more closely to ascertain whether RS Delinking does take place on Mid-Low nouns or not.

6. A brief note should be made of the phonological behaviour of the final negative marker. When a verb ends in a High vowel (not tone), including a diphthongized verb ending in a High vowel, m\text{én} remains intact (see 1.). However, if the verb ends in a non-High vowel, the m is deleted and the remaining vowel coalesces to the vowel of the verb (2). Almost all incomplete verbs end in i or u, and therefore do not trigger a deletion. Conversely, most complete verbs end in a non-high vowel, causing assimilation of the negative morpheme to the verb.

   1. High final
      a. wu ya gbàrì m\text{én} 'he is not meeting'
      b. wu ya Pan m\text{én} 'from diphthong 'Paon') 'he did not come'

   2. non High final
      a. wu ya gbà̀rì m\text{én} \rightarrow wu ya gbàrè 'he did not agree'
      b. wu ya wèè m\text{én} \rightarrow wu ya wèè 'he did not look'
CHAPTER 5 - TONE IN THE SUCITE NOUN PHRASE

I. INTRODUCTION

Until now, we have looked at the tone and morphology of the noun (Chapter 3), and have seen how the final tone of the noun alters the tone of the verb and verbal particle (Chapter 4). It has been observed that High final nouns trigger the lowering of Mid tone verbs to Low tone (subregister High Delinking), while Mid final nouns raise Low tone verbs to Mid tone (subregister High tone Spreading), and finally, that Low final nouns trigger the spreading of their Low tone onto High tone verbs (Low tone Spreading).

However, there has been no discussion so far about whether and how nominal tone can be affected by other constituents in the sentence, except in Chapter 1, where it was noted that nominal elements are not sensitive to the preceding verbal elements.

This chapter focuses on how the tone of nominal elements within the noun phrase affect each other. In addition, it was noted in Chapter 3 that the underlying tone of nouns could not be adequately examined out of context of the noun phrase. Therefore, the discussion of the tonal interactions within the noun phrase will also include an in-depth study of underlying nominal tone.

Finally, the discussion of the data in this chapter will lead to a more comprehensive examination of the ordering of tonal rules in Sucite.

The discussion will proceed with an introductory section, mentioning that the semantic cohesiveness of the noun phrase affects tonal patterns and giving a general overview of the different tonal shapes of the noun. The next section will discuss the tonal patterns that occur on a regular basis across word boundaries, as well as across morpheme boundaries within the complex noun. This section will include a thorough discussion of the underlying tonal nature of
the various types of Mid tone in the language, as well the dilemma of ordering
the rules that are proposed. The analysis proposed will lead to a re-examina-
tion of the underlying tone of the Definite noun. Finally, the tonal behaviour
restricted to complex noun structure will be discussed. Since these tonal
alternations occur at the lexical level rather than at a Phrasal level, a major
issue to be discussed here is what theoretical framework for rule ordering is
sufficiently adequate for the proposed tonal rules in Sucite.

A. The Effect of Noun Phrase Structure on Tonal Behaviour

The study of tone in the noun phrase is restricted to the study of tonal
interactions within a string of nominal, Pronominal, and nominalized elements.
Just as the entire thesis is restricted to the study of tone in simple sentence
structure, likewise complex noun phrase structure is not within the scope of
this chapter. A description of simple noun phrase structure may be found in
Chapter 1.

A string of nominal elements and their suffixes operate as a tonal unit in
Sucite. This means that the various constituents of the Phrase can affect each
other tonally. Pulleyblank (1983) and others have observed that Phonological
rules operating at the lexical level are subject to more exceptions than rules
operating at the post lexical level. This type of generalization applies to the
Sucite noun Phrase in that the more closely linked the nominal components are
semantically, the greater the variety of tonal changes within the Phrase.

The most tightly knit noun Phrase is the complex noun that possesses a
single noun class suffix at the end of the word. Two or more morphemes are
strung together before a suffix is added. These morphemes may be nominal,
verbal, or adjectival in origin. The noun in (1a) possesses two morphemes: the
first one is nominal and the second is verbal; the second morpheme of the noun in (1b) is adjectival. In each case, the suffix is underlined.

(1) Indefinite          | Definite          | English
nyà-tò-ò̂            | nyà-tò-ò̂         | (head-cover) hat
nkù-cà-ò̂            | nkù-cà-ò̂         | (chicken-good) good chicken

Certain types of noun compounding are more productive than others. Those which are more productive exhibit a more stable pattern of tonal changes. Examples of these changes will be seen as the tonal rules are discussed.

The next level of complex nouns consists of two or more components where the first nominal component retains its indefinite suffix, but definiteness is marked only at the end of the word. The indefinite suffix is underlined in the column of indefinite forms in (2) while only the definite suffix is underlined in the second column. Note that the indefinite suffix is still retained on the first morpheme even when the entire word ends in a definite suffix.

(2) Indefinite          | Definite
a. nyà-tò-ò̂-ò̂̂      | nyà-tò-ò̂̂        | (head-chief) boss, champion
b. ca-ò̂̂-nyò̂̂-ò̂̂-ò̂̂ | ca-ò̂̂-nyò̂̂-ò̂̂-ò̂̂ | (day-eye) sun
   c. cèn-ò̂̂-yàrè-ò̂̂-ò̂̂ | cèn-ò̂̂-yàrè-ò̂̂-ò̂̂ | (sauce-things) sauce ingredients

This group appears to exhibit slightly more tonal stability, though there are still a number of lexical anomalies.

Other constructions found in the noun phrase are more loosely linked, being composed of two or more separate nouns, each with their own noun class suffix. Tonal changes within these phrases are quite regular and form patterns easily defined by rules. Genitive constructions and Noun + number constructions fall
within this category, as shown in (3).

(3) a. nàà-ne gba-ké 'the man's house DEF'
    b. gba-ya sooní 'two houses INDEF'
    c. gba-nyé sàànà-nà 'the two houses DEF'

This chapter will first deal with the more regular tonal behaviour found across word boundaries as well as across morpheme boundaries within the complex noun. Tonal behaviour which is restricted to complex noun structures will be discussed in the following section.

B. Nominal Tone

It was observed that verbs exhibited three levels of tone, High, Mid, and Low tone. Mid tone on verbs was analyzed, with the help of two tonal tiers, as Lh. Nouns were also seen to have three levels of tone. However, tonal composition of nouns appears to be more complex than that of verbs. First of all, contour tones are quite frequent. To date, these contour tones have been labeled High-Low, High-Mid, Mid-Low, and Low-High. Secondly, it was mentioned in Chapter 3 that there are two different types of Mid tone behaviour and two different types of Mid-Low tonal behaviour. At that point, all Mid tones were given the tentative representation of Lh. It will become clear here, however, that different underlying representations are required for each type of Mid tone. As a brief review, the tone patterns allowed on simple nouns are given below:

(4) High    wî retrieves 'money'
    High-Mid fyó 'fish'
    High-Low j9 'Pocket'
    Mid 9ba 'river'
II. TONAL BEHAVIOUR WITHIN THE NOUN PHRASE

In this section the behaviour of each tone is discussed separately. Since High and Low tone nouns present the least complications, they will be discussed first.

A. High Tone Nouns

High initial nouns are never susceptible to tonal changes regardless of the tone of the preceding noun. The examples below show that the High tone noun, fálé-ke, remains High tone when preceded by Low, Mid, and High final nouns.

(5) a. wa à fáléke nga 'he saw the rock'
    b. mo fáléke 'your rock'
    c. wu ya wú fáléke nga 'he is seeing his rock'

Depending on their word final tone, High tone nouns can trigger different tonal changes on the following word. Recall that High-Mid nouns trigger subregister High tone spreading onto Low tone verbs, High-Low nouns trigger Low tone spread onto High tone verbs, while simple High tone verbs trigger subregister High tone lowering.

(6) High-Mid wa à fýáa tuxí → wa à fýáa tuxí 'he fish vomited'
    High-Low wa à súló gbëxálé → wa à súló gbëxálé 'he floor made'
    High wa à fáléká nga → wa à fáléká nga 'he rock saw'
8. Low Tone Nouns

While High initial nouns are not susceptible to tonal changes, Low tone nouns do become Mid when preceded by a Mid tone. This includes any noun that begins with a Low tone, whether Low tone or Low-High. There are no Low-Mid tone nouns.

(7) a. mo mɔlɔ -> mo molɔ 'Your rice IND'
   b. mo ndɔrɔxɔ -> mo ndoraxɔ 'Your Yam IND'
   c. ɓa-ya sɔdìni -> ɓa-ya sɔdnì 'two houses'

This tonal change takes place primarily across word boundaries. There is only one known instance where the same process takes place within a complex noun whose first constituent retains the indefinite suffix:

(8) a. sa-xa + ƙà̃fànlà-nà -> saka-kafalanà 'zebra, lit. bush donkey'

In Chapter 4, we proposed that Mid tone was composed of the tonal feature Lh. Placing the primary and secondary features on two separate but linked tiers, it was proposed that a Low tone verb becomes Mid tone by simply spreading the secondary feature, h of the preceding Mid tone onto the following Low tone (High Spreading (35)). This was followed by a rule spreading the subregister High tone directly onto the segment (High Spreading to TBU (36)), creating a surface Mid-High tone, as shown below.

(9) wàà mo tì -> wàà mo tì 'he showed you'

```
   \       \  \
   |       |  \
   \     \  \\
   L     L  L
   \-----\-
   h     h
```

H SPREAD H SPREAD To TBU

The examples given in (7) and (8) show that a Low tone noun becomes Mid tone
after a Mid final element and not Mid-High, as is the case for verbs (see (9)).

If one motivated the High Spread rule for nouns, but limited the High Spread to TBU as a rule that applied only to verbs, the spreading of the subregister High tone to the following Low tone would effectively produce a surface Mid tone, as shown in the examples in (10).

(10) mo m313 -> mo m313 'Your rice IND'

```
          L L L L
         h h
```

H SPREAD

```
gbaye sdo4ni -> gbaye sooni 'two houses'
```

```
          L L H L L H
         h h
```

H SPREAD

```
mo m313-ne -> mo m313-ne 'Your rice DEF'
```

```
          L L H L L H
         h h
```

H SPREAD

C: Mid Tone Nouns

Actually there are at least five types of Mid tone behaviour in Sukite. In Chapter 4, it was seen that the tonal behaviour of the verbal particle, ba, differed from that of the Mid tone verb. It was never subject to tonal change and it triggered different tonal rules than either Mid tone verbs or Mid final nouns. This Mid tone particle was proposed to be underlyingly [Low-high], with the square brackets indicating that the complex tone is always simplified on the surface as Mid tone.
It has already been mentioned that there are two types of Mid tone nouns. Both behave the same in that they both trigger High tone spreading onto Low tone verbs. However, when preceded by a nominal element, the one type normally does not change while the weak Mid nouns become High tone if preceded by a Mid or High final noun or Pronoun, and Low-High if preceded by a Low final word.

This is illustrated below:

(11) Preceding Tone  
none  
Mid  
Low  
Emphatic

<table>
<thead>
<tr>
<th></th>
<th>Mid tone noun</th>
<th>Weak Mid noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>gbà-ké 'house-DEF'</td>
<td>cân-ké 'sauce-DEF'</td>
</tr>
<tr>
<td>Mid mo 'your'</td>
<td>mo gbà-ké</td>
<td>mo cân-ke</td>
</tr>
<tr>
<td>Low wurà 'his,'</td>
<td>wurà gbà-ké</td>
<td>wurà cân-ké</td>
</tr>
<tr>
<td>Emphatic</td>
<td>'his-EMP house-DEF'</td>
<td>'his-EMP sauce-DEF'</td>
</tr>
</tbody>
</table>

Although there are no Mid-High tone nouns, there are a number of Mid-Low nouns, most of which undergo tonal changes, while a few undergo no tonal changes. Those Mid-Low nouns which undergo tonal changes behave very similarly to weak Mid nouns. As a result, they will be discussed along with weak Mid nouns below. Mid and Mid-Low nouns and weak Mid and weak Mid-Low nouns trigger tonal changes on following words in accordance with their word final tone. Mid-Low nouns trigger Low tone spreading onto High tone verbs, while Mid tone nouns spread their subregister High tone onto Low tone verbs. Below are a couple of examples showing these tonal alternations:

(12) Mid-Low triggers L Spread onto H verb

waà conlò wéé -> waà conlò wéé 'he looked at a younger brother
or sister'
Mid triggers H spread onto L verb
waà Poru 9bărà -> waà Poru 9bără 'he met a daughter'

There is a third type of surface Mid tone, however. It does not show up on simple non-complex nouns, but rather, on a couple of first person pronouns and within certain complex noun structures. This type of Mid tone not only triggers a following weak Mid tone to become High tone, it also lowers to Low tone in this environment. The underlined vowels in the examples below illustrate this behaviour.

(13) Àdà cènké -> Àdà cènke 'my sauce-DEF'

gbɔn-likè -> gbn-likè 'old granary-DEF'

This preliminary description of the varying Mid tones in Sucite does show the necessity of undertaking the analysis of Mid tone features. Using a double tiered approach for tone features, Hyman (1985) suggests four ways to represent Mid tone:

- Toneless - that is, segments not marked for tone are assigned Mid tone as a default tone: X

    M

- LH - where Low tone is in the primary register and High tone is on the secondary or subregister tier: X

    L

    h

- HL - where High tone is a primary register tone and Low is found on the subregister tier: X

    H

    l
Let us, then, explore this Mid tone behaviour in an attempt to determine whether these possible underlying features may be feasible for Susic. The following subsections discuss and analyze separately the behaviour of Mid and Mid-Low nouns, weak Mid and weak Mid-Low nouns, and the type of Mid tone found on first person pronouns. In anticipation of the analysis, it has been proposed that this latter type of tone is underlyingly Low-High.

D. Mid and Mid-Low Tone Nouns

The first set of Mid tone nouns to be discussed are those which are simply labeled as having a Mid tone. These are the nouns which trigger High tone spread onto Low tone verbs and nouns but which themselves are seldom influenced by the tonal environment. If a Mid tone noun does alternate in tone, it shifts to Low tone, but never to High tone³. Likewise Mid-Low nouns in this category are not subject to tonal rules. Below are some examples of Mid tone nouns showing the lack of tonal change regardless of what precedes:

(14) Mid tone nouns                                Mid-Low nouns
mo 9ba-ké            'your house'              mo conlà-γe 'your younger sibling'
karà 9ba-ké           'this EMPH house'        wurà conlà-γe 'his EMPH y. sibling'
ńdràx5 9ba-ké        'yam house'              búbú conlà-γe 'a deaf mute's y. sibling'

In Chapter 4, it was tentatively proposed that all Mid tone nouns were underlyingly Lh. The preceding discussion has shown that it would not be wise
to posit the same underlying tone for all types of Mid tone nouns. The question facing us here is, what is the underlying nature of this type of Mid tone? In Chapter 3, an examination of nominal minimal pairs revealed that no minimal pairs contrasting Mid and Low tone nouns had been found (see pp. 81-2). In Chapter 2, the fact that a very small proportion of minimal pairs contrasting Mid and Low tone verbs were found, was used as evidence in supporting the hypothesis that Mid tone verbs and Low tone verbs were historically of the same tone (see pp. 61ff). It has also been seen that Mid tone nouns and verbs both alternate with Low tone in certain environments. They are both capable of lowering to Low tone when followed by a High tone suffix (by means of the High Deletion rule (88) (see Ch. 3, pp. 117-127), whereas neither alternate with High tone. The hypothesis that Mid and Low tones may have had the same historical origin led to the development of tonal features that represented a historical tonal split of Low tone, where L1 was the lowered Low tone and Lh, the raised Low tone. Although it is difficult to discuss the tonal features of Mid tone without discussing it in relation to the other types of Mid tone, we shall tentatively posit the Mid tone noun (i.e. the type of Mid tone that rarely changes tone) as underlyingly Lh.

This Lh noun, then, can very easily trigger High tone Spreading onto Low tone nouns and verbs. The example below shows the subregister High tone of a Lh noun spreading onto the Low tone of a verb as well as onto the final TBU of the verb.

(15) waà Poru tê –> waà Poru tê –> waà Poru tê  'He showed a daughter'  

\[
\begin{array}{cccccccc}
\text{ML} & L & L & \text{ML} & L & L & \text{ML} & L & L \\
\hline
\text{h} & \text{h} & \text{h} & \text{h} \\
\end{array}
\]

HIGH SPREAD  H SPREAD TO TBU
The Mid-Low noun, according to this analysis would be LhL, underlyingly, as shown below:

\[(16) \text{conl} \quad \text{'younger sibling'}\]

One may suggest that High Spreading should also take place word internally, creating a surface Mid tone noun. This, however, does not happen. High Spread must be limited then, to spreading across morpheme boundaries. As Low final nouns these Mid-Low nouns do trigger Low tone Spread onto High tone verbs, as illustrated by the derivation below:

\[(17) \text{waç conl} \quad \text{wèè} \rightarrow \text{waç conl} \quad \text{wèè} \rightarrow \text{waç conl} \quad \text{wèè} \quad \text{'he saw a younger sibling'}\]

E. Weak Mid and Mid-Low tone Nouns

Weak Mid (Mw) and weak Mid-Low (ML) nouns can have a variety of tonal shapes depending on the tonal environment. Because of the complexity of their behaviour, this section is somewhat lengthy, including not only an analysis of underlying tone, but also the formulation of rules and a discussion of rule ordering.
1. Description

Weak Mid and weak Mid-Low (henceforth referred to as Mid-Low*) are discussed together here because of the similarity in their tonal behaviour. In fact, the only time they differ in tonal structure is in initial position of a noun Phrase as well as in citation form. Their differing tonal structure in these positions also leads them to trigger different rules. In the examples below, note that the Mid-Low noun, karâ, triggers Low tone Spreading onto High tone verbs (18a), while the weak Mid noun, cenxe, appears to trigger subregister High tone spreading onto Low tone verbs (18b), as do all Mid final nouns.

(18)a. Mid-Low karâ 'meat'
   waâ karâ kâ /kâ/ 'he chewed meat'
   wu ya karâ kâ /kâ/ 'he is chewing meat'

b. Weak Mid cenxe 'sauce'
   waâ cenxe tê /tê/ 'she showed sauce'
   wu ya cenxe tê /tê/ 'she is showing sauce'

However, when subject to tonal changes, weak Mid and Mid-Low nouns undergo the same changes in identical tonal environments. These changes, tentatively labeled Raising and Low tone Spreading, are described below. A full analysis of these alternations will follow the description in the discussion involving the analysis of the underlying features for weak Mid and Mid-Low tones.

(1) Raising: The first tonal change to be described here is what is tentatively called Raising. When Preceded by weak Mid, Mid, or High final nouns,

* Weak Mid-Low nouns being much more numerous than regular Mid-Low nouns, discussed in the preceding section, will be referred to as simply Mid-Low from now on, while the regular Mid-Low nouns will not be referred to again in this thesis.
both weak Mid and Mid-Low nouns are High tone, as can be observed in the examples below:

(19)a. Perú xo-xo → Perú sóxó
   \[ M + Mw \quad M \ H \]
   'a daughter's mortar IND'

b. Perú ka-ra → Perú kará
   \[ M + ML \quad M \ H \]
   'a daughter's meat IND'

c. taxá mexè → taxá méxè
   \[ Mw + ML \quad Mw \ H \]
   'a tree's name'

\[ Mw + MW - No \ examples \]

d. gbónló + mexè → gbónló méxè
   \[ LH + ML \quad LH \ H \]
   'granary's name'

e. tàú-tàne → tàú-tántè (hoe + small tree) 'hoe handle'
   \[ LH + Mw \quad LH \ H \]

The same raising behaviour can be found in complex nouns. The examples below show that if the first root of a complex noun is weak Mid, High or Mid tone, it will raise any immediately following weak Mid or Mid-Low noun root to High tone.

(20)a. màmcì + juu → mejú-1è
   \[ Mw + Mw \quad M \ H \]
   voice saying, words
   'speech'

b. gba-xa -balà → gbabálà
   \[ M + ML \quad M \ H \]
   'room of a house'
This derived High tone affects the tone of following morphemes in the same way as any other High final noun. Thus any rule ordering would have to reflect the fact that this 'Raising' takes place on a morpheme before the tone of that morpheme triggers any rules on following morphemes. Several examples of such a sequencing of tonal behaviour are shown below. In the first set of examples, (21), the definite suffix becomes Mid tone after the derived High tone (a and b), just like definite the suffix becomes Mid tone after any derived High tone (c).

(21a) mo so-ké —> mo sóke 'Your mortar-DEF'

\( M \quad ML \quad H \quad M \quad H \quad M \)

b. mo kałté —> mo káste 'Your meat-DEF'

\( M \quad ML \quad H \quad M \quad H \quad M \)

c. fólé-ké —> fólé-ke 'rock-DEF'

\( H \quad H \)

After a derived High tone, other weak Mid and Mid-Low morphemes and nouns will also become High tone. Thus, as shown below, Raising can occur iteratively across the Phrase.

(22) mo nyím-balà-ké —> mo nyím-balà-ke —> mo nyím-balá-ke 'your night'

\( M \quad Mw \quad ML \quad M \quad H \quad ML \quad M \quad H \quad H \)

\( \text{Raising} \quad \text{Raising} \)
Mid tone verbs are lowered to Low tone in phrase final position through High Delinking, if preceded by a derived High tone (23a), as they do following any High final noun (23b):

(23) a. waà mo kàrà nña -> waà mo kàrà nña -> waà mo kàrà nña 'he saw your Raising
High Delinking (44) 'meat'

b. waà fàlàkà nña -> waà fàlàkà nña 'He saw a rock'
High Delinking (44)

(ii) Low tone spreading: Low tone spreads onto High tone verbs. Therefore, one would expect that Low tone would also spread onto High tone nouns. This however, is not the case, as shown below:

(24) wàìì fàlàkè -> *wàìì fàlàkè 'his REF rock' rather: wàìì fàlàkè

High tone on nouns is one of the most stable tones in Bucite. It is never susceptible to tonal change.

Low tone Spreading occurs instead on weak Mid and Mid-Low nouns. When a weak Mid or a Mid-Low noun is preceded by a Low final noun or Pronoun, the noun acquires a Low-High contour, as illustrated by the examples below:

(25) a. nàà sàkà-xà -> nàà sàxà 'a man's mortar'

b. nàà kàrà -> nàà kàrà 'a man's meat'

c. nàà kàràxà -> nàà kàraxà 'a man's inheritance'

d. sì̀rà-tìlà-xà -> sì̀rà-tìlà-xà 'top of a door'

The examples in (26) show that Low Spreading can also occur across morpheme boundaries word internally. Within complex noun structures, Low tone Spreading can occur on Mid-Low nouns but no examples of Low Spreading have been found on
weak Mid nouns

(26) L + Mw none found

L + ML

a. nàâ + nyélê (man + eye) -> nànyélê 'friend'
b. sàsàn + kùdò (blood + road) -> sàsànkùdò 'vein'
c. kàn?à + fòlò (village + chief) -> kàn?àfòlò 'village chief'

ML + Mw none found

ML + ML

a. canà + nyélê (day + eye) -> canànyélê 'sun'
b. nye?à + fòlò (face + chief) -> nye?àfòlò 'older brother'
c. canà + tò (day + cover(vb.)) -> cântò 'umbrella'

When a noun has been subject to Low tone spread, the resulting final High tone (of the Low-High contour) triggers the same rules as any High final noun. Again, as with Raising, rules must be ordered such that Low tone Spreading must occur on the morpheme involved before the tone of that morpheme can trigger tonal changes on any following morphemes. For example, once Mid-Low or weak Mid nouns acquire a Low-High contour, the final High tone can then lower the Mid tone verb to Low tone (High Delinking) as do any other High final nouns. The examples below show both a weak Mid (b) and a Mid-Low (a) noun, having acquired a Low-High contour through Low Spread, lowering a Mid tone verb in Phrase final position.

(27) a. nà-nyélê -> nànyélê

waa nànyélê nya -> waa nànyélê nyà 'he saw a friend'
b. nàâ sòxò -> nàâ sòxò 'his-REF mortar'
nàâ sòxò nya -> nàâ sòxò nyà 'See his REF mortar!'
In summary, then, weak Mid and Mid-Low nouns trigger High tone spread and Low tone spread respectively when not affected by tonal changes. However, when both become High tone through what has tentatively been called Raising, or Low-high by means of Low tone Spreading, they behave as High final nouns, lowering Mid tone verbs (High Delinking) to Low tone in Phrase final position, and raising following weak Mid and Mid-Low nouns to High tone. The analysis given below will examine the repercussions of these tonal changes more closely and attempt to propose a viable solution.

2. Analysis

There are at least two possible ways to analyze the behaviour of weak Mid and Mid-Low nouns. One is to consider them underlingly High tone since their tonal behaviour is very similar to that of High tone verbs. A second possibility is to posit an underling Mid tone of some type that would be subject to Raising and Low tone spreading rules.

2a. MW and ML as Underlyingly High Tone

The first suggestion is that weak Mid and Mid-Low nouns are underlingly High tone, but become Mid or Mid-Low tone in certain environments. This idea was prompted by the fact that their tonal behaviour is very similar to that of High tone verbs. They are both subject to Low tone Spreading and are High tone if almost anything precedes them within the noun Phrase. The only time they are Mid or Mid-Low tone is when they are in initial position of a noun Phrase.

This lowering of High tone may, in effect, be a nominalizing feature. Evidence of this surfaces when High tone verbs are nominalized. No High tone verbs become a stable High tone when nominalized. Rather, in (28), they are
shown to be lowered either to Mid, weak Mid or Mid-Low tone:

(28) a. Mid นมัลิ 'sleep' -> นมโอลา-คง 'nightmare'
    b. Mw ล่อ 'hear' -> แอะ-เอก 'hear'
    ฆ้อง 'kill' -> ซูล 'funeral'
    c. ML ย่า 'to be ill' -> ยา-มา 'illness'
       กันะ 'be tired' -> กาًเรา-ระ 'fatigue'

If we suppose that weak Mid and Mid-Low nouns were underlyingly High tone however, we immediately run into one potential hurdle. There already exists a set of High tone nouns in Suciite with the same pitch level as High tone verbs, which are never susceptible to any tonal rules. As shown in (29), High initial nouns never lower to Mid or Mid-Low, they do not trigger the lowering of the tone of แอะ, 'my' (to be seen shortly as a matter of Right Side Derinking of a Low-High contour) nor are they subject to the Low tone Spreading Rule, all in contrast to the behaviour of weak Mid and Mid-Low tone nouns:

(29) High Nouns  ML and Mw Nouns

    โฟล่อ 'the rock'       กา่า 'the meat'
    คำ 'the sauce'
    แอะ โฟล่อ 'my rock'    นด่า กา 'my meat'
    นด่า คำ 'my sauce'
    วุระ โฟล่อ 'his EMPH rock' วุระ กา 'his EMPH meat'
    วุระ คำ 'his EMPH sauce'

In effect, there seems to be a tonal barrier preventing any tonal rule from applying to High tone nouns. It must be noted that these High initial nouns make up a very small number of the data sample and that more than half can be clearly identified as Loan words. All Purely High tone nouns, with one possible
exception, are Loan words. One possible historical development is that the original set of High tone nouns lowered to Mid tone in certain environments. High tone nouns introduced to Sucite, however, were not made subject to this tone lowering phenomenon and as a result, a distinctive tonal contrast between High and Lowered High tone nouns developed.

Should then, this set of lowered High tone nouns be represented as High if there is already a set of High tone nouns? If these surface High tone nouns can be specially marked so as not to undergo any tonal rules, weak Mid and Mid Low nouns can then be posited as underlyingly High tone and as a result, would be subject to the Low tone spreading rule in just the same way as High tone verbs are. Below are examples of Low Spread on both a verb and a noun:

\[(30) \text{mêtre} \rightarrow \text{mêtre} \rightarrow \text{mêtre} \quad \text{sell rice}\]

\[
\begin{array}{c}
L \quad H \quad L \quad H \quad L \quad H \\
\end{array}
\]

LOW SPREAD LS DELINKING

\[
\begin{array}{c}
mùra \text{kàra} \rightarrow \text{mùra kàra} \rightarrow \text{mùra kàra} \rightarrow \text{mùra kàra} \quad \text{his REF meat}\end{array}
\]

\[
\begin{array}{c}
M \quad L \quad H \quad M \quad L \quad H \quad M \quad L \quad H \quad M \quad L \quad H \quad M \quad L \quad H \\
\end{array}
\]

LOW SPREAD LS DELINKING PHRASE FINAL L INSERTION

After Mid and High final nouns and Pronouns, this underlying High tone would remain High tone, just as high tone verbs remain High in the same environments, thus eliminating the need for a Raising Rule, as shown below.

\[(31) \text{mo kàra} \rightarrow \text{mo kàra} \quad \text{your meat}\]

\[
\begin{array}{c}
L \quad H \quad L \quad H \\
\end{array}
\]

PHRASE FINAL L INSERTION
How then would one account for the lowering of this High tone to Mid tone? Recall that this 'lowering' Process takes place when an underlying High tone noun is in Phrase initial Position. One could suggest that there is a split in the High tone register at this point. While High tone verbs remain High tone, the nouns in Phrase initial Position are designated to a lower level of the High tone register. The splitting of the High tone register is, according to this approach, motivated by the fact that High tone nouns are in Phrase initial Position. Therefore a rule would have to be devised to lower High tone at this point. This process can be represented by inserting a Low tone in the subregister tier, to be stated as follows:

(32) PHRASE INITIAL LOW TONE INSERTION

A High tone noun in Phrase initial Position is marked for Low tone on the subregister tier: H -> H1/ !--- ! = Phrase initial Position

a. ! cenxe -> canxe 'sauce'
   | | | 
   H H H
   | | 
   ! ! !

It has been assumed until now that weak Mid and Mid-Low nouns have the same underlying configuration. The question remains, however, as to how to distinguish between the two, so that when l-insertion occurs, the correct surface form can result. One way to deal with this dilemma is to allow the subregister Low tone to link to the segmental tier, thus creating a Mid-Low tone. The subregister Low tone linked to High tone creates a Mid tone while this same Low tone linked independently to the segmental tier creates a surface Low tone, resulting in a Mid-Low contour.
A certain set of nouns, then, are lexically marked for this linking of the subregister Low tone to the segmental tier, while are another set (the weak Mid nouns) are blocked from this linking process.

The Problem with this procedure is that while this subregister Low tone linking to a TBU is lexically governed, the environment which provides for this Low linking (namely, linking a subregister Low tone to a Primary tier High tone) is created by way of the Phrase level rule, Low tone Insertion. Thus the Phrase level rule must take place before the lexically marked Low tone linking can occur, as shown below:

\[(34) \text{wa} \text{a} \text{j} \text{a} \text{n} \text{y} \text{a} \rightarrow \text{wa} \text{a} \text{j} \text{a} \text{n} \text{y} \text{a} \rightarrow \text{wa} \text{a} \text{j} \text{a} \text{n} \text{y} \text{a} \rightarrow \text{he saw a son}'\]

\[
\begin{array}{cccccccc}
\text{ML} & \text{H} & \text{L} & \text{ML} & \text{H} & \text{L} & \text{ML} & \text{H} & \text{L} \\
\text{h} & \text{l} & \text{l} & \text{l} & \text{l} & \text{l} & \text{l} & \text{l} & \text{l} \\
\text{1} & \text{1} & \text{1} & \text{1} & \text{1} & \text{1} & \text{1} & \text{1} & \text{1} \\
\end{array}
\]

\[
\text{LOW INSERTION LOW LINKING TO TBU}
\]

Essentially, there needs to be information in the lexicon that will distinguish between those whose Phrase initial form is Mid and those which are Mid-Low. However, it does not seem possible that the lexicon can predict how a subregister Low tone can behave if it is not even specified in the lexicon.

One possible way to solve this problem is to posit a slightly different underlying form for Mid-Low nouns: HL. Phrase level l-insertion would subsequently yield the correct output for both weak Mid and Mid-low nouns. A subregister Low tone linked to a High tone would yield a Mid tone while a subregister Low linked to a HL would yield Mid-Low, as shown below:
That Mid-Low nouns are underlingly High-Low is not entirely inconceivable when observing the cognates of Mid-Low nouns in certain other Senufo languages. Although numerous other languages such as Ceba ra also exhibit this Mid-Low contour, Na'ara of Bondoukou, which appears to have only a two tone level distinction, provides a High-Low contour for these same cognates.

