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Oroko orthography development: Linguistic and sociolinguistic factors

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OROKO ORTHOGRAPHY DEVELOPMENT:

LINGUISTIC AND SOCIOLINGUISTIC FACTORS[*]

by

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This thesis, submitted by Dan T. Friesen in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This thesis meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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ACKNOWLEDGEMENTS

ABSTRACT

This thesis explores the variety of linguistic and sociolinguistic factors that need to be considered in order to develop a good Oroko orthography. Oroko is a Bantu A language of the Southwest Province of Cameroon, Africa. The thesis starts with an overview of the Oroko's location, population, classification, and language development status. The linguistic factors discussed are based largely on analyses of two lists: a 118-word list of nine Oroko dialects and an 821-word list of four Oroko dialects (included in the appendix). Consistent phonetic and phonemic alternations are examined in detail. The next chapter discusses the sociolinguistic issues that arise from participant observation, historical context, and two sociolinguistic surveys: a rapid assessment of the sociolinguistic situation among nine of the Oroko dialects and an extendibility survey using a modified form of recorded text testing (RTT) done in six dialects. The next chapter opens with a discussion of a number of options for standardizing or not standardizing across all the Oroko dialects, concluding that the various dialects are different enough to require at least introductory material to be written in at least four dialects. Then, the various linguistic and sociolinguistic factors are drawn together to form the basis for orthographic recommendations. This chapter concludes with a discussion of the practical issues of presenting these recommendations to the Oroko.

CHAPTER 1

INTRODUCTION

The Oroko[1] people have taken the first steps towards writing their language. A
severe challenge looms its head when approaching this project due to the fact that there
are ten Oroko clans, each with their own dialect. Prior linguistic work has split the Oroko
dialects into an east Oroko and west Oroko. However, sociolinguistic research shows that
the Oroko people themselves see no such division, and consider themselves a unified
whole, all able to understand each other. More recently, a longer comparative word list
casts doubts on both these views and suggests that the Oroko may in fact need to be
divided four ways.

This paper examines all the linguistic and sociolinguistic factors available and
make some recommendations on how these factors can be taken into account during
efforts to put the Oroko dialects into writing. The complexity of the problem and my
position as an outside advisor necessitate tentative recommendations as opposed to solid
decisions. My hope is that this document will be helpful to the Oroko people as they
decide on the written form of their speech.

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[1] Pronounced /orɔkɔ/.

CHAPTER 2

BACKGROUND

This chapter introduces the Oroko language and people, including their location,

size, linguistic classification, and the current status of the development of a written Oroko

language.

2.1 Location

The Oroko people are found in the Southwest province of Cameroon, Africa,

covering a large portion of the Meme and Ndian divisions (see Figure 1). The Oroko are

made up of ten clans, each speaking their own dialect (noted in brackets):

- Bakoko (Lokoko)
- Bakundu (Lokundu)
- Balondo ba Diko (not known) – They are located in three villages to the southwest of Mundemba, in what is marked as Bima territory.
- Balondo ba Nanga (Londo)
- Balue (Lolue)
- Batanga (Lotanga)
- Bima (Bima)
- Ekombe (Ekombe)
- Mbonge (Mbonge)
- Ngolo (Longolo)

Plus signs (+) encircle the Oroko dialects.
Duala is found on the bottom right of the map
Thick dots divide west (anglophone) and east (francophone) Cameroon.
The thick lines show Guthrie's zones and the thinner lines divide languages or dialects.
Cities are designated by square dots, with the city name in small caps.

Figure 1. Oroko Map (based on Kuperus 1985:15)

2.2 Population (Mbongue 2000:5)[2]

The lists of all the villages for each clan (see APPENDIX 2) were collected

during the survey documented by Mbongue (2000). This list of 241 villages was

compared (in consultation with Eyakwe Joseph[3]) to village names found in the 1987

census data for the Meme and Ndian divisions. A total of 190 villages were found on

both lists. The survey list had 48 more town names than the census list, while the census

list had 13 names that were not on the survey list. There are also three towns that were

duplicated in the Mbongue survey list. The reason for all these discrepancies (see

Table 1) is unknown. Possible causes include: abandoned or new villages, missed villages

(during survey, census, and/or our comparison), or differences in how they are named.

Table 1. Number of Oroko Villages

Survey List	241
Census List	203
Found on both lists:	190
Doubles on survey list:	3
Not found in census list:	48
Added from census list:	13

Table 2 summarizes the census data (see APPENDIX 3 for details). The

population for the year 2000 is based on an annual growth rate of 2.7% since 1987 (as

recommended by Joseph Mbongue, a member of the SIL[4] Cameroon survey department).

The census data makes no reference to the tribal identity of the people in any of these

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[2] I was the sole author of this section, which I inserted in Mbongue 2000 during my revision of the paper.

[3] As is common among the Oroko, Eyakwe Joseph gives his name in the order: last name, first name.

[4] SIL is a non-profit language research and development agency.

villages. For most of the villages this is not a problem, as the number of non-native

Oroko people is relatively small. However, a number of the larger villages along main

roads have had their Oroko populations severely diluted. In an attempt to quantify the

number of Oroko speakers (versus people living in traditionally Oroko towns), the last

three columns note the number of mixed villages (according to Eyakwe) and their total

population. However, no attempt has been made to estimate the percentage of Oroko

speakers in these villages. Many Oroko (percentage unknown) are also found in Kumba

(1987 census population: 63,911, estimated 2000 population: 90,363), as it is the closest

urban center. Considering these factors, the Oroko population in or near their native area

(not counting Oroko that have emigrated to other areas of Cameroon) can be roughly

estimated at 120,000–140,000.

Table 2. Summary of Census Data by Clan

	Survey Villages	Census Villages	1987 Pop	2000 est. Pop	Mixed Villages	1987 Pop	2000 est. Pop
Bakundu – South	25	21	27276	38565	4	11688	16526
Bakundu – North	20	13	9198	13005			
Mbonge	44	39	33353	47157	3	11022	15584
Balue	29	25	15545	21979			
Ngolo	45	38	4973	7031			
Bima	21	20	7250	10251	1	3285	4645
Ekombe	12	9	11539	16315	3	9113	12885
Balondo ba Nanga	15	15	6785	9593	1	4493	6353
Batanga	27	17	1552	2194			
Balondo ba Diko	3	3	1331	1882			
Bakoko	3	3	275	389			
Totals:	**244**	**203**	**119077**	**168362**	**12**	**39601**	**55991**

2.3 Classification

The Oroko have been classified a number of different ways, but seldom as a homogenous group. Table 3 summarizes some of the various classifications of the Oroko dialects. The first column shows the names that are used in this thesis and is based primarily on the two most recent surveys of the Oroko (Mbongue 2000, Friesen and Friesen 2001). The second column is based on the findings of Dieu and Renard (1983:364). The third column summarizes the classification of Guthrie in his classic work *The Bantu languages of western equatorial Africa* (1953). Finally, Johnston's (1919, 1921) divisions are given in the fourth column. As there is no known language data on Balondo ba Diko, and none of the other classifications address the two Balondo clans, its placement is based on the reporting of the Bima and Balondo ba Nanga people, who say that it is closer to Bima than Londo. Note that Lokoko is not identified as an Oroko dialect by any of the prior classifications, and that Johnston's divisions do not cover Bima and Mbonge.

The names of the different dialects/clans often carry Bantu class prefixes. The prefix /ba-/ is the class 2 prefix that is typical of plural human nouns, which in this case is often used for the name of the clan. The prefix /lo-/ is the class 11 prefix, which in this case is often used for the speech of the people. The spellings that are used in this paper are the spellings used by the Oroko people themselves, and do not represent the precise phonetic (or even phonemic) pronunciation.

Table 3. Comparison of Oroko Dialect Classifications

Friesen and Friesen (2001:7)	ALCAM (Dieu and Renaud, 1983:364)	Guthrie (1953:15, 20)	Johnston (1919, 1921:10)
Oroko	**Oroko-ouest 631)**	**A.10 Lundu-Mbo Group** **A.11 Lundu Cluster**	
Lokoko (Bakoko)			
Londo (Balondo ba Nanga)	- Barondo	A.11a lundu (Balundu)	(208) Ngʉlʉ-Bataŋga (Murundʉ)
NW cluster			
- Londo (Balondo ba Diko)?			
- Longolo (Ngolo)	- Ngoro	A.11b ŋgoṛọ (Ngolo)	
- Lotanga (Batanga)	- Dotanga	A.11d bataŋga and bịma	
- Bima	- Bima		
SE cluster	**Oroko-est (632)**		
- Mbonge	- Mbongɛ	A.11e ekʉmbɛ and mbɔŋgɛ	(210) Ba-rombi – Mboŋge
- Ekombe	- Ekombe		
- Lolue (Balue)	- Lolue	**A.12 barʉɛ (Lue, W. Kundu)**	(207) Balue or W. Bakundu (Barondʉ-Bakasi)
Lokundu (Bakundu)	- Bakundu	A.11c bakʉndʉ	(209) Ba-kundu (of the east)

The Atlas Linguistique du Cameroun (ALCAM) lists Oroko as under the branch: Niger-Kordofan, Niger-Congo, Bénoué-Congo, Bantoïde, Bantou, Equatorial, Équatorial-Nord, B, Côtier (A.10). It breaks Oroko into two sections: Oroko-ouest and Oroko-est (Dieu and Renaud 1983:364). As Kuperus collected the word lists used by ALCAM (p. 110), she uses the same division in her work (Kuperus1985:17). ALCAM makes no reference to the Bakoko or to any division in the Balondo. It does note that Balondo and Bakundu are the most different from the others in their respective Oroko-ouest and Oroko-est groupings.

The Ethnologue (Grimes 2000), follows the division in ALCAM, but goes one step further and lists two separate languages. Friesen and Friesen (2001:7) made a recommendation to the Ethnologue to collapse these into one entry since the publication of the latest edition.

The first language listed in the Ethnologue (Grimes 2000) is Bakundu-Balue (Oroko-east) [BDU], with the following linguistic classification: Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Northwest, A, Lundu-Balong (A.10), Oroko. Dialects: BAKUNDU (KUNDU, LAKUNDU, BEKUNDE, BAWO, NKUNDU), BALUE (LOLUE, BARUE, BABUE, WESTERN KUNDU, LUE), MBONGE, EKOMBE (BEKOMBO, EKUMBE).

The second language listed is Balundu-Bima (Oroko-west) [NGO], with the following linguistic classification: Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Northwest, A, Lundu-Balong (A.10), Oroko. Dialects: BALUNDU (BARONDO, LONDO, LUNDU), BIMA, DOTANGA (BATANGA-BAKOKO, TANGA), NGOLO (NGORO).

Guthrie (1953:15, 20) classifies the various Oroko dialects under A.10 Lundu-Mbo group, dividing them between A.11 and A.12. He also classifies Bakossi (A.15b) as part of the Lundu-Mbo group, while Duala (A.24) is part of the Duala Group (A.20). Lisa Friesen (personal communication, July 29, 2002) has observed that the lexical and grammatical characteristics of the Mbonge dialect of Oroko are much more similar to the Duala language (such as in Ittmann 1978) than to the language of the Bakossi (such as in Hedinger 1992). Some of this may be due to the more extensive use of Duala in the Oroko area. In any case, the relationship between Duala and the Oroko dialects is close enough (both linguistically and historically) for the Duala orthographic conventions to be a useful model when discussing a future Oroko orthography (see 4.2.2).

2.4 Current Status of Oroko Language Development

This study arises out of a personal interest I have for the written development of the Oroko language. My wife Lisa Friesen and I, along with Michael and Rebecca Scott work with World Team. In Cameroon, World Team works with the Cameroon Baptist Convention (CBC).

We were assigned to the Oroko area to examine the potential for a language development project in January 1998. After a positive response to our initial survey (Mbongue 2000), we moved into an Oroko village that is part of the Mbonge clan (Big Bekondo, Meme division, South West Province) in mid-1998. Since that time we have been learning the Mbonge dialect and developing relationships with local and regional tribal and church leaders.

In May 2000, Lisa Friesen and I conducted a dialect intercomprehension survey (Friesen and Friesen 2001) using a modified form of Recorded Text Testing (RTT) (Casad 1974). The primary purpose of this survey was to determine if the Mbonge dialect would be understandable to all other Oroko clans, and thus suitable as a reference dialect (see 4.1.2 for more details). As part of the survey the names of respected leaders from each of the clans were also collected.

The leaders were then invited to an informal meeting on July 18, 2000 to discuss the possibility of writing the Oroko language. Eight of the ten clans were represented among the nineteen Oroko attendees. At the meeting we informed them (speaking in Mbonge) of the linguistic work we had been doing on their language. The leaders were asked if they wanted to see their language written and were reminded that they would

need to spearhead any project to do so. They proceeded to form an impromptu committee to organize another meeting. Following our recommendation, they asked a representative of the National Association of Cameroonian Language Committees (NACALCO) to present some information on how they could develop a language committee (Eyakwe 2000a).

On October 6, 2000 we were honored to be invited to an organizational meeting for the Oroko Language Development Committee (OLDC). NACALCO kindly sent a representative to this meeting. The Oroko leaders that were present (again, eight of ten clans were represented, including one clan not present at the prior meeting, with a total of twenty two Oroko attendees) promptly appointed people to a language committee. All four of the World Team workers were invited to participate in the committee as technical advisors (Eyakwe 2000b).

In March of 2001, both the Scotts and Friesens returned to North America for a scheduled home assignment. I have undertaken the current study to help our team in its advisory role to the OLDC. We are all planning on returning to Cameroon to continue our work in the summer of 2002.

CHAPTER 3

LINGUISTIC ISSUES

This chapter presents the recent linguistic works on the Oroko dialects,

summarizes the linguistic issues they raise, and then addresses the specific phonological,

morphological, and lexical differences the orthography will need to address.

Although the sociolinguistic factors are discussed in more detail in chapter 4, this

chapter takes into consideration a couple of the major sociolinguistic factors when

making recommendations. These include: the importance of education in English, ease of

learning, perceived unity among dialects, and yet the independence of dialects.

3.1 Linguistic Data

This section introduces the recent linguistic data collected on the Oroko dialects.

These data serve as a foundation for discussing the phonological issues involved in

orthography decisions.

3.1.1 The Londo Word

The Londo Word is the published doctoral dissertation of Julianna Kuperus based

on her two years of fieldwork (mid-1978 to mid-1980) in Cameroon with three Balondo

(Balondo ba Nanga) language informants (Kuperus 1985:46). Her aim, as stated on the

title page, was to make a descriptive statement of the phonological and morphological

structure of the Londo word. She presents her descriptions using a generative grammar

framework, making use of word structure conditions and rule types.

3.1.2 Yoder Word List

In 1992 a linguist by the name of Yoder conducted a survey of the Oroko area with the cooperation of the Cameroon Baptist Convention (CBC). As part of this survey they used a list of 118 words, commonly used by the survey department of SIL Cameroon (similar to the list used in Dieu and Renaud 1983:132), to collect Oroko lexical data from the Lokoko, Lokundu, Londo, Lolue, Lotanga, Bima, Ekombe, Mbonge, and Longolo dialects. This word list was submitted to the survey department of SIL Cameroon, who analyzed the word lists using SIL's WORDSURV program (Wimbish 1989). Table 4 summarizes the results. The numbers refer to the percentage of words that are apparent cognates. The threshold level used for determining possible intercomprehension is 70% (Simons 1983:57). The numbers give an indication of the challenges in developing an Oroko orthography due to the inherent differences in the vocabulary of the dialects.

Table 4. Synchronic Lexicostatistic Analysis (Bradley 1992)

Balue								
93	Mbonge							
92	92	Ekombe						
83	81	86	Balondo					
85	86	82	81	Bakundu				
77	77	78	80	83	Ngolo			
78	78	78	81	81	95	Batanga		
78	78	78	81	81	96	99	Bima	
71	72	71	74	76	83	85	86	Bakoko

3.1.3 Friesen Word List

A follow-up survey of the Oroko was conducted in May 2000 (Friesen and Friesen 2001). At this point, we had been studying the Mbonge dialect for nearly two years and had noticed some apparent inconsistencies in the Yoder word list (see 3.1.2).

For example, some verbs had what appeared to be the infinitive marker (/di/) for some dialects, but not others. As for the nouns, some vocabulary differences between dialects (e.g. /do/ and /mofiki/) were semantically related in Mbonge (meaning 'nose' and 'nostril' respectively). Some of the Mbonge transcriptions (especially the mid vowels) also appeared to be inconsistent. Therefore, during this survey, the same 118-word list as used in the earlier Yoder survey (see 3.1.2) was re-collected. Eyakwe Joseph[5] transcribed the words, as we were not yet consistent in differentiating between the mid vowels. After the survey, with the help of Michael Scott, the words were entered into WORDSURV (Wimbish 1989). Table 5 gives the results, showing the apparent cognates between dialects in percentages.

Table 5. Synchronic Lexicostatistic Analysis (Friesen and Friesen 2001)

Balue								
92	Mbonge							
90	97	Ekombe						
82	83	83	Balondo					
78	82	83	78	Bakundu				
76	77	78	81	83	Ngolo			
78	78	79	82	83	96	Batanga		
77	78	79	82	84	96	95	Bima	
73	73	74	77	78	85	86	85	Bakoko

Figure 2 attempts to capture the dialect groupings using the above percentages.

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[5] Eyakwe is a Balue young adult who speaks Mbonge, as he grew up in a Mbonge village, Big Bekondo. Our team has had the opportunity to give him some private linguistic training, and he has assisted us extensively with our linguistic work in Cameroon. He accompanied us to two SIL workshops and assisted us with the modified Recorded Text Testing (RTT) survey (see 4.1.2) and word list collection. He is also the secretary for the Oroko Language Development Committee (OLDC).

78%　　　　　76–79%　　　　77–78%

Londo 81–83%　　　Lokundu 82–84%　Lokoko 85–86%

90–92%

Lolue　　　97%　　　　　　　　　　95–96%

Mbonge　　　Ekombe　　　　Longolo　Lotanga　Bima
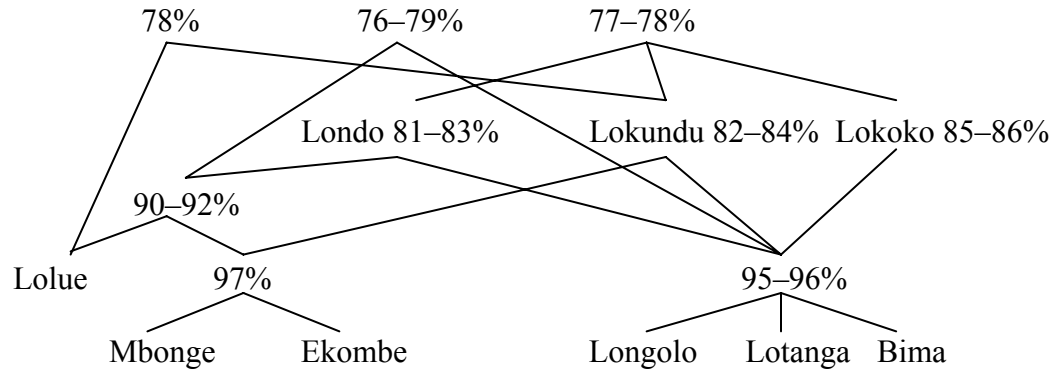
Figure 2. Dialect Groupings

Lotanga, Bima, and Longolo form a tight cluster at over 95% apparent cognates. Mbonge, Ekombe, and Lolue form another cluster at over 90% apparent cognates. However, these two clusters only share 76–79% apparent cognates with each other. Lokundu, Londo, and Lokoko also share 77–78% apparent cognates, as do Lokundu and Lolue. However, Lokundu shares over 82% apparent cognates with all but Lolue, Londo, and Lokoko. Londo also shares over 81% apparent cognates with all but Lokundu and Lokoko. The Lokoko is the most different, sharing only 73–74% apparent cognates with the Lolue/Mbonge/Ekombe cluster, although it has 85–86% apparent cognates with the Lotanga/Bima/Longolo cluster.

The above tree (Figure 2. Dialect Groupings) and underlying word list do not show any one dialect as the most central or possible source for all the other dialects. The tree does capture two clusters, the Longolo/Lotanga/Bima cluster and the Mbonge/Ekombe/Lolue cluster. However, further division of the Oroko into two groups is not supported by this data. If anything, Lokundu, which was grouped with the Mbonge/Ekombe/Lolue cluster by ALCAM (Dieu and Renaud 1983), has a slightly higher average score with the Longolo/Lotanga/Bima cluster.

