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THE STRUCTURE OF FARANAH-MANINKA

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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	
1.1 The Language	1
1.1.1 Classification	4
1.1.2 Existing Literature	5
1.2 The Presentation	7
1.2.1 Clarification of the Grammar	8
1.2.2 Evaluation of Grammars	8
1.2.3 Scientific Goals in the Writing of Grammars	9
II. PHONEMICS	
2.1 Phoneme Inventory	11
2.2 Phonemic Concatenators	11
2.3 Allophones--Consonant Phonemes	11
2.4 Allophones--Vowel Phonemes	14
2.5 Instrumental Analysis	15
2.5.1 Vowel Formants	15
2.5.2 Consonants	17
2.5.3 Pitch Measurement	17
2.6 Phonemic Concatenators--Function	22
2.7 Length	24
2.8 Pitch Accent	28
2.9 A Note on Emphatic Stress	33
III. THE SYLLABLE	
3.1 Identifying Syllables	34
3.1.1 Complications Due to Loan Words	34
3.1.2 Assumptions	34
3.2 Syllable Grammar I	36
3.3 Syllable Grammar II	39
3.4 Syllable Grammar III	40
3.5 Inventory of Syllable Types	41
IV. MORPH STRUCTURE	
4.1 Morph Defined	43
4.2 Morph Grammar I	44
4.3 Morph Grammar II	46
4.4 Morph Grammar III	47
4.5 Morph Grammar IV	50
4.6 Basic Morph Pattern	51
4.7 Morph Inventory	54

Chapter	Page
V. GRAMMAR	
5.1 Introduction to the Grammar.	57
5.1.1 Noun Phrase.	57
5.1.2 Adjectives	62
5.1.3 Adverbs.	62
5.1.4 Verbs.	63
5.1.5 Tense-Aspect and Copula.	66
5.1.6 Sentence Types	67
5.1.7 Conjunction.	67
5.2 Conventions.	67
5.2.1 Single Arrow	68
5.2.2 Double Arrow	68
5.2.3 Optional Transformation.	68
5.2.4 Double Based Transformation I.	68
5.2.5 Double Based Transformation II	68
5.2.6 Angle Brackets	69
5.2.7 Braces	69
5.2.8 Square Brackets.	69
5.2.9 Cover Symbols.	69
5.2.10 Crosshatch	69
5.2.11 Long Lexical Lists	70
5.2.12 Conditions	70
5.2.13 Examples	70
5.2.14 (L) and (R).	71
5.2.15 X' and X".	71
5.2.16 Ordered Expansion.	71
5.2.17 Subclass Notation.	71
5.3 Phrase Structure Rules	72
5.4 Transformational Rules	84
5.5 Phonetic Terminal Output	102
5.6 Symbol Index	111
5.7 Text	113
VI. LEXICON	
6.1 Notation	119
6.2 Form Class Code.	120
6.3 Lexical Items.	121
6.4 Kinship Lexicon.	203
BIBLIOGRAPHY.	206

LIST OF TABLES

Table	Page
1. Syllable Types	41
2. Morph Types	55
3. Percentage of Various Morph Shapes in the Lexicon	55
4. Percentage of All Morph Shapes in the Lexicon	56
5. Transitive Verb Types	64
6. Intransitive Verb Types	65
7. Sample Numerals	80

LIST OF FIGURES

Figure	Page
1. West Africa.	2
2. Geographical Range of Maninka.	3
3. Vowel Formants	16
4. Overlap of Initial Pitches in CPS.	21
5. Average Pitch Difference in Semitones.	23
6. Pitch Contour Profiles	23
7. Basic Polysyllabic Pattern	52

CHAPTER ONE
INTRODUCTION

1.1 The Language -- The immediate purpose of this study is to present a structural description of Faranah-Maninka. It is based on work done with an informant who was 22 years old and whose father and mother both spoke Maninka. He attended a Catholic mission school for some time and Koranic school but all of his formal education was in the French language. Judging from first hand observation of this speaker's ability to converse freely and fluently with his fellows, his speech adequately represents the Maninka spoken by his peers.

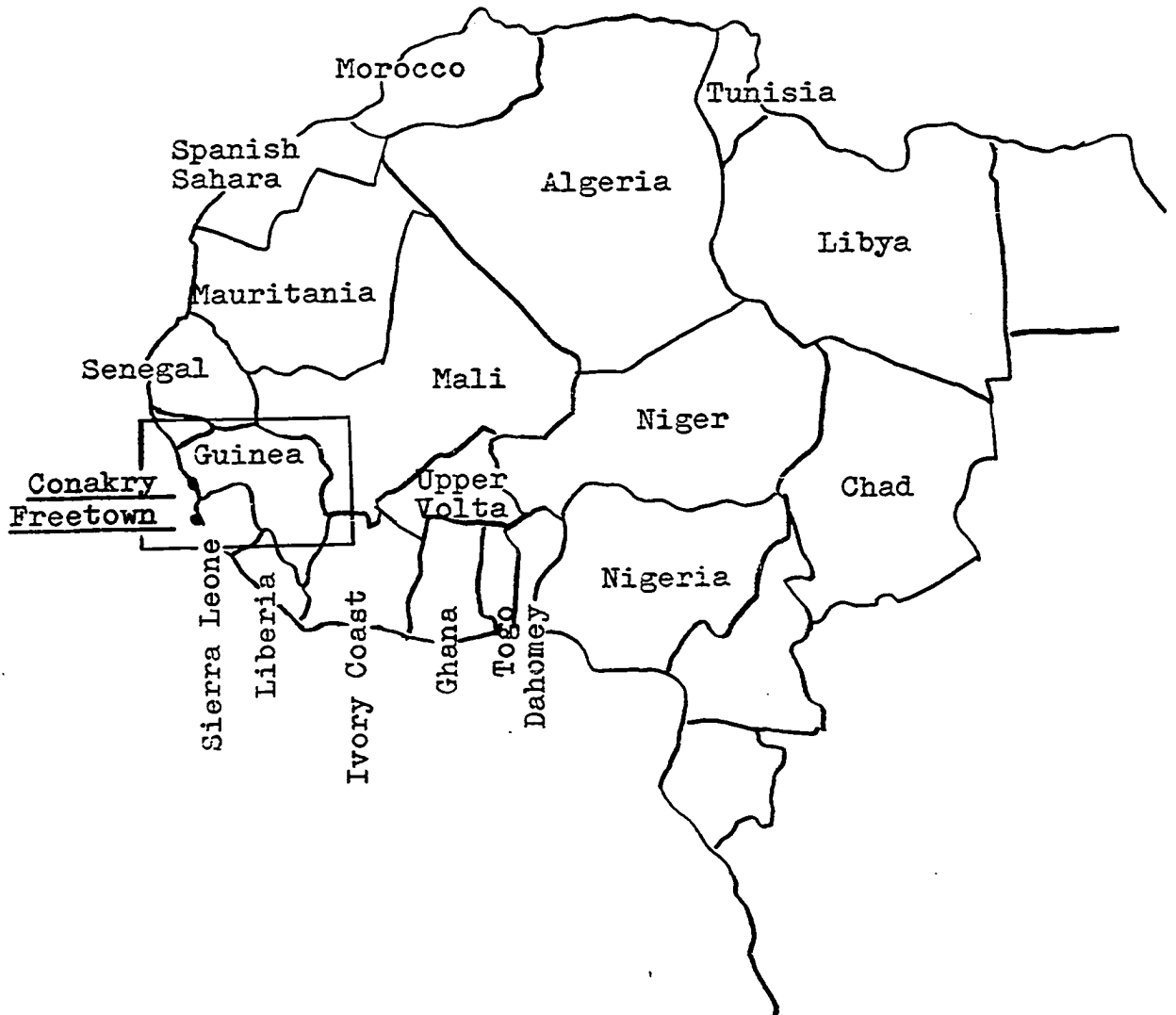
The language name, Maninka is the native name for an ethnic group and a language spoken in part of the area covered by the French names Malinke, Manding, Mandingue and English Mandingo. Speakers of Maninka who have been trained in French schools usually refer to the language as Malinke.

Maninka is spoken by approximately 1,200,000 speakers in six countries: Senegal, Guinea, Mali, Ivory Coast, Gambia and Portuguese Guinea.¹ The particular dialect of Maninka analyzed in this study is that which is spoken in Faranah, Guinea and is called Faranah-Maninka throughout the work.

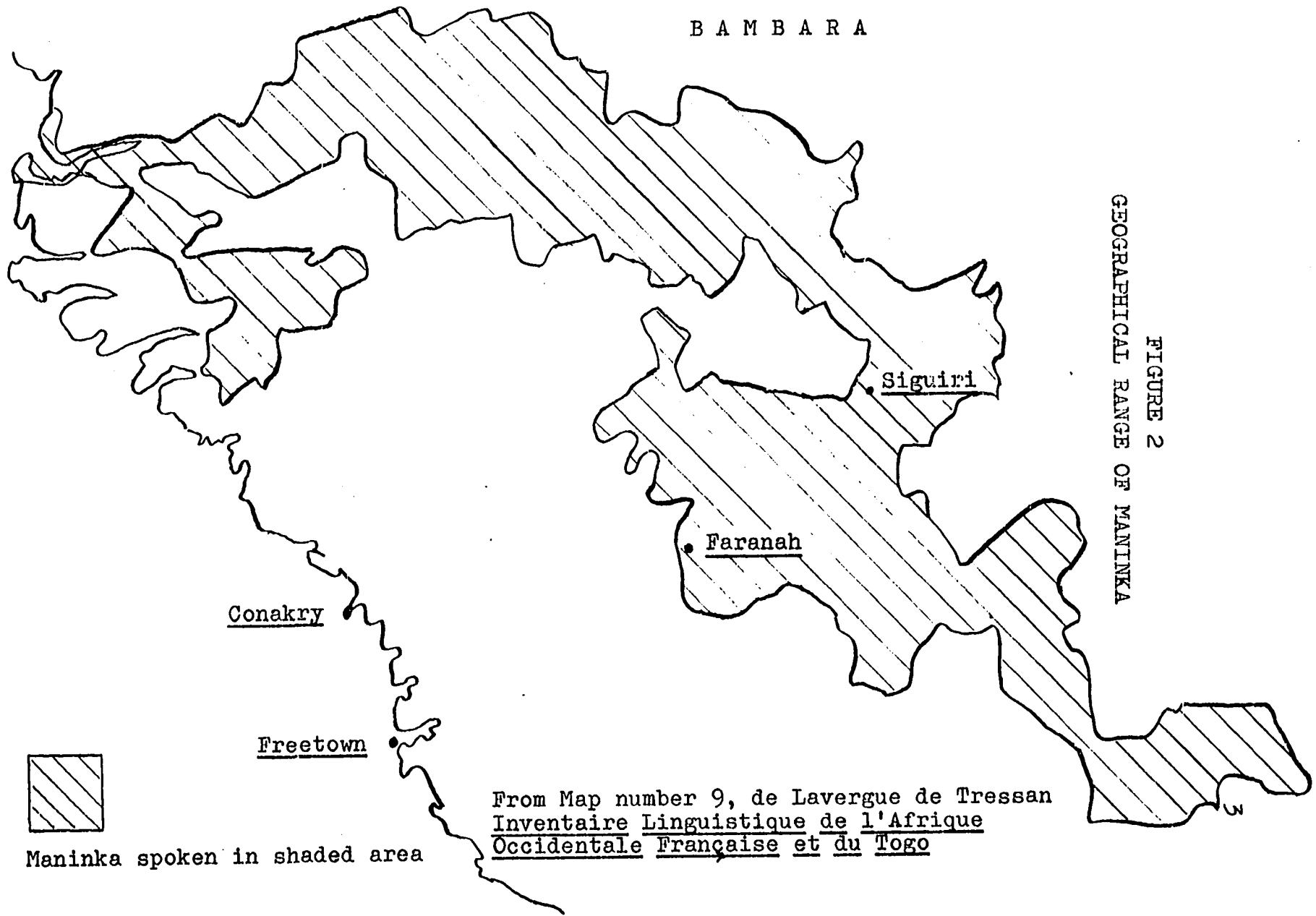
Faranah-Maninka is a dialect which is generally recognized as one of the Southern Dialects of Malinke and is called Maninka or Maninka kang ('Maninka Language') by the people of Faranah. Faranah is at the extreme Southwest of the general Malinke area (see Figure 2) and is a considerable distance from Bambara speaking peoples.

¹Voegelin, C.F. and F.M., Languages of the World African Fascicle One, Anthropological Linguistics Vol. 6, Number 5, p. 57.

FIGURE 1
WEST AFRICA



Box indicates area shown in Figure 2.



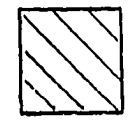
B A M B A R A

Siguiri

Faranah

Conakry

Freetown



Maninka spoken in shaded area

From Map number 9, de Lavergue de Tressan
Inventaire Linguistique de l'Afrique
Occidentale Française et du Togo

FIGURE 2
 GEOGRAPHICAL RANGE OF MANINKA

Since Maninka is one of three closely related dialects or separate languages in the Mande Family (Malinke, Bambara, Dyula), a study of Faranah-Maninka, a dialect spoken some distance from Maninka-Bambara convergence areas may shed light on the similarities or differences between these languages.

1.1.1 Classification -- In The Languages of Africa² Greenberg has listed Malinke, Bambara and Dyula as separate languages whereas Westermann and Bryan consider them members of a dialect cluster.³ Work with these languages and dialects has been sparse and often generalized statements have appeared based on a small amount of data. A wealth of local tribal names for languages and native African false identification of neighboring languages has further confused the situation. Inventaire Linguistique de l'Afrique Occidentale Française et du Togo⁴ lists almost 150 tribal, village, ethnic group and language names under Malinka. Reports of mutual intelligibility between speakers of various languages should be dealt with carefully since neither speaker in a given instance may be able to correctly identify the language spoken by the other speaker. Whatever the final classification is, it will certainly not fit comfortably into the 'language and its dialects' scheme.⁵

²Greenberg, Joseph H., The Languages of Africa, IJAL Publication 25, p. 8.

³Westermann, Dietrich, and M.A. Bryan, Handbook of African Languages, Part II, Languages of West Africa, p. 33.

⁴de Lavergne de Tressan, Inventaire Linguistique de l'Afrique Occidentale Française et du Togo, p. 175.

⁵cf. Clement M. Doke's tentative classification of Bantu into zones, groups and clusters in Bantu Modern Grammatical Phonetical and Lexicographical Studies since 1860, p. 1.

The purpose of this study is not to solve the problem directly, but to contribute to a future solution by providing a thorough analysis of one type of the language spoken in one place. An increased supply of data will better enable workers to reach a supportable solution.

1.1.2 Existing Literature -- Little work has been done on any of the dialects that can be identified as Malinke, and often what is available can be traced back, in part, to the work of Maurice Delafosse who published Langue Mandingue et ses Dialects (Malinké, Bambara, Dioula) Vol. I, 1929, Vol. II, 1955. Language classifications have drawn heavily on his examples. Since Delafosse's treatment is the most comprehensive to appear to date, a brief description of it is given here. This will also make clear the inadequacies of the work which prevent it from being suitable as a primary source for this analysis. The substance of Vol. II is a generalized Mandingue-French dictionary which concentrates on giving very accurate definitions of all morphemes and nominal compounds, but which unfortunately ignores tone. Each entry includes derivations and suggested etymological references.

The first volume, after an appropriate introduction to the people speaking the language, is divided into two parts, a grammar and a French-Mandingue Lexicon. The introduction includes an inventory of all of the sounds used in Bambara, Dioula, Northern, Western, Eastern and Southern Malinke with no indication of which sounds belong with which dialect. Often in Vol. II there is an indication of which dialect a particular form is taken from, but without maps indicating the areas of the dialects it is difficult to compare any of his information to new data. The inventory of sounds consists of 90 symbols and digraphs. The introduction is concluded with a bibliography including

every work that mentions any of the dialects beginning with one written in 1738.⁶

The grammar begins with examples of each sound and variations of morphemes in the dialects are given, but no statement about any possible system of relationship is made. Sections on the Syllable, Elision, Contraction and Nasalization all present interesting material but the range of application is never made clear.

In a section on Accentuation, Delafosse states that the language is not tonal but that there is a stress system based on pitch more than intensity and this stress always falls on the final syllable. The work of Welmers (1949)⁷ and Westermann and Bryan⁸ as well as the work represented in this study include observations of numerous minimal pairs based on pitch.

An interesting section on length is included wherein he lists contrasts between disyllabic morphemes with length in the first syllable and those with syllables of equal length. He also claims to have found contrasts between long and short monosyllables. According to work done on the Siguiri dialect concurrent with the work done on the Faranah dialect, these 'long monosyllables' are really disyllabic morphemes (in the Siguiri dialect and Delafosse's source) and Delafosse used length instead of pitch to mark the contrast. A full discussion of length in Faranah-Maninka is made in Chapter Two of this work.

⁶It is not thought necessary to repeat the list here. de Lavergne de Tressan repeats the list with a few additions in his Inventaire Linguistique de l'Afrique Occidentale Française et du Togo, p. 177.

⁷Welmers, William E., Tonemes and Tone Writing in Maninka, Studies in Linguistics, Vol. 7, Number 1., pp. 1-17.

⁸Op. Cit.

The remainder of the grammar is a morphological survey with many examples followed by a few paragraphs on syntax. Nearly all of the material in the two volumes (1531 pages) is based on his list of 1750 radicals and their combinations. The books represent many years of diligent work, but unfortunately can be of small assistance since many examples and explanations given do not apply to all dialects described.

An initial tonemic analysis of Maninka (Kankan) by Welmers appeared in Studies in Linguistics in 1949⁹ and presented an accurate description of tone in monosyllables and disyllables. Although this study makes a more complete statement of the data according to a very different approach, the basic findings for monosyllables and disyllables in isolation are the same except for length in monosyllables.

1.2 The Presentation -- The presentation of the data in this study takes the form of a transformational grammar. Much has been written recently illustrating how these grammars work by using transformational techniques to describe certain structures in some languages. However, only a small number of thorough analyses have been done utilizing the transformational statement. It is felt that using this type of statement in a structural description written only for the sake of describing a language will make way for criticism of inadequacies that might be otherwise unintentionally concealed by selected illustrative material.

There are, on the other hand, certain facts about a language that can be stated in no other way save a transformational statement.¹⁰ The value placed on these

⁹Studies in Linguistics, 7.1.

¹⁰see 1.2.3

additional facts by linguists is perhaps in direct proportion to their acceptance of transformational theory. Naturally enough, the inadequacies of any theory are most apparent when that theory is applied to a natural language. The greatest inadequacy of a transformational grammar is the difficulty encountered by persons who read it to learn basic facts about the language. Those who complain that information is concealed from them by the complexities and multiplicities of symbols in transformational grammars probably have a just complaint. The concealing of information within a complex statement is not something that only transformational writers indulge in, however.

1.2.1 Clarification of the Grammar -- Two steps have been taken in this study to eliminate some of the confusion for the reader.

1. The Sentence Grammar has a symbol index in which one can find the number of the rule where the referent of a symbol is given. (5.6)
2. Before the statement of the Sentence Grammar certain important constructions and word classes are identified and illustrated by presenting selected rules from the Sentence Grammar. (5.1)

1.2.2 Evaluation of Grammars -- Inherent in the thinking out of which transformational grammar arose is the notion of evaluation of grammars. The simplest and most widespread criteria include:

1. A grammar should assign a structural description to all of the sentences of the language.
2. A grammar should not contain structural descriptions which are not represented by sentences.

Although these ideas are part and parcel of transformational theory, the rejection of transformational grammars for

descriptive purposes on the part of the linguist does not necessarily give him any refuge from the notion of total accountability in the evaluation of grammars. On the other hand, not satisfying the criteria does not prevent either a transformational or a non-transformational statement from being a legitimate contribution to linguistic knowledge. Not satisfying the criteria does not mean that a description should be dismissed as useless, but only that it is not as good as a grammar that does meet the criteria.

Since it is unlikely that any person but a native speaker of a language can possess enough data to write a grammar satisfying the criteria, the criteria are looked upon as goals.

The Sentence Grammar in Chapter Five of this analysis does not account for all of the sentences in Faranah-Maninka but it does deal with the great majority of the sentences that occur in everyday conversation. At the beginning of the Sentence Grammar (5.1) there is a statement of the exclusions which are not dealt with due to a lack of data.

1.2.3 Scientific Goals in the Writing of Grammars -- One goal of science in general is to make statements using the smallest number of rules operating on the smallest number of symbols necessary to accurately describe the structure of the universe or some part of it. The knowledge that tomorrow new data may be uncovered that will make today's theory inaccurate or incomplete has not prevented the making of such statements, and these statements have served well in the interim. A transformational grammar is a way of stating the facts about a language, accurately and concisely stating syntactical relationships and the constituents of the structure of a language. Furthermore,

this type of grammar states that there are basic or primary structures in a language from which other structures are derived by rules that alter or combine the basic structures. All of this is done in a manner which takes the form of a statement using the smallest number of rules operating on the smallest number of symbols necessary to produce the data, i.e., only in such a grammar is the number of rules and symbols countable, making the grammar vulnerable to standards of judgment which go beyond accurate presentation of the data.

If a linguist is interested only in facts about a language, the additional facts about the interrelatedness of the structures of the language may seem not to be worth the additional effort required to read or write a transformational grammar. And, indeed, a linguist may not feel that he is in possession of enough data to make a decision as to which sentences are basic structures and which owe their existence to transformational rules. Where this can be done, however, it is a valid contribution to the body of knowledge about the structure of a language.

CHAPTER TWO
PHONEMICS

2.1 Phoneme Inventory --

Consonants

p	t	k	
b	d	g	gb
f	s	h	
m	n	ñ	
w	y		
	r	l	

Vowels

i		u
e		o
ɛ		ɔ
	a	

Accent

/`/

2.2 Phonemic Concatenators --

- ^ + # // ?

2.3 Allophones--Consonant Phonemes -- The statement of distribution of the phonemes is properly the task of a set of rules covering the syllable and word. Only minor reference will be made to the distribution of phonemes and then only to emphasize the information that follows in the syllable and morph grammars. It is presumed that there is sufficient difference between word initial /k/ and syllable initial /k/ in a second syllable to regard

the latter as an allophone, but for the purposes of this description this difference is not given separate notation.

/p/	[p ^w]	As [p] but slightly labialized before /o/ or /u/	[p ^w ua]	'weight'
	[p]	Voiceless, tense, bilabial stop, slightly aspirated	[pàña]	'basket'
/t/	[t ^y]	As [t] but slightly palatalized before /i/ or /e/	[t ^y i]	'owner'
	[t]	Voiceless, tense, alveolar stop, slightly aspirated	[ta]	'fire'
/k/	[k ^y]	Voiceless, tense, velar stop palatalized before /i/ or /e/	[k ^y eu]	'wise'
	[k]	Voiceless, tense, velar stop	[kè]	'man'
/b/	[b ^w]	Voiced, lax, bilabial stop, labialized before /u/ or /o/	[b ^w olo]	'hand'
	[b]	Voiced, lax, bilabial stop	[bàmba]	'crocodile'
/d/	[d ^y]	Voiced, lax, alveolar stop, palatalized before /i/ or /e/	[d ^y i]	'give'
	[d]	Voiced, lax, alveolar stop	[dèbɛ]	'sleeping mat'
/g/	[g]	Voiced, lax, velar stop	[gòro]	'playboy'
			[gàñɛ]	'win, gain'
/gb/	[g ^w gB]	Doubly articulated labio-velar stop. Implosive b. Intervocally, labialized velar element	[fàg ^w gBa]	'paddle'

first stops the vocal pulse,
followed by labial closure and
simultaneous release.

	[gB]	Doubly articulated labio-velar stop	[gBaŋ]	'ochra'
/f/	[f]	Voiceless labio-dental fricative	[fɪla]	'two'
/s/	[s]	Voiceless alveolar fricative	[sisi]	'smoke'
/m/	[m̄]	Bilabial nasal continuant, long after long vowels ¹ in non-final morphemes	[sēm-ba]	'big feet'
	[m]	Bilabial nasal continuant	[mùso]	'woman, wife'
/n/	[n̄]	Alveolar nasal continuant, long after long vowels in non-final morphemes	[sèñ-yaŋ]	'leggings'
	[ŋ]	Velar nasal continuant, finally or before /k/, and before #	[saŋ]	'sky'
	[ṽ(n)]	Before /y/	[saŋki]	'rain'
	[ŋ ^w]	Velar nasal continuant, labialized before /gb/	[tɪyaŋ]	'spoil'
	[n]	Alveolar nasal continuant	[gben ^w gbere]	'milking stool'
/ñ/	[n̄]	Palatal nasal continuant	[nako]	'garden'
/y/	[ɲ]	Fricative palatal continuant after /n/	[ña]	'eye'
	[ɣ]	Fricative palatal continuant after /n/	[binyɛ]	'arrow'

¹See 5.5 Rule 177.

	[y]	Palatal continuant	[yàla]	'head cloth'
	[ɣ]	Palatalized front velar fricative	[ɣàla]	'head cloth'
	[gʷ]	Velar affricate (all three in free variation)	[gʷàla]	'head cloth'
/r/				
	[ɾ]	Alveolar flap consonant syllable final and intervocalically	[dakarɾ]	'Dakar'
	[r]	Alveolar trilled continuant else- where	[rɔgʷgBɛ]	'watch'
/l/				
	[l]	Alveolar lateral continuant	[la]	'put'
2.4 <u>Allophones--Vowel Phonemes --</u>				
/i/				
	[ĩ]	Before and after nasals	[sĩŋ]	'nipple'
	[i̥]	Voiceless finally after /s/	[s̥isi]	'smoke'
	[i]	Elsewhere	[si]	'hair'
/e/				
	[ẽ]	Before and after nasals	[sẽŋ]	'foot'
	[e]	Elsewhere	[se]	'reach'
/ɛ/				
	[ɛ̃]	Before and after nasals	[sɛ̃niŋ]	'gold'
	[ɛ]	Elsewhere	[sɛ̃di]	'rice soup'
/a/				
	[ã]	Before and after nasals	[lãnda]	'custom'
	[a]	Elsewhere	[la]	'put'
/ɔ/				
	[ɔ̃]	Before and after nasals	[tɔ̃ŋ]	'law'
	[ɔ]	Elsewhere	[tɔ]	'name'

/o/	[õ]	Before and after nasals	[bõŋ]	'house'
	[o]	Elsewhere	[so]	'city'
/u/	[ũ]	Before and after nasals	[sũmũ]	'chat'
	[u]	Elsewhere	[suba]	'witch'

Length and tonal allophones are described in 2.7 and 2.8.

2.5 Instrumental Analysis -- Instruments were used to analyze part of the data to permit detailed acoustic specifications to be given. The entire corpus was not subjected to instrumental analysis and the results of the partial analysis are presented here as corroborative details.

2.5.1 Vowel Formants -- The seven vowels of Faranah-Maninka center about the intersections of the first and second formants listed below. The numbers represent the most common frequency in cps for that vowel. The points of intersection for each phoneme are:

	F ₁	F ₂		F ₁	F ₂
i	300	- 2000	u	325	- 1000
e	450	- 2000	o	475	- 1100
ɛ	550	- 2000	ɔ	600	- 1150
a	700	- 1400			

See formant chart (Figure 3) for the range of each vowel.

In /e/ and /o/ finally and before nasals, there is a tendency for the first formant of the /e/ to drop about 50 cps and for the second formant of /o/ to drop 50 cps. The possibility of treating /e/ as /ɛi/ has been considered, but the first formant never gets high enough for /ɛ/ and never gets low enough for /i/. The amount of drop in the first formant of /e/ and the second of /o/ does not move the resulting first and second formant intersection out of

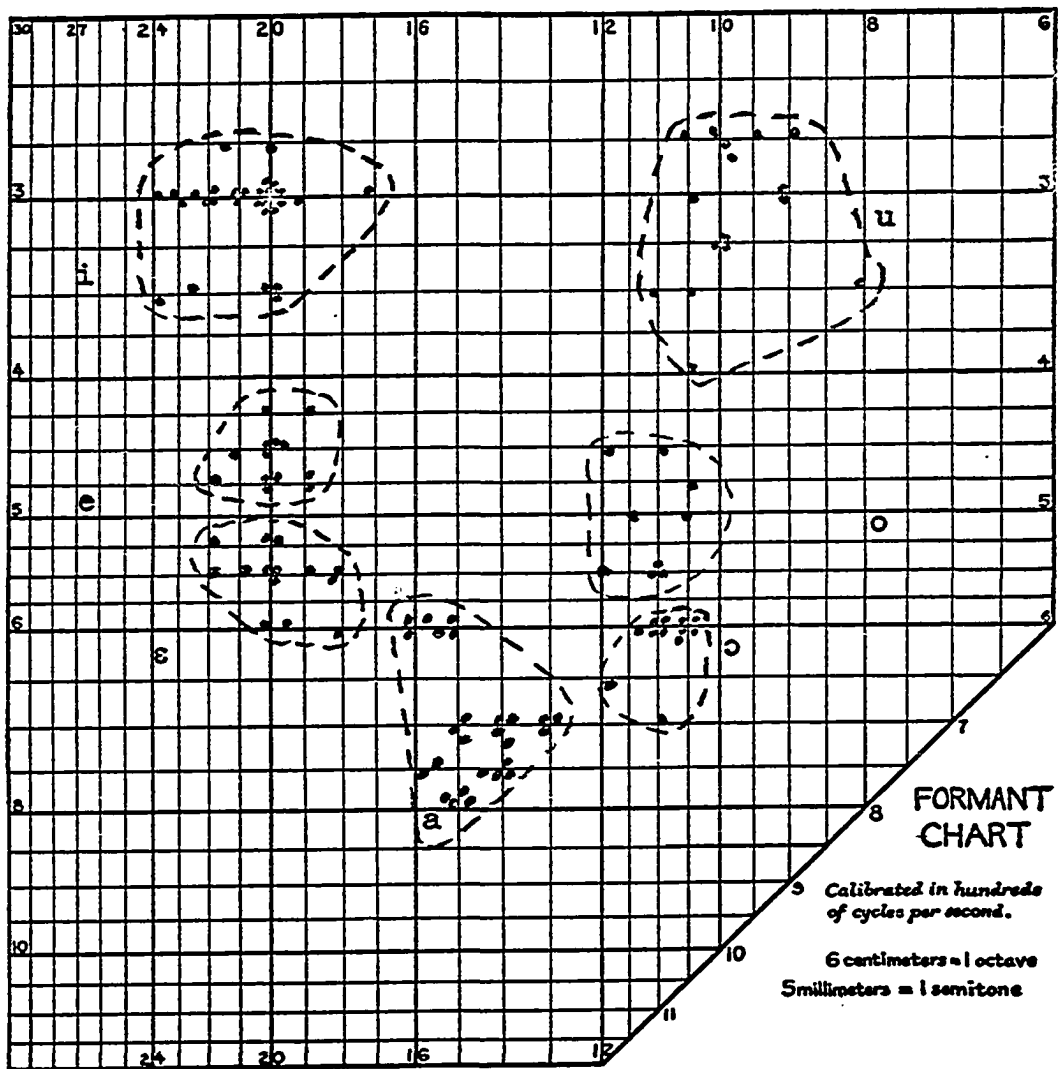


FIGURE 3
VOWEL FORMANTS

Each dot represents one vowel measurement.
The dotted line encloses all of the samples of
one phoneme.

the /e/ or /o/ range on the formant chart. This is ample acoustic evidence for considering /e/ and /o/ as phonemes and not two sequences of two vowels.

Other observations of vowel characteristics include:

1. /i/ is often accompanied by considerable palatal friction
2. formant two of this vowel is extremely weak when /i/ is nasalized
3. after /s/, the onset of the vocal tone bypasses /i/
4. bilabial friction occurs occasionally with /u/.

2.5.2 Consonants -- The sound spectrograph was used here to verify the differences heard by ear such as that between /b/ and /gb/. It may be noted that the difference can best be described as a joining of formants two and three at a lower point and for a longer duration in /gb/ than in /b/. The differences in /d/ and /r/ were also noted, that is the flap or trilled characteristic of /r/ and the stop characteristic of /d/.

2.5.3 Pitch Measurement -- An instrumental analysis was made of a small sample to determine certain acoustic facts about tones in the language. After minimal pairs were established for the vowels of Faranah-Maninka, it was apparent that there were many words which were not distinguished by vowel quality but by some stress, accentual or tonal features. Enough spectrograms were made with the amplitude display device to determine if the problem could be solved by a stress feature. The amplitude display contour showed that no vowels are pronounced with greater intensity than others and the possibility of an amplitude-type stress was set aside.



The most obvious thing about the spectrograms was the very definite pitch rise that corresponded with impressions of a stressed syllable. (Smooth line contours are used in

this discussion because they most closely approximate the markings made by the sound spectrograph.)



A. In words of the type CV⟨N⟩CV⟨N⟩, two pitch types are observable.

1.  (kùru) 'stone'
2.  (kuru) 'group'


B. In words of the type CV⟨N⟩, the same two pitch contours occur.

1.  (tò) 'cooked cereal'
2.  (to) 'farm hut'

C. Compounds occur frequently in the language. They may be composed of nouns, verbs, adjectives and inflecting morphemes. For now, we shall assume that these compounds are words that occur between +'s like +CV⟨N⟩+ and +CV⟨N⟩CV⟨N⟩+. Compounds also have the same two pitch contours as above.

1.  (kùru-ba) 'big stone'
2.  (kuru-ba) 'big group'

The pitch contours of all the above described word types appear to be similar. The purpose of the measurements taken was to determine the exact similarity of the contours.


For word type CV⟨N⟩CV⟨N⟩ four measurements were made for the first contour () as follows:

Point a marks the pitch of the first vowel (which is on a level pitch).

Point b marks the pitch at the beginning of the second vowel.

Point c marks the highest pitch of the second vowel.

Point d marks the lowest pitch of the second vowel (the pitch at the end of the glottal pulse).

For contour ():

Point a marks the pitch of the first vowel.

Point b marks the pitch at the end of the second vowel.

Here are three examples of each type in cps in CV⟨N⟩CV⟨N⟩.


Type 1.

	a	b	c	d
1	220	240	255	200
2	240	245	270	210
3	225	240	280	210

Type 2.

	a	b
1	260	210
2	270	210
3	250	200


In type one the highest point (c) is 2.6, 2.0 and 1.6 semitones higher than the first vowel (a), in examples 1, 2, and 3 respectively. In type two the difference in semitones from (a) to (b) for 1, 2, and 3 is 3.6, 4.4, and 3.8.

There are three measurements for type one of CV⟨N⟩ words ():

Point a marks the pitch of the vowel at onset.


Point b marks the highest pitch of the vowel.

Point c marks the end of the glottal pulse (the end of the vowel or nasal).

There are again two measurements for the type two pitch contour ():

Point a marks the onset of the vowel.

Point b marks the end of the vowel.

The measurements for CV⟨N⟩ in the contour () follow. The differences of the highest vowel (b) and the first vowel (a) in semitones are given in parentheses after the cps measurements.

	a	b	c	Difference
1	240	260	200	(1.6)
2	240	270	200	(2.6)
3	250	300	240	(3.0)
4	270	300	220	(1.8)
5	220	250	210	(2.4)
6	240	260	210	(1.6)
7	250	270	210	(1.5)

The measurements for CV⟨N⟩ in contour (a b) follow. The differences in semitones between points (a) and (b) are given in parentheses after the cps measurements.

	a	b	Difference
1	250	200	(3.8)
2	250	230	(1.6)
3	260	200	(4.6)
4	260	220	(3.0)
5	260	210	(3.8)
6	250	230	(1.6)
7	300	260	(2.4)
8	300	260	(2.4)
9	240	200	(3.2)
10	250	230	(1.6)

As with the other word types, compounds were also measured along their pitch contours. For contour type one, (V V a b c) each low vowel before the high vowel was measured and three measurements were taken of the highest vowel (a = onset, b = highest point, and c = end). The difference in pitch (in semitones) is given in parentheses after the cps measurements.

	V	V	a	b	c	Difference
1		250	260	310	200	(3.6)
2		280	320	350	240	(3.6)

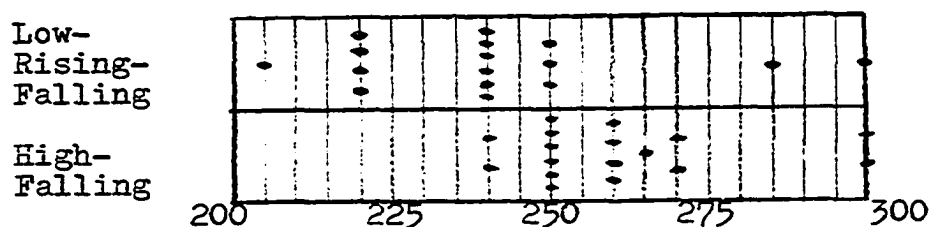
3	320	315	340	370	250	(3.0)
4	300	295	340	380	260	(4.1)
5	240	240	260	285	190	(3.2)
6	240	240	250	280	190	(3.0)

The measurements for the type two contour compounds ($\overline{V \ V \ V \ End}$) are as follows. The differences in pitch of the high syllable to the low point at the end are given in parentheses after the cps measurements.


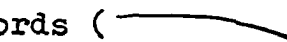
	V	V	V	End	Difference
1		240	240	210	(2.6)
2		270	270	210	(4.4)
3	265	265	265	220	(3.2)

The average pitch of the first vowel of type one ($\overline{\quad}$), in CV<N>CV<N>, CV<N> and compounds is 254 cps; for first vowels of type two, 277 cps. There is a difference of 1.5 semitones between these averages, but Figure 4 showing overlap shows that these averages may be misleading. The measurements were taken on different days and perhaps measurements taken on the same day with more examples would support this 1.5 semitone difference.

FIGURE 4
OVERLAP OF INITIAL PITCHES IN CPS



In Figure 5 notice that the pitch rise in compounds is around 1.5 semitones higher than the rise in the other two word types. Also, the fall from the high syllable (6.5 semitones) in compounds is around 2.0 semitones more than in the other two types.