(36) Sucte Cebra Na'ara of Bondoukou

njidè nyrê nilî 'tongue'
kokê kolê këè 'hand, arm'
farè firê firê 'excrement'

(Mensah, 1983)

It is possible, therefore, that Sucte Mid-Low nouns are underlingly High-Low tone. These underlying High-Low nouns would be different from the marked High-Low nouns which never submit to tonal rules.

This High-Low representation does create problems for rule formulation, however. The final low tone would have to be deleted whenever the noun is preceded by another nominal of any tone so that these HL (Mid-Low) nouns can become completely High tone. The example, (37a) shows that this Low Deletion is required after Mid tone nouns, while (37b) provides an illustration of Low Deletion at the output of Low tone Spread.

(37a) mo kàrê \rightarrow mo kàrê \rightarrow mo kàrê 'your meat'

\[ \begin{array}{cccc}
\text{L} & \text{H} & \text{L} & \text{H} \\
\text{L} & \text{H} & \text{L} & \text{H} \\
\text{h} & \text{h} & \text{h} & \text{h} \\
\end{array} \]

LOW DELETION LINKING
b. nkù-kàrà → nku-kàrà → nkù-kàrà 'chicken meat'

\[ \text{L} \text{H} \text{L} \quad \text{L} \text{H} \quad \text{L} \text{H} \]

LOW SPREAD LOW DELETION LINKING AND RS DELINKING

In fact, the only place where the Low of the supposed High-Low contour is found is when the noun is in Phrase initial Position, the very same environment in which Phrase Initial Low tone insertion (32) is motivated. Any time that the Low tone insertion rule is not in operation, then, the Low tone of the High-Low Contour is also deleted. The obvious connection between these two rules however, is not made explicit in the derivation of the rules. If the subregister Low tone and the Low tone of the High Low contour are present or absent in the exact same environments, perhaps one might speculate that they both may have the same underlying source.

A second problem for the underlying High tone hypothesis is the fact that these High tones lower to Low tone in certain lexical environments. Recall that weak Mid, Mid-Low, Mid, and Low-High noun roots were lowered to Low tone when followed by a High initial Type II suffix.

(38) ci' - xàle → ci-xàle 'thighs'
    nci - xàle → nci-xàle 'ba-la-phones'
    lò - xálo → lò-xálo 'shea nuts'

It was suggested in Chapter 3 that this lowering could be accounted for if all four tones possessed both a High tone and a Low tone in their underlying configuration. The simple process of High deletion would then produce the same output for all of these tones, as illustrated below for Mid and Low-High tones.

High Deletion would leave only a Low tone linked to the TBU.
If weak Mid was posited as underlyingly High tone and Mid-Low as High-Low, the rule of High deletion would yield a Low tone for HL nouns. However, High Deletion would yield a toneless TBU for weak Mid nouns if they are analyzed as underlyingly High tone at the lexical level.

This Problem could Potentially be overcome by introducing a dissimilatory rule, whereby a High tone on any tier is converted to Low tone when followed by a High tone suffix: \(<H,h> \rightarrow <L,1> / _-_ + H.\) This rule would effectively produce correct outputs for Mid (Lh), Low-High, and weak Mid (H) nouns (see (41)). Mid-Low nouns, however, would be blocked from this lowering because their High tones are not adjacent to the High tone suffix (41d).

(41) a. Mid nci-xále -> nci-xále  b. Low-High lô-xálo -> lôxálo

'balaphons'  'shea nuts'

c. Weak Mid fo-ʔálo -> foʔálo  d. Mid-Low cî-xále ->*cî-xále

'debts'  'thighs'  L INSERTION
This entire approach continues to assume, of course, that the changeless High tone nouns are barred from the tonal rule Processes and are therefore not susceptible to High tone Lowering.

Verbs also complicate this dissimilation rule. Recall that Mid tone verbs are lowered to low tone before the High tone incompletive suffix. The solution proposed in Chapter 2 involved the deletion of a subregister High tone of the Lh verb suffixed by a High tone morpheme. If the H->L rule was introduced instead, the correct output would be produced for Mid tone verbs (see (42a)). However, this rule would also incorrectly apply to High tone verbs, lowering High tone verbs to Low tone before incompletive suffixes (42b). This, in effect, does not happen. High tone verbs, as a general rule, remain High tone when an incompletive suffix is added.

(42) a. M verbs

\[
\begin{array}{c|c|c|c|c|c}
& L & H & L & H \\
\hline
\text{M} \rightarrow H & h \rightarrow l & h & l \\
\end{array}
\]

\begin{itemize}
\item \text{be buying'}
\end{itemize}

b. H verbs

\[
\begin{array}{c|c|c|c|c|c}
& L & H & L & H \\
\hline
\text{H} \rightarrow *L & H & H & L & H \\
\end{array}
\]

\begin{itemize}
\item \text{be selling'}
\end{itemize}

Positing weak Mid and Mid-Low tones as underlingly High tone does create some problems for analysis. First of all, we have to separate the changeless High tone nouns and mark them ineligible for tonal change. Secondly, the positing of a underlying High tone poses problems in how to distinguish between weak Mid and Mid-Low tones in the underlying structure and still allow for the formulation of satisfactory rules. Finally, the formulation of a H->L rule for lowering of weak Mid and Mid-Low noun roots to Low tone is found to be lacking
a full generalization: High tone verbs must be excluded from the rule application and Mid-Low nouns which should also be lowered pose difficulties for the formulation of the H->L rule. Although these problems could perhaps be accommodated within the underlying High tone hypothesis, an alternative solution is sought.

2b. Mw and ML as Underlyingly H1

An alternative to positing an underlying High tone in the lexicon and motivating a Phrase level rule inserting a subregister Low tone is to mark the subregister Low tone in the lexicon, itself. Mid-low and weak Mid nouns would now be considered underlyingly ML (or a lowered High tone) rather than simply underlyingly High tone. Where the preceding analysis posited both the unchangeable High tones and the weak Mid nouns as underlyingly High tone, distinguishing the two only by blocking the unchangeable High tone nouns from undergoing any rules, this particular analysis distinguishes the two tones by positing different underlying features for each. Thus the unchangeable High tone nouns bear the feature, H1, that is, High tone is posited on the Primary tier, as well as on the subregister tier. The weak Mid noun, then, is considered the lowered High tone, ML, with a Low tone on the subregister tier. Both of these designations are illustrated below.

(43) High tone nouns                weak Mid and Mid-Low

```
X
|   |   
H
|   |   
|   |   
```

This development now sees both the High tone and the Low tone register split
into two tonal levels (see (44) below). Recall from Chapter 2, that Clements' proposed tone feature system allows for this possibility. However, these splits in Sucite do not represent four phonetic levels of tone, as might be suspected. Rather, it has been proposed that the regular Mid tone is underlyingly Lh, while weak Mid, which is at the same pitch level as the regular Mid tone, is posited as being Hl. Hyman (1985) proposed both Hl and Lh as possible underlying representations for Mid tone (see p.209-10). Clements' system (as shown below) does not exclude this possibility of the two underlying tones having the same phonetic pitch.

(44) Clements' Tone Feature System

```
          H
         / \
        h --- Hh
       /   \  \
      H    /    L
     /  \  / \
   h --- Hl
    \   /  \
     L  /    L
     \ /   \ \
       l --- Ll
```

Furthermore, it is entirely possible that the raised Low tone and the lowered High tone were at one time in the history of the language, distinct in pitch, but that they lost the pitch distinction as the tonal system of Sucite developed.

This proposed solution will require, however, the adjustment of tonal rules. In addition to modifying Low Spread so that it will spread onto Hl nouns as well as High tone verbs, a rule will have have to be devised that will raise Hl tone to Hh tone when preceded by High or Mid tone nouns. The issue of how to distinguish weak Mid and Mid-Low nouns using the same underlying representation
of Hi will also be tested and discussed.

(1) Low tone Spreading

Let us first investigate how this new development alters the formulation of the Low Spreading rule. Previously, it was stated that Low tone spreads onto High tone verbs (a). Here we find that Low tone spreads onto Hi nouns (c) but not High tone nouns (b), as shown below.

\[
\begin{array}{lll}
(45) & a. \text{'to chew'} & b. \text{'rock'} & c. \text{'sauce'} \\
& \text{L} & \text{H} & \text{L} \\
& \text{L} & \text{H} & \text{H} \\
& \text{L} & \text{H} & \text{L} \\
\end{array}
\]

Since High tone nouns do not allow Low tone Spreading, they must be barred from any application of the Low tone Spread rule. Once this constraint is placed on the rule, the earlier formulation of the rule given in Chapter 4 would still apply here, since, as shown below, the rule does not stipulate what subregister tone must be linked to the Primary level High tone.

(11) LOW SPREAD: When a LL tone is followed by a High tone across a morpheme boundary, the Low tone spreads to the right.

\[
\begin{array}{l}
(11) \text{X} \text{L} \text{X} \\
\text{L} \text{H} \\
\text{L} \text{H} \\
\end{array}
\]

As a result, both the Hi and Hh tone words can be subject to the Low tone Spreading rule. However, while Hh verbs present no problems for the analysis as given so far, the Low tone Spreading rule, as stated above does not, in itself,
yield a correct output for H↓ nouns. Low tone spreading onto a H↓ tone produces a Low-mid contour tone. However, there are no Low-Mid contours in Suqite which are a result of a Low Spread rule. Recall from examples in (25) and (26) that Low tone spreading onto weak Mid and Mid-low nouns yields a Low-High tone, the very same tonal contour which results when a Low tone is spread onto a High tone verb. A very simple way of acquiring a Low-High contour after spreading Low tone onto a H↓ noun is to trigger a rule deleting the subregister Low tone. This rule would be stated as follows:

(46) SUBREGISTER LOW DELETION: Delete a subregister Low tone linked to a High tone if a Low tone from the left is linked to the same segment as the H↓ tone.

Once the subregister Low tone is deleted, the High tone is left with no specification of tone on the subregister tier. Any tone which is unspecified at the subregister level will by default, acquire the same tone as found at the Primary register level. This shall be called subregister specification (SS).

(47) SUBREGISTER SPECIFICATION

dH → @Hh

In the derivation below (48), as well as in succeeding derivations of rules, Subregister Specification will apply automatically whenever a rule leaves a tone on the Primary tier without a subregister tone. Since the application is
automatic, it will not be necessarily shown as a separate step in the derivation.

Therefore, a HL noun which is subject to the Low tone Spreading rule would have
the following derivation:

\[(48) \text{wurà cènxè} \rightarrow \text{wurà cènxè} \rightarrow \text{wurà cènxè} \rightarrow \text{wurà cènxè} \quad \text{'his EMPH sauce'} \]

\[
\begin{array}{cccccccc}
\text{M} & \text{L} & \text{H} & \text{M} & \text{L} & \text{H} & \text{M} & \text{L} \\
1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\end{array}
\]

LOW SPREAD  L DELETION  LS DELINKING  L INSERTION

\[
\begin{array}{cccccccc}
\text{L} & \text{H} & \text{L} & \text{H} & \text{L} & \text{H} & \text{L} & \text{H} \\
1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\end{array}
\]

L SPREAD  L DELETION  LS DELINKING  L INSERTION

\[
\begin{array}{cccccccc}
\text{nkù-kàra} & \rightarrow & \text{nkù-kàra} & \rightarrow & \text{nkù-kàra} & \rightarrow & \text{nkù-kàra} & \quad \text{'chicken meat'} \]

\[
\begin{array}{cccccccc}
\text{L} & \text{H} & \text{L} & \text{H} & \text{L} & \text{H} & \text{L} & \text{H} \\
1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
\end{array}
\]

The motivation for Low Deletion is not totally clear at this point. Possibly it is some type of dissimilatory process, forcing a Pure High tone when it is linked to the same segment as a Low tone. At any rate, subregister low deletion must take place immediately following a Low tone Spreading rule.

(ii) High Tone Spreading

The second tonal alternation that must be dealt with here is what was referred to earlier as Raising. This is the case where weak Mid and Mid-Low nouns become High tone when Preceded by Mid or High tone nouns or Pronouns. If weak Mid and Mid-Low nouns are now considered underlingly HL, motivating the deletion of the subregister Low tone would produce, in a very simple way, a High tone. However, in this case, there is no Low Spreading rule to trigger Low
deletion. Therefore one is compelled to determine the generalization that allows for L deletion after both Mid and High tones. In order to do this, let us look at the underlying tone of Mid and High tone nouns. It has already been seen that High tone nouns are underlingly Hh, while Mid tone nouns which are not susceptible to tonal changes (as are HL nouns) are considered to be Lh. In examining both underlying tones, it is seen that both are specified for High tone on the subregister tier.

(49) fôlôxâ 'rock' gbaxa 'house'

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>h</td>
<td>h</td>
</tr>
</tbody>
</table>

If placing either before a HL noun triggers Low deletion, it would not be difficult to postulate that this Low tone deletion was motivated by way of the subregister High tone of a Hh or Lh noun spreading onto the HL tone. Such a process is illustrated below in (50). Since it is not feasible to allow two subregister tones to be linked to a single tone on the Primary tier, the spreading of the subregister High tone would automatically call for the deletion of the subregister Low tone. The rule might be stated as follows:

(50) HIGH SPREADING: Spread a subregister High tone onto a following Primary tier High tone and delete the subregister tone linked to that High tone.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>T</td>
<td>H</td>
</tr>
<tr>
<td>L-</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>t</td>
</tr>
</tbody>
</table>

T/t = any tone

This particular High spreading rule would have the following application:
Recall, however, that the rule of High tone spread has already been introduced. In the environment where Low tone becomes Mid tone after Mid tone nouns, it has been proposed (earlier in this chapter as well as in Chapter 4 (35)) that the subregister High of the Lh tone spreads to the following Low tone, as shown below:

(52) mo molo -> mo molo 'your rice'

In all cases of High spreading described here, it does seem that there is a tendency for a raised tonal register to raise the register of the tones that follow. For example, a raised Low (or Lh) raises a lowered High tone as well as Low tones, and a raised High tone (Hh) raises following lowered high tones. Thus it may be possible to posit a generalized rule, allowing any subregister High tone to spread to the following primary tier tone regardless of what that tone may be.
Seeing the value of implementing a high spread rule in the examples above, it is necessary, then, to examine the scope of the spreading of the subregister high tone onto primary register tones. Below is a list of possible environments where the subregister High tone could technically spread.

\[(53)\]

\begin{align*}
\text{a.} & \quad \text{mo cín-ke} & \text{b.} & \quad \text{mo fálá-ke} & \text{c.} & \quad \text{ndá cín-ke} & \text{d.} & \quad \text{ndá fálá-ke} \\
& \quad \text{'Your sauce'} & & \quad \text{'your rock'} & & \quad \text{'my sauce'} & & \quad \text{'my rock'} \\
& \quad \text{L-} H & & \quad \text{L-} H & & \quad \text{H} & & \quad \text{H} & & \quad \text{L-} H \\
& \quad h & & \quad h & & \quad h & & \quad \text{h} & & \quad \text{h} \\

e. & \quad \text{mo sóle-ke} & f. & \quad \text{mo gba-ké} & g. & \quad \text{ndá sóle-ke} & h. & \quad \text{ndá gba-ké} \\
& \quad \text{'Your rice'} & & \quad \text{'your house'} & & \quad \text{'my rice'} & & \quad \text{'my house'} \\
& \quad \text{L} & & \quad \text{L} & & \quad \text{*H} & & \quad \text{L} & & \quad \text{L} & & \quad \text{L-} L \\
& \quad h & & \quad h & & \quad h & & \quad \text{h} & & \quad \text{h} & & \quad \text{h} & & \quad \text{h} \\
\end{align*}

Above are all the conceivable examples where a subregister high tone could possibly spread onto a following tone. High tone spreading marked in bold would effectively change the tonal structure of the following word. Those not marked in bold are redundant high spreading processes where no tonal change would take place as a result of the spread. The example in (53g) shows one environment where high tone spread produces an incorrect response, however. A subregister high tone must not be allowed to spread onto a Low tone if that subregister high is not already linked underlyingly to a Low tone. In other words, a subregister high of a Lh noun can spread onto a Low tone (see (53e)) but the same of a Hh noun cannot. In order to allow for this exception, the high tone spread rule must be revised as follows:
(54) **HIGH TONE SPREAD:** Spread any subregister High tone onto the following primary register tone, $T_2$ and delete any subregister tone previously linked to $T_2$.

\[
\begin{array}{c}
X \quad X \\
T_1 \quad \downarrow \\
\downarrow \quad \downarrow \\
\downarrow \quad T_2 \\
\downarrow \quad \downarrow \\
\hline
T/t = \text{any tone}
\end{array}
\]

Condition: If $T_2$ is Low tone, then $T_1$ must also be Low tone.

(iii) **Distinguishing Weak Mid and Mid-Low Nouns**

It has been assumed until now that weak Mid and Mid-Low nouns have the same underlying tonal features because of the same behaviour they exhibit when subject to both the Low and High Spreading rules. As a result both have been considered to be underlyingly HL. However, we already know that when not affected by tonal rules themselves (that is, when in phrase initial position) weak Mid nouns trigger different rules than Mid-Low nouns. Somehow this difference must be accounted for in the underlying representations of the two tones.

(iv) **Mid-Low Tone and Independent Low Tone Linking**

It was proposed earlier that Mid-Low nouns were underlyingly High-Low. If one lexically links a subregister Low tone to both, the final tonal output will be Mid-Low.

(55) \[
\begin{array}{c}
\text{CV} \\
\downarrow \\
\text{HL} \\
\downarrow \\
\downarrow \\
\hline
\end{array}
\]

The problem with this proposed underlying representation is that every time
the subregister L is deleted after both Low tone spread and high tone spread, the Primary register L must also be deleted, as shown below in (56). This makes one wonder whether both the Low tone of the Primary register and the Low on the subregister tier are actually one and the same tone.

(56) Low tone spread CV

\[ \text{L} \quad \text{H} \quad \text{L} \]

\[ \text{H} \quad \text{L} \quad \text{H} \]

wurè n3-ŋe -> wurè n3-ŋe

\[ \text{mo n3-ŋe -> mo n3-ŋe} \]

'his EMPH mother'

One suggestion for the representation of Mid-Low tone is to posit a simple H1 tone and then to propose a rule linking the subregister Low tone directly to the segmental tier whenever the H1 tone is in Phrase initial position. This final independent linking effectively creates a Mid-Low contour tone, as shown below in (57a). Weak Mid nouns, on the other hand, would also possess an underlying H1 tone, but they would not be subject to this independent linking of the subregister Low tone (57b). Thus, Mid-Low nouns would be marked in the lexicon for this extra linking in Phrase initial position, while weak Mid nouns would not. In this analysis, we shall represent this marking by underlining the subregister Low tone. H1, then, refers to the Mid-Low tone while H signifies the weak Mid tone.

(57) a. Mid-Low CV

\[ \text{\underline{H}} \quad \text{\underline{L}} \]

b. weak Mid CV

\[ \text{\underline{H}} \quad \text{\underline{L}} \]

This notion of independent linking of the subregister tier to the segmental
tier has already been introduced earlier and briefly discussed in Chapter 4. Recall that subregister High tone spreading to the segment was introduced to create a Mid-High tonal contour on underlying Low tone verbs (see pp. 161ff for discussion). The reason for proposing this tone feature representation here is to be able to somehow capture the generalization that exists between weak Mid and Mid-Low nouns and yet still account for their differing tonal shape in phrase initial position. If both can be represented as H1 (weak Mid as H1 and Mid-Low as H1), then both can be subject to Low spreading and high spreading as well as undergo the subregister low tone deletion in the appropriate environments.

If the underlying representation for Mid-Low tone, H1, can be lexically specified to link the subregister low tone independently to the segmental tier, deletion of the subregister Low tone would automatically delete any trace of Low tone of the Mid-Low contour because its source, the subregister Low tone would have been deleted. This is illustrated below:

(58) CV
    H
    L

It was mentioned earlier in Chapter 4, that the process of linking the subregister Low to the segmental tier included passing through the Primary register tier. This 'passing through' would effectively transform the Low tone into a Primary register Low tone: L → L.

(59) CV
    \L
    H\L
    V
    L
Let us propose the following rule:

(60) INDEPENDENT SUBREGISTER LOW TONE LINKING: Link the subregister Low of a marked H1 tone to the final TBU of the morpheme when it is in Phrase initial Position.

\[
\begin{align*}
X & \rightarrow X \\
H & \rightarrow \text{HL} \\
L & \rightarrow L
\end{align*}
\]

The application of the Independent Low Linking rule on a single TBU is a fairly simple procedure:

\[
\begin{align*}
ja & \rightarrow j\text{a} & \text{'son'} \\
H & \rightarrow \text{HL} \\
L & \rightarrow L
\end{align*}
\]

On a word with two or more TBU's, further linking and delinking rules are required, as shown below:

\[
\begin{align*}
kara & \rightarrow \text{kara} \rightarrow \text{kara} \rightarrow \text{kara} & \text{'meat'} \\
H & \rightarrow \text{HL} \\
L & \rightarrow L \\
\end{align*}
\]

With Right to Left linking, H1 is first linked to the final TBU, then the subregister L is independently linked to that same TBU. H1 then links to the first TBU and finally the contour simplification process of LS Delinking takes Place and H1 delinks from the final TBU to leave it to the independently linked Low tone.
Once this Independent Low Linking rule takes place, then, HL nouns can trigger the Low tone spreading rule, as shown below:

(61) waà karà wée \(\rightarrow\) waà karà wée

\[
\begin{array}{ccc}
\text{H} & \text{L} & \text{H} \\
\text{L} & \text{H} \\
\end{array}
\]

\text{LOW SPREAD LS DELINKING}

If Low Linking did not take place before Low Spread, no Low Spreading would be allowed after HL nouns. As a result, Low Linking must take place first before Low tone Spreading. The reader is asked to refer to the subsection (vi) on rule ordering for further discussion.

(v) Weak Mid Tone and Feature Switch

An observant reader will have noted that while LH nouns triggered subregister High tone Spreading, it has been suggested that weak Mid (or HL) tone is also responsible for the behaviour that changes a following Low tone to Mid tone, or a weak Mid tone to High tone; yet there is no High tone on its subregister tier to motivate a High tone Spreading rule. This is illustrated below in (62), where the first HL component of a complex noun in citation form or in Phrase initial Position seems to be responsible for the raising of the following HL component to High tone.

(62) weak Mid \text{cenxe} + \text{yərəxə} \(\rightarrow\) \text{cenxe}-\text{yərəxə} 'sauce ingredients'

\[
\begin{array}{ccc}
\text{H} & \text{H} \\
\text{L} & \text{L} \\
\end{array}
\]

One possible but entirely unconventional solution is to switch the features
of the first component of the complex noun, denoting H to h and bringing l to
the primary tier where it gains the status of L. This is not a totally crazy
idea for a language where HI and LH tones are at the same pitch level and
therefore could easily be confused by the speaker as fulfilling some of the
same functions. Conceptually, the HI would become LH when in phrase initial
position and then the High tone spreading rule would go into effect.

(63) cënxe-yaraxa -> cënxe-yäräxä  'sauce ingredients'

\[ \begin{array}{c}
  H \\
  L \\
  l \\
  H
\end{array} \]

FEATURE SWITCH  H SPREADING

High tone spread onto Low tone nouns or verbs can also take place if the
weak Mid noun undergoes the Feature Switch rule, as shown below:

(64) High spread

\[ \begin{array}{c}
  cënxe nyen?ên \\
  L \\
  L \\
  L
\end{array} \]

FEATUE SWITCH  H SPREAD & LINKING AND LS DELINKING

H SPREAD TO TBU

It should be noted that the same type of problem would surface if lowered High
tones were specified as underlyingly High tone as in the earlier analysis. If
an underlying High tone were in Phrase initial Position and it was followed by
a Low tone noun or verb, as seen in (65), it would be first subject to Low
Insertion by virtue of the fact that it is in Phrase initial Position. This Low
Insertion would not in itself provide the environment for H spreading. However,
if Feature Switch took place, the environment for High tone spreading would be
Therefore, regardless of whether a weak Mid tone is analyzed as underlyingly H1 or High tone, the unconventional feature switching rule is still required for both hypotheses.

The feature switch rule then may be stated as follows:

(66) FEATURE SWITCH: Switch the features of a H1 tone to Lh when the morpheme to which it is linked is in Phrase initial Position.

H1 -> Lh /\#***

(vi) Rule Ordering

It is clear from the derivations in subsections (iv) and (v) that both Independent Low Linking (60) (for Mid-Low nouns) and Feature Switch (66) (for weak Mid nouns) must occur before weak Mid and Mid-Low nouns can trigger spreading rules.

Let us consider Independent Low Linking first. If Low Linking was ordered after Low tone Spread, as in (67a), kara would not be able to trigger Low tone Spread. Once Low Spread is ascertained to be not applicable, Low Linking would take place creating a Mid-Low tone on kara. Since Low Spread has already been tested for applicability, the derived Low tone cannot trigger Low tone spreading onto the following High tone verb, Producing, as a result, an incorrect surface form. If, on the other hand, Low Linking takes place first (see 67b), a
derived Low tone is produced, which, in turn, provides the environment for the Low tone Spread rule.

\[(67)\]

\[\text{a. waà karà wéè} \rightarrow \text{waà karà wéè} \quad \text{'he looked at meat'}\]

\[
\begin{array}{c}
\text{H} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\end{array}
\]

\[
\begin{array}{c}
\text{LOW SPREAD N/A \quad LOW LINKING, LINKING & LS DELINKING} \end{array}
\]

\[\text{b. waà karà wéè} \rightarrow \text{waà karà wéè} \rightarrow \text{waà karà wéè} \quad \text{'he looked at meat'}\]

\[
\begin{array}{c}
\text{H} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\end{array}
\]

\[
\begin{array}{c}
\text{IND LOW LINKING \quad LOW SPREAD \quad LINKING & LS DELINKING} \end{array}
\]

The same problem would arise if Feature Switch were ordered after High tone spread. A weak Mid noun would not be able to trigger High tone spread without Feature Switch. If Feature Switch took place afterwards, then it would be too late for the switched features to trigger High tone Spreading, as seen in \((68a)\). The correct surface form can be derived rather, by ordering Feature Switch before High tone Spread as seen in \((b)\).

\[(68)\]

\[\text{a. waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \quad \text{H SPREAD N/A} \]

\[
\begin{array}{c}
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\end{array}
\]

\[
\begin{array}{c}
\text{FEATURE SWITCH \quad LINKING} \end{array}
\]

\[\text{b. waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \rightarrow \text{waà cen xe tùxì} \quad \text{FEATURE SWITCH \quad H SPREAD, H SPREAD TO TBU} \]

\[
\begin{array}{c}
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\text{L} \\
\end{array}
\]

\[
\begin{array}{c}
\text{LINKING AND LS DELINKING} \end{array}
\]
Therefore, both Feature Switch and Law tone Linking, being phrase initial rules, must take place before the application of either the High tone Spread rule or the Low tone Spread rule across the phrase.

There is a question as to whether Low tone Spread and High tone Spread need to be ordered with respect to one another. This issue as well as other aspects of rule ordering will be discussed in Chapter 6 when more data has been presented.

F. Low-High Nouns and RS Delinking

The final set of nouns and pronouns which produce a surface Mid tone in certain environments are Low-High nouns. We have already seen that a Low-high tone is created as a result of a Low tone spreading onto a High tone TBU, simplified to a surface Mid tone if the High tone was not delinked. This is true when the Low tone of a verb spreads onto a High tone incomplete suffix (69a), when a Low tone of a noun spreads onto a single TBU High tone verb (69b), and when the Low tone of a noun spreads onto the High tone of the Type II suffix (69c).

(69) a. waa xe têe la  
   \[ \text{LH M} \]  
   'Did he show it?'

b. waa wa la la  
   \[ \text{LHM} \]  
   'Did he take some?'

c. pô-kalo  
   \[ \text{LHM} \]  
   'bodies'

It was also demonstrated that once Low tone Spread takes place, the High tone of the resulting Low-High contour is delinked when followed by a noun
class clitic, which is High tone in this particular environment. This tonal behaviour was labeled Right Side Delinking. The examples below show that this is true both for incomplete suffixes as well as for High tone single TBU verbs.

(70) wàà xa tà-à ñèè

\[ V \quad \frac{\downarrow}{\uparrow} \quad V \]

L H H

wàà wà lì ñèè

\[ V \quad \frac{\downarrow}{\uparrow} \quad L H H \]

'He showed it for him'

'He took some for him'

It has already been mentioned that the first Person Pronouns Possess a final Mid tone,(See subsection II.C.) and that this Mid tone not only triggers subregister High tone spreading onto HL nouns, it is itself lowered to Low tone in this environment (71a, b). The examples given below show that this is the only environment in which this Mid tone is lowered to Low tone. When Ñàda is followed by a High initial noun, however, it is not lowered to Low tone (f, g, h). This lack of tonal change conforms to the observation made earlier that High initial nouns are not subject to tonal change and in this case, it appears they also do not participate in the change involving the lowering of the preceding Mid tone.

(71) a. HL Ñàda sòxo -> Ñàda sòxò

'my mortar'

b. HL Ñàda kàrà -> Ñàda kàrà

'my meat'

c. L Ñàda mòlò

'my rice'

d. LH Ñàda gbònìbò

'my granary'

e. Lh Ñàda gbàxa

'my house'

f. H Ñàda fòlèxà

'my rock'

g. H-Lh Ñàda fòyla

'my fish'

h. HL Ñàda sùlò

'my floor'
This lowering of the Mid tone can be easily explained if àda, as well as múra, are posited as underlyingly Low-High, with an internal Low Spreading rule which spreads Low tone onto High tone resulting in a Low-Mid surface tone.

(72) àda 'my' múra 'our'

\[ \begin{array}{c|c|c}
\text{L} & \text{H} & \text{L} \\
\end{array} \]

When followed by a Hl noun, the conditions for High tone Spread and subsequently for RS Delinking are met as shown below.

(73) àda kaà-te \( \rightarrow \) àda kaà-te \( \rightarrow \) àda kaà-te 'my meat'

\[ \begin{array}{c|c|c|c|c|c|c}
\text{L} & \text{H} & \text{H} & \text{L} & \text{H} & \text{H} \\
\end{array} \]

\[ \begin{array}{c|c|c}
1 \text{h} & 1 \text{h} & 1 \text{h} \\
\end{array} \]

L SPREAD H SPREAD LINKING & RS DELINKING

b. àda cèn-ke \( \rightarrow \) àda cèn-ke \( \rightarrow \) àda cèn-ke \( \rightarrow \) àda cèn-ke 'my sauce'

\[ \begin{array}{c|c|c|c|c|c|c}
\text{L} & \text{H} & \text{H} & \text{L} & \text{H} & \text{H} & \text{L} & \text{H} \\
\end{array} \]

\[ \begin{array}{c|c|c|c|c|c|c}
1 \text{h} & 1 \text{h} & \text{I} & 1 \text{h} & 1 \text{h} & 1 \text{h} \\
\end{array} \]

LOW SPREAD HIGH SPREAD LINKING N/A RS DELINKING

An additional bit of evidence that the Mid tone of àda is Low-High rather than Lh, for example, is that àda does not trigger High tone Spread onto Low tone nouns or verbs as do Lh nouns and Pronouns. In the example below, the Lh Pronoun, mo, can trigger High Spreading onto the following Low tone noun while motivating such a rule for àda would yield an incorrect surface form.

(74) mo molo-nà 'your rice'

\[ \begin{array}{c|c|c|c|c}
\text{L} & \text{L} & \text{H} \\
\end{array} \]

\[ \begin{array}{c|c}
h & h \\
\end{array} \]
Recall that the High Spreading rule does not allow the spreading of the subregister High tone onto a Low tone if that High tone is not already linked to a Low tone. As a result, the subregister High of a Lh noun can spread onto a Low tone, but the same of a Hh noun cannot. If the underlying tone of ñìà is considered as Possessing a final Hh, then its underlying representation correctly predicts that it cannot trigger High tone spreading onto Low tone nouns and verbs.

Simple Low-High nouns in the indefinite form always consist of at least 2 TBU's and as a result, the Low and the High tone are each linked to separate TBU's (75a). However, when a Low-High noun root is part of a complex noun, it may have only one TBU for both tones. If followed by a Low or Lh tone noun root, the Low-High tone is simplified to Mid tone, as shown below in (75a, b). However, if followed by a Hh tone, it triggers High tone spread and is subsequently subject to RS Delinking (c).