3.1.4 Eyakwe Word List

Eyakwe went through SIL Africa's 2000-word list (SIL Africa Area 2000) and edited out words that in Mbonge would be duplicates, phrases, or obviously borrowed (primarily from Douala, Cameroon Pidgin, or English). A total of 825 words made the cut. Four words were not collected in any of the other dialects, reducing the words collected to 821.

Four dialects (Londo, Mbonge, Lokundu, and Longolo) were picked on the basis of their size and diversity. Eyakwe wrote down the Mbonge translation of the words and then during the spring of 2002 also collected these words from Longolo and Lokundu speakers. The lexicon in *The Londo Word* (Kuperus 1985:239–318) was used as a source for Londo vocabulary.

The apparent cognates from this longer word list were then tabulated. The results are summarized in Table 6 below. The numbers after the dialects designate how many words were collected from that dialect. The number of apparent cognates as well as the number of corresponding vocabulary items underlying the percentages is shown for each dialect pairing, as the number of words involved varies.

Table 6. Eyakwe Word List Lexicostatistics

Lokundu – 776			
555 / 776 = 72 %	Mbonge – 825		
357 / 506 = 71 %	397 / 521 = 76 %	Londo – 521	
597 / 772 = 77 %	557 / 817 = 68 %	371 / 521 = 71 %	Longolo – 817

The percentages from this longer word list (68–77%) show less similarity between the dialects than originally thought, raising doubts that a single orthography can bridge across all the dialects. It also gives further data that Lokundu is slightly closer to

Longolo, and Londo slightly closer to Mbonge, going against prior divisions of the Oroko

along an east-west split (i.e. Lokundu with Mbonge and Londo with Longolo, see

Table 3).

3.2 Word List Summary

The lexicostatistic analysis presented in Table 5, while helpful for showing the

potential "closeness" of the various dialects, does not give a complete picture of the

variations between the dialects. As there are some unique issues with numerals, they are

treated first and separate from the rest of the word list. The remainder of this section

summarizes the issues that arise in the last two word lists discussed.

3.2.1 Numerals

This section addresses the differences between the numerals from 1 to 10. The

numerals 1 and 5 are exactly the same in all dialects. The numerals 2 and 4 have some

differences in their vowel quality, while numerals 3 and 10 have some variation in the

coronal consonant (see 3.3.2.1). Numerals 6–9 are primarily compounds, and therefore

repeat some of the variations seen in numerals 1–5. Eight dialects use "5+1" for numeral

6 and "5+2" for numeral 7, while Lokoko has what looks like different compounds for 6

and 7. For numeral 8, five dialects use a separate vocabulary item, while three use "minus

2", and one uses "5+3". For numeral 9, five dialects use variations of "minus 1", while

three use "5+4", and Lotanga uses a different vocabulary item.

Table 7 summarizes the differences between the number systems. The table also

shows how the dialects group differently depending on the numeral in question, further

confirming the major groupings proposed above and presented in Figure 2.

Table 7. Numeral Comparison

	6	7	8	9
Lolue	betaliɔkɔ (5,1)	betanabebɛɛ (5+2)	bebɛɛbesee (-2)	mɔkɔasee (-1)
Ekombe	betaliɔkɔ (5,1)	betanabebɛ (5+2)	bebɛbese (-2)	eseeyɔkɔ (-1)
Mbonge	betaliɔkɔ (5,1)	betanabebe (5+2)	bebebese (-2)	eseeyɔkɔ (-1)
Longolo	betariɔkɔ (5,1)	betanabebɛ (5+2)	wambi	eyɔkɔese (-1)
Bima	betaliɔkɔ (5,1)	betanabeba (5+2)	wambi	eyɔkɔese (-1)
Lotanga	betaliɔkɔ (5,1)	betanabeba (5+2)	wambi	mokɔsumado (1,?)
Lokundu	betaliɔkɔ (5,1)	betanabebe (5+2)	wambi	betanabeni (5+4)
Londo	betariɔkɔ (5,1)	betanabeba (5+2)	betanabelalo (5+3)	betanabeni (5+4)
Lokoko	motoba	moaŋgamoba	juambi	betanabini (5+4)

3.2.2 Issues Arising from the Word Lists

Table 8 attempts to capture the amount and kind of differences between the 108 nouns and verbs in the Friesen Word List (Friesen and Friesen 2001) and the 821 words from the Eyakwe Word List (Eyakwe 2002). The top line of each section captures the major divisions, while the remaining lines subdivide the material further. The first section is of course the easiest to address, as all the forms are phonetically and phonemically identical. The second section presents the greatest challenge, as these words are all apparent cognates, yet their phonetic and/or phonemic form differs across dialects. The discussion of these differences is the main content of the remainder of this chapter (cross-references are given in the center column). The last section shows the large variety in the vocabulary between the dialects. Within this last section there are still words that have the same form between at least some of the dialects, and all the situations found in the first two sections are repeated in these subsets.

Table 8. Word List Differences Summary

Friesen (108)	Description of Difference	Eyakwe (825)
22% (24)	Exactly the same	15% (122)
44% (47)	Different surface sounds	41% (334)
27% (32)	Vowel - 3.3.1	13% (106)
14% (16)	Alveolar (l/r/d) - 3.3.2.1	15% (122)
2% (2)	Voiced Labials (b/β/w) - 3.3.2.2	6% (48)
1% (1)	Voiceless Labials (f/ɸ) - 3.3.2.3	2% (19)
7% (8)	Alveopalatals (y/j/c) - 3.3.2.4	3% (22)
2% (2)	Glides - 3.3.2.5	2% (16)
2% (2)	Nasals - 3.3.2.6	3% (21)
2% (2)	Labiovelars (kp/kw, mŋgb/ŋgw) - 3.3.2.8	2% (13)
8% (9)	Phonological Rule Output - 3.3.1, 3.3.2.6, and 3.3.3	3% (21)
8% (9)	Other consonants - 3.3.2.9	5% (40)
4% (5)	Class marker - 3.4	6% (51)
2% (2)	Morpheme - 3.4	8% (68)
14% (17)	Word Length - 3.4	7% (55)
34% (37)	Different vocabulary in at least one dialect (37)	44% (365)
9% (11)	Half or more of the dialects have exactly same word	17% (141)
12% (14)	Half or more of the dialects have an apparent cognate	24% (201)
10% (12)	Half or fewer dialects share word or apparent cognate	8% (67)

Note that the indented percentages within the three categories do not add up to the section percentage, as some words have more than one of the phenomena (in the second row) or are equally split between dialects (44 words) in the Eyakwe word list (in the third row). In any case, Table 8 further highlights just how diverse the Oroko dialects are. Somewhat surprising is the increased amount of differences found in the longer Eyakwe word list, even though it only covered four dialects as opposed to the nine covered by the Friesen list.

Each of the issues in the center column are examined in more detail in the following section, with possible harmonizing solutions. Later, this chart is reexamined to determine what differences are worth harmonizing (see Table 27).

3.3 Oroko Phonemes

This section systematically examines the phonetic and phonemic differences between the dialects that arose from the word lists. It addresses vowels, consonants, and tone. Phonological processes affecting particular phonemes are discussed in the sections of the phonemes that they affect.

3.3.1 Vowels

This section looks at the phonemic vowel inventory, phonological processes affecting vowels, and vowel alternations between dialects.

All the dialects have the same seven phonemic vowels (see Table 9), following the Proto-Bantu vowel system (Meeussen 1967:82).

Table 9. Oroko Phonemic Vowels

	Front	Back
+ high, - lo	i	u
- high, - lo, +ATR	e	o
- high, - lo, -ATR	ɛ	ɔ
- high, + lo	a	

The Oroko dialects do not have underlying long vowels. Long vowels sometimes do result when two vowels meet at morpheme boundaries, especially when the tones on the vowels are different. Long vowels also appear in some single syllable noun roots. They appear to arise when there are more tones than syllables. In Mbonge word final tones remain floating (thus unpronounced), but indications are that other dialects allow lengthening of word final vowels to carry complex (rising or falling) tones.

A formal study of the phonology of all the dialects has not been done. However, *The Londo Word* (Kuperus 1985), my own study of Mbonge, and consistent changes in

the word lists shed some light on certain processes that have a bearing on the

orthography.

Both Mbonge and Londo have ATR harmonization that affects only non-high

vowels. The trigger for assimilation is always the [-ATR] mid-vowels /ɛ/ and /ɔ/, with the

other non-high vowels /e/, /o/, and /a/ totally assimilating. This is most commonly seen in

verbs, as in the Mbonge example in (1).[6] Kuperus' (1985:233) automatic rule A8 predicts

this same process in Londo.

(1)   SF: a- kɛnd-ɛk -ɛ
        UF: a- kɛnd-ak -a
        Gloss: 3S- walk -IMPF -FV
        Free Translation: He is walking.

However, Londo has leftward and rightward spreading (Kuperus 1985:232–4,

Rules ML6, ML7, MSC2, MSC3, WSC8/A8, P1, P2), while Mbonge, Longolo, and

Lokundu only appear to have rightward spreading (at least in lexical stems). This

difference in the application of vowel harmonization affects 12 (1%) of the entries[7] in the

Eyakwe word list. There are a few entries where the only difference between Londo and

the other dialects can be attributed to the operation of a left spread rule in Londo. For

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[6] For interlinearized texts, the top line will always be the surface form (SF). The second line will contain

the underlying form (UF) when necessary. The second last line will always have the gloss (usually

morpheme by morpheme) and the last line will have a free translation. The key to the gloss abbreviations is

in APPENDIX 1.

[7] In this paper 'entry' indicates the word(s) associated with the same English gloss in one row of a word

list.

example, the word for 'arm', which is made up of the class 3 prefix /mo/ plus the root /kɔ/, appears as /mɔkɔ/ in Londo but as /mokɔ/ in Lokundu, Mbonge, and Longolo.

Because harmonization operates in different ways, the orthography could represent the underlying form of the vowel whenever there is a difference in the surface form of the words. For example, Londo would write /mokɔ/ for 'arm'. However, whenever the result of harmonization is the same, as is likely the case for example (1) above, the orthography should write the surface form. This would mean that Londo noun prefixes and some verbal morphemes (susceptible to leftward spreading from following mid height [-ATR] vowels) would need to be written in their underlying form. The added difficulty of recognizing and writing the underlying forms for all the complex verb suffixes (see Friesen 2002) would not be worth the effort, if the surface form is truly the same across dialects. This issue definitely needs more cross-dialectal comparison, the input of the Oroko Language Development Committee, and testing.

There are also some differences between the dialects regarding how they handle vowel combinations at morpheme boundaries. For example, Kuperus (1985:81–2) notes that /oi/ is not allowed in Londo, instead becoming /u/ in non-word-final position and /oe/ word-finally. Ittmann (1978:15) notes a similar phenomenon in Duala, where the vowel combination /o/+/i/ at some morpheme boundaries results in a /u/. The Eyakwe word list offers some evidence on how this combination is treated in other dialects.

Table 10 shows the surface form (first line) and potential underlying morphemes (second line) for words where Londo likely has vowel coalescence. Londo and Longolo appear to operate consistently, while Lokundu (for 'root', 'dirt', and 'door') and Mbonge

(for 'door') appear to have different underlying forms, different rules, or both.

Incidentally, in the Friesen word list, the Ekombe dialect has /mili/ for 'root' (underlying

/mo/+/ili/), showing yet another phonological variation.

Table 10. /o/ + /i/ at Boundaries

English	Lokundu	Mbonge	Londo	Longolo
root	mori	ŋili	muri	mokako
	mo + ʔri	mo + ili	mo + ili	mo + kako
thief	ŋwiɸe	ŋibe	mube	ŋwiɸe
	mo + iɸe	mo + ibe	mo + ibe	mo + iɸe
door	muna	muna	muna	ŋwina
	mo + ʔna	mo + ʔna	mo + ina	mo + ina
dirt	ruŋga	ŋiŋgo	muŋgu	ŋwiŋgi
	lʔ + ʔŋga	mo + iŋgo	mo + iŋgu	mo + iŋgi

In all the Mbonge examples (except for 'door') the noun prefix /mo/ (classes 1

and 3) becomes /ŋ/ before non-rounded vowels (see 3.3.2.6 on nasal processes for more

on this). Mbonge also deletes a word-final /i/ following /o/.

The phonological results of vowel combinations across morpheme boundaries

will need to be further examined across dialects before a final recommendation can be

made. Lamuela (1991:71), summarizing Lafont's plurality constraint, states that

"Disregard for the output of certain phonological rules in spelling brings about the

graphic unification of dialects that do not share these rules." However, Weber (in

press:31ff) argues against writing the underlying form of words. Tentatively, either the

most transparent form or the underlying form can be considered if cross-dialect

unification is desired.

The final challenge with vowels comes when dialects differ in the vowels used in

some words, but not others. The words that are identical across the dialects contain all

seven vowels. However, when comparing apparent cognates between dialects, all the

possible vowel combination switches are found. For example, there are entries where one

dialect uses /i/ but another dialect uses a different vowel, with at least one entry using

each of the other six vowels. The most common alternations, each involving over 10

lexical pairs, are: /i/ $\leftrightarrow$ /u/, /i/ $\leftrightarrow$ /e/, /e/ $\leftrightarrow$ /ɛ/, /u/ $\leftrightarrow$ /o/, and /o/ $\leftrightarrow$ /ɔ/. These

alternations are not surprising, as all differ by only one feature. However, the fact that

they are not consistent makes it difficult to come up with a standard spelling for the 60

entries (7% of the word list) where only the vowels are different or the additional 46

entries (6% of the word list) where the vowels are one of the differences between words.

In other words, vowel differences affect 106 entries or 13% of the word list.

3.3.2 Consonants

This section examines the consonants that alternate between dialects and

discusses whether only a phonetic alternation is involved (thus one phoneme) or whether

the alternation is between phonemes. It also addresses how the prenasalized stops should

be written. Recommendations on what should be written are made at the end of each

subsection. The spellings already used for the names of Oroko villages are taken into

consideration (see APPENDIX 2)[8]. These recommendations are further impacted by the

sociolinguistic issues discussed in CHAPTER 4. Therefore, a final summary is given in

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[8] The spellings of the village names are only informally discussed as they are subject to some variation.
Their form is based on the spellings on maps that were consulted during the survey, village signboards, and
the intuitions of the survey team, all of which are subject to non-Oroko influence. Some of the town names
have variable spellings among the Oroko, while others are more established.

section 5.2.2, including the graphemes proposed for the consonants introduced in

Table 11.

Unlike the vowels, the consonants have different phonetic shapes across the

dialects. Table 11 shows all the phonetic sounds found in the Friesen (Friesen and Friesen

2001) and Eyakwe (2002) word lists (see APPENDIX 4). Note that [c] is used in place of

the IPA [tʃ], [j] in place of the IPA [dʒ], and [y] in place of the IPA [j].

Table 11. Oroko Phonetic Consonants

	labial	alveolar	alveopalatal	velar	labiovelar
stops, -vcd	p	t	c	k	kp / kw
stops, +vcd	b / β	d	j		gw
continuant	f / ɸ	s			
lateral/glide	w	r / l	y		w
Nasals	m	n	ɲ	ŋ	
pre-nasals	mb	nd	ɲj	ŋg	ŋmgb/ŋgw/mf/nv/nf

The shaded boxes indicate consonants where there is some alternation across

dialects with entries. The percentage of entries where at least one of the dialects has the

phone in question is given at the start of each section.[9] The consonants are discussed in

the following order: alveolars, voiced labials, voiceless labials, alveopalatals, glides,

nasals, prenasalized stops, labiovelars, and finally other idiosyncratic alternations.

3.3.2.1 <u>Alveolar Consonants</u>

The alveolar consonant is found in 478 (58%) of the 821 entries in the Eyakwe

word list. In 186 (23%) of these entries, Eyakwe recorded it with a different phonetic

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[9] The percentages here are based only on the Eyakwe word list and may not be indicative of actual

distribution in natural texts.

realization ([l], [r], or [d]) from another dialect. Note that the Londo and Mbonge word lists had already been standardized on one spelling.

The situation of the alveolar consonants in Oroko is best summarized by a quote from Nida (1963a:20):

> In a number of languages in Africa, missionaries have argued for years as to whether certain words were pronounced with [l] or [r]. Some persons have heard [r] and others have heard [l], but in some pronunciations of certain words the Africans themselves have seemed to confuse the sounds. The truth of the matter is that the [r] and [l] were one and the same phoneme, a kind of flap-like sound, sometimes with the tongue grooved (in which case one heard [r]) and other times with the tongue humped up in the middle (in which case one heard [l]). If the tongue happened to be perfectly flat, the resultant would approximate [d] (which has been heard by other missionaries). In one language, the [l] is generally heard if the vowels /i/ or /u/ are contiguous, but if other vowels are nearby, then [r] is heard. It is unfortunate that so many unnecessary arguments have been waged over distinctions which to the African himself are not differences at all.

Due to the presence of this issue within our team, a word list with 94 occurrences of this alveolar consonant was developed. Some of these words were repeated with different morphology so that the alveolar consonant would be word initial in one case and morpheme initial in another. Eyakwe collect recordings of words with the alveolar consonant from seven different speakers (all males from his age group) and transcribed the words. The distribution of the consonants was then charted (see Table 12).

Table 12. Alveolar Consonant Distribution (Friesen 2001:3)

Following Vowel	Word initial		Morpheme Initial		Intervocalic
	+ hi	- hi	+ hi	- hi	
All said [l]	0	13	12		41
Some [d], some [l]	18	7*	2	1	0

* Four of these were spoken as /d/ by only one speaker

This informal study gives evidence that the alveolar consonant in question is indeed one phoneme. The [d] allophone is more likely to occur word initially before high

vowels, while the [l] allophone is predominant in all other contexts. This parallels Duala where /l/ (considered as the underlying phoneme) has the allophone [d] whenever an /i/ follows and sometimes when a /u/ follows (Ittmann 1978:22). It is noteworthy that a spectrogram of [d], even word initially, shows that it is not a prototypical stop, as there is incomplete closure before the stop is released (Friesen 2001:4).

In her study of Londo, Kuperus (1985:66) chooses /d/ as the underlying phoneme, and states that it weakens to [r] intervocalically (she does not precisely define the phonetic makeup of this sound). She only transcribes one phonetic rhotic/lateral, but notes that one speaker had two variants that appeared to be conditioned by preceding or following high vowels (p. 55).

For the above study, Eyakwe did not differentiate at all between [r] and [l]. Certain villages are known to have a harder rhotic sound (e.g. northern Balue villages), recognizing that this is a dialectal variation of the softer lateral/rhotic that is more common among the southern Mbonge villages. The English spellings of Oroko clan names exclusively use <l> over <r> and the English spellings of the village names (see APPENDIX 2) show a higher incidence of <l> than <r> (approximately 3:1).

Early in our language learning, we challenged one of our language resource persons, Mosongo Mathias, about our perceived inconsistency in his pronunciation of [d] versus [l]. He in turn consulted with his fellow village councilors and reported back that the "older" and thus more "correct" pronunciation was [l]. Following the councilors' decision and Nida's quote, the recommendation is to use <l> (except after nasals, see 3.3.2.6). If other sociolinguistic factors (such as easy transition to English) create a desire

to overdifferentiate this phoneme the recommended rule would be that <d> be written before the high vowels <i> and <u> and that <l> be written elsewhere. An informal survey of the English spellings of the Oroko town names (see APPENDIX 2) lends support to this rule, as approximately 90% of the (non-prenasalized) occurrences of <d> follow this rule, as well as approximately 95% of the occurrences of <l>. As for <r>, the recommendation is that it be written only for already established names (such as <Oroko> versus <Oloko>) and in borrowed words (such as <brɛdi> for 'bread' see 5.2.4.4). This also corresponds to the Duala spelling, as Ittmann (1978:23) noted that [r] is not employed except in a few "mots d'emprunts".