The average for all final pitches for type one words () is 219 cps and 218 cps for all type two words (). Figure 6 shows the profiles of each type (CV ⟨N⟩ CV ⟨N⟩, CV ⟨N⟩ and compounds) superimposed on the two tone contours. The values in semitones are taken from Figure 5 showing average pitch differences.

2.6 Phonemic Concatenators² -- Function -- Whereas the distribution of phonemes is stated by the syllable and morph grammars, with the exception of /#/ , the distribution of phonemic concatenators is specified by the Sentence Grammar. In every case that /#/ is used, it marks the beginning or end of an empirically observable unit. When used in this study to mark the beginning or end of a sentence or other unit, it is to be taken as evidence of the linguist's recognition of the fact that his grammars are producing finite strings.

Phonemic concatenators (including /#/) are similar to phonemes in that certain allophones are predictable in the environment of a phonemic concatenator. For example, /nk/ > [ŋk] and /n#/ > [ŋ]# or [v̄ŋ]#.

Unlike phonemes, phonemic concatenators leave no allophones of their own in final phonetic strings³ although their presence is evidenced by particular allophones of the phonemes that remain and other significant grammatical information expressed in strings of phonemes.

²Juncture

³Except in writing systems, /+ / > space, /^ / > no space, /#/ becomes a period or a capital letter, and /- / is evidenced by the pitch allophones of vowels.

FIGURE 5
AVERAGE PITCH DIFFERENCE IN SEMITONES



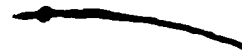
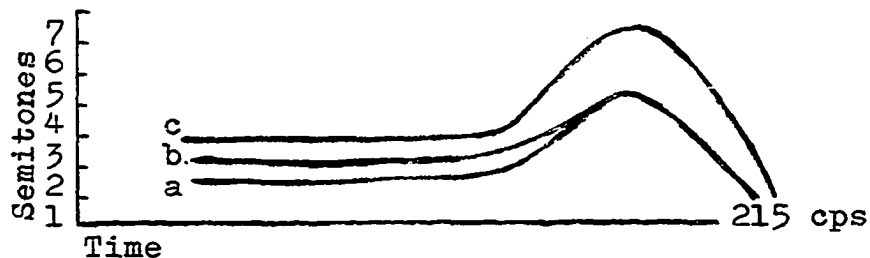
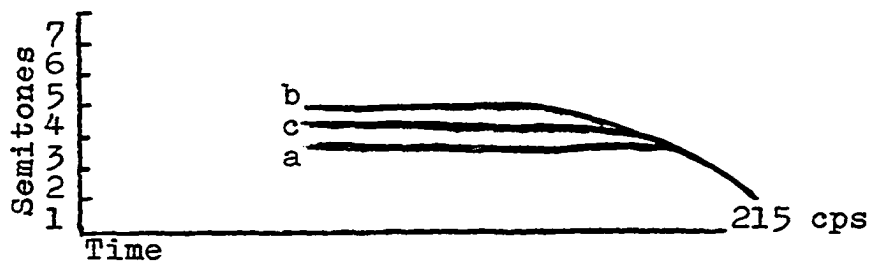
Position measured on contour	CV ⟨N⟩	CV ⟨N⟩	CV ⟨N⟩	compounds
	2.0	2.6	2.6	3.4
	4.5	4.5	4.5	6.5
	3.9	2.8	2.8	3.4

FIGURE 6
PITCH CONTOUR PROFILES

TYPE ONE



TYPE TWO



a = monosyllables
b = disyllables
c = compounds

The five phonemic concatenators other than /#/ do the following things:

1. /+/ marks word boundary, plays a part in sentence pitch contour;
2. /-/ marks tone leveling and the tone of a vowel between /+/ and /-/ is level, low or high. The tone of a vowel between /-/ and /-/ is level and is the same as the tone of the preceding vowel(s) between /+/ and /-/.
3. /^/ marks morpheme boundary with no tone leveling and has a bearing on allophonic length and the marking of major and minor morphemes.
4. /// marks sentence adverbs, and certain clauses; means to return to the pitch of the word after the last /#/.
5. /?/ requires question intonation.

The tonal consequences of 1, 2, and 3 are included in the discussion of pitch accents and the consequences of 4 and 5 in 5.5.

2.7 Length -- Length is one of the more difficult points to investigate in this language. Eight disyllabic morphemes in the lexicon contain length in the first syllable. There are in addition, twelve other disyllabic morphemes with dissimilar vowels in the first syllable and two with dissimilar vowels in the second syllable.

There are minimal pairs for three of the morphemes.

/baaba/	'termite'
/baba/	'daddy'
/yaasa/	'a vow'
/yasa/	'fenced-off area'
/baara/	'work'
/bara/	'homeland'

In addition all monosyllabic morphemes show some degree of lengthening in the following environments.

- | | |
|-------------|-------------|
| 1. +_____^ | 4. -_____^ |
| 2. +_____ - | 5. -_____ - |
| 3. +_____ + | 6. -_____ + |

There are a few cases of minimal contrasts in the language where one disyllabic morpheme contrasts with a construct of two morphemes.

/sènba/	'elephant'
/sèn-ba/	'big foot'
/kàwa/	'shoulder'
/kà-wa/	'magician'
/koro/	'elder'
/kò^ro/	'on the back'

The measurements below of the length of the first and second syllables of two of these words and other disyllabic words of the same contour are given in centiseconds.

	V ₁	V ₂	V ₁ % of V ₂
/sènba/	5.3	14	38%
/sèn-ba/	10.5	20	52%
/kàwa/	9.0	13	69%
/kà-wa/	14.5	16	90%

To average any of these figures would conceal more than is desirable. There are not enough examples to allow many valid conclusions to be drawn. It is worth mentioning that in the non-nasal compound, /kà-wa/ the first vowel approaches nearly the same length as the second vowel and in /sènba/ and /sèn-ba/, the first vowel although lost in nasalization of /sèn-ba/ is longer than the first vowel of /sènba/.

This type of length difference is greatly emphasized when the minimal-utterances pairs are brought in close

proximity or contrasted by the informant. In longer compounds there is a definite rhythmical syncopation between the allophonically long morphemes and the other disyllabic morphemes. In the utterance /+kun^koro-la-fen+/, each of the monosyllabic morphemes takes the same amount of time to pronounce as /koro/.

A broader statement would be that monosyllabic major morphemes in the environments listed above have two morae of length and all other vowels have one mora, and two morae of length are always longer than any near-by single mora.

Simultaneous work on another dialect (Maninka spoken in Siguiiri) has produced a number of minimal pairs which Faranah-Maninka does not distinguish. Typical is:

Siguiiri	/sà/	'snake'
	/sàya/	'sheep'
Faranah-	/sà/	'snake'
Maninka	/sà/	'sheep'

Welmers wrote double vowels /sàa/ for /sàya/ 'sheep' in his 1949 paper (SIL 7.1), but it is not clear whether this means simply length or re-articulated vowels. Since length is such a problem, every effort has been made to determine if there are any minimal pairs of monosyllabic morphemes that are distinguished by length, but none has been found. There are a number of pairs of monosyllabic morphemes that are identical in Faranah-Maninka but which are minimal pairs in Siguiiri-Maninka. This does not result in gross ambiguity for two reasons.

1. One member of the pair is being replaced by another form. 'snake' Faranah-Maninka /sà/ is expressed by /dù^ma-fen/ 'thing on the ground'.
2. Each member of the pair belongs to different word classes that require the presence of other elements

in a construct which breaks the ambiguity. For instance with /ta/ 'fire', and /ta/ 'part, share, own', the latter belongs to a class that requires the presence of a particular form of the possessive personal pronoun, and /ta/ 'fire' when possessed takes a different form. In the pair /fo/ 'say' and /fo/ 'miss', the former is transitive and always requires a preceding object.

Of the 81 monosyllables in Welmer's paper, 24 words contain long vowels and there were 4 minimal pairs based on vowel length. Of these minimal pairs, 3 were represented in Faranah-Maninka by 3 pairs of homophones. Each of these 6 words when placed in the environments listed above exhibited lengthening and all could be equally short when not in these environments.

Although Delafosse claims that these languages do not have tone and that lengthening is predictable in all but monosyllables and numerous exceptions 'à la règle generale', he notes that all monosyllables before /ra/ (Faranah-Maninka /ro/ 'in') are always long, but with great variation among individuals. However, this was not observed before other suffixes.⁴ A similar statement about Faranah-Maninka would include lengthening before all suffixes.

Westermann and Ward have noted four stages in the weakening of consonants in Bambara and Malinke in the verb go: taka > taga > taya > ta:.⁵ Faranah-Maninka is represented by the last in the series ta:. A speaker from the Siguiiri area would say taya. Work with this latter dialect has

⁴Delafosse, Maurice, La Langue Mandingue et ses Dialectes (Malinks, Bambara, Dioula) Vol I., Introduction, Grammaire, Lexique Française-Mandingue, p. 108.

⁵Westermann, Dietrich and Ida C. Ward, Practical Phonetics for Students of African Languages, p. 132.

yielded a sizeable number of word pairs like taya - ta:. To determine if all of the long monosyllabic words in all dialects are the result of consonant loss would be a worthwhile study.

There is no question about the phonemicity of length in disyllabic morphemes. Elsewhere, length on vowels is predictable and the grammar is equipped with a rule which adds length to the proper morphemes.⁶ The solution as presented here states that length is phonemic in disyllabic and monosyllabic morphemes based on the premise 'once a phoneme, always a phoneme'. This can further be supported by citing contrasts between long monosyllabic words and short affixes like /koo/ 'back' and /[^]ko/ 'about', /laa/ 'lie, lay' and /[^]la/ 'on, at'. However, these items can never contrast in the same environment. To call length in monosyllabic morphemes phonemic without drawing attention to the environmental conditions surrounding the morpheme would be concealing a vital point in this language. Therefore monosyllabic morphemes which are long as a result of their placement in an utterance by grammatical rules are given morphophonemic shapes which do not include length. All morphophonemic shapes are given phonemic shapes by rules that express phonological regularities that occur when specified phonemes are brought into specified environments.

2.8 Pitch Accent -- The pitch of any string can be determined by one marked vowel. Given that vowel and a set of rules, the pitch contour of the other vowels can be predicted. The marked vowel is either the last low in a series of lows or a single low vowel. Both of these low vowels are followed by at least one high vowel.

⁶See 5.5 Rule 177.

If more than one high vowel follows an accented vowel, each succeeding vowel is terraced or downstepped from the one before. When one or more - concatenators occur between + and +, any accent on any vowel between the first + and the first (or only) - must be moved to the last vowel before the last (or only) -, and all other accents are lost. This shift of the accent must occur after vowels have been lengthened in the environments +V[^], +V-, +V+, -V[^], -V-, -V+ (2.7). When the shift of accent has taken place, the entire string behaves as any other string between + and +, the accented vowel and all vowels that precede it are low and level followed by one high with all other possible highs terraced from the first high.⁷ When one or more - concatenators occur between + and + and no accent occurs on any vowel between the first + and the first (or only) - the pitch of all vowels from the first + up to and including the first vowel after the last (or only) - is high and level. Any succeeding unaccented vowels are terraced from the last high vowel and all accents are lost.

Notice that in this system, since a final vowel before + is never accented, every vowel before + is a high vowel which always falls or is downstepped to the next vowel whether it is high or low. Thus any sequence of 'high vowel, high vowel' is downstepped if +, ^ or nothing intervenes.

A section of the Sentence Grammar (5.5 Phonetic Terminal Output) contains rules which express the above in a more compact and economical way. The purpose of the

⁷Assuming that it is as reasonable to mark the last low as it is to mark the first high in a string, the last low is marked for the sake of expressing the similarity of strings between + and + whether or not any - intervenes and the economy of presentation in that affixes are mostly high and need not be marked in this study.

following illustrations is to demonstrate the varieties of accent position in strings containing -, ^ or no concatenators between + and +. The lengthening from 2.7 (marked L), accent shift (marked S) and deletion of accent (marked D) are shown.

- | | | | |
|------|-----------------------------------|-----|-----------------|
| 1.a. | + to + | | 'farm hut' |
| b. | + too + | (L) | |
| c. | + $\underline{V_H V_H}$ + | | |
| 2.a. | + t ^ò + | | 'cooked cereal' |
| b. | + t ^ò o + | (L) | |
| c. | + $\underline{V_L V_H}$ + | | |
| 3.a. | + kuru + | | 'group' |
| b. | + $\underline{V_H V_H}$ + | | |
| 4.a. | + kùru + | | 'stone' |
| b. | + $\underline{V_L V_H}$ + | | |
| 5.a. | + sunkurun + | | 'girl' |
| b. | + $\underline{V_H V_H V_H}$ + | | |
| 6.a. | + safùna | | 'soap' |
| b. | + $\underline{V_L V_L V_H}$ + | | |
| 7.a. | + srèpleni + | | 'airplane' |
| b. | + $\underline{V_L V_L V_H V_H}$ + | | |
| 8.a. | + bon + | | 'house' |
| b. | + boon + | (L) | |
| c. | + $\underline{V_H V_H}$ + | | |

- 9.a. + bon-ti + 'house-owner'
 b. + boon-tii + (L)
 c. + $V_H V_H - V_H V_H$ +
- 10.a. + ti + 'straw'
 b. + tii + (L)
 c. + $V_L V_H$ +
- 11.a. + bon-ti + 'house straw'
 b. + boon-tii + (L)
 c. + boon-tii + (D)
 d. + $V_H V_H - V_H V_H$ +
- 12.a. + kan + 'neck'
 b. + kaan + (L)
 c. + $V_H V_H$ +
- 13.a. ^la- 'on'
 b. ^ V_H -
- 14.a. + fen + 'thing'
 b. + feen + (L)
 c. + $V_H V_H$ +
- 15.a. + kan^la-fen + 'necklace'
 b. + kaan^la-feen + (L)
 c. + $V_H V_H ^ V_H - V_H V_H$ +
- 16.a. + wà + 'forest'
 b. + wàa + (L)
 c. + $V_L V_H$ +

- 17.a. $\hat{r}\hat{o} +$ 'in'
 b. $\hat{V}_H +$
- 18.a. $+ \text{sil}a +$ 'monkey'
 b. $+ V_L V_H +$
- 19.a. $+ \text{sil}a +$ 'road'
 b. $+ V_H V_H +$
- 20.a. $+ w\hat{a}^r\hat{o}\text{-sil}a +$ 'the monkey in the forest'
 b. $+ w\hat{a}a^r\hat{o}\text{-sil}a +$ (L)
 c. $+ waa^r\hat{o}\text{-sil}a +$ (S)
 d. $+ waa^r\hat{o}\text{-sil}a +$ (D)
 e. $+ V_L V_L \hat{V}_L - V_H V_H +$
- 21.a. $+ w\hat{a}^r\hat{o}\text{-sil}a +$ 'the road in the forest'
 b. $+ w\hat{a}a^r\hat{o}\text{-sil}a +$ (L)
 c. $+ waa^r\hat{o}\text{-sil}a +$ (S)
 d. $+ V_L V_L \hat{V}_L - V_H V_H +$
- 22.a. $+ b\hat{o}r\hat{i} +$ 'run, drive'
 b. $+ V_L V_H +$
- 23.a. $-\text{la} +$ 'agent'
 b. $-V_H +$
- 24.a. $+ \text{er}\hat{e}pl\hat{e}n\hat{i}\text{-b}\hat{o}r\hat{i}\text{-la} +$ 'pilot'
 b. $+ \text{er}\hat{e}pl\hat{e}n\hat{i}\text{-b}\hat{o}r\hat{i}\text{-laa} +$ (L)
 c. $+ \text{er}\hat{e}pl\hat{e}n\hat{i}\text{-b}\hat{o}r\hat{i}\text{-laa} +$ (S)
 d. $+ \text{er}\hat{e}pl\hat{e}n\hat{i}\text{-bor}\hat{i}\text{-laa} +$ (D)
 e. $+ V_L V_L V_L V_L - V_L V_L - V_H V_H +$

2.9 A Note on Emphatic Stress -- The word and sentence intonation system just described is not complete since a statement has not been made which indicates the height of upsteps or the distance of the drop of downsteps other than the 1.5 semitones of words in isolation.⁸ The height of any upstep can be increased by the presence of an emphatic stress. In falling tones, the emphatic stress makes the falling contour steeper and increases the distance of the drop in downsteps. Emphatic stress alters only the height or lowness of a pitch; it does not substitute one pitch for another. Other than indicating contrast or emphasis, one special use for emphatic stress is to differentiate between third person same and third person different in sentences containing reflexive verbs as illustrated here:

à	k a	à	l a b ò r i	'He drove him.'
—	—	—	—————	
à	k a	à'	l a b ò r i	'He drove <u>himself</u> .'
—	—	—	—————	

(' = emphatic stress)

There is not enough information to permit any statement which goes further than the above. If the presence of emphatic stress is substantiated (and something must account for the above contrast), it should be included in the phonemic inventory and rules should be added to the grammar which position the stress and rewrite it in phonetic terms.

⁸c.f. 2.5.3.

CHAPTER THREE
THE SYLLABLE

3.1 Identifying Syllables -- Given a word or series of words, the following set of rules makes it possible to identify the number of syllables in the word or series and what they are.

- | | |
|--|-----------------------------------|
| 1. N = Sy | N = m, n, ñ |
| 2. V = Sy | Sy = syllable |
| 3. $V_1CV_2, V_1 = Sy$ | V = vowel |
| 4. VCCV, VC = Sy | C = all consonants
including N |
| 5. $\langle C \rangle CV \langle V \rangle \langle C \rangle = Sy$ | |

3.1.1 Complications Due to Loan Words -- It is possible to state a form or a pattern into which every syllable in Faranah-Maninka will fit. Any statement which will produce all of the possible syllables in the language is made complex by the inclusion in the data of consonant clusters peculiar to a few borrowed French words, (posti, ànglɛ, tiàtri, planton, plumu, àfrik, arèplɛni), the presence of one word ending in /m/, (yam) one in /d/ (mowamɛd) one in /l/ (lèkol), and one other word with an initial /tr/ (tràors). Two words /gòro/ ('playboy') and /gañɛ/ ('win, gain') bring a borrowed /g/. These thirteen words constitute slightly less than one percent of the total lexicon of the corpus.

3.1.2 Assumptions -- Since the main informant used spoke French fluently and used the Arabic sound system (at least a 'Maninka-Arabic Creole'), there remains the possibility of interference between co-existent systems. Three assumptions could serve as the basis for inclusion or exclusion of the words.

1. This informant knowing French has 'corrected' the native pronunciation of some words. (Delafosse records palanton for /planton/).¹
2. These words, as pronounced, are part of this speaker's language and should be treated as such although they occur only rarely. Four of the words occur only in compounds with native words and a fifth occurs either alone or in compounds.

posti-bon	'post office'
tiatri-diya	'place for plays' also /tiàtri/
plumu-kala	'pen'
àngls-kan	'English Language'
lèkòl-den	'student'

Further, some of the words that contain syllables with clusters have been changed to conform with the prohibition of final consonants other than /r/ or /n/.

post+i
tiatr+i
plum+u

Finally, Tràorè is an ancient proper name and cannot be excluded.

3. All of these words are a part of a co-existent Maninka-French system and are not part of Faranah-Maninka.

The existence of a Maninka-French system can only be proposed as a possibility and is not properly the subject of this study due to the lack of data. The most precise (although uninformative) grammar of the syllable of this

¹Delafosse, Maurice, La Langue Mandingue et ses Dialectes (Malinké, Bambara, Dioula) Vol. II., Dictionnaire Mandingue-Français, p. 591.

language would simply list all of the possible syllables. In this way all syllables would be produced and no non-syllables would be produced, and neither would we know much of what syllables have in common.

The formation of syllables is not random and statements can be made to show (1) that all syllables are related to one basic form and are either a part of that form or that form itself (2) that within syllable structure there are restrictions that specify what elements may be present in a given syllable. Criteria used in judging the value of grammars which state the rules for well-formed or grammatical syllables include the following.²

1. The grammar should produce all of the syllables in the language, or if not possible, all of the syllables in the corpus.
2. The grammar should produce nothing that is not a syllable, or, if that is impossible, the smallest number of non-syllables.

If a grammar states that all syllables may include consonant clusters, or even if it restricts those clusters very carefully to co-occur with certain vowels in certain positions, the number of non-syllables produced is still greater than the number produced by other possible grammars.

3.2 Syllable Grammar I -- Three syllable grammars are presented here. Note that the output of the syllable grammar is phonemic and not phonetic. Syllable Grammar I attempts to specify all possible syllables and include a number of restrictions which limit only slightly the number of non-syllables produced due to the inclusion of consonant clusters and final consonants other than /r/ or /n/. No restriction has been placed on the occurrence of /g/ in this grammar.

Percentages mentioned in the comments following the

²See 5.2 for explanations of conventions used here.

grammar refer to the total number of syllables in all morphemes in the corpus of the Lexicon (2141).

Since the output of the syllable grammar is phonemic, the possible tonal contours are not given. It would be possible to give detailed phonetic rules at the end of these grammars which would specify all tonal possibilities, but a restatement would have to follow in the Morph Grammar and the Sentence Grammar. Tonal contours are described in 2.8 and the phonetic rules are given once only in 5.5

SYLLABLE GRAMMAR I

- #Sy#
1. $Sy \rightarrow \langle C_1 \rangle \langle C_2 \rangle Nuc \langle F \rangle$
 2. $C_1 C_2 \rightarrow C_1 \left\{ \begin{array}{c} l \\ r \\ t \end{array} \right\}$
 3. $C_2 \rightarrow C_1, F, b, gb, N, w, y, h$
 4. $C_1 C_1 Nuc \Rightarrow C_1 Nuc$
 5. $C_1 \rightarrow p, t, g, f, s$
 6. $F \rightarrow N, r, l, d, k$
 7. $\#Nuc\# \rightarrow \#N\#$ (Note: # = no other Sy precedes or follows, i.e. nothing precedes initial # or follows final #)
 8. $N \rightarrow m, n, \tilde{n}$
 9. $\#Nuc \rightarrow \#V$
 10. $Nuc \rightarrow \langle \tilde{V} \rangle V$
 11. $V \rightarrow i, e, \varepsilon, a, \text{ɔ}, o, u$

Syllable Grammar I will produce all combinations of C and V possible in the language. (. = syllable boundary)

C C V V	.trào.	/tràors
C C V C	.plan.	planton
C C V	.glɛ.	ànglɛ
C V V C	.mùan.	mùan

C V V	.fue.	fue
C V C	.bon.	bon
C V	.ba.	ba
V C	.an.	an
V	.i.	i
C	.n.	n/

In this grammar, the only obligatory item is a syllable nucleus which is N in isolation, one vowel if the nucleus is initial, or two vowels in a first or second syllable of a disyllabic word, but not both.

The combinations of vowels and their frequency of occurrence in the Lexicon are listed below.

/ua/	9	/uu/	1
/aa/	6	/oe/	1
/ao/	2	/eu/	1
/oo/	1	/ai/	1

The symbol F in Syllable Grammar I covers those consonants that occur initially and finally, C₁ covers those consonants which may precede other consonants and C₂ covers all consonants which may be the second member of a cluster. Rule 4 assures that there is no clustering of the same consonants. The selection or rejection of the optional accent on the nucleus will produce all of the possible tonal variants of a morpheme according to the rules found in the Sentence Grammar.

In evaluating this grammar the two criteria mentioned above will be used. The grammar does produce all possible syllables. The inclusion of consonant clusters and final consonants expands the output greatly beyond the corpus. First there are the many syllables that this grammar says are part of the language such as *gbu, *yur, *rar, which do not exist in the data. Then, there are the many syllables

with consonant clusters which do not occur in the data. The non-syllables like *gbu pattern the same (CV^N_P) as 466 other syllables in the data or 22% of the syllables. If /l, d, k/ are permitted to occur wherever any final consonant occurs this will increase the total of CVC syllables to 1864 or 1398 more than is represented in the Lexicon. The inclusion of three words (àfrik, mowamèd, lèkòl) which constitute less than .2% of the total syllables violates criteria 2 by causing the grammar to generate 300 times the number of syllables of a particular syllable type that is represented in the Lexicon. To exclude these and other syllable types would violate criteria 1.

If it could be assumed that the speaker 'corrected' or altered certain forms to conform with French pronunciation this speaker's data would simply be deleted from the corpus. However, since this study is based on the speech of an individual whose speech is similar to and representative of the speech of other speakers with his experience, and since those forms (in question) are the forms he uses to the exclusion of other forms, they will be included.

3.3 Syllable Grammar II -- In the interest of illustrating the contrast between a syllable grammar producing initial clusters and final consonants and one that does not, a partial syllable grammar is presented here. This partial grammar generates all of the syllables in the Lexicon except /sti, gle, tri, tràò, plan, frik, plu, msd, kòl, gò, ga/.

SYLLABLE GRAMMAR II
(partial grammar)

- #Sy#
1. Sy \rightarrow $\langle C \rangle$ Nuc $\langle F \rangle$
 2. C \rightarrow F, p, t, k, b, d, gb, h, l, s, w

3. $F \rightarrow N, r$
4. $\#Nuc\# \rightarrow \#N\#$ ($\#$ = no other Sy precedes
etc, as Rule 7, p. 37.)
5. $\#Nuc \rightarrow \#V$
6. $N \rightarrow m, n, \tilde{n}$
7. $Nuc \rightarrow \langle V \rangle V$
8. $V \rightarrow i, e, \varepsilon, a, \text{ɔ}, o, u$

The main difference between Syllable Grammar I and II is the restrictions placed on the final consonant and the prohibition on initial consonant clusters. Syllable Grammar I produces all of the syllables of the language and almost as many more non-syllables. Grammar II being a partial grammar does not carry the claim of producing all of the syllables but it does produce fewer non-syllables and produces all but .3% of the real syllables.

3.4 Syllable Grammar III -- A third possibility is based on the assumption that the syllables containing consonant clusters are unique examples of the syllable and should be formed by special rules separate from all other syllables. Syllable Grammar III is based on this assumption.

SYLLABLE GRAMMAR III

$\#Sy\#$

1. $Sy \rightarrow Sy_1, Sy_2$
2. $Sy_2 \rightarrow$ frik, gla, plan, plu, sti, trào, tri,
med, kol, gò, ga, yam
3. $Sy_1 \rightarrow \langle C \rangle Nuc \langle F \rangle$
4. $C \rightarrow F, p, t, k, b, d, gb, h, l, s, w$
5. $F \rightarrow N, r$
6. $\#Nuc\# \rightarrow \#N\#$ ($\#$ = no other Sy precedes
etc, as Rule 7, p. 37.)
7. $\#Nuc \rightarrow \#V$
8. $Nuc \rightarrow \langle V \rangle V$

9. N → m, n, ñ
 10. V → i, e, ε, a, ɔ, o, u

Working from the closed corpus on which this study is based, Syllable Grammar III best satisfies the two criteria of judgment. It does generate all of the data in the corpus and of all three grammars, it generates the least non-syllables but in the least efficient way (listing). The linguist who is aware of external circumstances such as the adoption of French as the National Language in Guinea and of the fact that the informant is at least bilingual may be most satisfied with Syllable Grammar I, and further study in this specific area may result in an even more liberalized syllable grammar.

3.5 Inventory of Syllable Types -- None of these solutions is final, but the presence of each in this study is justified simply because the problem is best stated by its inclusion. The following figures indicate the number and percent of the types of syllables.

TABLE 1
 SYLLABLE TYPES

Types 1, 2 and 7 include vowels that are always short and vowels that are potentially long (see 5.5 Rule 177). Types 3, 4 and 5 include vowels that are always long.

<u>Type</u>	<u>Number</u>	<u>Percent</u>
1. C V	1670	75.63
2. C C V	4	.18
3. C C V V	1	.05
4. C V V	23	1.04
5. C V V N	4	.18
6. C C V C	2	.09
7. C V C	504	22.82
8. Totals 1-7	2208	100.00

<u>Type</u>	<u>Number</u>	<u>Percent</u>
9. C V N	467	21.15
10. C V R	33	1.49
11. N# or r#	500	22.64
12. Other C#	4	.18
13. #C C	8	.36
14. V	11	.50
15. V V	26	1.17

CHAPTER FOUR
MORPH STRUCTURE

4.1 Morph Defined -- Faranah-Maninka syllables form allomorphs of morphemes of one to five syllables in length. It is the goal of each of the following grammars to generate all of the allomorphs of every morpheme.¹ The grammars do not, however, relate the allomorphs of any morpheme to each other; they generate forms which are related to one another only in that they are all equally well-formed or grammatically 'sound' forms. These grammars that generate the simple forms of the language are called Morph Grammars. A morph is the longest and most complex form that can be generated by a phonological grammar. Morphs, therefore, are forms that never include phonemic concatenators.

The output of a syllable grammar can be subdivided into syllable types such as V, CV, VC, CVC, CCVC, and CVN. One function of the Morph Grammar is to specify the distribution and composition of these syllable types in polysyllabic morphs. A second major task of the Morph Grammar is to state the restrictions on the composition of adjacent syllables in polysyllabic morphs.

This is to say that the syllable, considered as a unit or form may be very diversified but when syllables are combined together into morphs, other rules and restrictions are imposed on the components of morphs that limit the possible combination of syllables.

Separate grammars could be written that would generate all of the one syllable morphs, all of the two syllable morphs and so on. In each of these grammars many of the

¹There are two kinds of allomorphs omitted here. Long allomorphs are not discussed until Rule 177 of the Sentence Grammar and a shift of accent and the resulting tonal changes are not dealt with until Rule 178 of the Sentence Grammar (5.5).

same restrictions would be repeated from grammar to grammar, and as it will be shown below, these individual grammars would conceal the fact that all of these polysyllabic and monosyllabic forms are part of a basic polysyllabic pattern.

4.2 Morph Grammar I -- Morph Grammar I specifies the distribution and composition of syllables generated by Syllable Grammar I. This morph grammar does not necessarily deal with the terminal strings generated by Syllable Grammar I, but with the first rewrite rule that includes all possible syllables.

The same rule is used in each morph grammar to place an accent on the proper vowel. A morph containing five vowels has no accent. A morph with only one vowel can have an accent. Morphs with two, three or four vowels can have an accent on any syllable but the last.

$$X V Y \Rightarrow X \overset{\cdot}{V} Y$$

Conditions: X includes 1, 2 or no vowels
 Y includes 1 vowel (if X includes 1 or 2) but not more than 3 vowels
 If X does not include any vowel, Y does not include any vowel

MORPH GRAMMAR I

- #Morph#
1. Morph \rightarrow B $\langle A \rangle$
 2. A \rightarrow CV
 3. B \rightarrow $\langle D \rangle$ E
 4. D \rightarrow $\langle C \rangle$ V $\langle \begin{smallmatrix} N \\ R \end{smallmatrix} \rangle$
 5. E \rightarrow $\langle H \rangle$ G
 6. G \rightarrow H $\langle H \rangle$
 7. H \rightarrow $\langle C \rangle$ $\langle C \rangle$ Nuc $\langle F \rangle$
 8. #Nuc# \rightarrow N
 9. #Nuc \rightarrow V

10. Nuc \rightarrow V \langle V \rangle
 11. X V Y \Rightarrow X V Y

Conditions:

X includes 1, 2 or no vowels

Y includes 1 vowel (if X includes 1 or 2) but not more than 3 vowels

If X does not include any vowel, Y does not include any vowel (Explained in 4.2)

12. V \rightarrow i, e, s, a, o, o, u
 13. XrCX \rightarrow XrC_RX
 14. XNCX \rightarrow XNC_NX
 15. N# \rightarrow n, m
 16. CC \rightarrow $\begin{bmatrix} g, p \\ s, t \\ t, f \end{bmatrix} \begin{bmatrix} l \\ t \\ r \end{bmatrix}$
 17. C \rightarrow C_R, C_N, h, w
 18. C_R \rightarrow F, C_C, l, d, k
 19. C_N \rightarrow C_C, gb, p
 20. F \rightarrow N, r
 21. C_C \rightarrow b, d, t, k, f, s, y
 22. XNC_BX \rightarrow XmC_BX C_B covers b, p, gb, m
 23. XN_yX \rightarrow Xñ_yX
 24. XNCX \rightarrow XnCX
 25. N \rightarrow m, n, ñ

The output of Morph Grammar I is phonemic² and not phonetic and therefore, no phonetic pitch specifications have been given. The actual tonal contours of the morphs generated by Morph Grammar I as well as the phonetic specifications of all phonemes can be gotten from 5.5.

²Except as noted in footnote 1, this chapter.

Morph Grammar I is as permissive in morph formation as Syllable Grammar I is permissive in syllable formation. It allows consonant clusters to occur without restriction in all morphs whether or not there is data to support the occurrence. As in Syllable Grammar I, the list of final consonants is long and the lack of specific restrictions allows this grammar to produce far more non-syllables than well-formed syllables. The phoneme /g/ is allowed to occur non-initially and /r/ is allowed to occur initially.

Morph Grammar I conveys much information about the formation of morphs in Faranah-Maninka, but it fails to represent accurately any limits on the use of final consonants and initial consonant clusters.

4.3 Morph Grammar II -- Morph Grammar II is a partial grammar. It generates all the morphs in the Lexicon except morphs of the type represented by stated exclusions. It is presented here to emphasize the fact that a very few lexical items serve to greatly complicate the structure of the morph in the language. Exclusions are: /à, adama, àfrik, àla, àlu, alu, an, ànglɛ, anu, firia, gòro, gañɛ, kakao, lèkɔl, mowamd, n, planton, plumu, postɪ, tiatri, tràorɛ, yam/, all four and five syllable morphs (47 morphemes, 4% of all morphemes in the Lexicon).

MORPH GRAMMAR II
(partial)

- #Morph#
1. Morph $\rightarrow \left\{ \begin{array}{l} A \langle B \rangle \\ B \langle B \rangle \end{array} \langle B \rangle \right\}$
 2. A \rightarrow CVV $\langle N \rangle$
 3. B \rightarrow $\langle C \rangle V \langle \begin{array}{l} N \\ r \end{array} \rangle$
 4. XrCX \rightarrow XrC_RX

5. $XN CN \rightarrow XNC_N X$
6. $N\# \rightarrow n\#$
7. $C \rightarrow C_R, C_N, r, h, w$
8. $C_R \rightarrow C_C, l, N$
9. $C_N \rightarrow C_C, gb, p$
10. $C_C \rightarrow b, d, t, k, f, s, y$
11. $XNC_B X \rightarrow XnC_B X$ C_B covers b, p, gb, m
12. $XNyX \rightarrow X\bar{n}yX$
13. $XNCX \rightarrow XnCX$
14. $N \rightarrow m, n, \bar{n}$
15. $X V Y \Rightarrow X \bar{V} Y$

Conditions:

X includes 1, 2 or no vowels

Y includes 1 vowel (if X includes 1 or 2) but not more than 3 vowels

If X does not include any vowel, Y does not include any vowel

16. $V \rightarrow i, e, \varepsilon, a, \circ, o, u$

In Morph Grammar II, morphs may be one, two or three syllables in length. A double vowel syllable may be a morph or may be followed or preceded by only one syllable. The restrictions on intersyllabic consonant clusters are the same as for Morph Grammar I.

4.4 Morph Grammar III -- Morph Grammar III is as restrictive as Syllable Grammar III in that it permits the occurrence of all of the intrasyllabic consonant clusters and final consonants /l,d,m/ by restricting rules, but not in the same way that Syllable Grammar III does. Here each

cluster or final has a unique rule to convert it to the existing unique form. The problem of restricting /r/ to non-initial and /g/ to initial has been handled by one rule which changes all initial /r/'s to /g/'s. It should not be presumed the /r/ never occurs after any of the phonemic concatenators which might mark /r/ as the initial of some unit. There is a prefix which is joined to transitive verbs, /ra^/ that can occur after /+/, but the object of the verb always precedes /+/. The phoneme /r/ can never occur as an initial phoneme after /#/.

MORPH GRAMMAR III

#Morph#

1. Morph \rightarrow B⟨A⟩
2. B \rightarrow $\left\{ \begin{array}{l} \langle D \rangle E \\ D \langle A \rangle \left\{ \begin{array}{l} m\acute{e}d \\ \acute{g}l\acute{e} \\ fr\acute{i}k \\ k\acute{o}l \end{array} \right\} \end{array} \right\}$
3. XfrikX \Rightarrow àfrik
4. XgléX \Rightarrow àngle
5. XmédX \Rightarrow mowaméd
6. XkolX \Rightarrow lèkol
7. D \rightarrow ⟨C⟩V⟨ $\begin{array}{l} N \\ r \end{array}$ ⟩
8. E \rightarrow ⟨K⟩G
9. K \rightarrow A⟨ $\begin{array}{l} N \\ r \end{array}$ ⟩
10. G \rightarrow J⟨H⟩
11. JH $\xrightarrow{\text{opt}}$ HJ
12. H \rightarrow $\left\{ \begin{array}{l} tr \\ st \\ C \end{array} \right\} V \langle \begin{array}{l} N \\ r \end{array} \rangle$

13. XstX \Rightarrow pɔsti
14. $\begin{bmatrix} \# \\ \text{H} \end{bmatrix} \text{J} \begin{bmatrix} \text{X} \\ \# \end{bmatrix} \Rightarrow \left\langle \begin{bmatrix} \# \\ \text{H} \end{bmatrix} \begin{matrix} \text{pl} \\ \text{tr} \\ \text{C} \end{matrix} \text{Nuc} \langle \text{N} \rangle \begin{bmatrix} \text{X} \\ \# \end{bmatrix} \right\rangle$
15. XtrX \Rightarrow tiatri, tràore
16. XplX \Rightarrow plumu, planton, erèpleni
17. J \rightarrow A $\begin{matrix} \text{N} \\ \text{m} \\ \text{r} \end{matrix}$
18. XmX \Rightarrow yam
19. A \rightarrow CV
20. #Nuc# \rightarrow #N#
21. #Nuc \rightarrow #V
22. Nuc \rightarrow V $\langle \text{V} \rangle$
23. X V Y \Rightarrow X V Y

Conditions:

X includes 1, 2 or no vowels

Y includes 1 vowel (if X includes 1 or 2) but not more than 3 vowels

If X does not include any vowels, Y does not include any vowels

24. V \rightarrow i, e, ɛ, a, ɔ, o, u
25. XrCX \Rightarrow XrC_RX
26. XNCX \Rightarrow XNC_NX
27. N# \rightarrow n#
28. C \rightarrow C_R, C_N, r, h, w
29. #r \Rightarrow #g
30. C_R \rightarrow C_C, l, N
31. C_N \rightarrow C_C, gb, p
32. C_C \rightarrow b, d, t, k, f, s, j
33. XNC_BX \rightarrow XmC_BX C_B covers b, p, gb, m

34. $XNyX \rightarrow X\tilde{n}yX$
 35. $XNCX \rightarrow XnCX$
 36. $N \rightarrow m, n, \tilde{n}$

This grammar contains many restrictions which should be noted. The restricted occurrence of morphs with unique consonant distributions is stated by unique rules. Eight rules (3, 4, 5, 6, 13, 15, 16, 18) specify that if certain options in previous rules are taken only certain morphs may be formed and they must always be formed. For instance, Rule 3 reads: "anytime /frik/ occurs in any environment it must be /àfrik/ and only /àfrik/", or "if you take /frik/ you must take /àfrik/". There is, as mentioned above, good reason to believe that these are not the only words containing consonant clusters and that more contact with French will result in a liberalization of these restrictions and, indeed, add even more clusters and final consonants. However, Morph Grammar III does represent the corpus far more accurately by treating those few words as unique items generated by unique rules. By excluding the troublesome items from the Lexicon ten rules could be omitted from Morph Grammar III.