(75) a. gbôn-19
   \ /  
  /   \ 
 LH

b. gbôn-no?o-lo \rightarrow gbonno?o-lo 'dirty granary-IND'
   \ /  
  /   \ 
 LH   L
       \ /  
      /   \ 
     L

c. gbôn-cên-ñè
   \ /  
  /   \ 
 LH   L

'my rice'  Rather: ñìà māl-ñè
In subsection II.C., Hyman's four proposed underlying representations for Mid tone, two of which use the double tiered approach for tone features, were presented. In the succeeding discussion, all but one of these representations were proposed for use in Suicite. Mid tone as a default tone, to be linked to toneless TBU's, has so far not been considered as a possible way to represent Mid tone in Suicite. It would be difficult to consider any of the Mid tones discussed above as simply toneless, to be assigned a default Mid tone at a particular stage of the derivation. My presumption is that toneless segments are not disposed to triggering tonal rules, since they themselves do not possess any tone. Yet, it has been seen that those nouns with Lh or Low-high tone do effectively trigger the High tone Spreading rule. If either one were considered toneless, it would have to acquire the Mid tone before the application of the rules; even then, this default Mid tone would not possess the properties required for triggering High tone Spreading. If, on the other hand, one attempted to suggest that Hl nouns were underlyingly toneless, there would be no way to explain how this toneless noun becomes Low-High when preceded by Low final nouns. Thus it seems that each of the Mid tones discussed here needs to be fully specified for tone so that tonal rules can be motivated to trigger
III. THE DEFINITE SUFFIX REVISITED

A concern that must be dealt with here is the tone of the Definite Suffix. Recall that the definite suffix is Mid tone after Low final and High tone noun roots and High tone after Low-High and Mid tone noun roots:

(76) Noun root tone

<table>
<thead>
<tr>
<th>Tone</th>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>ída-ke</td>
<td>'the rock'</td>
</tr>
<tr>
<td>Low</td>
<td>m̀là-ǹa</td>
<td>'the rice'</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>kà-te</td>
<td>'the meat'</td>
</tr>
<tr>
<td>Low-High</td>
<td>nd̀rà-kà</td>
<td>'the yam'</td>
</tr>
<tr>
<td>Mid</td>
<td>gba-kà</td>
<td>'the house'</td>
</tr>
<tr>
<td>Weak Mid</td>
<td>cín-kà</td>
<td>'the sauce'</td>
</tr>
</tbody>
</table>

The possible nature of the underlying form of the definite suffix was briefly discussed in Chapter 3, but without the help of the subsequently acquired knowledge of the different possible feature configurations of Mid tone. The question was posed at that time as to whether the definite suffix was underlingly High tone or some type of Mid tone, essentially the same problem posed for weak Mid and Mid-Low nouns in this chapter. We know for sure that the definite suffix is not the unchangeable High tone belonging to a very restricted set of nouns, because it does alternate between Mid and High tone. We also know that it has a final floating Low tone which is never linked to the suffix itself but can trigger Low tone spreading.

Suppose, first of all, that the definite suffix was underlingly Hl. Both Low tone spread and High tone spread would produce satisfactory results in the
following derivations:

(77) a. mìlà-ñe -> mìlà-ñe 'the rice'  
\[
\begin{array}{cccc}
L & H(L) & L & H(L) \\
1 & 1 & 1 & 1 \\
\end{array}
\]
LOW SPREAD LOW DELETION  

b. ndàrà-ke -> ndàrà-ké 'the yam'
\[
\begin{array}{cccc}
L & H(L) & L & H(L) \\
1 & 1 & 1 & 1 \\
1 & h & 1 & h \\
\end{array}
\]
HIGH SPREAD RS DELINKING

c. gba-ke -> gba-ké 'the house'
\[
\begin{array}{c}
L & H(L) \\
1 & 1 \\
\end{array}
\]
HIGH SPREAD

After High tone noun roots, the definite suffix is Mid tone. A High tone Spread rule, however, would incorrectly produce a High tone on the suffix, as shown below:

(78) fálá-ke -> *fálá-ké 'the rock'  
Rather: fálá-ke
\[
\begin{array}{c}
H & H(L) \\
1 & 1 \\
\end{array}
\]
HIGH SPREAD

If an underlying H1 tone is adopted for the definite suffix, then somehow the High Spread rule must be blocked from applying in the setting as described in (78).

An alternative solution is to consider the definite suffix as underlyingly High tone. The same noun types that posed no problems for derivation above in (77) also pose no problem here, as can be illustrated below. Note, however,
that if the suffix is considered underlyingly High tone, there is no longer a
need for a High Spread rule. Thus, the noun in (c) requires no rules.

(79)a. mələ-ŋe -> mələ-ŋe 'the rice'  b. ndərə-ké -> ndərə-ké 'the yam'

\[
\begin{array}{ll}
\text{L} & \text{H(L)} \\
\text{L} & \text{H(L)} \\
\text{l h} & \text{l h h}
\end{array}
\]

LOW SPREAD  RS DELINKING

\[
\begin{array}{ll}
\text{L} & \text{H(L)} \\
\text{L} & \text{H(L)} \\
\text{h h}
\end{array}
\]

The definite suffix as underlyingly High tone, however, still does not produce
a satisfactory result for High tone nouns. In the example below, the definite
suffix remains an incorrect High tone.

(80) *fələ-ké  \quad \text{Rather: fələ-ke}

\[
\begin{array}{ll}
\text{H} & \text{H(L)} \\
\text{l} & \text{l} \\
\text{h h}
\end{array}
\]

Although Positing H1 for the definite suffix would necessitate the blocking
of the High Spread rule from High tone roots to the definite suffix, while
still Permitting it with Low-High nouns, Positing an underlying High tone would
require the formulation of a new rule in which the High tone suffix is lowered
after High tone noun roots but not after Low-High roots. Whatever the solution
may be, it does appear that we are dealing with an exception that does not
conform nicely to the rules already proposed thus far. For that reason, there
does not seem to be any strong argument for choosing one solution over another.
If one does choose to posit an underlying High tone, however, there is a way of ordering the rules such that the formulation of a rule to lower the High tone suffix to Mid tone after a High tone noun will not apply to Low-High nouns. Let us first formulate this High tone lowering rule to involve the insertion of a Low tone on the subregister tier of the High tone suffix. This rule, to be called High tone Downstep, is stated below.

(81) HIGH TONE DOWNSTEP:

Link a subregister Low tone to the High of tone definite suffix if it is preceded by a High tone linked to a TBU.

\[
\begin{array}{c}
X - X \rightarrow X - X \\
\hline
H \ H(L) \ H \ H(L) \\
\hline
h \ [DEFL] \ h \ l
\end{array}
\]

Thus the noun *fálé-ke* would have the following derivation:

(82) *fálé-ké* $\rightarrow$ *fálé-ke*

\[
\begin{array}{c}
H \ H \ H \ H \\
\hline
h \ h \ h \ l
\end{array}
\]

A Low-High noun, according the rule formulation above, would also be subject to the Downstep rule. However, it is already known that the definite suffix does not lower after Low-High nouns (see (79)). A solution to this contradiction can be found if RS Delinking is ordered to take place before Downstep and if a delinked High tone is blocked from triggering Downstep. Such a derivation is illustrated below.
Thus, positing an underlying High tone for the definite suffix does effectively provide for a viable analysis. If one posited an underlying H1 tone, it would also be possible to produce a correct surface form for High tones by stating simply that there is an exception to the High tone spreading rule when a High tone noun (and not Low-High) is followed by a definite suffix. For perhaps arbitrary reasons, I have chosen the analysis where the definite suffix is considered to be underlyingly High tone.

IV. TONAL BEHAVIOUR OF THE COMPLEX NOUN

The previous section examined tonal interactions within the Noun Phrase. It was also seen that the same tonal rules that occur across word boundaries also occur across morpheme boundaries within the complex noun. This section focuses on the complex noun. Two types of tonal alternations will be examined: first, those which change as a result of the tonal environment, and secondly, those whose tonal changes seem to be governed primarily by semantic and structural considerations. The latter will be discussed under the heading, 'Lexical Changes'(see IV.C.).

A. Complex Nouns (H1 + H1) and the Obligatory Contour Principle

When H1 and H1 noun roots are strung together in a complex noun, interesting tonal alternations take place. First of all, the rules which occur across word boundaries also take place across morpheme boundaries within a complex noun.
If, for example, the first morpheme of a complex noun is Hl (weak Mid) and the second morpheme is Hl or Hl (weak Mid or Mid-Low), Feature Switch takes place on the first Hl morpheme. The resulting Lh tone then can spread its subregister High tone onto the following Hl tone, as shown in the examples in (84).

(84) a. cën-xe + yara-xa -> cënxayärëxä 'sauce ingredients' (sauce things)

b. ntara-folc -> ntara-folc -> ntara-folc -> ntara-folc 'land chief'

c. mëme + juu -> mëju-lë 'speech' (voice + saying, words)

Low tone Spreading can also take place across morpheme boundaries within a complex noun. If the first noun root is a marked Hl noun root (or Mid-Low), Low Linking can take place, followed by Low tone Spread, as shown below:

(85) a. nye?ë + folc -> nye?ëfolc -> nye?ëfolc 'older brother'

b. cañá + nyelë (day + eye) -> cañányelë 'sun'

c. cañá + t6 (day + cover (vb)) -> cântödë 'umbrella'
There is a restricted set of H1 and H1 complex nouns, however, that behave a little differently. Instead of the first H1 triggering a High or Low tone spreading rule onto the following H1 noun root, the entire noun takes on a Mid-Low contour. This means that the last TBU possesses a Low tone while all preceding TBUs are Mid tone. Either noun root may be H1 (weak Mid) or H1 (Mid-Low), yet the resulting tonal structure is the same. Observe the examples below.

\[(86)\]a. ceewà + Polà \rightarrow ciPolà \hspace{1cm} (woman + husband) \hspace{1cm} 'groom'

\[\begin{array}{ll}
\text{H1} & \text{H1} \\
\text{H1} + \text{H1} & \text{no examples} \\
b. \ n\text{yimè} + \text{balè} + \text{xe} \rightarrow \text{nyambalaxè} \hspace{1cm} (shade + unit) \hspace{1cm} 'night' \\
\text{H1} & \text{H1} \\
c. \ yaràxa + \text{taxa} \rightarrow \text{yataxè} \hspace{1cm} (thing + tree) \hspace{1cm} 'neck' \\
\text{H1} & \text{H1} \\
d. \ n\text{yamè} + \text{balè} + \text{wà} + \text{lo} \rightarrow \text{nyabalawolè} \hspace{1cm} (shade + unit + black) \hspace{1cm} 'darkness'
\end{array}\]

Let us consider first \((86a)\). The noun \textit{ciPolà} is composed of two H1 nouns. Since these are marked for Independent Low Linking, it might have been expected that first noun root would undergo Low linking while the second would be subject to Low tone spread, as we saw in \((85)\) above. However, in this case, only the second noun root undergoes Independent Low Linking, while the first remains H1:

\[(86)\]a. ci-Polà

\[\begin{array}{ll}
\text{H1} & \text{H1} \\
\text{H} & \text{H} \\
\text{L} & \text{L} \\
\text{L} & \text{L}
\end{array}\]
Apparently some as yet unspecified rule or condition must take place to block the linking of the first subregister Low tone to the segmental tier. In (86c), we see a combination of two Hl noun roots, neither of which are marked for Independent Low Linking, and yet the final noun root is subject to Independent Low Linking.

(86) c. Ya - taxè
   /  \n   H  H L
   \  /
   1  1

Again, it seems apparent that some rule preceding Feature Switch, which would normally apply in this setting, must trigger the Low Linking on certain complex nouns consisting of two Hl nouns.

As we begin this analysis, it must be emphasized that not all Hl complex nouns behave in this way and those which do seem to do so for unknown reasons. Although there appear to be no phonological or syntactic reasons for this behaviour, the following is an attempt to provide a analytical description for this peculiar type of tonal behaviour.

1. The OCP Solution

One possible solution is to introduce the Obligatory Contour Principle as a language specific rule that would apply only to this designated set of Hl complex nouns. The OCP would collapse a series of Hl tones into one, and as a result of that collapsing process, the subregister Low tone would be marked for Independent Low tone Linking. This is illustrated in the example given below.
As a rule in Suicite, the OCP may be stated as follows:

(88) OBLIGATORY CONTOUR PRINCIPLE: A series of H1 tones within a semantically defined unit are collapsed into one H1 tone.

This OCP rule would not work on those complex nouns whose first components trigger rules onto following components as seen above in (84) and (85). If these nouns submitted to the OCP, incorrect forms would result, as shown below:

(89) nYe?e + fol (face + chief) ->*nYe?e fol 'older brother'

Therefore, the OCP must not be allowed to apply everywhere. Each noun to undergo OCP must be lexically marked for the application of that rule.

2. Rule Ordering for the OCP

Those noun compounds which do undergo OCP do not allow Feature Switch or Low Linking on the first components of the compound. Rather OCP goes into effect and then independent Low tone Linking applies only at the end of the word.
Therefore, the OCP must apply before the application of the Feature Switch or the Independent Low Linking Rule. If either applied before the OCP, they would adjust the tone features in such a way that OCP would no longer be possible. The OCP, on the other hand, must apply obligatorily in this setting, and therefore must not be blocked under any condition by Feature Switch or Independent Low tone Linking. In addition, it is seen in (90) that the rule of Independent Low Linking is required after the application of the OCP.

3. High Spreading and OCP

When High tone Spreading takes place on H1 complex nouns, they all end up with the same results regardless of whether they were subject to OCP or not. High Spreading on Complex nouns which do not undergo the OCP is illustrated below. In the example below, the subregister High tone spreads onto the following H1 tone. The same High tone then spreads to the next H1 tone.

Nouns which have undergone OCP are also subject to High tone Spreading and produce the same result as those nouns which did not undergo the OCP, as shown below:
4. Low Spreading and the OCP

Non OCP complex nouns also behave in the same way as OCP complex nouns when subject to the Low tone Spreading rule. First, let us look at nouns which do not undergo the OCP. In the example below, the first component of the complex noun will, in isolation, undergo Feature Switch, and then trigger High tone spread onto the following Hl component.

(93) a. me-juune—> me-juuné—> me-juune

'speech'

H H H L H H L H H

OCP HIGH SPREAD & DOWNSTEP

When preceded by a Low final word (as in (94)), however, the first component is no longer in Phrase final Position and thus cannot undergo Feature Switch. Rather it is subject to Low tone Spread. A Low-High contour results, which, after being specified on the subregister tier, then triggers High tone spreading onto the following component. Once the Spreading rule takes place, the contour simplification Process of RS Delinking, delinks the High tone of the Low-High contour.

(94) wurà mejuüné—>wurà mejuüné—> wurà mejuüné

L H H H L H H L H H

L SPREAD & L DEL H SPREAD LINKING, RS DELINKING, & DOWNSTEP
Although complex nouns which undergo the OCP yield the same results when subject to Low tone spreading, the manner in which those results are arrived at is a little different. Once the OCP has collapsed all the Hi tones into one (as shown in (95)), the Low tone spreads onto the first High linked TBU and Low tone deletion takes place. Since this subregister Low tone is linked to the High tone which is in turn linked to all the components of the complex noun, all the components are affected by its deletion and, as a result, become High tone. This is unlike the case for non OCP complex nouns where High tone spread must be motivated to trigger Low tone deletion on the remaining components of the complex noun (see 94).

(95) kan-yà ka-₅kurò -> kànyà ka-₅kurò -> kànyà kà-₅kurò -> kànyà ka-₅kurò

\[ \begin{array}{ccccccc} \text{OCP} & \text{L SPREAD} & \text{L DELINKING} & \text{RS DELINKING} \\
\text{L H H} & \text{L H} & \text{L H} & \text{L H} & \text{L H} & \text{L H}
\end{array} \]

'sfive villages' (villages + five)

\[ \begin{array}{ccccccc} \text{OCP} & \text{L SPREAD} & \text{L DELINKING} & \text{RS DELINKING} \\
\text{L H H} & \text{L H} & \text{L H} & \text{L H} & \text{L H}
\end{array} \]

'sfat goat' (oil + goat)

5. OCP and the Association Conventions

In Chapter 3, it was assumed that the Association Conventions involved the linking of all tones and TBU's. In Chapter 4, the search for a satisfactory analysis for Low tone Spread brought to light the need to modify the
Association Conventions such that 1) tones associated with TBU's in a Right to Left fashion across the word and 2) the initial linking did not involve the linking of more than one TBU to a tone. With the introduction of OCP, one sees again the need to postpone the linking of tone to all TBU's until Low tone spreading takes place. This becomes clear when comparing Low tone spread on a simple three TBU noun with Low spread on a complex noun with two or three noun roots.

On words with only one noun root, the Low tone spreads to the final TBU of that root.

\[
\begin{array}{c|c|c}
\text{L} & \text{H} & \text{L} \\
\hline
\text{nàà kó-ráxè} \\
\end{array}
\]

On words with more than one noun root, the Low tone spreads to the final TBU of the first morpheme only.

\[
\begin{array}{c|c|c}
\text{L} & \text{H} & \text{L} \\
\hline
\text{nàà yà-tè-xè} & \text{man's neck} \\
\end{array}
\]

The way the rules have been set up thus far allow for this correct prediction in behaviour. If, for example, all TBU's were linked to tones before the application of the tonal rules, the application of the OCP would immediately create an ambiguity between the word with a single noun root versus one with two or more noun roots, as shown in (96). In both cases, tone would be linked to all TBU's. When Low spreading takes place, Low would spread only to the first TBU. There is nothing in the linking pattern to indicate that Low must also spread to the second TBU if the noun concerned is a simple three TBU noun, but must not spread a second time if the second TBU is another noun root. This
ambiguity created by such a linking procedure makes it impossible for the Low
tone spreading rule to distinguish these two types and thus treat them
differently.

(96)  multiple noun roots           single noun root

Pulleyblank's (1983) proposal to limit the Association Conventions to link a
tone to only one TBU serves a useful purpose here. The effect of linking one
tone to one TBU signals, except in the cases of underlying contour tones, the
presence of a single noun root. If, after the Association Conventions, the
application of the OCP results in a single tone being linked to several TBU's,
we are thus informed that there are as many noun roots as linkages to the tone.
The Low tone spreading rule, then, is limited to spreading only to the first H1
tone linked TBU. On a single noun root with three TBU's, this means that the
Low tone will spread to the final TBU, since that is the first (and only) TBU
that is linked by the H1 tone. On the noun with two noun roots, the Low tone
will spread only to the first TBU that is linked. In (97) below, is an illustra-
tion of how the tonal rules interact to produce correct forms for (a) a
three TBU single root noun and (b) a compound noun.

(97) a. single root

wurà kàrâhk à wurà kàrâhk 'his EMPH inheritance'

A C L SPREAD  I DELETION  LS DELINKING
b. multiple root

wurà nyim-bala-wolo → wurà nyimbálwóló 'his EMPH darkness'

The final question that remains is whether the application of OCP is really needed to allow a correct tonal output. In terms of Spreading rules, it appears that the application of the OCP is not essential for producing correct results. Whether a noun has undergone OCP or not, both High and Low Spreading onto a compound noun produces the same results. However, we recall that OCP was introduced in an effort to deal with a select set of complex nouns which behaved like simple non-complex nouns in phrase initial position. The non-application of the OCP in this situation would have required at least some other kind of rule or condition to a rule to block the application of Feature Switch and Independent Low Linking in all positions except in word final position. The blocking of these two rules word internally would have to be restricted to this special set of nouns, however, for we have already seen how both rules can be applied word internally on other complex nouns. Such a condition would be feasible if it were suggested that Feature Switch and Independent Low tone Linking were sensitive to the cohesiveness of a particular complex noun. If a complex noun functioned as a semantic unit, then FS and Low Linking may be blocked from applying, while they still apply to the end of each morpheme within complex nouns which were less cohesive in nature.

We see this lack of FS and Low Linking in another setting where the OCP
cannot be motivated, but where a condition blocking the two rules could be applied. When a HI noun root is followed by a Lh noun root within certain complex nouns, neither FS nor Low Linking are allowed to apply.

(98) a. son₂ + naga -> sonnaga 'horse's tail'

\[ \text{H} \quad \text{L} \quad \text{h} \]

b. te₂ + son -> tasane (Place + sacrifice) 'altar for sacrifice'

\[ \text{H} \quad \text{L} \quad \text{h} \]

c. sak₂ + nye -> sakanyeere (sheep + be all) 'a lot of sheep'

\[ \text{V} \quad \text{H} \quad \text{L} \quad \text{h} \]

Therefore, it may be feasible to attach a condition to FS and Low Linking, blocking their application in certain word internal environments, instead of proposing the OCP rule, which does not cover for the examples given above in (98). Unfortunately, time and space do not allow for a thorough investigation of this possibility.

B. High Delinking

Earlier, it was pointed out that although HI (weak Mid) usually behaves differently than Lh, there are situations where it triggers the same tonal rules as Lh nouns. In order to accommodate this behaviour, a rule called Feature Switch was implemented to change HI to Lh. This Process did not change the surface tone; it simply changed the underlying tone so that it could
trigger the same rule as Lh nouns.

It was suggested that this confusion of identity for these different types of Mid tones was due to the fact that their identical pitch value contributed to the overlapping of tonal behaviour. The following is a discussion of a type of Mid tone that appears to be Lh in certain settings, while in other environments, it behaves more like a Hl or a Low-High tone.

This type of Mid tone is never found in word initial position and it is always preceded by a Low tone. When followed by no tone or by a Low or Mid tone (Lh), it is Mid tone. When followed by a Hl tone or H tone, it is Low tone. The underlined vowels in the examples below are linked to these particular types of Mid tone.

(100) kà-1à-xà 'sorghum-IND' kà-1à-pù-19 'bundles of sorghum-IND'
     kà-1à-pò?alò 'bundles of sorghum-DEF'

kà-jìì-xè 'wood-IND' kà-jìì-pù-19 'bundles of wood-IND'
     kà-jìì-pò?alò 'bundles of wood-DEF'

kà-ùtù-xó 'back-IND' kà-ùtù-xà-nà 'back-ache-IND'

This type of behaviour parallels very closely the tonal behaviour of Low-High contour tones which are linked to a single TBU (see pp. 243ff). If these particular Mid tones are considered underlyingly Low-High, then one can motivate the Rightside Delinking rule, which delinks a High tone of a Low-High contour when it is followed by another High tone. Such a derivation is illustrated below.

(101) kà 1à Pò15 \-> kà là Pò15

\[ \begin{array}{l|l|l}
\text{L} & \text{LH} & \text{H} \\
\hline
\text{L} & \text{LH} & \text{H} \\
\text{L} & \text{LH} & \text{H} \\
\hline
1 & \text{LH} & 1 \\
1 & \text{LH} & 1 \\
\end{array} \]

HIGH SPREAD RS DELINKING
However, if the segment -la is underlyingly Low-High, the two tones should link to separate TBU's when followed by an indefinite suffix, as shown below. Unfortunately, this produces the wrong surface form.

(102) *kà-là-xà 'sorghum'    Rather: kà-la-xà

In addition, kàlaxà triggers High Spreading onto Low tone nouns and verbs, something a Hh final noun cannot do. If one posits an underly Lh tone for -la, then its subregister High tone can spread onto a following Low tone, as shown below.

(103) wù ya kà-làxà teè 'He is showing sorghum'

If we consider that the underlying tone is Lh, however, some explanation must be found for the lowering of this Lh tone of -la to Low in kàlapòlì. Another rule will have to be formulated whereby the Lh tone becomes Low tone when preceded by a Low tone and followed by a High tone. A simple way of performing the mechanics of this tone lowering is to delink the subregister High tone in this environment:

(104) kàla pòlì

Such a rule would be stated as follows:
(105) HIGH DELINKING: Delink a subregister High tone linked to a Low tone if it is Preceded by a Ll tone and followed by a Hh tone, within the domain of the word.

```
X X X
| | | |
L L H
| | |
1 h h
```

The reader may recall that an earlier High Delinking rule (44) was introduced in Chapter 4 to motivate the lowering of a Mid tone verb after a High final noun and in a Phrase final position. Because these two High Delinking rules take place in different environments, they shall be considered separate rules at this point.

This Process is quite reminiscent of the RS Delinking of a Low-High contour, except in this case, the Lh is not a contour but rather a complex bundle of features. Perhaps, though, the motivation for this type of rule is similar to that of RS Delinking. RS Delinking was concerned with the simplification of contour tones. This High tone Delinking seems to be motivated by some kind of desire to simplify the complex Lh feature in an environment where the Lh tone is caught between a Low and a High tone. Like RS Delinking, the High Delinking rule also takes place after the application of the spreading rules, as shown below.

(106)a.kàla + polà -> kàla - polà -> kàlà-polà  'bundle of sorghum heads'
```
/ | | | \\
L L H L L \ H L L H
| | |
1 h 1 | 1 h 1 h
```

H SPREAD LINKING & H DELINKING

(sorghum + tie,n.)
b. vândiñe + kɛɛxè (shirt + arm) → vândi-kɛɛxè 'sleeve'

A similar phenomenon occurs on nouns with Type II suffixes. When a noun ends in a Type II indefinite suffix, the final tone is Lh, and it can trigger High tone spread onto following words, as shown in the derivation below.

However, when a noun with a Type II suffix is completed by a Definite Suffix, the Type II suffix becomes Low tone: nkàn-?a-ki → nkàn-?a-kì 'the teeth'. It would appear that High Delinking is also taking place here. However, in observing the example below in (108), the underlying tonal structure of the Type II suffix presents a slightly more complicated situation. After the Low tone of the noun root spreads onto the High tone of the Type II suffix, a total of three tones are linked to the single TBU, -2a.

In order to motivate the lowering of all these tones to Low tone, it seems that both RS Delinking and High Delinking would have to take place. However, Hh is blocked from Delinking because it is not followed by a High tone but rather by a Lh tone, and the subregister High tone of the Lh tone cannot be delinked.
because it is not preceded by a Low tone. One possible solution is to somehow collapse this complex of tones, L1-Hh-Lh into a simple, more manageable combination such as Lh. Unfortunately, time and space do not allow a discussion of the theoretical implications of such a move. However, such a process would permit the High Delinking rule to take place, resulting in a correct surface representation, as shown below.

\[(109)\]  

\[
nkàn-?a-ki → nkàn-?a-ki → nkàn-?à-ki
\]

\[
\text{LOW SPREAD  Tone Collapse  HIGH DELINKING}
\]

One might think the Lh tone of kàla- would also undergo H Delinking when followed by the High tone Definite Suffix. However, as the first example in (110) indicates, no High Delinking occurs. It seems then, that this High Delinking occurs before definite suffixes only on Type II suffixes. Compare (a) with (b) below.

\[(110)\]  

\[
\text{Type I Suffix vs. Type II Suffix}
\]

\[
a. \text{kàla-ké 'the sorghum'} vs. b. nkà?-à-ki → nkà?-à-ki 'the teeth'
\]

The primary difference between these two nouns is that the noun which does not undergo High Delinking is a Type I noun, while the second is a Type II noun. Other examples confirm that definite suffixed Type I nouns do not allow High Delinking immediately preceding the definite suffix, in contrast to Type
II nouns.

The rule of High Delinking (105), then is formulated in the attempt to account for the lowering of a Lh tone situated between a Low tone and a High tone in a complex noun. The discussion above exposes some complications involved in its application. At this point, however, a more thorough analysis will have to wait until more research is done.

C. Lexical Changes

The previous two tonal alternations, the OCP and High Delinking, took place in a particular tonal environment. However, it was noted that sometimes their application was blocked for reasons not always clear. This section deals with tonal alternations which I call lexical changes. These tonal changes operate at the lexical level (i.e. within word boundaries) and are, for the most part, not governed by the tone of adjacent morphemes, but take place after noun roots are combined to form complex nouns. The following discussion will deal with each of these changes and propose the way in which these changes may be formulated.

1. High Deletion

High Deletion takes place in two types of environments. The first takes place in an environment that is both tonal and morphological, while the second seems to be a function of the semantic and morphological structure of the noun. For the sake of convenience, they shall be labeled High Deletion I and High Deletion II.

a. High Deletion I

In Chapter 2, it was mentioned that Mid tone verbs lowered to Low tone when an incomplete suffix was added. The proposed analysis posited the Mid tone of
a Mid tone verb as underlyingly Lh. A High Deletion rule was then formulated to trigger deletion of the subregister High tone of the Lh verb when followed by a High tone incomplete suffix (See (59)). In Chapter 3, it was also found that certain tonal sets of nouns also lowered to Low tone when the High initial Type II indefinite suffix was added. Although, at that point, the underlying features of the various types of Mid tones had not been discussed, it was suggested that High Deletion could apply here, too. The High Deletion rule as proposed in Chapter 3 is restated below:

(88) HIGH DELETION: Delete a High tone on the Primary or subregister tier if a Primary Low tone is found to the left of a Primary High tone or linked to a subregister High tone, and followed by a High initial suffix. If the suffix is a nominal suffix, it must have undergone either no segmental alteration or else have undergone Suffix Reduction.

\[
<\text{H},\text{h}> \rightarrow \emptyset / \begin{cases} 
L & \text{Suffix - if N, then full or reduced} \\
L & \\
L & \\
L & \\
\end{cases} + H
\]

This rule assumes that all Mid tones were underlyingly Lh or Low-High. However, now that H1 tone has been posited for weak Mid and Mid-Low tones, High Deletion, as formulated above, would not delete the High tone, which is now on the Primary tier. One therefore will have to modify the rule to allow for the deletion any time that High tone is combined with and linked to the same TBU as a Low tone:
(111) HIGH DELETION: Delete a High tone on the Primary or subregister tier if a Low tone on the Primary or subregister tier is linked to the same TBU as the High tone. If the suffix is a nominal suffix, it must have undergone either no segmental alteration or else have undergone Suffix Reduction.

\[
\langle H, h \rangle \rightarrow \emptyset / L \ldots + H
\]

\[
\left\{ \begin{array}{l}
L \\
\uparrow \\
\downarrow
\end{array} \right\}
\]

\[
\text{[suffix - if N, then full or reduced]}
\]

This would mean that when the High of a H1 tone is deleted, the remaining Low tone on the subregister tier would link to the segmental tier. This is illustrated below in (112a). In (112b), the Low-High tone is also deleted through the same High Deletion rule.

(112) a. ni-i \rightarrow ni-i \rightarrow ni-i 'mothers' b. nkənʔala \rightarrow nkənʔala 'teeth'

\[
\begin{array}{cccc}
H & L & L & H \\
\uparrow & \uparrow & \downarrow & \downarrow \\
L & H & L & H \\
1 & h & h & 1 & h & h \\
\end{array}
\]

H DELETION L SPREAD

In these examples, once High Deletion takes place, the remaining Low tone then spreads onto the High tone suffix, creating a Low-High contour, which is then simplified to Mid tone.

If a H1 morpheme marked for High deletion is preceded by a L1 tone or a subregister high final word, one might expect Low or High tone spreading to block High deletion. However, (113a) shows a derivation where High Deletion takes place before Low tone Spread and High Spread, thus producing a correct
surface form. If High Spread were allowed to take place and spread onto a Hl noun before High Deletion, this High Spread would effectively block the environment for High Deletion, as shown in (b).

\[(113) a. \text{ádá} \ ni\-i\-bí} \rightarrow \text{ádá} \ ni\-i\-bí} \rightarrow \text{áda} \ ni\-i\-bí} \rightarrow \text{áda} \ ni\-i\-bí} \ 'my mothers' \]

\[
\begin{array}{cccccccc}
L & H & H & H & L & H & H & L \\
L & H & H & H & L & H & H & L \\
1 & h & h & h & 1 & h & l & h
\end{array}
\]

HIG H DELET ION LOW SPREAD T COLLAPSE & H DELINKING

\[b. \text{ádá} \ ni\-i\-bí} \rightarrow \text{áda} \ ni\-i\-bí} \ 'my mothers' \]

\[
\begin{array}{cccccccc}
L & H & H & H & L & H & H & L \\
L & H & H & H & L & H & H & L \\
1 & h & h & h & 1 & h & l & h
\end{array}
\]

HIG H SPREAD HIG H DELET ION N/A

Below (114) is an example of a complex noun with several noun roots. The second noun root, which is Lh, spreads its subregister High tone onto the following Hl morpheme. This is followed by a High Delinking rule.

\[(114) a. \text{kà-ji-pó-lí} \rightarrow \text{kà-ji-pó-lí} \ 'bundle of wood' \]

\[
\begin{array}{cccccccc}
L & L & H & L & L & H \\
L & L & H & L & L & H \\
1 & h & h & 1 & h & h & 1 & h
\end{array}
\]

HIG H SPREAD LINKING & HIG H DELINKING

However, when this same complex noun is followed by a Type II suffix, the final noun root, being adjacent to the High initial suffix undergoes High deletion, as shown in (115). One may expect, then, that the subregister High of the preceding Lh morpheme would spread onto the following Low tone, but as (115a) shows, this produces an incorrect result.
Instead, the derived Low tone spreads onto the High tone of the suffix, as shown in (115b).