3.3.2.2 <u>Voiced Bilabial Consonants</u>

The above ambiguity between [l], [r], and [d] is also found between [b], [β], and [w]. The bilabial consonants [b], [β], and [w] are found in 393 (48%) of the entries in the word list. In 69 (8%) of these words, Eyakwe recorded a specific alternation. However, these labials differ from the alveolar consonants in that two phonemes are present underlyingly. This is seen in Mbonge when adding the non-specified nasal subject agreement prefix /N/ to verbs as in example (2).

```
(2)    ŋm-gb -ɛli      m- band -i
       N-  w -(ɛl)i     N- band -i
       1s- die -TMLS    1s- catch -TMLS
       I'm dead         I caught
```

As with [d], [b] is also not a prototypical stop. Instead, a spectrogram shows the lips only come together briefly (when not prenasalized). Because the voiced bilabial stop is not prototypical, it is sometimes transcribed as the fricative [β], just as [d] is sometimes transcribed as the weaker [l]. In fact, many words transcribed with a [w] turn out to show

a similar spectrogram. The vowel formants do not change, as would be the case if the phone were a true [w]. Further clouding the picture is the fact that in one situation where a spectrogram shows a true [w], it is actually underlyingly the class 14 noun prefix /bo/ (Friesen 2001:6). There are, however, occurrences of [w] that are underlyingly /w/, such as other forms of the verb 'die' /w/ in (2), they are just fewer than one might expect.

The linguistic recommendation would be for <b> to be written unless a phone can be proved to be unequivocally a /w/ (when <w> would be written), so as to properly differentiate between the /b/ and /w/ phonemes. However, this is likely to meet some resistance, especially in nouns where the phone in question is always intervocalic and sounds much closer to a [w] than a prototypical [b]. The popular impetus will likely be to default to writing the sounds according to their relative proximity to the English phonemes /b/ and /w/.

3.3.2.3 <u>Voiceless Bilabial Consonants</u>

There is a phonetic alternation between [f] and [ɸ] found between the dialects in 97 (12%) of the entries. Kuperus (1985:66) identifies [ɸ] as the voiceless bilabial phoneme in Londo. In all the dialects these seem to be the same phoneme. When Oroko village names are written in English, the [ɸ] phone is often represented as <p>, resulting in a split between the use of <f> and <p> (approximately 6:4 in favor of <f>) in village names. Since the [f] used by some Oroko is closer phonetically to the English <f> than [ɸ] is to the English <p>, the recommendation is that the <f> be used consistently for both phonetic sounds, and that <p> be reserved for borrowed words such as /pumbi/ 'pump'. When transferring their reading skills to English, those individuals or dialects

that use [ɸ] will thus need to learn to properly distinguish (both in speech and writing)

both <f> and <p>, but those that use [f] will only need to add the <p> to their inventory.

If <p> is used, those with [ɸ] still have the same learning challenge, while those writing

<p> for [f] would have to unlearn an association (between [f] and <p>) that they have

already made. Whatever is chosen by the Oroko Language Development Committee

(OLDC), whether <f> or <p>, it should be implemented consistently across all dialects.

3.3.2.4 Alveopalatal Consonants

The alveopalatal consonants [c], [j], and [y] are found in at least 129 (16%) of the

821 word list entries. In 22 (3%) of these entries, Eyakwe recorded a specific alternation.

Where alternations exist, Lokundu often uses [j] or [c], Longolo [c], and Londo and

Mbonge [y], as in Table 13 below. This alteration works for 18 of the entries, with the

other four having idiosyncratic changes.

Table 13. Alveopalatal Changes

English	Lokundu	Longolo	Londo	Mbonge
wood	ico / ijoo	ico	iwori / ile	iyoli
give birth	ca / ja	ca / dica	ya	ya
vomit	coa / joa	coa	yoa / yuwa	yoa

However, there are also many cases where [y] is used uniformly across the

dialects, such as for [ya] 'hot', which is identical in all the dialects. Incidentally, the

phonetic homonym (including tone) [ya], which in Mbonge means both 'hot' and 'give

birth', has different phonetic forms in Lokundu and Longolo (see Table 13). A hint at the

possible root of this change is found in the association marker used in some of the

phrases collected in the word list. The associative marker [ya] is used in /iyeme ya moa/

'flame (lit. tongue of fire)', while [ca] is used in /ekɔmbɔ ca ŋwarana/ 'girlfriend'.

Judging from the noun class prefixes on the preceding head noun, it is likely that [y]

arises from an underlying /i/ and [c] from an underlying /e/. Further morphological and

phonological research is needed to verify that [y] and [c] can arise from different

underlying vowels. It is also possible that this process is both currently productive and a

historical explanation of changes producing present phonemic forms.

If a harmonized alphabet is pursued for the Oroko people, the underlying vowel

should be written for all the dialects where a productive phonological process converting

underlying vowels to [y], [j], or [c] can be demonstrated. However, for many of the

nouns, such as those in Table 13, the recommendation would be to write a single

consonant across dialects rather than an underlying vowel that may only have arisen

historically. As <j> is used in various languages to represent a range of sounds from

glides to affricates, the recommendation would be to use it for the [y], [j], and [c] phones.

Then <y> would be preserved for phones that are consistent across all dialects. The

grapheme <c> is less desirable as a candidate for [y], [j], and [c] as it is used for /s/ and

/k/ in English, and /c/ is represented as <ch>.

3.3.2.5 Glides

The Eyakwe word list has 203 entries (25%) with the glides [y] and [w] in them,

of which 16 words (2%) differ between dialects. Some of the occurrences of glides are as

epenthetic consonants, and others are underlying phonemes.

The epenthetic consonant [y] follows the front non-low vowels /i/, /e/, and /ɛ/,

while [w] follows the back non-low vowels /u/, /o/, and /ɔ/, such as in the Mbonge

example in (3). These transition glides are predictable from their environment and not

part of the underlying phonemes, as in Duala (Ittmann 1978:12).

(3)　i(y)-　anda　　　　　　l-　　anda
　　　i-　　anda　　　　　　lo-　anda
　　　CL19-　finger　　　　　CL11-　finger
　　　finger　　　　　　　*fingers*

There are, however, cases where the glide is part of the underlying morpheme

even when it fits the above pattern. The presence of a phonemic /w/ or /y/ can be

confirmed by changing to a plural noun class marker, which in many cases does not have

the same glide triggering vowel, as in example (4) (found in both Mbonge and Londo).

(4)　i-　　yeme　　　　　　lo-　yeme
　　　i-　　yeme　　　　　　lo-　yeme
　　　CL19-　tongue　　　　　CL11-　tongue
　　　tongue　　　　　　　*tongues*

Glides can also be the surface phonetic variant of an underlying vowel. For

example, when a single vowel is the subject agreement marker and it is added to a vowel

initial verb, the result is a glide, as in example (5).

(5)　　　kema　　y-　ak -ɛ.
　　　Ø-　kema　　e-　ak -i
　　　CL9-　monkey　C9-go　-TMLS
　　　The monkey went.

The resulting recommendation is that, whenever a phonetic glide can be shown to

arise from an underlying vowel, the underlying vowel should be written. This is in

agreement with the recommendation for the alveopalatal section above (3.3.2.4). This

recommendation is especially useful when distinguishing between the class 9 (/e/) and

class 10 (/i/) class agreement markers when they are put before vowel initial verb stems.

Writing the underlying vowels will take some additional time in literacy classes, and it is

possible that this will not be acceptable to the Oroko. In that case the surface glides can

be easily written, and any resulting ambiguity will be dealt with in the same way as in

speech, by context. The most linguistically efficient recommendation is that a glide

should also not be written when it is epenthetical, so that [diyowa] 'to know' would be

written <dioa>. However, redundancy in writing is not bad (Weber in press:21-24), so if

the Oroko prefer to write some or all epenthetic glides, that is also a reasonable option, as

long as it is employed consistently.

3.3.2.6 Nasal Consonants

The Eyakwe word list has 55 entries (7%) with a nasal (excluding prenasalized

stops). A total of 21 entries (3%) are noted as having variations across dialects. Table 14

gives a representative sampling of the idiosyncratic variations across dialects in the

Eyakwe word list, with the highlighted change given in the second column.

Table 14. Idiosyncratic Nasal Variations between Dialects

English	Change	Lokundu	Mbonge	Londo	Longolo
shin	m/nj	mboma	mbonja	mbonja …	mboma
stand	nw/ŋw/m	unwa	ima	imana	iŋwa
your (2p)	ny/n	eyanyu	eyanyu	eyanyu	eyanu
bell	ny/n/nd	ŋganyika	ŋgandika	ŋganikaŋ	ŋganyika
child	ŋw/ny/ŋ	ŋwana	ŋana	nyana	ŋwana
				ŋwana	
cat	ŋw/ŋ	aŋwa	aŋa	—	aŋwa
suck	ŋu/ŋw/ny	ŋuaŋga	nyaŋga	nyaŋga	ŋwaŋga
		ŋwaŋga			

In addition to the above variations, Table 15 shows the differences in how

morphemes with nasals are handled across morpheme boundaries, resulting in variations

in the surface realizations.

Table 15. Phonological Processes Affecting Nasals

English	Morphemes	Lokundu	Mbonge	Londo	Longolo
thief	mo+iBe	ŋwiɸe	ŋibe	mube	ŋwiɸe
noon	mo+ese	ŋwese	ŋese	ŋwese	ŋwese
year	mo+a	ŋwa	ŋa	ŋwa	ŋwa
tobacco	mo+ɛni	ŋwɛni	ŋɛni	ŋwɛni	ŋwɛni

Take 'thief' as an example, which is made up of the class marker /mo/ and vowel initial stem /iBe/ (the phonetic shape of 'B' varies from [b] to [ɸ] between the dialects). In Londo the vowels coalesce (see 3.3.1), but the underlying /m/ remains. However, in Lokundu and Longolo the /o/ becomes a [w] and the preceding nasal assimilates to the velar place of articulation, changing from [m] to [ŋ]. The process is similar in Mbonge, except that the /m/ and /o/ coalesce into [ŋ]. For 'noon', the rules are the same, but since the root does not have an /i/, Londo follows the same pattern as Lokundu and Longolo.

For maximum harmonization, the underlying form of these words would need to be written. However, if the orthography is not fully standardized across all dialects, this is one area where the increased effort to teach people to read and write a more abstract form is not worth the payback, as it only affects 14 entries (2%) of the Eyakwe word list.

A second option that promotes uniformity without going to an underlying form is to adopt the same representation for /ŋw/ and /ŋ/, as these forms uniformly alternate. The recommendation in this case would be to adopt the shorter form <ŋ>.

3.3.2.7 Prenasalized Stops

The Oroko dialects have a full range of prenasalized stops as shown in Table 16. Except for the last line of the table, all the prenasals are found in all the dialects. More

research needs to be done to see how the prenasalized alveopalatals operate across dialects.

Table 16. Prenasalized Stops in All Dialects

Surface Form	Underlying Form (s)
mb	N+b, N+f
nd	N+d, N+l (see 3.3.2.1)
nj	N+s
ŋg	N+k
ŋmgb (see 3.3.2.8)	N+kp, N+w

The phonetic sounds [g] and [gb] (and in some dialects [j], see 3.3.2.4) only occur in combination with a nasal. Because of this the phonemic inventory is simplified if the prenasalized stops and their corresponding voiced obstruents are not included. However, as the orthography needs to specifically address how the prenasalized stops should be written, they are left in the phonemic inventory.

The recommendation is that the voiced surface forms of the stops be written instead of the underlying phonemes, because in many cases the surface form could come from more than one underlying form, and for nouns the underlying consonant is usually irretrievable (except for nominal derivations from verbs). This will also make the orthography more transferable to English and Duala (Ittmann 1978:13). For example, if Oroko writes the underlying form of the prenasalized velar (/nk/) some confusion would result when teaching the pronunciation of the English words <sing>[10], which would have the same sound as an Oroko <nk>, versus <sink>, which would have the same spelling but different pronunciation.

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[10] Incidentally, <singing> is pronounced as /siŋgiŋ/ by many Oroko who are literate in English.

As for the prenasals, the recommendation is that <m> be written before <b> because it is recognized as its own phoneme in other environments, and is written in village and dialect names. All the other forms should be written using <n> as the prenasal along with the appropriate voiced stop: <nd>, <nj>, and <ng>, as this is both the underlying form, and easier to write than the phonetic variations /ɲ/ and /ŋ/. See the next section (3.3.2.8) for a discussion of labiovelars, including prenasalization.

3.3.2.8 <u>Labiovelar Consonants</u>

The Oroko dialects have a number of variants for what is a double articulated labiovelar consonant (/kp/ and /ŋmgb/) in the southeast cluster (see Table 3). There are 49 entries (6%) with some variant of a labiovelar consonant or consonant cluster (/kp/, /kw/, /gb/, and /gw/). In 18 entries (2%), there is some alternation between dialects.

The prenasalized voiced alveopalatal stop is found only at morpheme boundaries in Mbonge. Example (6) documents the two underlying forms that can result in the voiced labiovelar prenasalized stop in Mbonge.

(6) ŋm- gb -ak -a   ŋm- gb -eli
     N- kp -ak -a   N- w   -(el)i
     1S- peel -IMPF -FV   1S- die -TMLS
     I am peeling   *I'm dead!*

The variations across the Oroko dialects are summarized in Table 17 (based on only one vocabulary item for each line as recorded in the Friesen word list). The two voiced stops which are found in multiple dialects (/ŋmgb/ and /nv/) do not share the same voiceless stop.

Table 17. Labiovelar Consonants

	SE Cluster	Bima	Londo	Lokundu	Longolo	Lokoko	Lotanga
Voiced	ŋmgb	nv		ŋmgb	mf	nf	ŋgw
Voiceless	kp		kw				

It is also noteworthy that there may be some variation within dialects, as not everyone in the Mbonge clan uses /ŋmgb/. In some situations (such as in proper names) the variant /ŋgw/ is also used (e.g. the village name 'Ngwandi'). As for Londo, Kuperus (1985:75–76) notes the presence of the phonemes /ŋmgb/ and /kp/. However, she suggests that they are borrowed from Efik (a Cross River Language just over the Nigerian border) as their number is few (only 19 voiceless labiovelars and two prenasalized labiovelars in her data corpus). She also notes that the first person singular subject agreement prefix /n/ never appears before /kp/ to result in /ŋmgb/; instead, the allomorph /na/ is used.

Regarding the voiceless labiovelars, the Eyakwe word list shows both /kp/ and /kw/ occurring in both Lokundu and Longolo. For both dialects, /kp/ is the more common form. More interesting still is the variance between /w/, /kw/, and /gw/ as in examples (7) and (8). As indicated in (7), 'boat' is a class 14 word in Mbonge and Londo. The Eyakwe word list does not give the class for the Longolo or Lokundu words.

(7) w- alo   kwaro   gwaro
     bo- alo   ?   ?
     CL14- boat   boat   boat
     Mbonge, Londo   *Longolo*   *Lokundu*

In (8) the Mbonge word is a nominalized verb. The Eyakwe word list does not have the verb for 'pain' anywhere in the data, so any change in the roots cannot be confirmed.

(8) bo- w -ak -i   boaki   bocoaki   bogwaki
     CL14- pain -PFT -TMLS   ?   ?   ?
     pain   *pain*   *pain*   *pain*
     Mbonge   *Londo*   *Longolo*   *Lokundu*

It is not readily apparent what is happening here, whether these words are in the process of becoming labiovelars, or retreating from labiovelars. At some level this is similar to the alternation between dialects for alveopalatals, with Lokundu and Longolo moving away from glides towards stops (see 3.3.2.4).

The above information is based on a very small sample of words. Further research needs to be done to verify the phonetic form of words with these phonemes in other dialects. In addition, the underlying morphemes involved need to be verified.

The recommendation is that the phonemes /kp/, /kw/, /ŋmgb/, and /ŋgw/ be written consistently across all the dialects, no matter what their surface variations are. Based on the current English spelling of village names, an initial recommendation is <kw> for the voiceless labiovelar (as in 'Kwakwa', a Bakundu town) and <ngw> for the voiced labiovelar (as in 'Ngwandi', a Mbonge town). The one downside of this spelling is the potential confusion of <w> as /o/ in some situations (see section 3.3.2.5 for more discussion of glides). For example, Mbonge has both /ŋgoa/ 'pig' and /ŋmgba/ 'dog', which would be written <ngoa> and <ngwa> (as said in Longolo and Lokundu) according to this recommendation. On the positive side, this recommendation preserves the underlying /w/ in /n/+/w/ => <ngw> while /n/+<kw> => <ngw> parallels the /n/+/k/ => <ng> relationship seen in the velar stops (see section 3.3.2.7).

As for the other combinations of velar stops and /w/ that are not consistent across dialects, either /w/ should be used, or each dialect needs to write their own particular variant.

3.3.2.9 Idiosyncratic Alternations

In addition to all the above words, the Eyakwe word list has a total of 39 entries (5%) with other correspondences that do not fit into the previously discussed categories. Table 18 has a representative sample of the kind of idiosyncratic alternations in the word list. This list also gives an idea of the kind of differences that were allowed when considering whether words were apparent cognates. The first column designates the number in the Eyakwe word list. The third column gives the consonant that alternates, as for many of these words there are other changes in addition to the highlighted difference. When a number is present (e.g. k8/c), it indicates how many dialects use that form. No number indicates that only one dialect uses the particular alternating form for that entry.

Table 18. Other Phoneme Correspondences in Eyakwe Word List

Num	English	Difference	Lokundu	Mbonge	Londo	Longolo
0013	blood	k3/c	makia	makia	maca, macia	makia
0066	molar tooth	ke2/kiɔ/cɔ	ekekɔ	ekiɔkɔ	ɛcɔkɔ	ekekɔ
0103	waist	ju/w/u/cugw	ejue	eue, buwe	ewe	ecugwe
0134	naked	s2/ɲ	moɲombo	mosombo		mosomba
0154	breath (v)	s3/f	soa	ŋo, soa	soɛ	fua
0163	comb (v)	s2/c	sasoa	sasoa		casoa
0231	wound (n)	ɸ/ey	ɸora	fola	ɸola	eyora
0264	male, man	moma/nwia/ moi/moɲa	nwiana	momana	moina muina	moɲana
0280	deaf mute	b2/kp	eβoβo	ebobo		ekpokpo
0497	ant	si2/c/sic	siako	siako	caku	sicako
0519	millipede	ŋg1/k	ŋgɔŋgɔrɔki	ŋgɔkɔlɔkɔ	ŋgɔkɔlɔkɔ	ŋgɔŋgɔrɔ
0590	tree	bo3/we	bole, βore	wele	bole	ire, bore
0994	chop into pieces	r2/s/-	sɛrɛ	sɛsɛ	sɛɛ	disɛrɛ
1050	trap (n)	l3/t	erambi	ilambo	ilambi	itambi

Num	English	Difference	Lokundu	Mbonge	Londo	Longolo
1219	bring up (a child)	mb2/ŋg	ßomboa	boŋgoa		ßomboa
1274	show	i3/du	imɛrɛ	dumɛlɛ	imɛrɛ	imɛrɛ
1427	laugh (v)	l/j-y-c	ɔjɔ	ɔyɔ	ɔlɔ	ɔcɔ
1432	measure (v)	l/n	mɛnɛ	mɛlɛ	mɛnɛ	mɛrɛ
1525	(003) three	l3/y	beraro	belalo	beyaro	beraro
1597	round, be	k/t/di/-	kiŋgirana	iŋgilana	tuŋgulɛnɛ	diiŋgira
1965	scatter (intr.)	ŋg2/k	ɸaŋgɛ	faŋgeɛ	ɸakɛ	ɸaka

The Friesen word list (APPENDIX 4) also has a number of correspondences that are counted as apparent cognates but do not follow any of the other noted patterns. As some of these alternations are from dialects not covered in the Eyakwe word list, they are summarized in Table 19:

Table 19. Other Phoneme Correspondences in Friesen Word List

Sound	Word	Dialect	Word	Dialect
r/s	diroŋga	Lotanga	disoŋga	all others
c/ki	maca	Londo	makia	all others
c/s	sasoa	Mbonge, Lokundu	casoa	Longolo
ŋ/c/y	ŋoa	Lokundu	yoa	SE cluster
			coa	other 5
nj/ŋg/ŋgw	injɛ	Londo	uŋgeɛ	Mbonge
	iŋgwɛ	Bima	uŋgwe	Lokoko
	iŋgwea	Longolo, Lotanga	iŋgwɛ	Bima
			uŋgea	Ekombe, Lokundu, Lolue

All the words in this section, although potentially cognates, will need to be written using the phonemic guidelines as proposed in the previous sections with no consideration of the form of the words in the other dialects. For the practical purposes of the orthography, they are best treated as different vocabulary items.