4.5 Morph Grammar IV -- Another possibility would be to list the 'deviant' forms as a separate type of morph as was done for the syllable in Syllable Grammar III. Such a grammar would then read as follows.

MORPH GRAMMAR IV

- #Morph#
 1. Morph $\rightarrow \left\{ \begin{array}{l} M_1 \\ M_2 \end{array} \right\}$
 2. $M_2 \rightarrow$ mowamed, àfrik, lèkol, ànglɛ, plumu, planton, erèpleni, tràore, yam, gòro, gañe

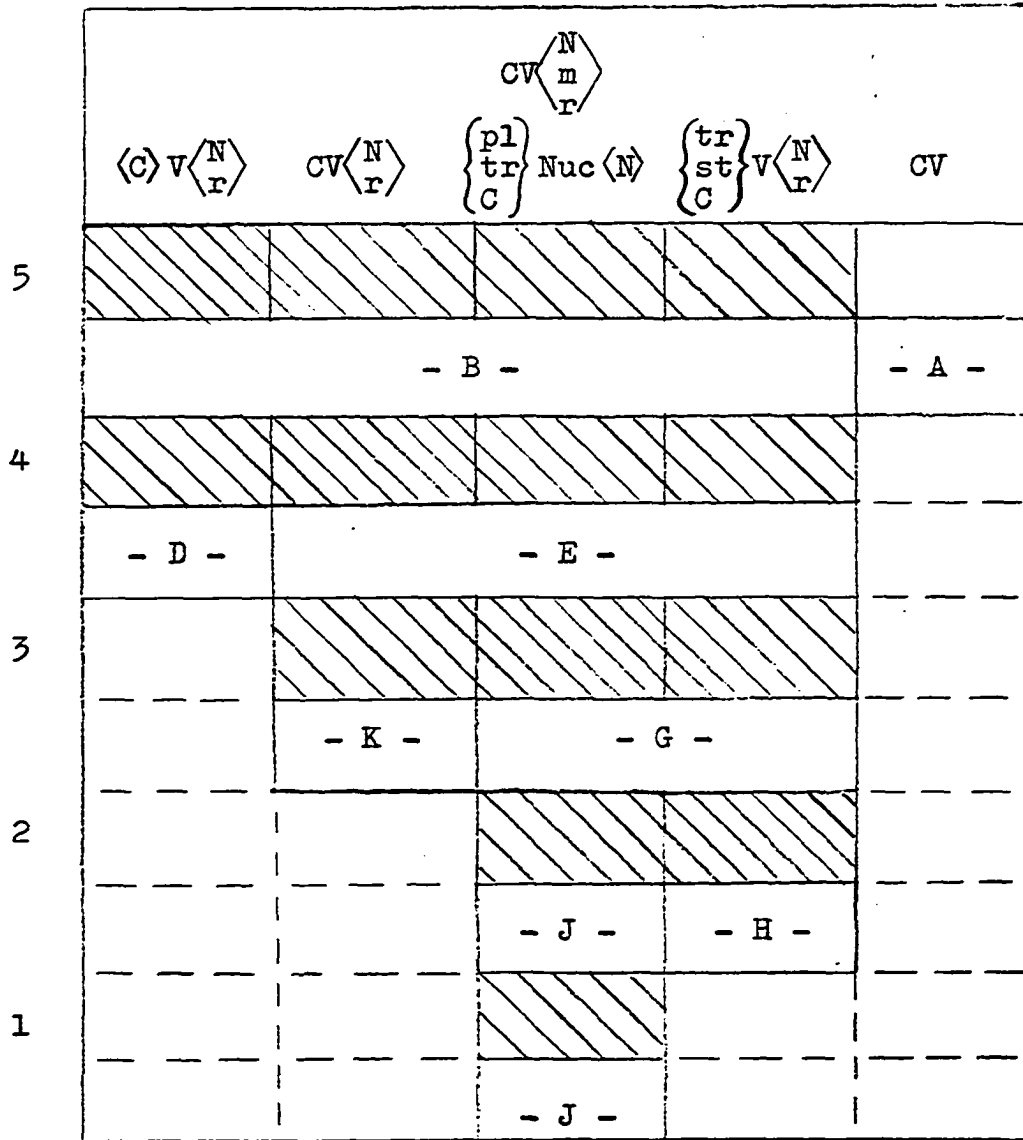
3. $M_1 \rightarrow B \langle A \rangle$
4. $B \rightarrow \left\{ \begin{array}{l} \langle D \rangle E \\ D \langle A \rangle \langle A \rangle \end{array} \right\}$
5. Morph Grammar III Rule 7
6. Morph Grammar III Rule 8
7. Morph Grammar III Rule 9
8. Morph Grammar III Rule 10
9. Morph Grammar III Rule 11
10. $H \rightarrow CV \langle \begin{array}{l} N \\ F \end{array} \rangle$
11. $\left[\begin{array}{l} \# \\ H \end{array} \right]_J \left[\begin{array}{l} X \\ \# \end{array} \right] \rightarrow \left[\begin{array}{l} \# \\ H \end{array} \right] \langle C \rangle \text{Nuc} \langle N \rangle \left[\begin{array}{l} X \\ \# \end{array} \right]$
and Morph Grammar III Rules 20-36

This grammar does not enumerate the ways in which the unique morphs are related to the common morphs. It conceals, for instance, the following points.

1. /àfrik/ is similar to the rest of the corpus in that the occurrence of vowels as a syllable is limited to initial position. The same for /ànglɛ/.
2. The cluster /pl/ is limited to the same position in the basic polysyllabic pattern (see Figure 7 that follows). That is, it may occur only initially in a two syllable morph, and at the beginning of the third syllable in a four syllable morph.
3. Double vowels occur initially or finally in two syllable morphs or in monosyllabic morphs. /tràors/ is an example of initial occurrence.

4.6 Basic Morph Pattern -- Returning then to Morph Grammar III, Figure 7 shows the order and composition of all syllables which can be combined into morphs. The shaded bars overlapping the various syllable columns indicate which syllables are to be included in a morph of given length. The Figure will aid the understanding of the following comments.

FIGURE 7
 BASIC POLYSYLLABIC PATTERN



All morphs are related to a basic polysyllabic pattern. Five syllable morphs are composed of the pattern for four syllable morphs plus a fifth and final syllable; four syllable morphs are made up of the pattern for three syllable morphs plus one initial syllable. Three syllable morphs consist of the pattern for two syllable morphs plus an initial syllable and two syllable morphs consist of the pattern for monosyllabic morphs plus a final syllable.

Morph Grammar III also specifies the following:

1. CV is the only possible final syllable in a five syllable morph (Rule 1, symbol A, Rule 19).
2. A vowel is a syllable-initial only in the first syllable (Rule 7).
3. Double vowels occur only in monosyllabic words or in the first or second syllable of a two syllable word (Rule 14).
4. No initial double vowels occur (Rule 21).
5. A final vowel is never accented (Rule 23).
6. There may be only one or no accented vowel in any morph (Rule 23). (If *Bisikirima is being generated, Rule 23 would allow any vowel but the last to be accented.)

The restrictions on intersyllabic consonant clusters are shown in Rules 25 and 26. From these rules come the following clusters with /r/,

rb, rd, rt, rk, rf, rs, ry, rl, rn, rm, rñ

and the following clusters with N (nasals).

Nb, Nd, Nt, Nk, Nf, Ns, Ny, Ngb, Np

The statement of restrictions is handled, by first specifying the form in its restricted context and then by stating the form as it occurs with no restrictions. Rule 27 states that a final nasal is always n. (Rule 17 gives /m/ as a possible final, but when /m/ is taken in Rule 17

it must become yam in Rule 18.) Rules 33, 34 and 35 specify the phonemic shape of the nasals in certain contexts and Rule 36 is for all nasals that have not had a specified context.

Which grammar is the best? For the corpus of material from one speaker, the third is the best. For the language in general none is the best. There are almost certainly many loan words bringing initial consonant clusters and other final consonants to the language, but until a study can be made of this immediate linguistic situation neither the possibilities nor the restrictions can be known, and their statement would be conjecture. Certainly, the most exact grammar of the morph in Faranah-Maninka would include elements of possible grammars between a grammar more permissive in consonant clustering than Morph Grammar I and the very specific restrictiveness of Morph Grammar III.

4.7 Morph Inventory -- Table 2 shows the occurrence of various types of morphs representing morphemes. The figures are based on a total of all morphemes in the Lexicon (each morpheme counts as one) and the tonal variants were not included. The total number of all the allomorphs of all of these morphemes would be approximately four times the number of the total given here due to the four possible tonal variants.

TABLE 2
MORPH TYPES

	#	%
1. Total Morphemes	1170	100.00
2. Monosyllabic	331	28.29
3. 2 Syllable	669	57.18
4. 3 Syllable	143	12.23
5. 4 Syllable	20	1.70
6. 5 Syllable	7	.60
7. Total 2-6	1170	100.00

Delafosse's study based on 1750 morphemes breaks down to 22% monosyllables, 77% disyllables and 1% polysyllables.

TABLE 3
PERCENTAGE OF VARIOUS MORPH SHAPES IN THE LEXICON

	#	%
1. Total	1170	100.00
2. -V#	844	72.22
3. -C#	324	27.78
4. Total 1 & 2	1170	100.00
5. -r#	4	.30
6. -N#	316	27.00
7. -other C#	4	.30
8. #CC-	8	.68
9. -VV-	28	2.30
10. #V-	12	1.02
11. morphemes with -NC-	153	13.10
12. morphemes with -rC-	29	2.50
13. high first syllable	580	49.57
14. low first syllable	590	50.43

Table 3 gives the number and percentage of various shapes of morphs as they occur in the corpus as morphemes.

Table 4 shows what morphs do occur and their percentage of the total Lexicon. Tonal differences and environmental length differences have been ignored.

TABLE 4
PERCENTAGE OF ALL MORPH SHAPES IN THE LEXICON

Types 2, 4, 12 and 19 include vowels that are always short and vowels that are potentially long (see 5.5 Rule 177).

1.	CVCV	31.70%	26.	CVRCVCVN	.008%
2.	CV	17.52	27.	CVCVCVCVN	.008
3.	CVCVN	12.56	28.	CCVCV	.008
4.	CVN	9.23	29.	CCVNCVN	.008
5.	CVCVC	7.17	30.	CVCCV	.008
6.	CVNCV	6.41	31.	CVRCVCVN	.008
7.	CVNCVN	2.30	32.	CVNCVCVCVCV	.008
8.	CVNCVCV	1.53	33.	CVCVRCVCV	.008
9.	CVCVN	1.36	34.	CVNCVCVN	.008
10.	CVRCV	1.36	35.	CVNCVCVCVN	.008
11.	CVCVCVCV	1.11	36.	CVVCV	.008
12.	CVV	.76	37.	CCVVCV	.008
13.	CVVCV	.76	38.	VVCVN	.008
14.	CVCVCVN	.68	39.	VVCVCV	.008
15.	CVNCVCVN	.59	40.	VN	.008
16.	CVRCVN	.49	41.	VVCVCV	.008
17.	VVCV	.30	42.	VVCVCVCV	.008
18.	CVCVCVCVCV	.30	43.	VCCVC	.008
19.	CVVN	.30	44.	VNCVCVN	.008
20.	CVRCVCV	.20	45.	C	.008
21.	CVCVR	.20	46.	CVCVCVR	.008
22.	CVCVRCV	.09	47.	CVCVN	.008
23.	CVVCVN	.09	48.	CV _m	.008
24.	CVCVV	.017	49.	CVCVCV _d	.008
25.	V	.017	50.	CVCV _l	.008

CHAPTER FIVE

GRAMMAR

5.1 Introduction to the Grammar -- The following grammar of Faranah-Maninka is a sentence grammar as opposed to a syllable, word or utterance grammar. An utterance grammar would account for every grammatical string of words uttered by a native speaker of the language. There are no iron-clad rules for determining when something someone says is not a sentence but an utterance and can therefore be excluded from a sentence grammar. The writer of a sentence grammar postulates what the whole sentences of the language are by including them in a sentence grammar and excluding everything else. This sentence grammar excludes ellipsis (and with it a small share of adverbial phrases) and a number of compound sentences for which insufficient data exists. Also excluded are things that are not known. Furthermore, this grammar is limited to a corpus. The grammar admittedly does not completely satisfy the criteria stated in Chapter One but it does go farther than any other grammar toward satisfying the criteria and provides an advanced jumping-off point for further study. To improve the grammar one would have to deal satisfactorily with ellipsis and constructions which are not now known.

Since the goal of the entire study is to communicate information about Faranah-Maninka, a short 'pre-grammar' has been prepared to help the reader gain as much as possible from the transformational grammar that follows. This 'pre-grammar' is not intended to replace the sentence grammar or be equal to a traditional non-transformational grammar.

5.1.1 Noun Phrase -- The basic NP (excluding alterations by transformational rules) is a noun or pronoun with an

optional plural marker ^Lu and optional count numeral +Num. Nouns can be N₂ (body parts and close relatives) and N₁ (everything else) or N_{man}-man, N_{ya}-ya (N_{man} that takes -man or N_{ya} that takes -ya). The -man has a partitive meaning and -ya means '-ness' or 'hood'. Any adjective plus -ya is a noun, and a small subclass of verbs that take nin or nin-La are nouns. The following examples of NP include NP altered by transformations (marked (T)) and exclude ^Lu and +Num.

1. N
 - a. ba 'river'
 - b. kè 'man'
 - c. wùlu 'dog'
2. N-N (T)
 - a. ña-yi 'tears'
 - b. bon-ti 'house owner'
 - c. ba-da 'river bank'
 - d. -kuna-to 'leper'
3. N-N-N (T)
 - mòro-fa-ti 'gun owner'
4. N-N-V-N (T)
 - fɛdɛ-den-gbasi-fen 'brick mold'
5. N_{man}-man
 - a. gbàlo-man 'mixing tool'
 - b. kàla-man 'a stick'
 - c. yùsu-man 'braveness'
6. N_{man}-man-N (T)
 - a. yɛlɛ-man-ko 'comedy'
 - b. yèlɛ-man-to 'person in the state of being cradled'
 - c. kara-man-to 'unlucky one'

7. N-N_{man}-man (T)
 a. bàla-yolo-man 'porcupine quill'
 b. da-si-man 'bearded one'
 c. fa-den-man 'antagonist'
8. V_{nin}-nin-La
 a. lòn-nin 'knowledge'
 b. lòn-nin-La 'a knower'
 c. ma^kòno-nin 'a wait'
 d. La^bòri-nin 'kidnapped girl'
9. Adj-ya
 a. kèndε-ya 'a cure'
 b. gbε-ya 'clarity'
 c. bùña-ya 'bigness'
10. N-N-Adj-ya-N (T)
 san-su-wa-ya-boro 'witch power'
11. N-Adj-N (T)
 a. mùso-naanin-furu 'four woman marriage'
 b. mùso-siya-man-furu 'polygyny'
12. N-N_{man}-man
 m̀ò-to-man 'famous person'
13. V(^La) (T)
 a. fo(^La) 'at singing'
 b. san(^La) 'at buying'
14. V (T)
 a. ma^dèn 'a meeting'
 b. san 'buying'
 c. tibi 'cooking'
15. V-Li (T)
 a. tibi-Li 'cooking'
 b. ñò-ño-Li 'tickling'
 c. fàsari-Li 'a comment'

16. V-Li-La (T)
- a. tibi-Li-La 'a cook'
 - b. kà-Li-La 'a harvester'
 - c. fà-Li-La 'a butcher'
17. N-V (T)
- a. nìsi-fa 'cow killing'
 - b. tèli-la 'story telling'
 - c. kulun-bɔ 'canoe launching'
18. N-V-N (T)
- a. nìsi-fa-La 'a butcher'
 - b. tèli-la-La 'story teller'
 - c. mùdu-bɔ-tuma 'tax paying time'
 - d. gbà-don-diya 'kitchen'
 - e. sɪ-ban-tɔ 'reckless person'
19. V-Li-V (T)
- a. sɛbɛ-Li-kɛ 'writing'
 - b. kara-Li-kɛ 'sewing'
20. V-Li-V-La (T)
- a. sɛbɛ-Li-kɛ-La 'writer'
 - b. fàsari-Li-fɔ-La 'comment sayer'
 - c. kara-Li-kɛ-La 'sewer'
21. N-V-La (T)
- a. màña-La^yi-La 'vain person'
 - b. buru-ñɛnin-La 'baker'
 - c. fànin-sɔ-La 'weaver'
22. N-N-V (T)
- a. kun-si-tan 'bald one'
 - b. bonbo-si-tan 'beardless one'
23. V-N (T)
- a. kà-ña 'way to harvest'
 - b. La^dèn-fen 'collective thing'

24. Loc-N (T)
- | | | |
|----|---------------------------------------|----------------------|
| a. | ni ^ˆ ma-kara | 'anguish' |
| b. | bi ^ˆ rc ^ˆ La-mo | 'office worker' |
| c. | wa ^ˆ ro-sila | 'road in the forest' |
| d. | ke ^ˆ ko ^ˆ ro-si | 'marriage' |
25. N-Loc-N (T)
- | | | |
|--|------------------------------|----------------|
| | foni-kise ^ˆ La-mo | 'petty person' |
|--|------------------------------|----------------|
26. Loc-V-N (T)
- | | | |
|----|---|---------------------|
| a. | tin ^ˆ ko ^ˆ ro-si-La | 'midwife' |
| b. | kun ^ˆ ko ^ˆ ro-La-boro | 'pillow' |
| c. | so ^ˆ ro-wa-lo | 'desire to go home' |
27. N-Loc-N-V (T)
- | | | |
|--|--|---------------------------|
| | su ^ˆ -ban ^ˆ La-teli-la | 'all night story telling' |
|--|--|---------------------------|

The difference between N_1 and N_2 is apparent only when the nouns are possessed by something or someone. Where the non-body parts are possessed, the possessor is marked by /^ˆLa/ as in the following.

n ^ˆ La+bon	'my house'
ke ^ˆ La+bosa	'the man's whip'
babu ^ˆ La+batikiki	'Babu's letter'
baba ^ˆ La+bon-bon	'daddy's candy'

Body parts and close relatives, however, are possessed without /^ˆLa/.

a ^ˆ +bolo	'his hand'
senba+sèn	'the elephant's foot'
n+n̄a	'my eye'
i+ma	'your grandmother'
n+fa-do-nin	'my father's younger sibling'

Other nominal suffixes include locative suffixes.

ro	'in, into'
La	'on, at, within'
kan	'on top of'
ma	'on the surface of'
fs	'near'
ts	'in the middle of'
tama	'between'
koro	'under'
kuna	'over'
koma	'behind'
bolo	'in the hand of, owned by and with'

Two other suffixes are used, ^ye 'for, instead of', and ^di 'similar to'.

5.1.2 Adjectives -- Adj₁ can follow NP+ with no Vbl. Adj₂ follows NP+ with a limited set of Vbl affixes (see Rules 2 and 5 in the grammar). All adjectives can be nouns by adding -ya ('-hood, -ness'). A limited number can be verbs with the suffixes -man and -ya and prefixes La^ and ma^. Adj₁ includes a third subclass, Adj₃ which includes all adjectives that can modify nouns but cannot occur after NP+ and form a grammatical sentence. Adj₃ also includes numerals Num and Num-nan, (the ordinal) and Num-pe ('only so many').

5.1.3 Adverbs -- The grammar includes much under Adv that results from unstated deletion rules or ellipsis. Many of the items included under Adv are constructions but no rules are given to show how they are constructed. These items appear to be parts of sentences, but the rules for determining which parts of which sentences are to be deleted cannot be stated at this time. Rules are given that shift adverbs from place to place and duplicate them. Where possible, regularities in the structure of adverbs have been indicated.

5.1.4 Verbs -- Verbs divide themselves into transitive and intransitive. Some subclasses within each class (V_{tran} and V_{intra}) require a particular form of Dir and this is indicated by assigning a different symbol for each subclass. Although the grammar writes,

$$V_{\text{ref}} \left\langle \left\{ \begin{array}{c} \text{ro} \\ \text{la} \\ \text{ma} \\ \text{koro} \\ \text{kan} \end{array} \right\} \right\rangle$$

this is only a convenient short hand writing for the symbols $V_{\text{ref,ro}}$, $V_{\text{ref,la}}$ etc. Tables 5 and 6 show the diversity of the verb. Note that in the case of V_{ref} above, putting the symbols after V_{ref} in optional brackets allows all of the following $V_{\text{ref,ro}}$, $V_{\text{ref,la}}$, $V_{\text{ref,ma}}$, $V_{\text{ref,koro}}$, $V_{\text{ref,kan}}$ and V_{ref} . The only case where this is not so is with $V_{\text{int,r}}$ and $V_{\text{int,m}}$. This does not mean that $V_{\text{int,r}}$ and $V_{\text{int,m}}$ must always have a Dir, but in choosing symbols for the subclasses, all possible occurrences of verbs can be accounted for without the inclusion of separate symbols for $V_{\text{int,r}}$ and $V_{\text{int,m}}$.

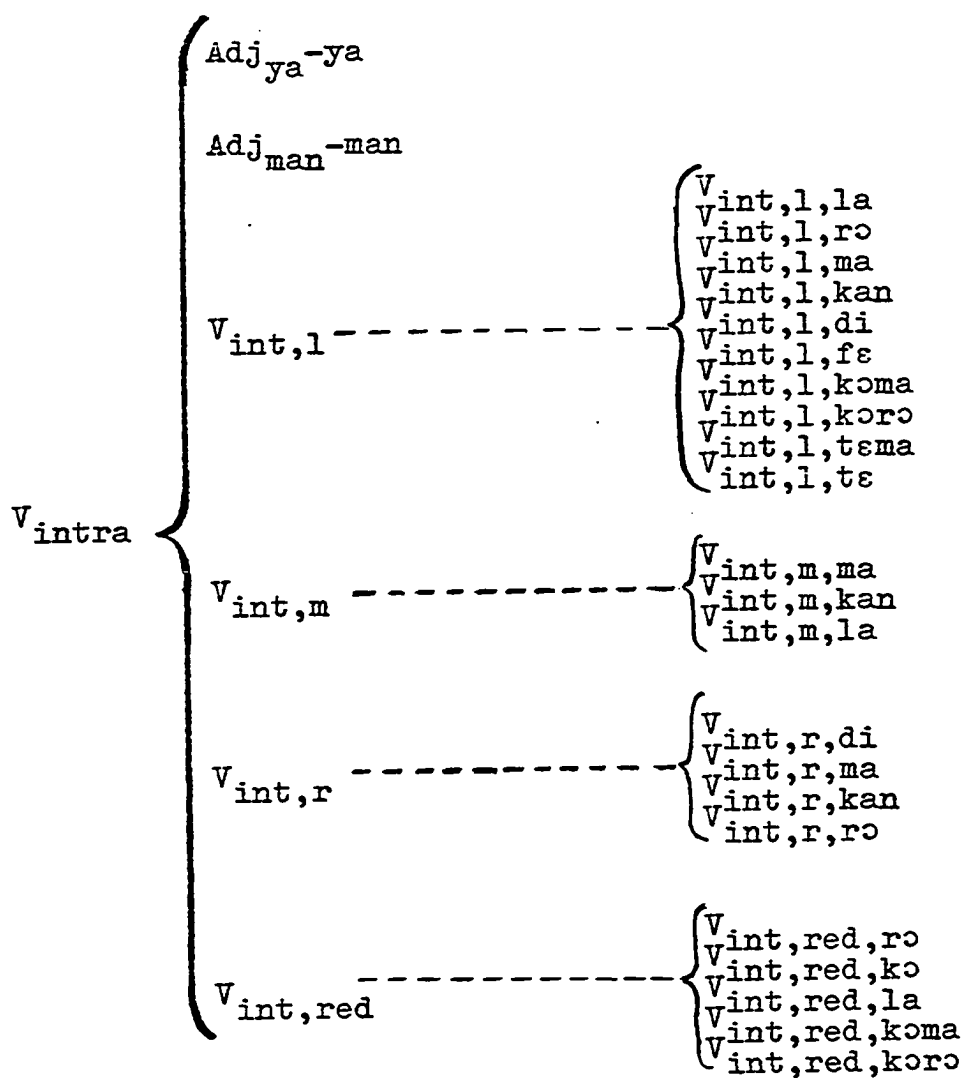
V_{tran} has in addition a reflexive subclass, subclasses that include prefixes La^ ('causative, actor known') ma^ ('causative, actor a person') and ra^ (intensifier). The meanings given for the prefixes are general and are considered to be a part of the verb meaning, and are not related to any noun, subject or object, in the sense that concord is required between a NP and one of the above verbs. Also included under the verbs above are the adjectives mentioned above (5.1.2).

The following tables illustrate the various subclasses of verbs.

TABLE 5
TRANSITIVE VERB TYPES

V_{tran}	{	$\langle ra^{\wedge} \rangle V_{tr,r} \langle t\acute{e}ma \rangle$	{	$La^{\wedge} V_{int,l,la}$
		$V_{ref,red}$		$La^{\wedge} V_{int,l,ro}$
		$La^{\wedge} V_{int,l}$ -----		$La^{\wedge} V_{int,l,ma}$
		$La^{\wedge} Adj_L - ya$		$La^{\wedge} V_{int,l,kan}$
		$ma^{\wedge} Adj_M - ya$		$La^{\wedge} V_{int,l,di}$
				$La^{\wedge} V_{int,l,fs}$
				$La^{\wedge} V_{int,l,k\acute{o}ma}$
				$La^{\wedge} V_{int,l,k\acute{o}ro}$
				$La^{\wedge} V_{int,l,t\acute{e}ma}$
				$La^{\wedge} V_{int,l,ts}$
		$Adj_V - ya$		
		$Adj_{man} - man$		
		$\langle La^{\wedge} \rangle V_{tr,l}$ -----		$La^{\wedge} V_{tr,l,la}$
				$La^{\wedge} V_{tr,l,ro}$
	$La^{\wedge} V_{tr,l,ma}$			
	$La^{\wedge} V_{tr,l,k\acute{o}ro}$			
	$La^{\wedge} V_{tr,l,kan}$			
	$La^{\wedge} V_{tr,l,t\acute{e}ma}$			
V_{ref} -----	$V_{ref,ro}$			
	$V_{ref,la}$			
	$V_{ref,ma}$			
	$V_{ref,k\acute{o}ro}$			
	$V_{ref,kan}$			
V_{tr} -----	$V_{tr,kan}$			
	$V_{tr,ma}$			
	$V_{tr,la}$			
	$V_{tr,bolo}$			
	$V_{tr,k\acute{o}ro}$			
	$V_{tr,ro}$			
$ma^{\wedge} V_{int,m}$ -----	$ma^{\wedge} V_{int,m,ma}$			
	$ma^{\wedge} V_{int,m,kan}$			
	$ma^{\wedge} V_{int,m,la}$			
$ra^{\wedge} V_{int,r}$ -----	$ra^{\wedge} V_{int,r,di}$			
	$ra^{\wedge} V_{int,r,ma}$			
	$ra^{\wedge} V_{int,r,kan}$			
	$ra^{\wedge} V_{int,r,ro}$			
$\langle ma^{\wedge} \rangle V_{tr,m}$ -----	$ma^{\wedge} V_{tr,m,bolo}$			
	$ma^{\wedge} V_{tr,m,la}$			
	$ma^{\wedge} V_{tr,m,ma}$			
	$ma^{\wedge} V_{tr,m,red}$			
$V_{tr,red}$ -----	$V_{tr,red,ko}$			
	$V_{tr,red,la}$			

TABLE 6
INTRANSITIVE VERB TYPES



5.1.5 Tense-Aspect and Copula -- When sentences are combined by transformations, tense sequences which seem quite unlikely to an English speaker occur readily in this language. The examples given after each rule probably illustrate the possibilities best. Each Vbl morpheme is shown below with an approximate English equivalent meaning.

ye+Loc	'be in or at a place' from <u>ke</u> (Rule 157)
ye+V	'should' from <u>ni</u> (Rule 145)
di	'will' future marker
De	'is' between <u>NP</u> and <u>NP</u>
di+ke+Loc	'will be' before Loc
ba	'be, when it is'
ba+ke+Loc	'when it is somewhere'
te	negative of <u>ke</u> and <u>De</u>
ka+Adj ₂	'is'
bara+Adj ₂	'was'
ma+Adj ₂	'is not'
ka+NP +V _{tran}	'did'
V _{intra} ^ra	'did'
ma+NP +V _{tran}	'did not'
ma+V _{intra}	'did not'
V ^ta	'is to be V'ed'
V-nin	'has been V'ed'
kakan	'must'
kòsan+V	know how to V
ni	'be, should'
# ni+Vbl	'if+Vbl'
kana	negative imperative
ni+ba	'if it happens that'
tərs+ye+Loc	'was in a place'

tɛrɛ+te	'was not'
tɛrɛ+di	'would be, would have'
tɛrɛ+ka	'had done, had been'
tɛrɛ+bara	'had done, had been'
tɛrɛ+ba	'if it happened that'
(kakan and kòsan cannot take tɛrɛ)	

5.1.6 Sentence Types -- There are seven basic sentence types described in the phrase structure.

1. Nominal, Adj₁
2. Nominal, Auxiliary, Adj₂
3. Nominal, Copula, Nominal
4. Nominal, Copula, Locative
5. Nominal, Auxiliary, Nominal, Transitive verb
6. Nominal, Auxiliary, Intransitive verb
7. Nominal, Imperative

All of them except (1) can be followed by an adverbial construction. Questions are formed by a question word within the adverbial construction or by rising intonation instead of a question word. Transformational rules combine and alter the above.

5.1.7 Conjunction -- NP's may be conjoined by àni or ^wo. There is a rule in the grammar that allows any NP to be attached to any other NP without restriction. A more delicate grammar would probably place restrictions on what should be combined with what, but at present these restrictions appear to be semantic rather than grammatical and any NP may combine with NP.

5.2 Conventions -- There are a number of conventions and symbols used in transformational grammars. The following list presents the conventions and symbols used in this study.

5.2.1 Single Arrow \rightarrow -- Used in rewrite rules in the Phrase Structure section of the Sentence Grammar and in Syllable and Morph Grammars. One or more symbols may occur on the left hand side. If one symbol occurs, it is rewritten. If a string of symbols appears on the left only one symbol of that string is rewritten. The latter is a contextual rewrite rule.

5.2.2 Double Arrow \Rightarrow -- Obligatory transformation. Whatever is on the left hand side must become what is on the right hand side. After an obligatory transformation is performed, the symbol(s) or string of symbols on the left hand side no longer exist as such.

5.2.3 Optional Transformation $\xrightarrow{\text{opt}}$ -- The double arrow with opt above it indicates that the string on the left of $\xrightarrow{\text{opt}}$ may or may not become whatever is on the right. When the rule is not used, the string on the left can undergo further transformation.

5.2.4 Double Based Transformation I $\} \Rightarrow$ -- This is used to combine two structures together. This rule represents two rules. These rules are as illustrated below.

$$\left. \begin{array}{l} X Y Z \\ A B C \end{array} \right\} \Rightarrow X A B Y C Z$$

- a. XYZ and ABC may or may not be combined.
- b. Whenever XYZ and ABC are combined, they must become XABYCZ.

This rule allows XYZ and ABC to exist as such, after the transformation.

5.2.5 Double Based Transformation II $\Rightarrow \} \Rightarrow$ -- Like 5.2.4 except one member must always be combined with the other.

$$\Rightarrow \left. \begin{array}{l} X Y Z \\ A B C \end{array} \right\} \Rightarrow X A B Y C Z$$

- a. All XYZ's must be combined with an ABC.
- b. Whenever XYZ and ABC are combined, they must become XABYZ.

After this rule, there are no more XYZ's, but ABC's still exist.

5.2.6 Angle Brackets $\langle \rangle$ -- These brackets enclose optional symbols. When optional symbols occur in a string of symbols it means that there is a similar string including the optional item, and a string without the optional item.

5.2.7 Braces $\{ \}$ -- When a choice of symbols is available, they are written in braces.

$$A \left\{ \begin{array}{l} B \\ C \\ D \end{array} \right\} E \text{ stands for the strings } \begin{array}{l} A B E \\ A C E \\ A D E \end{array}$$

5.2.8 Square Brackets $[]$ -- Brackets are used to maintain the identity and relationship of symbols on both sides of a double or single arrow.

$$\left[\begin{array}{l} X \\ Y \\ Z \end{array} \right] A \left[\begin{array}{l} B \\ C \\ D \end{array} \right] \Rightarrow \left[\begin{array}{l} B \\ C \\ D \end{array} \right] A \left[\begin{array}{l} X \\ Y \\ Z \end{array} \right]$$

5.2.9 Cover Symbols -- These are symbols reserved for multiple uses such as specifying a large number of environments. All but \underline{X} are defined each time they are used. The symbol \underline{X} means anything or nothing unless otherwise stated. The small \underline{x} is used only in Rule 26 where Dir is rewritten and it stands for any item on the right hand side of Rules 24 and 25 that can occur before ro, la, di, kan, etc.

5.2.10 Crosshatch # -- The 'goal' of the grammar (in the case of a sentence grammar, sentences) is given a symbol and placed between #'s. This is not a rule and is

not numbered.

#S# (sentences)

#U# (utterances)

5.2.11 Long Lexical Lists -- These are not written in the grammar. One or more examples of an item are given and followed by (+Lex) which means see this item (V_{tran} for instance) in the Lexicon.

5.2.12 Conditions -- In order to make a transformation express the facts about the language in the broadest terms, (i.e. with the most powerful rule) conditions are often stated after a rule that increase its power, for instance, if certain elements are present the rule may be optional. Rule 151 in the Sentence Grammar is of this type.

$$X+Y \Rightarrow X+Z$$

Condition:

Rule optional if $Y = \bar{y}$ in

Another kind of condition is based on identity and non-identity. The following rule operates only when Adv is the same as Adv'.

$$X+Adv+Adv' \Rightarrow X+Adv'+Adv$$

$Adv = Adv'$

The prime (') is not a part of the symbol Adv, it is simply a device used to indicate identity and non-identity (e.g. $Adv \neq Adv'$). It is always assumed that like symbols equal like symbols unless otherwise mentioned. A similar type condition is inclusion. In the rule

$$Adv+X \Rightarrow X+Adv$$

Adv does not include
Time.

This rule operates only when Time is not included in Adv.

5.2.13 Examples -- In illustrating transformational rules, the examples are always grammatical; they need no further transforming. Wherever one rule is illustrated by grammatical strings, part of which come from transformations farther on in the grammar than the rule being illustrated,

there is an asterisk after the final # of the example.

5.2.14 (L) and (R) -- All examples are marked (L) and (R) before the initial # of an example to indicate whether the left (L) or right (R) hand side of the rule is being illustrated.

5.2.15 X' and X'' -- Where a rule specifies 'same environments' for an item with X' or X'', these symbols are defined for each example. The definition is part of the example, not part of the rule.

5.2.16 Ordered Expansion -- Rules are ordered. Phrase Structure rules are ordered so that a symbol that is rewritten or expanded is not rewritten again, although it may appear on the left hand side of \rightarrow to specify the environment of another symbol being rewritten. Although the grammar is divided into three sections, the rules are numbered consecutively throughout.

5.2.17 Subclass Notation -- There are 64 subclasses of the verb due to the combinations of reflexive, reduplicative, transitive, intransitive, etc. The element which causes a subclass to be listed the most times is the item which directly corresponds to Dir. ($V_{tr,ro}$ causes Dir to become NP^{ro} .) Rather than list all of the possibilities ($V_{tr,ro}$, $V_{tr,la}$, $V_{tr,ma}$, etc.) this presentation adopts the convention that $V_{tr, \begin{pmatrix} ro \\ la \\ ma \end{pmatrix}}$ stands for $V_{tr,ro}$, $V_{tr,la}$, $V_{tr,ma}$; all of

which are separate, whole and indivisible symbols and are rewritten as such. This notational convention permits the writing of long cumbersome strings of symbols in a more orderly fashion which aids the reader in understanding the subclass system. This form of notation is mentioned again when it is used.