(115b) kà-ji-po-ʔalo → kà-ji-pò-ʔalo 'bundles of wood'

\[\begin{array}{cccccccc}
L & L & H & L & L & L & L & H \\
H & H & H & H & H & H & H & H \\
1 & h & 1 & h & 1 & h & 1 & h \\
\end{array}\]

HIGH DELETION    HIGH SPREAD

It appears, from the example above, that the High spread rule must be blocked from spreading onto any Low tone that is a result of a High Deletion rule. If this is the case, High tone Spread should also be prevented from occurring in the example below, where a Mid tone verb which has undergone High Deletion is preceded by the Lh Possessive Pronoun, mo. However, as seen in the derivation, in order to produce the correct surface form, the subregister High tone of the Lh Pronoun must spread onto the derived Low tone.

(116) ndi ya mo nyà-ā → ndi ya mo nyà-ā → ndi ya mo nyà-ā 'I see You'

\[\begin{array}{cccccccc}
L & H & L & H & L & L & H & L \\
L & L & L & H & L & L & H & H \\
L & H & H & H & H & H & H & H \\
1 & h & 1 & h & h & h & h & h \\
\end{array}\]

HIGH DELETION    HIGH SPREAD

The Proposed generalization that no spreading is allowed onto derived Low tones, then, meets up with a contradiction. It is possible that there is a
distinction in the applicability of the spreading rules between spreading across word boundaries and spreading across morphemes within word boundaries. This matter needs more research before it can be resolved.

The ordering of High Deletion with the OCP is also crucial. If the OCP applied before High Deletion, as shown in (117), High tone would be lost all across the word, producing an incorrect surface form.

(118) saka-a → sa-ka-a → sak-a-a → * sàkà-a
     H H H L H H L L H L
     1 1 h 1 h 1 h 1 h
     OCP HIGH DEL LOW SPREAD

However, if High Deletion takes place before OCP, the environment for OCP would then be lost and the correct surface form would be produced.

(119) sa-ka-a → sa-ka-a → sa-kà-a
     H H H L H H L H L H L
     1 1 h 1 h 1 h 1 h
     HIGH DEL LOW SPREAD

Note that the OCP occurs on this word when it is not followed by a Type II indefinite suffix, as shown below.

(120) sa-ka → sak-a → sakà
     H H H L H L
     1 1 h 1 h
     OCP IND L LINKING & LS DELINKING

High Deletion then is a rule that takes place after Association Conventions but
before any other rules at the Lexical level.

b. High Deletion II

This second type of High Deletion involves the same process of deleting a high tone which is in combination with a low tone. However, the environment for this High Deletion II is different. It takes place primarily when a HI noun root is followed by some other noun root in a noun compound. The nature of the tone of the root does not seem to be crucial for the application of the rule. Below are some examples of High Deletion II. In the following example, the noun, PÁ 'dog' is HI, and exhibits a mid-Low tone as a simple noun (121a). When it is followed by adjectival modifiers, however, it undergoes High Deletion. In (121b) High Deletion takes place, and then the remaining low tone triggers low tone spreading onto the following HI noun root. When followed by LH or low tone, the remaining low tone triggers no tonal rules, as seen in (c) and (d).

(121)a. PÁn
\[\text{H L} \]
\[\text{L} \]

\[\text{H DELETION} \]

b. PÁn-LEXE \[\Rightarrow\] PÁndhEXE
\[\text{H L H} \]
\[\text{L} \]
\[\text{H DELETION LOW SPREAD & L DELETION AND LS DELINKING} \]

c. PÁn-cēnè \[\Rightarrow\] PÁn-cēnè
\[\text{H L} \]
\[\text{L} \]
\[\text{H DELETION LOW SPREAD & L DELETION AND LS DELINKING} \]

d. PÁn-kalaka
\[\Rightarrow\]

In other cases, a particular word may undergo High deletion in certain
semantic environments, while in other semantic environments, it does not. The noun, *kud₃a* 'road' is such an example. In (122a), it does not undergo High deletion in contrast to examples (b) and (c). Therefore, in some cases, application of High deletion may be semantically defined.

(122) a. kun-bol₃a → kun-bol₃a 'big road'

\[ \text{OCP} \quad \text{IND L LINKING, LINKING, LS DELINKING} \]

b. ku-see → ku-see → ku-see 'traveller' (lit. road goer)

\[ \text{H DEL} \quad \text{LOW SPREAD LS DELINKING, & L INSERTION} \]

& L DELETION

c. ku-sel₃e 'trip' (lit. road going)

Some LH nouns also undergo High Deletion when in word initial position. The word *fànl₃a* 'Peanut' is one such example.

(123) a. fôn-pere₃e 'the Peanut seller'

\[ \text{H DEL} \quad \text{LOW SPREAD LS DELINKING} \]

& L DELETION

b. fôn-cax₃a → fôn-cax₃a (cax₃a) 'Peanut stalks'

\[ \text{H DELETION} \]

& L DELETION
c. Summary

High Deletion I and II both involve the deletion of a High tone in combination with a Low tone, though High Deletion II seems to involve primarily HL noun roots. Both take place in lexically marked environments, in that not all High tones in combination with a Low tone undergo High Deletion. It was seen that High Deletion I accounts for the deletion of High tone of certain lexically marked noun roots when these noun roots precede a High initial Type II suffix or an incomplete suffix. The morphological structure of that suffix also has a bearing on whether High Deletion takes place. High Deletion II, on the other hand, occurs on lexically marked HL noun roots which find themselves in initial position of certain complex nouns.

They both occur at the same stage of rule derivation. Recall from the discussion on p. 274 that High Deletion I must take place before OCP as well as before the spreading rules. Although rule ordering was not discussed for High Deletion II, the examples in (121) indicates that High Deletion needs to take place before Low tone Spread. An examination of (122) will reveal that OCP must also take place after High Deletion II. If OCP took place before High Deletion, the entire complex noun would undergo High Deletion, whereas in reality, only the first noun root is subjected to the deletion of its High tone (see (122b)).

Therefore, while the environments of these two rules are different from each other, they both take place at the same stage of rule derivation, and they both involve the deletion of a High tone in combination with a Low tone. For these reasons, it may be more efficient to combine these two rules into one rule, as stated below.
(124) **HIGH DELETION:** On words lexically marked for High Deletion, delete a High tone on the primary or subregister tier if a Low tone on the primary or subregister tier is linked to the same TBU as the High tone and 1) followed by a High initial Type II or incomplete suffix (If the suffix is a nominal suffix, it must have undergone either no segmental alteration or else have undergone Suffix Reduction) OR 2) followed by a noun root in a complex noun.

\[
\begin{align*}
\langle H, h \rangle & \rightarrow \emptyset \bigg/ L ___ \\
& \quad \bigg/ \begin{cases} 
L \\
\quad \downarrow \quad \downarrow \end{cases} \quad \begin{cases} 
\text{suffix - if N, then full or reduced} \\
\text{+ X} \\
\text{[N]} 
\end{cases}
\end{align*}
\]

2. **Low Deletion**

While some HI noun roots in a complex noun undergo High Deletion and thus acquire a derived Low tone, there is another very small set of HI nouns which are raised to high tone in the same morphological environment. Below are a couple of examples involving the HI noun *taxe*.

(125)a. té-cène

b. té-kala:

' a good tree'

' a ruined tree'

Within the double tiered approach, this 'raising' can be effected by means of deleting the subregister Low tone of the HI noun root. Such a rule may be stated as follows.
(126) LOW DELETION: Delete the subregister Low tone of a Hl noun root, lexically marked to do so, when followed by another noun root within a complex noun.

\[
\begin{array}{cc}
X - X \\
| \\
H \\
| \\
L
\end{array}
\]

It must be stipulated that the Hl noun root has to be lexically marked for Low Deletion, because only a selective set of Hl noun roots undergo this rule. An example of Low Deletion is illustrated in the example below.

(127) tésoonng̊ąki 'the second tree'

\[
\begin{array}{cc}
H & L \\
| & |
L & h
\end{array}
\]

The reader may recall another Low deletion rule (46) which was proposed earlier in this chapter. Like Low Deletion (126) above, it also deleted a subregister Low tone of a Hl morpheme. However, these two rules differed both in the tonal environment and in the stage of the rule derivation in which they occurred. Low Deletion (126) as a lexical rule, occurs at the same stage of the derivation as the High Deletion rule (i.e. before OCP and the spreading rules (see (124)), while Low Deletion (46) takes place on a Hl noun root after Low tone spread. Because of these differences, then, it seems wise to keep these two as separate rules.

There is at least one case where L Deletion (126) seems to be optional (see (128) below). In the examples below, the first noun root is optionally High tone (a), having undergone Low Deletion (b), or Mid tone, that is, both the H and the subregister Low tone of the Hl noun root remain in Place. Note that,
regardless of whether L Deletion takes place or not, High tone Spread occurs because in each case, there is a subregister High tone to spread onto the following H1 noun root.

(128) ta-lexé -> té-lekké -> té-lééké -> té-lééké  'the old tree'

```
    | H | H | H |
    | H | H | H |
    | 1 | h | 1 |
L DELETION  H SPREAD  DOWNSTEP
```

or -> talékké -> talééké  -> talééké

```
    | H | H | H |
    | 1 | h | 1 |
FS  H SPREAD  LINKING & DOWNSTEP
```

In a few cases shown below, Low Deletion does not take place at all on ta-xa when it is part of a compound.

(129)a. ta - panlā -> taránílā (tree - cleared) 'clearing, new field'

b. ta - kālē - kē -> takālāke  'the first tree'

However, even if the lexical rule of Low Deletion does not take place, the initial H1 noun root can be subject to High tone Spread when preceded by a subregister High final word, as shown below. The result of this High Spread is a surface form that is identical to nouns that have undergone Low Deletion.

(Compare (128) and (130)).