Related to this alternation between consonants is the difference in length of words between some dialects. A total of 58 entries (7%) have some difference in length, whether the insertion of a letter or letters, or the presence of an extra syllable or

consonant in the verb. Samples of the changes are included in Table 20 below. The
alternations include incomplete reduplication, double vowels at the ends of words,
dropped syllables, and word final consonants. As with Table 18, the third column
indicates what phenomenon is being highlighted, and how many times each alternation
occurs in that entry.

Table 20. Variations in Word Length Between Dialects

Num	English	Difference	Lokundu	Mbonge	Londo	Longolo
0028	ear	i2/-2	ditoi	dito	dito	ditoi, ritoi
0031	eyebrow	lo3/-	eɸoɸo	efolofolo	efolofolo	eɸoroɸoro
0048	head	-2/lo2	moro	molofo	moroɸo	moro
0061	leg	Nga2/-	mofa, mofaa	ŋende	moɸaŋga	moɸaŋga, riko
0114	phlegm	-3/N	ekɔɔ	ekɔ	eka	ekaŋ
0173	feel, hear	-3/b	oka, okalanea	boka	oka	oka
0418	fowl	-2/b	kuβa	kua	kua	kuβa
0446	owl	VsVk/-	eremba	isekelemba		esikeremba
0501	bee	oi2/-/wo	ɲoi	ɲo	ɲawo	ɲoi
0509	fly (n.)	-3/ɲ	iki	iki	ɲiki	iki
0519	millipede	kɔ2/ki/-	ŋgɔŋgɔrɔki	ŋgɔkɔlɔkɔ	ŋgɔkɔlɔkɔ	ŋgɔŋgɔrɔ
0597	cola nut	u2/-	riβeu	libe		ribeu
0633	leaf	-3/ni	eca, eja	eya	eyani	eca
0672	flat rock	bar/barab/lab	eβaraβanja	elabanja		eβaranja
0729	wood	-2/li2	ico, ijoo	iyoli	iwori, ile	ico
0774	night	te2/-2	bulu, buru	bulute	bulute, bulite	buru
0819	lamp	-3/N	etɔnika	itɔnika	otilikaŋ otonikaŋ	etɔnika
1098	thatch (n)	u2/-/uN	sɔu	sɔ	sewu	sauŋ
1233	exchange	s2/-	eŋgorɛnɛ	seŋgolɛnɛ		soŋgorɛ
1471	you (pl.)	i2/-2	iɲɛ	iɲɛ	ɲɛ	ɲɛ
1678	rotten, be	-2/tɔ	bɔ	bɔtɔ		diβɔ
1713	burn (intr.)	y3/-	yaŋga	yaŋga	aŋgɛ	yaŋga, uwea
1767	middle	2-2x/1-2x/2x	watiwati	watewate	tete	watiti
1950	lose (tr.)	ɔ/-	bɔrɛ	ɔbɔ	bɔlɛ	bɔrɛ
1981	squeeze	oa2/a	amoa	amoa	ama	ama
1991	tear (tr.)	-2/twa	ɲa	kamboa	ɲatwa	ɲa

If a harmonized spelling is being sought, the longer form is generally
recommended as the standard. However, for words ending in consonants, the

recommendation would be to take the shorter form. This is because the Oroko dialects have open syllables. When words end with a consonant, it is a good indication of a borrowed word. Therefore, where some dialects have a form that does not have the coda, that form should be chosen as it is more completely integrated into the native phonology.

3.3.3 <u>Tone</u>

This section starts by describing the Mbonge tonal system (Friesen et al. 2001)[11]. Then it compares this to what Kuperus (1985) writes about Londo tone. Finally, it looks at tonal issues arising from the Eyakwe word list. Orthography recommendations on tone are reserved for section 5.2.3, after sociolinguistic factors have been discussed.

Mbonge is a two-tone system, with the possibility of some toneless tone-bearing units (TBUs). Floating tones (tones without a corresponding TBU) are also helpful in understanding some processes, especially in verbs. Mbonge has all four logical tone combinations (LH, HL, LL, HH) underlyingly present on typical disyllabic noun roots (see Table 21).

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[11]I am deeply indebted to Michael and Becky Scott for their part in the analysis of Mbonge tone. In October and November 2000 the three of us participated in a five-week tone workshop led by Dr. Keith Snider of SIL in Yaoundé, Cameroon. Most of our understanding of Mbonge tone came as a result of this workshop. Following the workshop I gathered our joint findings into a single unpublished paper which serves as the basis for the following discussion.

Table 21. Underlying Mbonge Tone Patterns

Tone Pattern	Mbonge Word	English Gloss
HH	tándá	goat
LL	sòmbò	drill monkey
LH	mbòkó	squirrel
HL	kónđì	bean

Mbonge has automatic downstep, that is to say that every high tone that follows a low tone is slightly lower than the last high tone (9).

(9) [‾ _   – – – _]
     bá- mò-   kát -á kósò
     3P- PST.FAR- tie -FV parrots
     They tied the parrots.

Non-automatic downstep has also been observed, such as when a low between highs has no TBU to anchor to, resulting in the second of the two highs being realized at a slightly lower pitch (10).

(10) [_ ‾   – – – _]
      à- kó`-   kát -á kósò
      3S- FUT.NR- tie -FV parrot(s)
      They tied the parrot(s).

Mbonge also has tone spread. Any low tone that follows a high tone and is in turn followed by a low tone (or is at the end of a phrase) succumbs to the preceding high and become high itself. The word /koso/ 'parrot' found in the above two examples actually carries a low tone underlyingly, but the high tone from the final vowel (FV) of the verb spreads to the first syllable of the object.

In general, a high tone only spreads one syllable forward, as in the above two examples. However, initial investigation into derivational suffixes on verbs has shown that a high tone can spread across a number of suffixes, raising the possibility of these

suffixes being toneless. A high tone also spreads across some word boundaries, such as from a verb to a following object, but not others, such as from a subject to the following verb.

Kuperus (1985) notes that Londo also has only two tones (p. 61), including floating tones (pp. 41–2, 62), and four-way contrast of tone patterns on noun stems (p. 43). Londo has automatic and non-automatic downstep (p. 42). However, only one of her informants had non-automatic downstep, while another did not realize a floating low as a downstep, instead keeping the two high tones involved at the same pitch. Londo also has high tone spread, but unlike Mbonge, nouns are excluded from this process (p. 43). Kuperus' description of tone spread in her rule ML4 (p. 163) seems to parallel what our team analyzed as toneless verbal suffixes. The other tone-spreading rule (A15) that she described only operates when vowels come together at morpheme boundaries (p. 86).

A comparison of the tones transcribed from the Eyakwe word list[12] shows a wide potential variation in the surface tones. The 227 words that are most closely related phonemically cross-dialectally (as found in the first row of Table 27 in section 5.1.2) were compared. Of these, not quite half (107 of 227) were tonally identical. Of the remainder, an additional 41 may have the same underlying tonal form, if one considers the effects of potential tone spread rules in Mbonge, variations in the verb suffixes, and variation in how floating tone may be dealt with. In any case, the differences in both underlying tones and tone processes appear to be substantial.

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[12] The words were said on tape, followed by the tone which was whistled by Eyakwe. The tape quality was extremely bad, and the whistling was rushed at times. The tone data is therefore of marginal quality.

Linguistically, it would be hard to write a consistent tonal form of the words across all dialects, considering the number of potential tone processes and variations in surface tone combined with potential differences in underlying tone.

3.4 Morphological Issues

Both the nouns and verbs have varying morphology across the dialects. For the nouns, there are 51 entries (6%) that have differences regarding the noun class used. For the verbs, there are a total of 107 entries (13%) that appear to have some difference in the verbal morphology. These differences include the presence of what appears to be the infinitive prefix /di/ on the verb stem. This is probably just an issue of inconsistent elicitation and transcription. For 27 entries (3%), this is the only morphological difference between words, although there may still be other phonological issues.

Other verbs have a different phonetic realization of what may be the same morpheme. For example, in 19 words (2%) the applicative suffix /eɛ/ on Mbonge verbs alternates with the suffix /ea/, /ɛlɛ/, or /a/ on Lokundu and Longolo words, and /a/, /ɛ/, or /ɛlɛ/ for Londo words.[13] Helmlinger (1972:xv) notes quite a range of allomorphs for Duala also: /ea/, /edi/, /ɛyɛ/, and /ɛlɛ/. For most of the other verbs with potentially different morphology, there is a contrast between the presence and absence of various derivational suffixes including: /isɛ/ 'causative', /ɛ/ 'frozen causative', /an/ 'instrumental, accompaniment', and /ak/ 'imperfective'.

These variations give a hint at the potential grammatical mismatches between the dialects, in addition to the lexical issues that are the primary focus of this paper.

3.5 Lexical Issues

In addition to phonological issues, the word lists also raise some lexical issues. In at least 49 entries, words were spotted that are used in Mbonge, but with different semantics. Table 22 summarizes some of the semantic shifts that have happened across the dialects. The dashed lines group together Oroko words or English glosses that have different correspondences between dialects. For example, /mumbu/ means 'lips' in some dialects, and 'mouth' in others. Meanwhile, there is also another word, /wana/ or /owana/ used for 'mouth' in some dialects. The dashed lines that cross the entire chart break it into four sections with different sets of semantic shifts.

Table 22. Semantic Shifts Across Dialects

Oroko	Gloss	Dialect
mumbu	lips	Mbonge, Londo
mumbu	mouth	Bima, Lokoko
wana/owana	mouth	SE Cluster, Londo, Lokundu, Longolo, Lotanga
esɔsɔ, esasa	fingernail	SE cluster, Lokundu, Londo
canda, randa, nyanda	fingernail	NW cluster, Lokoko
iyanda, nyanda	finger	Mbonge, Londo
rikɔnjɔ	finger	Ngolo
likɔnjɔ, rikɔnjɔ	hand	Mbonge, Londo, Lokundu
mokɔ	hand	Longolo
mokɔ, mɔkɔ	arm	ALL
kɛndɛ	walk	Mbonge, Londo
kɛndɛ	go	Londo
aka	go	Mbonge
aka	pass	Londo
kita	join	Mbonge
kita	resemble	Londo
akana	resemble	Mbonge

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[13] Kuperus (1985) does not note a distinct applicative suffix for Londo.

The above semantic shifts both increase and decrease the similarity between dialects. They increase it in the sense that some words that the word list may identify as non-cognates, may in fact have a semantically similar word in another dialect(s). They decrease it in the sense that, although the words may be recognizable in a neighboring dialect, the semantics may not accurately transfer across the dialects, resulting in some confusion.

Table 23 gives a few examples of words that do not have their own lexical entry, but instead use a phrase that would probably be understood in the other dialects.

Table 23. Words versus Phrases

Oroko	Gloss	Dialect
esɔmɛ	pineapple	Mbonge
ekoko ea mokala	pineapple (lit. sugarcane of white man)	Londo
ndɔndi	fish	8 dialects
nyama maliba	fish (lit. meat-river)	Londo

In addition to the above words that have shifted to a semantically related meaning, there are words that have adopted a totally different meaning, such as /tata/ in Table 24 below. In some of these cases it is possible that the tone is different. However, if tone is not written, these pairings will still create some confusion in the written form.

Table 24. Non-Related Word Pairs

Oroko	Gloss	Dialect
iŋɔ	look, see	Mbonge, Londo
tata	look, see	Lokundu, Longolo
tata	be angry	Mbonge
kua	be angry	Lokundu
fili		Longolo

All of these differences in the semantic scope of words that have similar phonetic forms between the dialects create a challenge for comprehension when sharing material

across dialects. The assumption is that readers will need to learn the alternate uses of

these words in the other dialects for written documents, just as they now do for speech.

CHAPTER 4

SOCIOLINGUISTIC ISSUES

This chapter presents the sociolinguistic data available on the Oroko dialects and then describes the exposure the Oroko have had to written materials. The third section applies Smalley's (1963d) principles to the Oroko dialects and examines other issues arising from the sociolinguistic data presented and my own observations.

4.1 Sociolinguistic Data

This section summarizes the findings from the two most recent sociolinguistic surveys of the Oroko, a Rapid Assessment survey (Mbongue 2000) and a Recorded Text Testing (RTT) survey (Friesen and Friesen 2001).

4.1.1 Mbongue Rapid Assessment Survey

In February 1998 a Rapid Assessment survey was conducted by a research team composed of Michael Scott and myself from World Team and Joseph Mbongue[14] of the Cameroon Association for Bible Translation and Literacy (CABTAL), who was working with the survey department of SIL Cameroon. The survey was designed (Mbongue 2000:4) to:

- assess "the self-reported intercomprehension and attitudes between the surveyed speech varieties with regard to language development"

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[14] Despite his last name, Mr. Mbongue is not from the Mbonge dialect (or any of the other Oroko dialects).

- "assess the vitality of the Oroko speech varieties … in terms of the use of the mother tongue and the neighboring languages, the interest in languages of wider communication (standard English and Cameroon Pidgin), the interest in language development, and other sociolinguistic factors"

- determine "possible bilingualism … (particularly Cameroon Pidgin), including degree of proficiency and domains of use."

The survey concluded that:

- Self-reported intercomprehension was high.

- The Oroko dialects were in daily use and were not being widely replaced by another language.

- Although Cameroon Pidgin is widely used, the "mother tongue is generally used in all the domestic domains and by all age groups and is still strong in the more remote villages" (Mbongue 2000:11).

4.1.2 <u>Friesen Modified Recorded Text Testing (RTT) Survey</u>

In May 2000, Lisa Friesen, Eyakwe Joseph, and myself conducted a language survey among five representative Oroko dialects (Friesen and Friesen 2001). The primary purpose of this survey was to determine if the Mbonge dialect would be understandable to all other Oroko clans, and thus suitable as a reference dialect for an Oroko language standardization project. Three secondary purposes were to:

- re-collect a word list (see section 3.1.3)

- update people on the status of the language development project

- ask for the names of two to four respected leaders to contact regarding the formation of a language committee.

This survey used a form of Recorded Text Testing (RTT). The basic procedure for RTT (see Casad 1974 for a more detailed explanation of this procedure) is to obtain a good autobiographical or nonfolkloristic text on audiotape from each dialect to be tested. Subjects from a different language or dialect are found. The stories from the other dialects are played for them, and then replayed with comprehension questions interspersed. The subject's answers are recorded to determine their level of comprehension of the test stories. The goal is to determine dialect groupings based on attested intercomprehension.

Three key modifications were made to Casad's procedure:

- The test story was only from one dialect, not all the dialects

- A pre-test was done in the test language, not in the local language

- Test questions were given in the test language, not in the local language

Unfortunately, these modifications weaken the scientific validity of the test, as there is no control data with which to compare the results. Prior to the survey the language situation was discussed with members of the SIL Cameroon branch, including consultants and the survey department. Because of the previous lexicostatistic work, the decision was made to not get stories from all the dialects, but rather seek to confirm whether Mbonge would be understandable by the dialects most different from it lexicostatistically. At the time it was felt that the added time needed to follow the full procedure of recording a pre-test and questions in the local language would be

unnecessary if initial scores were high, as they were. Unfortunately without benchmarks in the local language, there is no way to explain the meaning of the few low scores.

The result of the RTT survey showed an average score of 81% with a standard deviation of 17 with 48 participants. The average score was sufficiently high to encourage efforts to develop a unified Oroko orthography. However, the high standard deviation caused some concern. Age and sex were determined to be the most influential (see Table 25) (Friesen and Friesen 2001:5).

Table 25. Recorded Text Testing (RTT) Score by Age/Sex

Age/Sex	Group Score	Standard Deviation	Participants
49–78 yrs	81%	11	20
35–45 yrs	90%	9.5	13
male 16–31	82%	10	5
female 16–31	65%	16.5	11

A true RTT test is designed to make a statement on whether intelligibility is inherent or learned. Some people admitted that their children would not be able to understand the other Oroko dialects well. However, during the subject selection process, it was surprisingly difficult to find people who had not traveled out of their village or spent extended time with the other dialects. This suggests that the intercomprehension is acquired and not inherent. This gives further possibilities for the relatively poor score of the young women, as they have probably had the least exposure to other dialects.

A final informal finding was that people once again reaffirmed their common identity as Oroko people. Those who participated in the tests readily accepted Mbonge, and indicated that they understood it well, sometimes even proceeding to retell the story instead of answering the particular comprehension question given. Lisa Friesen and I

were able to communicate with people from the other dialects using Mbonge.[15] But even these positive attitudes were slightly undermined by Eyakwe's practice of sometimes repeating instructions in Cameroon Pidgin, after initially giving them in Mbonge, "just to make sure people understood."

4.2 History of Written Material

During recent history the Oroko have been exposed to a number of different writing systems. These include the languages of European colonizers (English, French, and German), Duala (a Bantu language spoken on the coast of Cameroon), and scattered attempts at writing in Oroko. The impact of each of these language groups are addressed in turn.

4.2.1 <u>European Languages</u>

Germany claimed Cameroon as a colony from 1884, when they signed a treaty with the coastal Douala tribe, until 1916, when their territory was divided between the English and French as a result of World War I. From 1916–1961 the English administered part of Cameroon, including the area in which the Oroko lived, while the French administered the rest of the country. A plebiscite in 1961 reunited the southern portion of English Cameroon (in which the Oroko are found) with French Cameroon. English and French were proclaimed as the official languages of Cameroon, with each favored in the area formerly controlled by the respective countries (Neba 1987). Each of the respective colonial powers promoted the use of their language during their tenure.

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[15] During our 22 months of language study we both attained a level of approximately 2+ to 3 on the Inter-agency Language Roundtable scale (ILR, also widely known as the FSI scale) (Higgs 1984:Appendix B).

However, except for those few who left their home villages for their education, it is unlikely that a significant portion of the population was taught extensively in the colonial languages, as secondary schools[16] were only recently introduced into Oroko villages.

Even before the colonial powers laid claim to Cameroon, Cameroon Pidgin (an English-based Pidgin) was used by tribal communities along the coast for trading with Europeans. Cameroon Pidgin and Douala were also "used along the coast as the middleman language in trading with adjacent tribes" (Vernon-Jackson 1967:3–4). The Oroko had a history of trading slaves (some towns are still known as "slave quarters"), and are likely to have been part of the group that was exposed to Cameroon Pidgin. German rule seemed to have little effect on the continuing use of Cameroon Pidgin, as "when non-German-speaking, Franco-British military expeditionary forces arrived at Douala in 1914, no language difficulties appear to have been encountered with the local pidgin-speaking population" (p. 12).

The primary application of European spelling conventions to the Oroko dialects occurs in the names of people and villages. For most of the consonants this is not a problem. However, the voiced alveolar consonant is only one phoneme in Oroko, but covers the English phonemes /l/, /r/, and /d/. Unfortunately, the distinction between [l], [r], and [d] has already been applied to Oroko surnames and village names. Table 26

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[16] Secondary school is the five years of school that follows seven years of primary school and precedes two years of high school and university. Most rural Oroko currently only have local access to primary schools. The British (before the early 1960s) tried to provide six years of primary school in the rural areas of Cameroon (personal communication, Dr. Oryn Meinerts, July 30, 2002).

gives a small sample of village names showing this European overrepresentation (see

APPENDIX 2 for more examples).

Table 26. Village Names with Alveolars

Dialect	Villages	Position
Mbonge	Lokando and Disoso	word initially
Mbonge	Ngolo Bolo and Dikoro	word medially
Lokundu	Marumba and Bole	word medially
Longolo	Bareka and Ilando	word medially

The question is whether the Oroko will demand to see all three letters in their

alphabet because of their existence in English. Speaking of a similar situation in the

1960s, Nida (1963b:24) comments that some Indians in Spanish-speaking Latin America

"prefer to go to the trouble of learning the use of *c* and *qu*, because this makes their

language more like Spanish and gives them a sense of cultural prestige."[17] Not only is the

issue of prestige relevant, the issue of bridging between the languages is important. If

Oroko is not over-represented, people will have to learn a set of rules for writing Oroko

which will be confusing and contradicting what they need to spell English, Cameroon

Pidgin, and French (M. Karan, personal communication, June 2002).