5.3 Phrase Structure Rules -- This section of the Sentence Grammar specifies the basic sentence patterns of the language and illustrates their structural relationships with one another. Rules are included that tell what each symbol is in terms of morphemes (in morphophonemic notation). Every string generated by the Phrase Structure can be altered or combined with other strings in the Phrase Structure by transformation rules to form sentences. Some strings in the Phrase Structure generate grammatical strings and these strings are illustrated in the Phrase Structure section.

S

1. $S \rightarrow \text{NP} \langle +\text{Vbl} \rangle + \text{Predicate}$

2. $\text{NP} + \text{Predicate} \rightarrow \text{NP} + \text{Adj}_1$

When the optional Vbl in Rule One is not taken, Predicate becomes a class of adjectives (Adj₁).

(R) # bon+kura # 'The house is new.'

(R) # yiri+koro # 'The tree is old.'

3. $\text{Predicate} \rightarrow \left\{ \begin{array}{l} \text{NP} \\ \text{Adj}_2 \\ \text{Loc} \\ \text{Predic} \end{array} \right\} \langle +\text{Adv} \rangle$

4. $\text{Vbl} + \text{NP} \rightarrow \left\{ \begin{array}{l} \text{De} \\ \text{te} \end{array} \right\} + \text{di} + \text{NP}$

This kernel must undergo a transformation before grammatical strings can come from it. (Rule 146)

5. $\text{Vbl} + \text{Adj}_2 \rightarrow \left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{di} \\ \text{te} \\ \text{ma} \end{array} \right\} + \text{Adj}_2$

(R) # wulu+ka+bon #* 'The dog is big.'

(R) # yiri+ma+yan # 'The tree is not tall.'

- (R) # à+di+à+kε # 'He will do it.'
 (R) # à+te+ta # 'He won't go.'
 (R) # à+te+à+kε # 'He won't do it.'

13. NP + kana → i + kana

Whenever kana, the imperative negative, is chosen, the NP of the string must be i, the second person singular pronoun. Any string containing kana must undergo a transformation. (Rule 122)

14. Adv → ⟨Loc⟩ ⟨+ Time⟩ ⟨+ Adv_R⟩ ⟨ { Quest } ? ⟩ ⟨ // Adv_S ⟩

Adv may be any of the above. The ? is a grammatical symbol. One may choose either Quest (Question Adverbs) or ?. The ? will undergo transformation to the end of the string and ultimately cause sentence final question intonation. Sentence Adverbs (Adv_S) are concatenated by the symbol // which will have tonal consequences different from +, ^, or --.

15. Quest → di, tuma-min-tan, min, wa, ko, kowe,
 ba, fan-nūman, mun, mun^La
 16. Loc → NP ^L, yan, yen, wodi, NP -diya,
 ⟨Nom⟩-fan⟨-Adj⟩ (+ Lex)
 17. Adv_S → ⟨ma+⟩ Adv_N, Adv_{red}, siña-Num (+ Lex)
 18. Adv_N → burun (+ Lex)
 19. Adv_{red} → lon (+ Lex)

20. $\left\{ \begin{array}{l} ta \\ ba \\ di \\ kakan \\ kana \\ te \end{array} \right\} \langle + NP \rangle + V \langle + X \rangle + Time + Y \rightarrow$
 $\left\{ \begin{array}{l} ta \\ ba \\ di \\ kakan \\ kana \\ te \end{array} \right\} \langle + NP \rangle + V \langle + X \rangle + Time_{pf} + Y$

X = Loc
 Y includes Quest, ?, Adv_S

21. $\text{Time}_{\text{pf}} \rightarrow \text{bi, sini} \langle -\text{kende} \rangle, \text{NP} -\text{tuma}, \text{NP} +\text{yani}$
 (+ Lex)
22. $\text{Time} \rightarrow \text{Time}_{\text{pst}}$
23. $\text{Time}_{\text{pst}} \rightarrow \text{kunun, tun, tere, NP} -\text{tuma}, \text{man},$
 NP +yani, bi (+ Lex)

In Rule 20 Time after present or future tense-aspect marker is restricted to Time_{pf} such as today, tomorrow and before tomorrow. Time in Rule 22 becomes Time_{pst} after past or completive tense-aspect markers (everything else).

The following two rules rewrite the symbols V_{tran} and V_{intra}.

The items in braces following V_{ref}, V_{tr}, V_{int,l} etc. when attached to V_{ref}, V_{tr}, V_{int,l} etc. permit writing short, convenient symbols. For example $V_{\text{ref}, \left\{ \begin{array}{l} \text{ro} \\ \text{la} \\ \text{ma} \\ \text{koro} \\ \text{kan} \end{array} \right\}}$ stands for

V_{ref,ro}, V_{ref,la}, V_{ref,ma}, V_{ref,koro}, V_{ref,kan}.

24. $V_{tran} \rightarrow V_{ref}, \left\{ \begin{array}{c} ro \\ la \\ ma \\ koro \\ kan \end{array} \right\}; V_{tr}, \left\{ \begin{array}{c} kan \\ ma \\ la \\ bolo \\ koro \\ ro \end{array} \right\};$

$La^V_{int,l}, \left\{ \begin{array}{c} la \\ ro \\ ma \\ kan \\ di \\ fe \\ koma \\ koro \\ tema \\ te \end{array} \right\}; ma^V_{int,m}, \left\{ \begin{array}{c} ma \\ kan \\ la \end{array} \right\};$

$ra^V_{int,r}, \left\{ \begin{array}{c} di \\ ma \\ kan \\ ro \end{array} \right\}; \langle La \rangle V_{tr,l}, \left\{ \begin{array}{c} la \\ ro \\ ma \\ koro \\ kan \\ tema \end{array} \right\};$

$\langle ma \rangle V_{tr,m}, \left\{ \begin{array}{c} bolo \\ la \\ ma \\ red \end{array} \right\}; \langle ra \rangle V_{tr,r}, \langle tema \rangle;$

$V_{tr,red}, \left\{ \begin{array}{c} ko \\ la \end{array} \right\}; V_{ref,red};$

$La^Adj_L-ya; ma^Adj_M-ya; Adj_V-ya;$

$Adj_{man}-man$

25. $V_{intra} \rightarrow V_{int,} \left\{ \begin{array}{c} \text{kan} \\ \text{di} \\ \text{ma} \\ \text{ro} \\ \text{ko} \\ \text{la} \end{array} \right\}; V_{int,l,} \left\{ \begin{array}{c} \text{la} \\ \text{ro} \\ \text{ma} \\ \text{kan} \\ \text{di} \\ \text{fe} \\ \text{koma} \\ \text{koro} \\ \text{tama} \\ \text{te} \end{array} \right\};$

$V_{int,m,} \left\{ \begin{array}{c} \text{ma} \\ \text{kan} \\ \text{la} \end{array} \right\}; V_{int,r,} \left\{ \begin{array}{c} \text{di} \\ \text{ma} \\ \text{kan} \\ \text{ro} \end{array} \right\};$

$V_{int,red,} \left\{ \begin{array}{c} \text{ro} \\ \text{ko} \\ \text{la} \\ \text{koma} \\ \text{koro} \end{array} \right\}; \text{Adj}_{ya-ya};$

$\text{Adj}_{man-man}$

26. $\left[\begin{array}{c} x,ro \\ x,la \\ x,di \\ x,kan \\ x,ma \\ x,fe \\ x,te \\ x,tama \\ x,koro \\ x,koma \\ x,bolo \\ x,ko \end{array} \right] + \text{Dir} \rightarrow \left[\begin{array}{c} x,ro \\ x,la \\ x,di \\ x,kan \\ x,ma \\ x,fe \\ x,te \\ x,tama \\ x,koro \\ x,koma \\ x,bolo \\ x,ko \end{array} \right] + \text{NP} \wedge \left[\begin{array}{c} ro \\ La \\ di \\ kan \\ ma \\ fe \\ te \\ tama \\ koro \\ koma \\ bolo \\ ko \end{array} \right]$

x = anything that occurs before ro, la, di, etc. on the right hand side of Rules 24 and 25

27. $\text{Dir} \rightarrow \text{NP}^{\text{ye}}$

A transformation will allow a second Dir to follow anything except NP^{ye} on the right hand side of Rule 26 and that Dir must NP^{ye}. (Rule 135) Examples will be given after Rule 135.

28. $\text{NP} + \text{V}_{\text{ref}} \rightarrow \text{Pro} + \text{V}_{\text{ref}}$

29. $\text{NP} \rightarrow \text{Nomin} \langle \text{^Lu} \rangle \langle +\text{Num} \rangle$

30. $\text{Nomin} \rightarrow \left\{ \begin{array}{l} \text{Pro} \\ \text{Nom} \end{array} \right\}$

Nomin is divided into Pro and Nom in order that a transformational rule (Rule 153) will be able to distinguish between nouns and pronouns.

31. $\text{Nom} \rightarrow \left\{ \begin{array}{l} \text{N}_{\text{man}} \langle -\text{man} \rangle \\ \text{N}_{\text{ya}} \langle -\text{ya} \rangle \\ \text{N}_1 \\ \text{N}_2 \end{array} \right\}$

32. $\text{N}_1 \rightarrow \text{Num}, \text{N}_{\text{red}}, \text{Adj}_1\text{-ya}, \text{Adj}_2\text{-ya}, \text{V}_{\text{nin-nin}} \langle -\text{La} \rangle$
(+ Lex)

33. $\text{N}_{\text{red}} \rightarrow \text{na} \text{ (+ Lex)}$

34. $\text{N}_2 \rightarrow \text{s\`en} \text{ (+ Lex)}$

35. $\text{N}_{\text{man}} \rightarrow \text{gb\`alo} \text{ (+ Lex)}$

36. $\text{N}_{\text{ya}} \rightarrow \text{k\`e} \text{ (+ Lex)}$

37. $\text{L} \rightarrow \text{ro}, \text{La}, \text{kan}, \text{ma}, \text{fe}, \text{te}, \text{t\`ema}, \text{koro}, \text{koma},$
 kuna, ye

38. $\text{Adj}_1 \rightarrow \left\{ \begin{array}{l} \text{Adj}_L \\ \text{Adj}_M \\ \text{Adj}_V \\ \text{Adj}_{\text{man}} \\ \text{Adj}_{\text{ya}} \\ \text{Adj}_{\text{red}} \\ \text{Adj}_3 \\ \text{Adj} \end{array} \right\}$

39. $\text{Adj}_3 \rightarrow \text{Num} \left\langle \begin{array}{l} \text{-nan} \\ \text{-pe} \end{array} \right\rangle, \text{nin}, (+ \text{Lex})$

The following seven rules generate all of the numerals from one, through 9,999. Some of the complexities of the numeral grammar rest in the facts that there is a word for twenty, /mùan/, whereas thirty, forty etc. are formed with the morpheme /bi/, and that the morpheme /kɛmɛ/ means 'one hundred' not just 'hundred'.

40. $\text{Num} \rightarrow \langle \text{wa} + \text{A} \rangle \langle + \text{K} \rangle$

Thousands are generated by Rule 40. A specifies how many thousands and if K is taken with wa+A it will read 'X thousand, X hundred, X tens, X units'. K generates only numbers less than 1000.

41. $\text{K} \rightarrow \langle \text{kɛmɛ} \langle + \text{B} \rangle \rangle \langle + \left\{ \begin{array}{l} \text{W} \\ \text{àni} + \text{kelen} \end{array} \right\} \rangle$

K is either 'one hundred' /kɛmɛ/ or 2, 3, 4 etc. hundred if B is taken. Taking both kɛmɛ+B and $\left\{ \begin{array}{l} \text{W} \\ \text{àni+kelen} \end{array} \right\}$ gives 'X hundreds, X tens, X units'. kɛmɛ+B+àni+kelen is 'X hundred and one'. W will generate tens and units.

42. $\text{W} \rightarrow \left\{ \langle \text{tan} \rangle_{\text{T}} \langle + \text{àni} + \text{B} \rangle \right\}$

The number ten is tan and the teens come from tan+àni+B, 'ten and one, ten and two etc.' T produces the rest of the tens series.

43. $\text{T} \rightarrow \left\langle \begin{array}{l} \text{mùan} \\ \text{bi} + \text{C} \end{array} \right\rangle \langle + \text{A} \rangle$

mùan is twenty, taking A gives 21, 22 etc. bi is the 'tens marker' for the rest of the tens series giving bi+saba, bi+naanin, etc., 30, 40, etc.

44. $\text{A} \rightarrow \text{B}, \text{kelen}$

45. $\text{B} \rightarrow \text{fila}, \text{C}$

46. $\text{C} \rightarrow \text{sàba}, \text{naanin}, \text{loolu}, \text{wòròn}, \text{wòròn+fila}, \text{sen}, \text{kòndò}$

TABLE 7
SAMPLE NUMERALS

kelen	one
fila	two
saba	three
naanin	four
loolu	five
wóorón	six
wòron+fila	seven
sen	eight
konóndó	nine
tan	ten
tan+àni+kelen	eleven
tan+àni+fila	twelve
tan+àni+saba	thirteen
tan+àni+naanin	fourteen
tan+àni+loolu	fifteen
tan+àni+wóorón	sixteen
mùan	twenty
mùan+loolu	twenty-five
bi+saba	thirty
bi+saba+wóorón	thirty-six
bi+wòron+fila+wòron+fila	seventy-seven
kεmε	one hundred
kεmε+àni+kelen	one hundred one
kεmε+naanin	four hundred
kεmε+loolu+tan+àni+kelen	five hundred eleven
kεmε+sen+mùan+fila	eight hundred twenty-two
wa+kelen	one thousand
wa+kelen+àni+kelen	one thousand one
wa+konóndó+kεmε+konóndó+bi+konóndó+konóndó	nine thousand, nine hundred, ninety-nine

47. Adv_R → yona (+ Lex)
 48. Pro → N, i, à, an, alu, àlu, Ne
 49. V_{ref,red} → wùnu (+ Lex)
 50. Adj_L → dɔ (+ Lex)
 51. Adj_M → dɔ (+ Lex)
 52. Adj_V → dɔ (+ Lex)
 53. Adj_{man} → kan (+ Lex)
 54. Adj_{ya} → bɛɛɛ (+ Lex)
 55. Adj_{red} → fuña (+ Lex)
 56. V_{nin} → bìla (+ Lex)
 57. Adj → bɛɛɛ (+ Lex)
 58. Adj₂ → ba (+ Lex)
 59. V_{ref} → bù (+ Lex)
 60. V_{ref,ro} → bàn (+ Lex)
 61. V_{ref,la} → bàn (+ Lex)
 62. V_{ref,ma} → bàn (+ Lex)
 63. V_{ref,koro} → sì (+ Lex)
 64. V_{ref,kan} → sì (+ Lex)
 65. V_{tr} → dàbari (+ Lex)
 66. V_{tr,kan} → bèn (+ Lex)
 67. V_{tr,ma} → di (+ Lex)
 68. V_{tr,ro} → sànkà (+ Lex)
 69. V_{tr,koro} → la (+ Lex)
 70. V_{tr,la} → dòn (+ Lex)
 71. V_{tr,bolo} → bòn (+ Lex)

72. $V_{int,red,ro} \rightarrow yilan (+ Lex)$
 73. $V_{int} \rightarrow gbasi (+ Lex)$
 74. $V_{int,kan} \rightarrow bèn (+ Lex)$
 75. $V_{int,di} \rightarrow bèn (+ Lex)$
 76. $V_{int,ma} \rightarrow bèn (+ Lex)$
 77. $V_{int,ro} \rightarrow bo (+ Lex)$
 78. $V_{int,red,ko} \rightarrow wùnu (+ Lex)$
 79. $V_{int,ko} \rightarrow ñina (+ Lex)$
 80. $V_{int,la} \rightarrow ñina (+ Lex)$
 81. $V_{int,l,la} \rightarrow ban (+ Lex)$
 82. $V_{int,l,ro} \rightarrow bàn (+ Lex)$
 83. $V_{int,l,ma} \rightarrow bòn (+ Lex)$
 84. $V_{int,l,kan} \rightarrow kàsi (+ Lex)$
 85. $V_{int,l,di} \rightarrow nà (+ Lex)$
 86. $V_{int,l,fe} \rightarrow se (+ Lex)$
 87. $V_{int,l,koma} \rightarrow tãmbi (+ Lex)$
 88. $V_{int,l,koro} \rightarrow wa (+ Lex)$
 89. $V_{int,l,tama} \rightarrow wa (+ Lex)$
 90. $V_{int,l,te} \rightarrow wa (+ Lex)$
 91. $V_{int,l} \rightarrow gbasi (+ Lex)$
 92. $V_{int,red} \rightarrow wùnu (+ Lex)$
 93. $V_{int,m,ma} \rightarrow dèn (+ Lex)$
 94. $V_{int,m,kan} \rightarrow kàsi (+ Lex)$
 95. $V_{int,m,la} \rightarrow kàsi (+ Lex)$
 96. $V_{int,red,la} \rightarrow won (+ Lex)$

97. $V_{tr,red} \rightarrow yu$ (+ Lex)
 98. $V_{int,r,di} \rightarrow bèn$ (+ Lex)
 99. $V_{int,r,ma} \rightarrow bèn$ (+ Lex)
 100. $V_{int,r,kan} \rightarrow bə$ (+ Lex)
 101. $V_{int,r,rə} \rightarrow bə$ (+ Lex)
 102. $V_{int,red,kə} \rightarrow won$ (+ Lex)
 103. $V_{tr,l} \rightarrow baara$ (+ Lex)
 104. $V_{tr,l,la} \rightarrow bila$ (+ Lex)
 105. $V_{tr,l,rə} \rightarrow bila$ (+ Lex)
 106. $V_{tr,l,ma} \rightarrow bila$ (+ Lex)
 107. $V_{tr,red,kə} \rightarrow kini$ (+ Lex)
 108. $V_{tr,l,kərə} \rightarrow si$ (+ Lex)
 109. $V_{tr,l,kan} \rightarrow si$ (+ Lex)
 110. $V_{tr,l,təma} \rightarrow tala$ (+ Lex)
 111. $V_{tr,m} \rightarrow fənən$ (+ Lex)
 112. $V_{tr,m,bolo} \rightarrow dòn$ (+ Lex)
 113. $V_{tr,m,la} \rightarrow dòn$ (+ Lex)
 114. $V_{int,red,kəma} \rightarrow won$ (+ Lex)
 115. $V_{tr,m,ma} \rightarrow ñinika$ (+ Lex)
 116. $V_{tr,r} \rightarrow fənən$ (+ Lex)
 117. $V_{int,red,kərə} \rightarrow wunu$ (+ Lex)
 118. $V_{tr,red,la} \rightarrow kini$ (+ Lex)
 119. $Ne \rightarrow demba$ (+ Lex)
 120. $V_{tr,r,təma} \rightarrow tala$ (+ Lex)
 121. $V_{tr,m,red} \rightarrow kini$ (+ Lex)

Loc and Time an indefinite number of times. Since Time is optional, there need not be an equal number of Time's and Loc's, but the number of Loc's will outnumber Time.

- (R) # à+ka+à+ks+yan+kunun # 'He did it here yesterday.'
 (R) # à+ka+à+ks+yan+bon^La+kunun # 'He did it here in the house yesterday.'

$$126. \Rightarrow \left. \begin{array}{l} \# \text{NP} + \text{Vbl} + \text{NP}' + \text{ko} + \text{X} \# \\ \# \text{NP}' \langle +\text{Vbl} \rangle + \text{Predicate} + \text{X} \# \end{array} \right\} \Rightarrow$$

$$\# \langle \text{NP} \cdot \rangle \text{ko} + \text{NP}' \langle +\text{Vbl} \rangle + \text{Predicate} + \text{X} \#$$

Predicate does not include ko

Every string that contains the V_{tran} , ko must be combined as above. The NP' that is the object of ko is deleted as well as the Vbl and anything following ko (X). The NP subject of ko becomes optional. This, then is the only shape of ko and the only environment in which it may occur save the following rule. The best translation of ko is 'quoting'.

- (R) # à+ko+à+ka+à+ks # 'Quoting him, he did it; He says he did it.'
 (R) # denba+ko+bon+ka+bon#* 'Quoting Demba, the house is big; Demba says the house is big.'

When the optional NP is not present, ko means 'somebody says'.

- (R) # ko+kê+ka+nîsi+fâ # 'Somebody says the man killed the cow.'

$$127. \# \text{ko} + \text{NP}' \langle +\text{Vbl} \rangle + \text{Predicate} + \text{X} \# \left. \begin{array}{l} \# \text{NP} + \left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{ma} \\ \text{kakan} \\ \text{ni} \end{array} \right\} + \text{à} + \left\{ \begin{array}{l} \text{lon} \\ \text{men} \\ \text{fo} \end{array} \right\} \langle +\text{Dir} \rangle + \text{X} \# \end{array} \right\} \Rightarrow$$

$$\# \text{NP}' \left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{ma} \\ \text{kakan} \\ \text{ni} \end{array} \right\} + \text{à} + \left\{ \begin{array}{l} \text{lon} \\ \text{men} \\ \text{fo} \end{array} \right\} \langle +\text{Dir} \rangle + \text{X} // \text{ko} + \text{NP}' \langle +\text{Vbl} \rangle + \text{Predicate} + \text{X} \#$$

Sentences with a restricted set of tense-aspect markers and a few verbs may be attached to sentences beginning with ko. Note that those verbs which do occur must have the object à 'it'.

(R) # an+ka+à+msn// ko+àlu+di+wa+yan #

'We heard that they will come here.'

(R) # àlu+bara+à+lɔn// ko+i+benba+te+yɛ-fa^di #*

'We had known that your grandfather is not a fisherman.'

(R) # à+ka+à+fo// ko+i+ni+wa+bon^La #

'She had said that you should go home.'

128. # NP'+Vbl+Predic + $\left[\begin{array}{c} \cdot X // Adv_S \\ [NP-tuma] \\ Loc \end{array} \right] + X \# \xrightarrow{opt}$

$\left[\begin{array}{c} Adv_S // \\ [NP-tuma] \\ Loc \end{array} \right] \left\{ \begin{array}{c} // \\ + \end{array} \right\} NP'+Vbl+Predicate+X \#$

X = Adv
Condition: Rule obligatory
if Adv_S = kòni

There are some adverbs which can move to the front of the string. kòni must always move to the front. These items may move to the front and leave any other adverbs at the other end. Sentence adverbs (Adv_S) are always concatenated to the sentence by // and by + to one another, but NP-tuma and Loc can be concatenated by either // or + only when front shifted.

(R) # lon+lon// à+ka+à+kɛ #

'Every day, he did it.'

(R) # an-den-nin-tuma// à+ka+à+kɛ #

'In our childhood, he did it.'

(R) # bon^La+à+ka+à+kɛ #

'In the house, he did it.'

129. #⟨kòni⟩ +NP ' +Vbl+Predicate # } ⇒
NP +Vbl+Predicate

#⟨kòni⟩ + {kàbi
bà ⟨+yo⟩} +NP ' +Vbl+Predicate // NP +Vbl+Predicate #

Predicate does not
include kòni

Any sentence with Vbl and with or without kòni can be
combined with any other sentence with Vbl.

(R) # kòni+bà+à+ka+à+kε // à+te+nà+yan #

'But because he did it,
she will not come here.'

(R) # kòni+kàbi+à+bara+ta+sò // àlu+di+damun #

'But since he had built
the fire, they will eat.'

130. #⟨kòni⟩ + {kàbi
bà ⟨+yo⟩} +NP ' +Vbl+Predicate //
NP +Vbl+Predicate # opt→

⟨kòni⟩ +NP ' +Vbl+Predicate // {kàbi
bà ⟨+yo⟩} +NP +Vbl+Predicate #

kàbi and bà ⟨+yo⟩ can occur after the concatenator // .

(R) # kòni+à+ka+à+kε // bà+yo+à+te+nà+yan #

'But he did it because
she won't come here.'

(R) # kòni+à+bara+ta+sò // kàbi+àlu+di+damun #

'But he had built the fire
so that they will eat.'

131. # X+NP ' +Vbl' + {Predic'
Loc} +X # } ⇒
X+NP' +Vbl+Predic +X

X+NP ' +Vbl' + {Predic'
Loc} +X+ka+Predic +X #

Vbl same as or different
from Vbl'
Predic ≠ Predic'

Any two strings which have the same NP and the same or different Vbl can be combined to form one string with two or more different Predic's or Loc and Predic. The X (anything or nothing) at the end of the first string allows this rule to be repeated an indefinite number of times. If X equals ka+Predic, another ka+Predic will appear on the right hand side. The rule must operate with both same and different Vbl's to allow a Predic containing a V_{tran} to be combined with a Predic containing a V_{intra}.

- (R) # à+ka+à+bòri+ka+wa+bon^La # 'He ran (himself) (to go) home.'
- (R) # àlu+bara+yiri+tè+ka+bon+lo # 'They had cut the wood to build a house.'
- (R) # àlu+ye+yan+ka+yiri+san #* 'They are here to buy wood.'

$$132. \left. \begin{array}{l} \# \text{NP}' + \text{ba} + \text{Predic}' + \text{X} \# \\ \# \text{NP} + \text{ba} + \text{Predic} + \text{X} \# \end{array} \right\} \Rightarrow$$

$$\# \text{NP}' + \text{ba} + \text{Predic}' + \text{X} // \text{fo} + \text{NP} + \text{ba} + \text{Predic} + \text{X} \#$$

Predic ≠ Predic'

Two strings containing the Vbl, ba can be combined if they have the same or different NP's and have different Predic's.

- (R) # à+ba+nà+yan// fo+àlu+ba+yiri+san #
'When he comes here, they must buy wood.'

$$133. \Rightarrow \left. \begin{array}{l} \# \text{X} + \text{NP}' \langle +\text{ni} \rangle + \text{ba} + \text{Predic}' + \text{X}' \# \\ \# \text{NP} + \left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{ma} \\ \text{ra} \end{array} \right\} + \text{Predic} + \text{X}' \# \end{array} \right\} \Rightarrow$$

$$\# \text{X} + \text{NP}' + \text{ba} + \text{Predic}' + \text{X}' // \text{fo} + \text{ka} + \text{Predic} + \text{X}' \#$$

Predic ≠ Predic'

All remaining strings containing ba including those that contain ni+ba must be combined with NP + $\left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{ma} \\ \text{ra} \end{array} \right\} + \text{Predic}.$

$$\underline{\underline{\left\{ \begin{array}{l} \text{ka} \\ \text{bara} \\ \text{ma} \\ \text{ra} \end{array} \right\} + \text{Predic}}}$$

The ni is deleted. The X before NP can stand for kòni, ko, or an Adv put into that position by previous rules.

(R) # à+ba+yiri+son// fò+ka+sò+san #

'When he gets the wood,
(he) must buy a horse.'

134. \Rightarrow # X+NP' + ba+X #
NP <+Vbl> +Predicate+X # } \Rightarrow

X+NP' + ba+X// NP <+Vbl> +Predicate+X

All remaining strings containing ba (only ke+Loc strings still contain ba) must be combined with any other string.

(R) # an+ba+ke+yen// an+ye+bon^La #* 'When we be (are) there,
we are in the house.'

(R) # an+ba+ke+yen// an+ka+à+ks # 'When we be (were)
there, we did it.'

(R) # àlu+ba+ke+lu^ma// an+mò-hawi-ya-nin #*

'When they be (are) at
home, we are impatient.'

(R) # i+ba+ke+ba-da^La// i+De+ye-fa-La #*

'When you be (are) at
the river bank, you are
a fisherman.'

135. # X'+NP'+Vbl' <+NP^n> +V'+NP^ye+X" # } \Rightarrow
X'+NP'+Vbl' <+NP^n> +V'+NP^Y+X" # }

X'+NP'+Vbl' <+NP^n> +V'+NP^Y+NP^ye+X"

Y does not include ye

This optional rule permits the addition of a NP^ye to any string not having NP^ye. According to Rule 27 in the Phrase Structure section, any Dir which is not rewritten in Rule 26 must be NP^ye. Rule 135 does not permit any string containing NP^ye to have an additional NP^ye, but any other string can. (à^ye means 'for him' or 'instead of him').

(L) # àlu+ka+an+La^ts+ba^ro #

'They made us cross the
river.'

- (R) # àlu+ka+an+La^ts+ba^ro+i^ye # 'They made us cross the river for you.'
- (L) # i+di+n+fo+à^ma # 'You will tell me about it'.
- (R) # i+di+n+fo+à^ma+àlu^ye # 'You will tell it to me instead of them.'
- (L) # àlu+ka+à+fo+n^ye # 'They will tell it to me.'
- (R) # àlu+ka+à+fo+n^ye+à^ye # 'They told it to me for him.'

$$\begin{array}{l}
 136. \# X+NP+\left\{ \begin{array}{l} \langle \langle di+ \rangle ke \\ te \end{array} \right\} +to^La+X \# \\
 \# X+NP+Vbl \left[\begin{array}{l} +NP \\ + \end{array} \right] \left[\begin{array}{l} +V \\ V_{tran} \\ V_{intra} \end{array} \right] +X \# \\
 \# X+NP+\left\{ \begin{array}{l} \langle \langle di+ \rangle ke \\ te \end{array} \right\} \langle +to^La \rangle \left[\begin{array}{l} +NP \\ + \end{array} \right] \left[\begin{array}{l} \langle -Li \rangle \\ V_{tran} \\ V_{intra} \end{array} \right] \langle -Li \rangle \wedge \left\{ \begin{array}{l} La \\ kan \end{array} \right\} +X \#
 \end{array} \Rightarrow$$

Any sentence of the form in the first line of Rule 136 can be combined with any sentence containing a verb. An example of the sentence on the first line is:

- (L) # à+di+ke+to^La # 'He will be in some state.'

The result of the transformation is the optional loss of to^La, 'in a state', the attaching of an optional Li to the verb (meaning continuous or repeated action) and the affixing of La or kan. Note that where a V_{tran} could be attached to NP by + on the left hand side of \Rightarrow , it can be attached by + or - on the right hand side.

- (L) # à+ye+to^La #* 'He is in a state.'
- (L) # à+ka+nìsi+fà # 'He killed the cow.'
- (R) # à+ye+to^La+nìsi+fà^La #* 'He is in the state of cow killing.'
- (R) # à+ye+nìsi+fà^La #* 'He is at the killing of the cow.'
- (R) # à+ye+nìsi+fà^kan #* 'He is on top of the cow-killing job (just now).'
- (L) # à+te+to^La # 'He is not in a state.'

- (L) # à+ma+nà # 'He didn't come.'
 (R) # à+te+to^La+nà^La # 'He isn't in the state of coming.'
 (R) # à+te+nà^La # 'He isn't coming.'

$$137. \# X+\underline{NP} \langle +X+\underline{NP} \rangle +X + \begin{Bmatrix} \text{ters} \\ \text{tun} \end{Bmatrix} \langle +\text{man} \rangle +Y \# \xrightarrow{\text{opt}} \\ \# X+\underline{NP} \langle + \begin{Bmatrix} \text{ters} \\ \text{tun} \end{Bmatrix} \rangle \langle +\text{man} \rangle +X \langle + \begin{Bmatrix} \text{ters} \\ \text{tun} \end{Bmatrix} \rangle \langle +\text{man} \rangle +Y \#$$

Y does not include ters,
 tun, man
 X does not include kakan,
 kana

$$138. \# X + \begin{Bmatrix} \text{ters} \\ \text{tun} \end{Bmatrix} +\text{man} +X \# \xrightarrow{\text{opt}} \# X +\text{man} + \begin{Bmatrix} \text{ters} \\ \text{tun} \end{Bmatrix} +X \#$$

Rule 137 states that if certain adverbs have been positioned as shown, these adverbs can be positioned after NP' (the first NP in a string) and still occur optionally where they were originally. Rule 138 permits these adverbs, wherever they occur, to shift order.

- (R) # à+man+ye+yan #* 'He is still here.'
 (R) # à+man+ka+yiri+tè # 'He cut wood again.'
 (R) # à+tun+ye+yan #* 'He was here.'
 (R) # à+ters+ye+yan #* 'He would have been here before.'
 (R) # à+tun+di+yan+tun # 'He has cut the wood (already).'
 (R) # à+tun+ka+yiri+tè+ters # 'He had cut the wood.'
 (R) # à+ters+bara+yiri+tè # 'He had cut the wood (already).'
 (R) # à+tun+bara+yiri+tè+ters # 'He had cut the wood (already).'
 (R) # à+ters+man+bara+yiri+tè # 'He had cut the wood again.'

$$139. \# X + \begin{bmatrix} \text{ra} \\ \text{ta} \\ \text{nin} \end{bmatrix} +V_{\text{intra}} +X \# \Rightarrow \# X +V_{\text{intra}} \begin{bmatrix} \text{^ra} \\ \text{^ta} \\ \text{-nin} \end{bmatrix} +X \#$$

$$140. \# X + \begin{bmatrix} \text{ta} \\ \text{nin} \end{bmatrix} + \text{NP} + \text{V}_{\text{tran}} + X \# \Rightarrow \# X + \text{NP} + \text{V}_{\text{tran}} \begin{bmatrix} \text{^ta} \\ \text{-nin} \end{bmatrix} + X \#$$

Rules 139 and 140 move affixes out of the Vbl position and attach them to the verb.

$$141. \# X + \text{NP} \begin{bmatrix} +\text{ke+} \\ +\text{bara+} \\ + \\ + \end{bmatrix} \text{NP}' + \text{V}_{\text{tran}} \begin{bmatrix} \text{^La+} \\ + \\ \text{^ta+} \\ \text{-nin+} \end{bmatrix} X \# \xrightarrow{\text{opt}}$$

$$\# X + \text{NP}' \begin{bmatrix} +\text{ke+} \\ +\text{bara+} \\ + \\ + \end{bmatrix} + \text{V}_{\text{tran}} \begin{bmatrix} \text{^La} \\ + \\ \text{^ta} \\ \text{-nin} \end{bmatrix} + X \#$$

Any string of the above type may delete the first NP and substitute for it NP' which is the object of the V_{tran}.

(L) # àlu+ye+nìsi+fà^La #*	'They are killing the cow.'
(R) # nìsi+ye+fà^La #*	'The cow is being killed.'
(L) # an+bara+nìsi+fà #	'We have killed the cow.'
(R) # nìsi+bara+fà #	'The cow has been killed.'
(L) # i+nìsi+fà^ta #	'You are to kill the cow.'
(R) # nìsi+fà^ta #	'The cow is to be killed.'
(L) # n+nìsi+fà-nin #	'I have killed the cow.'
(R) # nìsi+fà-nin #	'The cow has been killed.'

$$142. \# \text{NP}' + \left. \begin{array}{l} \text{V}_{\text{tran}} \\ \text{V}_{\text{intra}} \end{array} \right\} \text{-nin+X} \# \left. \begin{array}{l} \text{di} \\ \text{te} \\ + \text{ka} \\ \text{ma} \\ \text{kakan} \end{array} \right\} \Rightarrow \# \text{NP} \left. \begin{array}{l} + \text{ka} \\ \text{ma} \\ \text{kakan} \end{array} \right\} + \text{Predic+X} \#$$

$$\# \text{NP}' + \left. \begin{array}{l} \text{V}_{\text{tran}} \\ \text{V}_{\text{intra}} \end{array} \right\} \text{-nin+X} // \# \text{NP} \left. \begin{array}{l} \text{di} \\ \text{te} \\ + \text{ka} \\ \text{ma} \\ \text{kakan} \end{array} \right\} + \text{Predic+X} \#$$

Conditions:

Predic must include ra if optional Vbl (di, te, etc.) is not used. Otherwise Predic does not include ra, ta or -nin.

The NP in the first string of this rule is either the subject of the V_{intra} or the object of the V_{tran} by virtue of the preceding rule.

- (R) # à+nà-nin// à+di+nìsi+fà # 'After he has come, he will kill the cow.'
- (R) # nìsi+fà-nin// à+wa^ra+bon^La # 'The cow having been killed, he went home.'
- (R) # à+wa-nin+bon^La// àlu+kakan+ka+wa #*
'He having gone home, they must go.'

143. # X+ $\begin{bmatrix} \text{kòsan} \\ \text{kakan} \end{bmatrix}$ $\langle +NP \rangle$ +V+X # \Rightarrow # X+ $\begin{bmatrix} \text{kòsan} \\ \text{kakan} \end{bmatrix}$ +ka $\langle +NP \rangle$ +V+X #

Whenever kòsan or kakan is taken, it must be followed by a ka infinitive marker. There is no negative of either in the corpus.

- (R) # à+kòsan+ka+à+ke # 'He knows how to do it.'
- (R) # à+kakan+ka+à+ke # 'He must do it.'

144. \Rightarrow # X+NP '+ni+ $\left. \begin{array}{c} \text{di} \\ \text{bara} \\ \text{te} \\ \text{ma} \\ \text{ka} \end{array} \right\}$ +X #
X+NP +X+di+X # \Rightarrow

X+ni+NP '+ $\left. \begin{array}{c} \text{di} \\ \text{bara} \\ \text{te} \\ \text{ma} \\ \text{ka} \end{array} \right\}$ +Y// NP +di+X

The rule provides that all remaining strings containing ni followed by any remaining Vbl must be combined with some string containing di.

- (R) # ni+nìsi+fà// i+di+fà # 'If the cow dies, you will die.'
- (R) # ni+à+di+nà// n+di+nà # 'If he will come, I will come.'
- (R) # ni+yiri+bara+tè// à+di+ñsnin # 'If the wood has been cut, it will burn.'
- (R) # ni+i+te+nà// n+di+nà # 'If you won't come, I will come.'

$$145. \# X+NP'+ni \langle +NP \rangle +V+X \# \Rightarrow \# X+NP'+ye \langle +NP \rangle +V+X \#$$

The symbol ni must become ye in the above described environment.

- (R) # à+ye+wa+bon^La # 'He should go in the house.'

$$146. \# NP' + \begin{Bmatrix} De \\ te \end{Bmatrix} +di+NP +X \# \Rightarrow \# NP' + \begin{Bmatrix} De \\ te \end{Bmatrix} \langle +NP \langle di \rangle \rangle +X \#$$

In this rule, di is shifted to its proper place and NP and NP^di are made optional.