(130)a. ḏa talééké -> ḏa tālēéké  'my old tree'

```
    | H | H | H |
    | L | H | H |
    | h | 1 | 1 |
H SPREAD  H SPREAD & RS DELINKING
b-ndà takalëke -> ndà takalëke  'my first tree'

The examples above show that High spread occurred after Low Deletion. This can be effected by assuming that a default subregister High tone is placed on the subregister tier after the deletion of the subregister Low tone. However, there are some examples where no High tone spread occurs after Low Deletion. This is illustrated below.

(131) tá - Pada -> tá-Pada  (tree + to cross) 'beam' *tá-pá-da

H  H  H  H

L deletion  H spread N/A

The reason for this lack of High tone spread is not known at this time. In further examples below, the original tone of the first noun root is not known. They do not behave as High final nouns, however, in that they do not trigger High tone spread. It might be suggested that these particular High tone noun roots are followed by a floating Low tone. However, if this was the case, then the Mid-Low (HL) noun roots, which follow these peculiar High tones, should be subject to Low tone spread, which does not happen. Below are some examples of complex nouns with an initial High tone noun root followed by Mid-Low noun roots.

(132) ké - para-xà  (thing + to cross)  'floor, as in second floor'

ká-tonnà  (thing + iron)?  'rust'
kàa-taxe  'bridge'
màqà-njù  'beard'
kàa-molà  'type of snake'
sà-njù  'quail'
The High tone Demonstrative Pronoun exhibits similar behaviour in that it too does not trigger High tone Spread onto HL or HH nouns, as shown in (a) and (b) below.

(133) a. nté mɛɛte 'this cord'
   b. ndé kùne 'this road'

Since demonstratives have not undergone Low Deletion and are not Part of a complex noun, it is clear that this lack of High tone Spread in certain cases, is not a result of the Low Deletion rule. Whether or not this problem can be resolved will have to wait until more research can be done.

3. Other Lexical Changes

There are other tonal changes, found in complex noun formation, that do not currently have any clear explanation. For example, the Low tone noun, nàà 'man', usually remains Low tone when another noun root is attached to it:

(134) nàà + nyelè (man + eye) \(\rightarrow\) nànyèlè 'friend'
    nàà + pèlè + lè (man + big + age) \(\rightarrow\) nàpèlèlè 'a very old man'

However, this Low tone is raised to Mid in certain cases (or in double tiered terminology, is subject to High tone insertion on the subregister tier):

(135) a. nafolò (man + chief) 'man's in-laws'
    b. nandaà 'bachelor'
    c. nayerù 'friend'

In all three of these instances the second root is a ML tone. It is not known why this ML root forced the raising of Low tone instead of allowing the Low tone to spread onto it.
There are a few examples where Low tone is raised to Hl or High tone. In the first example below, the second noun root, normally Low tone, is High tone when Preceded by the noun root sa-, while, in the second example, both Low tone noun roots are raised to High tone.

(136) saxa + nɔ (bush + cow) → sanɔ 'buffalo'

lùxɔ + fìi (water + Python) → lùfìi 'water Python'

There are other exceptions found in the data. However, not enough data has been collected to determine whether there are Patterns of behaviour among these exceptions to merit consideration for rule formulation.

4. Tone on Nominalized Verbs

The tone of verbs in a nominal setting deserves mention here. Low tone verbs are usually Low when nominalized.

(137) kɔ?ɔ 'dance' → kɔ?ɔdrɔ 'dance'
kù 'die' → kù 'death'

Lh verbs either remain Lh or become Hl.

(a.) → Lh se 'give birth' → 'zi 'birth'

/jooli 'sew' → jola-xɔ 'sewing'
wʌa? 'dry' → wa-xa 'drought'
b. → Hl jo 'speak' → juu 'speech'

(Mw) fyeeri 'urinate' → fera-mɛ 'urine'
koɔri 'Peel, clear' → kooro 'Peelings'

(Ml) tuxo 'carry' → tuxu-rɔ 'load'

High tone verbs also either become Lh or Hl.
Within compounds, verbal elements are most commonly in non-initial position. Once verbal nominals have undergone the tone feature changes described above, their derived tone is then subject to the appropriate tonal rules already described earlier. In all of the examples below (140, 141, and 142), the nominalized verb is the second element of the complex noun. When a nominalized Low tone verb is preceded by a Hi or a Low-High noun, as shown below, no tonal changes take place on the verbal element, as might be expected.

(140) Low verb

a. Hi + L nà + nyì (fire + to light) → na-nyì̀̀'ì' flame'

b. LH + L sólò + ndòxò (millet + to sow) → soondòxù 'millet sowers'

Note that the LH in (b) simplifies to Mid tone before a Low tone. When a High tone verb or a Lh verb becomes Lh in nominal position it behaves as any other Lh noun in that it is not affected by the tone of the preceding nominal element.

(141) High verb or Mid verb → Lh

a. L + Lh nkù + cò (chicken + gather) → nkùcò-xà 'cage'

b. Hi + Lh tìxì + wa?à (place + dry) → tawa-xà 'dry place'
When a High tone or a Mid tone verb become HI when nominalized, it can be subject to Low tone Spread if the previous noun root is Low final (a), and also to high tone Spread if the previous noun root Possesses a subregister High tone (b).

(142) High verb or Mid verb -> HI

a. L + HI -> L - LH LOW SPREAD
   nàà + pè + lèe -> nà-pè-lèè (man + be big + be old) 'very old man'
   L L H L L H
   /     /
   L SPREAD & L DELETION LS DELINKING

   vàànà + tò (cloth + to cover)     -> vààntòñò 'sheet, blanket'

b. HL + HI -> ML - LH LOW SPREAD
   tà + lè-kè -> tu-lè-kè (father + be old) 'grandfather'
   HL H HL H
   L L L
   L LINKING L SPREAD, L DELETION & LS DELINKING
cañà + tó (day + cover) \(\rightarrow\) cântò-nà 'umbrella'

c\(\cdot\) Lh + Hl \(\rightarrow\) Lh-H HIGH SPREADING
\(\begin{align*}
\text{gba} + l\text{è} \rightarrow \text{gba-lèxt} \text{ (house + old) 'old house'} \\
\text{H SPREAD}
\end{align*}\)

\(\text{gba} + s\text{òn} (\text{house + spend night}) \rightarrow \text{gbsónxà} \text{ 'bedroom house'}\)

d\(\cdot\) LH + Hl \(\rightarrow\) L-H HIGH SPREAD AND RS DELINKING
\(\begin{align*}
\text{gbôn} + l\text{è-}l\text{è} \rightarrow \text{gbôn-lè(lè) (granary + be old) 'old granary'} \\
\text{H SPREAD} \\
\text{LINKING & RS DELINKING}
\end{align*}\)

Nominalized Hl verb roots can also undergo the OCP when preceded by either Hl or Hl noun roots, as shown in the examples below.

e\(\cdot\) Hl + Hl \(\rightarrow\) M-ML
\(\begin{align*}
\text{nye} + \text{Pèn-}l\text{è} \rightarrow \text{nyi-Pènlè (eye + be displeased) 'jealousy'} \\
\text{OCP} \\
\text{L LINKING, LINKING, LS DELINKING}
\end{align*}\)

ceewà + jé (woman + enter) \(\rightarrow\) cije-rè 'adultery'
f. $H_l + H_l \rightarrow M-ML$

\[\text{Ya} + \text{gbon-x} \quad \text{(thing + hit)} \rightarrow \text{yagbonx} \quad \text{'axe'}\]

The nominalizing of these verbs, and thus the tone feature changes that accompany these nominalizations take place before the spreading rules as well as before the application of the OCP. This is at the same stage of the derivation of rules as the lexical rules of High Deletion and Low Deletion.

However, the tonal changes that accompany nominalizations do not follow a clear enough pattern to formulate any rules. We have already seen that High tone verbs, when nominalized in second position of a complex noun become either Lh or Hl. There are some clues that indicate that the semantic make-up of the noun may play a role in the determination of nominal tone of verbs. For example, when preceded by \text{ta-} (from \text{tex} \quad \text{'Place'}, the verb \text{per} \text{$\rightarrow$ al way acquires a Mid-Low contour (HL): taprake \quad \text{'the selling Place'}. All other high verbs acquire this same Mid-Low contour when preceded by this same noun root. However, when preceded by other noun roots and placed in Class 1, \text{per} becomes Lh. This behaviour is illustrated by the examples below.

\[
\begin{align*}
\text{(143)a. cålà + per} & \rightarrow \text{cårə̀rə̀-né} \quad \text{'the bean seller'} \\
\text{b. màlè + per} & \rightarrow \text{mårə̀rə̀-né} \quad \text{'the rice seller'} \\
\text{c. karà + per} & \rightarrow \text{kårə̀rə̀-né} \quad \text{'the meat seller'}
\end{align*}
\]

On the other hand, when verbs are at the beginning of a complex nominal, they seem to retain their original tone. For example, the High tone verbs remain High. The examples below consist of sentences containing a High verb initial complex noun (underlined).
Although these nominals do acquire a noun class suffix, they are more verbal in function than the other complex nouns we have been examining up to now. Other gerund-like nominals include nouns which begin with the following prefixes, ta- (from *texè 'place'), ni-, and sometimes ka-.

(145)a. ta- Yézù bi nva bi takorèxi ngé, kíi mpeń wíl
When Jesus saw them chasing, it disgusted him.

b. ni- Bi nizebí la Yézù ñmoló
As they were going, Jesus slept.

c. ka- wu kacekèxí Punàne nvi kacèn̄í
All that he does is good.'

his doings all are good.

D. Conclusion of Study of Complex Nouns

This sketch is only the beginning of the study of complex nouns. It is an attempt to outline the tonal patterns observed on complex nouns and propose tentative rules such as High Delinking (105), OCP (88), High Deletion (124), and Low Deletion (126).

Mills, who has been studying Cebara for about 30 years, has come up with a
description of the various tonal types of complex nouns in that language. Her bountiful data has allowed her to class complex nouns into three major categories, according to morphological and tonal information. Without attempting to explain these categories, I shall simply list them with the examples she gives to typify each category:

"(235) 1. margin-core
   si-sjɔ:n=rɔ
   [su=rɔ + sjɔ:n]
   food+stay(overnight)+suf
   'leftovers'

2. core-margin
   su-Pei=rɛ
   [su-rɔ + Pɛi]
   food + bad+suf
   'bad food'

3. core-core
   si-sjɔi=rɔ
   [su=rɔ + sjɔ:ni]
   food + suck in + suf
   'flies'

(1984, p. 181)

The Mid-Low root in initial position takes on three different types of tone depending on the type of compounding. Mills gives an extensive description of the tonal patterns found in each category, citing numerous examples for each category. She does not, however, attempt to formulate any rules to account for these patterns. At first glance, tonal patterns in Sucite seem to cross these categories. A much more extensive study will need to be done on complex nouns in Sucite to determine whether the type of compounding will have an effect on the tonal behaviour within the complex noun.

V. CONCLUSION

A. The Double Tiered Approach to Tonal Analysis

All of the discussions in this chapter assumed the use of the double tiered approach to tonal analysis. As mentioned in earlier chapters, this notion of positing tone on two tiers originated with the concept of tone-splitting of tonal features, introduced by YiP and Clements. Evidence has been brought forth
to argue for the feasibility of this somewhat novel approach. First of all, it was seen that there was more than one type of Mid tone in Suciite. In an effort to distinguish between the two, it was suggested that one, weak Mid, was a split off from the High tone register, since its tonal behaviour was almost identical to that of High tone verbs, while the other, Mid tone, was situated in the upper part of the Low tone register. Both possessed the exact same pitch. The representation of the these tones, Hl (lowered High tone) and Lh (raised Low tone) led to the positioning of these double featured tones on two separate tiers, the second being subsidiary to the first or primary register.

Secondly, it was seen that if tone on the subregister tier was allowed to link by way of rule to the segmental tier, then some explanation could be given for the underlying Hl tone whose surface representation in isolation is Mid-Low, and for the Mid-High tone that results on Low tone verbs after the application of High tone spread.

Thirdly, this double tiered approach greatly enhances the opportunity to capture generalizations that a single tiered approach would not be able to do. This is especially true for the high tone spreading rule. In a similar dialect, Supyire, Carlson (1985) proposed three (or four) tonal rules that could easily have been covered by the high spreading rule. In the double tiered approach, the subregister High tone Spread took care of Low tone words being raised to Mid tone after Mid tone nouns, and weak Mid words raising to High tone after both Mid and High tone nouns, by the simple act of spreading onto the following primary register tone.

Fourthly, it was seen that the double tiered approach facilitated the explanation of tone feature changes at the lexical level. Instead of introducing rules of tone lowering and raising, rules concerning High or Low Deletion
were introduced. The notion of High deletion, was especially helpful for instance, when the High tone could be found on any tier in conjunction with a Low tone. The effect of this simple rule was the ability to lower a variety of tones to Low tone: Low-High, Hl(weak Mid), Lh(Mid), and Hl(Mid-Low). This generalization would have been almost impossible to capture if the double tiered approach had not been implemented.

Finally, it must be acknowledged that not all problems are solved through the use of the double tiered approach. For example, the identity of the two types of Mid tones is sometimes confused in the application of tonal rules. The Feature Switch Rule was introduced to allow the weak Mid noun to induce High tone spreading along with its Mid tone counterpart, while the tentative High delinking rule was inserted to take care of the Lowering of a Mid tone in an environment where it seemed that Low tone spreading was taking place. Hopefully further research will uncover some answers for the analysis of this phenomenon.

It is not at all certain, however, that these problems could be dealt with any more easily through the use of a single tiered approach to tonal analysis.

In summary, then, the double tiered approach to tonal analysis states that tone can be represented on two tiers, especially in cases where the primary tone registers have suffered tonal splits. On the primary tier is found the tone which represents the primary tone register. This tone is either High or Low tone. The tone on the secondary or subregister tier fine tunes or specifies where, within the primary tone register, this particular tone is found.

When the tone on the primary tier spreads, the tone on the subregister tier is carried along by virtue of the fact that it is linked to the primary register tone:
On the other hand, when the tone on the subregister tier spreads it does not carry the primary register tone along with it. It spreads on its own, usually to the following tone on the primary tier; but it can also link to the segmental tier by first passing through the primary tier:

(147) \[ \begin{array}{c|c|c} \text{CVCV,} & \text{CVCV} \\ \hline \text{T} & \text{T} \\ \text{T} & \text{T} \\ \end{array} \] 

If a primary tone is not specified for tone on the subregister tier, a default tone is inserted at the appropriate stage in tonal derivation. This default tone is a copy of the primary register tone inserted on the subregister tier:

(148) \[ \begin{array}{c|c|c} \text{CV} & \rightarrow & \text{CV} \\ \hline \text{T} & \text{T} \\ \text{T} & \text{T} \\ \text{T} & \text{T} \\ \end{array} \] 

The rule inserting this default tone has been called Subregister Specification.

Using this double tiered approach, then we have identified five different underlying tones: Ll, Lh, Hh, Hl, and Hl. The three underlying contour tones that have been isolated are Hh-Lh (High-Mid), Hh-Ll, and Ll-H (Low-High).
B. Summary

This chapter has discussed the tonal behaviour within the structure of the noun phrase. It was seen that rules that operated on the verb phrase were also found on nouns. However, the more complicated structure of nouns required a thorough examination of the underlying tones and their implications for rule formulation.

The tones that caused the most difficulties were those initially dubbed as weak Mid and Mid-Low. Since both reacted to tonal rules in the same way, it seemed convenient to give them similar, if not identical underlying tones. Two proposals concerning their underlying tone were put forth, one suggesting that these tones were underlyingly High tone, the other that it was a lowered High tone, H1. After discussing the merits and drawbacks for both approaches, the lowered High tone approach was chosen, since the latter seemed to involve fewer problems for analysis. The rules of Low Spread (11) and High Spread (54) were then re-examined and reformulated in order to account for the tonal changes on the H1 noun.

Once the issue of the underlying tone for these weak Mid and Mid-Low nouns was settled, the matter of distinguishing between weak Mid and Mid-Low tone were dealt with. It appeared that both were marked lexically for the application of certain rules to take place at the Phrase level. Weak Mid (H1) nouns underwent the Feature Switch rule (66), while Mid-Low (HL) nouns triggered the independent Linking of the Subregister Low tone to the segmental tier (60). Both of these rules, it was seen, were more easily stated if the subregister Low tone was part of the lexical make-up of weak Mid and Mid-Low tones rather than inserted at Phrase level.

In the light of these new developments, the underlying tone of the definite
suffix was re-examined, revealing that although either an underlying High tone or a H1 tone could be posited for the definite suffix, there seemed to be a very slight advantage to choosing a High tone as the underlying representation.

The final section of this chapter discussed tonal behaviour within complex nouns. In many cases it was found that the High and Low tone Spreading rules which were attested to operate across word boundaries, also took place across morpheme boundaries within the complex noun. In addition to these rules, however, tonal behaviour was found that was peculiar to the complex noun. All of them seemed to be somewhat limited in their application.

First of all, the value of applying OCP (38) to a very select set of complex nouns was discussed. It was decided that although one could perhaps have found a way to eliminate the need for the OCP, it more easily provided a correct output on complex nouns that required Independent Low tone Linking. Secondly, the problem concerning the lowering of a Mid tone between a Low tone and a High tone was very tentatively resolved through the application of the High Delinking rule (105). Finally, tonal behaviour that seemed to be governed by primarily lexical considerations was described, although only two rules, High Deletion (124) and Low Deletion (126), were proposed.

At various points in this chapter, ordering of the Proposed rules was discussed and argued. It was seen that the Lexical rules of High Deletion and Low Deletion must take place first, followed by the OCP, Feature Switch and Low Linking, Low tone Spreading and High tone Spreading, Linking, LS Delinking, RS Delinking, and finally Downstep. However, ordering was not thoroughly discussed for all rules. A more thorough discussion involving the interaction all rules Proposed in this thesis will be presented in Chapter 6.
NOTES

1. The numbers nàrkin 'one', sàôni 'two', and tàândé 'three' are composed of two components, the first component is linked to a Low tone and the second one to High tone. Normally, there is an internal Low Spreading rule, spreading the Low tone of the first component to the High linked component. This creates a Low-High contour on the final TBU, which becomes Mid tone in non Phrase final environments, as in (a). In Phrase final Position, however, this High tone is delinked (b).

a. waa sàôni ta la 'he took two?'

\[ \begin{array}{c}
L \\
H 
\end{array} \]

b. ndàrîyî sàôni ## 'two yams'

\[ \begin{array}{c}
L \\
H 
\end{array} \]

When these Low initial nouns are subject to Mid tone spreading however, Low tone spreading is blocked from applying to the High tone component. The resulting tone is Mid-High as can be seen in (c).

2. Recall from Chapter 3 that the underlying tone of the Definite Suffix was not undisputably underlyingly High tone. However, at this point, we shall assume that it is underlyingly High tone until further analysis can be undertaken.

3. See the subsection IV.A., titled 'High Delinking' in the section on Complex nouns for a discussion of an environment triggering the lowering of Mid tone nouns to Low tone. Recall, also in Chapter 3 that Mid tone noun roots lowered to Low tone before certain types of Type II suffixes. This latter phenomenon will be discussed again in the subsection on lexical changes in this chapter.

4. It was mentioned in the introductory section of the thesis that most Senufo languages have three level tones, while a few in the southern area are reported to have four level tones. If this report holds to be true, it could provide evidence to the hypothesis that Senufo languages were historically of four level tones. Among the three level tone languages, Supyire also Possesses two different types of Mid tones, which behave in a very similar fashion to the Mid tones of Sucite, Cebara, on the other hand, seems to possess only one type of Mid tone. Insufficient data on other Senufo languages inhibits further investigation at this time.

5. Certain complex nouns H1 (weak Mid) and H2 (Mid-Low) nouns are optionally subject to High tone Spreading. If High Spreading does not take place, then consequently there is no environment for RS tone Delinking. The examples below Possesses two acceptable forms, one (a) where neither High Spread nor RS Delinking take place and the other (b) where both take place.

\[ \begin{array}{c c c}
\text{nde} + \text{ja} + \text{ka-nkudâ-ngu-je} & \rightarrow & \text{nde jakànkudàngûngû} \\
\text{my son five -ORD-DEF} & & \\
\text{'my fifth son'} & & \text{OR} 
\end{array} \]
The iterative High spreading which takes place here will be discussed in the section on Complex nouns.

6. See pp. 289ff at the end of this chapter for a fuller argument in support of the double tiered approach for tone features and rule application.

7. Only a partial tonal derivation of these sentences are given in order to simplify the discussion at hand.

8. See section IV.B. on High Delinking for explanation of High Delinking and T Collapse.

9. There are a couple of examples, however, that seem to indicate that, in certain instances, the Demonstrative Possesses a final floating Low tone. In the examples below, this supposed floating Low tone spreads onto the following verb (a) and noun (b):

   a. nké kón ná ‘nмолиf → nké kón ná ‘nмолиf 'cut that with a knife'
      that cut with knife-with

   b. nké ларă nye jòdри вè → nké ларă nye jòdри вè ‘How much is that?’
      that Price is how-many Q
CHAPTER 6 - THE SUCITE SENTENCE

A. Introduction

The previous chapters focused on tonal behaviour of nouns and verbs individually and then analyzed tonal behaviour across word boundaries. This has led to an extensive discussion about the representations of various surface tones - in particular, those which are Mid tone.

This chapter completes this study of tonal behaviour in Sucite by analyzing the tonal behaviour of a few more aspects of the Sucite sentence and then by reviewing all of the rules presented in the thesis and examining how these rules should be ordered with respect to one another.

B. The Adverbial Phrase

The adverbal phrase may consist of a simple adverb or a phrase consisting of an NP and a postpositional particle. Below are a number of common adverbs:

(1) tänjə 'yesterday'
    waà Pan tänjə 'he came yesterday'
    nínjə 'today'
    nyimpzana 'tomorrow'
    tänjère 'last year'
    nán tàn 'here'
    waà Pan nán tàn 'he came here'
    wà 'there'
    waa kàré wà 'he went there'

Most adverb phrases, however, consist of a noun plus a postposition. These adverbs and adverb phrases are located in postverbal position in the sentence.
Below are some examples showing the location of the adverb phrase, which is underlined.

(2) a. katake nyâ nde là
   Hunger is me on 'I am hungry.'
   Subject Vb. Pro PP

b. ndi ya fyà?â nakàlàbî nyâ?â là 'I am afraid of thieves'
   I am afraid thieves' face on
   Sub-VP Vb. Noun Noun PP

c. waa wà ti ndà
   he some weave me-for 'He wove some for me'
   Sub-VP Obj. Vb. Pro-PP

The tone of the noun phrase within the adverbial phrase affects the tone of the postposition in much the same way as the tone of nouns affects the tone of following verbs. High tone postpositions are high after mid or high final nouns, but are subject to the low tone spread rule when preceded by a low final noun. The major processes affecting postpositions after nouns are illustrated in the data in (3). The examples in (3a) and (b) show two different high tone postpositions preceded by a lh noun, while (c) shows how a low-high pronoun does not affect the tone of the following high tone postposition, but is itself subject to rs delinking. In (d) and (e) are examples of a low final noun spreading its low tone onto the following high tone postposition. In (d), the postposition is only one TBU and is located in phrase final position. Once low spread takes place, RS Delinking delinks the high tone of the resulting low-high contour when it is in phrase final position.
(3) a. waa wà kan mo-ù
   \[ L \]
   \[ L H \]
   \[ L \]
   \[ h \]
   'he gave some to you'

b. wu nye mo tàän
   \[ L \]
   \[ L H \]
   \[ L \]
   \[ h \]
   'he is beside you'

c. waa wà kan nda-ù \[ \rightarrow \] waa wà kan ndù-ù
   \[ \sqrt{\frac{1}{2}} \ L \]
   \[ L H H \]
   'he gave some to me'

RS DELINKING

d. waa wà kan nà-ye-ù \[ \rightarrow \] waa wà kan nà-nu-ù
   \[ L \]
   \[ L H(L) H \]
   \[ L H(L) H \]
   'he gave some to the man'

LOW SPREAD RS DELINKING

e. wu nye nà-ke tàän \[ \rightarrow \] wu nye nàka tàän
   'he is beside the fire'
   \[ HL H(L) H \]
   \[ HL H(L) H \]
   \[ \sqrt{\frac{1}{2}} \]
   \[ L \]

LOW SPREAD LS DELINKING

Mid (Lh) tone PostPositions remain Mid tone after Mid tone and Low tone nouns, but are subject to High Delinking (44) when Preceded by an underlying High final noun.
(4) a. katêke nye mo la 'you are hungry'  

katêke nye ñde la -> katêke nye ñde là 'I am hungry'

\[
\begin{array}{c}
\mid & \mid \\
L & H & L \\
\mid & \mid & \mid \\
1 & h & h
\end{array}
\]

HIGH DELINKING (44)

b. tâna xê la -> tâna xê là 'touch it on' 'touch it'

There is no data showing Low tone PostPositions, thus there is no way of knowing whether Low tone PostPositions would be subject to High tone Spread if preceded by a Mid tone noun, as is the case for Low tone verbs.

The initial element of an adverb Phrase is not affected by the tone of the preceding verb. Thus, a High tone verb does not trigger High tone Spreading onto Hl nouns of an adverb Phrase. Rather, as example (5) illustrates, the Hl noun at the beginning of the adverb Phrase undergoes Low Linking (60), a rule, the reader may recall, which links a subregister Low tone of a Hl noun to the segment when that Hl noun is in Phrase initial Position.

(5) waa là Péré n3-ŋu - ñ -> waa là Péré n3-ŋu - ñ 'he sold it to the mother'

\[
\begin{array}{c}
\mid & \mid & \mid & \mid & \mid \\
H & H & L & H & H \\
\mid & \mid & \mid \\
h & h & h & h & h
\end{array}
\]

LOW LINKING LOW SPREAD & RS DELINKING

This lack of tonal interaction between the verb and the adverb Phrase is in keeping with a statement made in Chapter 1 that there is a barrier for tonal change between a verb and a following nominal element.
C. The Noun Class Clitic

The noun class clitic has been mentioned in earlier chapters. However, its complex tonal behaviour has required delay of its analysis until now. Each noun class has its own clitic. However, all noun class clitics, regardless of class affiliation, possess the same tone. The noun class clitic can be found in subject and object position, or as part of an adverb phrase. It can also function as a possessive pronoun. Below are a few examples showing the clitic in (6a) subject position, (b) object position, and (c) as a possessive pronoun.

(6) a. \textit{wu ya má} 'he is coming'
   b. \textit{ndaà wu nyà} 'I saw him.'
   c. \textit{wu kaà nye nán?ó}n 'His meat is here'

It has been referred to by other authors, such as Mills (1984), as a general class pronoun. The reason that it is labeled a clitic is because of its tonal behaviour within the sentence. It was mentioned earlier that tonal boundaries existed between verbal elements and following nominal elements. Noun class clitics, however, break down that tonal barrier if placed in initial position of the noun phrase, and are subject to tonal rules from the preceding verbal element. The altered tone of the clitic can then affect the tone of succeeding elements of the noun phrase. In addition, when the noun class clitic functions as a possessive pronoun, it cliticizes to the following noun. The following discussion will describe the behaviour of the noun class clitic within various tonal environments. First, we shall look at how the clitic affects the tone of following constituents, and secondly, how the tone of the noun class clitic is affected by the tone of the preceding verbal element. The complications of the clitic's tonal behaviour will be examined in the light of the present analysis.
in an attempt to seek out a viable solution.

In sentence initial position, the noun class clitic exhibits a Mid tone as seen in (7) below. The question immediately comes to mind as to what type of Mid tone it is. If one examines its behaviour in subject position, there is an indication that the clitic tone may be Lh. In (7a) below, the subject mo 'you' has a Lh tone. When sën?â, a pre-tense marker, follows, it is subject to High tone spread from the preceding Lh subject, resulting in a Mid-High tone. When sën?é is preceded by the noun class clitic, it acquires the same Mid-High tone, as can be seen in (b).

(7)a. mo sën?é ya má –> mo sën?é ya má 'you are coming again'
   L L H
   h
   HIGH SPREAD

b. wu sën?é ya má –> wu sën?é ya má 'he is coming again'
   L L H
   h
   HIGH SPREAD

On the other hand, the tone of the clitic does not trigger High spreading onto the Negative marker as is optionally the case for regular Lh nouns.

However, when put in object position or in an adverbial phrase, the story changes. First, it must be noted that noun class clitics in object position never trigger High tone spreading onto Low Tone verbs. Note below, that when a Low tone verb follows a clitic, it does not acquire a Mid-High tone (8a), as it does when preceded by the Lh pronoun (8b).
The clitic, then, cannot be allowed to trigger high tone spreading onto following verbs particularly, when it functions as an object. As a result, the clitic does not seem to be underlingly Lh after all. A possible explanation for this discrepancy in tonal behaviour is that the underlying tone of the subject clitic is different from that of a clitic in object position.

Since it appears that clitics are not underlingly Lh tone in object position, their behaviour needs to be further examined. When preceded by a clitic, a Mid tone verb or postposition is lowered to Low tone (9a and b). This same lowering phenomenon is observed when a Mid tone verb is preceded by a high final noun (9c).

(9) a. wu tuxo -> wu tuxo  'carry it!'
    b. wu-la -> wu-la  'on him'
    c. fáláxá la -> fáláxá lá 'on a rock'

This lowering was analyzed in Chapter 4 as High tone Delinking (44), where the subregister High tone of a Lh verb is delinked when preceded by a High final noun and in phrase final position (see (10)).
(10) fáláxá tuxp → fáláxá tuxò  ‘carry a rock’

\[
\begin{array}{cccc}
H & L & H & L \\
F & F & F & F \\
F & F & f & f \\
\end{array}
\]

HIGH DELINKING (44)

If the PostPosition is also analyzed as underlyingly Lh, the same High Delinking rule can be motivated when the PostPosition is Preceded by a High final noun such as fáláxá.

(11) fáláxá la → fáláxá là

\[
\begin{array}{cccc}
H & L & H & L \\
F & F & F & F \\
F & F & f & f \\
\end{array}
\]

HIGH DELINKING (44)

Although the clitic is not High tone on the surface, it could also motivate a High Delinking rule if the clitic is analyzed as Low-High. A Low-High tone linked to the same TBU would create a surface Mid tone while at the same time triggering High Delinking of the following Lh verb or PostPosition. Such a derivation is illustrated below.

(12)a. wu tuxp → wu tuxò  ‘carry it!’

\[
\begin{array}{cccc}
\Lambda & \Lambda & \Lambda & \Lambda \\
LH & L & LH & L \\
F & F & F & F \\
F & F & f & f \\
\end{array}
\]

HIGH DELINKING

b. wu la → wu là  ‘on him’

\[
\begin{array}{cccc}
\Lambda & \Lambda & \Lambda & \Lambda \\
LH & L & LH & L \\
F & F & F & F \\
F & F & f & f \\
\end{array}
\]

HIGH DELINKING
Unfortunately, the solution for the tonal behaviour of the noun class clitic is not that simple. If it were analyzed as underlyingly Low-High there would be no way to motivate what appears to be Low tone spreading on following High tone verbs. In (13a and c) below note that when a High tone verb or PostPosition is preceded by a clitic, it acquires a Low-High tone in exactly the same way as it does when preceded by a Low final noun (see (13b and c)).