As for vowels, the proper names are written using the phonetic values for the five

Roman vowels. The remaining two [-ATR] vowels /ɔ/ and /ɛ/ have not been given any

special letter and are most often written with <o> or <e> respectively. The back vowel /ɔ/

is sometimes signified by <oh>, as in the village name <Matoh> /matɔ/, or <or>, as in

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[17] Although some of the Latin American Indians may now wish their language to look different (S.

Levinsohn, personal communication, July 18, 2000), I believe this comment represents the Oroko.

<Illor> /ilɔ/. However, these variations on written /ɔ/ are used inconsistently, and then only for final vowels.

The allophones [f] and [ɸ] have also been represented with two different English characters: <p> as in Lipenja, and <f> as in Mofako (see APPENDIX 2 for more names and section 3.3.2.3 for more discussion).

4.2.2 Duala

Duala was one of the first languages to be written by early missionaries to Cameroon. Alfred Saker, a British Baptist missionary, first put the Duala language into writing in the last half of the eighteenth century. This included a translation of the entire Bible (Old Testament 1872 and New Testament 1862, second edition 1882) (Ittmann 1978:5). During the following years Duala gained a certain status among other Cameroonian languages (Vernon-Jackson 1967:7). When the English regained control of Cameroon in 1916, Duala was used in mission schools, following the English policy of vernacular instruction for the first two years of primary school before transition into English (p. 17). The use of Duala in the schools ended around the time of reunification (1960). Many of the Oroko leaders learned Duala in the school system. The effect of Duala is still felt today, as Duala hymns are still regularly sung, especially in the Presbyterian and Baptist churches. Even those who only became literate in English can easily learn to follow the Duala in the hymnbooks.

As might be expected, Duala's influence is also seen by the presence of Duala loan words among the Oroko dialects. Interestingly enough, Ittmann (1978:4) comments that Duala was earlier strongly altered by the influence of their Londo wives. This cross-

pollination means that many Oroko have already seen recognizable parts of their language in written form. Thus, although Duala is no longer taught, the continued use of it in church has exposed many younger people both to the potential of writing an African language, and to a system for writing it.

Recently, Duala has undergone a revision of its orthography to bring it into line with the recommendations of the National Association of Cameroonian Language Committees (NACALCO) (see 4.2.4). However, most Oroko are not aware that the Duala orthography that they are familiar with is no longer in official use. Pertinent aspects of the old Duala orthography are introduced as necessary.

4.2.3 Oroko

During the Rapid Assessment Survey, the Oroko reported that some people had attempted to write a few things in or about their language (Mbongue 2000:4). Most of these works (listed below) about the Oroko were written in English, so special note is made of those that are written in Oroko. Unless noted, copies of the material listed below have not been found. As a result, the primary impact of the material is psychological—the people are aware that their language can be written. In other words, the impact is not concrete—none of this is widely available as an opposing standard to whatever the Oroko Language Development Committee (OLDC) puts forth.

- A catechism by Father Doswycke of Dikome-Balue (no one knew of any surviving copies of this work) written in the Balue dialect

- Book of idioms by Mr. Ban Njandi

- Unpublished manuscript by Father Lucius

- A calendar by Miango Peter Ekoi (in an Oroko dialect)

- The origin of Balondo by Sama Mba

- Batanga song writing competition

- History of Mbonge by Eseme

- Culture of Mbonge by Ituka Frida

- Mbonge: Fernland Dwellers by Mr. Samuel Bokwe. We have a copy of this booklet. Mr. Bokwe is a well-educated member of the Oroko elite. The book summarizes some basics of the grammar tenses, number system, etc. Mr. Bokwe used the Duala orthographic conventions.

- History of Oroko by a pastor (since deceased)

A few Balondo were vaguely aware of the work by Kuperus (1985). Our team has also met a number of people who had made personal attempts to systematically address the problem of an Oroko orthography, including:

- A Balue Apostolic pastor, Elangwe Aloysius, who wrote down the phonemic inventory of Balue as part of an attempt to translate portions of scripture into his dialect. He used the old Duala orthography.

- A Bakundu Presbyterian pastor, Rev Ngoeh Samson T., who is stationed in Toko (a Ngolo village). He attended a SIL workshop in the 1980s, but was overwhelmed by the size of the task of standardizing the Oroko language.

- Reports of a Lokundu literacy class being held in the capital, Yaoundé.

- Mr. Okole Shadrack Sakwe, a Balue man (since deceased), who spent two weeks with a SIL consultant (Dr. James Roberts) in Yaoundé in December 1991 (Roberts 1991).

4.2.4 <u>NACALCO Recommendations</u>

The National Association of Cameroonian Language Committees (NACALCO) is committed to promoting literacy and publishing in the national languages. It is a source of advice for any language group that organizes itself, and seeks to provide some limited financial assistance (M. Annett, personal communication, June 21 and 28, 2002). NACALCO has adopted the *General Alphabet of Cameroon Languages* (Tadadjeu and Sadembouo 1979) as their standard orthography for all indigenous languages (B. Chiatoh, personal communication, May 13, 2002). The experience and resources that NACALCO has makes their advice valuable, although language committees are not required to accept all the details of their recommendations.

There are a number of points raised in this work that are applicable to the Oroko orthography. Two of the pertinent general principles listed are: preference for phonemic representation—allophones will only be written in exceptional circumstances—and diacritical marks are limited to tones (except for transitory use where already in use).

Some of the specific comments that may impact the Oroko orthography include:

- Write <ŋ> and not <ng> for /ŋ/.

- Do not add graphemes for /ɸ/ and /β/ as these are usually allophones of /p/ and /b/.

- Write <ŋm> for the labiovelar nasal consonant.

- Use <l> for liquids and <r> for vibrants.

- Use <c> and <j> for prepalatal affricates, <ch> shows aspiration.

- Use <ny> for palatal nasals.

- Use a homorganic nasal for prenasalization of consonants, e.g. <ŋg>.

- Show length by doubling.

- Adopt the vowel graphemes <ɛ> and <ɔ>.

- Indicate vowel harmony by a dot <.> under the vowel so conditioned. Leave out if no confusion results.

- Mark tones: the question is not if, but how. Use diacritics – <´> for high tone and <`> for low tone. If there is no phonemic length, indicate rising and falling tones on double vowels, e.g. <^> for falling tone. The most frequent tone may be unwritten. For purposes of publication, it may be expedient to mark only "necessary" tones.

- Use apostrophe only for glottal stop, elision should not be marked.

4.3 Sociolinguistic Factors

This section applies Smalley's Maximums (1963d) to the Oroko. Following this, other factors that are uniquely important to establishing a good Oroko orthography are discussed.

4.3.1 Smalley's Maximums

In 1963 William A. Smalley (1963d) published a landmark article that outlined five competing principles to guide people who were attempting to develop a writing system:

- Maximum Motivation – what is most acceptable to the learner

- Maximum Representation – fullest representation of spoken language

- Maximum Ease of Learning – not too complex

- Maximum Transfer – follow sound/symbol pairings of dominant language

- Maximum Ease of Reproduction – ease of typing and printing.

Although these principles do not specifically address the problems of developing

an orthography that spans multiple dialects, they do address the general issues involved in

any orthography development. While Smalley considered this list to be in order of

importance, Jack Berry (1977:4), among others, has argued for changes in order based on

the individual situation. This next section briefly addresses how Smalley's principles

speak to different issues involved in the Oroko orthography.

4.3.1.1 Maximum Motivation

This principle addresses the motivation of the speaker who is learning to read and

write his or her language. However, the Oroko are not unified in their language use and

thus their motivation for reading and writing Oroko will be different.

In 1960, Eugene Nida (1960:38) predicted that the language situation in the newly

independent African countries would be broken into three sections. The elite (and more

progressive middle class) would know the colonial language, the trade language, and

their local language. The middle class would know the trade language and their local

language. Finally, the lower class would know mainly their own language.

It is now forty years since Cameroon received its independence. My perception is

that the prediction about the three sections still applies, with a slight shift away from their

local languages. The children of the elite are growing up with only a basic knowledge of

their local language, if that. The middle class is fairly conversant in the national

language, but seem to prefer the trade language and have retained the local language.

Finally, the lower class uses their own language and the trade language.

The motivation for literacy for these three sections is different. In our initial meetings with the Oroko, the elite were largely tapped. The main motivation for them to see their language written is one of preservation. They are seeing their children lose the ability to speak their local tongue, and would like to reverse this trend. In fact, there are reports that a Bakundu person has started a school to teach their local language to immigrant Oroko in the capital, Yaoundé.

For the middle class, literacy will only be of interest if it helps them learn English faster, as most of these people put a high priority on attending enough school to learn English. Friesen and Friesen (2001:6) note that the Oroko youth, once outside their villages, are often reluctant to speak their language. The Oroko orthography will not be accepted by this group if it is seen to reduce their chances of integration into the larger Cameroon community.

Finally, for the lower class, literacy will be the way to ensure that any education they receive will enable them to reach a maintainable ability to read and write. Literacy in English does not serve them well, as they do not get to the point of understanding formal English well enough for them to remain literate. One reason for this is that most of the teaching done in elementary school is in Cameroon Pidgin, not Standard English. If they can be convinced that instruction in their mother tongue will provide increased literacy skills, they may consider putting their limited resources into it.

The original Rapid Assessment survey found that people agreed that it would be good to have their language taught in the schools (as is allowed in the Cameroonian school system), and some remarked that Nigeria was doing this (lending credibility to the

idea). Some villages (specifically from the Bakundu and Balondo) had tried to research how this could be done, but had not made any progress. People were "proud of their language and felt the need of developing it into written form" (Mbongue 2000:10). However, given the above desires of the elite, middle, and lower class, the Oroko orthography will need to take into consideration the desirability of English literacy. The orthography will need to be easily mastered, as parents will be unlikely to allow children extended time in Oroko literacy classes. This idea of time "lost" to literacy will need to be balanced against the cost of producing literacy materials in multiple dialects (Weber in press:72). It will also need to be as similar as possible to the English orthography, so that as many of the sound to symbol correspondences as possible are transferable.

The Oroko people have an interesting blend of unity and diversity. All the clans are adamant that they are part of the Oroko. However, individual people identify themselves as members of a certain clan and are speakers of their clan's dialect (as opposed to "Oroko"). When the Oroko Language Development Committee was named, there was some discussion on what to call the language committee, as in the past "Oroko" has only been applied to the people, not the language. Any orthography that is not recognizable to a particular clan will face obstacles for acceptance.

In our first meeting with the members of the Oroko elite the one thing that most excited them was the lexicon that we had been working on as part of our language learning. One of the chiefs challenged everyone else to return home and collect words from their dialect to contribute to the dictionary. Another member suggested that each dialect would thus contribute their uniqueness to the total dictionary, producing a richer

language. This desire to integrate the dialects with each other needs to be addressed in the orthography.

Anything that will make the orthography "deeper", i.e. less like the surface phonemic form, is likely to meet stiff resistance. Any rules associated with reading and writing Oroko will need to be easily mastered by people already literate in English or Duala. New readers will need to see quick payback for their efforts, or else they will quickly abandon literacy in their mother tongue in favor of literacy in English. This means, for example, that rules standardizing the spelling of some phonemes (like <l>, <d>, <b>, <w>, and <f>) will likely work. However, rules that require the writing of underlying forms (like <mo> for /ŋ/) or the memorizing of the spelling of a word in a neighboring dialect will be distasteful. The practicalities of limited resources make it impractical for a new reader to put serious effort into learning a complex orthography for a language they already speak which has no further financial advantage.

4.3.1.2 <u>Maximum Representation</u>

The principle of Maximum Representation proposes that all sounds should be represented in the alphabet. As is typical among Bantu vowel inventories, all the Oroko dialects have seven phonemic vowels. To fulfill this principle the vowels /ɔ/ and /ɛ/ should be separately represented. In addition, the representation of the consonants /ŋ/ and /ɲ/ needs to be addressed.

The principle of Maximum Representation suggests that epenthetic glides that are sometimes found between vowels should be written. For example: /di/ + /bo/ + /eɛ/ should be written as <diboweɛ> (see 3.3.2.5).

This principle is at odds with strategies that may complicate the writing system in favor of harmony across dialects, such as writing both <j> and <y> for the same phoneme /y/ in Mbonge as proposed in 3.3.2.4.

This principle supports the idea that long vowels that are found at morpheme boundaries should always be written.

Finally, this principle appears to support the writing of tone. However, Smalley does make allowances for not writing tones (or other features of the language) that do not carry a large functional load. Since tone in Oroko does not appear to carry a large functional load (see 5.2.3 for more discussion of this), it might be better to not write it. Writing tone also would make the writing system look less like English (therefore going against the principle of Maximum Motivation), more difficult to teach (going against the principle of Maximum Ease of Learning), and more difficult to write (going against the principle of Maximum Reproduction).

4.3.1.3 <u>Maximum Ease of Learning</u>

This principle ties in closely with the principle of Maximum Motivation. Anything that makes it more difficult to learn to read and write will contravene this principle. Long words can be a hindrance to fluent reading (Adams 1980:127–8 in Weber in press:29). Although Oroko verbs are arguably a single word phonetically, strict adherence to this principle would make for some inordinately long words, such as /amomamotileɛ/ 'he had written to him'. In addition, Duala set the precedent of splitting words up, which creates the expectation that the above word should be written <a mo ma mo tileɛ>. However, where phonological processes such as the deletion or

harmonization of vowels occur at morpheme boundaries, the morphemes should be written as one word. For the same reason, the first person singular agreement prefix /N/ should also be written as part of the stem (unless it is before a nasal when it is written <na>).

Although this principle does not address multi-dialect situations, it does supports the idea that each dialect should be written in the way that best represents that dialect, if that is preferred by the people. Although the Oroko people pledge a unified cultural identity, it is hard to believe that the breadth (differences in vocabulary) and depth (variations in the phonemes involved in words) of the differences between Oroko dialects can be overcome by a unified orthography and still maintain maximum motivation. If that is the case, each dialect, or dialect cluster, will need to be maximally represented.

4.3.1.4 Maximum Transfer

The orthography must have maximum transfer with both English and previously written native words (i.e. Duala and spellings of Oroko place names). The impact of Duala is still being felt in the Oroko area, due to the continuing usage of Duala hymnals in the church. In addition, the language committee has many members who were taught Duala in primary school. Most of the attempts to write the Oroko dialects have simply adopted the Duala orthographic conventions. The more that the Oroko system follows the Duala orthography, the easier it will be for those already literate in or previously exposed to Duala to make the transfer to Oroko.

The National Association of Cameroon Language Committees (NACALCO) has published guidelines to use in developing writing systems for the indigenous languages of

Cameroon. One argument used to support this idea is that people could learn how to read

neighboring languages more easily. However, that is not what the Oroko are most

interested in; it is the national languages (English and French) that most interest them.

Thus, the orthography must be seen as a tool to help the Oroko to better acquire reading

and writing skills in the national languages.

The principle of Maximum Transfer suggests that the Roman alphabet should be

used with no special characters (<ɔ>, <ɛ>, and <ŋ>) or diacritic markings for tone.

However, in this case Smalley's ordering is correct, and maximum representation of the

vowels is more important, although, as mentioned, tone need not be written.

This principle also suggests that the affricate /tʃ/ that is found in some dialects

should be written using the digraph <ch>, as that is what is used in English. Whether the

Oroko will ask for this digraph, or be content with a single letter such as <c>, is for them

to decide.

When it comes to the representation of the alveolar consonant found in the Oroko

dialects (see 3.3.2.1), Smalley (1964c:50) makes allowances for overrepresentation to be

used to make the transition to the official language easier, if it is requested by the people.

A compromise that gives simple and specific rules for the writing of both <d> and <l>

will probably make the orthography more transferable and thus more acceptable.

4.3.1.5 Maximum Ease of Reproduction

In the forty years since Smalley published these maxims, the advances in

technology and printing have made this principle much less significant. However, the

introduction of special characters (<ɔ>, <ɛ>, and <ŋ>) into the Oroko script does still

pose a technical challenge to typing up materials at regional commercial keyboarding businesses. If these special characters are used, the Oroko Language Development Committee (OLDC) will need to carry out a public awareness campaign, including strategies to deal with this obstacle with these local firms.

4.3.2 Other Factors

In addition to the factors covered by Smalley, there are a number of other key factors important to the Oroko project that the next section discusses. First of all, the consensus-based decision making of the Oroko people is bound to affect not only the process but also the outcome of language standardization. Secondly, in a multi-dialectal project such as the Oroko, the existing relationships between the dialects play a big role in how any standardization project is implemented. Finally, a number of informal observations are made about the Oroko attitude toward their own language.

4.3.2.1 Authority Structure

During the recent surveys of the Oroko (Mbongue 2000 and Friesen and Friesen 2001) every attempt was made to tap into the existing authority structure of the Oroko. Thus, it was surprising to find that not every clan has a paramount chief. Kuperus (1985:8, referencing Buys 1983:24–33) writes that the Balondo society is very "loosely structured", and chiefs were only introduced in colonial times. Although most (if not all) villages had chiefs, not every clan had a recognized paramount chief over the whole clan.

Among the Mbonge (and quite likely among the other clans), the traditional leader of their village is known as the *sanga mboka* "village father" and holds the top religious post in the village. This position still exists today, but the chief has become the

top administrator in the village, and has the recognition of the government as the village leader.

It is not surprising then that the Oroko reach decisions more by consensus than by edict. The NACALCO representative was quite amazed at how the language committee was chosen. Names were suggested, some discussion followed, and members were chosen. No voting was involved, and no one person made all the suggestions.

This consensus-oriented process will have a huge effect on the selection and implementation of a successful orthography. Without proper discussion at all stages, the orthography will not be accepted as the group's decision. The testing stage of an orthography carries special importance given this situation.

4.3.2.2 Clan Autonomy

Mbongue (2000:9) found that people from all the surveyed clans agreed that they would be "willing to learn to read and write in the M[other] T[ongue] no matter which dialect was chosen as a reference." However, there are some interesting patterns that are worth noting.

Although all the dialects strongly identified themselves as "Oroko", each clan also maintains a strong sense of its own identity. The eight largest dialects (excluding Bakoko and Balondo ba Nanga, which have only three villages each – see APPENDIX 2) all have development associations at their clan level. There have been recent attempts (dating back to the early 1990's) to form an Oroko wide development association, but these fledgling attempts seem to be stuck in the planning stage.

The dialects are not arbitrary geographic designations by outside authorities, but rather long-held identities of the people themselves. Kuperus (1985:11) notes that when the Oroko area was surveyed for the ALCAM project, "there was complete agreement as to the spread of languages and dialects over the villages listed." Each clan displayed a pride in their own dialect and yet no one put down another clan as less Oroko. Rather, they all stated that they could understand each other (Mbongue 2000:9–10).

This independence is further displayed in the use of spoken Oroko dialects on the radio. The regional government radio station has one hour per week devoted to radio broadcasts for Oroko speakers. The radio station does not cover the entire Oroko area. Four of the five dialects in the listening area (Lokundu, Mbonge, Lolue, Londo) each take 15 minutes of the weekly time. Ekombe is the only dialect in the listening area that is not represented. A number of possible reasons come to mind: their villages are scattered amongst the other dialects, it is the smallest (in number of villages and population), and, according to the lexicostatistics (see Table 5), it is very similar to Mbonge. Despite linguistic differences, Oroko people regularly listen to the programs in dialects other than their own.

The survey described in Mbongue (2000) tried to find any stories of the history of the Oroko people, either as individual dialects or as a whole. There were various reports that the Oroko had come from the region of Congo (from the Southeast), or from the Rumpi Hills (found in the center of the Oroko area) (p. 6). A book of Bakossi history written by a Bakossi man (Ejedepang-Koge 1971:24–25) claims that the Bakundu and Balondo people (and Oroko by extension?) descended from the same ancestor as the

Bakossi (who are found to the east of the Oroko). Whether all Bakundu or Oroko

formally accept this is unclear, although some Oroko are aware of the story. Notably, no

one had an explanation of the division of the Oroko into multiple clans, or whether they

even shared a common ancestor or history. In fact, there are reports that the Oroko name

was specifically decided on in recent history to represent the commonality that they

recognized between the various dialects. Oroko means 'welcome' or literally 'you have

come', and is a greeting shared by all the clans (Mbonge 2000:6). At this level, the Oroko

is at least partly a political unit. In fact, smaller tribes (whose language is quite different

from any of the Oroko dialects) found within or near the Oroko (most notably the

Barombi) have also been referred to as Oroko at times.