- (R) # kè+De+ye-fa-La^di #* 'The man is a fisherman.'
- (R) # kè+De+ye-fa-La #* 'The man is a fisherman.'
- (R) # kè+De # 'It's a man.'

$$147. \# X'+Nomin \langle ^Lu \rangle \langle +Num \rangle \langle +Y \rangle +X'' \# \left. \begin{array}{l} \\ \\ \end{array} \right\} \Rightarrow \# Nomin \langle ^Lu \rangle \langle +Num \rangle + \begin{Bmatrix} De \\ te \end{Bmatrix} \#$$

$$\# X'+Nomin \langle ^Lu \rangle \langle +Num \rangle \langle -Y \rangle + \begin{Bmatrix} De \\ te \end{Bmatrix} +X'' \#$$

Y = V_{tran}-nin, V_{intra}-nin
X'' includes nothing only when Y is used

The first string on the left comes from Rule 142 when Y has the values listed above and the second string on the left comes from Rule 146. The following illustrates Y = V_{tran}-nin, V_{intra}-nin; X'' = ∅

- (L) # nìsi+fà-nin # 'The cow is dead.'
- (L) # nìsi+De # 'It's a cow.'
- (R) # nìsi-fà-nin+De # 'It's a dead cow.'
- When Y is not taken, the following illustrations apply.
- X' = ∅
- X" = ye+lu[^]ma
- (L) # nìsi+ye+lu[^]ma #* 'The cow is in the yard.'
- (L) # nìsi+De # 'It's a cow.'
- (R) # nìsi+De+ye+lu[^]ma #* 'It's the cow that's in the yard.'
- X' = n+ka
- X" = yen+wà[^]ro
- (L) # n+ka+à+yen+wà[^]ro # 'I saw him in the forest.'
- (L) # à+De # 'It is he.'
- (R) # n+ka+à+De+yen+wà[^]ro # 'He is the one I saw in the forest.'
- X' = àlu+ka+à+di
- X" = [^]ma
- (L) # kè+te # 'It's not the man.'
- (L) # àlu+ka+à+di+kè[^]ma # 'They gave it to the man.'
- (R) # àlu+ka+à+di+kè+te[^]ma # 'The man is not the one they gave it to.'
- Y = V_{tran}-nin or V_{intra}-nin
- X' = ∅
- X" = ye+lu[^]ma
- (L) # nìsi+fà-nin+ye+lu[^]ma #* 'The dead cow is in the yard.'
- (L) # nìsi+De # 'It's a cow.'
- (R) # nìsi+fà-nin+De+ye+lu[^]ma #* 'It's a dead cow that's in the yard.'

148. # NP '+ka+NP +V_{tran} <+Dir>+X # opt→
 # NP +V_{tran} [^]ra <+Dir> <+NP '[^]bolo>+X #

- (L) # i+ka+yiri+tè+n^ye+kunun # 'You cut wood for me yesterday.'
- (R) # yiri+tè^ra+n^ye+i^bolo+kunun # 'Wood was cut by your hand for me yesterday.'

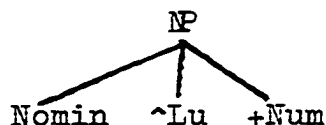
$$149. \# X' + \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle + X'' \#$$

$$\# \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle \left\{ \begin{array}{l} \langle \text{di} \rangle \text{ke} \\ \text{te} \end{array} \right\} \left[\begin{array}{l} +\text{NP} \\ + \end{array} \right] \left\{ \begin{array}{l} + \\ - \end{array} \right\} \left[\begin{array}{l} \text{V}_{\text{tran}} \\ \text{V}_{\text{intra}} \end{array} \right] \langle -\text{Li} \rangle \wedge \text{La} + X \# \Rightarrow$$

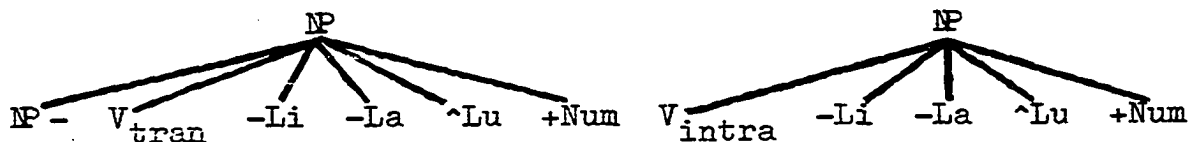
$$\# X' \left[\begin{array}{l} +\text{NP} \\ + \end{array} \right] \left[\begin{array}{l} \text{V}_{\text{tran}} \\ \text{V}_{\text{intra}} \end{array} \right] \langle -\text{Li} \rangle \langle \text{La} \wedge \text{Lu} \rangle \langle +\text{Num} \rangle + X'' \#$$

Any NP (here dealt with as the first expansion of NP) which also occurs in the environment of the second line on the left of \Rightarrow can be replaced by the string on the right hand side of \Rightarrow .

Before Rule 149:



After Rule 149:



X' = \emptyset

X'' = De

- (L) # kè+naanin+De # 'It's four men.'
- (L) # kè+naanin+ye+nìsi+fà-Li^La #* 'Four men keep killing cows.'
- (R) # nìsi-fa-Li-La+naanin+De #* 'It's four butchers.'

$$150. \# \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle + \text{ke} + \text{Loc} \# \left. \begin{array}{l} \# X' + \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle + X'' \# \end{array} \right\} \Rightarrow$$

$$\# X' + \text{Loc} - \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle + X'' \#$$

X' does not include Loc

A Loc may be attached to the front of a NP according to this rule. Notice that the concatenator is -. Since X' does not include Loc, only one Loc can be put before Nomin.

$X' = n+ka$

$X'' = yen$

(L) # kè+ye+bon^La #*

'The man is in the house.'

(L) # n+ka+kè+yen #

'I saw the man.'

(R) # n+ka+bon^La-kè+yen #

'I saw the in-the-house man.'

$$\begin{array}{l}
 151. \# X+Nomin \langle \wedge Lu \rangle \langle +Num \rangle \left[\begin{array}{c} +Vbl+ \\ + \end{array} \right] \left[\begin{array}{c} Adj_2 \\ Adj_1 \end{array} \right] +X \# \\
 \# X' \left\{ \begin{array}{c} + \\ - \end{array} \right\} Nomin \langle \wedge Lu \rangle \langle +Num \rangle +X'' \# \\
 \# X' \left\{ \begin{array}{c} + \\ - \end{array} \right\} Nomin \langle \wedge Lu \rangle \langle +Num \rangle - \left[\begin{array}{c} Adj_2 \\ Adj_1 \end{array} \right] +X'' \#
 \end{array}
 \Rightarrow$$

X'' does not include Adj_1 , Adj_2

Conditions:

1. Combining optional if $Adj_1 = be, si$ (that is, be and si need not undergo this transformation)
2. Combining obligatory if $Adj_1 = Adj_3$

(For Combining, see 5.2.5)

Adjectives are attached to NP (here Nomin $\langle \wedge Lu \rangle \langle +Num \rangle$) by this rule. Only the adjectives be 'all' and si 'none' are exempt. Adj₃ stands for a small subclass of adjectives that must always be combined with the noun and cannot follow the noun concatenated with + like other Adj₁. The second string on the left hand side and the right hand side can be concatenated to X' (anything or nothing) by + or -. Therefore when X' = Loc from the previous rule, this rule will still operate. (e.g. bon^La-kè-ba, 'The big in-the-house-man.') Since X'' does not include Adj₁ or Adj₂, the

rule can apply only once.

X' = an+ka

X'' = yen

(L) # kè+ka+bon #*

'The man is big.'

(L) # an+ka+kè+yen #

'We saw the man.'

(R) # an+ka+kè-ba+yen #

'We saw the big man.'

$$\begin{array}{l}
 152. \quad \# X+\text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle \left[\begin{array}{c} +\text{Vbl} \\ + \end{array} \right] \left[\begin{array}{c} \text{Adj}_2 \\ \text{Adj}_1 \end{array} \right] +X \# \\
 \# X' \left\{ \begin{array}{c} + \\ - \end{array} \right\} \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle - \left\{ \begin{array}{c} \text{nin} \\ \text{ba} \end{array} \right\} +X'' \# \\
 \# X' \left\{ \begin{array}{c} + \\ - \end{array} \right\} \text{Nomin} \langle \wedge \text{Lu} \rangle \langle +\text{Num} \rangle - \left[\begin{array}{c} \text{Adj}_2 \\ \text{Adj}_1 \end{array} \right] - \left\{ \begin{array}{c} \text{nin} \\ \text{ba} \end{array} \right\} +X'' \#
 \end{array}
 \right\} \Rightarrow$$

An additional ba 'big' or nin 'little' may occur after an adjective.

$$\begin{array}{l}
 153. \quad \# X+\text{NP} + \left\{ \begin{array}{c} \text{Vbl} \\ \text{ka} \end{array} \right\} + \text{Pro} + \left\{ \begin{array}{c} \text{V} \\ \text{vref} \\ \text{vref,red} \\ \text{vref,ro} \\ \text{vref,la} \\ \text{vref,kan} \\ \text{vref,ma} \\ \text{ref,koro} \end{array} \right\} +X \# \Rightarrow \\
 \# X + \left[\begin{array}{c} \text{n} \\ \text{i} \\ \text{Y} \\ \text{an} \\ \text{alu} \\ \text{Z} \end{array} \right] + \left\{ \begin{array}{c} \text{Vbl} \\ \text{ka} \end{array} \right\} + \left[\begin{array}{c} \text{n} \\ \text{i} \\ \text{à} \\ \text{an} \\ \text{alu} \\ \text{àlu} \end{array} \right] + \left\{ \begin{array}{c} \text{V} \\ \text{vref} \\ \text{vref,red} \\ \text{vref,ro} \\ \text{vref,la} \\ \text{vref,kan} \\ \text{vref,ma} \\ \text{ref,koro} \end{array} \right\} +X \#
 \end{array}$$

Y = à, Ne

Z = NP \wedge Lu, NP $\langle \wedge$ Lu \rangle +Num,
NP - NP, àlu

Whenever anything on the left hand side occurs with a reflexive verb, (and everything shown must occur there according to the phrase structure rules) the NP and Pro

must be rewritten as indicated. The object of a V_{ref} then, must be the same as the subject unless the subject is a proper name (obj = à) or NP-NP etc. (Z) (obj = àlu).

- (R) # à+ka+à+bòri# 'He ran (himself).'
 (R) # màmadu+di+à+bòri # 'Mamadu will run (himself).'

$$154. \left. \begin{array}{l} \# X+NP '+X \# \\ \# X+NP +X \# \end{array} \right\} \Rightarrow \# X+NP '-NP +X \#$$

NP \neq NP'
 neither NP nor NP' includes Pro

Any NP except Pro may be joined to any other NP by -. NP includes, of course, all of the structures substituted for Nomin <^Lu> <+Num> in the preceding rules.

- (R) ña-yi 'tears (eye water)'
 (R) wà^rɔ-sila-muso-ba 'big female monkey in the forest'
 (R) kisi-duku 'Kissi town'
 (R) ba-da 'river bank'
 (R) sɪ-Li-kɔ-kuma 'talk about settling down'
 (R) sɪ-ban-to 'one in the state of ending one's life'

$$155. \left. \begin{array}{l} \# \left\{ \begin{array}{l} Y \\ N_2 \end{array} \right\} \langle ^Lu \rangle \langle +Num \rangle +ke+NP ^La+X \# \\ \# X' + \left\{ \begin{array}{l} Y \\ N_2 \end{array} \right\} \langle ^Lu \rangle \langle +Num \rangle +X'' \# \end{array} \right\} \Rightarrow \\ \# X' +NP \left[\begin{array}{c} ^La+ \\ + \end{array} \right] \left[\begin{array}{c} Y \\ N_2 \end{array} \right] \langle ^Lu \rangle \langle +Num \rangle +X'' \#$$

Y = N₁, N_{man}-man, N_{ya}-ya,
 N_{red}, N₂

If any Nom (here N₁, N_{man}-man, N_{ya}-ya, N_{red}, N₂ from Rule 31) occurs in the first string and the second, it can undergo this transformation. This rule forms the possessive construction in which N₂ (body parts and close kinfolks) is not preceded by NP ^La but only by NP.

X' = \emptyset

X'' = ka+bon

(L) # fànkà+ye+n^La #*

'The strength is mine.'

(L) # fànkà+ka+bon #*

'The strength is great.'

(R) # n+fànkà+ka+bon #*

'My strength is great.'

$$156. \Rightarrow \left. \begin{array}{l} \# \text{NP} + \left\{ \begin{array}{l} \langle \text{di+} \rangle \text{ke} \\ \text{te} \end{array} \right\} + \text{NP}' \wedge \text{ye} \# \\ \# \text{NP} + \text{Vbl} + \text{Adj}_2 \# \end{array} \right\} \Rightarrow \\ \# \text{NP} + \left\{ \begin{array}{l} \langle \text{di+} \rangle \text{ke} \\ \text{te} \end{array} \right\} + \text{Adj}_2 + \text{NP}' \wedge \text{ye} \#$$

Every time $\text{NP}' \wedge \text{ye}$ occurs as above ($\text{NP}' \wedge \text{ye}$ from $\text{NP} + \text{Vbl} + \text{Loc}$ if $\text{Loc} = \text{NP} \wedge \text{L} = \text{NP}' \wedge \text{ye}$) it must be combined with $\text{NP} + \text{Vbl} + \text{Adj}_2$.

(R) # mùsò+ye+di+à^ye #*

'Women are sweet to him;
He likes women.'

157. # X'+ke+X # \Rightarrow # X'+ye+X #

X' does not include ba, di ke, if it is not preceded by ba or di is rewritten ye.

158. # X'+NP'+X'' # } \Rightarrow # X'+NP'+àni+NP+X'' #
X'+NP+X'' # }

NP \neq NP'
neither X' nor X'' includes àni

Two NP's may be conjoined by àni. The possessive construction (Rule 155) follows the rule that links NP with -. This means that Rule 154 cannot link NP and its possessor by -, but Rule 158 can link NP and its possessor by àni. According to this rule only two NP's can be linked by àni.

(R) nìsi+àni+sò

'cow and horse'

(R) ña-yi+àni+kèlè-Li

'tears and war'

(R) à+àni+n+benba+wùlu-koro-ba+naanin

'he and my grandfather's
four big old dogs'

$$159. \left. \begin{array}{l} \# X' + \underline{NP}' + X'' \# \\ \# X' + Y + \underline{NP}' + X'' \# \end{array} \right\} \Rightarrow \# X' + \underline{NP}' \wedge \text{wo} + \underline{NP}' \wedge \text{wo} + X'' \#$$

$\underline{NP} \neq \underline{NP}'$
 $Y = \underline{NP}' \wedge \text{wo}$ or nothing

Any number of \underline{NP}' 's can be linked together by $\wedge \text{wo}$.

(R) kè[^]wo+mùso[^]wo+den-nin[^]wo+sènba[^]wo

'men, women, children,
and elephants'

$$160. \# X \left\{ \begin{array}{l} + \\ - \end{array} \right\} \text{Nomin} \langle \wedge \text{Lu} \rangle \langle + \text{Num} \rangle - \left[\begin{array}{l} \text{Adj}_1 \\ \text{Adj}_2 \end{array} \right] - \left\langle \begin{array}{l} \text{nin} \\ \text{ba} \end{array} \right\rangle \left\{ \left\langle \wedge \text{L} \right\rangle + \right\} \left\{ \begin{array}{l} + \\ - \end{array} \right\} Y \# \Rightarrow$$

$$\# X \left\{ \begin{array}{l} + \\ - \end{array} \right\} \text{Nomin} - \left[\begin{array}{l} \text{Adj}_1 \\ \text{Adj}_2 \end{array} \right] - \left\langle \begin{array}{l} \text{nin} \\ \text{ba} \end{array} \right\rangle \langle \wedge \text{Lu} \rangle \left\{ \left\langle \wedge \text{L} \right\rangle + \right\} \langle \text{Num} \rangle \left\{ \begin{array}{l} + \\ - \end{array} \right\} Y \#$$

This rule puts the various elements of \underline{NP}' 's into their proper order. Included in the \underline{X} onto which the strings of both sides of \Rightarrow are attached by + or - is Loc and any other \underline{NP}' . \underline{Y} includes any other \underline{NP}' also. The left hand side of the rule shows the elements that need to be changed in the order which previous rules have assembled them. Examples show only grammatical strings.

(R) kè-koro-nin[^]Lu[^]téma+fíla 'between two little old men'

(R) yiri[^]La 'in the tree'

(R) san-tolo-ba-nin-kura-nin[^]Lu[^]kan+saba
'on three new little rabbits'

$$161. \# X + Y + X \# \xrightarrow{\text{opt}} \# X + Y \wedge \text{De} + X \#$$

$Y = N_1, N_2, \text{Adj}_1, \text{Adj}_2,$
 $L, \text{Adv}, \text{Pro}, V_{\text{nin}},$
 $V_{\text{tran}} \wedge \text{ta}$

X does not include $\wedge \text{De}$

Any string may have affixed to any of the items listed under \underline{Y} the affix De, meaning roughly, 'this one, not that

one' or general emphasis. The prohibition that X does not include ^De prevents more than one affix De in each sentence. The prohibition does not prevent the affixation of ^De onto the proper elements (Y) in sentences containing the Vbl, +De. In fact ^De is quite often affixed to N's which precede +De.

# n+ka+à+De+yen+wà^rɔ+kunun #	'He is the one I saw in the forest yesterday.'
# n^De+ka+à+De+yen+wà^rɔ+kunun #	'He is the one <u>I</u> saw in the forest yesterday.'
# n+ka+à^De+De+yen+wà^rɔ+kunun #	' <u>He</u> is the one I saw in the forest yesterday.'
# n+ka+à+De+yen+wà^rɔ^De+kunun #	'He is the one I saw <u>in</u> the forest yesterday.'

$$162. \# X \left\{ \begin{array}{c} + \\ - \end{array} \right\} \text{Red}' \left\{ \begin{array}{c} + \\ - \end{array} \right\} X \# \Rightarrow \# X \left\{ \begin{array}{c} + \\ - \end{array} \right\} \text{Red}' - \text{Red} \left\{ \begin{array}{c} + \\ - \end{array} \right\} X \#$$

Red = Red' = V_{int,red};
 V_{tr,red}; V_{red}; Adv_{red};
 Adj_{red}; V_{tr,red,kɔ};
 V_{tr,red,koma}; V_{tr,red,la};
 V_{int,red,rɔ}; V_{int,red,kɔ};
 V_{int,red,la}; V_{int,red,koma};
 V_{int,red,kɔrɔ}

$$163. \# X \langle +\text{Time} \rangle + ? \langle // \text{Adv}_S \rangle \# \Rightarrow \# X \langle +\text{Time} \rangle \langle // \text{Adv}_S \rangle ?$$

The question mark is a symbol that introduces question intonation in a later rule. This rule moves ? to the end of a string where it replaces #.

5.5 Phonetic Terminal Output -- The last section of the Sentence Grammar consists of a set of rules that converts the output of the preceding grammar into phonetic symbols which the native speaker accepts as his language. This section contains tonal rules, morphophonemic rules, and

phonetic rules although not in this order. The Sentence Grammar deals with forms in their morphophonemic shape.

This last section of the grammar will specify the phonemic shape of morphophonemic forms and the phonetic shape of phonemes including tonal contours.

Four different morphemes can have the phonemic shape /la/. One /la/, 'put', has only one shape /la/. The other three can be /la/ or /na/. Their morphophonemic shape is *La*. Other forms *Li*, *Lu* act similarly. The creation of morphophonemes permits the application of phonological rules to only certain morphemes or to only certain phonemes in particular positions.

Two special symbols are used in this study. The symbol *L* which is either /l/ or /n/ and *D* which is either /l/ or /d/. In three other cases (nasals, length and /r/,) the rules operate across the entire system and no special symbols are required (i.e. any nasal in a given environment undergoes a change, not just certain nasals in certain morphemes).

Neither the Syllable nor the Morph Grammars specify the distribution of /# + ^ ? // -/ and the Sentence Grammar now specifies not the possible shapes of a form, as the Morph and Syllable Grammars do, but the exact shapes of forms as they have been arranged by the Phrase Structure and Transformation Sections and joined together by /# + ^ ? // -/.

The following then, constitutes the final section of the Sentence Grammar given here with examples. A small number of unique phonemic changes concerning particular forms must precede a statement of the rules described.

164. kɔnɔ^rɔ ⇒ kɔndɔ, kɔnnɔ

165. X+Y+ba+X ⇒ X+Y+bon+X

Y = ka, bara, te, di, ma
(all from Vbl)

166. an[^]De[^]Lu ⇒ annu

167. wo[^]Lu[^]ro ⇒ woldo

168. $n \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix} \begin{Bmatrix} D \\ R \end{Bmatrix} \Rightarrow n \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix} d$

(L) mɛlɛn[^]De (R) mɛlɛn[^]De 'the hippopotamus'
 (L) kunan[^]ro (R) kunan[^]do 'in a wooden bowl'
 (L) bon+ra[^]te (R) bon+da[^]te 'wreck the house'

169. $n \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix} L \Rightarrow n \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix} n$

(L) kun[^]La (R) kun[^]na 'on (a) head'
 (L) talan[^]Lu (R) talan[^]nu 'bells'
 (L) lon-nin-La (R) lon-nin-na 'a knower'
 (L) son[^]Li (R) son[^]ni 'keeps receiving'
 (L) den+La[^]taran (R) den+na[^]taran 'surprise the child'

170. L → l

171. D → l

(L) na[^]Li (R) na[^]li 'the arrival'
 (L) mɔ[^]-toro-La (R) mɔ[^]-toro-la 'one who bores people'
 (L) mɔ[^]De (R) mɔ[^]le 'the person'
 (L) man[^]sa[^]Lu (R) man[^]sa[^]Lu 'kings'
 (L) lɛ[^]La (R) lɛ[^]la 'on the wild pig'

172. $n \begin{Bmatrix} ? \\ k \\ g \\ \# \\ \eta \end{Bmatrix} \Rightarrow \eta \begin{Bmatrix} ? \\ k \\ g \\ \# \\ \eta \end{Bmatrix}$

(L) kamun+kin $\begin{Bmatrix} ? \\ \# \end{Bmatrix}$ (R) kamun+kin $\begin{Bmatrix} ? \\ \# \end{Bmatrix}$ 'bite a guinea hen'
 (L) dondon+gañɛ (R) dondon+gañɛ 'win a rooster'

173. $n \begin{Bmatrix} + \\ - \end{Bmatrix} gb \Rightarrow \eta^w \begin{Bmatrix} + \\ - \end{Bmatrix} gB$

(L) talan+gbasi (R) talan^w+gBasi 'ring the bell'

$$174. \quad n \begin{bmatrix} b \\ m \\ f \end{bmatrix} \Rightarrow m \begin{bmatrix} b \\ m \\ f \end{bmatrix}$$

- (L) san^ˆma (R) sam^ˆma 'in the sky'
 (L) an+bolo (R) am+bolo 'our hands'
 (L) san^ˆferɛn (R) sam^ˆferɛŋ 'thunder'

$$175. \quad Vny \Rightarrow \tilde{V}\tilde{ny}, \tilde{V}n\tilde{y}$$

$$176. \quad \begin{Bmatrix} i \\ e \\ \varepsilon \end{Bmatrix} +\grave{a} \Rightarrow a+\grave{a}$$

- (L) # n+di+\grave{a}+fo # (R) # n+da+\grave{a}+fo #
 'I will say it.'
 (L) # \grave{a}+ye+\grave{a}+f\grave{a}^La # (R) # \grave{a}+ya+\grave{a}+f\grave{a}^la #
 'He is killing it.'
 (L) # \grave{a}+terɛ+\grave{a}+f\grave{a}^La # (R) # \grave{a}+tera+\grave{a}+f\grave{a}^la #
 'He was killing it.'

$$177. \quad \begin{Bmatrix} + \\ - \\ y \end{Bmatrix} XVX \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix} \Rightarrow \begin{Bmatrix} + \\ - \\ y \end{Bmatrix} XVV' \begin{Bmatrix} + \\ - \\ \wedge \end{Bmatrix}$$

X = C
 V = any single \tilde{V} or single n
 V = V'
 V' does not include any accents /^ˆ/
 Y = prefixes ra^ˆ, La^ˆ, ma^ˆ

A single \tilde{V} or \underline{n} (a vowel in a monosyllable or n, 'I, me') becomes long in every environment except $\wedge XVX \wedge$ unless the first \wedge is preceded by prefixes ra, La or ma. Since \underline{V} does not equal \underline{V} , the first vowel on the right hand side of the rule retains the accent.

- (L) +k\grave{o}^r\grave{o}+ (R) +k\grave{o}\grave{o}^r\grave{o}+ 'on the back'
 (L) +kuŋ^ˆk\grave{o}r\grave{o}-la-feŋ+ (R) +kuuŋ^ˆk\grave{o}r\grave{o}-laa-feeŋ+
 'pillow'
 (L) +ba-yi^ˆr\grave{o}+ (R) +baa-yii^ˆr\grave{o}+ 'in the river water'
 (L) +ŋ^ˆ+k\grave{o}^r\grave{o}+ (R) +ŋŋ^ˆ+k\grave{o}\grave{o}^r\grave{o}+ 'on my back'
 (L) +ba+ra^ˆts+ (R) +baa+raa^ˆtsɛ+ 'cross the river'

The morphophonemic shape of morphemes with one vowel is $\langle C \rangle \langle C \rangle V \langle C \rangle$. The phonemic shape of monosyllabic morphemes in the environments specified on the left hand side of Rule 178 is $\langle C \rangle \langle C \rangle V V' \langle C \rangle$. Both vowels are the same. Morphemes which do not occur in the above environments have the phonemic shape $\langle C \rangle \langle C \rangle V \langle C \rangle$ (between $\hat{\quad}$ and $\underline{\quad}$). Since this Grammar does not have rules for ellipsis, it does not generate utterances like # ko # which, according to Rule 178 would have one vowel in its phonemic form.

The following ten rules permit the proper intonation to be given to all strings. In this study intonation is shown by angular lines drawn under the strings to which the intonation belongs. There are four environments where the intonation varies from the norm, sentence final question, sentence final statement, string initial \underline{V} and final $\underline{VCVC\#}$.

Phonetic tone is assigned to strings of phonemes by angular lines drawn beneath the phonemes. Once a phonetic line has been drawn, the phonemes directly above the line are no longer subject to tonal rules, but the phonemes and their phonetic tone lines can be referred to as environments for further tonal rules.

$$178. \quad +XZV \langle C \rangle -Y+ \Rightarrow +X'Z'V' \langle C \rangle -Y'+$$

X includes at least one \underline{V}
but no $-$, $+$, $//$

X' includes anything in X
except accent, $/\`/$

Y includes \underline{V} , \underline{V} , C , $\hat{\quad}$
but not $-$

Y' includes anything in Y
except accent, $/\`/$

Z includes any number of
 \underline{V} , \underline{V} , C and $-$ or nothing

Z' includes anything in Z
except accent, $/\`/$

If $Z = \emptyset$ $Z' = \emptyset$

If there is an accented vowel between the first + and the first - (in X above), that accent is shifted to the last vowel before the last - before +. If Z = \emptyset , the - before Y is the last - before the last +. Since, according to the Morph Grammars (4.2) the last vowel of morphophonemic forms does not have an accent, the V on the left hand side of this rule has none. When the accent is shifted to the last V before the last - before the last +, all other accents are lost. Note that items concatenated with - or -'s between + and + have a single accent, a feature these constructions now share with any single morpheme between + and +.

+wà+ > /+wà+/ (Rule 177) 'forest'
 /+wà^rɔ-silá+ / > /+waa^rò-silá+ / (Rule 178)
 'monkey in the forest'

The accent is lost from /silá/ according to Rule 178 (Y does not include `). This rule can create ambiguities.

/+wà^rɔ-silá+ / > /+waa^rò-silá+ / 'road in the forest'

Other non-ambiguous examples:

(L) kòlɔn^rɔ-yii (R) kòlɔndò-yii* 'water in the trough'

(L) sî-Li-kɔ-kuma (R) sii-lii-kòð-kuma

'talk about settling down'

(See 2.8 which relates to the last three rules.)

179. $X^X \Rightarrow XX$

All ^ concatenators are removed. Vowels in morphemes connected by ^ are either high level or falling or low level. So that the tonal rules expressed below that bring this into reality will apply, Rule 179 states that all ^'s are deleted at this point in the grammar.

(L) kɔnɔ^rɔ-yuu (R) kɔnɔrɔ-yuu 'dishonesty'

180. #XV <C> <C> ? \Rightarrow #XV <C> <C>

Any vowel that comes before ? has a rising sentence final question intonation and ? is deleted.

181. $\dot{V}XVX\# \xrightarrow{\text{opt}} \underline{VXVX}\#$

$X = C \neq V, +, -, //$

When an unaccented vowel follows an accented vowel and precedes #, the intonation is level if the rule is used, otherwise Rule 182 will apply.

182. $\#XV\langle C \rangle \langle C \rangle \# \Rightarrow \#XV\langle C \rangle \langle C \rangle$

Any vowel (it will always be unaccented) that comes before # has a falling sentence final intonation and # is deleted.

183. $\#VX+XV \xrightarrow{\text{opt}} \#VX+XV$

(delayed upstep)

$X = C, -, V \neq +, //$

Often an unaccented vowel which follows an accented-unaccented sequence after # will be upstepped.

(R) $\# \dot{a}a+y\epsilon l\epsilon ra \#^*$ 'He laughed.'

184. $+XV\langle C \rangle \langle - \rangle \langle Y \rangle V\langle Z \rangle + \Rightarrow +XV\langle C \rangle \langle - \rangle \langle Y \rangle V\langle Z \rangle +$

X includes V, C, -

Y = C⟨C⟩

Z includes V, C

\dot{V} and any number of vowels that occur after the first + and before \underline{V} are low and level. Any vowel that occurs after \underline{V} (whether or not \underline{V} is concatenated to the \underline{V} 's by -) becomes high and level. Note that only one vowel after - is given pitch and that is upstepped from \underline{V} .

(L) safùna (R) safuna 'soap'

(L) seen-kono rò-laa (R) seen-kono rò-laa

'sole of the foot'

(L) kòð-yii (R) koo-yii 'salt water'

$$185. +X-\langle Y \rangle \langle C \rangle \overset{\text{H}}{V} \langle Z \rangle + \Rightarrow \underline{+X-\langle Y' \rangle \langle C \rangle V \langle Z' \rangle} +$$

X includes C, V

Y includes C, V, $\overset{\text{H}}{V}$, -

Z includes C, V, $\overset{\text{H}}{V}$

Y' includes anything in Y
except accent, / \ /

Z' includes anything in Z
except accent, / \ /

There is no accent on any vowel included in X (all $\overset{\text{H}}{V}$ have been handled by the preceding rule) and the pitch of the string is high and level. All other accents are lost. The pitch line only extends as far as the first high after a low or the first high after the last -.

(L) sali-yii (R) sali-yii 'ablution'

(L) feem-baa (R) feem-baa 'big thing'

(L) kuun̄ koro-laa-feen̄ (R) kuun̄ koro-laa-feen̄
'pillow'

$$186. V_u XV \Rightarrow \underline{V_u XV}$$

$V_u = -\overset{\text{H}}{V}$ (a vowel that has high intonation and follows -.) $\overset{\text{H}}{V}$ (a vowel that has high intonation as a result of an upstep from an accented vowel, or any other vowel marked as such by this rule) +V (an unaccented $\overset{\text{H}}{V}$ after +)

X = +, C ≠ V, -

Any other vowel that is attached onto the vowels described above is terraced from V_u . This rule must operate on every string until all such vowels have been terraced.

(L) sali-yii (R) sali-yii 'ablution'

- (L) feem-baa (R) feem-baa 'big thing'
 (L) endɛpandansi (R) endɛpandansi 'independence'
 (L) kuuŋ kɔrɔ-laa-feen de la (R) kuuŋ kɔrɔ-laa-feen de la
 'on the pillow'
 (L) bisikirima (R) bisikirima (a city name)

$$187. \# \langle C \rangle \langle C \rangle \underline{VX} // \langle C \rangle \underline{V} \Rightarrow \# \langle C \rangle \langle C \rangle \underline{VX} // \langle C \rangle \underline{V}$$

pause

(upstep and pause after //)

The pitch of the first V after // and a pause is upstepped and can go as high as the first V after #.

(R) # ŋ ŋ+k a a+m m+b ò r i+w a à r ɔ+k u n u n // h a a ŋ #*

pause

'I ran in the woods too much yesterday.'

The following rules specify the phonetic shape of phonemes.

$$188. \begin{Bmatrix} b \\ p \end{Bmatrix} \begin{Bmatrix} o \\ u \end{Bmatrix} \Rightarrow \begin{Bmatrix} b^w \\ p^w \end{Bmatrix} \begin{Bmatrix} o \\ u \end{Bmatrix}$$

$$189. \begin{Bmatrix} t \\ k \\ d \end{Bmatrix} \begin{Bmatrix} i \\ e \end{Bmatrix} \Rightarrow \begin{Bmatrix} t^y \\ k^y \\ d^y \end{Bmatrix} \begin{Bmatrix} i \\ e \end{Bmatrix}$$

$$190. VgbV \Rightarrow Vg^w gBV$$

$$191. \underline{V} \begin{Bmatrix} m \\ n \\ ŋ \end{Bmatrix} \Rightarrow \underline{V} \begin{Bmatrix} \overline{m} \\ \overline{n} \\ \overline{ŋ} \end{Bmatrix}$$

V = any vowel

$\underline{\quad}$
 \overline{V} = any long vowel

192. $y \rightarrow y, \bar{y}, g^y$

193. $oN \Rightarrow \bar{c}N$

$N = n, m, \bar{n}, r$

194. $\begin{bmatrix} NV \\ VN \end{bmatrix} \Rightarrow \begin{bmatrix} N\bar{V} \\ \bar{V}N \end{bmatrix}$

$N = n, m, \bar{n}, r$

Further rules take out phonemic concatenators which have done their tasks.

195. $- \Rightarrow$ no space

196. $\left\{ \begin{array}{c} + \\ // \end{array} \right\} \Rightarrow$ space

197. $\# \xrightarrow{\text{opt}}$ period capital letter

5.6 Symbol Index -- The following index lists the number of the rule where a symbol first occurs and the number of the rule (or rules) where the symbol is finally rewritten. Where there is more than one number in the terminal rewrite column, all but the last are the numbers of contextual rewrite rules where a given symbol is rewritten in specified environments. The 64 verb subclasses are referred to by page number rather than rule number.

<u>First Source</u>	<u>Symbol</u>	<u>Terminal Rewrite</u>
40	A	44
38	Adj	57
2	Adj ₁	38
3	Adj ₂	58
38	Adj ₃	39
24	Adj _L	50
24	Adj _M	51

<u>First Source</u>	<u>Symbol</u>	<u>Terminal Rewrite</u>
24	Adj _{man}	53
38	Adj _{red}	55
24	Adj _v	52
25	Adj _{ya}	54
3	Adv	14
17	Adv _N	18
14	Adv _R	47
17	Adv _{red}	19
14	Adv _S	17
41	B	45
43	C	46
7	Dir	26, 27
40	K	41
16	L	37
3	Loc	16
1	NP	13, 28, 24
31	N ₁	32
31	N ₂	34
48	Ne	119
31	N _{man}	35
30	Nom	31
29	Nomin	30
32	N _{red}	33
31	N _{ya}	36
17	Num	40
3	Predic	7
1	Predicate	3
28	Pro	48
14	Quest	15
#_#	S	1
42	T	43
14	Time	20, 22

<u>First Source</u>	<u>Symbol</u>	<u>Terminal Rewrite</u>
20	Time _{pf}	21
22	Time _{pst}	23
7	V	8,10
1	Vbl	4,5,6,9,11
9	Vbl _c	12
25	V _{int-}	see pp. 82,83
32	V _{nin}	56
24	V _{ref-}	see p. 81
24	V _{tr-}	see pp. 81,83
41	W	42

5.7 Text -- A short text is presented here to illustrate the application of all of the rules in 5.5 simultaneously. First the text as it appears as the output of the Phrase Structure section of the Grammar.

a n + t à n a #
Our Totem

a n + b a r a // t è l i - L a + y e + k ε ^ L a + s ù ^
In our country, story telling is done at
D e ^ r o #
night.

t è l i + y e + f o ^ L a + t a ^ D e ^ f ε #
Stories are told near the fire.

a n + d e n - n i n - t u m a // a n + m a ^ D e + t è r ε
In the time of our childhood our grandmother was
t è l i - l a - L a + a n ^ y e #
story-teller for us.

a n + k u r u - b a + d i + a n + m a ^ d è n + t a ^
 Our big group will gather itself near the
 f ε + k a + a n + t o l o + m a l o + a n + m a ^ L a #
 fire and fasten our ears to our grandmother.

à ^ L a + t è l i - s i y a - m a n + t o - n i n + n +
 Her many tales stay in
 k o n o ^ r o // k ò n i + m i n + d u m a n + n ^ y e +
 my heart but one is sweet to me
 k a + t à n b i + à - b ε ^ L a #
 and surpasses it all.

t è l i - k e l e n ^ D e + w ò ^ d i + n + b e n b a -
 That is a story about my grandfather.
 t o ^ r o #

k è l ε - k ε - L a - b a ^ D e + t è r ε + y e + n +
 A great warrior was my
 b e n b a ^ d i // k ò n i // l o n d o + à ^ L a +
 grandfather, but one day his
 k ε l ε - k ε - L a ^ L u + L a ^ t a r a n ^ r a #
 warriors were surprised.

à l u + b i l a ^ r a + g b e r e n ^ r o #
 They were put in jeopardy.