(13) a. wu Pêrê → wu Pêrê 'Sell it!'  
    b. màlì Pêrê → màlì Pêrê 'sell rice!'  
    c. wu tàán → wu tàán 'beside him'  
    d. màlì tàán → màlì tàán 'beside rice'

This tonal change was analyzed as the Low tone of the noun spreading onto the verb, as shown below.

(14) màlì Pêrê → màlì Pêrê → màlì Pêrê 'sell rice'

\[ \begin{array}{c}
\text{L} & \text{H} & \text{L} & \text{L} & \text{H} \\
\text{LOW SPREAD} & \text{LS DELINKING}
\end{array} \]

As a result, this behaviour seems to indicate that the clitic possesses a Low final tone, though this Low tone does not show up on the surface. However, an underlying floating Low tone should not permit the rule of High Delinking on Mid tone verbs, since High Delinking requires a High final noun or Pronoun, not a Low final one. The noun class clitic, therefore, is giving contradictory signals concerning its underlying tone representation.

As part of a noun Phrase, i.e., as a Possessive Pronoun, the clitic exhibits yet another type of tonal behaviour. When followed by Low initial, Mid or Mid-Low nouns, it triggers no tonal changes, as shown in (15a,b,c). However, when
followed by a weak Mid (H1) noun, that weak Mid noun becomes Mid-Low, as shown in (d,e):

(15) a. wu mölà-ne    'his rice'
    b. wu ọba-ke    'his house'
    c. wu jà-ne    'his son'
    d. wu ta-ke -> wu tà-ke    'his tree'
    e. wu so-ke -> wu sà-ke    'his mortar'

This is exactly what happens when certain complex nouns are composed of two or more H1 or H2 noun roots. As shown in the example (16) below, the first noun root remains Mid tone, while the final noun root acquires a Mid-Low tonal contour. Recall from Chapter 5, that this behaviour was accounted for through the use of the OCP rule (88), which collapsed two H1 tones into one H1 tone, which subsequently underwent Independent Low Linking (60) in Phrase initial Position.

(16) a. ya- ta-ke -> ya-.ta-ke -> ya-tà-ke -> ya-tà-ke    'neck'

If one posited the clitic as being underlyingly H1, it could also be motivated to undergo the OCP when followed by a H1 noun, as shown in (b) below. Independent Low Linking would then take place on the final TBU creating a Mid-Low contour.
In summary, then, the noun class clitic continues to give conflicting signals concerning its underlying nature. As a subject, it seems to be Lh. As a noun object in sentence initial position, it seems to be both High final and Low final depending on the tone of the verb which follows. When followed by a Hl noun, it behaves as a Hl component of that noun and participates in the DCP.

The preceding discussion examined how the clitic affects the tone of following nouns, verbs and verbal particles. The noun class clitic is also affected by preceding verbal particles and verbs. The reader will recall that normally a noun in phrase initial position is not affected by the tone of a preceding verbal (see Chapter 1). However, when a clitic is in initial position of a noun phrase, any preceding verbal can alter the tone of the clitic, which can in turn, alter the tone of following nominals and verbs. For example, when a clitic is in sentence initial position functioning as an object, it can trigger Low tone spreading onto High tone verbs, as seen in (17a) below. However, when preceded by a High final verbal particle, as in (b), the clitic is itself High tone, as well as the High tone verb. Whatever floating Low tone there may have been underlyingly is deleted in this environment. When preceded by a Low tone particle, as in (c), however, the clitic is Low tone, while the following High tone verb is High.

(17) a. **wu Péré** -> **wu Péré**

b. mo ná **wu Péré** -> **mo ná wú Péré**  'you sold it'

c. moo **wu Péré** -> **moo wú Péré**  'you sold it'
It would appear that, in this case, the clitic behaves as a HL noun and is subject to both High tone and Low tone Spread, as shown in the derivations below.

(18) a. mo ná wú Pérfé \(\rightarrow\) mo ná wú Pérfé 'You sold it'
\[\begin{array}{cccccccc}
| & | & | & | & | & | & | \\
L & H & H & H & L & H & H & H \\
& h & h & l & h & h & \hline & h
\end{array}\]

**HIGH SPREAD**

b. mo-à wú Pérfé \(\rightarrow\) moo wú Pérfé 'You sold it'
\[\begin{array}{cccccccc}
| & | & | & | & | & | & | \\
L & L & H & H & L & L & H & H \\
& h & l & 1 & h & h & \hline & h
\end{array}\]

**L SPREAD & L DELINKING**

A clitic which functions as a Possessive Pronoun can also be subject to Low tone or High tone spreading, which in turn can affect the tone of following constituents in the Phrase. Compare the derivations of (19a) and (19b) below. In (a), the Possessive Pronoun and the following HL noun undergo OCP. Since they are in sentence initial Position, Low Linking takes place, which then results in Low tone spreading onto the following High tone verb. In (b), wu kara is still in Phrase initial Position, so one might expect Low Linking to take place. However, if this happened, an incorrect surface form would be produced, as shown in (c). Instead the clitic is subject to Low tone Spreading from the Preceding Low tone verbal particle. Once the subregister Low tone of wu kara is deleted, Linking and RS Delinking take place, thus Producing a surface Low tone on the clitic and a High tone on the noun.
When a clitic which has undergone Low Spread is followed by a Low tone verb, the resulting Low-High contour remains linked to the clitic, creating a Mid tone, as shown below:

(20) a. waa wu wulò -> waa wu wulò -> waa wu wulò 'he took it off'

When a clitic which has undergone Low Spread is followed by a Mid tone verb, the verb undergoes High Delinking, as shown below:
b. waà mu nya -> waà mu nya -> waà mu nya  'he saw him'

LOW SPREAD  HIGH DELINKING
& L DELETION

Noun class clitics are also subject to tonal rules when in initial position of an adverb Phrase. In the examples below, the High tone verb, as well as the High tone incomplete suffix on Low tone verbs, trigger High Spread onto the clitic (21a,b,c), while the Low tone verb can trigger Low tone Spread (21d).

(21) a. waa là Pèré mu à -> waa là Pèré nàà  'he sold it to him.'

HIGH SPREAD

LOW SPREAD  HIGH SPREAD  HIGH DELINKING

RS DELINKING

he VP lie-INC him on   'he is lying on him'

he VP lie-INC him on   'he is lying on him'

(21) c. wu ya mu kààn nàà -> wu ya mu kààn nàà  'he is giving it to him'

b. wu ya finu mu là -> wu ya finu mu là -> wu ya finu mu là ->

LOW SPREAD  HIGH SPREAD  HIGH DELINKING
It must be noted, however, that Mid tone verbs cannot, as their structure should permit, trigger High tone spreading onto noun class clitics. The effect is that clitics do not become High tone after Mid tone verbs, as illustrated below. Rather, in (22a) the clitic triggers High Delinking, while in (b) it undergoes Low Linking and subsequently spreads its Low tone onto the High tone PostPosition.

(22) a. katike nYe wu là 'hunger is on him'
   L H L
   h L 1 HIGH DELINKING(44)

b. wàà wu kan ṑà - ṑà → wàà wu kan ṑà 'he gave it to him'
   L H H
   h 1 LOW LINKING, LOW SPREAD, LS DELINKING

Recall that verbal incompletive suffixes, analyzed as underlyingly High tone, were also Mid tone after Mid tone verb roots, as shown in (23a). However, this apparent underlying High tone does not trigger High tone spreading onto a noun
class clitic (b).

(23)a. ta - ri ‘be cooking’

b. *wu ya ta-ri wù là ‘he is cooking on it’

At this time, there does not seem to be a clear answer for this lack of High tone spreading. It is possible that historically Mid tone verbs had a different tonal origin than Mid tone nouns. Perhaps further development of the analysis in the future can yield more concrete answers.

How to explain the variety of behavior on the noun class clitic eludes us at this point in time. Rules which have already been discussed are used in connection with the noun class clitic. However, the variety of rules used brings about a confusing array of hypotheses concerning its underlying tone. As a subject, it sometimes appears to be Lh. In object position, it appears to be High final if followed by a Mid tone verb, and yet in the same position, it triggers Low tone spread onto following High tone verbs. We can explain the Low tone spread, as well as its being subjected to Low spread and High spread if we posit the underlying form as Hl. However, a Hl word normally does not trigger High Delinking (44) unless it has itself been subject to subregister Low tone deletion. This seems to be a case where a lowered High tone, Hl, while normally functioning as a Hl tone, also functions in certain instances as a Hh tone and triggers High Delinking on following Mid tone verbs, even when there is no indication that the subregister Low tone has been deleted. It may be possible to come up with some kind of solution to explain these idiosyncrasies. At this time, however, I shall let the matter rest until further research can be done.
Yes-No Questions are formed by adding là to the end of the declarative statement.

(24) waà Paon 'he came' waà Paon là? 'did he come?'
    waa kàrí 'he went' waa kàrí là? 'did he go?'
    waa gbàrà 'he agreed' waa gbàrà là? 'did he agree?'

The Question marker is consistently Mid tone after verbs regardless of the tone of the verb. However, after nouns, variations can be found, as shown by the examples below:

(25) a. ñàì là me?
    b. wùrì là us?
    c. yìrí là you,pl.?
    d. mo là you,sg.?
    e. urì là him?
    f. mìlì là rice?
    g. ceewù là a woman?
    h. gbaxa là a house?
    i. ndàrèkó là a yam?
    j. mìlànje là the rice?
    k. gbaké là the house?
    l. ndàrèké là the yam?

These examples give four possible surface tonal shapes for the Question marker, Mid, High-falling, Mid-falling, and Low tone. When it follows a verb, one is tempted to say that it is underlyingly Lh, while after nouns, it could be considered underlyingly High tone, or perhaps even Low tone. At this point,
it is unknown what the tonal analysis for the question marker might be. It is only clear that its tone shape is indeed affected by the tone of the preceding word, especially if that word is a noun.

E. Wh Question Formation and Frontshifting

Wh questions are formed by frontshifting the question word to initial position of the sentence. The sentence then terminates with ¥è. Below are a few examples:

(26) a. Sàn waa kàrĩ ¥è 'Where did he go?'
   where he-VP go Q
   b. Sàn wàa wu nya ¥è 'Where did he see him?'
   c. Dì¿ naa mèxe nye ¥è 'What is a man's name?'
   how man's name is Q
   d. Dì¿ ceewù mèxè nye ¥è 'What is a woman's name?'
   e. Nyà?a mu ya kun ¥è 'What are you doing?'
   what you TA do Q

The tonal behaviour of the sentence final question marker ¥è is not unlike that of the complateive aspect marker à discussed in Chapter 4. It is generally Low tone. However, like the complateive aspect marker, when it is preceded by a Low tone, a Mid-Low tone materializes, as seen below:

(27) a. Sàn wàa wu gbàrà ¥è-> Sàn wàa wu gbàrstè 'Where did he meet him?'
   where he-TA him meet Q
   Compare with
   b. nàà à yala mà Kalè tààn wù ¥ò 'Man should love God'
   man-TA should -- God Please him self-to
Whether both of these words possess an underlying Mid tone or whether they both submit to some type of tone insertion rule (either Mid or High tone) is a question that shall be left unanswered at this time.

The front-shifted Question Phrase does not interact tonally with the following Subject noun Phrase. If the High Spreading rule were allowed between the two Phrases, an incorrect surface form would be produced, as shown below.

(28) a. Sán ceewù nye versa* Sán cóowù nyè < 'Where is a woman?'
   
   "H H L L H H"
   h l h h
   \| |  \| |
   HIGH SPREAD

b. Nyà7a ceewù ya kun yà versa* Nyà7a cóowù ya kun yà < 'What is a woman doing?'
   
   "L H H L H H"
   h l h h
   \| |  \| |
   HIGH SPREAD

This restriction is true for any object or adverbial Phrase which has been frontshifted. In (29), gbaxa has been front shifted. If it allowed its subregister High tone to spread onto the subject clitic, the clitic would acquire an incorrect High tone.

(29) gbaxa wù ya nyà7a versa* gbaxa wù ya nyà7a < 'A house he sees'
   
   "L H L H"
   h l h h
   \| |  \| |
   HIGH SPREAD

Tonal rules which operate across the sentence apply after the frontshifting. In (30a) the object, gbaxa, triggers High tone spreading onto the Low tone verb, while in (b), the frontshifted object can no longer trigger High tone
spreading because it is no longer adjacent to the verb.

(30) a. ndi ya gbaxa n'ya -> ndi ya gbaxa n'ya 'I a house see'
   b. gbaxa ndi ya n'ya -> gbaxa ndi ya n'ya 'a house I see'

If the tonal rules must wait until after frontshifting, then, the resulting adjacent noun Phrases at the beginning of the sentence must have tonal boundary dividing them so that the tone of the first noun Phrase will be blocked from affecting the tone of the following noun Phrase.

F. Rule Ordering

Rule ordering has already been discussed somewhat briefly in earlier chapters of this dissertation. It was argued in Chapter 2 (pp.67-68) and further confirmed in Chapter 5 (pp.271ff) that the lexical rule of High Deletion (124) must take Place before the Spreading rules.

In Chapter 3, we saw that Association Conventions were best ordered before Segmental Deletion rules (pp.100ff) while adjustments made in relinking tones after the Segmental Deletions were made both before and after Low tone Spread. (see p.116 for list of rules).

Chapter 4 introduced new rules but few environments were found to test the ordering of rules. It was noted that LS Delinking must take Place before RS Delinking (p.157) and that both occur at the output of Low tone Spread. In addition, it was seen that the Association Conventions involved the linking of tones to TBU's in a one-to-one relation and that the Linking of any leftover TBU's took Place after the application of the Low tone Spread. The rule to account for this additional linking was simply labeled Linking.

Chapter 5 introduced another set of rules and data which brought more
opportunities to observe the interactions of the rules. In Section IV.C., it was shown that the following rules must take place in the following order.

(124) High Deletion, (126) Low Deletion

(88) OCP

(66) Feature Switch, (60) Low Linking

After these rules, which take place with word boundaries, are the two spreading rules: High tone Spread and Low tone Spread. Until now, however, two issues concerning these spreading rules have not been discussed: 1) their ordering with respect to one another and 2) whether they take place on two different levels, that is, the lexical and the postlexical level, using the terms of lexical Phonology.

Let us deal with the latter issue first. Do the spreading rules take place within word boundaries before they occur across the syntactic Phrase? There are a few cases where Low Spread does occur at the lexical level first. Double TBU Low-High nouns undergo what appears to be a Low Spread rule. The High tone of the resulting Low-High contour is then delinked through the process of RS Delinking, as shown below:

\[
\text{(31) ndd rá-ké} \rightarrow \text{ndd r é-ké} \rightarrow \text{ndd rá-ké}
\]

The resulting surface tone for the noun root, then, is completely Low tone.

If the noun ndd rá-ké were preceded by the Lh Possessive Pronoun, mā, the subregister High tone would spread onto this Low tone, producing a Mid tone on both TBU's of the noun root, as seen below:
If the subregister High tone were allowed to spread before the internal Low spreading rule, the following incorrect surface form would be produced:

(33) mo ndàra-ke -> mo ndàra-ke

\[ \begin{array}{cccccccc}
    & & & & & & & \\
    & L & L & H & H & L & L & H & H \\
    & h & h & & & & & & \\
\end{array} \]

H SPREAD DOWNSTEP

Another set of examples which seems to confirm the necessity of applying Low spread at two different levels are Low tone nouns which possess both a Type II suffix and a definite suffix. In Section IV.B. of Chapter 5, the tentative rule of High Delinking (105) was introduced. Within this section, Type II definite nouns were discussed. As the example (109) from that section shows, it appears that a series of rules are required in order to produce the correct surface form. One of these rules is Low tone spread.

(109) nkàn-à-kí -> nkàn-à-kí -> nkàn-à-kí

\[ \begin{array}{cccccccc}
    & & & & & & & \\
    & L & H & L & H & L & L & H & H \\
    & l & l & l & l & l & l & h & h \\
    & 1 & h & h & 1 & h & h & 1 & h & h \\
\end{array} \]

LOW SPREAD Tone Collapse HIGH DELINKING

When this noun is preceded by mo, it is clear that the above rules have already taken place before the subregister High tone of mo is spread onto the
noun: when High Spread takes place, both the Low tone of the root and the derived Low tone of the Type II suffix acquire a surface Mid tone (34a). If Low Spread, Tone Collapse and subsequently High Delinking had not taken place before High Spread, only the first TBU would become Mid tone while the suffix tone would incorrectly remain High-Mid, as shown in (b).

(34)a. mo nkàn-ʔa-ki -> mo nkan-ʔa-ki
\[ L \quad L \quad L \quad H \quad L \quad L \quad L \quad H \]
\[ h \quad h \quad h \quad h \]
HIGh SPREAD

b. mo nkàn-ʔa-ki -> *mo nkan-ʔa-ki
\[ L \quad L \quad H \quad L \quad L \quad H \quad H \]
\[ h \quad h \quad h \quad h \quad h \quad h \]
HIGh SPREAD

There is yet another example where there seems to be word internal spreading before spreading across word boundaries. The word kanà is a Hl noun meaning 'manner'. It is used as the final constituent of a noun phrase for expressions that would be translated into English as 'how to'. A few examples are given below:

(35) a. ndàa soʔo-kanà cyón 'I know how to cook'
   I-TA cook-manner know
b. ndàa pérey-kanà cyón 'I know how to sell'
   I-TA sell-manner know
c. ndàa xa cèll-kanà cyón 'I know how to dry it'
   I-TA it dry-manner know
d. ndaə fini celi-kana cyón  'I know how to dry fonio (a grain)'

I-TA fonio dry-manner know

In the examples above, note the tonal variation of kāna. In (a) this H noun is Mid-Low when Preceded by a Mid tone nominalized verb, while it is High tone after a High tone verb and Low-High after a Low tone verb. This behaviour can be easily explained if High tone Spreading accounted for the High tone kāna in (b) and Low tone Spreading for the Low-High kāná in (c). A derivation of (c) is given below:

(35)c. ndaə xa celi-kana cyón -> ndaə xa celi-kana cyón

\[ \begin{array}{c}
L & H & H & L & H & H \\
1 & 1 & 1 & 1 & 1 & 1 \\
1 & 1 & 1 & 1 & 1 & 1
\end{array} \]

L SPREAD & L DELETION LS DELINKING

When the Phrase is preceded by a Mid tone noun, it appears that internal Low Spreading has already taken place when High tone Spreading occurs as shown in (36a), for if High Spread occurred before internal Low Spread, the former would block the application of the latter, as seen in (36b), producing an incorrect surface form.

(36) a. ndaə fini celi-kana cyón -> ndaə fini celi-kaná cyón

\[ \begin{array}{c}
L & L & H & H & L & H & H \\
1 & 1 & 1 & 1 & 1 & 1 & 1
\end{array} \]

HIGH SPREAD

b. ndaə fini celi-kana cyón ->*ndaə fini celi-káná cyón

\[ \begin{array}{c}
L & L & H & H & L & L & H & H \\
1 & 1 & 1 & 1 & 1 & 1 & 1 & 1
\end{array} \]

HIGH SPREAD HIGH SPREAD, LOW SPREAD N/A
Again, it appears that word internal spreading must take place before post-lexical spreading.

For other cases in Sucite, however, having the spreading rules operate first at the lexical and then at the postlexical level creates complications. For example, if a Low tone Type I definite noun is preceded by mo, one would expect the Low tone of the root to spread onto the suffix first and then to have the subregister High tone spread onto the noun. Unfortunately, this gives an incorrect surface form, as shown in (37a). In order to produce the correct surface form, High tone must spread first, which results in eliminating the environment for Low tone Spread (37b).

(37) a. mo mala-ñe -> mo mala-ñe* -> mo mala-ñe

Your rice'

L L H(L) L L H(L) L L H(L)

h l h l h h h

L SPREAD H SPREAD

b. mo mala-ñe -> mo mola-ñe

L L H

H SPREAD L SPREAD N/A

A couple of other examples show that postlexical High Spread must take place before lexical level Low Spread.

(38) a. mo sénê ya mà -> mo sénê ya mà

You too are going'

L L H

H SPREAD L SPREAD N/A
These examples pose a dilemma. On the one hand, there does seem to be some need to posit a Low Spreading rule at the lexical level. Other cases, however, require a postlexical application, even within word boundaries. It is entirely possible that a solution can be found for this problem. However, time and insufficient data do not allow for a full investigation.

The second issue to deal with here is how to order Low tone and High tone Spreading with respect to one another. If we order Low tone Spreading first, the derivation in (39a) will produce a correct output, while the one in (b) will be incorrect.

(39)a. wa`a wu kara wee -> wa`a wu kara wee -> waa wu kara´ wee

L H H H H H H H H H

H SPREAD L SPREAD N/A

b. wa`a mo mali wee -> *wa`a mo mali` wee 'he saw your rice-IND'

L L H L L H

H SPREAD L SPREAD N/A

L SPREAD L DEL H SPREAD LINKING RS DELINKING

(40a) would be incorrect while (b) would produce the correct surface form.

On the other hand, if High Spreading was ordered first, (40a) would be incorrect while (b) would produce the correct surface form.
Therefore, it appears that strict ordering for these two rules produces incorrect results. If, however, High and Low Spreading operated in some type of cyclic fashion across the sentence, where either High or Low Spread would occur first, depending on which could apply first in scanning the sentence from left to right, a correct surface form would be produced in each case. Note that in (39a) above, Low tone Spread was the first applicable spreading rule encountered, while in (40b), High Spread occurred first. Below are a few more examples to illustrate this interaction of rules.

(41) a. wu ya wu kànn yù-ù → wu ya wu kànn yù-ù → wu ya wù kànn yù-ù

→ wu ya wù kànn yù-ù

→ wu ya wù kànn yù-ù

→ wu ya wù kànn yù-ù

'The is giving it to him'}
b. wu ya mo kǎn ŋuú → wu ya mo kǎn ŋuú → wu ya mo kǎn ŋuú

After the spreading rules, then, Linking rule (39) takes place. From Chapter 4 we know that the Linking rule was devised as a separate process from the Association Conventions so that extra TBU's would not be linked to tones before the application of Low tone Spread (see pp. 155). After Linking, LS Delinking takes place. An example from Chapter 5 illustrates the need to order Linking before LS Delinking. In (42) below, Independent Low Linking takes place, resulting in both the Mid and Low tone linked to the same TBU. Normally, this is an accepted contour tone in Súcîte. However, if the first tone of the contour is linked other TBU's of the morpheme, then the left side tone can be delinked. Thus, Linking must take place first.

(42) kara → karía → karia → kara ‘meat’

Next, RS Delinking takes place. The High Delinking rule (44) would also take place at this stage of the derivation. It is crucially ordered in reference to High tone Spread and Low tone Spread. As the example below shows, High Spread provides the environment for the High Delinking of the Mid tone verb.
The Low tone Insertion rule (27) (introduced in Chapter 3) which produces a falling tone on High final nouns in sentence final position would also be ordered anytime after High Spread. Finally, as mentioned before, the Downstep rule takes place. The derivations below are examples of this ordering of rules.

(44) a. waà muun-nà cù wu nyû-ge mpâé-i \(\rightarrow\) waà muun-nà cù wu nyû-ge mpâé-i
\[\begin{align*}
\text{HIGH SPREAD} & \quad \text{LINKING & HIGH DELINKING} \\
\text{LOW SPREAD} & \quad \text{L DELETION}
\end{align*}\]

\(\rightarrow\) waà muun-nà cù wu nyû-ge mpâé-i \(\rightarrow\) waà muun-nà cù wu nyû-ge mpâé-i
\[\begin{align*}
\text{HIGH SPREAD} & \quad \text{LINKING, LS DELINKING, RS DELINKING,} \\
& \quad \text{& DOWNSTEP}
\end{align*}\]

(he-TA knife held his head above-PP) 'He held the knife above his head'

b. biì ndà sakà-ś-bi gbó \(\rightarrow\) biì ndà sakà-ś-bi gbó \(\rightarrow\) biì ndà sakà-a-bi gbó
\[\begin{align*}
\text{HIGH DELETION} & \quad \text{L SPREAD (Lexical)}
\end{align*}\]
This entire dissertation has considered in detail the tonal behaviour within a simple sentence of Sucite, a Senufo dialect. It was seen that some problems could be easily solved while others defied a clear analysis. The theoretical approach used here extends the autosegmental approach into the implementation of two tonal tiers, borrowing from the recent developments in non-linear phonology. It was seen that this approach greatly enhanced the ability to adequately describe the tonal phenomena of Sucite while at other points, some nagging questions still remain unanswered. Further research will be required to pursue these questions which, if answered, could contribute to modifications of the above analysis. It is my hope, however, that the present description and analysis of Sucite will serve to provide a springboard for future analyzes of tone in Senufo languages as a whole. The double tiered approach itself needs to be tested for its viability in other languages. However, whether the double tiered approach holds up in other languages or not, it does remain clear that a traditional autosegmental approach to analyzing the
tone of Sucite falls terribly short of adequately describing its complicated
tonal processes. Again it is hoped that further investigation and the
Presentation of more data will resolve the questions that remain unanswered at
this Point.

NOTES

1. The reader may also recall that High tone spread as a rule is not as
Productive between subjects and verbal particles as elsewhere in the sentence
(See Chapter 4).
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APPENDIX

The diacritics for each tone are given below:

Low \\
Mid unmarked vowel \\
High \\
Low-High Rise \\
Low-Mid Rise \\
Mid-High Rise \\
High-Low Fall \\
Mid-Low Fall \\
High-Mid Fall \\

NOUN LEXICON OF SUomite

Each noun has up to five entries each separated by a semi-colon. Within each entry two possible forms may be given, separated by a comma. These indicate a variation in pronunciation of a particular word. The symbol ?T indicates that the tone marking is uncertain. The five entries, in order of appearance, are:

Singular Indefinite; Singular Definite; Plural Indefinite; Plural Definite; 'my (nda) = Singular Definite'.

Some nouns have no Plural. The last entry is given only for a restricted number of nouns.

b
bàrà: bàràke; bàràvà: bàrànye: Poison
bàlà; bàlànà; bâlâla; bâlâya; bâlàyì; bâlànyì: ball, bullet?
bàndà: bàndàà; tàndàòoyà: bàndàòonyì: sesame
bàràntàn; bàràntàà; bàràntànyà; bàràntànyì: banana
bàròxà: bàràke: strength
bàlè: bàné; biya; biyàki: seed
bàlè: bàné: bàle; bàlàki: ground Peas
bàlòù. bèlàù?T; balànà: balàle. bèlàle?T; balàyì; ndà balànyì: slave
brak: brakki: brakyo: bronve: bagn, sack
bubu: bubunye: bubula: bububibi: mute
buruxo: buruk: buruyo: burunye: bread
buxuru: buxute: addition to a village

ca: canye: nakooy: nakoote: child
caan: caankee: caanye: naye: market
cala: caila: caliva: cailvye: beans
caloi: calaye: calalai: calibi: nda cala: pig
cancalee: cancooney: cancooni: pipe (for smoking)
cantonge: cantonye: umbrellas
can: canye: cannye: nda canane: day, sun
canbyme: canbyiine: canbyne: canbyi: canbyliki: ?? sun, lit. eye of the day
cede: cenye: cerale: ceriki: cerniki: nda cenye: calabash, gourd
cere: cernye: cere: cere: cernbi: nda cere: woman
ceraksi: cerareikal: cerebi: diviner
cerı: ceri: ceri: antelope
cerlake: cerlavik: cerlavik: lion
cenye: cenye: cenyey: cenyey: nda ceny: sauce
cencvareki: ccnkavareka: sauce ingredients
cijeke: cijeke: adultery (of man)
cikne: cikne: ciknbi: excised woman
cikante: cikante: nda cikante: wedding
cile: cile: cikale: cike: nda cile: this

cemorko: cemorko: cosemore: cosemorene: cleaning, calabash?
cilale: cilale: cilabe: cilab: nda cilane: Potter
cinndale: cinndale: cinndale: ??: elder woman
cinale: cinale: cinale: cinale: groom
cerama: cerama: cerami: cernbi: nda cerna: orphan
ciwulu: ciwume: cimwume: cimwume: week
conla: conla: cinle: cinibe: nda conla: younger brother, sister
cà; còñe; còolé; còbbé: net
cònra; cònté; con'yo; conné; ndà cònte: ashes
dàggântà; dàggântè; dàggântà; dàggânte: ginger
dâ?àsalùi; dà?àsalànè; dà?àsalàlà; dà?àsalà: fish (species)
dâ?àsonùo; dà?àsonè; dà?àson'yo; dà?àsonnyé: toad
dànàli; dànànty; dànànyà; dànànyè: red pepper
danbûrùgù; danbûrùgù: dirt
dâsùlù; dàsùlànè; dàsùlà; dàsùlà: elephant
dogonlálnà, -nk-?: dogonlânè: dogonlànè: duck
domângù; domângù; domângù; domângù: vulture
dùxù'u: dùxù'u: du xù'u: sheep
f faaciè; faaciè; faaciè; ndà faaciè: cultivator
fala; falaè: agriculture, cultivating
fâlàkà; fâlàkà: fâlàkà: rock
fânçànfofè: fânçànfofè: king
fandà; fandà: fandà: fandà: crutches
fanyà; fanyà; fanyà: fanyà: fanyà: cemetery, grave
feràmè; feràmè: feràmè: urine
fènè: fènè: fènè: fènè: penis
fii; fii; fii; fii: python
fii: fii, fii: fii: fii: blind person
fintà; fintà: fio, grain from crabgrass family
fàl àrè: fàl àrè: fàl àrè: flower (French)
fâlàkà; fâlàkà: fâlàkà: mat
fânçàrì; fânçàrì: fânçàrì: window (French)
fàrì; fàrì; fàrì: fàrì: fàrì: winnowing basket
farè; fànè; fànè; fànè: excrement
fokanzàkà: fokanzàkà: fokanzàkà: wing
fîlòkide; fîlòkide: legend
fòlà; fòlànè; fée; fèèbi; ndà fòlànè: owner, chief
fòlà; fòlànè: fòlànè: fòlànè: debt
fônlò; fûnlè: fûnlè: Peanut
fonjà; fonjà: Poverty
kôparaxâ; kóparâkâ; lôpariyâ; kôparînyê: floor (as in second floor)
kapeline; kapelinê; kapeliîni; kapelînî; ndâ kôpêlinê: ring
kâpençê; kâpençê; kâpençê; kàpennyê: broom
kapenlê; kapênî; kapenxêlê; kapênxâkiê: ?????: sadness
kapicii; kapiciiî; kapiciîle; kapicîbî: ??????: evildoer;
kapile: kapiîne; kapèxâle; kapèxâki; ndâ kôplîne: curse, bad
kapânacânlaî; kapanacânna; kapânacânxalaî; kapânacânxâkiî; ndâ kôpânacânne:
sauce stirring stick
kàpînî; kàpînî; kàpînî; kàpînyê: praying mantis
karâ; kàtaîe; ndâ kàtâêe: meat
kârmolî; kârmolîni; kârmolîlaî; kôrmolâbî; nda kôrmolânê: snake (species)
kôrâlê: armpit
kâsakûnî; kâsakûnî; kâsakûnî: soldier
kâsanamî: kâsanamîne; kâsanamîne; kâsanamîne; elbow
kàsâxê; kàsâxê; kàsînêyê: war
kâtantêî: kâtantêî: kâtantînyê: ladder
katêlêî; katêlêî; katêlêî; katêëî: ????????: habit
katexêî; katêîe; katênêyê: ndâ kôtêêke: hunger
kâtônî; kâtônî; kâtônî; kâtônî: rust
kàvîlêî; kàvîlîni; kàvîlîni; kàvîlî; kàvîlêî: compound
kázenêî; kázenêî; kázenêî: squash; ndâ kàzenêke: squirrel
kélî; éé?: kéléê: kéele; kéebî: monkey
kârêxêî: kârêxî: suffering
kêzê?êî; kêzê?êî: kêzê?êî: chance, lot
kêkêî; kêkêî: kékêî: kânêî: ndâ kêkêke: hand
kërêxêî; kërêkêî; kérêvêî; kérênyêî: ??????: field
kidêî: kine; kërêxîî; kérêkîî: People, country
kalêî; kalêî; kalêî; kalêbîî: ?????????: God, God
kô?ôrêî: kô?ôte: dance
kolofolo; kolofoloî: village chief
kônlêî; kônlêî: kônxalaî; kônxakî: tomb
koolêî; koôneî; nda kôôneî: cough
kôôtnêî: kôôntê: cotton
kooro: kootêî: korîyêî; korînyêî: nda kôôteî: Feelings
kôôruî: korânyêî; kôralî; kôrâbîî: button
konal; konalé; kónálà; kñnlá: beads (Dioula)
koradàñà; koradàñgg; koradàñyé; korañyé: glue
korax; koràké; korìyé; korànyé: ndà koràke: heritage
korax; koràké; korìyé; korìnyé; nda koraké: brick mold
korù; koràñé; koràlò; korùbì: nda koràñé: boat (French)
kù: kùñé: death
kùdò; kùñe; kóralò; kòràkì; seat
kudò: kùñe; kuùxi; kuxòkì: ndà kùñe: rule, road
kùlsùbàxa: kùlsùbaké; kùlsùbaya; kùlsùbanyé: ancestor house
kùnàgàñò; -nkan-?; kùnàgàñgg; kùnàgàñnyé; kùnàgàñnyç: centipede
kùndùbò: kùndùbòne: kùndùbòlò; kùndùbòkì: large or main road
kùnnàñò: kùnnàñgg: kùnnàñnyó,-ìyó?: kùnnàñnyç: turtle
kùnnàñò; kùnnàñgg: kùnnàñyó; kùnnàñnyç: mushroom
kùnnòn; kùnne: kùnnobì; ?nda kùnne"ndà kùñe: navel
kùùtànàñë: kùùtànàñgg: kùùtànànyé; kùùtànànyç: ant
kùùnyùñ; kùùnyùñgg: kùùnyùñnyé; kùùnyùñnyç: owl
kurùgbà: kurùgbòò, kurùgbàla, kurùgbàyà: kurùgbàbì, kurùgbànyé: hangar:
shelter (grass overhang)
kùsèì: kùsèèñì: kùsèèlé: kùsèèbì: traveller
kùsèì: kùsèènì: kùsèèxì: kùsèèkì: trip
kùsèrì: kùsètì: trip
kùtunno,-nk-?; kùtunnnàñì: kùtuxàlo; kùtuxàbì: monkey
kùzànì: kùzàñì: kùzùulò; kùzùùmbì: forked stick
l
lalàñà: lalàñò; lalàñyé; ndà lalàñò: butterfly
lala: laané; làxàla, làxàlaa: làxàkì, làxàkìi; nda laané: Pregnancy
làmàa: làmàña, làmàlaa: làmbì: blade (French)
làmana: làmanañà, làmanañèla: làmanaòài: nda làmanañà: sing
làmbà: làmbòìà, làmbòìaà, làmbòìñ, làmbòìñà: làmbòìabì, làmbòìnyé: lamp
laxa: lakì, laxa: lavà, lavyé; ndà láke: stomach
ledì: lené; lèralì: lèralìi: nda lené: time,
lené; lenéé; lenvé: lenvé: nda lené: intestines
lèrasiìlì: lèrasiìlìànà: ??? beginning (of time)
lo?o; lo?oké; lo?oyà; lo?onyé; ndà lo?óke: water
luro: laté: lonyé: lonyé: ndà lôte: vegetable
luro: laté: lonyé: lonyé: ndà laté ??: Price
lûlô: lûnè: lôxalo: lôxâki: shea nut
lûlô: lûnè: lôxalo: lôxâki: bile
lû'tide: lû'tiné: lû'tèrè: lû'tèrâki: ankle
lûxànyô: lûkànyoké: lûyènyô: lûnyènyélé: riverside, or mouth of the river?
lûxô: lûke, lûxâki: lûyô: lûnyé: creek, stream
lûyèrâ: lûyèrâ-bè: lûyèrâ: lûyèrâ: water hole(stationary water?)
lûzûfôlôbì: chief hunter, expert hunter?

mômbèlê: mâmblâ:è: mâmblâlê: mâmblâbì: car
môsènô: môsènô:è: môsènô:è: needle
mêjôlô: mêjôlô: mêjôkôbì: ndà mêjôlô: voice, cry, speech