Although for many reasons it does not appear possible to develop one standard

Oroko writing system, every attempt should be made to promote continued cooperation

among the Oroko dialects. Just as the Oroko now listen to audio programs of other

dialects, everything possible should be done to encourage the reading of other dialects.

4.3.2.3 <u>Attitude Toward Language Development</u>

The Oroko people are excited about seeing their language written, but are

concerned that teaching it in the schools might slow their children's progress in English.

English is recognized as the language of "progress" and economic advancement.

However, it is not English, but Cameroon Pidgin which is widely used in the

Oroko area. Vernon-Jackson (1967:12) suggests that this may date back over a century

(see 4.2.1). His observation that Cameroon Pidgin lacks prestige (p. 19) still holds true

today. And yet, one of the concerns of the Oroko elites who attended the organizational

meetings for the Oroko Language Development Committee (OLDC) (see CHAPTER 1) was that their young people, especially in towns with mixed populations, were using Cameroon Pidgin to the exclusion of the Oroko dialects. Eyakwe further agreed with this, noting that the Oroko Student Association (OSA) had a hard time recruiting students on university campuses, as many were ashamed of their local language. Even in the secondary school in Big Bekondo (a Mbonge village), when secondary school children gather together, they very often use English or Cameroon Pidgin over their Oroko dialect. In primary school, Cameroon Pidgin is the de facto language of instruction. Even many young children not yet in school can converse in basic Cameroon Pidgin.

The Oroko are unlikely to use their language in the presence of others who are not Oroko speakers. Mosongo Hans, a Mbonge young adult, attends a school in the Northwest province of Cameroon. He noted that people there were prouder of their language than the Oroko, and would greet him (even as an outsider) in the local language, while the Oroko would more likely use English or Cameroon Pidgin. Chief Okole of Big Bekondo defers to the handful of non-Oroko speakers in the village by using Cameroon Pidgin when conducting village meetings. He has also added a non-Oroko speaker to the village council as a representative for immigrants to the area, with the result that council members often discuss issues in Cameroon Pidgin as opposed to Mbonge.

One of the members of the Oroko Language Development Committee even suggested that the Oroko language could die out in the next 50–100 years unless something was done to revive the use of the language. And yet the populace seems to have accepted English as the language of progress, and Cameroon Pidgin as the way to

get there. Writing Oroko is perceived as a way to preserve the language, and yet for

Oroko literacy to take off it must also be seen as a path to literacy in English.

CHAPTER 5

ORTHOGRAPHIC ISSUES

Previous chapters have covered many factors, both linguistic and sociolinguistic. Now it is time to draw all the information together and apply it to an orthography for the Oroko. This chapter first looks at the various degrees of standardization possible. Secondly, it presents some recommendations for the Oroko Language Development Committee (OLDC) to consider. Finally, it discusses what decisions lie ahead for the OLDC.

5.1 Orthography Philosophies

There are two basic extremes when dealing with a multi-dialectal situation. The first extreme is basically what now exists. Every dialect, in fact each individual, chooses whatever writing conventions they want. Most often these conventions are based on Duala, due to the past use of Duala and its continuing influence (see 4.2.2) or on English. Following this option does not properly address the unity that the Oroko people feel, and makes any organized development of the language impossible.

The second extreme is to pick one dialect to develop with no thought of the others. This option is logistically the easiest in some regards, and probably the default strategy for most language development projects. Nida (1963b:26) advocates this approach, although he allows that "primers and some introductory materials" should be produced in the other dialects.

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Mbongue (2000:9) indicated that there was no accepted "mother" dialect from which the other dialects came, or to which the other dialects look. There is also no accepted largest or most prominent dialect; each claimed their own was the best. However, all the dialects did claim that they would accept whatever standard was chosen. Büttner (1991:63) describes a similar difficulty in selecting among various dialects of the Ashaninka of eastern Peru. He concludes that the growing sense of ethnic identity may well pave the way for an acceptable compromise. The potential compromises are dealt with shortly.

Some sort of standardization has at least three positive results: 1) it raises the status to that of a "real" language, 2) it gives the language group a stronger identity, and 3) it is key to developing a formal education program in the language (Wölck 1991:44). The Oroko have shown interest in all these areas. The question remains as to the best way to move toward a standard.

The following two sections discuss hybrid options to consider in the development of a standard writing system. These options are in addition to the possibility of choosing to write only one dialect or each writing their dialect. The third section closes with some final thoughts on which of the options or combination of options may be preferable for the Oroko dialects:

5.1.1 Composite Standard

A composite standard is more or less what the major European languages (including English, German, and Italian) have achieved, through a process of absorbing features from various dialects (Wölck 1991:46). Written English does not phonemically

represent the speech of any particular dialect of English, although there are certain

regional differences in spelling conventions. The question is whether this can be

successfully engineered among the Oroko.

Nida (1963b:26) states, "On the whole, it is not advisable to 'make up' an

artificial dialect." Gudschinsky (1973:137) concurs, stating that mixing dialects together

will probably please no one. Nevertheless, Hausa has done just that, as Wolff (1991:22)

reports that "there is no natural dialect of the language which can be equated with

Standard Hausa. Standard Hausa is an artificial system of reference which was primarily

devised for the creation of written materials." However, even this artificial standard is

based on a regional variety of Hausa, that is "the speech of Kano, i.e. the most important

urban agglomeration in northern Nigeria" (loc. cit.).

Cerrón-Palomino (1991) argues that the codification of a language means that

alternate registers will develop, so that what is written does not need to look like what is

said. He argues that a language that seeks to transcribe the idiosyncrasies of each dialect

is biased toward a second-language learner (i.e. the foreign linguist), and not toward the

need of the language (p. 34). Instead, he calls for a creation of unique forms to deal with

polymorphism – such as when there are wide variations in the pronunciation of

grammatical markers (p. 35). Simons (1994) suggests that these forms should be based on

extensive comparison between the dialects, with the goal of finding common ground

between them, whether that is phonetic, phonemic, or in a more abstract underlying form.

This is employed to some extent in English to minimize the phonological changes

resulting in such things as the plural suffix ('s' representing /ɨz/, /z/, and /s/) and past

tense marker ('ed' representing /d/, /t/, and /ɨd/). Although Smalley argues for a phonemic system, he does make allowances for the use of consistent forms of morphemes where pronunciation changes between dialects (1963b:7).

Mahlau (1991) presents an overview of the standardization of Basque. If anything, the Basque situation is more diverse and complicated than Oroko. Anywhere from two to eight dialect groupings with up to 25 subvariants have been suggested for Basque (p. 83), versus the 10 dialects with 2–5 groupings for Oroko (see 2.3). The relative similarity of the nominal forms in Basque (p. 88) also compares favorably to the uniformity seen in the noun classes across the Oroko dialects. The degree of variation in the Basque verbal paradigm is quite striking (p. 88) and highlights the need for more study in this area among the Oroko dialects. Given these apparent linguistic similarities, it is noteworthy that the Basque people have apparently achieved some degree of success in standardizing and normalizing their language (p. 90–91).

There are also a number of negative factors present in the Basque situation that are not present in the Oroko situation. First of all, the Basque have had an orthography in a number of the dialects for many years already, and books had been published in four of the dialects. The written varieties highlighted differences and made standardization look impossible. In addition, the population has not been part of the same political unit. Instead, they have felt the impact of both Spanish and French (as languages and political states), which has produced at least some of the differences in their dialects (p. 83). Fortunately, the Oroko people's traditional lands are found entirely within the English

portion of Cameroon. Finally, both Oroko and Basque (p. 85) have been impacted by the immigration of non-native speakers into their larger towns.

There are also a few negative factors among the Oroko which do not exist among the Basque. The dialect boundaries appear to be fuzzier for the Basque than for the Oroko. The Oroko dialects have fairly strong identities that may take precedence over their identity as part of the Oroko (although they verbally agreed to accept whatever standard is proposed, see 4.3.2.2). Basque also has about 600,000 speakers (p. 80) versus Oroko's 120,000 or more (both of these refer only to speakers resident in the native language area). Finally, and probably most importantly, is the strong feeling of reviving the Basque language and culture, extending even into politics, seen in the formation of the Basque Nationalist Party (p. 81). Although members of the elite are beginning to fear that the existence of the Oroko language is being threatened, there does not appear to be a widespread fear at the grass roots. This is probably the biggest factor that is missing for the Oroko to consider a pan-Oroko orthography.

Wölck (1991:44) comments, in regards to standardizing Quechua, that once fully codified and normalized, it would have to compete with Spanish, a test it would be unlikely to overcome. The Oroko people do not want to see Oroko compete with English. Everyone understands that English is and will remain the route to "progress", most notably financial gain. The expressed concern of the Oroko leaders at the language committee organizational meetings was more to have a written system that could be taught to children who might otherwise lose their language. They also expressed interest in seeing Oroko taught in primary school as a stepping stone to literacy in English.

As long as English remains the dominant language, especially in areas of education, technology, and government, the need for one composite normalized standard may be less necessary. Currently, English is seen as the language of education and progress. Learning English will remain a priority for anyone wanting to become integrated into the national life of Cameroon along with its perceived social and economic benefits. In this environment, the political will to produce a composite standard may not be enough, or the result may not be acceptable to the rank and file. In addition, the resulting time needed to become literate in a composite standard may be more than the grass roots are willing to accept.

To conclude, standardizing the Oroko dialects into a single written composite is linguistically possible and logistically preferable. A composite standard would guarantee writers a larger audience and further the unity felt among the Oroko. It would also make the production of literacy materials less time-consuming and more cost effective.

However, the work involved in hammering out a single standard would be immense, both practically and politically. The Eyakwe word list suggests that up to one third of the vocabulary in a standard would be foreign to the individual dialects (see Table 6). All the clans would need to be willing to compromise, and accept a written language that in some way would not look like their own. Because of this discrepancy between the written and spoken languages, Oroko would be harder to teach, harder to read, and harder to write. It is not clear that the political will and correlating perceived benefits are strong enough to make this work (see Maximum Motivation 4.3.1.1). The Oroko clans have strong individual identities and a record of working together at a clan

level, not as a whole Oroko tribe, regardless of what they say they are willing to do. Weber (in press:55) comments that for the Quechua, their language is part of their dialect's identity, and so they are reluctant to make the compromises needed to develop a cross-dialectal standard. Given this environment, standardization efforts will only antagonize them.

That said, it may be that the political will could yet appear, as the Basque once were written off as a language that would disappear (Mahlau 1991:81). Unfortunately, it took the Basque leaders over 60 years from their first standardization conference before an acceptable compromise was reached. It is worth noting that one of the keys to its reported acceptance was the claim that the oral dialects would remain, and that what was being sought was only a written standard (p. 86–7).

5.1.2 Common Conventions

The idea of common conventions is aimed at encouraging the development of as much commonality in the writing conventions of the dialects as possible. Each dialect is given the opportunity to retain its uniqueness, reflecting its spoken form. However, the consistent alternations between the dialects are captured in a single written representation, including a common alphabet and common symbols for phonemes (even if the phonetics vary).

This option more closely reflects the sociolinguistic reality of the Oroko people than a pan-dialectal standard. While the Oroko people recognize that they are part of a single group, they will individually identify themselves by the name of their clan. There is also no recognized name for their language at a level higher than their dialect.

However, it would also still call for the different dialects to incorporate parts of the others into their own. At the original planning meeting one participant commented that the words from the different clans would serve to enrich the vocabulary of the Oroko, aided by a dictionary that would cover all the dialects (Eyakwe 2000a). This idea roughly corresponds to a suggestion by Cerrón-Palomino (1991:38) to turn competing lexical items into synonyms when standardizing a language.

Common conventions would make it easier to read and write across dialects, which in turn would make it easier to teach across dialects. Some of the standardized languages that have been developed, such as efforts in Kurdish and Romani, remain playthings of the educated elite, because of the difficulty in teaching the general population systematically (Matras 1991:121). David Weber (personal communication, June 18, 2002) also reports that the "standardization coupled with the use of IPA-like sound-symbol correspondences" that was promoted by some Quechua elites has resulted in a drop in literacy, and even the elite are now recognizing that their dream is not acceptable to the general populace. The reading of material from other dialects could be encouraged after initial literacy is attained, and common conventions would minimize differences.

On the negative side, limiting standardization efforts to common conventions would encourage the various dialects to develop separately. The production of materials would be much more complex, and the holding of standards more difficult.

Before this option is considered further, the scope of the differences catalogued from the Eyakwe word list will be recapped. What effect would the standardizing

strategies discussed in section 3.3 have on the spelling of the Oroko words from the Eyakwe word list?

In Table 8, entries from the Eyakwe word list were divided into only three groups: identical entries, entries containing apparent cognates, and entries where at least one dialect with a different vocabulary item. Table 27 recaps Table 8 taking into consideration the linguistic recommendations made in CHAPTER 3. These recommendations take the 41% or 334 words that are labeled as apparent cognates in Table 8 and subdivide them into three parts. The first part covers alternations that are consistent and can be written with the same grapheme across all the dialects. This increases the amount of words from the Eyakwe word list that can be spelled identically from 15% (122 words) in Table 8 to 28% (227 words) in Table 27. The second part covers phonemes that have the same underlying form but different surface forms or that vary inconsistently across dialects (3% or 22 words). If certain orthographic rules were employed, these words could be written the same across all dialects, although some exceptions to the rules would still exist. The third part are the remaining apparent cognates where the phonemes are different between dialects (25% or 207 words). Only arbitrary spelling rules could bridge the differences between these entries. The remaining entries are those where at least one dialect has a different vocabulary item. As such, it remains identical between Table 8 and Table 27.

Table 27. Harmonization Impact

Description of Difference	Table 8	Revised
1. Exactly the same, after harmonizing rules for:	15% (122)	28% (227)
Alveolar (l/r/d) - 3.3.2.1	41% (334)	
Voiced Labials (b/β/w) - 3.3.2.2		
Voiceless Labials (f/ɸ) - 3.3.2.3		
Glides - 3.3.2.5		
Labiovelars (kp/kw, mŋgb/ŋgw) - 3.3.2.8		
2. Candidates for further harmonizing:		3% (22)
Alveopalatals (y/j/c) - 3.3.2.4		
Nasals - 3.3.2.6		
Phonological Rule Output - 3.3.1, 3.3.2.6, and 3.3.3		
3. Different underlying phonemes		25% (207)
Vowel - 3.3.1		
Other consonants - 3.3.2.9		
Class marker - 3.4		
Morpheme - 3.4		
Word Length - 3.4		
4. Different vocabulary in at least one dialect (37)	44% (364)	44% (364)

Although using common conventions (captured in the first two sections in Table 27) would have some effect on the visual similarities between the dialects, they are not a total solution. The remainder of the differences between dialects (section 3) would need to be dealt with by deciding on arbitrary spellings, at least for some dialects. However, even if all the apparent cognates (sections 1–3) are given standardized spellings, the remaining non-cognates still remain. These non-cognates would include 24–32% of the words between any two dialects from the Eyakwe word list (100% minus the 68–76% apparent cognates from Table 6). Because of the large amount of words represented by sections 3 and 4, the more complex harmonizing rules needed to harmonize section 2 are not worth the extra effort.

5.1.3 <u>Conclusion</u>

Four options have now been introduced: base a standard on one dialect only, develop a composite written form, use common conventions to minimize differences, and finally, write each dialect phonemically. The best orthography option is dependent to a large degree on who is being prioritized, the reader or the writer. Table 28 captures the relative difficulty of the various orthography options (in column 1) for the different users of the orthography. The numbers in the table are an attempt to rank the relative difficulty of the activity that is in each column heading according to what standardization approach is followed. Therefore, the relative ranking of '1' in one column is not equal in difficulty to the '1's in the neighboring columns.

The second column ('Writer') designates those who are writing material for others to read. The difficulty is ranked on the basis of the relative amount of orthography training needed. Columns 3 and 4 designate people who are reading materials produced by writers from their dialect. Columns 5 and 6 represent people who are reading materials produced by writers from other dialects. The last four columns are further broken down into 'new' (columns 3 and 5) and 'literate' (columns 4 and 6). 'New' refers to people that are newly literate These people will have the hardest time learning to read anything that does not have a phonemic alphabet based on their dialect, but will most benefit from common standards when it comes to reading material from other dialects. 'Literate' includes those who are attempting to read based on being literate in English or Douala, and presupposes that they will have had more contact with the other dialects. For them,

anything that does not correspond to what they hear will be more difficult, making the

composite standard the most difficult.

Table 28. Orthography Users

	Writer	Reader and writer from same dialect		Reader and writer from different dialects	
		new	literate	new	literate
A. Standard is another dialect	3	3	2	2	1
A'. Standard is own dialect	1	1	1	—	—
B. Composite standard	4	4	4	1	4
C. Common conventions	2	2	3	3	3
D. Each to their own	1	1	1	4	2

(key: 1–easiest, 4–most difficult)

From this chart it is apparent that the composite standard is the most difficult for

all but a people newly literate in the language who wish to read material written by

people from other dialects (which, given a single standard, would be identical to their

own). Option D, each dialect writing their own way, is easiest for those who want to read

and write only in their dialect, but more difficult for newly literate people who want to

read material from other dialects (assuming they want to).

However, these comments do not take into account the time involved in making

someone literate. The argument can be made that the time it takes to make someone

literate in their dialect using common conventions, and then to train them to read other

dialects, may be no more then teaching a composite standard. The biggest difference is

that if someone is unable or unwilling to complete an entire program, a program of

common conventions or each dialect writing their own way would be more likely to leave

a person literate in at least their own dialect, and better prepared to transition into English

literacy.

After reviewing all the linguistic and sociolinguistic data there is still no one solution that appears as the best. The Oroko are united sociolinguistically, but their linguistic differences, and the corresponding difficulty in producing an orthography that is easily learned by all dialects, make developing one standard very difficult.

A multi-faceted language development program is an attempt at bringing various factors together. At a beginning level materials should be produced using the lexicons of multiple dialects. It would be most acceptable to the grass roots and the easiest to learn. It would most likely involve splitting the Oroko into at least four quadrants: Londo, Lokundu, a representative from the NW cluster (Longolo, Bima, Lotanga, and possibly incorporating Lokoko and the Balondo ba Nanga clans), and a representative from the SE cluster (Mbonge, Ekombe, and Lolue). The Eyakwe word list would need to be collected from all dialects to verify that the proposed clusters are actually similar enough to use the same materials. Then, each of the dialects or clusters would be written phonemically, according to their own pronunciation and phonology. Allerton (1982:64) in effect argues for this, stating that "we can allow each dialect to represent the actual phoneme it uses in each word."

However, the Oroko should not abandon the idea of promoting linguistic uniformity. Advanced literacy classes should encourage the reading of materials in other dialects. The high Recorded Text Testing (RTT) scores (see section 4.1.2) cannot be ignored. Since there is apparently a high degree of intercomprehension between the dialects, whether inherent or acquired, this should be exploited. Each dialect would be encouraged to learn to read through the differences in how each dialect is written, just as

they learn to hear the differences. If this is the case, it may be that advanced reading materials would only need to be produced in one standardized dialect.

Although the phonetics differ across dialects, the same alphabet and phoneme to letter correspondences should be consistently employed. As Smalley (1963b:6) writes: "phonemic writing *represents with the same symbol* all of those different phonetic varieties which *function as the same unit* in the language sound system" (italics his). In the case of the Oroko, the language orthographic system should cover all the dialects. This is where the common orthographic principles can combine with oral intelligibility to produce materials that are readable across multiple dialects. Whether or not this will work will depend on the decisions of the Oroko Language Development Committee (OLDC) and the acceptance of the grass roots. If popular literacy is to become a possibility, the rules for writing and the standards applied cannot be too rigid or complex (Weber in press:40).

5.2 Orthographic Recommendations

This section makes recommendations that will form the basis of advice to the Oroko Language Development Committee, based on the above two-stage program. These recommendations attempt to take into consideration the linguistic and sociolinguistic situation of the Oroko. It looks first at the alphabet, move to the phonemes needed, and then deal with tone. Next it deals with the issues surrounding the form of the Oroko words. It then moves on to sentence level issues. For all these issues, strategies that result in further unification of the Oroko dialects are favored.