à l u + k a + à l u + b ò r i + a + k ò ^ L a #
 They (the enemy) ran over him.

k i n i - k i n i - k o ^ D e + t ε r ε + y e + w o ^ d i #
 What a pitiful thing that was.

b a + t u n + b a r a + f a #
 The river was filled.

b ò r i - d i y a + t u n + t e + y e n #
 There was no escape route.

à + k ε - ñ a - g b ε l ε + t u n + t e + f o + k a +
 No other way to do it but to cross
 b a + r a ^ t è #
 the river.

à l u + k a + à l u + k ε + b a ^ m a #
 They jumped into the river.

y i + w a ^ r a + d o ^ L u ^ d i #
 The water took some (drowned some).

b à n b a + k a + d o ^ L u + m i r a ^ L a #
 The crocodiles caught some.

k ò n i // w ò - b ε ^ r o // f i n - f i n + m a + k ε +
 But in all that, nothing happened to
 n + b e n b a ^ L a #
 my grandfather.

à + k e n d e - m a n - t o + k a + b a + r a ^ t è #
 He crossed the river in good health.

d o ^ L u ^ L a + m i r i - y a ^ r o + m è l ε n ^ D e +
 In the minds of some, the hippopotamus
 k a + n + b e n b a + L a ^ t è #
 took my grandfather across.

k à b i + w ò + k ε ^ r a // a n + t à n a + k ε ^ r a +
 Since that happened, our totem has become
 m è l ε n ^ d i #
 the hippopotamus.

Here is the same text with all of the phonetic rules applied. To conserve space ↓ means downstep, ↑ means pause and upstep to the pitch at the beginning of the sentence.

Ā ā n̄ t ā n ā

Ā ā n̄ ↓ b a r a ↑ t s l i l a ↓ y e e ↓ k s s l a ↓
 s u u l e r o ↓ t s l i ↓ y e e ↓ f o o l a ↓
 t a a l e f s .

Ā ā n̄ ↓ d̄ ē ē n n i i n̄ t ū m ā ↑ ā ā n̄ ↓ m ā ā l e ↓
 t e r s ↓ t s l i l a l a ↓ ā ā n̄ y e .

Ā ā n̄ ↓ k u r u b a a ↓ d a a ↓ ā ā n̄ ↓ m ā d ē ē n̄ ↓
 t a a f e ↓ k a a ↓ ā ā n̄ ↓ t o l o ↓ m ā l o ↓ ā ā n̄ ↓
 m ā ā l a .

A a l a ↓ t e l i s i y ā m ā n̄ ↓ t ō ō n̄ i i n̄ ↓ n̄ n̄ ↓
 k ō n̄ o r o ↑ k ō n̄ i ↓ m i i n̄ ↓ d ū m ā n̄ ↓ n̄ n̄ y e
 k a a ↓ t ā m b i ↓ a a ↓ b s s l a .

T e l i k̄ e l ē n̄ d̄ e ↓ w o o d̄ i ↓ m m ↓ b ē m b a ↓
 t o o r o .

K e l e k s s l a a b a a l e ↓ t e r s ↓ y e e ↓ m m ↓
 b ē m b a d̄ i ↑ k ō n̄ i ↑ l ō n d o ↓ a a l a ↓
 k e l e k s s l a a l u ↓ l a a t a r ā n d a .

Alu ↓ bilara ↓ g^wgBerēndɔ .

Alu ↓ kaa ↓ alu ↓ bori ↓ aa ↓ kɔɔla .

K^yīnīk^yīnīkoolē ↓ tɛrɛ ↓ yee ↓ woodyi .

Baa ↓ tūūm ↓ bara ↓ faa .

Borid^yiya ↓ tūūn ↓ t^yee ↓ yeerɔ .

Aa ↓ kēēñāāg^wgBɛlɛ ↓ tūūn ↓ t^yee ↓ fɔɔ ↓
kaa ↓ baa ↓ raatɛɛ .

Alu ↓ kaa ↓ alu ↓ kɛɛ ↓ bāā mā .

Yii ↓ waara ↓ doolud^yi .

Bāmba ↓ kaadoolu ↓ mīrala ↑ kōni ↑
woobɛɛrɔ ↓ fīīm fīīm ↓ māā ↓ kɛɛ ↓
mm ↓ bēmbala .

Aa ↓ k^yēndēmāāntɔɔ ↓ kaa ↓ baa ↓ raatɛɛ .

Doolula ↓ mīriyaarɔ ↓ mēlēnd^ye ↓ kaa ↓
āān ↓ bēmba ↓ laatɛɛ .

K a b i ↓ w o o ↓ k ε ε r a ↓ ā ā n̄ ↓ t ā n ā ↓ k ε ε r a ↓
 m ε l ē n d i .

CHAPTER SIX
LEXICON

6.1 Notation -- The lexicon is recorded in morphophonemic notation and is intended to be used as a means of translating the output of the transformation section of the Sentence Grammar. The utilization of a morphophonemic transcription facilitates the identification of morphemes since, in this notation, each morpheme has only one form regardless of its environment. The alphabetical order used is similar to English alphabetical order. Symbols in parentheses do not occur initially in the lexicon.

a	f	k	(o)	t
b	g	l~L	(ɔ)	(u)
d~D	gb	m	p	w
(e)	h	n	r	y
ɛ	i	ñ	s	

The entries which are the farthest to the left are main entries and each has a definition and a form class code. The entries beneath the main entries include some allomorphs (e.g. also masa), compounds with other morphemes and derived forms and other constructs, the meanings of which may be different from what one might think. Tonal allomorphs are listed only when the placement of the pitch accent /`/ is different in each allomorph. Otherwise each morpheme has tonal allomorphs depending on how the morpheme is concatenated with other morphemes by the phrase structure and transformational rules. In general each morpheme has four tonal allomorphs: citation form, high level, low level, high falling. Those morphemes whose citation form is high falling have only three tonal allomorphs. It can be said that generally, French loan words of three syllables or more have numerous allomorphs which vary in the placement of /`/.

When morphophonemic symbols are rewritten in various environments, the alternate ways of rewriting produce allomorphs. Thus *Lu, La, Li* have the allomorphs /lu~nu, la~na, li~ni/. Any vowel in a monosyllable is a morphophonemic symbol and is rewritten according to a rule in the Sentence Grammar as either a single or double vowel phoneme. No special symbol has been introduced for this morphophoneme because the rule is of such a broad scope that the reader should be able to remember the morphophonemic value of single vowels in monosyllables. The same is true for the nasals and /r/. (See 5.5)

The Lexicon includes numerous examples of compounding and the application of the tonal rules given in 5.5 will indicate the exact tonal sequences.

In words containing the concatenator -, the only accents written are those which occur over a vowel before the first -.

To aid the reader, occasionally a ^ or - concatenator will appear before a morpheme to aid in its identity. This is not part of the morpheme.

A very few entries have no form class codes. In these cases complete identification of the component morphemes has not been made.

6.2 Form Class Code -- The form class codes following the definition in each main entry correspond to the symbols used in the Sentence Grammar. If all of the words coded V_{int,red} for instance were listed together they would appear on the right hand side of the single arrow in Rule 92 of the Sentence Grammar. It is inconvenient to do this since it clutters up the Grammar and makes finding a given word almost impossible.

6.3 Lexical Items --

- à = he, she, it, his, her, its, him, her; Pro
 à+yo^De = that's right
 à+yù^koro = behind a thing (not a person)
 adama = Adam, (male or female name); Ne
 adiresi = address; N₁
 àfrik = Africa; N₁
 àla = God; N₁
 alu = you pl., your pl.; Pro
 àlu = they, them; Pro
 an = we, our, us; Pro
 àni = and
 also ànu, ni
 àngle = Englishman; N₁
 also àngle
 àngle-kan = English Language
 àran = line; N₁
 ba = grandmother; N₂
 ba-muso = lady
 ba = river; N₁
 ba-da = river bank
 ba^ro-ko = swimming (bathing in the river)
 ba-yi = river water
 ba = because
 ba+yò = because
 ba = 'be, when, if it happens that'; Vbl
 ba = big; Adj₂
 see bon, bon-ba, buña
 ba = so?, (question marker); Quest
 ba+di = so it is; isn't that so

- bà = goat; N₁
 bà-den = baby goat
 bà-kòron = billy goat
 bà-kòro-nin = aged billy goat
 bà-muso = nanny goat
 baaba = termite; N₁
 baaba-ton = termite hill
 baara = work; N₁; N_{red}; V_{tr,1}; V_{int}
 baara-bali = idle
 baara = to work, refine
 La^baara = work something
 baara-den = worker
 baara-diya = place of work
 baara+baara = any kind of work
 baba = 'daddy'; N₂; Ne
 see Kinship Lexicon (6.4)
 bàba = (boy's name); Ne
 bàbu = (boy's name); Ne
 bala = xylophone equivalent; N₁
 bàla = porcupine; N₁
 bàla-yolo-man = porcupine quill
 bàla = decorative hair pin; N₁
 balama = flatter; V_{tr}
 bàlan = close, lock; V_{tr}
 bali = ballroom dancing; N₁
 bali-bon = ballet theater
 bali = without, lacking; Adj₃; N_{ya}
 balo = nurture, bring up; V_{tr}
 bamana = Bambara; N₁
 banba = carry on back; V_{tr}
 bàmba = crocodile; N₁
 bànba-da = crocodile face mask
 bànbu = bamboo; N₁

- ban = finish; V_{int,la}; V_{int,l,la}
 ban+X^{La} = finish X
 ban-bali = eternal, endless
 La^{ban} = exhaust, end up
 bàn = bamboo; N₁
 bàn-yi = bamboo sap
 bàn = refuse; V_{ref,ro}; V_{ref,la}; V_{ref}; V_{tr,la}; V_{tr,ro}; V_{tr,l,ro}
 bàn+X^{La}_{ro} = refuse X
 banàku = casava; N₁
 banàku-to = casava cereal
 banda = sky; N₁
 banda-ka = morning ('sky opening')
 banda+ra^{yen} = be silent ('look into the sky')
 bândan = kind of tree; N₁
 bankàra = elephant ear plant; N₁
 bàku = clay, earth; N₁
 bàku-da = clay bowl
 bara = lose weight; V_{int}
 bara = 'had, was'; Vbl
 bara = home, relatives, household, open place between
 houses in yard; N₂
 also gbara
 bara-muso = favorite wife; N₂
 bàra = gourd; N₁
 bàra-man = basin ('of gourd'); N₁; N_{man}
 bàra = navel; N₂
 bàra-yulu = umbilicus ('navel rope')
 barin = uncle; N₁
 see Kinship Lexicon (6.4)
 bàrkon = barrel; N₁
 bàrna = banana; N₁
 bàro = chat, talk; V_{int}
 basa = lizard; N₁

- basa = (appellation for uncircumcised boy); N₁
 basi = cure an illness; V_{tr}
 basi = medicine, fetish; N₁
 bàsi = kus-kus; N₁
 bàtaki = letter; N₁
 bàto = worship; V_{int,1}
 La^bàto = worship something
 bàto-La = courtesian, worshipper, servant
 bàya = beaded belt for women; N₁
 bayi = vomit; V_{tr}; V_{int}
 bè = fall; V_{int,1}
 La^bè = make fall, turn over, kill an animal
 bèn = drop; V_{tr,kan}; V_{int,kan}
 bèn+X^kan = take advantage of X, drop something on X
 benba = grandfather; N₁
 see Kinship Lexicon (6.4)
 bε = all, everyone, everything; Adj; N₁
 bè = vagina; N₂
 bεn = last, endure, work out; V_{int,1a}
 bèn = agreement; N₁, to agree; V_{int,di}; V_{int,ma}; V_{int,r,ma};
 V_{int,r,di}
 also gbèn
 bèn+X^di = to get together on X
 bèn+X^ma = agree on X
 bèn-bali-ya = disaccord, disagreement
 ra^bèn = restore, reconcile
 bεεε = clean; Adj_{ya}; Adj
 bεεε-ya = become neat
 bεεε-ya = neatness
 bèεn-kono-tε-ya = pettiness; N₁
 see mεεn

bi = ('times ten')
 see Numeral Grammar (5.3 Rules 40-46)
 bi = today; N₁; Time_{pf}; Time_{pst}
 bi-kun-ben = a week from today; Time_{pf}
 bibi = eagle; N₁
 bìdi = (a type of bird); N₁
 bila = release; V_{tr,l,la}; V_{tr,l,ro}; V_{tr,l,ma}; V_{nin}
 bìla = shortened bìla-koro
 bìla+kàso^La = put in jail
 bìla-koro = uncircumcised one
 bìla-nin = neglected person
 bìla+X^ro = put something in X
 bìla+X^La = put or place on X
 X+bìla+Y^ma = connect X to Y
 La^bìla = teach, neglect
 bilin = shelf for sleeping; N₁
 also bili
 bin = grass; N₁
 bin-bo = weeding
 sɛns-bin+bo = weed a field
 biñɛ = liver; N₁
 binsɛ = arrow; N₁
 binsɛ-kono-man = a successful arrow ('pregnant arrow')
 biran = affinal relatives, in-laws; N₁
 see Kinship Lexicon (6.4)
 biri = circumcised one; N₁
 bìri-kura = newly circumcised one
 birin = milk (cow, etc.); V_{tr}
 bìrin = bend; V_{tr,l}; V_{tr,ref}
 La^bìrin = bend
 biro = office; N₁
 bìro^La-mo = office workers
 bisi-bisi = to shake, quiver; V_{tr,red}

bisikirima = (a city); N₁
 bitiki = shop; N₁
 bitiki-ti = proprietor
 bi+wooro = sixty
 bò = human feces; N₁
 bò+kε = defecate
 bobo = dumb, speechless; Adj
 bobo-ya = muteness
 bolo = hand, arm; N₂; N_{man}
 bolo^La-ne = bracelet ('iron on the arm')
 bolo-kan = wrist
 bolo-kolon = poor person, empty hand
 bolo-kuanin = finger
 bolo-kuanin-nun = fingertips
 bolo^La-diya = skill in the hands
 bolo-sorin = fingernails
 bolo-kudu = elbow
 bolo-maran = left hand
 bolo-ñuma = right hand
 ^bolo = with, in hand
 bòlon = entrance arch with watch tower; N₁
 bònbo = chin; N₂
 bònbo-si = beard
 bònbo-si-tan = a naturally beardless adult
 bon = house; N₁
 bon-da = door
 bon-dandan = wall
 bon-kolo = floor
 bon^koro-mo = house dweller
 bon-ñin = house key, ('house tooth')
 bon-ti = house owner
 bon-ti = roof
 bon-ti-La = a roof thatcher ('roof straw-er')
 bon-yu = wall

- bòn = big, after ka (ka+ba \Rightarrow ka+bon); Adj₂; N₂
 bòn-ba = 'big-big', 'largest' in X^{ba}ro+bòn-ba
 (in all X's, the largest)
 see Kinship Lexicon (6.4)
- bòn-bon = candy; N_{red}
- bòn-da = village; N₁
 bòn-da^{La}-mo = peasant
- bòri = run; V_{tr,l}; V_{nin}; V_{ref}
 La^{bòri} = run away with, drive, ride
 La^{bòri}-nin = kidnapped
 bòri = a sprint
 bòri-nin = escaped
- bòro = swamp, mud, mess; N₁; N_{man}
 bòro-man = swampy
- bòsa = whip
 also bòsa, bònsa
- boso = skin; V_{tr}
- bɔ = go out; V_{int,rɔ}; V_{int,ma}; V_{int,kan}; V_{int,l,ma}; V_{int,l,kan};
 V_{int,r,rɔ}; V_{int,r,kan}; V_{int,r,ma}
 bɔ-nɔ = trail
 La^{bɔ} = fire, shoot
 La^{bɔ} = display, perform
 X+La^{bɔ}+Y^{ro} = bring up X in Y
 ra^{bɔ} = hollow out
 bɔ-diya = tracks ('place of going out')
 bɔ+X^{kan} = grow out of the earth
 bɔ+X^{La} = take from X, decrease X
 bɔ+X^{ma} = find X
- bɔ̃ = clay; N₁
- bɔ̃lon = harp equivalent; N₁
 bɔ̃lon-fɔ-La = harpist

- bòn = spill, pour, (grain); $V_{tr,ma}$; $V_{int,ma}$; $V_{ref,ma}$;
 $V_{int,l,ma}$; $V_{tr,l,ma}$
 bòn+yi^ma = dive in the water ('pour oneself into
 the water')
 La^bòn = pour grain or water
 bòrɔ = mask; N_1
 bòrɔ = bag; N_1
 bɔrɔn = fine clay; N_1
 bɔrɔn-gbe = white clay
 bɔ-yali-ya = hate; N_1
 bù = squat; V_{ref}
 bù = chaff; N_1 ; N_{red}
 bù-bu = chaff
 buku = book; N_1
 bùña = grow up, grow fat, increase; $V_{int,l}$
 La^bùña = make increase
 bùña-ya = bigness
 bùña = show respect, pay homage; V_{tr}
 bùñan = a professional female dancer; N_1
 bùñan-tinsan = sisal skirt for dancer
 bùri = ash, dust; N_1
 buru = bread; N_1
 buru-ñenin-La = baker ('bread burner')
 burun = at first; Adv_S ; Adv_N
 ma+burun = not yet
 butɕli = bottle; N_1
 also butèli, bitèli, bûtɕli
 butun = anymore, somemore; Adv_S ; Adv_N
 da = mouth; N_2
 da+bɔ = eat breakfast
 da-bɔ = breakfast
 da-gbada = stuttering
 da-gbolo = lip
 da-kala = bird bill

da-kanfa = mouth foam
 da^koro+bo = tease
 da^La-yu = insolent one
 da^La-yu-ya = insolence
 da-si = beard
 da-si-ba = big bearded one
 da-si-man = bearded one ('of the beard')
 da-yi = spit
 da = entrance, price, opening; N₁
 da-fisa-fisa = fringe
 da-fo = a wound
 da-La^tun = lid
 dà = bowl; N₁
 bàku-dà = clay bowl
 dàba = hoe; N₁
 dàbari = poison; N₁; V_{tr}
 dàbi = bedbug; N₁
 dabola = (a Fula city); N₁
 dàfe = horse; N₁
 also dafe
 dàfe-gbe = white horse
 dàfe = neighbor, nearby thing; N₁
 dàfe-bon = house next door
 dàfe-so = nearby city
 dàfu-ño = friend; N₁
 dakar = Dakar; N₁
 dàla = lake, pool, pond; N₁
 dàla^ro-ye = fish imprisoned in a pond
 dàlasi = (about two French francs); N₁
 damina = start; V_{int}
 damun = eat, feed, use up, cheat; V_{tr}; V_{nin}
 damun-nin = fed, cheated person
 damun-nin = eating

dan = weave, sew, count, braid hair; $V_{int,1}$; $V_{tr,1}$
 La^dan = repair, draw, draw up
 dan = port; N_1
 dàn = limit; N_1
 dàn^La = different, by itself, at the limit; Adj
 dàn+La^ts-bo = differentiate
 dàndan = wall; N_1
 danka = curse; N_1
 dànts = present; V_{tr}
 dànts-Li = report presentation
 dànts-Li-kan = reading of the minutes
 dañã = shot; N_1
 dañã = habit; N_1
 daràpo = flag, French flag; N_1
 also dàrapo
 dârka = breakfast; N_1
 dasa = lack; $V_{int,ro}$
 dasa+X^ro = to lack X
 De = is, is the same as; V_{bl}
 X+De+Y^di = X is Y
 ^De = 'this one, not the other one', on noun or verb
 dekun = strangle; V_{tr}
 dekun = choke; V_{ref} ; V_{tr}
 dema = purpose; N_1
 daña-dema = for the purpose of shooting
 den = child, offspring; N_1 ; N_2 ; N_{ya} ; $V_{int,1}$
 La^den = imitate
 den-ba = family
 den-ba-ti = a woman with children ('family-owner')
 den-ba-ya = family
 den-folo = first-born child
 den-ks = boy child
 den-kura = newborn child

- den-La^{ke}-La = child tosser (an entertainer)
den-La^{tinyan} = child spoiling
den-La^{tolon}-La = child amuser
den-muso = girl child
den-nin = child
den-ya = childhood
den-yeri-nin = baby
- dε = never; Adv_S
dê = rice pastry for special occasions; N₁
dêbε = mat; N₁
 La-dêbε = sleeping mat
dêburiyasi = an ambitious person; N₁
dêma = help; V_{tr,m}
 ma^{dêma} = help someone
- dεnba = (male name); Ne
dèn = a gathering; N₁; V_{tr,ma}; V_{tr,l,ma}; V_{int,m,ma}
 La^{dèn} = to gather
 La^{dèn}-fen = collective thing
 La^{dèn}+ke = have a meeting
 La^{dèn}-kεnε-ya = persuade, convince
 ma^{dèn} = gather
 ma^{dèn} = gathering
 dèn-kεnε-ya = persuasion
 dèn+X^{ma} = to gather against X
- dènka = hole; N₁
 dènka-sen = hole digging
- dènse = calf of leg; N₂
di = (future particle); Vbl
^{di} = identical, similar to
di = how?; Quest
di = give; V_{tr,ma}
 X+di+Y^{ma} = give X to Y

- di = sweet; Adj₂; N₁
 La[^]di = sweeten
 X+ye+di+Y[^]ye = Y likes X (X is sweet for Y)
 di-ño = friend
 di-ño-ke = male friend
 di-ño-muso = female friend
- dibi = darkness; N₁
 dimin = pain; N₁; V_{int,ma}
 dimin-ya = sadness
 dimin-ya+X[^]ma = to hurt X
 dimin-ya-nin = saddened
- dina = religion; N₁
 dina-sila = way of religion
- diya = pleasure, pleasant thing, sweet; Adj ; V_{tr,l}
 La[^]diya = sweeten, be kind to a person
 diya-ña = love ('sweetness thing, eyes, aspect?')
 diya-ya = pleasantness
- diya = place; N₁
 diya = skill; N₁
- V-diya = (for the purpose of doing V) (V = verb); Adv_R
 (place for V-ing); Loc
- diyamon = diamond; N₁
 also diyàmon, dɛyàmon
- do = some; N₁; Adj
 do--do = one--another, this--the other
 do[^]Lu = some plural
 do-nin = little bit
- dòku = duck; N₁
 dòn = enter; V_{int,l,la}
 La[^]dòn+baara[^]La = be hired
 dòn+X[^]La = enter X
- dòn = hide; V_{tr,ma}; V_{ref,ma}; N₁
 ma[^]dòn = bury
 dòn = secret

- dòn = move, transfer; V_{tr,bolo}; V_{tr,la}; V_{tr,m,bolo}; V_{tr,m,la}
 dòn+X^bolo = hand something to X
 X+ma^dòn+Y^La = move, carry X to Y
- dòndon = rooster; N₁
- dònin = carry on the head; V_{tr}; N₁
 dònin = a load, burden
- dòn-kima-kɔnɔ = November; N₁
- donko = an inside corner, nook, cranny; N₁
 donko-na-nin = offensive ant ('little comes-in-the-corner?'), ('little mother-in-the-corner?')
- dònso = hunt; N₁; V_{tr}; N_{ya}
 dònso-ya = being a hunter
 dònso-ya-kala = hunting bow
- dòri = habit; N₁
 dòri+X^La = be accustomed to X (X = noun or verb);
 V_{tr,la}; V_{ref,la}
- dɔ = younger sibling; N₂
 see Kinship Lexicon (6.4)
 dɔ-ke = younger brother
 dɔ-muso = younger sister
 dɔ-nin = younger sibling of same sex
 dɔ-tan = without younger sibling
 dɔ-ya = minimality
- dɔ = small; N₁; N_{man}; Adj₂; Adj_v; Adj_I; Adj_{man}; Adj_M
 dɔ-man-nin = smallest ('of the small: little')
 X-be^rɔ-dɔ-man-nin = in all X's ('of little smallness')
 dɔ-ya = minimize person or problem, belittle
 La^dɔ-ya = make decrease
 ma^dɔ-ya = lessen
- dɔ̂ = tick; N₁
- dɔ̂in = slowly; Adv_S; Adv_{red}
 dɔ̂in-dɔ̂in = very slowly

- dòlɔ = (any) alcoholic beverage; N₁
 dòn = dance; N₁; V_{ref}
 dòn = to dance
 dòn-diya = place for dancing
 dòn-kili = song
 dòn-kili+la = sing a song
 dòn-La^ˆbo-diya = place for displaying dances
 dòn-su = type of dance
 dòn-dòn-dòn = faithfully; Adv_S
 dù = night; N₁
 dù-tala = midnight ('night-divide')
 dù = floor, ground; N₁
 dù^ˆma-fen = snake, thing on the ground
 dùba = eulogy; N₁
 also dùwa
 dùba = buzzard; N₁
 also dùwa
 dùba = night, darkness; N₁
 also dùbi, dibi, dù (see dù)
 dùba-len = mirror ('darkness-melter')
 dùba-ra^ˆtala = midnight ('darkness-divider')
 dùku = land, ('ground' in a city name); N₁
 see dù (floor)
 dulen = fishing line; N₁
 duman = sweet, pleasant; N₁; Adj₂
 dùn = deep place; N₁
 dùnbu = pass a secret on; V_{tr}; V_{int}
 dundu = wart; N₁
 dùndun = barrel shaped drum; N₁
 duniya = world; N₁
 duniya-woloma-La = vagabond, tramp
 duña = sadness; N₁

- dù-rin = 'old timer'; N₁; Adj_{ya}; Adj_L
 dù-rin-ya = become an old timer
 dù-rin-ya = old timerhood
- dùrki = shirt; N₁
- duru = fog; N₁
- dùudu = type of bird; N₁
- duwa = bless; V_{int,ye}
 also dùba
 duwa+X^ye = bless X
- endspàndansi = independence; N₁
- erèpleni = airplane; N₁
 erèpleni-bori-La = pilot; N₁
- fa = be full; V_{int,1}
 La^fa = fill up
- fa = father; N₂
 see Kinship Lexicon (6.4)
 fa+bòn-ba = father's brother
 fa-den-man = antagonist (Children of one father and
 two mothers disagree.)
 fa-den-ya = antagonism
 fa-La^tan-nin = orphan
- fà = die; V_{int,1}; V_{int}; V_{tr,1}
 fà = kill
 La^fà = erase
- fàgba = paddle; N₁
- fada = conceited person; N₁
 fada-to = conceited person
- fafa = special house for newly circumcised males; N₁
- fakar-sa = that one, such a one; N₁
- fala = flap, groove; N₁
- fàli = donkey; N₁
- fàli = wild pig; N₁
- fàlin = change (money); N₁
 fàlin+kè = make change

- fàmu = understand; V_{tr}
 fan = bellows
 fan = place; N₁; Loc
 fan-be = everywhere
 fan^fe = proximity ('place near')
 fan-ñuman = where?; Quest
 fàn = sword; N₁
 fàn-la = sword sheath
 fànan = also; Adj₃; Adv_R
 fànfa = (bee) hive; N₁
 fànin = cloth; N₁
 fànin-koro = rags (old)
 fànin-so-La = weaver
 fànin+ta = be circumcised ('take the cloth')
 faniya = lie; N₁
 faniya-fɔ-La = liar
 fànka = strong; N₁; N₂; N_{man}; Adj₂
 fànka-man = powerful person, power
 fànka-tan = powerless person, poor (financially)
 fànka-ya = strength
 fara = divide, be different, tear; V_{int,l}; V_{int,r}; V_{int,r,rɔ}
 La^fara = divide
 ra^fara = tear apart
 fara = rock; N₁
 fara-ba = granite
 fara-nin = a flint
 fàra = cease, hold off; V_{tr}
 fàra = ricefield, river bottom; N₁
 fàra = outside surface; N₁
 fàra-gbe = white man
 farama = Farama, a village; N₁
 farana = Faranah, a village; N₁

fàri = body, skin; N₂
 fàri+ra^fa = exhausted ('die in the skin')
 fàsa = tendon; N₁; V_{int,1}
 La^fàsa = support someone
 fàsari = explain; V_{tr}; V_{int}
 fàsari-Li = a comment
 fàto = crazy person, foolish person; N₁
 fàto-ya = craziness
 fen = thing; N₁; N_{red}
 la-fen = bed
 fen-fen = whatever, with negative, nothing
 fen-kε-La = a doer
 fen^La = why?; Quest
 fen-si = nothing
 fen-susa = all kinds of things
 fen-ti = thing's owner
 fen-yo = nothing
 fère = sell; V_{tr}
 ^fε = close to, near; L
 fε = calabash; N₁
 fε = field; N₁
 fε = blow; V_{tr,1,1a}
 La^fε = blow on
 fε+X^La = blow on X
 fè = a flaw; N₁
 fεds = an insect found on fruit trees; N₁
 fεds-den = brick; N₁
 fεds-den-gbasi-fen = brick mold
 fènε = cream; N₁
 fensn = examine; V_{tr,m}; V_{tr,r}
 ma^fensn = look at, into
 ra^fensn = look into
 fensn = spread; V_{tr}

fare = be relieved; $V_{int,1}$
 La[^]fare = relieve
 fêre = hand fan; N_1
 fêre = a tossing tray for winnowing; N_1
 feren = platform; N_1
 also fenen
 fêren = pop, snap, crackle like a fire; V_{int} ; to pop corn;
 V_{tr}
 san-feren = thunder, lightning
 fêren = seed sprouts, hulls, stems; N_1 ; V_{int}
 fêren = to sprout, bloom
 fila = two; N_1 ; N_{man}
 fila+be = both
 fila-man = two-fold
 fila-nin = twins
 fila-nin+fila = twins
 fili = be wrong, forget your parents; $V_{int,1}$; V_{nin}
 La[^]fili = throw, throw away
 fili = trouble, discomfort
 fili-nin = stubborn, rule breaker
 fin = black; Adj
 fin-ya = blackness
 finstere = window; N_1
 also finstêre
 finfanin = fan; V_{tr}
 finsiri = gratitude, grace; N_1
 finsiri-bali-ya = thanklessness
 fira = leaf, feather; N_1
 fira-knds-man = green ('healthy-leafness')
 firan = sweep; $V_{tr,m}$
 ma[^]firan = sweep
 firina = gas light; N_1
 firiya = (a district in Guinea)

fisa = better; Adj₂
 ka+fisa = better, necessary
 fisa-ya = 'better'
 fisa-fisa = fringe; N_{red}
 fo = scar; N₁
 fo-da = wound
 foe = type of bird; N₁
 folo = gutter; N₁
 fòro = goiter; N₁
 fòron = husk; N₁
 fòto = photograph; N₁
 fòto-ta-La = photographer
 fo = say, sing, play; V_{tr,r}; V_{tr,ma}; V_{tr,ye}; V_{tr,r,ye}
 X-ko+fo = talk about X ('the X affair')
 ra^fo = clap
 fo+i+da^koro = speak indistinctly
 fo-La = musician
 fo-Li = music, talk
 fo-Li-La = musician
 fo+X^ma = tell it about X
 fo+X^ye = tell it to X
 fo = but, except, all the way to
 fo = miss; V_{int,l,la}
 La^fo = make miss
 fo+X^La = miss X
 La^fo = surround; V_{tr,l}
 fòdo = field; N₁
 fòlen = hole in wall, window; N₁
 folo = first, formerly; Adj₃; Time_{pst}; V_{int,ma}; N₁; Adv_S
 folo = yet
 folo-kibaro = history
 folo+X^ma = start with X

fɔn-fɔn-nin = gabon viper; (fɔn; N_{red})
 fɔn-fɔn-nin-mɔ = irritable person
 fɔni-kiss^La-mɔ = petty, pedantic person; N₁
 fɔñɔ = wind; N₁
 fɔrss = force; V_{tr}; N₁
 fɔrss-tele = (time when people were forced to work
 for the French)

 fɔrto = pepper; N₁
 fɔsɔ-dɔrɔ-nin = inconsequential; Adj
 fɔyi = nothing; N₁
 fù = sponge; N₁
 fue = pasture; N₁
 fuan = aluminum; N₁
 fùdu = cow's stomach; N₁
 fula = man's headress; N₁
 fula = Fula, Fulani tribe; N₁
 fùle = flute; N₁
 fùle+fɔ = whistle, play the flute
 fùle-fɔ-La = flutist
 fulen = unwind, undo; V_{tr}
 funu = swell with anger; V_{int}
 funu-La = a tantrum thrower
 funu-Li = tantrum
 fuña = spark; N_{red}; N₁; Adj_{red}
 fuña-fuña = sparks, sparkling
 furu = marriage; N₁
 furu+kɛ+X^ma = marry with X
 furu-ña-muso = widow
 furu-ña-lɔ = marriage stand in
 furu-ñɔn = marriage mates ('marriage-one another')
 furu-sɛbɛ = marriage contract
 furu-sidi-woro = marriage sealing kola nuts
 furu-sɔnko-lɔn = match maker, go between

- gañe = win, gain; V_{tr}
 also geñe
- gòro = 'big man', 'stud', bandit, playboy; N₁
- gba = disturbance; N₁
- gba = shed; N₁
- gbà = kitchen equivalent; N₁
 gbà-da = kitchen door
 gbà+dòn = cook a meal (enter the kitchen)
 gbà-don-diya = kitchen
- gbada = pin down, shackle an animal, snap a snap fastener;
 V_{tr}
- gbadan = reach a limit, be stuck; V_{int}
- gban = ochra; N₁
- gban = jump; V_{tr,l}; V_{tr,m}; V_{ref}
 La^gban = make jump, make fly
 ma^gban = frighten
- gban = cheek; N₂
- gbanan = playboy, bandit; N₁
- gbàn-gban = dust; N_{red}
- gbankàra = (a tropical plant); N₁
- gbànsan = nothing else, only a _____; N₁
 gbànsan-ko = ordinary thing
- gbàla = reed; N₁
- gbàlo = extraordinary thing; N₁
 gbàlo-ko = freak thing
 gbàlo-kuma = extraordinary word, saying
- gbàlo = wooden blade in mixing tool; N₁; N_{man}
 gbàlo-man = mixing tool
- gbàran = bracelet; N₁
- gbàran-ya-muso = least loved wife; N₁
- gbasa = animal mouth; N₁
 gbasa-kolo = cheek bone

- gbasi = strike a casting, beat, iron; $V_{tr,i}$
 gbasi-Li = beating
 La^gbasi = rake or harrow
 gbasi = get wet in the rain; V_{int}
 gbeden = unripe; Adj
 gbele-gbele = holler; $V_{int,red}$; $V_{int,red,la}$
 gben = chase; V_{tr}
 gbènda = pasture, feed lot; N_1
 gbengbere = milking stool; N_1
 gbè = rubber; N_1
 gbe = white, clear; Adj ; N_1 ; N_{man} ; $V_{tr,l}$; $V_{tr,r}$
 ra^gbe = watch, observe
 La^gbe = make white
 gbe = become clear
 gbe-man = whitishness
 gbe-ya = clarity
 gbèdè-nin = (a village); N_1
 gbèdè-nin^koro = in gbèdè-nin
 gbèlè = difficult, hard, expensive; Adj_2 ; Adj_V ; Adj_L ; Adj_{ya}
 La^gbèlè-ya = strengthen
 ra^gbèlè-ya = complicate, make hard
 gbèlè-ya = difficulty
 gbèlèn = lower leg; N_2
 gbèrèn = in jeopardy, in a tight squeeze; N_1
 gbèrèn = impatient; Adj
 gbèrèn-ya = impatience
 gbese = tooth brush plant; N_1
 gbidi = mob, crowd, public festival; N_1
 gbidi-ko = a crowd-drawing-thing
 gbilin = heavy; Adj_2
 gbilin-ya = weight
 gbifè = whip; N_1
 gbòlo = leather; N_1

gbòlo = skin; N₂
 gbomin = starch; N₁
 gbo = bitter, bad; Adj₂
 gbo-ya = bitterness
 gbòn = great ape; N₁
 gbòn-kòrò-nin = baboon?
 haake = sin, sorrow; N₁
 haake+tu = be sorry ('pound on sin')
 haba-dan = always, ever; Adv_S
 hadiya = religious offering; N₁
 hamin = worry; V_{int}
 han = too much, till; Adv_S
 hankili = memory; N₁; N_{man}; Adj
 hankili = intelligent
 hankili-man+lo+X^La = pay attention to X ('stand
 attention on X')
 hankili-man = attention, mind
 hankili-tan = without intellect
 hankili-tan-ya = stupidity
 hankili-ti = one who has a good memory
 hàraba-haraba = trouble, hanky-panky; N_{red}
 hàraba-haraba-mo = a joker
 hàramu = immoral; Adj
 hàramu-ko = sin
 haràye = chance, luck; N₁
 hawa = Eve; N₁
 hawi = greed; Adj; Adj_{ya}; Adj_v
 hawi-ya = impatience, be impatient
 haya = spell, incantation; N₁
 hera = luck, happiness, prosperity; N₁
 hiki = make a pilgrimage; V_{int}; N₁
 hòrya = independence; N₁; V_{int}
 hòrya = become independent
 i = you, your; Pro

- ka = (past transitive particle); Vbl
 kà = hernia; N₂
 kà = harvest, open, stop raining; V_{tr,l}; V_{tr,r}; V_{tr}
 La^kà = open
 ra^kà = empty
 kà-Li-La = harvester
 kà-ña = way of harvesting
 kaba = rock, big stone; N₁
 kaba = mange, scabies; N₁
 kàba = corn; N₁
 kabana-ko = unusual thing; N₁
 kàbi = since
 kadi = pick fruit, snap off, break off; V_{tr,r}
 ra^kadi = break in two
 kàfɛ = coffee; N₁
 also kafe
 kafiri = pagan; N₁
 kàfu = help; V_{int,ma}
 kàfu-ño = everybody's friend, a joiner
 kàfu+X^ma = join in, help X
 kàka = tool for sharpening a knife; N₁
 kakan = must; Vbl
 kakan+ka+ta = must (to) go
 kakao = chocolate; N₁
 kala = fast; Adj
 kala = bow; N₁
 kàla = reed, stick; N₁; N_{man}
 kàla = reed fish trap
 kàla-man = ('of reed') stirring stick
 kàli = swear, bet; V_{ref}
 kaliya = warm up, hurry up; V_{tr}
 kaliya-Li = haste
 kamaren = unmarried, circumcised one; N₁