môbînô: môbînô:è: môbînô:è: bamboo mat
mânô: mânô: mânô: mânôkì: sweet ground Pea ??
môpi:è:fôlô:è: enemy
motë; motóne; motólà; motóyà; motóbi; motóonye; nda motóne; motorcycle
màlì; màlàne; màlàvà; màlànye; rice
múnala; múnaané; múnà?ànlà; múnà?ànkì: nose
múnawílè; múnawííne; múnawëxàkì: nostril
mùrkúdë; mùrkùnì; múrkùralo; múrkùràkì: cheek
mùzònìnà; mùzònì: mùzònìmi; mùzòsínlà; mùzònmbì: builder
mùzàrì; mùzàrànà; mùzàràlì; mùzàðì: scarf (French)

mp
mpà; mpà?à; mpànà: above
mpà?à: watery porridge
mpàlnà; mpàânàne; mpàmànà: water
mpà: mpirè; mpirí: rabbit
mpàdërë; mpàdàke ë?à: rib
mpàdàfólì: clown
mpàdù: mpánnë; mpàralà: horn trumpet
mpàlì: mpàànë; mpààrì: hill
mpà: mpuunë; mpàlà?à: spider
mpànu; mpàure; mpànà: ceiling

mòbi; mòbì: flour
mbàkà; mbàkà: powder

nà
nà: naà; nàvà: nànye; ndà nàke: fire
naà; nààù: nàmàa: nàmaàbì: man
nà; nàà: nààà: nàlààmì: nàndàmbì: scorpion
naawàxà: naawàkà; naawàyà: naawànye: ndà naawàkà: boil
naaxà; naàke; naàyà: naànye: ndà naàke: sore, infected wound
nàfòlé; nàfòlà: nàfèe; nàfèëbi; ndà nàfòlà: Parents-in-law of a husband
nàfòlò; nàfùlàà: nàfùlàà: nàfùlàà: nàfùlàà, nàfùlàà: riches
nàmbùxà: nàmbùxà: nàmbùxà: nàmbùxà: ndà n mbùxà: firefly
nàmèmè: ndà nàmèmè: soot, ashes
nà"Pùunu; nà"Pùunà; nà"Pùuntì: ndà nà"Pùunì: visitor, stranger
nànà: nànàà: nànàà: nànàà: nànàà: fresh water fish (species)
nànàà: nànààà: nànàà: nànàà: nànàà: bachelor
nà"jìde; nà"jinà: nà"jìràlì: nà"jìràkì: silhouette, ghost
nànjilù; nànjilàže; nànjilàle; nànjilàbì; young man
nànkàlù; nànkàlàže; nànkàlala; nànkàlàbì; thief
nà̀kooylàrà; nà̀kooylàràte; red measles
nànvélà; nànvélàže; nànvélàle; nànvélàbì; friend
nànya; nànya; nànya; nànya; flame
nànya; nànya; nànya; nànya; tail
nànyù; nànyù; nànyù; nànyù; garden
nàpèlè; nàpèlè; nàpèlè; nàpèlè; a very old man
nàpùnnalùpà; nàpùnnalùpà; nàpùnnalùpà; melon seed (type)
nàsàmù; nàsàmù; nàsàmù; nàsàmù; spark
nàyer; nàyer; nàyer; nàyer; friend
nàzàndù; nàzàndù; nàzàndù; ladle, dipper
nàjò; nàjò; nàjò; cow manure
nènà; nènà; nènà; nènà; cattle herder
nèrà; bad luck, misfortune
nëràddàjan; nëràddàjan; father's maternal uncles
nëràfòlù; someone who brings misfortune
nëràfòlù; relative through a daughter of Pat. family
nèrè; nèrè; nèrè; maternal uncle
nèxàsù; nèxàsù; nèxàsù; bicycle
nàfàn; nàfàn; nàfàn; brick
nàfài; nàfài; nàfài; buttocks
nàgùndù, -nk-?i nàgùndù, nàgùndù: knee
nàmpécìny; nàmpécìny; nàmpécìny; toenail
nàmpécìny; nàmpécìny; nàmpécìny; saliva
nànccì; nànccì; nànccì; neighbour, partner, co-wife
nandeé; nandeé; middle-aged elder
nànjara; cow's milk
nàmpècilì, -dülù; nàmpècilì, -dülù; heel
nàfè; nàfè; root?
nàfàcìlikè; nàfàcìlikè; spine
nàpànì; nàpànì; nàpànì; mosquito
nàpèlè; nàpèlè; toe
nàporoxo; nàporoxo; nudity
nakanaâni: nkânaâni; nkânaâni; nkânaâni; Packrat
nkânjâni: nkânjâni; nkânjâni; nkânjâni; toothache
nkânlâi: nkânlâi; nkânlâi; nkânlâi; tooth
nkânmâi: nkânmâi; gravel
nkédë: nkédë; a Part. side
nkéenmâbalâi: nkéenmâbalâi; nkéenmâbalâi; necklace
nkéenmâbôrâi: nkéenmâbôrâi; nkéenmâbôrâi; chameleon
nkéenmâbôrôlo: nkéenmâbôrôlo; nkéenmâbôrôlo; nkéenmâbôrôlo; throat
nkéen: nkéen; nkéen; nkéen: branch, chicken's stomach
nkéenmârâi: nkéenmârâi; nkéenmârâi; fallow land
nkéenmârâi: nkéenmârâi; nkéenmârâi: chicken cage
nkéenmârâi: nkéenmârâi; nkéenmârâi; cockroach
nkéenmârâi: nkéenmârâi; nkéenmârâi: chicken
nkéenmârâi: nkéenmârâi; nkéenmârâi: wooden bowl
nkéenmârâi: nkéenmârâi; nkéenmârâi: lizard
nkéenmârâi: nkéenmârâi; nkéenmârâi; rooster's crow
nkéenmârâi: nkéenmârâi; nkéenmârâi; rooster
nkéenmârâi: nkéenmârâi; nkéenmârâi: red monkey?
ntâânaâni: ntâânaâni; ntâânaâni; ntâânaâni: basket (tightly woven)
ntâânaâni: ntâânaâni; ntâânaâni; ntâânaâni; dust
ntâânaâni: ntâânaâni; ntâânaâni; courtyard
ntana sp?: da Plant, the leaves and flowers are used in cooking
ntara: ntara; nda ntâti; land
ntarafo: ntarafo; ntarafo; ntarafo; ntarafo; ntarafo; land chief
ntarafo: ntarafo; ntarafo; ntarafo; ntarafo; ntarafo; ntarafo: dirt, soil
ntarafo: ntarafo; ntarafo; ntarafo; ntarafo; ntarafo: bat
ntarafo: ntarafo; ntarafo; ntarafo: burial
ntarafo: ntarafo; ntarafo; ntarafo; termite
ntarafo: ntarafo; ntarafo; ntarafo; Pestle
ntarafo: ntarafo; ntarafo: chest
nya: nya; nya; nya; nya; grass, straw
nYu$a: headache
nYU$a: head
nYu$pélé: champion, boss, supervisor
nYu$àmány$: brain
nYu$àxale$: Peak underside
nYu$tà$: hat
nYu$àr$: headband (worn by certain old women)

'nña: twin
ngà$bà$à:y: bamboo bed
ngà$bà$: bamboo

'ndà: breath
'ndà: knife

'nda: nightmare

Pà$à: a carnivorous reptile, 2-3 m. long
Pà$à: bucket
Pà$à: Pants
Pà$à: mattress
Pè$: bowl
Pè$: compound
Pè$: large clay pot
Pè$: girl
Pè$: tick
Pè$: wooden drum
Pè$: hive

'ndà: French
'ndà: bamboo leaf
'ndà: male, husband
'ndà: catfish
'ndà: nails (French)
'nda: mud, banko
'nda: daughter
sàcô: foolish
sàxà: frying pan
sìl: family
sìlè: nest
sàjin: carp
sàkà: goat
sàkà: woman's cane
sàmà: harvest (Dioula)
sàmbuo: swarm of bees
sàmè: oil
sàmè: skin
sàwàl: Pore
sàxà: blood
sàxà: wild Pig (bush Pig)
sàxà: zebra
sàl: millet
sàl: Parakeet
sàn: horse's tail
sàn: horse
sàjì: stag, hart
sàni: mound for sweet Potatoes, Yams
súl: floor
súte: staple dish
sùbà: kitchen
suumè: suùmbe: salt
suo: suké: suyo: sunyè: ndà suke: mortar

taanbàlé: taànbànè: taànbìya: taànbìyàkì T?: arrow
tafaxà: tafàke: tafavyà: ndà tòfàke: village centre
tagbèlakè: tagbélakè: tagbèlìnyì: ndà tògbèlakè: wound, injury, cut
tàlìni; tàlinì: tàliinyì: Proverb
tàmàti: tàmatìne: tomato
tapunyè: tapunyè: ndà tòpunyè: virgin land
tasànyè: tasànyè: ???: altar for sacrifice
tëtànà: tétànè: tàtanya: tétànyè: Senufo Pancake
tawaxà: tawakè: tawaya: tawanyè: ndà tòwakè: dry place
tëmé: tèmè: tëmè: témèbi: sifter, sieve
tëxè: tèke: teve: tènyè: ndà tèke: Place, location
tabe: tabè: tive: tìnyè: ndà tèbe: medicine
tàbàlàrè: tòbàlàtere: respect, honour
tëgaanfòlì9: tògaanfòlìne: -nk-?: tògaanfei: tògaanfebi: sorcier: sorcerer
tile: tìinè: tìxèki: tìxèki: ????????: crest of the cock
tìmbuxàlaxò: tìmbuxàlakè: tìmbuxàliyò: tìmbuxànìnyè: climbing Plant
tëmè: tèmè: tìn'è: tìnnì: noise
tànyùñò: tànyùñè: tànyùnìyì: tànyùnyè: stump of a tree
tànyò: tàngè: tanye: tanyè: ndà tàngè: log
tapàdà: tàpàné: tàparàla: tàparàkì: beam, wooden cross
tàpànlà: tàpànlè: tàpànlìya: tàpànlìnyì: nda tàpànlè: new field, clearing
tàpìnnè: tàpiìni: tàpiìnya: flute
tàpòlo: tàpòonne: tàpòxòlo: tàpòxòki: tying wood
tàrparànè: tàrapànè: tàrparàné T?: tàrapànàkì: nda tàrapàné: grinding stone
tàrapàna: tàrákè: tàrayà: tåranyè: ndà tåràke: grinding stone
taxè: takè: tive: tìnyè: ndà tèke: tree
tài tàne: tìi: tìbì: ndà tòne: father
tònì: tònìlè: tònìla: tònìlayì: Profit
tònìnò: tòntònkè: tòntònyò: tòntònnyè: lung
tòxò: tòke: leprosy
tɔxɔfòlọ; tɔxɔfòlòné; tɔxɔfè; tɔxɔfèèβí: leper
tɔ; tɔnè; tɔolɔ.tɔvɔ; tɔbbí.tɔnyè; nda tɔnè; society, group, club
tɔɔɔɔ; tɔɔkè; toɔɔvɔ; toɔɔnyè; ndà tɔsκe; paw, foot, leg	tucicidè; tuciciine; younger brother of father, lit. little fa.
tuculumù; tuculùmbè; ndà tucùlùmbè: health	tùgùdu; -nk-?; tùgùnès; tùgùralò; tùgùràkì: pimple
tùkoràxò, ūù?; tùkoràkè; tùkòriyò; tùkorínùyè; ndà tùkoràkè; hoe for weeding, scratching earth
tùlèxè; tullèkè; tulèyè; tulènyè; ndà tullèkè: grandfather
tùlùkè; tullòkè; ethnic group	tùtùyò; tùtùnyè; tùtùnùlò; tùtùùnbì: messenger
tùtùrò; tùtùtò; commission, errand	tùùù; tùùùnì; tùùùbì: night blindness
tùùùxò; tùùùkè; tùùùvò; tùùùnyè: bran or millet, fonio, corn
ùtùxò; tùtùkè; tùtùvò; tùtùnyè: bean cake
ùùù; tùùùnì; tùùùbì: caterpillar
tùùùtànè; tùùùtànè; tùùùtànàkì: hoe handle
ùùùùù; tùùùùù; tùùùùù; tùùùùù; ndà tùùùùù: blacksmith
ùùùxò; tùùùkè; tùùùvò; tùùùnyè: hoe
tùùùxù, toɔɔxù; tuxùtè, toxòtè; tuxùvò, toxòvò; tuxùnyè, toxònyè; ndà tùxùtè, tòkòtè: load

v vàànùmbìi; vàànùmbìibè: cloth
vàànùnùnì; vàànùnùnyò; vàànùnùnyè: cover
vàànùnè; vàànùnìyà; vàànùnyè: wrap-around cloth
vààntìi: vààntìíyè; vààntìíle; vààntìíbì tɔ?: weaver
vààndìkèèkè; vààndìkèèkè; vààndìkèèkè; vààndìkèèkè: sleeve
vààndìnì; vààndìnìyè; vààndìnìyè: shirt, blouse
vènìlù; vènìlù; vènìmì; vènìmìbì: cricket
vùnì; vùnì; vùnì; vùnì: shelter
vùèxɔ; vùèxàà: well ladder (footholds in wall)
w wàràsòɔ; wàràsòɔ; wàràsòɔbì, wàràsòɔyè; wàràsòɔbì, wàràsòɔyè: sickle, reaping hook
wàxà; wàkè; wayà; wànyè; ndà wàkè; drought
wèrè; wèrànì; wèrìyè; wèrànì: money
wéramisén;

wéramisénée;

wéramisénë;
wéramiséyë;
nda wéramisënë;
change (Dioula)

wôdë;
wône;

wôrâ; "wôralô; "wôrákî; "wôrâkî;
nda wônet; star

wô; wôné;

wôolo; wôôbi; snake

wulacín;
wulaci ninë;
wulaci ninë;
nda wulaci ninë; crocodile, cayman

wëné;
wëné;
nda wëné;
leaf

y

yaara;
yatës;
variya;
yarinyë;
nda yatëte;
garbage, thing

yacedë;
yacëne;
yacre;
yacrekî;
nda yacëne; pregnancy

yafalakë;
yafalakë;
yafaliye;
nda yafalakë; reptile

yagbaka;
yagbakë;
yagbayë;
yagbanyë;
nda yagbakë; Party

yagbexalakë;
nda yagbexalakë; creation

yagbontâné;
yagbontâné;
yagbontâné;
nda yagbontâné; handle of axe

yagbonkô;
yagbonkë;
yagbon'ë;
yagbonnyë;
nda yagbonkë; axe

yagbuu;
yagbuë;
yagbuû;
yagbôô;
ndë yagbuû; he who kills for sacrifices

yakûkâra;
yakûkâa;
yakûkâa;
yakûkâa;
ndë yakûkâa; debris

yâlôô;
yâlonôë;
yâlôô;
oÊra

yamë;
yâmë;
nda yâmë; sickness

yârâfë;
yârâfë;
black berry

yarakë;
yarakë;
yarinya;
nda yarakë; things;

yasinne;
yasinë;
yasinnë;
yasinnë;
nda yasinë; fruit

yatarakë;
yatarakë;
yataraka;
yataraka;
nda yataraka; creature

yatakë;
yatakë;
yatë;
yatë;
nda yatakë; neck

yele;
yeë;
yëkî;
ndë yeë; year

yëna;
yëna;
yëna;
yëna;
ndë yëna; moon, month

yirifexe;
yirifikë;
yirifikë;
yirifinë;
albinos

yaru;
yarâ;
yarâ;
yarâ;
nda yarâ; Porcupine

yôôrô;
yôôte;
yôô;
yôô;
nda yôô; inside of tree

yoko;
yoko;
yoko;
ndë yoko; quarrel

z

zan?an;
zan?anë;
zan'yâ;
zânnyë;
nda zan?akë; rain

zanlûlô; zanlûlë;
zanlotô;
zanlotëkî;
nda zanlotë; kidney

zânmôlaxë;
zânmôlaxë;
zânmôlaxë;
zânmôlaxë;
nda zânmôlaxë; rainbow

zënxë;
zënkë;
zëntiye;
zîntiye;
nda zîntiye; baobab tree

zi;
"zi;
nda zi;
birth

ziPô;
ziPô;
ziPô;
nda ziPô; skirt, (French)
VERB LEXICON OF SUCLITE

Each verb Possesses two forms, the Completive and the Incompletive. Following the English translation of the verb is an example sentence with translation.

b


bâ?à: bâ?ii: be exhausted, be tired out. ndaa bâ?à: I am exhausted.

bârâxá: bârâxó: thank (loan word from Arabic). wu ya mó bârâxó: they are thanking you.

bí: bíí: raise (animal), feed. nkûu ndi ya bíí: I raise chickens.

bálé: bálíí: gather, harvest ground Peas. waa fûcàné bálé: he gathered up the kernels of corn.

bálí: bálàxó: respect, obey, honour, be thick. bi bi nóne bálí: they respected their mother.

c

cà: càà: look for. wu ya sàkà càà: he is looking for a goat.

câ: câán: lay an egg, drop, be possessed, destroy. nkûlûnza câlà câ: the chicken laid eggs.

ce, ci, kun: do. wu si za tûnturo cye: he will do some errands.


célâ: célíí: divine. wu ci wí sa célâ, T?–sa: have him go to divine.

cèli: cèdi: spread out. pàcènà vànnya cèli: the girl laid out her clothes (to dry).

cèli: cèli: tremble, shiver, shudder. weèta ya wú cèli: the cold made him shiver.
céni: know, be convinced, persuaded. ñà na ànnà wù ye céni: Anne and I, we know each other.

cèrèxì: dislocate, disperse. nènyàà cèrèxì: the cattle have dispersed.

cyèì: refuse. yààna ya yalata cyèì: the sick person refused food.

càdì: sneeze. kàkonxa fòla mà?à càdì: he who has a cold, sneezes.

càdì: Peel (eggs), shell (Peanuts). wàa fùunkì càdì lâ: did he shell the Peanuts?

càráxèì: faint. wàa nà?àì ììì à wù mà?à càráxèì T?: if someone is going to die, he faints.


càdì: strangle. mà?à mà?à ììì à wà câdì: the cord can strangle someone.

cu: gather. nànjalàbì ya mà?àn gbàràà cu: the boys are in the Process of gathering mangoes.

cùn: tear. nda vànnìinyà à cùn: my shirt is torn.

còonì: sort, choose, settle (an affair). nda si za kaàna là còonì : I am going to settle an affair.

còri: Plant. wùù yàla na tèyì còriì: we should Plant some trees.

cúlújì: heal, recover, be in good health. yàmbì ya cúlújì: the sick People are recovering.

cúdì: Plunge, sink, swamp. ndaa nà tóoka cúdì njàrùkìi: I stuck my foot in the mud.

cùlù: cùlù: belch (or burp?). moò lîta mo mà?à cùlù: when you eat well, you belch (or burp?).

cùxì: cùxì: be deep. bâlàkàà cùxì: the well is deep.

cù: cyòri: catch. biì nkùlà cu: they caught a chicken.

cù: Pull (a cord). wu cù ma dâli T?: ma: get it and Pull.
fá: fálú: enlarge. màzóna ya gbaxa fálú: the mason is in the process of enlarging a house.

fáálu: fálú: balance, swing. wu sì zá fálú màntá lā: let's go swing on the rope.

fáánlu: fánlú: flatter, tempt. wu ya wú fáánlu: we are tempting, flattering her.

faanri: fàànru: construct, build. ngá waà gbakó faanri: this is the one who built the house.

fálí: fádí: exchange, replace. bi ná wèrè fálí: they made change.

fálú: fálú: till, cultivate. wu ná wú kéráxó fálú: he cultivated his field.

fànlu: fánlú: to lose (the voice), limp. ndà mííni ya fànlu: I lost my voice.

fe: fiú: run, drive. ndà bála na mambélà fiú: I must drive a car.

fènì: fènnì: incline, dip, be at an angle. cànà ya fènì: the sun is sinking.

fènri: fèndì: pinch, put in a corner. ma mà yè fènri nké: are you in a tight spot?

fi: fiú: germinate, sprout. sóòkílàà fíù: the millet has germinated.

fiinnì: fiìnnù: be clean. cònaà fiinnì: the clay pot is clean.


fàla: fàllì: approach. fàlì wònà lā: approach the snake.

filé: fillì: pound (a floor). ntàne bi ya fillì: it is the courtyard that they are pounding.

fal(a)le: fál(a)lu: crawl. lùzùnàà fál(a)le: the hunter crawled.

fanì: fàànu: tell a lie. wu ya fàànu: he is telling a lie.

fànènxì: fànènxó: make white, be white, make clean. mànlàà ya fànènxó: the cloth is getting white (becoming clean).

fàrì: fàráxó: pierce. nèxàsùnàà fàrì: the bicycle is pierced (has a flat tire).
emigrate. fâlabîlâà fo: the fulani emigrated.

flow. lo?oké ya fû: the water is flowing.

lose. wòraa fôn lotaràñi: we lost at the lottery.

go out. appear. yëñ9aà fôrì: the moon came out.

Pound ?. bi nàa ìbì fûxâló, T?–nàa: they pounded the flour.

blow, winnow, swell. ngá waà nàke fo: this is the one who is blowing the fire.

roast in the fire. wú ya ñnólú fû: he is roasting a guinea hen.

miss, fail. waà sa fôn ánniì: he missed Anne.

Push. wu ya fûlàá fùlìì: he Pushed a stone.

sweat. kafûka ya bi fûnì: the heat makes them sweat

glean. wu ya fùn ìnì: he is gleaning peanuts.

extinguish. nà bi fûrì T?: it's a fire they are extinguishing.

rummage, ransack, search. wûrì ya gbaké fûxârù: we searched the house.

to frighten, tremble. sàntùñ9aa bi fûxârì: the hyena frightened them.

be afraid, fear. ánnì ya fûxò: Anne is afraid.

hurry up. ta fûlù: hurry up.

urinate. waà fyeeri: he urinated.

be quiet. bì wù wáìì fû?èì: they called him, but he stayed quiet.

suck. sukârá waà fûn: it was sugar that he sucked.

flower. taká ya fîn: the tree is flowering.

whip, beat. wòra ya wòna fûnèrò: we are beating the snake.

sob. càà gbékèlàà nyélu wù mà?an fûnèkò T?: when a child has really cried, he sobs.
**dri nk. ndaa biEr a 9ba la: did I drink beer?**

**gbàrè:  gbàrè**: *drink, meet, welcome*. waa gbàrè si da si nà moì: he is in agreement to go with you.

**gbèllè: gbèdi:** *wound, injure*. nèkàsàà gbèllè: the bicycle injured him.

**gbèrè: gbèrè:** *be short, shorten*. wu kùne gbèrè: let's shorten the road (let's take a short cut)

**gbèxè: gbèxìi:** *fall asleep*. cànàa gbèxìi: the child fell asleep.

**gbèxélè: gbèxèlélú:** *arrange, make, form, design, repair*. wu ya nàa gbèxélélú: he drew a scorpion.

**gbèrè: gbèrè:** *uproot (millet)*. bi sòðí gbèrè: he uprooted the millet.

**gbèrèxè: gbèrèxè:** *dispute, quarrel*. càèbí ya bi yè gbèrèxè: the women are quarrelling.

**gbòs kúlí:** *kill*. Posonàà ya nòlí: the poison kills.

**gbòxà: gbònà:** *meet together, put in piles, in groups*. nàmaabíllà bi yè gbòxà: the men met together.

**gbòn: gbùn:** *hit, beat, dig ground peas*. bi yà bi yè gbùn: they are beating each other.

**gbúlì: gbúlòxò:** *get fat*. nànà ya gbúlòxò: the man is getting fat.

**ja: jìi:** *shoot, break*. wàà ânólu ja: he shot a guinea hen.

**jà: jà:** *be able to, succeed at*. wu nà já kàrài: he was able to leave.

**jì: jìi:** *wash*. wu ya ³mòlo jìi: he washed a knife.

**jì: jì:** *enter*. bi ya nçèm jìnàa jiìi: they entered the house.

**jiìì: jiìì:** *cross (a river)*. biì kùna jiìì: they crossed the road.

**jo: yù:** *speak, say, recount*. sàpàlò ya yù: the People are talking.

**jò: jòóri:** *swallow, forage*. nkùlànà ya jòóri: the chicken is foraging.

**joolì: jòólu:** *sew*. wu vàngàà joolì: his cloth is sewn.
sharpen. ndi ya `nymuuné jììxìì: I am sharpening the knife.

k

kà: kàà: chew. ánnì ya bù́ríxo kàà: Anne is chewing bread.
kààju: kààyù: criticize, order (something). wu nà tòùxó kààjò mi kààrì: they ordered a hoe and then left.
kaalà: kààlù: suffer. yà̀nà ya nkààlù: the sick person is suffering.
kààlà: kààlù: disapprove, deny, Pardon. wàà wèrànà yù mì xà kààlù: he stole money and he denies it.
kàacà: kààcàà: Pay attention, supervise, consider, take care. wu ya wà kààcàà mèn: he does not consider anybody.
kààràìí: kààràru: scratch, spit. wu ya nyììya kààràru: he scratches the soil.
kààlìí: kààlìì: fry. wu ya sà màyòora kààlìì: she is frying doughnuts.
kààlùxìì: kààlùxìì: be spoiled, erase, destroy, be sad. ndìràkàà sàlàkàà: the Yam is spoiled.
kààlìì: kààdi: teach, read, swear. wàà sebàà kààli: he read the letter.
kààànì: kààànì: give, lend. Cèbàà kààrì kan ìnnìì: Tieba gave meat to Anne.
kàñànì: kàñrì: be tired, tire, punish, to make suffer. ndì ya kàñrì sakìì: I tire in the fields.
kàñà: kànnù: lather, foam. jekà ya nkànnù: the soap is lathering.
kàìì: sè: go, leave. ánnà kàìì Kanàdàìí: Anne has gone to Canada.
kààràà: kààràà: govern (a country), translate (a language), turn. sóòkì kààràà: Pour the millet into another container.
kààráùxìì: kààráùxìì: tease, mistreat. cà bi kààráùxìì: it's a child they are mistreating.
kèìì: kèìì: groan. yà̀nà ya nkèìì: the sick person is groaning.
kalàxè; kàlàxò: be intelligent. waa kalàxi: He is intelligent.
kò; kònìáxò: tear from. kefèkàa tàxà kò: the wind pulled up a tree.
kò; kòrí: draw (water). sà lò?o kò: go and draw some water.
kò?ò; kò?à?ì: dance. play. waa kò?ò míi sè: he danced and then he went.
kòli; kòlìì: cough. cèènàa yà nèòliì: the woman is coughing.
kònìì; kònìáxò: slit a throat, kill. bi nòòn konli: they killed a steer.
kòorì; kòòrù: work the soil, clean off the land. wà yà kòràkà kòòrù: they are working the field.
kòrí; kùdí: nail. gòìíà xà bi kùdí: it's a door that they are nailing.
kù; kùù: finish, terminate, end. wèrànà yà nòùù: the money is running out.
kòñì; kòùù: cut, dig (a well), circumcise. bàlàà bi kùù: it's a well they are digging.
kòrí; kòdí: chase, punt. sàkkà bi kòdí: it's a goat they are chasing.
kù; kùù: die. nkùùbì yà kùù: the chickens are dying.
kù; kùù: to endure. kàn?àntà kù mà yè: you must endure fatigue.
kùù; kùdì: shave. ndàà mà?àjòònà kùù: I shaved the beard.
kùli; kùdì: gather. bi fùìkì kùdì: he is gathering up the peanuts.
kúlélò; kúlélù: cry out, facììì ìa kúlélù: the cultivator is crying out.
kùù; kùù: roll. wà yà nèxàsùù kùù: he is rolling the bicycle.
kùù; kùrí: crunch. wà yà wòrà kùrí: I am crunching the kola.
kùrí; kùdì: fold. fàlàà kùrà: fold the mat.
kùràlò; kùràlù: fold. wèèngà yà nìkòalù: the leaf is folding.
kùránù; kúránù: stumble, bump into. wà wù yè kùránù: he stumbled.
kùraro; kùràru: snore. wù yà nòòlì na nkùràru: he snores while sleeping.
kùùkò; kùùkò: walk on all fours. cànà yà kùùkò: the child is walking on all fours.
køexi: kvestment: break, dig and take out yams. nda këekaa køexi: my arm is broken.

1
laala: lalalal: lick. Pënaa tasana laala: the dog is licking the plate.
làawùd: lùawùd: make fun of, ridicule. bi ya wù làawùd: they are making fun of him.
là?alà: là?alà: Peel. ku manderà wu ya là?alà: it's a Potato that he is Peeling.
lëëìë: lëëìë: lower, bend over. ndì ya lëëìë: I am bending over.
lëxëlë: léxëlë: tickle, Prickle. yà ëì yà léxëlë: go tickle youself.
làì: lëxì: grow old, be old. ndà tùnaa làì: my father is old.
lërëxì: lërëxì: crack (by heat). nyëngàa lërëxì: the ground is cracked.
làì: lì: eat. maà lì mì sà sàné: when you have eaten, go and lie down.
lìlì: llìlìxì: be far away. maà llìlì wà se kàrà: if you go far away, we will leave you.
là: lûû: take, hire. bi ya fòtòla lûû: he takes Pictures.
lëxì: ndàrû: understand, hear, listen. mo ya ndàrû na kàciinà à forì: you hear that the fetish has come out.
lùxì: lùrà: climb, go up. wu ya lùrà takìì: He is climbing the tree.

màrá: màrìì: glue, conserve, stick together. Pąiinyà màrì yì yè la: the Papers are stuck together.
màìì: mbàdì: light, Plaster. làmbànda màìì: light the lamp.
màìì: màniì: assemble, add, collect. bi ya wàré màniì: they are collecting money.
mo, mon; mònì: stay a while, last. ãnnì sè mon kanadáì: Anne will stay a while in Canada.

mb
mbíré: mbírirù: think about, meditate. ndì ya mbírirù mo la: I am thinking of you.
mbúxì: mbúri: suck. cânè ya ñetá mbúri: the child sucked the néré bean.
. mbúxì: mbúri: open, reveal. ceènaà wu nàna non?on mbúxì: the woman revealed the secret of her husband.
mbúxaló: mbúxalú: roll up. waa nciìzi mbúxaló wú këeke la: he rolled up the string around his arm.

mp
mpá: mpáá: protect, defend. muncèna ya mpáá colèna la: the big sister protects the younger sibling.
mpéélè: mpéélù: slide (hover?). sánclìna ya mpéélú: the bird is gliding.
mpánne: mpánnù: stutter. wu jàene ya mpánnù: his son stutters.

a
na?ala; nà?álu: twist, wind, writhe. kûnà Èna?ala: the road is twisted.
ne; nènì: put, wear (clothing). ndà sì za vándìjàne: I am going to wear a shirt.
nèèì: nèngù: bring in. sakà bi nèngù gbakù: it's a goat that they are bringing into the house.
no, non; nònì: bite, arrive, achieve. wò wàà wu nòn: a snake bit him.

nd
ndúnrúùñ: ndúnrúù: retreat, reject, reimburse. bi ya bi ndúnrúùñ: they are withdrawing them.
ndúnxaló: ndúnxalú: smell, sniff. pànnà ya nà mponà ndúnxalú: the dog is sniffing the stranger.
ndúxì: ndúrí: sow, or plant. waa fôxà ndúxì: he sowed, or planted, corn.
ndúxó; ndúxó: dunk (in a sauce). wu ná rá ndúxó cènkii: he dunked it in the sauce.

tá; ntá: believe, create. kalàa sàcà nta T? sàcà: God created man (generic).

ny

nyai; nyàat: see. fiin ya nyàat mën: a blind person does not see.

nyai; nyàni: float. swim. ndi ya nyàni: I am swimming.

nya, nyaun; nyàni: dissolve, dilute, reduce (swelling). sukàráŋaà nyaun lo?akii: the sugar is dissolved in the water.

nyálàŋa; nyálàŋa: ripen. be red. mà?安阳àa le wu mà?à nyálàŋa: when a mango is mature, it is red.

nyeli; nyini: cry. càŋa ya nyini: the child is crying.


nyèrrI; nyèerru: walk around. wu sì sà saxa nyèrrI: let's go hunting (lit. let's go walk the bush).

nyèrrI; nyèerrô: ask for, Pray. kalè wu nyèrô: it is God he is Praying.


nyi; nyini: fill. cènnaa nyi: the clay pot is full.

nyi; nyínn: shine. light. càŋsi ya nyínn: the sun shines.

nyí; nyíni: wake up. sà wù nyí vî da sé: wake(sg.) him up and go (pl.).

nyàñI; nyàñI: be wet, be cold. cocl. mPàñà na ya nyàñI: the broth is cooling.

nyo; nyàñko: be good. be Pretty. vàŋgaà nyo: the cloth is Pretty.

DIM

mon; ñì\u00f8\u00f8n: draw a bow or slingshot. waà mPàñà ñì\u00f8\u00f8n nà férambîî: he shot at the turtle-dove with a slingshot.
rest, breathe. wu ná káñáán mí ñmô: he was tired and he rested.

sleep. moñmóló bì sì sùta lì: if you sleep, they will eat the mush.

nurse. cáña ya ñmôdi: the child is nursing.

Push roughly, jostle. bi ya bì ye ñmôrâñù: they are jostling each other.

Pàlà: Pàlíi: surprise. wuỳmbàà ndà Pàlà: his sickness surprised me.

Pàñi: mài: come, arrive. nàpoñâ Pàñi: the stranger has arrived.

Pèlì: Pèlxo: be fat. takaí Pèlì: the tree is fat.

Peò: Pe; Pèni: shell (locust bean). ba ñtài Peò: come and shell the locust bean.

Pènxo: displease, disgust, not content. ndà moò ci ñgë laà Pènxo: what you did disgusted me.

Pèrí: Pèríi: sell. mòlà wu Pèríi: it's rice she is selling.

Pàndi: Pàdì: lose. wàrahà Pàndi: the money is lost.


Pàri: Pàdì: fight. bu bi bì Pèri: they fought each other.

Píñi: Pí: Pìni: be ripe, be well cooked. kààtí ya Pìni: the meat is getting well done.

Po: Pàu: tie. kànciya waà Po: it's wood that he is tying.

Pú: Púá: sweep. ntàna wu Púá: it's the courtyard she is sweeping.

Póri: Pórákô: do better, be happy. yàñà ya Pórákô: the sick person is doing better.

Pu: Pùni: swell. wu ñbè?èñà Pu: his cheek is swollen.

Saàrù: greet. ndi ya mó Saàrù: I am greeting you.
sàñàni; sàñàni: sharpen, comb, carve, hew. kàrìnyôn ndà sàñàni: it's a pencil that I am sharpening.
sàn?ànla; sàn?ànlù: stretch out. wà wù yè sàn?ànla fàlàkà;là: he is stretched out on the mat.
sàñì; sàni: vaccinate. dðxàtɔrà wu sàni: the nurse vaccinated us.
sàrà; sàrii: pay, folà ndaa sàrà: it's a debt that I Paid.
sàrí: sàríi: Prick, rend, snap. nkaanà ndà sàrí: the stick Poked me.
sébé; sèbiì: write. ndì ya sèbiì: I am writing.
sì; sìi: be born, give birth. ndà cóŋaà see: my wife gave birth.
sìnì; sìnìi: Produce. takà sìnì: the tree Produced.
sìiì; sìíliì: be strong. faciiì sìiì: a cultivator is strong.
sìínlù; sìínlù: aim (to shoot something). wò ndì ya sìínlù: it's a snake that I am aiming at.
sììi; sídi: begin. wà wì gba sììi: he began a house.
sálélù: sáléxò: be shy, timid, be ashamed. Pùcòŋà ya sáléxò: the girl is timid.
sàñì; sànu: lie down. bi ya sinù: they are lying down.
sàxè; sàxìi: wait. mo ndì ya sàxìi: it's you that I am waiting for.
sọ?o; sɔrì: Prepare, cook. wà wà so?o mì sè: she Prepared (food) and then went.
sòn: sònì: worship, adore. kacnìla biì sòn: it's a fetish that they are adoring.
sòn; sùnì: spend the night. ndà sì là sòn kàŋkà:lì: I am going to spend the night at Kangala.
sòxì; sòrí: burn. gba xa sòría: a house is burning.
sɔ: sùn: buy, be saved, escape. nkùlùŋa sɔ: the chicken escaped.
sù: sùnì: defecate. ndì ya sì za sù: I am going to defecate.
pound. fàxà bi súlí: it's corn they are pounding.
sú: súxálò: poke, jab. mássènèngà ndà sú: the needle poked me.
sùùri: sùùru: exaggerate, be too much. wu ya lì mà sùùri: he ate too much.
suxalo: sùxèlu: crouch. ŋàŋaà súxálò: the man is crouched.
suxari: sùxèru: sift. àbbibé suxari: sift the flour.
súxári: súxárú: shake. mambélàŋà ya wòrà súxárú: the car is shaking us.

receive. find. ndàà mo tunkudé ta: I received your commission.

taanla: tààñlu: align, line up. bù bëranýà taanla: they lined up the sacks.
tàánla: tàànlú: measure, compare. sòo ndà tàànlú: it's millet that I am measuring.
tàánla: tàanntààn: like. Please, be content. mo nà ba ndà súùri ka ná tààñ
ndìì: You came to greet me, that pleased me.
ta?à: tari: put on the fire. wu ya colà tari: he put a pot on the fire.
tàá: tàáli: share, divide among, distribute. fùùn ndà tàáli: it's Peanuts that I am distributing.
tanba: tàànnì: learn, teach. ndi ya mekanàànì àn tàànnì: I'm learning to be a mechanic.
tànnà: tààntì: stomp. waa ndà tànnà: he stomped me.
tànnàlú: tànnànlú: stomp. wu ya finà tànnànlú: he is stomping fonio.
tànnà: tàànnà: be good (to eat). makɔranàà tànnà tálxà: the macaroni is good to eat.
tàà: tàà: touch. wu ya ntàà fyaàbi la lòṣàkìi: they are touching the fish in the water.
tàà: tàà: stick, glue, bind. tèmbúrú tàà lítìrènà là: stick a stamp on the letter.
tèli: tèdì: be used to. kanàtàà ndà tèli: I am used to fatigue.
tè: tèe: show. ma nààna tè: show your husband (to me).

téén, tíi: téún: sit down. wu ya téún wà yèrì mìn: he doesn't sit down at anybody's house (fig.).

ténlâmé: ténlâmú: bargain for, haggle over, barter for. vàndìne ndà ténlâmú: it's a shirt that I am bartering for.

tèrè: tèrìi: slide, slip. waa tèrè: he slipped.

tèxì: tédì: place. put, set (a date), help. ba nà téxì baarâna la: come and help me in the work.

tí: tì: braid, weave. waa vànlà tì: he is weaving a cloth.


târè: târìi: grind, crush. waa sóo târè: he is grinding millet.

tàràxè: tàràxì: lodge at, unload. nàmpoña waa tàràxè ndùù: a stranger stayed at my place.

téún, tíi: tâni: be full. waa lì tàùn: he ate until he was full.

tàxì: têrí: descend. ndà sì tàxì ììkìì: I will go down to the creek.

tò: tu: fall down. ndàà tò: I fell down.

tó: tóñi: bury, close. gbu wù ya tóñi: it's a corpse that we are burying.

tonlò: tònìlànì: be long, make long. ndàà tonlò: I am tall.

tórò: tóríi: pass. tórò maa sè: pass on and so.

tóràxì: tóràxì: accompany, have sent, send. ndà sì za sèbà tóràxì moò: I will send you a letter.


tèrí: tòdì: count. ndì ya sakàà tòdì: I am counting goats.

tun: tùnnì: send somebody on an errand. bi yà ndà tùnnì: he sent me on an errand.

tùnxì: tùnxì: clean, wipe, rub. wu ya wù kénè tùnxì: he is rubbing his hands.

tùxì: tùxìì: vomit. cààna ya tùxìì: the child is vomiting.
túxí: tûri: dig, deepen. kacu ndi ya tûri: I'm digging for a mouse.
tuxo: tuxii: carry transport. mola nda tuxo: it's rice that I carried.

wá: wúá: throw, misplace. wu na wá wú yaranyi: he misplaced some of his objects.
wa?a: wari: dry, be courageous, be hard, difficult. mbiba w a?a: the flour is dry.
wéé: wíí: look, visit. maanta ná wíí mën: don't look at me.
wéren: wérénu: heat, bother, be a pest, annoy, vex. mo nda wéren: you bug me.
wéri: wéraxi: be rapid, be in a hurry. wéri må kàràkili: hurry up with what you're doing.
wá: wúú: be black, forget. nda fànaá wá: I forgot (lit. my insides blackened).
wú: wúní: pour, make bricks. wu ya nafan wúní: he is pouring bricks.
wúli: wúdí: wash. ndi ya wúdí: I am washing myself.
wúlo: wúú: take out, clean up/clear out a well. bálakwàá bálaka wúlo: the well digger cleared out the well.
wúráxi: wúráxó: mix up (things), be mistaken. nda wúráxi: I got mixed up.

yá: yá: be sick. wu ya yá: he is sick.
yàlala: yàlulu: yawn. waa yàlala: he yawned.
yàràli: yàràru: shake. wu ya také yàràru: he is shaking the tree.
yalá: yàlaxo: be sufficient. kaataa yala: the meat is sufficient.
yéré: yérii: stop (intr.), stand. yéré wú táun: stop beside him.
yéréni: yérénu: stop (tr.). wu ya wú yérénu: he stopped him.
Yëxë: Yëxë: question, ask about someone. sa wú yëxë: go and ask him.
Yëré: Yëré: wear out, spoil, damage. nđa vannya ya yëri: my clothes are wearing out.
Yëri: Yëréko: counsel, advise. ndaa mu yëre baarànâ wôké la: I advised him about the work.
Yàri: Yëdi: get up, fly, come from. waa yàri: he got up.
Yari: Yari: call, invite. ndi ya mo yari ma balì: I am inviting you to come and eat.
Yàrâxë: Yàrâxë: raise, wake up (tr.), straighten up. ndaâ kampêna yàrâxë: I raised the finger.
Yiu, Yi: Yïni: jump. bi ya yïni: they are jumping.
Yo: Yûù: split. kàncixe ndi ya yûù: it’s wood that I am splitting.
Yë: Yûù: water. nängâna ndi ya yûù: it’s the garden that I am watering.
Yûxi: Yûxë: squeeze (orange), milk (cow), wring. waa vannya yûxi: she is wringing out the clothes.
WELMER'S QUESTIONNAIRE

The following questionnaire was designed by Welmers for the purpose of doing a quick survey of the basic structures of an African language. Specific vocabulary and syntactic structures were selected in order to facilitate a basic analysis and a comparative study between dialects and languages.

This Sukite questionnaire includes a French and English translation for each item and English glosses. At this point, glosses are tentative, pending more thorough consultation with a Sukite speaker. The transcription, though on the whole accurate, does have some inconsistencies that cannot be corrected until I get it checked out with a Sukite speaker. Underlying tone is marked above the tone-bearing units especially in cases where the surface tone is different than the underlying tone. Below is an explanation of the symbols used:

L Low tone
H High tone *
M Mid tone (Lh)
Mw Weak Mid tone (Hl)
ML Mid-Low tone (Hl)

Abbreviations

Q Question marker
Fut. Future marker
VP Verbal Particle
Neg. Negative Marker
REF Referential Pronoun
?

INC Incompletive marker
CLAUSE M Clause Marker
PP PostPosition
Con. Connector
EXCLAM Exclamation marker

1. M L M
   son na*kín
   Person one
   une Personne
   one Person

2. LM LM
   siín suún
   Persons two
deux Personnes
two People

3. LM M ML
   siín kànkùrù
   Persons five
cinq Personnes
five People

4. L M
   kàn?àn na*kín
   village one
   un village
   one village
<table>
<thead>
<tr>
<th>No.</th>
<th>Phrase</th>
<th>Translation</th>
</tr>
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<tr>
<td>5.</td>
<td>L M</td>
<td>村民们</td>
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<td>6.</td>
<td>M ML</td>
<td>村民们</td>
</tr>
<tr>
<td>7.</td>
<td>L M</td>
<td>一个篮子</td>
</tr>
<tr>
<td>8.</td>
<td>M L M</td>
<td>两个篮子</td>
</tr>
<tr>
<td>9.</td>
<td>M ML</td>
<td>五个篮子</td>
</tr>
<tr>
<td>10.</td>
<td>M LM</td>
<td>两个山羊</td>
</tr>
<tr>
<td>11.</td>
<td>sàpáîla Pûnon</td>
<td>所有人</td>
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<tr>
<td>12.</td>
<td>L M</td>
<td>所有村庄</td>
</tr>
<tr>
<td>13.</td>
<td>L M M LM</td>
<td>所有山羊</td>
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<tr>
<td>14.</td>
<td>sàcinye?art</td>
<td>一些男人</td>
</tr>
<tr>
<td>15.</td>
<td>M ML M</td>
<td>一些山羊</td>
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<tr>
<td>16.</td>
<td>lûnye?axe</td>
<td>多水</td>
</tr>
<tr>
<td>17.</td>
<td>wà</td>
<td>有人</td>
</tr>
</tbody>
</table>
19. M
Pië bë Pân ba mo wëë
some they come M you visit
des hommes sont venus te voir
some men have come to see you

20. mànlè ndaà sô
rice I buy
j'ai acheté du riz
I have bought some rice

21. ci nkàna là tun sen?ên
do manner an other again
y a-t-il un autre moyen de faire
cela?

22. sènve?ara yà wu nyaën
People many VP-not him see-Neg.
Peu d'hommes l'ont vu
few men have seen him

23. Piïlàà ju na
some others say that
d'autres hommes ont dit qu'ils ne