5.2.1 <u>Alphabet Recommendations</u>

As Cameroon uses both French and English as official languages, it follows that the Roman script should be the basis for the Oroko orthography. However, there are some phonemes found in the Oroko language that are under-represented in the Roman alphabet (see 3.3), including the vowels /ɛ/ and /ɔ/, and the nasal consonants /ɲ/ and /ŋ/. Douala used underlines or diacritics on existing characters (e̱, o̱, ń, ṅ) to represent these sounds. However, the National Association of Cameroonian Language Committees (NACALCO) follows Tadadjeu and Sadembouo (1979:7, 13) who recommend the use of the graphemes <ɛ>, <ɔ>, <ny>, and <ŋ>. Thus, the recommendation is that these characters need to be added to the Roman alphabet to form the Oroko alphabet. Other letters from the English alphabet that are not used in the Oroko alphabet, such as <h>, <p>, <q>, <r>, <v>, <x>, and <z>, may be used for borrowed words on a case by case basis.

5.2.2 <u>Phonemic Recommendations</u>

This section introduces the standard graphemes that should be consistently used by all the dialects. Short summaries of the conventions for some of the graphemes are also included.

The following tables draw on the discussions in the previous chapters to propose a set of Oroko vowel (Table 29) and consonant (Table 30) graphemes that covers all the dialects. Graphemes that are not needed across all dialects or are not high frequency are marked with an asterisk (*). Implementation rules are discussed for all the shaded phonemes Due to the lack of an exhaustive phonological study of all the dialects and the imperative input of the Oroko people, this can only be considered a working analysis.

Table 29. Oroko Vowel Graphemes

	Front	Back
+ high, - lo	i	u
- high, - lo, +ATR	e	o
- high, - lo, -ATR	ε	ɔ
- high, + lo	a	

Table 30. Oroko Consonant Graphemes

	labial	coronal	alveopalatal	velar	labiovelar/velarized
Stops, - vcd		t	*c	k	kw
Stops, + vcd	b	d	*j		*gw
Continuants	f	s			
Glides	w	l / *r	y		
Nasals	m	n	ny	ŋ	
Pre-nasals	mb	nd	nj	ng	ngw

The debate of whether to represent /d/, /l/, and /r/ as a single letter or to use two or three letters and devise rules on the environment for each has parallels to the use of <c> and <qu> for /k/ in Spanish speaking areas. The writing of multiple graphemes for the same phoneme is called homophony, and results in greater challenges for writers (Lamuela 1991:69). The question is whether writers will be more confused with the spelling rules or the misalignment with English phonemes. Tauli (1968:131 in Büttner 1991:62) disagrees with Nida's recommendation to follow the Spanish orthography, stating that abandoning the phonemic principle in favor of the national language is absurd and should be combated. Regarding the effect this may have on reading, Feitelson (1965:4ff) states that "certain deviations from a one-letter, one-sound system do not have a significant effect upon learning to read." As long as it is accepted, and pedagogical concerns are addressed, any system will work. Büttner's (1991:63) conclusion is the wisest, "the introduction or modification of a writing system necessarily has to count on

the acceptance of the users." Taking the above points into consideration, most notably the influence of English, it will probably be most acceptable to include <d> in the alphabet. To encourage consistency, the recommendation is that <d> be written only before <i> and <u> and after <n> and that <l> be written elsewhere (see 3.3.2.1).

Whenever phonemes differ consistently in their phonetic shape across dialects (phone A from one dialect always and only corresponds to phone B in another dialect and vice versa), one phoneme is recommended as the standard, and each dialect will be able to pronounce the phoneme according to their own practice (Venezky 1977:47). Lafont's eighth orthography constraint suggests that "some spellings allow different readings according to the different varieties of a language" (Lamuela 1991:68). In fact, Lamuela concludes that "this principle is a great help in language planning work because it allows a reduction of spoken language diversity in writing" (p. 69). This is the case regarding the Oroko [f] and [ɸ] (see 3.3.2.3), labiovelars (see 3.3.2.8), and [ŋw] and [ŋ] (see 3.3.2.6). In each case the same phoneme has slightly different phonetic shapes in the different dialects. Given this situation, the same grapheme can be employed for all the dialects, and each dialect can be taught how to pronounce the grapheme according to their own phonetics. Therefore, the recommendation is that <f> be employed for [f] and [ɸ], that <kw> and <ngw> be considered as the cross dialectal versions of the labiovelars, and that the dialects that have the consonant cluster [ŋw] should write it <ŋ>.

The alveopalatals ([y], [j], and [c]) have some consistent differences between the dialects. Smalley (1963b:10) states "Overdifferentiation may be required for certain dialects of a language in order to accommodate a writing system to more than one

dialect." Venezky (1977:48) argues that differences between dialects should also be regular changes, and cannot be shown to have an adverse effect on reading. Allerton (1982:63) states that one should "represent in the orthography the maximal number of distinctions." If standardization were to happen completely across all Oroko dialects, it would be preferable to follow the above advice. However, as there are inconsistent alternations and some neutralization (Mbonge and Londo have /y/ for what is both /j/ and /y/ in Lokundu and /c/ and /y/ in Longolo), the recommendation is that the dialect specific phonemes be written. The dialects that use /c/ will need to decide whether to use <c> (which might be appealed to as a uniquely Oroko symbol, as Bird (2000:21) reports for ʉ in Bamileke) or <ch> as in English.

All nasals before stops should be written <n>, except for <m> before <b> (see 3.3.2.7), as Duala does (Ittmann 1978:13). The alveopalatal nasal /ɲ/ should be written <ny>, following Tadadjeu and Sadembouo (1979:9).

Finally, only phonemic glides /w/ and /y/ should be written. Epenthetic glides need not be written and where glides are underlyingly vowels, the underlying vowels should be written (see 3.3.2.5). However, if the Oroko prefer to write the surface glides in these two situations, the glides should be written.

5.2.3 <u>Tone Recommendations</u>

The biggest question regarding tone is whether or not to mark it. The disadvantage to not writing tone is that this produces homographs (words that are said differently, but spelled the same). Smalley (1963b:11) allows for underdifferentiation, including tone, depending on circumstances. He also acknowledges that in some cases

underdifferentiation may even be desirable. However, Lamuela (1991:69) claims that this results in more difficulty when reading. Bird (1999:1), in an experiment on tone marking in Dschang, took issue with this claim and concluded that "Analysis shows that tone marking degrades reading fluency and does not help to resolve tonally ambiguous words." At a tone workshop in Cameroon in October 2000, Dr. Keith Snyder commented that many mother-tongue speakers of African tonal languages (even some with linguistic training) had just as much trouble accurately transcribing tone as anyone else. Specific training would be needed to overcome this, further increasing the time and complexity of literacy training. As this effort must be worth the expense, it is useful to look at the amount of ambiguity that would be present if tone is not written.

Table 31 breaks down the tonal pairs in the working lexicon our team has collected (as of November 2000). The table divides the database into three groups based on the parts of speech shown in the first column. The second column ('Total Words') gives a count of the words for that part of speech. The third ('Unique Words') column indicates how many do not have a tonal pair, with the percentage of non-tonally ambiguous words indicated in the fourth column ('Percent Unique'). The fifth column records the number of ambiguous tonal pairs, and the sixth column indicates the few vocabulary items that have three or four tonal patterns on the same phonemic representation.

Table 31. Minimal Tone Pairs

Part of Speech	Total Words	Unique Words	Percent Unique	Words with Tonal Pair	Words with 3–4 Tone Patterns
Noun Stem	1221	1099	90%	53	5
Verb Root	698	621	89%	38	–
Other morphemes	291	259	89%	16	–
Total	2210	1959	89.5%	107	5

The database shows a fairly low percentage of potentially ambiguous vocabulary in the absence of tone marking. A sampling of the tonal pairs is presented in Table 32. Tones in parentheses indicate floating tones that precede or follow some words. The presence of this floating tone means that, in certain contexts, words like 'nose' and 'twenty', or the 'near past' and 'far past' actually have the same surface tone.

Table 32: Examples of Tone Pairs in Mbonge

English	Part of Speech	Mbonge	Tones
tie tightly	adverb	cúí	HH
bitter	adverb	cuí	LH
near past	tense	mô	HL
far past	tense	mò	L
class 3	agreement marker	mò	L
lung	N	èsàsà	LLL
mat	N	ésásá	(L)HHH
sugarcane	N	lìkòkó	LLH
garden	N	lìkòkò	LLL
twenty	N	ló	H
nose	N	lô	H(L)
albino	N	móbóŋgò	HHL
small floating fish	N	móbóŋgó	(L)HHH
toilet	N	mòbòŋgó	LLH
ridge pole	N	mòbóŋgò	LHL
lie	V	làŋgà	LL
read	V	láŋgá	HH
dance	V	sáká	HH
want	V	sàkà	LL

Wolff (1991:26) writes, "Native speakers of Hausa, however, have little or no problem in reading and understanding texts written in the official standardized orthography without the marking of tone and vowel length." This is in a language where tone and length distinctions can combine to form up to four different tenses, different derivations, and four different lexical distinctions (Wolff's example shows 'father' and 'mother' as a tonal pair). Compared to Hausa, Oroko would appear to have far less potential ambiguity.[18]

One consequence of not writing tone is that some grammatical morphemes, such as the 'recent past', 'far past', and three agreement markers (class 3 subject and object and 3s object), are not disambiguated (these morphemes are all verb prefixes). Nida (1963b:27) comments that tone differences between tenses are one thing that needs to be marked. Interestingly enough, in some contexts the tonal differences are neutralized. The question then arises whether it is necessary to mark a difference that is not always realized. Lafont's Ideographic constraint suggests that differentiating between homonyms is good. It states that "words equal in sound but different in meaning are written in different ways" (Lamuela 1991:68, referencing Lafont 1971:17–23, 31–38). Furthermore, Lafont's eighth constraint on orthography design, supports keeping a consistent form for morphemes. It states that "morphemes tend always to be written in the same way, overlooking the alternations produced by phonological rules" (ibid.).

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[18] Dr. Mary Morgan (personal communication, July 18, 2002) has witnessed Hausa readers scanning texts twice, presumably to disambiguate the tone and length, before being able to read it out loud.

Therefore, the recommendation is that diacritics be put on the far past (mò) and near past (mó) to disambiguate them from each other and from the agreement markers. These diacritics should not be taught as having anything to do with tone, but merely part of the spelling of these morphemes, as the surface tone of the morphemes can often change.

To conclude, tonal processes is one of the things that differs between dialects (see 3.3.3), so not marking it would reduce the potential discrepancies between the dialects. In addition, neither English nor Douala has had tone marked, so the concept would likely meet some resistance. Tadadjeu and Sadembouo (1979:18) recommend that the vernacular languages of Cameroon write tone. However, they do allow languages to only write "necessary" tones. Perhaps the Oroko can be argued to have no "necessary" tones as the simplicity that results from not marking tone (except to disambiguate the /mo/ verb prefixes) will probably prove to be more acceptable than the additional disambiguation (Simons 1994, principle 4).

5.2.4 Word Level Recommendations

This section looks at three issues regarding the form of the written words in Oroko. First, the definition of an Oroko word is discussed. Secondly, guidelines on how words should be spelled are covered. Finally, specific strategies for dealing with numerals and borrowed vocabulary are dealt with.

5.2.4.1 <u>Word Breaks</u>

Nouns, adverbs, and functors (including prepositions, conjunctions, and associative markers) should be written as single words. Clitics should also be written as their own words.

The complexity of the verb in Oroko can create many long words, as in sentence (11).

(11) a- foko- n- dimb -isɛ -k -ɛlɛ
      a- foko- n- timb -isɛ -ak -eɛ
      3S- FUT- 1S- return -CAUS -IMPF -APPL
      He will cause it to be returned to me.

Adams (1990:127–8) observes that "poor readers of all ages have special difficulty with long words." Levinsohn (personal communication, July 18, 2002) reports that Riena Kondo successfully employed long words among the Guahibo. However, as Duala has already set a precedent of writing verb prefixes as separate words, the Oroko people will probably be more interested in seeing the prefixes written separately. This will make it easier for people already literate in Duala, and the decreased length of words will make it more similar to English. It will also allow the verb root to be more readily discernable, as it will start a new word. The increased number of common word forms (both prefixes and the start of word stems) is also beneficial (Venezky 1977:45). This splitting will work except for cases where phonological processes involve the verb prefixes. For example the first person subject agreement marker /n/, which harmonizes in place of articulation with following stops, and in turn voices the following stops. In situations such as this, the prefix should be written together with the verb stem.

5.2.4.2 <u>Spelling Standardization</u>

All questions of spelling standardization will have to be dealt with on a case by case basis by the language committee, or sub-committee if multiple dialects are written. It may be that the speech of certain towns or a particular stratum of the population will be chosen. Either is up to the OLDC to decide. In any case, any reasonable alternative that promotes uniformity across dialects and still remains phonemically accessible should be given preference.

As for word level phonological processes like vowel harmony and glide insertion, they should not be written because of the increased teaching time and minimal payback toward cross-Oroko uniformity.

5.2.4.3 <u>Numerals</u>

Differences in the pronunciation of numerals can be easily handled by using numeric symbols instead of spelling the words (Smalley 1963b:6). Although this goes against the English orthographic convention of writing out most of the smaller numerals, it greatly simplifies the production of numerals for the following reasons:

- The various dialects use different strategies for counting, especially for the numbers above five (see Table 7).

- A reader can use whatever words they are most comfortable with.

- English or Cameroon Pidgin is the more common method of counting, especially for numbers above twenty.

Büttner (1991:60), writing about Quechua in Peru, comments that the parents would reject the introduction of "any kind of numerical system based on native concepts

and native linguistic material." Although a system of counting that could be used to count to a million already exists, the system is cumbersome and seldom if ever used in commercial transactions. By writing the Roman numerals, the orthography design allows the reader to make their own choice.

5.2.4.4 <u>Borrowed Vocabulary</u>

Lafont's sixth orthographic constraint suggests that loanwords should in general retain their original spelling, at least temporarily. He further states that "in some cases they are systematically adapted" (Lamuela 1991:58). Cerrón-Palomino (1991:39–40) suggests that loanwords should be written following their degree of assimilation into the language (also Nida 1963b:28).

Thus, recently borrowed words that are spoken according to English phonology should be spelled according to English conventions (e.g. Mbonge would write <churchi> for 'church', which is said /cɔci/). Conversely, if a word is fully assimilated, it should be written according to Oroko orthography (e.g. Mbonge would write <kafinda> for 'carpenter' and <ngolomɛndi> for 'government'). Partially assimilated words remain a challenge, but these could follow the respective orthographies to the degree needed (e.g. Mbonge would write 'pumbi' for 'pump' even though they have no indigenous phoneme /p/).

Spelling conventions aside, the Oroko Language Development Committee (OLDC) will need to make some decisions on which borrowed words should be accepted into official publications such as a dictionary.

5.2.5 <u>Sentence Level Recommendations</u>

Smalley (1963b:3–4) notes that when a minority language is written with different conventions than a majority language, this can contribute to the rejection of the system. For this reason, the recommendation is that all standard English capitalization and punctuation be adopted in Oroko. In some cases, punctuation may be redundant. For example, the Mbonge dialect uses [ama] to introduce quotations, and the sentence final clitics /i/, /e/, or /ɔ/ as question markers. However, this redundancy will not require much extra effort to teach, learn, or write. Furthermore, the use of question marks and quotation marks will help in transitioning to reading English and in making Oroko look more like English.

Lafont's seventh orthographic constraint states that "a writing system based on phonemic spellings is usually developed working at word level and neglecting phenomena related to sound contact over word borders" (Lamuela 1991:68). Allerton (1982:66) advocates that "it is probably preferable in most cases to spell out the full forms in the written language." Nida (1963b:25) suggests that vowels that are elided in normal speech should be written when they cross word boundaries. However, he does allow for the writing of the collapsed form when there is a consistent rule. This is the case for the Oroko verb prefixes, which are closely tied phonologically to the verb stem. For example, when a prefix is added to a vowel initial stem, and the vowel of the prefix harmonizes with the following vowel or deletes, the resulting surface form should be the one written as in the first line of (12). As for the resulting phonological change from the

underlying form, Sampson (1985:200-201) argues that the facts do not support the idea

that common written forms for morphemes make reading easier.

(12) a   mɛ- ɛn -ɛ
      a   mo-ɛn -a
      3S PST- see -FV
      He saw.

To conclude, the recommendation is that all phonological processes that happen

between words (especially in faster speech) should be ignored when writing except for

processes between verb prefixes (which are normally written separately) and their stems.

5.3 Implementation

The question now becomes, what next? As Jack Berry (1977:5) says:

> None of these choices can be made arbitrarily by the planner. He, rather, must
> consult at all stages of the planning not only governments and other controlling
> groups but also what Pike once called 'the naïve native speaker's reaction' and
> Garvin has since rephrased as 'the sophisticated native speaker's reaction'
> (Garvin 1954).

This paper cannot be presented to the Oroko Language Development Committee

(OLDC) with demands that they accept the proposals as outlined in this chapter. Certain

assumptions have been made about the Oroko situation as part of the recommended

orthography (see 5.1.3). If the OLDC disagrees with any of the presuppositions of the

situation, some of the particulars will need to be altered.

In addition, this paper cannot even pretend to be the final word on the Oroko

orthography, as there are many additional facts that need to be collected. Some of the

things that still need research include:

- Completion of the 825-word list for all 10 dialects to further confirm or deny the

  phonological analysis and dialect clusters presented in this paper.

- Compilation and comparison of a list of all the grammatical morphemes across the dialects.

- Based on the above list, an examination of the phonological processes that occur across morpheme boundaries, especially in verbs.

Once the presuppositions of this paper has been based have been verified or corrected, what is the best way to develop and present the actual orthography? One proposal is given below.[19] The details are incomplete pending the input of my teammates and the OLDC, but the proposal attempts to build a framework for future decisions and possible procedures to get there. During the following process, every attempt would be made for our linguistic advisory team to be a catalyst and facilitator in the discussion, as opposed to dictating the options and best conclusions. The goal is for the Oroko be begin thinking through the issues of how to best develop a written language.

Our linguistic team (Scotts and Friesens) would ask for a meeting with the Oroko Language Development Committee (OLDC) to discuss some of the general findings of this paper. Before the meeting we would meet and discuss the sociolinguistic situation with as many leaders as possible to help them reflect on these factors. During the meeting, questions would be asked to verify some of the assumptions made regarding the sociolinguistic situation, such as the role of Duala and English and the motivation for the grass roots to participate in literacy. We would then seek permission to draft an

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[19] This proposal took shape after the suggestions and input of Dr. Mary Morgan and Dr. David Weber who both recommended a writer's workshop as the best way to develop and test an orthography.

orthography proposal for discussion before the OLDC. We would ask that each dialect send us a young adult that was respected, educated, and knew their dialect well.

We would then have a workshop with these young adults. The linguistic data listed above could be collected. Together we would list all of the phonemes in the Oroko dialects and discuss the options for representing these phonemes. We would then ask them to write down some of their stories. An attempt would be made to have at least one well known story written by all who were present, to facilitate comparison. The writers would be asked to circle places in the texts where they had difficulty deciding on how to write a particular word of morpheme. These difficulties would be discussed as a group. Writers would also read each other's stories out loud, with notes taken on places where the reader stumbled, hesitated, or had to re-read a sentence.

The hope is that an orthography proposal would naturally arise out of this meeting. Participants would be encouraged to use strategies that would minimize many of the consistent phonetic changes between the dialects. At the end, a sample story would be written in representative dialects, hopefully in no more than four sub-groups: the NW cluster (representing Longolo, Bima, Lotanga, Londo la Nanga, and Lokoko—see Table 3), the SE cluster (representing Mbonge, Ekombe, and Lolue—see Table 3), Londo, and Lokundu.

The second stage would be to call an OLDC meeting. The meeting would start with the group being divided between into the subgroups above. Each sub-group would be given a brief lesson to highlight some of the strategies used in the proposed orthography. The groups would be led by a team composed of a member of our linguistic

team and the original contributor, with the hope that the contributor would be able to lead the session. Members of the OLDC would read the entire story in their dialect, so they could see how the orthography works. Maybe some members of the group could even try their own hand at reading it aloud.

After a reasonable "training" time, the sub-groups would reassemble. The composite story would be distributed and the original contributors of the story would each read one section in their own dialect. Following this, there would be a time of debriefing to highlight how the strategies employed served to reduce the visual differences between the written versions of the different dialects. At the same time, each dialect would retain its unique flavor in the pronunciation of the text and in the inclusion of some vocabulary unique to the dialect. The floor would then be opened for discussion, which would hopefully proceed in a constructive manner. This discussion, although risky, would be integral to the acceptance and honing of the details of the proposal.