- kàmun = guinea hen; N₁
 kan = voice, language, guise, mood, neck, throat, sound,
 thought, mind; N₂
 kan-ba-to = proud person
 kan-gbɛ = clear language, general Maninka
 kan-fala = buffalo's dewlap
 kan-foro = goiter
 kan-kili = Adam's apple
 kan-kolo = collar bone
 kan[^]La-kolon = naked ('bare at the neck')
 kan[^]La-kɔnɔ = necklace ('on the neck beads')
 kan-woro-fɔ = Adam's apple
 kan = same; Adj₂; N₁; Adj_{man}
 kan-man = identical
 kan-ya = similarity
[^]kan = on top of, resting on; L
 kana = (negative imperative); Vbl
 kanba = pigeon; N₁
 kànbán = wing, shoulder; N₂
 kànbán-kolo = shoulder bone, blade
 kànbán[^]kɔrɔ = armpit
 kànbán[^]kɔrɔ-La = armpit
 kànbán-kun = shoulder ('shoulder-nose')
 kanbirin = boy; N₁
 kanbirin-ba-ya = 'big man'-hood
 kanbirin-gbanan = bachelor
 kàndan = great fish of the river; N₁
 kandon = look after, guard, shield; V_{tr}
 kànfá = foam, suds, lather; N₁
 kani = black pepper; N₁
 kàni = love; V_{tr}
 kàni-ño = friend
 kàni-ño-ya = friendship

- kàn-kali-ba = tonic made from leaves of a medicinal plant;
 N_1
- kanton = county; N_1
- kàña = wax; N_1
 kàña-kala = candle (wax stick)
- La^kaña = adjust, make fit; $V_{tr,l}$
- kañs = be equal; V_{int} ; Adj
 kañs-ya = equality
- kañin = good; Adj
 kañin-ya = goodness
- kara = sew; $V_{tr,l}$
 La^kara = sew, mend, repair, patch
 kara-Li-ks-La = a sewer, one who sews
- kara = misfortune; N_1 ; N_{man} ; $V_{tr,m}$
 ma^kara = make sorrow
 kara-man-to-ya = state of anguish
- kàra = indigo; N_1 ; Adj
 X+bila+kàra^ro = put something into indigo dye
- kàrfa = that which is kept?; N_1 ; $V_{tr,la}$
 kàrfa+X^La = to entrust to X
- karafs = reins, bridle; N_1
 karafs-yulu = reins; N_1
- kàra-karan = bluff, steep hill; N_1
- karan = try; V_{tr} ; V_{nin}
 karan-nin = a try
- kàran = read, learn, study, teach; N_1 ; V_{int} ; V_{tr}
 kàran-den = student, disciple
 kàran-den-ya = student-hood
 kàran-mo = teacher
 kàran-mo-ya = teacher-hood
- karàngba = louse; N_1
- karanke = cobbler; N_1
- kàran-karan-si = sideburns; (karan; N_{red})

karefor = crossroads; N₁
 kari = thread; N₁
 karo = month, moon; N₁
 kàrta = reeds for reed fence; N₁
 kàrta = set up reed fence; V_{int}
 kartiye = corridor, district; N₁
 kàsa = lose flavor, lose importance; V_{int}
 kasanke = funeral shroud; N₁
 kàsari = plunder, destroy, spoil; V_{tr}
 also kasari, kasara, kasàri
 kasi = survive; V_{int,l,ma}
 La^kasi = rescue
 X+La^kasi+Y^ma = rescue X from Y
 kàsi = cry, sound; N₁; V_{int,m}; V_{int,l,kan}; V_{int,m,kan};
 V_{int,m,la}
 ma^kàsi = complain
 La^kàsi = make cry, play the radio
 ma^kàsi-Li = a complaint
 ma^kàsi+X^kan = complain about X (person)
 ma^kàsi+X^La = complain about X (thing)
 kàsi-La = one who cries
 kasiketi = helmet; N₁
 kàso = jail, prison; N₁
 kàso^La-bila = imprisonment
 katilike = catholic; N₁
 also katiliki
 kà-wa = magician, (harvest magician?); N₁
 kàwa = shoulder; N₂
 kawàya = (a city name); N₁
 kawàya^koro = in Kawàya
 kàya = penis; N₂
 ke = order, appoint; V_{tr}

- ke = be; (ke in infinitive only, ye elsewhere)
 ye+X^koro = be behind, be in favor
 ye+X^ma = be on X
 ye+X^fɛ+Y^di = in favor of X for Y
 ye+X^ro = be in favor of X, accept X
 X+ye+Y^{di}_{ye} = X becomes Y, X is equal to Y, X is like Y
 X+ye+Y^kuna = X is over Y, X is doing Y
 ye+X^{La}_{kan} = be at or on X (X = noun or verb)
- ke-ke = hen sound 'cluck'; N_{red}
 keke = jaw, jabber, (impolite); N₁; N₂
 kela = message; N₁; V_{int}
 kela-La = messenger
- kelen = one
 kelen+De = alone, 'one be'
 kelen-ya = loneliness, oneness
- kèn = good, beautiful; Adj₂
 kèn-ya = goodness
- kènde = small corn, milli; N₁
 kere = animal horn; N₁
 kere-kere-ba = snail
- keu = wise; Adj
 keu-ya = wisdom, refinement
- kèyu = ugly; Adj
 kèyu-ya = ugliness
- kɛ = inheritance, estate; N₁
 kɛ = do, make, act; V_{int}; V_{tr}; V_{tr,ma}
 kɛ-ko = a deed
 V-kɛ^La = at V doing (V = verb)
 V+kɛ^La = at V's doing
 kɛ-ña = way of doing, method
- kɛ = throw, cast, dive; V_{tr,l,ro}; V_{tr,l,ma}
 La^kɛ = throw
 La^kɛ-nin = thrown, confused

- kɛ-fen = trash
 kɛ+Y^{rɔ} = plunge oneself into Y
 X+kɛ+Y^{rɔ}_{ma} = throw X on Y, X undertakes Y-ing
 kɛ̂ = male; Adj
 kɛ̂-ya = manhood
 kɛ̂ = man; N₁; N_{man}
 see Kinship Lexicon (6.4)
 kɛ̂-gbanan = bachelor
 kɛ̂-gbanan-ya = bachelorhood
 kɛ̂+damun = cheat a man
 kɛ̂-kɔ+kɛ = make love to a man (do 'man-business')
 kɛ̂^ˆkɔrɔ-si = marriage ('man-under sitting'--ruled by
 a man)
 kɛ̂-La^ˆkolon-ya = man with nothing to offer ('over-
 polished')
 kɛ̂-man = maleness ('of man')
 kɛ̂-mɔ-ya = grow old
 kɛ̂-nin = little man, unimportant person, underling
 kɛ̂ = husband; N₂
 kɛ̂di = mail; N₁
 kɛ̂lɛ = war, dispute; N₁
 kɛ̂lɛ-ba = World War II, big war
 kɛ̂lɛ-kɛ-La = warrior
 kɛ̂lɛ-mansa = chief warrior
 kɛ̂lɛ-ti = military chief
 kɛ̂lɛ-wuli = beginning of a war
 kɛ̂lɛ-ya = be jealous of
 kɛ̂lɛ-yeli = troubador who sings to soldiers
 kɛ̂mɛ = one hundred
 see Numeral Grammar (5.3 Rules 40-46)
 kɛ̂n = fat, grease; N₁; V_{tr}; V_{nin}
 kɛ̂n-nin = fattened, fat

- kənds = well, green, healthy; N_{man}; Adj
 kənds-ya = health
 kənds-ya-bali = incurable
- kəns = light, clear, daylight; N₁; Adj; Adj_{ya}
 kəns-den = newly circumcised male (teenager)
 enlightened child
- kənsən = groin; N₂
 kənsən^koro-La = groin
- kəraya = die (human); V_{int,l}; V_{ref}
 La^kəraya = die
- kiba = old man; N₁
 kiba-koro = 'little old man'
- kibarə = news; N₁
- kili = sphere, ovoid: testicle; N₂
 kili+la = lay an egg
- kili = call; V_{tr,m}
 ma^kili = call in accounts, tax
 kili-Li = calling
- La^kili = breathe
- kin = bite; V_{tr}
- kinbi = charcoal, coal; N₁
- kinbi = carp; N₁
- kini = pity; N_{red}; N₁; Adj_{red}; V_{tr,red}; V_{tr,m}; V_{tr,red,ko};
 V_{tr,red,la}; V_{tr,m,red}
 ma^kini-kini = be pitiful toward
 kini-kini = pitiful
 kini-kini-ko = pitiful event, thing
 kini-tan = pitiless
 kiti-tan-ya = pitilessness
- kinin = cooked rice; N₁
 kinin-damun-tuma = dinner time
 kinin-to = rice cereal
 kinin-to = the remainder of the cooked rice

kinin-bolo = South, right hand, (when you face East toward Mecca, the south is on your right hand side)

kĩñs = sand; N₁

kĩñs-ta-peli = sand shovel

kiriki = saddle; N₁

kĩrñdi = belch; N₁; V_{int}

kĩrsi = incantation; N₁

kĩryon = pencil; N₁

also kiriyon

kĩsi = kissi; N₁

kĩsi-ñuku = Kissi City

kĩsi-kan = Kissi Language

kĩss = grain, powder, speck; N₁

kĩss = brave; Adj

kĩss-ya = braveness

kitabu = book; N₁

also kitàbu

kitabu-karan-La = reader

kiti = judgment; N₁

kiti+ts = make a judgment ('cut' a judgment)

kiti-ts-La = judge

ko = tail; N₂

ko-si = tail fur

ko = say, said, (single form verb); V_{tr}

ko = 'tell me about _____'; Quest

ko = thing, event; N₁; N_{red}

also ko

ko+ko = nothing

ko-fasa = manner, sort of thing, thing-type

ko+fila+kun-tu-nin = co-occurrence ('two things hitting head on')

ko-fò = a telling, an explanation

ko-lon-bali-ya = ignorance ('without knowing a thing-hood')

- ko-ña = problem ('the thing-eye')
 ko-ñin = key
 ko^ro-woloma-La = one who pries into things, busybody
 ko-sebe = very much, Adv_S; Adv_R
 also ko-sobe
 ko-si = nothing
 kò = wash; V_{tr}
 kò = bathe; V_{ref}
 kò-Li-yo = wash house, bathroom
 kòbi = (fruit of tree, source of KNO₃); N₁
 kòbi-yu = tree (as above)
 kòko = coconut; N₁
 kòko-nati = coconut
 kòko-yi = coconut milk
 kòkunba = cucumber; N₁
 kolandi = kibitzer; N₁
 kolo = bone; N₂
 kolo-ba = big head
 kolo = polish, domesticate; V_{tr,m}
 ma^kolo = bring up child, start a fight
 kolo-bali-ya = ungratefulness, unpolished
 kolo-fen = domesticated animal
 kolo-nin = docile, polished
 kòlon = large pestle for rice pounding; N₁
 kòlon-kala = mortar for above
 kòlon = naked, empty; Adj_V; Adj_L
 La^kòlon-ya = strip
 La^kòlon-ya-nin = stripped
 kòlon-ya = become naked
 konben = a fruit; N₁
 konben-yu = source of above
 konbin = dew; N₁
 kònbo = moo; V_{int}

- kònden = small deer; N₁
 kònden-nin = small deer
 konko = plowing; N₁
 konko-ba = plowing hero, great plower
 konko = small hut for adolescent male (it has a separate
 entrance to separate the boy from his mother and
 sister); N₁
 kònko = woman's storage basket; N₁
 koña = well; Adv_R
 koparatifu = co-op store; N₁
 kòri = fatigue; Adj; V_{int,1}
 La^kòri = make someone tired
 koron = bad, naughty, cowardly; Adj
 koron-ya = naughtiness
 koròndo = drag; V_{tr}
 kòsan = to know how to do (kòsan+ka+verb)(indeclinable);
 known; Adj
 kòsan-ya = know-how; N₁
 kowe = (Question marker); Quest
 kɔ = back bosom; N₂
 kɔ-da = chest, breasts
 kɔ-kili = testicle
 kɔ^ma = behind ('back-on')
 ^kɔ = about
 kɔ̀ = salt; N₁
 kɔ̀-yi = ocean, sea
 kɔ̀ = river, brook; N₁
 kɔ̀-da = river bank
 kɔ̀ = back, rear; N₁
 kɔ̀^La = because of
 kɔ̀^La = over
 kɔ̀^ma = toilet ('out-back')

kɔbi = administrative office; N₁
 kɔbi-da = county seat
 kɔ-kɔ = (child's cry) 'carry me' ('back! back!')
 kɔlɛsi = college; N₁
 also kɔlɛsi, kɔlɛsi
 kɔlɛsiyɛn = collegian; N₁
 kɔlin = river, creek; N₁
 kɔlin-nin = stream, brook
 kɔlɔ = wood, board, log; N₁; N_{man}
 kɔlɔ-man = log
 kɔlon = trough; N₁
 kɔlon-ro-yi = water in the trough
 kɔmin = clerk; N₁
 kɔmisɛri = sheriff, police chief; N₁
 kɔnɔndɔ = nine
 kɔnde = (proper name, family name); Ne
 kɔndin = guitar; N₁
 see kɔnin
 kɔndɔ = kɔnɔ-ro
 see kɔnɔ
 kɔndɔn = greet; V_{tr}
 kɔni = but
 kɔnin = on the other hand; Adv_S
 kɔnin = lute, banjo, guitar; N₁
 kɔnin-fɔ-La = lutist
 kɔnin-bara = guitar
 kɔnkɔ = hunger; N₂
 kɔnkɔ-ba = famine (big hunger)
 kɔnkɔ-to = one who is hungry
 kɔnkɔsida = turtle; N₁
 also kɔnkɔsida
 kɔnɔ = bead; N₁

- kono = belly, mind, middle, memory; N₂; N_{man}; N_{ya}; Adj_{man}
 kono-ba = obese person
 kono-bara = navel, barrel belly
 kono-bori = diarrhea ('belly-running')
 kono-gbelen = hard headed person
 kono^{ro}-fili = butterflies in the stomach
 kono-man = pregnant ('of belly')
 kono-man = be pregnant
 kono-man-ya = pregnancy
 kono^{ro}-yu-ya = dishonesty ('evil down inside')
- kòno = bird; N₁
 kòno-yu = evil bird (owl)
 kòno-ña = bird's nest
- ma^kòno = wait for; V_{tr,m}; V_{nin}
 ma^kòno-nin = a wait
- konti = account, arithmetic; N₁
 kontuwari = co-op store; N₁
 koño = marriage ceremony; N₂
 koño-kura = bride
 koño-moran = bridal shower gifts
- koro = old; Adj_v
 see Kinship Lexicon (6.4)
 koro-ya = grow old
- koro = an elder; N₁; N₂
 koro-ke = elder brother
 koro-muso = elder sister
 koro-tan = without an elder brother
- kòro = under; L; N₁
 kòro-si = underling
- kòrkòri = rust; N_{red}
 kònisi = (name of a promenade around Faranah, street name);
 N₁

- koròndi = egotist; N₁
 koròndi-ya = egotism
 koròndo = snore; V_{int}
 La^koròsi = notice; V_{tr,1}
 korsina = jaundice; N₁
 korundifu = cotton, cloth; N₁
 also korindifu, korundufu, korindufu
 kòsse = pig; N₁
 ma^kòto = forgive; V_{tr,ma}
 ku = yam; N₁
 kù = sound of pigeon; N₁
 kuàndi = counsel, advise; V_{tr}
 kuàndi-Li = advice
 kuànin = finger, toe; N₂
 kuben = office; N₁
 kudu = elbow; N₂
 kula = food, baked rice; N₁
 kule = howl, shout; V_{int}
 kulun = canoe; N₁
 kulun-bo = canoe taking out
 kulun-bo-fagba = canoe launching paddle
 kulun-La^ts-La = canoe paddler ('cutter with the canoe')
 kuma = talk; N₁; V_{int}
 kuma-ma^sila-nin = frightening talk
 kuma^koro-La-ba = proverb, moral
 kumàndan = mayor; N₁
 kumàndan-so = city hall
 kùmu = acid; N₁; V_{tr,1}
 La^kùmu = make acid
 kun = head, top, tip; N₂
 kun-gbe = white head
 kun-gbela = hard head, stubborn
 kun-gbelen = knee
 kun-gbolo = scalp

kun-dan = a hair setting
 kun-dan-La = hair dresser
 kun-folo = first ordeal, first step
 kun-ken = brains ('head-fat')
 kun-kolo = skull
 kun^koro-La-boro = pillow ('bag under the head')
 X+kun^koro = up ahead of X
 kun^La-diya = luck ('skill in the head')
 kun-si = hair
 kun-si-tan-ya = baldness
 kun-tan = stupid ('headless')
 kun-ti = chief
 kun = contain, fit; V_{tr}
 kuna = leprosy; N₁
 kuna-to = leper
 ^kuna = over; L
 kunan = wooden bowl; N₁
 kunan^ro-yi = water in a wooden bowl
 kunan-kunan = pancreas; N₂
 kunbi = dew; N₁
 kundi = seducer of girls; N₁
 kundi-ya = playboyhood
 kundu = bottle; N₁
 kundun = short; Adj
 kundun-ya = shortness
 kunfa = anxiety; N₁; V_{int}
 kunfa = be anxious
 kunun = wake up; V_{int,1}
 kunun = yesterday; Time_{pst}
 kunun = swallow; V_{tr}
 kura = new; Adj
 kura-ya = newness

kùra = a fruit; N₁
 kùra-yu = kura tree
 kuràngo = (a Malinke speaking ethnic group); N₁
 kùrsi = shorts; N₁
 kùrsi-ba = trousers
 kuru = group; N₁
 kùru = stone, mountains, (city hall); N₁
 kùru^La = at city hall
 kùru-məsən = pebble
 kurun = thunder, groan; V_{int}
 kusùñs = cook; N₁
 la = place, underneath; N₁
 la = lay, lie, put, cover, tell, sing, make do; V_{tr,kan}
 V_{tr,koro}
 la-fen = bed
 la+X^kan = add to X
 la+X^koro = serve under, act for X
 la = be convinced; V_{int,la}
 la+X^La = be convinced of X, believe in X
 la-nin+X^La = convinced of X
 ^La = on, at, upon, in, by (doing); L
 La = agent, profession; N₁
 là = sheath; N₁
 mòrc-la = holster
 labitani = hospital; N₁
 làhadi = Sunday; N₁; Time_{pf}; Time_{pst}
 also lahàdi
 lài = garlic; N₁
 làkali-La = town crier; N₁
 lakan = young; Adj
 lali = encourage, sharpen; V_{tr}
 làma = shake-up, stir up, kid; V_{tr}
 làma = delightful expectation; N₁
 làma-ko = delightfully expected event

lamerkèni = American; N₁
 lana = belief; N₁
 lànda = custom, tradition; N₁
 lànda^ro = usually; Adv_S; Adv_R
 lànsara = afternoon; N₁
 làñiri = promise; N₁
 làñiri-mira-bali = promise breaker
 làñiri+ta+X^ye = promise X
 latikonɔ = perfume; N₁
 lèfa = fan; N₁
 lèkol = school; N₁
 lèkol-den = student
 lèkol-dén-ya = studenthood
 lèkol-karan-mo = teacher
 lèmunu = orange; N₁
 lèmunu-kumu = lemon
 lèn = melt; V_{int}
 lè = wild pig; N₁
 leri = time; N₁
 letari = letter; N₁
 also letere
 li = honey; N₁
 li-fanfa = beehive
 li-kiss = bee ('honey-speck')
 li-kolo = bee ('honey-bone')
 li = shave; V_{tr}
 -Li = (continuous action)
 lilan = razor; N₁
 loin = fishing line; N₁
 lokun = week; N₁
 lokun+kelen = one week
 lòlen = long sharp-edged grass; N₁
 lòlo = dream, image, star, reflexion; N₁

lon = day (day's time); N₁
 lon-do = one day
 lon+lon = everyday; Adv_{red}
 london = foreigner; N₁
 loolu = five
 lo = command, appoint, order, send, stand, build, charge;
 V_{tr,l}; V_{tr}
 La^lo = arrest
 lo+X^La = put something on X (X = noun)
 make someone do X (X = verb)
 lo = market; N₁
 lo-fe = market place
 lo-fe^ro = at the market
 lo = log; N₁
 ma^lola = be ashamed of; V_{tr,m}
 lon = know; V_{tr,l}; V_{tr}; V_{nin}
 La^lon = make someone know, announce
 lon-nin = knowledge
 lon-nin-La = one who knows
 ^Lu = (plural marker)
 lu = home, house; N₂
 lu-kens = clear space around the house
 lu-kolo = home floor
 lu^ma = at home
 lu-ti = head of the household
 lulen = shade; N₁
 lulu = root; N₁
 ^ma = on the surface of, on, at; L
 ma = (negative of ka and ra); Vbl
 ma = grandmother; N₂; N_{red}
 see Kinship Lexicon (6.4)
 ma-ma = grandmother
 La^ma = move, trick or fool; V_{tr,l}

mà = stuff, thing; N₁
 mà-ko = concern, affair
 mà-fen = food sauce
 mà-ñuma = compassion; N₁
 mà-ñuma-ko = compassion evoking event
 màdan = European female; N₁
 màdan-muso = playgirl
 màdi = massage; V_{tr}
 màdi-li = massage
 maka = Mecca; N₁
 makiti = market; N₁
 mali = (Republic of) Mali; N₁
 màlin-ke = Maninka, Malinké, ('male hippopotamus'); N₁
 malo = be receptive to, escort; V_{tr}
 màlo = rice; N₁
 màlo-foron = rice husk
 màlo-kan[^]ma = rice in the husk
 màlo-ka-worto = rice cutting sickle
 màlo-kiss = rice grain
 màlo-tu = rice pounding
 màlo = bashful; Adj; bashfulness; N₁
 màlo-bali-ya = forwardness
 mamadi = (name-male); Ne
 màmadu = (name-male); Ne
 ma-muso = lady; N₁
 -man = -ness, (derivational suffix)
 man = still, yet, again; Adv_R; Time_{pst}; Time_{pf}
 man+V = again
 man+ye = still, yet
 mana = glue; N₁
 màna = tooth brush plant; N₁
 manin-ka = Maninka, Malinke
 manin-ka-du = (any place that the Maninka ethnic
 group is found)
 manin-ka-kan = Maninka Language

- mànkán = bragging; N₁
 mànkán+tu = brag, exaggerate
- mànkóron = mango; N₁
 mànkóron-gbeden = unripe mango
- mànsa = king, chief; N₁; N_{ya}
 also masa
 mànsa-ya = chiefhood
 kɛlɛ-mansa = war chief
- màña = exaggerate (one's importance); V_{tr}
 màña-La-yi-La = one who goes about quoting from the Koran
- mañan = army ant; N₁
- La^mara = to keep (children, slaves, concubines); V_{tr,1}
 see mira
 mara-Li = keeping, guardianship
 X^La+La-mara-Li^ro = in X's keeping
- màra = predictable accident; N₁
- maràba = Hausa tribe; N₁
- màran = left; Adj₃
- màsiba = gory sight; N₁
 also masìba
 màsiba-ko = gory occasion
- màsini = machine, device; N₁
 also masìni
 màsini-yeli = sound reproducing device
- me = absolutely, faithfully; Adv_S
- mè = epicurean; N₁
- mɛlɛ-mɛlɛ-nin = tiny house ants; (mɛlɛ; N_{red})
- mɛlɛka = angel; N₁
 also mɛlèka
- mèlɛn = blade; N₁
- mèlɛn = light, flames; N₁
- mèlɛn = hippopotamus; N₁
 also màlɛn

ma^mira = reserve, hold in keeping, baby-sit
 ra^mira = hold it in
 mira = a catch
 miri = think; $V_{tr,m}$; V_{ref} ; N_1 ; N_{ya} ; $V_{ref,ma}$
 miri = imagination
 miri-Li = thought, reflection
 miri+X^ma = think of X
 miri-ya = conception
 mirin = a charm; N_1
 mirin = image, picture, effect; N_1
 mirin+ta = draw, take a picture
 misar = Egypt; N_1
 misikina = destitute person; N_1
 also misikina
 misilimi = a Moslem; N_1
 misilimi-ba = a good Moslem
 misiri = mosque; N_1
 misiyon = mission; N_1
 mon = eat, cram food in the mouth; V_{int}
 mòran = dishes; N_1
 mòro = death, death-dealing
 also mòr
 mòro-fa = gun; N_1
 mòro-fa-munku = gunpowder
 mòro-fa-ti = gun's owner
 mowamed = Mohammed; N_1
 mò = ripen; V_{int} ; V_{nin} ; ripeness; N_1
 mò-bali = unripe
 mò-nin = ripened, done
 mò = person; N_1
 mò-ba = reputable person
 mò-fa-La = murderer
 mò-fa = greeting
 mò-hawi-ya-nin = impatience

- m̀-kan-duma = great singer
 m̀-messen = petty person
 m̀-nin-fin = black person
 m̀-sebe = important person
 m̀-si = no one
 m̀-to-man-ba = famous person
 m̀-toro-La = a 'person borer'
 m̀-yanan-nin = unimportant person ('dried up person')
 m̀+yiya = shadow
- m̀obili = automobile; N₁
 m̀òndò = handful (measure); N₁
 m̀ònin = porridge; N₁
 m̀one = regret deeply; V_{int}
 m̀ontere = watch; N₁
 m̀òñonko = crush; V_{tr}
 m̀ori = Moslem; N₁
 m̀ori-ba = a very religious Moslem
 m̀ori-karan = Arabic School, Koranic School
 m̀ua = sprain; N₁
 m̀uan = twenty
 see Numeral Grammar (5.3 Rules 40-46)
 m̀udu = tax; N₁
 m̀udu+bo = pay taxes
 m̀udu-bo-tuma = tax paying time
 m̀udu-ma^kili-tuma = tax collecting time
 m̀uke = slippers, prayer shoes; N₁
 m̀uluku = lizard; N₁
 m̀ume = none at all; Adj; N₁
 m̀un = what?; N₁; Adj; Quest
 m̀un+ke-nin = what happened?
 m̀un^La = why?; Quest
 m̀unku = powder; N₁
 m̀unu = yet; Adv_S

- muru = mix with a gbolo-man; V_{tr}
 muru = knife; N₁
 muru-ba = machete
 muru-den+fila = scissors ('two knife-babies')
 muru-melan = knife blade
 muruntu = gnat; N₁
 muruntu-nin = gnat
 mùso = female; Adj
 mùso-ya = womanhood
 mùso = wife, woman; N₁; N₂; N_{man}
 see Kinship Lexicon (6.4)
 mùso-bara-wuya = 'old battle-axe'
 mùso-ko-kɛ = make love ('do woman-business')
 mùso-ko+men = love a woman ('understand woman-business')
 mùso-man = femininity
 mùso+naanin+furu = four woman marriage (polygyny)
 mùso+sì = marry a woman
 mùso-siya-man-furu = polygyny
 n = I, me, my; Pro
 n+fen^La = why?
 n+ye = hasn't it?
 n+te = not me
 na = mother; N₂
 see Kinship Lexicon (6.4)
 na-ba = older co-mother
 ma-muso-ba = concubine
 nà = sauce, gravy; N₁
 nà = come; V_{int}; V_{int,di}; V_{int,l}; V_{int,ma}
 La^nà = make come, bring
 La^nà+X^ma = hand something to X
 nà-Li = the arrival
 nà-tuma = time of arrival
 nà+X^di = bring X
 nà+X^ma = arrive at X

naanin = four
 nafi = a gossip; N₁; N_{ya}
 also nafu
 nafi-ya = gossip, criticism
 nàfulu = riches, bride price; N₁
 nàfulu-tiñan-La = prodigal ('riches spoiler')
 nàfulu-suña-La = robbers
 nako = sake; N₂
 nako = garden; N₁
 nalonan = clown, fool; N₁
 namàsa = banana; N₁
 namàsa-yu = banana tree
 nambàra = paralytic; N₁
 nambaran = trouble, dispute; N₁
 nambaran-La^wuli = cause trouble
 namu = custom, habit; N₁
 na-na = swallow; (na; N_{red})
 na-na-nin = swallow ('little na-na')
 -nan = (numeral ordinal marker)
 nanin = insult; V_{tr,m}
 also nənin
 ma^nanin = insult someone
 nànsara = Christian, French missionaries, Frenchmen,
 Europeans, White men; N₁
 also nansàra
 nànsara-du = Europe
 nati = nut; N₁
 nayi = circumcise; V_{tr}
 nè = iron, metal; N₁
 nè-da = iron pot
 nè-finfanin-fen = electric fan
 nè-kulun = train ('iron canoe')
 nè-kulun-La^bori-La = engineer

- nèn-sila = railroad
 nèn-so = train ('iron horse')
 nèn-yulu = telegraph
 nèn-yulu-bon = telegraph office
 nèn-yulu-bon-ti = telegraph operator ('master of the
 iron-rope-house')
- nèn = tongue; N₂
 nèn-fala = tongue blade
- nèn = pus; N₁
 nens = cold, disease; N₁
 nens+ye+X^La = X has a cold ('a cold is on X')
- neni = insult; V_{tr,m}
 ma^neni = insult
- nèrs = a type of tree
- ni = heart, soul; N₂
 ni-La^kili = breathing
 ni-ma^kara = anguish
 ni-ma^kara-to = one in anguish
- ni = 'be', if, (ye in some positions); Vbl
- nì = part, share; N₁
 nì^La-fe = serving, calabash full
- nimisa = sorrow; N₁; V_{int}
 nimisa = be sorry
 nimisa-ko = regrettable thing
- nin = (diminutive), little; Adj₃
 -nin = (completive particle); Vbl
- nìsi = cow; N₁
 nìsi-biñs = cow liver
 nìsi-gben-kono = egret ('cow-chasing-bird')
 nìsi-gben-La = cowboy equivalent ('cow-chaser')
 nìsi-fa-La = butcher
 nìsi-kono^ma-den = cowboy equivalent ('he who serves
 the cow's belly')
 nìsi-tulu = butter

nò = stomach, intestines; N₂; Adj_{man}
 nò-man = greedy
 nò-man-ya = greediness
 nori = leech; N₁
 nò = master, overcome; V_{tr}
 nò = get dirty; V_{int,1}
 La^nò = make dirty
 nò = a track, trail
 nò-nin = dirtied, dirty
 La^nò = bore, irritate; V_{tr,1}
 nònkò = vine; N₁
 nono = milk; N₁
 ~nono-fens = cream
 nono-kends = fresh milk
 nono-kumu = buttermilk
 nono-sino-nin = buttermilk ('milk that has slept')
 nonsin = chameleon; N₁
 noro = purity, beauty; N₁
 nòro = wrinkle; N₁
 Y+nòro+X^ma = stick Y to X; V_{tr,ma}
 nòro-nin = sticky
 nùmun = blacksmith; N₁; N_{ya}
 nùmun-ya = blacksmithing
 nun = nose; N₂
 nun-kala = bridge of nose
 nun^koro-si = moustache ('hair under the nose')
 nun-wo = nostril ('nose hole')
 nunàka = blacksmith; N₁
 nùwa = thank; V_{int}
 nùwa-Li = hello, thanks
 nùwa-Li+bo = send out thanks
 ña = eye, aspect, care, center; N₂
 V-ña = way of doing, (V = verb)

- ña+bo = solve, take care of problem
 ña+bo+X^La = envy X
 ña-gbolo = eyelid
 ña-da = face
 ña-dimin = sick eye
 ña^fɛ-bila = guide
 ña^fɛ-lo = guide
 ña-fu-yen = blind person
 ña-kelen-to = one-eyed man, myopic person
 ña-kolo = eyeball
 ña^koro+sidi = frown ('face-tie-up')
 ña^koro+sidi-nin = stern face
 ña^koro-da = face
 ña^la-fin = of black aspect ('black to the eye')
 ña^la-fin = dim, darken vision
 ña+La^minin = get dizzy
 ña-maku = ginger
 ña-ñinin = investigation
 ña-ñinin+ke+X^ma = investigate X ('doing solution-seeking')
 ña-ñin^kan+ten = presently ('on this aspect, now')
 ña^ro-ya = the manner of one who dares doing things
 beyond his power ('dry or hard in the eyes')
 ña-si = eyebrow
 ña-tan = sightless
 ña-yi = tears
 ñà = celebration, festival; N₁
 ñà = nest; N₁
 ñàlen = be happy; V_{int}
 ñàlen = (name-female); Ne
 ñàma = trash, dirt; N₁
 ñà-mo-den = bastard; N₁
 ñanbèrs = cockroach; N₁

ñànkuma = cat (ancient family name); N₁; Ne
 ñànkuma^La+mo = cat-like person, cat's person
 ñàri = cat; N₁
 ñen = this, that; Adj₃; N₁
 also ñin, min, men
 ñen = toilet facilities; N₁
 ñèn = manure; N₁
 ñènin = burn; V_{int}; V_{tr}
 ñimin = chew; V_{tr}
 ñin = this, that; Adj; N₁
 also min, men, ñen
 ñin = tooth; N₁; N₂
 ñîn = friendship; N₁
 ñina = mouse; N₁
 ñina = spirit; N₂
 ñîna = forget; V_{int,ko}; V_{int,la}
 ñîna+X^ko = forget about X
 ñîna+X^La = forget X
 ñinan = this year; N₁
 ñinin = look for; V_{tr}
 ñinika = ask, call on; V_{tr,m,ma}
 ma^ñinika+X^ma = ask someone X
 ñînk+X^ye = promise something to X; V_{tr}
 ñîinki+nànka = rainbow; N₁
 ñuma = good, right; Adj
 ñuma-ya = goodness
 ñuman = what, which?; Quest
 -ño = friendly, well-liked person, (in compounds)
 ñò-ño = tickle; V_{tr,red}
 ñò-ño-Li = tickling
 ño = louse; N₁
 ñò = corn; N₁
 ñokin = stoop; V_{ref}

ñòkòlòlò+ñòkòlòlò = mantis; N_{red}
 ñòmìn = camel; N₁
 ñòn = each other; N₁
 ñòn^fè = together
 ñò-ñò = rest; V_{tr,red}; V_{ref}
 palan = iron bowl, pot; N₁
 panpələmusu = grapefruit; N₁
 pànpuñà = albino person; N₁
 also panpùñà
 pàntalòn = slacks, trousers; N₁
 also pantàlòn
 pàntalòn-gbè = white slacks
 paña = basket; N₁
 pàran-paran-mò = cheery person; N₁
 also pàndan-pandan-mò
 pari = Paris; N₁
 pàrti = political party; N₁
 pàrti-kun = party chief
 -pe = only, (affix on Num)
 peli = shovel; N₁
 permanansi = community auditorium for political meetings;
 N₁
 pia = avocado; N₁
 pinin = pin; N₁
 pinkelen = pin; N₁
 plànton = janitor, messenger, clerk; N₁
 plumu-kala = pen, quill pen; N₁
 polisi = police; N₁
 pòn = bridge; N₁
 pòsti-bon = post office; N₁
 poti = can, pot, N₁
 pua = weight; N₁

ra^ = 'rend, undo', (verbal prefix)
 also rɔ^
 ^ra = (past intransitive); Vbl
 ^rɔ = in, within, into; L
 sa = now, already; Adv_R; Time_{pf}
 sa = scratch; V_{tr,m}
 ma^sa = peel fruit, plow, scratch
 sà = snake; N₁
 sà = sheep; N₁
 saraka-sa = sacrificial sheep
 sà = die, be extinguished; V_{tr,l}; N₁; N_{ya}
 La^sà = extinguish
 sà = pay, extinguish (a debt)
 sà-ya = death
 saba = three
 saba-nin = triplets
 sàfuna = soap; N₁
 also safùna, sàfina, safina
 sàla = lazy; Adj
 sàla-to = lazy person
 sàla-ya = laziness
 sali = feast, pray; N₁
 sali-yi = an ablution
 sali-yi+mira = have an ablution
 sàma = rainy season; N₁
 samakerɛn = squirrel; N₁
 saman = pull; V_{tr,l}; V_{tr,r}
 La^saman = stretch a person
 ra^saman = stretch a person
 san = buy; V_{tr}
 san = sky; N₁
 san-fen = cloud
 san-fɛrɛn = lightning, thunder

- san-fin = black sky
 san^kan-so = multi-story house ('house on the sky')
 san-kolo = hail
 san^ma = in the sky
 san^ma-kulun = airplane ('canoe in the sky')
 san^ma-kulun-La^bori-La = pilot
 san-tolo-ba-nin = rabbit ('little big-ears in the sky')
- sà̀n = funeral; N₁
 sà̀n-ko = funeral
- sà̀n = year; N₁; N₂
 sà̀n = age
 sà̀n-da = proverb (year opener?)
 sà̀n-do = next year
 sà̀n+wo+sà̀n = year after year; Adv_S
- sà̀n = magic; N₁
 sà̀n-suba = magical witch
 sà̀n-suba-ya = magic craft
 sà̀n-suba-ya-boro = ('bag of magic power')
- ra^san = cross the river; V_{tr,r}
 sanan = (name of a village); N₁
 sanan^koro = in sanan
- sà̀nba = gift; N₁; V_{tr}
 sanbà̀ra = shoes; N₁
 sanbà̀ra^koro-La = shoe soles
 sanbà̀ra^koro-gbolo = shoe soles
- sà̀ngban = stubble; N₁
 sà̀nka = compare, compete; V_{ref,ro}; V_{tr,ro}
 sà̀nka+X^ro = compare oneself to X
- sankaran = a county; N₁
 sà̀nsan = fence, dam; N₁; V_{tr,m}
 ma^sà̀nsan = fence in
- sanss = change, evolve; V_{int,la}; V_{tr,la}
 X+sanss+Y^La = replace X with Y

santi = comb; N₁; V_{tr}
 sào = welcome; V_{int}; V_{tr}
 also sako
 sara = reputation, line; N₁
 sàra = cucumber; N₁
 sàra = wages, pay; N₁; V_{int}; V_{tr}
 sàra-Li-La = paymaster
 saraka = sacrifice; N₁
 saraka+bo = perform a sacrifice
 saraka-sa = sacrificial sheep
 sàrbon = charcoal; N₁
 sàrbon-ts-La = charcoal cutter, maker
 sàri = correct; Adj
 sàri-ya = rightness
 sarkalan = frog; N₁
 sàrlon = Sierra Leone; N₁
 sasa = hunting bag; N₁
 sàsa = a cold; N₁
 satana = device (charm) to prevent lightning damage; N₁
 se = reach, arrive; V_{int,l}; V_{int,l,fs}; V_{int,ro}; V_{int,ma};
 V_{int,la}; N₁
 La[^]se = make reach, deliver (message), announce
 se+X[^]fs = go see X
 se-ko = capability ('ability-thing')
 se-ko-be = all capabilities
 se+X[^]ro = have power over X
 se+X[^]ma = arrive at X
 se+V[^]La = be able (to do V = verb), know how to do
 sèlan = needle; N₁
 sen = eight
 sèn = dig; V_{tr}
 dènka-sen = hole digging