l'avaient Pas vu

24. ML L M
nkûu nà kënnà na nje ndû
chickens little only be mine
I have but few chickens

25. ML
màlè cënl kànnà laa kôrò
corn little only
il ne reste que Peu de riz
there remains but little rice

26. M
yàlûà xà jò
again? it say
.dis-le encore
say it again

27. M
wà yàlûà la cè
he again? it do
il l'a fait encore
he did it again

28. ML H
nde yà ndé ci nkàna cèn më
I not that do manner know Neg.
je ne sais Pas faire ca
I don't know how to do that
29. nda yaawu nyaεn
I not him see-Neg.
je ne l'ai Pas vu
I did not see him

30. wu ya mα nάnjàa
he come today
il va venir aujourd'hui
he will come today

31. bii Pan tάnjàa
they come yesterday
ils sont venus hier
they came yesterday

32. bi ya mα nyαm Panάa
they come tomorrow
ils vont venir demain
they will come tomorrow

33. lάʔa Pan nyαm Panάa
return come tomorrow
reviens demain
return tomorrow

34. Mw
Pan nα lοʔii fάmbεerάmε
come water right now
apporte de l'eau tout de suite
bring some water right away

35. wu nye kαnʔαn la nάmbεdε?
he be village in right now
il est au village en ce moment
he is at the village at this moment

36. nda nα mPan nάnjàa,
I come here yesterday
je suis venu ici hier, mais tu
n'étais Pas là
I came here yesterday, but You were
not there

37. L M
waa tiιn nάnjαn canncαa suunni
he stay here days two
il est resté là deux jours
he stayed there two days

38. valαri nα nci waf
food be there-Neg.
il n'y avait Pas de nourriture là
there wasn't any food there

39. wu gбakε nye waa mε [nyεanmε]
his house be there
sa maison est là-bas
his house is over there

40. L M
wɔrɛ sɛ ba nkάri wάa mε nyαm Panάa
we Fut. go there tomorrow
nous irons là demain
we will go there tomorrow
41. L M Mw
   ndà nye ñdà `ñmúñnc
ceci est mon couteau
   this be my knife

42. Mw
   ndà nye `ñmäntafèèdè
ceci est un joli couteau
   this be knife-Pretty

43. L M T?
   nká nye nyëfëèn
   qu'est-ce que ceci?
   this be what
   what is this?

44. nká gbakàd pèli
cette maison est grande
   this house large

45. ntà kaàtàa ñàñà?èn
   cette viande est dure
   this meat tough

46. Mw
   ndà nye `ñmáccèèn
   cela est un bon couteau
   that be knife-good

47. M L M Mw
   ndà nye ñdà `ñmúñnc
   cela est mon couteau
   that be my knife

48. L M T?
   nká nye nyëfëèn
   qu'est-ce que cela?
   that be what
   what is that?

49. nká gbakéè kaa pèli dè
cette maison-là est grande
   that house large

50. M L
   ngatun waa kàrà joè
   qui a dit cela?
   who he that say

51. waà kafèkà fo wu kàtà`àkìlì
   il a soufflé dans ses mains
   he wind blow his hands-in
   he blew in his hands

52. kafèkà ya fùu fàñàn la
   le vent souffle fort
   wind is blowing force on
   the wind blows strongly

53. wu ya ñmíññè la
   respire-t-il?
   he is breathing Q
   is he breathing?
54. H
nkà kàrciku nyì, ka
this wood wet it
yaà à nta nyì mc
will-Neg. INC burn Neg.

ce bois est humide, il ne brûlera
Pas
this wood is damp, it will not burn

55. L M Mw
nàka ndà yàrènyà punà sòràxó
fire my things all burn

le feu a brûlé tous mes objets
the fire burned all my things

56. ñìgatun wu yà má wè
who he come there-Q

qui arrive?
who's coming?

57. wè wà na nkùlaà
she throw and cry

elle s'est mise à crier
she started to cry

58. wa kùl(à)làà mon
she cry be-long

elle a crié longtemps
she cried a long time

59. sùpàlàà yà nkò?i kàndànka
People are dancing village
ML
fùnñìt
inside-in

les gens sont en train danser au
village
the people are dancing at the
village

60. H
bii kòñàà nyèka mbùkí
they dance morning open

ils ont dansé toute la nuit
they danced the whole night

61. L M ML
ndà tàña kù
my father died

mon Père est mort
my father is dead

62. waa kù tâñjèè
he die last year

il est mort l'an dernier
he died last year

63. nkùtunmùfà yà nyììgà la
monkey fall ground on

le singe est tombé sur le sol
the monkey has fallen on the ground

64. kaà tu lo?òkìì
it fall the water-in

c'est tombé dans l'eau
it fell in the water

65. waà tuù kàçà kàxi
he fall the arm break

il est tombé et s'est cassé le bras
he fell and broke his arm
66. takàà tuù kùña Pari
   tree fall the road cross
   l'arbre est tombé à travers le
   chemin
   the tree has fallen across the road

67. ma?àn nta fyèxà mè
    you-Neg. INC afraid Neg.
    n'aie Pas Peur
    don't be afraid

68. waa fyàù
    he fear
    il a eu Peur
    he was afraid

69. wu ná nda conclàña bi yé gbón
    he and my brother they hit/fight
    lui et mon frère se sont battus
    he and my brother fought each other

70. waa xà mé lo?okíí,
    he it throw water-in
    han xì wà na nyànì
    it float
    il a jeté cela dans l'eau, et cela
    he threw that in the water, and it
    a flotté
    floated

71. L M
    lùka ya kàn?ànka Pàd(?)ì
    river is village crossing
    la rivière coule à travers le
    village
    the river flows through the village

72. nká ncìïì òa lùka
    this direction on river
    la rivière coule dans cette
    direction
    the river flows in this direction

73. sá?ciìnna ìàrì
    bird fly
    l'oiseau s'est envolé
    the bird is in flight

74. la ya?á nja ìjìàrà me
    it Fut.-Neg. be able fly Neg.
    il ne sait Pas voler
    he doesn't know how to fly

75. H
    wàa cè?è
    he laugh
    il a ri
    he laughed

76. H
    wàa sàñé
    he lie down
    il s'est couché
    he went to bed
77. **H**
wa\(\text{a} \text{tæn\text{\l\text{a}}} \text{a ny\text{\aa} } \text{a} \text{kændækæ} \text{la} \text{il a hæbibæ dans le mæmæ v\text{\i\l\text{a}}} \text{gæ} \text{he sit see its village-same? on} \text{he lived in the same village}

78. **H**
wu \text{seyn\text{\ae}n ny\text{\e} \text{sæ} \text{læ laa} \text{est-il encore vivant?} \text{he still be life with Q} \text{is he living again?}

79. **H**
bii \text{mæn\text{\e}n\text{\k\æ} cællæ} \text{næ\text{\v\e}kæ} \text{mbæxæi} \text{ils ont chanté toute la nuit} \text{they song sing morning open} \text{they sang the whole night}

80. **H**
waa \text{tæ\text{\i}n} \text{il s\text{\e}st assis} \text{he sit} \text{he sat}

81. **H**
waa \text{gænænæ} \text{canæcaa taanæri} \text{il a dormi trois jours} \text{he sleep days three} \text{he slept three days}

82. **H**
waa \text{jæ nu dæxætæxæ\text{ræ}i} \text{il a Parlé au chef} \text{he speake with chief-with} \text{he spoke to the chief}

83. **H**
waa \text{jæ fænæ\text{æ}n la} \text{il a Parler fort} \text{he speake with force with} \text{he spoke loudly}

84. **H**
waa \text{kæ\text{\e}tækæ} \text{can \text{næ}Ægæ la} \text{il a craché Par terre} \text{he spit drop ground on} \text{he spat on the ground}

85. **H**
waa \text{yæ\text{æ}ræ} \text{il s\text{\e}st levé} \text{he get up} \text{he got up}

86. **H**
waa \text{yæ\text{ræ}ræ} \text{il s\text{\e}st arrêté} \text{he stop} \text{he stopped}

87. **H**
waa juubæ \text{ya\text{a}a} \text{il a cessé de Parler} \text{he speech leave,stop} \text{he stopped talking}

88. **H**
tækææ nu\text{\iæ} \text{mi ntæ\text{æ}n} \text{le bois est devenu humide et il a gonflé} \text{tree be-wet and swell} \text{the wood has become damp and is swollen}

89. **H**
wu \text{kækæ\æ tææn} \text{son bras s\text{\e}st gonflé} \text{his arm swell} \text{his arm has swollen}
90. 
nda yàa lo?o cén me
I not water know Ne9
je ne sais Pas nager
I don't know how to swim

91. 
ndaà lo?okè nyan tòró
I river swim cross
j'ai traversé la rivière à la nage
I swam across the river

92. 
nda ya suùn na ndà sá là
I river swim cross
je Pense que je sais faire ca
I think I know how to do that

93. 
ndaà xa sònìà càngà kà
I it think day end
je Pense à ca toute la journée
I thought of that all day

94. 
nda caa suùn na wu sâ mpà
I think that he fut. come
j'ai Pense qu'il allait venir
I thought that he was going to come

95. 
waa là?à
he return
il s'est retourné
he returned

96. 
waa kàranà kàranà
he canoe return
il a retourné la Pirogue
he returned the canoe

97. 
waa kàra weé sâ ncèn ñéè
he turn look to know who
il a tourné la tête Pour voir qui
he turned his head to see who was
wu mà wà ñëè
come there CLAUSE M
venait
coming

98. 
gbaya taaní tòró mí wá kàra
houses three Pass turn
déPasse trois maisons Puis tourne à
droit
kàndà:xe
90 Past three houses then turn right

99. 
wu yaa nùjì
he vomit
il vomit
he throws up

100. 
wàraa yèra sàxàà mo
we you wait be-long
nous vous avons attendu longtemps
we waited for you a long time

101. 

wu ya ncá na nyêrårè mé
he Neg. be-able walk Neg.-
il ne sait Pas marcher
he doesn't know how to walk

102. H
waa lúxí takíi
he climb tree-in
il a grimpé dans l'arbre
he climbed the tree

103. H
waa lúxí fó nyan̄gá nyîntinií
he climb until hill top-PP
il a monté jusqu'au sommet de la
colline
he climbed to the top of the hill

104. lúxí nà?àn mé
climb here
montes ici
climb up here

105. waa tàxí nyan̄gá la
he descend hill PP
il descendu de la colline
he came down from the hill

106. H ML
waa cànà lùràxó fálákë nûnyí
he child lift stone head-PP
il a hissé l'enfant sur la Pierre
he lifted the child up onto the stone

107. H
waa këkë ncè
he arm wash
il a lavé le bras
he washed his arm

108. waa cànà tārxà takí-i
he child descend tree-PP
il a descendu l'enfant de l'arbre
he got the child down from the tree

109. waa forì gbakí-i
he go out house-PP
il est sorti de la maison
he went out of the house

110. waa yàrì kàn?ànki-i
he leave village-PP
il a quitté le village
he left the village

111. L
waa ñnàlë wulà gbus邉'nëgí-i
he knife take out box-the-PP
il a Pris un couteau hors de la
boîte
he took a knife out of the box

112. wòraà nci gbakí-i
we enter house-PP
sommes entrés dans la maison
let's go in the house

113. fù'nye?enlaà ji saànçì
cpyish many enter net-PP
beaucoup de Poissons sont entrés
dans la nasse
114. waa mɔlɛm ne (?)bɛtɛkɛ-ì
he rice Put bag-in

115. loʔo ne tɔnnɔ còbɛnì-ì
water Put metal Pot-PP

116. H 
waa wɪlà kɔn mì sàna sìn
he hole cut and Post Plant

117. waa kɔyi (?dà ne ñyɔkìi
he meat-Piece Put mouth-in

118. wɔrɔ yàrì kàñʔàn la mà
we leave village to
H L M Mw
kàrì wɔrɔ tɛsà la 
90 our Plantation PP

119. waa yàrì kàñʔàn la tɔnjà
he leave village PP yesterday

120. H 
waa kàrì ñyɛka la
he leave morning PP

121. wɔrɔ̀ a non nàʔàn tɔnjà
we arrive here yesterday

122. L H 
wɔrɔ̀ a non nàʔàn yàkɔyè la 
we arrive here evening PP

123. waa yiu kùnà la
he jump road PP

124. waa yiu wa tɔkìi
he jump tree-PP

many fish have entered the net
il a mis le riz dans le sac
he Put the rice in the bag
mets de l'eau dans la marmite
Put some water in the Pot
il a creusé un trou et il y a Planté
he dug a hole and he Planted a Post in it
il a mis un morceau de viande dans
la bouche
he Put a Piece of meat in his mouth
nous sommes allés du village à notre
Plantation
we went from the village to our
Plantation
il a quitté le village hier
he left the village yesterday
il est Parti le matin
he left in the morning
nous sommes arrivés ici hier
we arrived here yesterday
nous sommes arrivés ici le soir
we arrived here in the evening
il a sauté à travers le chemin
he jumped across the road
il a sauté de l'arbre
he jumped from the tree
125. 
waa kùnnàà yiù ngà wu yàà non mé il a sauté mais n'a Pas Py atteindre he road jump but he not arrive Neg. he jumped but could not make it

126. 
bìi jùù mon ils ont Parlé longtemps they talk be-long they talked for a long time

127. 
bì wù kà-rò ils ont Parlé de lui they he talk about derogatory they talked about him

128. 
wu ya yù fàn(?)àn la ils ont Parlé fort he speak force PP he speaks loudly

129. 
waà yiù tànyùngà la they talk about la buche he jump log PP he jumped over the log

130. 
nda ya sàcàré yù ils ont Parlé du sénoufo je Parle du sénoufo I'm talking about sénoufo

131. 
waa tàmpàla wà ils ont Parlé un cri he noise big? throw he gave a cry

132. 
nda kul(à)lò ngà bi yà j'ai crié mais, ils ne m'ont Pas entendu I cry out but they not it hear Neg.

133. 
Pòùnga wù tóska non le chien lui a mordu la jambe dog his leg bite the dog bit him on the leg

134. 
waa xà kòni kàyìna tàkàki il a arraché en mordant un morceau de viande he it cut meat-Piece Place-chew-PP he bit off/tore off a Piece of meat

135. 
waa mòlà sòù elle a fait cuire du riz she rice cook she cooked some rice

136. 
waa nkùlà sòù elle a fait cuire un Poulet she chicken cook she cooked a chicken
137.  H
waa nkùubbí tãrí
she chickens count
elle a compté les Poulets
she counted the chickens

138.  H
waa taàntà kon ñangíi
he liana cut middle-in?
il a tranché la liane
he cut the liana

139.  H
waa vèntpií kón
he cloth cut
il a coupé le tissu
he cut the cloth

140.  H
waa këka konli
he hand cut
il s'est coupé à la main
he cut his hand

141.  L M ML
waa kà'císóròxàva ñànlà
he firewood cut
il a coupé du bois à brûler
he cut some firewood

142.  H
wu yàa nkàa nkón ñànnà cèn me
he not that cut manner know Neg.
il ne sait Pas couper ca
he doesn’t know how to cut that

143.  LH
wù ya ndràvà tûrì
he yams dig up
il est en train de deterrer les
ignames
he is digging up yams

144.  H
wàa ñùnyaèèñxa ñba
de water-much drink
il a bu beaucoup d'eau
he drank a lot of water

145.  H
wòraa màlà lì
we rice eat
nous avons mangé du riz
we ate some rice

146.  H
wòraa karà kà
we meat chew-eat
nous avons mangé de la viande
we ate some meat

147.  LM-H
wàa wèrè kan ndùù
he money give me-PP
il m'a donné de l'argent
he gave me some money

148.  H
wèrè kan ndùù
money give me-PP
donne moi de l'argent
give me some money
j'ai entendu cela
I heard that

150. L M
moo ndə ɡbôn(=?)
you me hit
tu m'as frappé
you hit me

151. waa bì ɡbôn
he they hit/fight
il les a battu
he fought them

152. waa rɔnɔ taun
he dog kick
il a donné un coup de pied au chien
he kicked the dog

153. M L
waa rɔnɔ nyɛ?ɛn kɔn
he dog face cut
il a retenu le chien
he restrained the dog

154. H
bì sakɛn ɡɔ̀
they goat kill
ils ont tué une chèvre
they killed a goat

155. H
ndə wu caa ṅge ndaa cɛn
that he want CL I know
je sais ce qu'il veut
I know what he wants

156. ndaa wù cɛn
I he know
je le connais
I know him

157. H
ɛniɛ ntaɛlɛ -nt? or d?
rope Pull
tire la corde
Pull the rope

158. tɔŋɡɛ tala nà?àn mɛ
log Push there over
Pousse la bûche par la
Push the log over there

159. M L
waa wù kkɛka tuwɛxɔ
he his arm rub
il a frotté son bras
he rubbed his arm

160. H
waa yəcɛnɔ tɔnlɛxì nà kəcɛtɔ
he belly scratch with nails-PP
il s'est gratté le ventre avec les ongles
he scratched his stomach with his nails

161. bì ci bii má
they do/tell they come
dis leur de venir
tell them to come
162. bi tûña ci waa má dis à leur Père de venir
their father do/tell he come
tell their father to come

163. nyà?an waa joè qu’a-t-il dit?
what he say-Q

164. ndà sàxàsa’cûun nya j’ai vu un léopard
I bush cat see
I saw a leopard

165. ndàa Vànlàña jooli j’ai cousu le tissu
I cloth sew
I sewed the cloth

166. ndàa yaa ‘ŋàuràko ndûkà tàà je sens la fumée
I smoke odour smell
I smell the smoke

167. wàa nkanlakë yà he stick split
he split the stick

168. wàa wù sëkkà fèrì il s’est Pincé la Peau
he him skin Pinch
he Pinched himself

169. wàa ndà këkkà fèrì il a Pincé mon bras
he my arm Pinch
he Pinched my arm

170. wàa nààka fèn he wound drain
he drained the wound

171. Pàmpínnyëkà na ncàà ñàmòdì le bébé tètait
baby was nursing
the baby was nursing

172. wàa kàrkanlakà wà he stick throw
he threw a stick

173. wàa métë kûrì he rope tie
he tied the rope
il a attaché la chèvre à un arbre
he tied the goat to a tree

il noué le sac
he tied the bag

il a lavé le tissu
he washed the cloth

il s'est lavé les mains
he washed his hands

il a pris un bain
he took a bath

il a essuyé le couteau
he wiped the knife

ils ont construit une maison
they built a house

ils construisent une maison
they are building a house

j'ai acheté de l'huile
I bought some oil

ramasse cette Pierre
Pick up this stone

il a ramassé tous les morceaux
he gathered all the pieces

un éléphant est un grand animal
an elephant is a large animal

ce petit garçon est mon fils
this little boy is my son
187. LM  LM-H
nàŋkoo suún nye nduù
children two be mine-PP

188. ML  LM-H
nkùù sbaaru nye nduù
chickens six be mine

189. ML
ŋuká a wà sëčka suù fàrl
thorn his skin Pierce

190. ML
sáru wà nda non na këčka la
bee he me bite my hand PP

191. ML
wò wà nda non na tɔ̣kà la
snake he me bite my foot PP

192. ML
kàa ndà yáú
it me hurt

193. ML
tɔjkà ya ndà yáú
foot me hurt

194. ML
wà ya luʔo káʔn
he water boil

195. H
wà ya kàra kàla
he meat fry

196. H
wà ya bàrantàŋ kàla
he bananas roast

197. H
wà ya fùun sì
he Peanuts roast

198. H
loʔokà ya nkànní
water boil

199. H
biì mìm-nyc?un wëri
they rice much Plant

j'ai deux enfants
I have two children

j'ai six Poulets
I have six chickens

l'Épine lui à traversé le Pied
the thorn went through his foot

une abeille m'a piqué à la main
a bee stung my hand

un serpent m'a mordu le Pied
a snake bit my foot

il m'a fait mal
it hurt me

j'ai mal au Pied
my foot hurts

il a fait bouillir de l'eau
he boiled the water

il a fait frire une viande
he fried some meat

il a fait rôtir des bananes
he roasted some bananas

il a fait griller des arachides
he roasted some Peanuts

l'eau est en train de bouillir
the water is boiling

ils ont planté beaucoup de riz
they planted a lot of rice
200. LH
bii ndɔràyì ndùxì
they Yams plant
ils ont planté des ignames
they Planted some Yams

201. bi yaa mɔnlỳa fù̀
they rice winnow
ils sont en train de vanner le riz
the are winnowing the rice

202. ndaa mɔ̀n-nyɛ?ɛxa Përè
I rice much sell
j'ai vendu beaucoup de riz
I sold a lot of rice

203. L ML
waa kàŋgɔnìə keɛxì
he stick break
il a cassé le bâton
he broke the stick

204. L ML
kàŋgɔnìà kẹxì
stick break
le bâton est cassé
the stick is broken

205. H
waa mìnà kòn
he rope cut
il a cassé la corde
he broke the rope

206. H
mìnàà kòn
rope cut
la corde est cassé
the rope is broken

207. waa Penè nca kon'yaŋàn'yì
he bowl shatter Pieces ?
il a cassé le Pot en morceaux
he broke the bowl in Pieces

208. wu yàʃë ɲàs ça kësà mè
he Neg. fut. be-able it break Neg.
il ne Peut Pas le briser
he cannot break it

209. H
waa tòrò nàʔàn mè
he Pass here
il a Passé Par ici
he Passed by here

210. H
waa nda ɡbàkà tòrò
he my house Pass
il a dépassé ma maison
he Passed by my house

211. H
ndà kùnà waa là
this road he take
il a Pris ce chemin
he took this road

212. L M ML
wɔrè kà ya ɲtàn
our manner VP-Neg. Please
ces gens-là nous detestent
those People hate us
mplı sinbili mè
these People-PP Neg.
213. L M M L H
wòrà kàà tàà́n mpi sinbìli
our manner please these People-PP
ces gens-là nous aiment
those People like us

214. H M L H
wù mà̀ kàà tàà́n wù-i
our also children please us-PP
chacun aime ses enfants
everyone loves their children

215. H-L
waà ju warà sè wu cu,
he say he-REF fut. him catch
il a essayé de l'attraper mais il
n'a Pas Pu

H
wu så Ya ncà mé
he but Neg-VP be-able Neg.
he tried to trap him but he could
not

216. LM
nda ya sù̀n sà ju nà mo-in
I VP desire fut speak with you-PP
je veux te parler
I want to talk to you

217. ML?
lo?ò kààle nyè nda là
water manner? is me on
je veux de l'eau
I want some water

218. L M ML
ndà láà nye sà nta
I desire be fut.Con. Inc.
tàba?abùútà tàà̀bi
french learn
je veux apprendre le français
I want to learn french

219. wàà yàrà na ncé?ò
he get up and laugh
il s'est mis à rire
he started to laugh

220. wàà kòbò na yà?à
he cough stop
il a cessé de tousser
he stopped coughing

221. H
waà nkà so?ò nkànnà cèn
he that cook manner know
il sait préparer cela
he knows how to make that

222. wù laà nci wí ncùù̀̀̀̀̀̀ò̀̀̀̀̀̀ò̀̀̀̀̀̀òn, s'il veut guérir, il doit prendre
he desire be he-be-healed
he wants to be cured
du remède
if he wants to be cured, he must
take some medicine

223. LH
nda yàa ndràràyí sù̀lì
I VP Yams Pound
je suis en train de Piler des i9names
I am Pounding some Yams
224. bi wù ntálaâ yilâke gbâki-i
   they he pull house-PP
   they dragged him out of the house

225. ndaâ wu tun ntàxàtákânûn
   I he send chief-PP
   I sent him to the chief

226. ndaâ wêrâ tóroûxô ŋûn
   I money send him
   I sent him some money

227. s.câtâ Punâa rà ye gbóxô
   People all themselves assemble
   they assembled the people
   caankî
   market-in
   everyone gets together at the market

228. biî sacâtà gbóxô
   they People assemble
   they assembled the people

229. kafànngilâa non kànnya Punâ la
   news arrive villages all in
   les nouvelles se répandent dans tous
   les villages
   news spread in all the villages

230. fâlàkà can nyànga la
   mat spread ground
   etends la natte par terre

231. sacîtâa ctraxe
   People disperse
   les gens se sont dispersés
   the people have dispersed

232. H
   vânnya yèràné nàťàn mè
   laundry hang there
   mets à pendre le linge là
   hang up the laundry there

233. H
   gbâsè lôô kàrÇînâ pànlà
   machete take rod cut
   Prends une machette et coupe la
   baguette ici
   take a machete and cut the rod here

234. H
   nkâ kon ná 'ndoli-î
   that cut with knife-PP
   coupe ça avec un couteau
   cut that with a knife
235. waa 'nmuné ya?a laa tu
he knife let it fall
nyànng la
ground on
il a laissé tomber le couteau Par
terre
he let the knife fall to the ground

236. 'nmuná tu nyànng la
knife fall ground on
le couteau est tombé Par terre
the knife has fallen to the ground

237. waa suxa gbéxalé
he mortar make
il a fabriqué un mortier
he made a mortar

238. waa tu'tùnna ñmol gbéxalé
he iron knife make
il a fabriqué un couteau forgé
he made a forged knife

239. M
waa Panndalá jëôli
he Pants sew
il a confectionné un Pantalon
he made a Pair of Pants

240. nỳà?an mo ya nkun yë
what You VP do Q
qu'est-ce que tu es en train de
faire?
what are you doing?

241. M
moo waa nké gbéxalé la
you this make/do Q
as-tu fait ceci?
did you do this?

242. H
maa ma còna gbéxalé la
you Your net PrePare Q
as-tu PréParé ton filet?
have You Prepared Your net?

243. waa kànancia gbéxalé la
he trap PrePare Q
a-t-il PréParé le Piège?
has he set the trap?

244. M
ka ci nkàna tè na là
it do manner show me on
montre-moi comment faire ca
show me how to do that

245. M
kùna tè na là
road show me on
montre-moi le chemin
show me the road

246. M
ma 'nmunà tè na là
your knife show me on
montre-moi ton couteau
show me your knife
247. mə ndə yərə laa you me call Q est-ce que tu m'as appelé? did you call me?
248. M waa wɔrə yərī il nous a appelés he called us
249. bii məmədù yərī ils ont appelé Mamadou they called Mamadou
250. waa kəlj he cough il a toussé he coughed
251. waa cərī he sneeze il a éternué he sneezed
252. waa cùulə he belch il a éructé ?
253. waa kən he groan il a gémi he groaned
254. waa səweʔərə jo he ? say il a chuchoté he whispered
255. L M ML ndə nỳʊŋə yaə ndə fùlli my head VP me ? j'ai mal à la tête I have a headache
256. L M Mw L M ndə lókə yaa ndə wàléxù my bile? me ? j'ai mal à l'estomac I have a stomachache
257. M suna nyə ndə là j'ai la diarrhée I have diarrhea
258. M cîfûrə nyə ndə là j'ai la fièvre de la température I have a fever
259. M katèka nyə ndə là j'ai faim I'm hungry
260. wuu si cenkà la
let us go market to
allons au marché
let's go to the market

261. ndàa baaré ci nánjà(à)
I work do today
j'ai travaillé aujourd'hui
I worked today

262. M L
nkà nye gbaabá1s
that be house-large
cela est une grande maison
that is a large house

263. bi gbakáà Pèlù
their house large
leur maison est grande
their house is large

264. lûnyiña kan nùùn
cold water give me-PP
donne moi de l'eau froide
give me some cold water

265. H
lo?okáá nyînî
cool water
l'eau est fraiche
the water is cool

266. Pan ná sànciwàyi wu
come with dry wood-PP so-we
ba ne nàkkì
M Put fire-in
apporte du bois sec Pour le feu
bring some dry wood for the fire

267. sànciyà yaà wa?èë
wood not dry
le bois n'est Pas sec
the wood is not dry

268. L H
`nmbenxà ya?à ñja
knife-blunt Neg fut. be-able
un couteau émoussé ne coupera pas
de viande
a blunt knife will not cut meat

269. H
kaàta kóèn
meat cut
ce couteau est émoussé
this knife is blunt

270. H
yèra kàn?àan lìlì la
your village far Q
est-ce que votre village est loin?
is your village far away?
271. 
waawà kàrí tali libro-i
he go place-far-PP
il est allé loin

272. 
waawà Pan nà sàmà sàmà-ì
he come with fat goat-PP
il a apporté une chèvre grasse
he brought a fat goat

273. 
ŋgá sàkàŋ pa nà yë saànì
this goat all be fat

cette chèvre est grasse
this goat is fat

274. 
waawà Pan nà sàmàtattàââdi
he come with basket-Pretty-PP
il a apporté un joli Panier
he brought a Pretty basket

275. 
ŋgá sàmà na nì yòn
that basket be-Pretty
ce Panier-la est joli
that basket is Pretty

276. 
ŋgá nàsà nòn nì yòn
that man heard be-good
ce Panier-la est joli
that is a good man

277. 
bìi kapílì ci wòre là
they bad do us on
ils nous on fait du mal
they did us an injury

278. 
waawà kapakala ju wòrú
he bad(news) tell us-PP
il nous a dit de mauvaise nouvelles
told us some bad news

279. 
ŋgá nàsà nya zònìmplifolì
that man be heart-evil-chief
ich iT est méchant homme
that is a dangerous man

280. 
nda nya moñìlànàciù-ù
I be rope-long-PP
je veux une longue corde
I want a long rope

281. 
nda moñìlànàciù laà la tonla àà dé
that stick-there it be-long EXCLAM that stick is long

282. 
mpà wàmbiibàâ cèrè
this cloth small
ce morceau de tissu est étroit
this Piece of cloth is narrow

283. 
tonnàcôfônnà nya ndà-ù
iron new Pot be me-PP
j'ai une nouvelle marmite
I have a new Pot
284. navânlâgi
c' est neuf
new-it
it is new

285. L ML-H
waâ Pan nà sêlêkèxì
il a aporte un vieux Panier
he come with old basket-PP
he brought an old basket

286. ndà sêlênaà lè
ci Panier est vieux
this basket old
this basket is old

287. L L ML
nàpèlêkèxì waâ Pan ba yêrâ wêé
un viel homme est venu vous voir
old man one come M you visit
an old man has come to see you

288. waâ lè
il est vieux
he old
he is old

289. vânmînîi ñye nàâ
il a du tissu rouge
cloth-red be his
he has some red cloth

290. H
nji fâlánycè vaâ nyàlênaâ
les cailloux-la sont rouges
those rocks-there VP red
those rocks are red

291. sëè wî
truth it is
c'est vrai
it's true

292. H
ntâ kàtaà fòn?ön
cette viande-ci est pourrie
this meat be-rotten
this meat is rotten

293. H
ndà 'nmuûnnaâ tânîà
cette coutteau est coupant
this knife be-sharp
this knife is sharp

294. ntâ métâè gbere
cette corde est courte
this rope short
this rope is short

295. H
waa gbëxâlâ gbere
il est vraiment petit (de taille)
he make small
he is really small

296. H
waa gbëxâlâ tònîc
il est vraiment grand (de taille)
he make tall
he is really tall
297. ta má ná sé?eciciidityí apporte un Petit panier
       come with small basket-PP bring a small basket

298. H nká fálákkaa gbèxàlàà wolàxo ce caillou-ci est très lisse
       this rock make smooth this rock is really smooth

299. LH H ndá mobiináa tâlé ce bâton-ci est droit
       this stick straight this stick is straight

300. LH H ndá mobiináa cèrè ce bâton-ci est mince
       this stick small this stick is thin

301. H waa cèrè il est mince
       it small it is thin

302. -H sàmà nye wi-i il est gras
       fat be he-PP he is fat

303. lo?okúà nà?ànmì neun l'eau est chaude
       water hot the water is hot

304. H nká kà-cícà?à nyàngè ce bois-ci est mouillé
       this wood wet this wood is wet

305. LH ndá mobiináa mpàli ce bâton-ci est épais
       this stick be-thick this stick is thick

306. vàà?à?à?ì nyy nà?à cloth-white be his
       il a du tissu blanc he has some white cloth

307. ML vàà?à?à?ì nyy nà?à cloth-black be his
       il a du tissu noir he has some black cloth

308. ML H nká vàà?à?à?ì nyy gù?àlàà pé?àli ce morceau de tissu est trop large
       this cloth-cut make large this piece of cloth is quite large

309. H ntá tuxútaa lùxó ce fardeau-ci est lourd
       this load be-heavy this load is heavy
310. 

η̣γ̣a baarénaa waʔa
ces travailla-ci est difficile  
this work be-hard  
this work is difficult

311.

nda nye kacènne
ceci est important  
this be thing-good  
this is important

312. 

baaràntàŋŋaa nyànnàŋŋa
les bananes sont mures  
bananas be-ripe  
the bananas are ripe

313. 

baaràntàŋŋaa lè no kù mí
les bananes sont mure à cueillir  
bananas age arrive cut  
the bananas are ready to cut

314. 

wu yàa cùlùnûloc
il est malade  
he Neg+ well-Neg.  
he is sick

315. 

loʔokà nàmènûneun
l'eau est chaude  
water hot  
the water is hot

316. 

η̣γ̣a baarénaa tàańla
ces bananes-ci sont douces  
these bananas are soft  
these bananas are soft

317. 

wùrèŋka sóro
les noix de kola sont amères  
kola bitter  
the kola nuts are bitter

318. 

nàfùlafológ wà
il est riche  
rich Person he is  
he is rich

319. 

waà ci nàfùlafólogo
il est devenu riche  
he do rich Person  
he has become rich

320. 

zànʔánkà yàa ntù
il Pleut  
rain VP fall  
it's raining

321. 

camajuînà yàa ntù
le soleil se couche  
sun VP fall  
the sun is going down

322. 

wò nye (h)ká fàjàka nònʔ-in
il y a un serpent sous cette Pierre  
snake be this stone under-PP  
there is a snake under this stone
naka ne cona non-?in

mets le feu sous la marmite
fire Put Pot under

324.
cona nye naka la

la marmite est sur le feu
Pot be fire on

325.
ka txi nyanga la

mets ca Par terre
it Put ground on

326.
ndaawu nya kuna la

je l'ai vu sur le chemin
I him see road on

327.
kuna vaa sileka nkena la

le chemin longe la rivière
road VP go river side on

328.
nda tacorana nya wu wula (VL?)

ma Plantation est Pres de son
my Plantation be his one
Plantation
H

my Plantation is near his Plantation
beside-PP

329.
ba yeré na nkédà la

tiens-toi debout à côté de moi
M stand my side on
stand beside me

330.
ba yeré wù sò?oli

tiens-toi debout entre nous
stand our between
stand between us

331.
L M ML

sa Plantation est entre ma Plantation
wu tacorana nye ndà wula
et le village
his Plantation be my one

Plantation and the village
nà kàn?ànka sò?oli

and village between

332.
H Mw -M

il s'est mis debout au milieu des
waa yeré sacàta tooyi-i
he stand up People middle
he stood up in the middle of the
gens et s'est mis à Parler
M

and speak

333.
ML

sa maison est au milieu du village
wu gbakà nye kàn?ànka nànti
his house be village centre
his house is in the middle of the

village
334. H
waa yéré wu ntañtèkèŋa
he stand his chief
ML
nyà?án là
before PP

335. H
waa yéré gbakà nyò là
he stand house mouth PP

336. ML Mw?
waà 'ñmuunà cù wû nyû∥sø mpaññii
knife grab its head above-PP

337. ML Mw?
ntii moò ñgá ndëng sa?ò jöë
how you this food cook say-Q

338. Mw
nyà?an waà kan moò yè
what he give you-PP Q

339. Mw
nyà?anxa nye sàñ-i yè
what be basket-PP Q

340. Mw
nyà?an tèddì waà pan yè
what moment he come Q

341. ML
sàñ yì yaa sëè
where you(pl) VP go-Q

342. Mw
nyà?an la yërraa kàri wàmpàë
what for you(pl) go over there

343. Mw
nkà lèrë nve jöôri yè
that Price be how many Q

344. Mw
nyà?an la yërraa kàri wàmpàë
what for you(pl) go over there

il s'est tenu debout devant son chief
he stood before his chief
il s'est tenu debout devant la
dans
he stood in front of the house
il a tenu le couteau au dessus de sa
tête
he grabbed the knife above its head
(by the handle?)
comment as-tu PréParé cette
nourriture?
how did you Prepare this food?
qu'est-ce qu'il ta donné?
what did he give you?
qu'y a-t-il dans le Panier?
what is there in the basket?
quand est-il venu?
when did he arrive?
cou allez-vous?
where are you going?
qui t'a dit cela?
who told you that?
pourquoi ëtes vous allés là-bas?
why did you go over there?
combien cela coûte-t-il?
how much does that cost?
345. L M
ncàa joorì bi nye ñûwun yë
sheep how many be his Q
combien de moutons a-t-il?
how many sheep does he have?

346. sëñ mo tûña nyàë
where your father be-Q
où est ton père?
where is your father?

347. L M Mw? ML
nyà?àn filàxé kàári yë
what type meat Q
quelle sorte de viande est-ce?
what kind of meat is that?

348. H
waà ndé ci wu ñôô
he that do himself
il a fait ca lui-même
he did that himself

349. H
ndaà ndé ci na ñôô
I that do myself
j’ai fait ca moi-même
I did that myself

350. M
bii bi yë nỳà
they themselves see
ils se sont vus
they saw themselves

351. H M
wôraa wu yë nỳà
we ourselves see
nous nous sommes vus
we saw ourselves

352. \-H
ta mà na ndînî-ì
IC come with food-PP
apporte le repas
bring the meal

353. H
yàñâa culûpô
sick Person be-healed
le malade est guéri
the sick Person is cured

354. \-H
cèèbi ya bi yë kôdî
ta themselves chase-IC
les femmes se poursuivent
the women are chasing each other

355. H
yagbakâà yòÀòri
thing-drink
la fête est intéressante
the feast is interesting

356. H
valataâ kùlùpô
thing-eat lack
la nourriture est insuffisante
the food is not enough

357. H
ncekâà kô
soap finish
le savon est fini
the soap has run out
358. balakaa cùxì
well  be-deep

359. sàmbaa wù cán
millet beer him destroy

360. wù yaa yô?ôru
he VP gossip

361. finé fo
fonio winnow

362. H
sbaké pà
house sweep

le Puits est Profond
the well is deep

Le boisson l'a détruit
Drink ruined him

il bavarde
he gossips, talks a lot

vannes le fonio
winnow the fonio

balaie la maison
sweep the house
VITA

Anne Elizabeth Garber was born in Toronto, Canada on February 9, 1955. She attended Oakridge Secondary School in London, Ontario and the College General et Professionel in Joliette, Quebec, graduating from the University of Ottawa with a B.A. in Linguistics in 1978. In June 1978, she began graduate study in Linguistics at the University of Illinois and received a M.A. in 1980. During her years at the University of Illinois, she held research assistantships in Linguistics and Art History, as well as a teaching assistantship in ESL. During the academic year 1981-82 she attended the Associated Mennonite Biblical Seminaries in Elkhart, Indiana, after which she spent the years 1982-1985 in Kotoura, Burkina Faso doing linguistic research with Africa Inter-Mennonite Mission. In June 1987, she intends to return to Burkina to continue working for Africa Inter-Mennonite Mission.