- sèn = foot, leg; N₂
 sèn-gbolo = skin of the foot
 sèn[^]La-diya = skill in the feet
 sèn-kondo-La = underside of foot
 sèn-kuanin-nin = toes ('little foot-fingers')
 sèn-nun = top of foot
 sèn-sorin = toenails
 sèn-tin-tiri = heel
 sèn-yan = leggings for men
 sèna = mate, spouse; N₂
 sèna-muso = wife
 sènba = elephant; N₁
 sen[^]kan-tuwiti = 1958, date of Guinean Independence from
 France; Time_{pst}
 seran = broom; N₁
 sere = witness; N₁
 serun = last year; Time_{pst}
 se = KNO₃; N₁
 se = move; V_{int,m,la}
 X+ma[^]se+Y[^]La = move X far away from Y
 sè = large basket; N₁
 sè = bore, wear out; V_{int}; N₁
 also sèke
 sè = fatigue
 sè+La[^]mira = endure
 sè = return; V_{int,l,la}; V_{int,l,di}
 La[^]sè = make return, prevent from getting there
 sè+X[^]di_{La} = return with X
 sè = karite (fruit); N₁
 sè-yu = tree (source of above)
 sè-tulu = karite butter
 sebe = letter, book, paper; N₁
 sebe-ma[^]woron-La = paper scratcher
 sebe-ta-La = mailman

sɛbɛ = write; V_{tr}
 sɛbɛ-Li-kɛ-La = writer
 sɛbɛ-Li-La = writer
 sɛ̀bɛ = palm; N₁
 sɛ̀bɛ = important, serious; Adj
 also sɔ̀bɛ
 ko-sɛ̀bɛ = very, very much
 sɛ̀bɛ+mira = get, be serious
 sɛ̀bɛ = effort; N₁
 sɛ̀bɛ+don = make an effort
 sɛ̀bɛ = get serious, straighten up; V_{ref}
 sɛ̀di = rice soup; N₁
 sɛ̀du = (proper name - male); N₁
 sɛ̀kɛ = mosquito netting; N₁
 also sɛ̀nkɛ
 sɛ̀lɛn = (an edible river fish); N₁
 sɛ̀lifana = Moslem prayer time; N₁
 sɛ̀n = bridge; N₁
 sɛ̀nɛ = mattock, hatchet; N₁
 sɛ̀nɛ = lean (one's self); V_{tr,1,ro}; V_{tr,1,la}; V_{ref,ro};
 V_{ref,la}
 sɛ̀mɛ+X^{ro}_{La} = lean on X
 La^{sɛ̀mɛ+X}La = lean something on X
 sɛ̀nɛ = welcome; N₁
 sɛ̀nɛ+bɔ = send out welcome
 sɛ̀nɛ = field; N₁
 sɛ̀nɛ-bin = weed
 sɛ̀nɛ-bin+bɔ = weed
 sɛ̀nɛ+kɛ = plow ('make a field')
 sɛ̀nɛ-kɛ-ba = plowing champion
 sɛ̀nɛ-kɛ-La = plower
 sɛ̀nɛ-kɛ-masini = tractor
 sɛ̀nɛ-Li = plowing
 sɛ̀nɛ^{ro}-baara = field work

- sɛnin = gold; N₁; N_{man}
 also sanin
 sɛnin-bɔ-La = gold miner
 sɛnin-man = shining
- sɛnki = rain; N₁
 also sanki
 sɛnki-kolo = hail
- sɛrbɛti = towel; N₁
 also sɛrbɛti
- sɛrɛma = singer, dancer; N₁
 sɛrin+X^ma = sprinkle X; V_{int,ma}
 sɛrwusu = military service; N₁
 sɛrwusu-ra^ta = entering the service
- sɛta = wrestle; N₁; V_{tr}
 sɛwa = happy; Adj₂; Adj_v; Adj_L
 La^sɛwa = cheer up
 sɛwa-ya = happiness
- si = nothing; Adj₃
 si = hair, fur; N₂; N_{man}
 si = seed, grain; N₁
 sɪ = buffalo; N₁
 sɪ-den-nin = buffalo calf
- sɪ = lifespan; N₂
 sɪ-ban-to = reckless one ('one in a life-finishing-state')
- sɪ = sit; N₁; V_{int,ma}; V_{int,la}; V_{int,ro}; V_{int,kan}; V_{int,l};
 V_{ref,koro}; V_{int,l,koro}; V_{ref,kan}; V_{tr,l,kan}
 La^sɪ = make sit
 X+sɪ+mɔ+kun^ma = carry X on a person's head
 sɪ-bon = bedroom
 sɪ-fen = chair equivalent
 sɪ-Li = continued sexual intercourse

- sî-Li-ko-kuma = talk about settling down
 sî+X^koro = depend on X for a living, to provoke X,
 expose plans to X
- sibiri = Saturday; N₁
 sîbo = dream; N₁; V_{int}
 sîda = monkey bread; N₁
 sîda-yu = baobab tree
- sidi = tie; V_{tr,1}
 La^sidi = tie up
- sika = suspect; N₁; doubt, hesitate; V_{tr}
 sîkeli = scales; N₁
 sikèrti = cigarette; N₁
 also sîkerti, sîkàrti, sîkarti
- sîko = hiccup; N₁; V_{int}
 sila = street, way, path; N₁
 sila-fara = fork in the road
- sîla = monkey; N₁
 silàma = a 'soul', one who has life; N₁
 silan = fear; N₁; N_{ya}; V_{int,1,ma}
 La^silan = frighten
 ma^silan-nin = strange, exotic
 ma^silan = frighten by one's actions
 silan = fear
 silan-nin = frightened
 silan+ye+X^ro = fear is in X
 silan-ya = fright
- sin = nipple; N₂
 sin+min = suckle
 sin-yi = kinship, brotherhood (those who share the
 same milk)
 sin-yi = breast milk
- sinbiri = (measure of length between thumb and middle
 finger)

sini = tomorrow; Time_{pf}
 sini-kende = day after tomorrow
 sini-kende^ko = day after tomorrow
 sino = sleep; V_{tr}; N₁
 sino-nin = thick
 sinsi = coins, change, cents; N₁
 sinuwa = Chinese; N₁
 siña = time; N₁
 also siñe
 siña-kelen = once, one more time; Adv_S; Adv_R
 siño = neighbor; N₁
 siño-ñuman = good neighbor
 siño-ya = neighborliness
 siño-yu = bad neighbor
 sira-du+kisi = (place name); N₁
 sira-du+kùranko = (place name); N₁
 sisa = mosquito; N₁
 sisa = malaria, tuberculosis; N₁
 siɛ = chicken; N₁
 siɛ-kili = hen's egg
 siɛ-lakan = chick
 siɛ-muso = hen
 sisen = now; Time_{pf}
 sisi = chest; N₂
 sisi-da = chest
 sisi = smoke; N₁
 yamba-sisi = tobacco smoke; N₁
 sisi-kulun = airplane, train ('smoking canoe')
 siya = plentiful; Adj_{man}; Adj_{ya}
 siya-man = many
 siya-ya = abound
 siya-ya = abundance
 siyèki = goldsmith, silversmith; N₁

- so = city; N₁
 so-da = city gate
 so+kɔndɔ-si = a stay in the city
 so+kɔndɔ-wa = trip to the city
 so+kɔndɔ^rɔ = in the middle of the city
 so-ti = village chief
 so-yɛlɛ-man = migration to the city
 sò = smallpox; N₁
 sò = horse; N₁
 sò-bo = horse manure
 sò-fali = mule
 sò-kɛ = male horse
 sò-san-kɛ = horse buying man
 sòbo = meat, animal, stupid person; N₁
 sòbo-mon = meatball
 soliman = (a district near Faranah); N₁
 solina = beg pardon; N₁
 sòlo = parrot, parakeet?; N₁
 sòn = robber; N₁
 sòn-bolo-La^mira-La = receiver of stolen goods
 sonden = chicken-hawk; N₁
 sonkan = weaver-bird; N₁
 sòda = soap; N₁
 sòrda = soldier; N₁
 sòrdasi = soldier; N₁
 sòri = bail water, get up early; V_{int,1}
 La^sòri = make someone bail water, make someone get up
 sòrin = nail of finger or toe; N₂
 sòrnon = kidney; N₁
 so = give; V_{tr,1,la}
 La^so = offer something to a fetish; lance a wound
 X+La^so+Y^La = give X to Y
 so-Li = apology; ancestor worship, giving
 so-Li-fen = gift

- sò = weave, sew; $V_{tr,1}$
 La^sò = weave, sew
- sò = morning; N_1
 sò^ma = in the morning
- sòlò = daily share of food or money for each wife; N_1
- sòmò = pome d'acajou; N_1
- son = receive, accept; $V_{tr,1a}$; V_{ref}
 son+X^La = receive X, accept X
- sòn = behavior, will toward something; N_1
 sòn-yu = bad will
 sòn-ñuma = good will
- sonkò = shout, argue; $V_{int,1}$
 La^sonkò = cry out something
- sònkò = price; N_1
 sònkò-lon = bargainer, go-between ('price-knower')
- sònsoli = kneel; V_{ref}
- sonson = smash; V_{tr}
- sorña = mange, scabies; N_1
- sòron = (a musical instrument like a violin); N_1
- sòron = an insect; N_1
- sòron = give; give birth; V_{tr} ; V_{nin}
 sòron-nin-La = one who gets
 sòron-sebe = birth certificate
- sò-so = baby's cough; V_{int}
- sòso = bean; N_1
- ma^sòso = disagree with; $V_{tr,m}$
 sòso-Li = dispute, disagreement
 sòso-Li+kε = disagree
- sù = corpse; N_1
- sù = night; N_1
 sù-ban^La-teli-La = all night story telling ('till-
 night-finishes story-telling')

suba = witch, sorcerer; N₁; N_{ya}
 also suwa
 suba-mira-don-kili = witch catching song
 suba-mira-kan = witch catching guise
 suba-mira-ka-wa = witch-catching witch
 suba-ya = witchcraft
 sùba = morning; N₁
 sùba-dibi = early in the morning
 sùba^ma = in the morning
 sùdun = short; Adj₂; Adj_{ya}; Adj_L
 La^sùdun-ya = shorten
 sùdun-ya = shortness
 -sufa = of that type; Adj₃
 also su, susa
 su-min-tan = what kind?; Quest
 sukara = sugar; N₁
 sùlen = be sharp; V_{int,1}
 La^sùlen = sharpen
 sùma = cold, wet; Adj; V_{int,1}
 La^sùma = dampen
 sùma = be slow
 sùma-ya = slowness, wetness
 suman = itch, hives; N₁
 suman = measure, weigh; V_{tr}
 suman = odor; N₁
 sùman = rice, food; N₁
 sùmu = chat at night; V_{int}
 sun = fast, Ramadan; N₁; V_{int}
 sun-don = beginning of the fast
 sun-karo = September
 suna = urinate; V_{int}; N₁
 suna = urine
 sunbara = a spice; N₁

- sungbàla = forked stick; N₁
 sunkurun = girl friend; N₁
 sunkurun-lakan = young girl
 sùña = steal; V_{tr,m}
 ma^sùña = steal from oneself, bed the bride before
 the wedding
 sùña-Li = theft
 sùrtu = for certain; Adv_S; Adv_R
 susu = suck; V_{tr,m}
 ma^susu = suck on, pound (rice)
 susu = dare, attempt; V_{int,la}
 susu+V-La = dare, attempt V (V = verb)
 sùtura = restroom; N₁
 also sutura
 ^ta = (obligation, suggestion)'is to be V'; Vbl
 ta = go; V_{int,r,ma}
 ra^ta = go into, enter into
 ta+X^ma = go to X
 ta = part, own, possession; N₂
 n+ta = my own; N₁
 ta-no = tracks; N₂
 ta = middle, between, waist; N₁; N₂
 also tɛ
 ta^ma = middle
 ta-sidi = belt
 ta+ma^tinyan = spoiling of the action between people
 ta = fire; N₁
 ta-buri = ash
 ta-fɛrɛn = sparks
 ta-fuña-fuña = sparks
 ta-kala = match
 ta-kinbi = charcoal
 ta^koro-fen = fire base ('thing under the fire')

ta-kula = baked rice
 ta-kula-ma'yira-La = seller of baked rice
 ta-melen = firelight
 ta-melen-koloma = utility pole
 ta-no = fire trail
 ta-so-La = fire builder (weaver)
 ta-yi = gasoline ('fire water')
 tà = take; $V_{tr,di}$
 $X+tà+Y^{di}$ = take X to Y
 tàbali = table; N_1
 also tabàli
 tàbali-si-La = booth merchant
 tàba-taba = trouble caused by dabbling; (tàba; N_{red})
 tàba-taba-mo = a dabbler
 tala = divide; $V_{tr,l}$; $V_{tr,r,téma}$; $V_{tr,l,téma}$
 La^tala = divide
 ra^tala = divide
 ra^tala+X^téma = divide something among X
 talan = bell; N_1
 talan-gbasi-La = bell ringer
 tàlata = Tuesday; N_1
 also talàta
 taman = walk; V_{int}
 taman = (one one-hundredth of a Franc); N_1
 tàmaron = date; N_1
 tàmaron-yu = date tree
 tàmati = tomato; N_1
 also tamàti
 tan = what?; Quest
 tan = ten
 see Numeral Grammar (5.3 Rules 40-46)
 tan+àni+kelen = eleven
 tan+àni+kelen-nan = eleventh

tan+àni+naanin = fourteen
 tan+àni+saba = thirteen
 tan = lack; V_{tr}; V_{int,1}; N₁; N_{ya}; N_{red}; V_{tr,red}
 La[^]tan = deprive
 tan-tan = mistake
 tan-tan-sila = wrong road
 tan-ya = lack
 tàna = totem; N₂
 tàna+ra[^]tinyan-La = totem spoiler
 tàna = trouble, annoyance; N₁
 tàna+ts = no trouble (response to greeting)
 tànan = Monday; N₁; Time_{pst}; Time_{pf}
 tànbán = cheek bone, temple; N₂
 tànbán-si = sideburns
 tànbí = pass, go past; V_{int,1,fs}; V_{int,1,koma}; N₁; N_{ya}
 La[^]tànbí = pass something
 tànbí+X^{fs}_{koma} = deal with X
 tànbí+X[^]La = surpass X
 tànbí-ya = benefit
 tànbí-ya[^]ro-mo = a covetous person
 tànbí-ya-ti = a covetous person
 tàn-bolo-man = pickup, bad girl
 tando = compliment; V_{int}; V_{tr}
 tando-Li = felicitations
 tara = ask; V_{int}; V_{tr,m}
 ma[^]tara = ask of someone, ask for
 tara-Li-La = beggar
 tara = perspiration; N₂
 taran = surprise; V_{int,1}
 also teran
 La[^]taran = surprise
 taran = find, find accomplished; V_{tr}
 tasàbiña = beads, prayer beads; N₁

- tɛ = palm of hand; N₂
 tɛ^La-gbo = unskillful
 tɛ^La-diya-ña = skillful
 ^tɛ = between, among; L
 tɛ̀ = cut; V_{int}; V_{tr,l}; V_{tr,m}; V_{tr,ro}; V_{int,ro}; V_{int,la}
 La^tɛ̀ = make cut, make cross
 ma^tɛ̀ = trim
 ra^tɛ̀ = cut in two
 tɛ̀+ba^^{ro}_{La} = cross the river
 tɛ̀-*Li* = cut or cross continuously
 tɛ̀fɛ = brick mold; N₁
 tɛ̀fɛ-den = brick
 tɛ̀li = tale; N₁
 tɛ̀li-don-kili = ballad, tale song
 tɛ̀li+La = tell a story
 tɛ̀li-la-La = story teller
 tɛ̀n = castrate; V_{tr}
 tɛ̀n = castrated male bovine
 tɛ̀nɛ = aunt equivalent; N₂
 see Kinship Lexicon (6.4)
 tɛ̀nin = Monday; N₁
 tɛ̀rɛ = (past marker), 'before'; Time_{pst}
 also tun
 tɛ̀rɛn = train; N₁
 tɛ̀rɛmɛ = bargain; N₁; V_{tr}
 tɛ̀rɛmɛ-*Li* = bargaining continuously, haggling
 tɛ̀ti = fable; N₁
 ti = straw; N₁
 ti = to thatch; V_{tr}
 ti = a grass tea; N₁
 tì = owner; N₁

- tìatri = theater; N₁
 also tiàtri
 tìatri-bon = theater house
 tìatri-La^ˆbɔ-diya = place for theater performances
- tibi = cook, boil; V_{int}
 tibi-Li = cooking
 tibi-Li-La = a cook
- tibirki = sulphur; N₁
- tilibinani = court of justice; N₁
- tilìmini = twist; V_{tr}
- tin = forehead; N₂
 tin-da = forehead
- tìn = esteem; N₁
 tìn^ˆkɔrɔ-mira-muso = midwife
 tìn^ˆkɔrɔ-si-La = midwife
 tìn-tan = esteemless
- tìn = palm fruit; N₁
 tìn-yu = palm tree
- tindi = high place; N₁; N_{man}
 tindi-man = abrupt, mountainous
- tinsan = overskirt of decorated sisal; N₁
- tìnyan = spoil, break, ruin, plunder; V_{tr,l}; V_{tr,m}; V_{tr,r}
 La^ˆtìnyan = spoil something
 ma+tìnyan = waste, harm, commit intercourse with a
 nursing woman
 ra^ˆtìnyan = destroy
- tiriti = road; N₁
 also turiti
 turiti-ba = highway
- tìso = sneeze; V_{int}
- tiya = peanut; N₁
 tiya-dɛ = peanut butter
 tiya-fara = peanut hulls

tiya-fe = peanut field
 tiya-yi = spiced peanut paste
 to = leave off, hold, close, cease action; V_{int} ; $V_{tr,1}$
 La^to = trim, clip
 to+Dir = stay
 to+V-ke^La = use to do V (V = verb)
 to = farm hut; N_1
 to-da = door of the farm hut
 tò = cooked cereal; N_1
 tòdi = toad; N_1
 tòdi-den-nin = baby toad
 tòli = rot; V_1
 tolo = ear; N_2
 tolo-gbeden = deaf person
 tolo-fira = ear lobe
 tolo^koro-gba = ear splitting noise
 tolo^La-fen = earring ('on-the-ear-thing')
 tolo^ma-gbela-ya = stubbornness
 tolo-tan = deaf ('earless')
 tolo-tan-ya = deafness
 tolo+tèn = box the ears
 tolon = play, kid; V_{tr} ; V_{int} ; V_{ref}
 La^tolon = amuse someone else
 tolon = amuse oneself
 tolon = game, spectacle, demonstration
 tolon-fen = toy
 tonbo = ambush and rob; V_{tr}
 tondi = drip; V_{int}
 tòndo = catfish; N_1
 tora = bull; N_1
 tòsa = bat; N_1
 tò-to = cough; $V_{int,red}$
 see to-to

- tɔ = name, reputation; N₂; N_{man}
 tɔ-man = famous
 tɔ-tan = nameless
- tɔ = name, accuse; V_{tr,la}
 X+tɔ+Y-La = name X Y
- tɔ = state of doing; N₁; N_{ya}
 tɔ = a person in some state
- tɔ̃ = remainder; N₁
- tɔ̃ = hip; N₂
 tɔ̃-La-muru = hip knife
- tɔ̃lɔ = get fat, increase; V_{int}
- tɔ̃mɔ̃da = pipe for smoking; N₁
 tɔ̃mɔ̃da-La-yɛlɛ-La = pipe smoker ('one who makes smoke go up')
- tɔn = law, prohibition; N₁
 tɔn-ra-tinyan-La = law breaker
- tɔn = locust; N₁
 tɔn-mira-La = locust catcher
- tɔ̃n = back of the head; N₂
 tɔ̃n-kɔ-ma-si = hair on the back of the head
- tɔ̃n = heap, mound; N₁
 tɔ̃n-kan-bin = grass on the hill
- tɔ̃nbɔn = pick up (pieces); V_{tr}; V_{tr,m}
 ma-tɔ̃nbɔn = pick up (pieces)
- tɔnkɔlɔnkɔ = (the northwest district of Faranah); N₁
- tɔ̃nɔ = financial interest; N₁; N_{man}
 tɔ̃nɔ-man = profitable venture
- tɔrɔ = hardship; N₁; N_{ya}; V_{int}
 tɔrɔ = suffer, endure
 tɔrɔ-ya = hardship
- tɔ̃rɔ = lose accidentally; V_{tr,l}
 La-tɔ̃rɔ = lose
- tɔ̃rɔ = bore someone; V_{tr}

tɔrɔn = hoof; N₁
 tɔ-tɔ = cough; N₁; V_{int,red}
 tràorɛ = (proper name, family name); Ne
 tu = jungle, forest, woods; N₁
 tu^kɔrɔ = in the forest
 tu^kɔrɔ-mɔ = forest dweller ('forest under person')
 tu = (name-female); N₁
 tù = pound; V_{tr,1}
 La^tù = trip, put together, make someone pound
 (something)
 tùa = greet, say hello; V_{int}
 tùbabu = European white man, the French; N₁
 also tubàbu
 tùbabu-darapo = white man's flag, French flag
 tùbabu-du = Europe
 tùbabu-kan = French language
 tùbabu-ko = white man's ways, 'tubabuism'
 tùbabu-lefa = electric fan
 tùbabu-mori = Christian missionary
 tùbabu-muso = white woman
 tùbabu-sɛbɛ = writing
 tùbabu-sɛbɛ = coconut tree
 tùbabu-tele = office worker's ascendance (their
 'high-time')
 tùbabu-yaba = garlic
 tùbabu-ye = water melon
 tubaliyi = trousers; N₁
 tùbi = apologize, worship, do penance; V_{int}
 tùbi-La = worshiper, disciple
 tùbi-Li = repenting, penance
 tulu = oil; N₁
 tùma = time; N₁
 tùma+bɛ = always; Adv_R
 tùma+dɔ = sometimes, often; Adv_R

tûma-do = maybe; Adv_R
 tûma+min-tan = when?; Quest
 tûma+ñuman = when?; Quest
 tûma+tûma = everytime; Adv_R
 a+nà-tuma = his coming time
 tun = before; Adv_R; Adv_S
 also tère
 tun = only; Adj₃
 La^tun = close; V_{tr,l}; N₁
 La^tun = lid
 tûmbu = maggots, carrion beetles, ant larvae; N₁
 tundu = gourd; N₁
 tundu^ro-yi = water in a gourd
 tûña = truth; N₁
 tunyε = only; Adv_R
 tunu = submerge; V_{tr,r}; V_{ref,ro}
 tunu+yi^ro = submerge in the water
 tûnun = lose accidentally; V_{tr,l,ma}
 La^tûnun = lose
 X+tûnur+Y^ma = X lose to Y
 tûtu = vagina; N₂
 wa = (Question marker); Quest
 wa = thousand
 see Numeral Grammar (5.3 Rules 40-46)
 wa+loolu = five thousand
 wa = go; V_{int,l,di}; V_{int,l,la}; V_{int,l,ma}; V_{int,l,ro};
 V_{int,tεma}; V_{int,tε}; V_{int,koro}; V_{int,l,koro}; V_{int,l,tε}
 V_{int,l,tεma}
 La^wa = send
 wa+X^di = take X (away)
 wa+ñεn^La = defecate
 wa+X^ma = go with X

- wà = forest; N₁
 wà^{ro}-fen = wild animal
 wà^{ro}-sila = monkey in the forest
 wà^{ro}-sila = road in the forest
 wadε = umbrella; N₁
 wakànsi = vacation; N₁
 also wakansi
 wali = work, deed; V_{int}
 wali-yi = saint
 wàlon = chip; V_{tr,m}
 mà^{wàlon} = chip
 wantεε = a bargain; N₁; V_{int}
 wantεε = have a sale
 wara = leopard, lion; N₁
 wàra = basket; N₁
 wàyan = disperse, scatter; V_{int,1}
 La^{wàyan} = make disperse, scatter
 wεεε = call informally; V_{tr}
 wò = that, the one just mentioned; N₁; Adj
 wò-lon = that day
 wò^{Lu} = those
 wò-tuma = at that time; Time_{pst}
 wò = hole; N₁
 wò^{La-fεnsn-La} = curious person ('one who looks in
 holes')
 wodi = money; N₁
 also wadi
 wodi-lañiri = debt
 wodi-mεsεn = small change
 wodi-mira-La = tax collector
 wòdi = there; Loc
 wòdi-ya = there
 wòdon = chimpanzee; N₁

- woloma = examine well; V_{tr,r}
 ra^woloma = pry, be nosey about
- wònko = crab; N₁
- wònsokolon = small banana; N₁
- won-won = bark; V_{int,red}; V_{int,red,la}; V_{int,red,ko};
 V_{int,red,koma}
- wors = boil; V_{tr}
- woro = upper leg, thigh; N₂
 also wodo
- wòro = kolo nut; N₁
 wòro-ma^don-nin-paña = a basket carrying kola nuts
 wòro-paña = kola nut basket
 wòro-yu = Cola millenii (tree)
- wòronkondon = thousand legger (insect); N₁
- wòsi = perspiration; N₁
- wòto = automobile; N₁
 wòto-tulu = automobile oil
- wòlo = partridge; N₁
 wòlo-mo = sly person
- wònbo = bark; N₁
- wòñan = the back country (where there are no people); N₁
- wòron = six
- wòrs = a game played with stones; N₁
 wòrs-den = stones for game
 wòrs-kise = stones for game
- wòrs = barnyard; N₁
- wòri = silver; N₁
 wòri^La-di = money liking ('sweet on money')
 wòri-La^di-La = money lover
- wòron = scratch; V_{tr,m}
 ma^wòron = scratch, plow
- wòron+fila = seven
- wòrto = sickle; N₁

- woyo = rapids, rough water; N₁
- wùlen = red; Adj_V; Adj_L
 La^wùlen = redden
 wùlen-ya = redness
- wuli = get up; V_{int,1}
 La^wuli = make get up, cause something
- wùlu = dog; N₁
- wùlunku = spurn, give a cold look; V_{tr}
- wunuma = crawl; V_{ref}
- wùnu-wunu = whisper to yourself; V_{int,red}; V_{ref,red}
 V_{int,red,ko}; V_{int,red,koro}
 wùnu-wunu-kuma = incoherent speech
- wùra = evening; N₁; Time_{pf}; Time_{pst}
 wùra-da = early evening ('mouth of the evening');
 Time_{pf}; Time_{pst}
 wùra^La = in the evening; Time_{pf}
 wùra+wùra = every evening; Adv_{red}
- wura-ñan = around three o'clock in the afternoon, prayer
 time; Time_{pf}; Time_{pst}
- wurundi = growl; N₁; V_{int}
- wùsen = potato; N₁
 wùsen-wulen = sweet potato ('red potato')
- wusu = steam; V_{int,1}
 La^wusu = cook with steam, treat disease by vapor
- wùya = lie; N₁
 wùya-fɔ-La = liar
- wùya = dance rhythmically, undulate; V_{int,r,ma}
 ra^wùya = turn over, push over
 wùya+dòn^ma = dance rhythmically
- ya = (Derivational suffix) (N>N; Adj>N; Adj>V)
- yà = a token of the harvest given to one or more sisters;
 N₁
- ya = well, ah-hah!; Adv_S

- yà = dry; V_{int}; V_{int,l}; V_{tr,l}
 La^yà = make dry, make be still
 yaasa = vow to dance and give offering to God; N₁
 yaasa-don-La = vow dancer
 yàba = onion; N₁
 yabi = talk back, answer a letter; V_{int}; V_{tr}
 yàbibi = pineapple; N₁
 also yabibi
 yàfa = line; N₁
 yahanama = hell; N₁
 yala = err; V_{int}
 yàla = head cloth worn by women; N₁
 yaliba = Niger River; N₁
 also yoliba
 yàlon = prostitute (male or female); N₁; N_{ya}
 yàlon-ya = sexual perversion
 yaman = reprimand; V_{tr,l,ma}; V_{nin}
 La^yaman = stimulate, excite
 yaman-nin = mean, excited person
 yaman+X^ma = reprimand X
 yàman = state, homeland; N₁
 yàman-ti = chief of state
 yàmari = order, appoint; N₁
 yàmari-Li = appointment
 yàm-yam = sacred water, curative water; N_{red}
 yàm-yam-kolon-yi = holy water, alcohol in jest
 yan = here; Loc
 also ya
 yan-kun-ti = the leader here
 yan = long; Adj₂; Adj_{red}; Adj_v; Adj_L
 La^yan-yan = lengthen

yàmba = tobacco; N₁
 yàmba-La^yɛlɛ-La = smoker ('one who makes smoke go up')
 yàmba-sisi = tobacco smoke
 yàndi = please; Adv_S
 yànfá = plot, plan against; V_{tr}
 yànfá = a plot; N₁
 yànfá+dòn = form a plot
 yàni = before
 yaninto = watch; V_{tr,ro}; V_{ref,ro}
 yaninto+X^rɔ = watch after, care for X
 yankaro = be sick; V_{int}
 yankaro = sickness; N₁
 yàra = lion; N₁; N_{ya}
 yàra-ya = lionhood, lion totem
 yaràbi = sweetheart; N₁; V_{int,la}; V_{int,ye}
 yaràbi+X^La = love X
 yaràbi+X^ye = be shamed by X
 yaran = dry; Adj
 yasa = reed fence; N₁
 yasa-kala = reed fence
 yasa^rɔ-ko = plot of ground
 yàte = exterminate; V_{tr}
 yàto = bum, person of low morals; N₁
 ^ye = for
 ye = is
 see ke 'be'
 yè = melon; N₁
 yèle = melt; V_{int}
 yeli = how much?; Quest
 yèli = troubador, song; N₁
 yèli = blood; N₁
 yèli-sila = vein ('blood-road')

yen = see, find; V_{tr,r}; V_{nin}
 ra^yen = peer into
 yen-nin = sight, vision
 yen = there
 also ye
 yen-kun-ti = the leader there
 yènbe = tuber; N₁
 yènbe = drum; N₁
 yènbe-fɔ-La = drummer
 ye = fish; N₁
 ye-fa-dala = trap for killing fish
 ye-mira-La = fisher ('fish-catcher')
 yɛlaki = shame in public; V_{tr}
 yɛlɛ = laugh; V_{int,l,ma}
 La^yɛlɛ = make laugh
 yɛlɛ+X^ma = laugh at X
 yɛlɛ = laughter; N₁; N_{man}; Adj; Adj_{man}
 yɛlɛ-man = funny, of laughter
 yɛlɛ-man-ko = funny thing, comedy
 yɛlɛ-man-ko-bo-La = comedian ('one who releases
 laughter')
 yèlɛ = go up; V_{int,l,di}; N₁
 La^yèlɛ = hand something up, run up the flag
 yèlɛ = an ascension
 yèlɛ-man = migrate, evolve
 yèlɛ-man = turn over
 ma^yèlɛ-man = change method of doing, change from
 place to place
 X+yèlɛ-man+Y^di = change X into Y
 yènke = lean; V_{int}
 yan-yɛn = deep as deep in thought; Adv_{red}
 yèrɛ = heifer; N₁
 yèrɛ = (reflexive) 'self'; N₂
 yèrɛ-ma^fɛnɛn = mirror

- yèrɛ-yɛrɛ = shiver; V_{int,red}
 yèssɛ = cotton thread; N₁
 yɛti = host, friend; N₁
 yɛti-kɛ = male host, friend
 yɛti-muso = female host, friend
 yèyɛ = cradle; N₁; N_{man}; V_{tr}
 yèyɛ-man-tɔ = one in a cradled state, wishy-washy
 person
 yi = water, juice; N₁
 yi-dundu = troubled, muddy water
 yi-kolo = ice
 yi-wɔyɔ = waterfall, rapids
 yi = lose trust; V_{int,la}
 see yì
 yi+X^{La} = lose trust in X
 yì = hope, dependence, reliance, trust; N₁
 yì+tsɛ = lose hope ('cut hope')
 yì-tsɛ = hopeless
 yì-tɔ = coward
 yì = go down; V_{int,ro}; V_{nin}
 yì-nin = circumcised one
 yì+X^{ro} = to go down to X
 yìdi = swell; V_{int,l}; N₁
 yìdi = a swelling
 La^{yìdi} = make swell
 yìki+yanka = zig-zag; V_{int}
 yilan = fry; V_{tr}
 yilan-yilan = be untranquil; V_{int,red,ro}
 yìkɔ = dose off; V_{int}
 yira = exhibit, point out; V_{tr,m,la}
 ma^{yira} = sell, peddle, demonstrate
 yira-Li = exhibition
 X+yira+Y^{La} = show X to Y

yiri = tree, wood; N₁
 yiri-bolo = branch
 yiri-fenen = wooden platform
 yiri-wonbo = tree bark
 yiri-ye = papaya
 yiya = shadow; N₂
 yo = right; judgment; N₁
 a+yo^De = that's right
 yo = house, shed; N₁
 yò = condescend, look down; V_{int,la}
 yò+X^La = look down on X
 yolo = porcupine quill; N₁; N_{man}
 yona = early, quickly; Adv_R
 yon-bende = January; N₁
 yòn-yon = agitation; N_{red}
 yò = hammock; N₁
 yò-ta-la = one who carries a person in a hammock; N₁
 yòfo = lungs; N₂
 yon = wash a corpse; V_{tr}
 yon = who?; N₁; Quest
 yon+De? = who is it?
 yòn = slave, servant; N₁
 yòn-ya = slavery, servitude
 yoro = place; N₁
 yòsi = clod, root, stubble; N₁
 yòsi+bo = till the garden, remove clods
 yòso = cluster of branches; N₁
 yu = evil, enemy, tree-stem, wall; N₁; N_{ya}; Adj_v
 yu-ya = evilness
 yu-ya = be evil
 yu-ya = do evil
 yù = buttocks, behind; N₂
 a+yù^koro = behind a thing, not a person

yufa = unclean, animal killed in a ritually unapproved
 manner; Adj
 yufa = pocket; N₁
 yùlu = rope, credit; N₁
 yuma = Friday; N₁
 yunda = jug; N₁
 yùsu = heart; N₂; N_{man}
 yùsu-ba = easily angered person
 yùsu-man-bò = nervous person
 yùsu-man-kasa = heartbreak
 yùsu-tan-ya = cowardliness
 yu-yu = shake, dislodge; V_{tr,red}

6.4 Kinship Lexicon -- All of the relationships covered by a term are listed after that term according to the following abbreviations:

Br = Brother
 Da = Daughter
 El = Elder
 Fa = Father
 Hu = Husband
 Mo = Mother
 Si = Sister
 So = Son
 Wi = Wife
 Yo = Younger

(MoBrYoSoWi means mother's brother's youngest son's wife)

baba; N ₁	father
barin; N ₂	(uncle equivalent) MoElBr MoYoBr FaBrElDaHu FaSiElDaHu MoBrElDaHu MoSiElDaHu FaSiHu MoSiHu
benba; N ₁	(grandfather) FaFa MoFa FaFaFa MoMoFa FaMoFa MoFaFa
biran-ks; N ₂	YoSiHu Step Fa
biran-muso; N ₂	FaBrYoSoWi FaSiYoSoWi MoBrYoSoWi MoSiYoSoWi Step Mo

bòn-ba; N ₁	FaBrYoWi
den; N ₁ ; N ₂	child
den-ke; N ₂	son
den-muso; N ₂	daughter
do; N ₂	younger sibling
do-ke; N ₂	YoBr FaBrYoSo FaSiYoSo MaSiYoSo MaBrYoSo
do-muso; N ₂	YoSi FaBrYoDa FaSiYoDa MoBrYoDa MoSiYoDa
do-nin; N ₁	FaBrElWi Fa other wives
fa; N ₂	father
fa+bòn-ba; N ₂	FaElBr
fa+do-nin; N ₂	FaYoBr
korɔ; N ₂	elder sibling
korɔ-ke; N ₂	ElBr FaBrElSo FaSiElSo MoSiElSo MoBrElSo
korɔ-muso; N ₂	ElSi FaBrElDa FaSiElDa MoSiElDa MoBrElDa
ma-ma; N ₂	FaMo MoMo FaFaMo MoMoMo MoFaMo

mamàre; N₂SoSo
SoDa
DaSo
DaDamùso; N₂Wi
BrWina; N₂

mother

na+bòn-ba; N₂

MoElSi

na+dò-nin; N₂

MoYoSi

numò; N₂ElSiHu
FaBrYoDaHu
FaSiYoDaHu
MoBrYoDaHu
MoSiYoDaHu
FaBrElSoWi
FaSiElSoWi
MoBrElSoWi
MoSiElSoWitens; N₂FaElSi
FaYoSi

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