This meeting would hopefully bring to light any major obstacles to the proposed orthography. Further testing in a pilot literacy class would also need to be undertaken before the orthography was widely taught. Ideally, this pilot class would show that the children involved with it became literate faster, and made more progress in English after becoming literate in Oroko.

Speakers of all Oroko dialects would be encouraged to work together at all stages of developing a written form for their language and encouraging its use. Efforts should be made to jointly publish materials such as a common alphabet chart that uses words common to all dialects. Advanced literacy classes could encourage the reading of

materials from other dialects. A combined dictionary may be considered. Translations of

texts from other languages may only be done in one dialect.

CHAPTER 6

CONCLUSION

The unique situation of the Oroko people is a challenge to orthography

development. At this point, it appears that the linguistic differences between the dialects

cannot be overcome by a standard orthography alone. The data show definite linguistic

similarities, and yet numerous differences also. How the structures and grammatical

morphemes of the dialects compare is also unclear. Yet in spite of all this, the data also

show that the Oroko have a strong sociolinguistic bond. Whether this bond, which has

been used up to this point primarily for political purposes, also carries forward into a

language development project, remains to be seen. The initial suggestion is that the

Oroko consider writing multiple dialects, especially for beginning literacy. The decision

as to whether or not all the dialects will be able to use the same written material for more

advanced publications can be delayed until a later date.

Despite these uncertainties, the orthography recommended in this paper is a good

starting point. It recognizes the variety found among the Oroko, but calls on them to work

together. Bird (1999:28-29) reacts against linguistics who "continue to work in a vacuum,

handing down idealized orthographies, while agreeing to let everyone else work out the

practical details without further interference." This paper has attempted, above all, to

describe all the variables, both sociolinguistic and linguistic, that need to be addressed to

make the orthography practical and acceptable to the Oroko people. Whether the

orthography proposed in this paper is accepted and how it is used is now up to the Oroko themselves. The next step is to encourage literacy among the Oroko people (Weber in press:65). The parts of the orthography that are a hindrance to acceptance by the grass roots will need to be reworked.

The Oroko clans will take ownership of the language development program to varying degrees. The ones that take the most active interest in literacy, and encourage their writers the most, will end up with the most influence on the future shape of the language. Eventually, a common standard may emerge or be encouraged, based on the dialect or dialects that have made the most strides in promoting literacy and publishing interesting material (Pike 1947:213). Adama Ouane (1991:4-5) states that this philosophy of survival of the fittest was used when developing the national languages of Mali. Although he categorically denies that such an approach can work in a multi-dialectal situation, it may in fact be the best way for the Oroko people, given that their culture promotes decision making by consensus and that the dialects are sufficiently different at this time to preclude an all-encompassing unified orthography and writing standard.

APPENDIX 1: List of Gloss Abbreviations

APPL	Applicative
C	Concord Prefix
CAUS	Causative
CL	Noun Class
FUT.NR	Near Future
FV	Final Vowel
IMPF	Imperfective
PFT	Perfect
PST.FAR	Far Past
PST.NR	Near Past
S	Singular
SF	Surface Form
TMLS	Timeless
UF	Underlying Form

APPENDIX 2: Villages of each clan

The following list of villages is from Mbongue (2000:Appendix B). The clans are given in the same order as in Table 2. During the survey described in Mbongue (ibid.), two towns per clan (except for Balondo ba Diko) were visited. Each town gave us their clan's villages as they knew them. These names were compared against the names on topographical maps of Cameroon (Ministry of Higher Education et al. 1975). The key below gives the codes used in the following list of villages.

Key:
- Village visited
! - Village listed by only one of the two villages visited in each clan
** - Biggest villages (only one star if mentioned by only one village
( ) - Alternate spelling on 1:200,000 maps (Buea – Douala, Mamfe)
the brackets are empty if no town was found on these maps

Bakundu – South (25)
Kake
Banga Bekele
Banga Ngonge ( )
Boa
Boa Kombumbu ( )
Boko (Bopo)
Bole Dipenda ( )
Bole I
Bombe
Bongwana
Dibonya /Foe 3 Corners ( )
Foe (Bakundu)
Kake Bakoko/Kake II
Kombone
Kombone Mission
Kwakwa ( )
Mabonji
Mabonji
Make (Nake)
Make Bakoko ( )
Marumba I
Marumba II
Mukake Bongwana
Ngongo

Pete

Bakundu – North (20)
! Biaka
! Bonje
! Mbu II
! Mokwalibe
Ndoi (Ebemi II)
Dipenda
Ibemi (Ebemi Bakundu)
Itoki
Koba
Kokaka
Konye
Kumbe
Makata ( )
Mbu I
Mosanja (Moisanja)
Nabamba ( )
Sambaliba ( )
Supe
Wangale ( )
Wone

Mbonge (44)
! Cardbury & Fry ( )
! Kongo Quarters
! Lifenja II
! Mofako Mator
! Mofanja Mbonge
! Ngolo Bolo (Konje)
#* Big Bekondo
#* Mbonge
* Bakumba
* Big Butu
* Big Nganjo (Nganjo Bolende)
* Big Ngwandi
3 Corners Bekondo
Bangele ( )
Big Butu (Butu)
Bikoki
Bolo Moboka
Dikoro ( )
Disoso
Disoni
Ediki
Ifanga
Ifanga Narendi ( )
Ile ( )

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Lifenja (Lipenja)
Lobange (Mutondo II)
Lobangi
Lokando
Lokando II ( )
Makobe
Masaka
Matondo
Matondo II (wrong place)
Mator
Mator Butu
Mator Mbonge (Mbonge Meteke II)
Mbonge Meteke
Mofako Bekondo
Mufako Butu (New Butu)
Njombi ( )
Small Masaka (Masaka)
Small Nganjo
Small Ngwandi
Weme

Balue (29)
#* Betenge
#* Ekwe
** Bafaka
** Dikome Balue
? Bunji
? Fundu
? Libanyange
Basonga (Bassunga)
Bekatako
Bena
Bissoro
Bone
Dikobi-Balue
Ebobe
Itende
Kita
Koto
Kumbe-Balue
Masore
Mbange
Mekoma
Merendi
Mofako
Munyange (Ngwenge)
Ndonono
New Difenda
Ngolo-Metoko
Pondo (Mukora)
Weme

Ngolo (45)
Madie I
#* Toko
* Meangwe I
** Madie II
** Meangwe II
Bareka
Beoko-Ngolo
Besingi
Bikuma
Boa Yenge
Boa-Ngolo
Bokuba (Bokuka)

Bokuma-Ngolo
Bonabiaga (Bonabeange)
Boso
Bweme
Dikome-Ngolo
Iboko
Ikoi
Ikoti I (Itoki)
Ikoti II
Ilando
Itoki-Ngolo
Iwasa
Iyombo
Kilikile
Kuma
Lipenja-Muketi-Ngolo
Mabelibeli-Ngolo (Mabalebale)
Mapanja (between Madie II &
    Iwasa)
Mbange
Meka
Meta I
Meta II ( )
Metika (Betika)
Mobenge (Mobinge)
Moboka-Ngolo
Mosakwa ( )
Mosongesele-Ngolo
Mutingi
Ndiba
New Town
Ngamoki
Nwamoki
Toko II

Bima (21)
#* Beboka
#* Mundemba
* Fabe
* Manja
Bareka
Bekoka
Boa
Ekumbako
Ituka
Iway
Kuma
Mantangmane (Matamani)
Masaka-Bima
Mokange
Mokango
Mopako (Mufako)
Mundemba II
Ndian Town ( )
Ngenye
Nguma I

Ekombe (12)
! 3 Corners Ekombe
    (near E. Bonji) ( )
! 3 Corners Ekombe
    (near Waterfalls) ( )
! Baba Mokange
! Banks of Meme (near E. Bonji) ( )
! Bobiango ( )

Ekombe Liongo
#* Ekombe Bonji
* Mbalangi
Ediki
Ekombe Mufako
Ekombe Waterfalls ( )
Small Ekombe

Balondo ba Nanga (15)
#* Ekondo Titi
#* Ilor
* Ilwani (Iloani)
* Kumbe-Balundu
* Mbongo
** Boa-Balundu
** Lobe Town
Bonjare
Dibonda-Balundu
Dikome-Balundu
Diongo (Liongo)
Ekondo Nene
Funge
Loa / Ilowe (Loe)
Meme

Batanga (27)
— Bira Clan —
! Mukango
#* Lipenja I
Bareka I
Ekori (Ikoli)
Esoki
Lipenja II ( )
Manya
Mayeke

— Bokaba Clan —
#* Dibonda I
Dibonda II
Itali
Loa (Lowe)
Ndoi I (Ndoye I)
Ndoi II

— Mbange Clan —
* Bombangi (Bombange)
Babiabanga
Ipangi
Lobe
Marombi (Malomba)
Masaka-Batanga
Mokori / Bareka II ( )

–— Boku Clan --
* Mofako-Batanga
Ijoi (Iyowe)
Diyenge (Dyenge)
Kipundu
Tombel
Banyo (Banyu)

Balundu Bariko (3)
Ikasa Town
Monsongosele
Ndian Town

APPENDIX 3: 1987 Census Figures by Village

The following list of villages is from Mbongue (2000:Appendix C). The clans are given in the same order as in Table 2. The names and population figures are from the 1987 population survey of Meme and Ndian divisions done by the Cameroonian government. Eyakwe Joseph assisted in choosing the Oroko towns from the divisions and assigning them to clans. An asterisk indicates towns that are not found in APPENDIX 2. Mixed towns are designated by '(mix)' following the town name.

Bakundu South		Sambaliba	110	Mbonge Maromba (Mix)	4164
Bakundu Foe	1186	Supe	1214	Mbonge Meteke	304
* Banga Bakundu	172	Wone	1074	* Metoko Bekondo	470
Banga Bekele	973	Total (13 villages)	9198	Mofako	178
Banga Ngonge (Mix)	2990			Mofako Bekondo	1271
Boa Bakundu	2178			Mofako Butu	284
Bole Bakundu	2885	Mbonge		Nganjo	1881
Bomana	115	Bakumba	954	Ngolo Bolo	1252
Bombe	1087	Bangele	143	Small Mgwandi	337
Bopo	191	Bekondo 3 Corn. (Mix)	2715	Weme	785
Dipenda	40	Big Bekondo	2440	Total (39 villages)	33353
Kake 1	685	Big Butu	564		
Kake 2 (Mix)	2318	Big Masaka	766	Balue	
Kombone Mission (Mix)	2504	Big Ngwandi	1789	Bafaka	3113
Kombone Town	1315	Bikoki	240	Bekatako	174
Mabonji Bonge	630	* Bombanda	872	Betenge	525
Mabonji Buearo	457	* Bombele	215	Bisoro	477
Marumba 1	883	* Dienyi	358	Bona	71
Marumba 2	1034	Dikolo	134	Bonji Balue	500
Nake (Mix)	3876	Disoso	190	Bosunga	48
Ngongo	621	Dissoni	40	Diboki	319
Pete	1136	Ediki Mbonge	1007	Difenda	800
Total (21 villages)	27276	Ifanga Mbonge	294	Dikome	3940
		Ifanga Nalende	193	Ebobe	201
Bakundu North		Illeh	314	Ekwe	609
Dipenda	827	* Kumukumu	146	Illiba Nyange	232
Ibemi	858	Lifenja 1	183	Itende	77
Itoki	309	Lifenja 2	228	Kita	246
Koba	921	Lobange	444	Koto Balue	358
Kokaka	635	Lobongi	214	Kumbe Balue	872
Konye	1299	Lokando	259	Massore	238
Kumbe	166	Makobe	260	Mekoma	185
Mbu	880	Massaka 2	457	Mofako	853
Mosanja	218	Matoh (Mix)	4143	Munyange	52
Ndoi	687	Matoh Butu	2055	Ndonono	228
		Matondo 2	810		

Ngolo Metoko	248	Ngenye	60
Pondo	564	Ngumu	118
Weme	615	Total (20 villages)	7250
Total (25 villages)	15545		

Ngolo

* Beleme	11	**Ekombe**	
Beoko	223	Baba Ekombe	172
Besingi	196	Ediki Kombone	1251
Betika	50	Ekombe 3 Corner	333
Boa	65	Ekombe Bonji (Mix)	4711
Boa Eyenge	6	Ekombe Liongo	368
* Boa Ngolo	38	Ekombe Mofako	121
Bokuba	83	Ekombe Waterfal	181
Bonabianga	41	Mbalangi (Mix)	2130
Bweme	116	Small Ekombe (Mix)	2272
Dikome Ngolo	277	Total (9 villages)	11539
Iboko	31		
Ikoi	196	**Balondo Ba Nanga**	
Ikoti 1	43	Boa Balondo	335
Ikoti 2	61	Bonjale	36
Ilondo	63	Dibonda	92
Itoki	47	Dikome Balondo	111
Iwasa	266	Diongo	200
Iyombo	98	Ekondo Nene	67
Kilekile	97	Ekondo Titi Town (Mix)	4493
Lipenja Mukete	79	Funge	89
Mabelebele	45	Illor	287
Madie 1	347	Iloani	166
Madie 2	394	Kumbe Balondo	371
* Madie 3	165	Lobe Town	65
Meangwe 1	176	Loe	92
Meangwe 2	270	Mbongo	331
Meka	351	Meme	50
Meta	56	Total (15 villages)	6785
Metta Dikouma	17		
Mobenge	127	**Batanga**	
Moboka Ngolo	220	Babiabanga	35
Mosongisele	89	Banyu	43
Motindi	18	Bareka 2	27
Ndiba	51	Batanga Masaka	49
Ngamoki	251	Bobangi	96
Nwamoki	109	Dibonda	218
Toko 1	200	Dienge	96
Total (38 villages)	4973	Esoki	193
		Ijowe	43
Bima		Ipongi	55
Bareka	48	Itali	56
Beboka	88	Lipenja 1	187
Bekoko	16	Lipenja 2	158
Boa	890	Lobe	36
* Centre	630	Manya	48
Ekumbako 1	15	Mofako Batanga	130
Ekumbako 2	5	Ndoi 2	82
Fabe	159	Total (17 villages)	1552
Ituka	15		
Iwai	38	**Balundu Ba Diko**	
Kuma	36	Ikassa	446
Masaka Bima	86	Modongisele	128
Matamani	7	Ndian Town	757
Mofako Bima	135	Total (3 villages)	1331
Mokange	38		
Mokango	85	**Bakoko**	
Mundemba	1496	* Bera	25
Mundemba Town (Mix)	3285	* Esukutan	164
		* Ikenge	86
		Total (3 villages)	275

APPENDIX 4: Friesen Word List

The following word list is from Friesen and Friesen (2001:13-15). The numbering ('No.') corresponds to the ALCAM word list used by Dieu and Renaud (1983:132–133). This word list has basic vocabulary common to Cameroonian languages. However, it is not based on the Swadish word list.

No.	English	Ekombe	Ngolo	Bima	Bakundu	Balondo	Mbonge	Bakoko	Batanga	Balue
1	mouth	wana	wana	mombu	wana	owana	wana	mombu	wana	wana
2	eye	disɔ	disɔ	disɔ	disɔ	disɔ	disɔ	disɔ	disɔ	disɔ
3	head	moroɸo	moro	molo	moro	moroɸo	molofo	moro	moro	moro
4	hair	ɲoŋga	ɲoŋga	ɲoŋga	ɲoŋga	ɲoŋga	ɲuŋga	ɲoŋga	ɲoŋga	ɲoŋga
5	tooth	disoŋga	disoŋga	disoŋga	disoŋga	disoŋga	disoŋga	disoŋga	diroŋga	disoŋga
6	tongue	iyeme	ceme	ceme	iyeme	iyeme	iyeme	jeme	ceme	iyeme
7	nose	do	moɸiki	moɸiki	do	moɸiki	do	moɸiki	moɸiki	do
8	ear	dito	ditoi	ditoi	ditoi	dito	dito	dito	ditoi	dito
9	neck	duwɛru	dibɔru	dibɔlu	dibɔru	dibɔli	dibɛlu	dibaro	dibɔlu	dibɔlu
10	breast	dibɛ	dibɛ	dibɛ	dibɛ	dibɛ	dibɛ	dibɛ	dibɛ	dibɛ
11	arm	mokɔ	mokɔ	mokɔ	mokɔ	mokɔ	mokɔ	mokɔ	mokɔ	mokɔ
12	nail	esɔsɔ	canda	canda	canda	esasa	esɔsɔ	ɲanda	canda	esɔsɔ
13	leg	mende	moɸaŋga	moɸaŋga	mofa	moɸaŋga	ŋende	moɸaŋga	moɸaŋgo	ŋende
14	buttocks	masoso	moɲako	etore	disoto	masoso	dilɔ	isuli	etore	dilɔ
15	chest	ŋgeŋge	ŋgeŋge	ŋgeŋge	ŋgeŋge	ŋgeŋge	ŋgeŋge	ikɛmbɛ kɛmbɛ	ŋgeŋge	ŋgeŋge
16	navel	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu	ditɛŋgu
17	intestines	mea	bekia	bekia	mea	bebuŋga	mea	bekiɛ	bekia	besasa
18	blood	makia	makia	makia	makia	maca	makia	makia	makia	makia
19	urine	miɲari	miɲari	miɲari	miyali	miɲali	miɲali	miɲari	miɲari	miɲari
20	bone	ese	ese	ewese	ese	ese	ese	jua	ewese	ese
21	skin	ekobo	ɲoro	ɲolo	ekobo	ɲolo	ekobo	ɲolo	ɲolo	ŋgoba
22	wing	diɸaɸe	eɸaɸa	eɸaɸa	eɸaɸa	diɸaɸe	diɸaɸe	eɸaɸa	eɸaɸa	diɸaɸe
23	feather	esa	esa	esa	esa	esa	esa	esau	esa	esa
24	horn	moseba	moseba	moseba	meseba	moseba	museba	moseba	moseba	moseba
25	tail	mokondo	mokondo	mokondo	mokondo	mokondo	mokondo	ikondo	mokondo	mokondo
26	person	moto	moto	moto	moto	moto	moto	moto	moto	moto
27	man	momana	moɲana	muɲana	wⁿiana	moina	momana	muɲana	muɲana	momana
28	woman	marana	ŋwarana	ŋwalana	ŋwarana	ɲarana	ŋalana	morana	nwalana	ɲarana
29	husband	mome	mome	mome	mome	mome	mome	mome	mome	mome
30	child	mana	ŋwana	ɲana	ŋwana	ɲana	ɲana	ŋwana	ɲana	ɲana
31	name	dina	dina	dina	dina	dina	dina	dina	dina	dina
32	sky	loba	loba	loba	ŋwaloba	oɲaloba	loba	loba	loba	loba
33	night	boru	buru	bulu	bulu	bulute	bulute	buru	bolu	buru
34	moon	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ	ŋgɔndɛ

No.	English	Ekombe	Ngolo	Bima	Bakundu	Balondo	Mbonge	Bakoko	Batanga	Balue
35	sun	diseŋgi	loba	loba	ɲaŋgu	loba	disɛnji	loba	loba	loba
36	wind	ŋguŋga	ŋgunga	ŋguŋga	ekwili	ŋguŋga	ŋgunga	ŋguŋga	ŋguŋga	ŋguŋga
37	cloud	etukutuku	ekutukutu	ekutukutu	ekutukutu	motutu	ekutukutu		etututu	ekutukutu
39	rain	mbua	mbuwa	mbua	mbua	mbua	mbua	mbua	mbuwa	mbua
41	sand	ɲaŋgɛ	ɲaŋga	ɲaŋga	ɲaŋgu	ɲaŋga	ɲaŋgɛ	ɲaŋgu	ɲaŋgu	ɲaŋgɛ
42	road	njia	njea	njea	njea	njea	njea	ncia	njea	njea
43	water	maria	maliba	maliba	mariba	maliba	maliba	maliba	maliba	maliba
44	stream	iliba	iliba	iliba	iliba	iliba	iliba	ewu	iliba	iliba
45	house	ndabo	ndabo	ndabo	ndabo	ndabo	ndabo	ŋwate	ndabo	ndabo
46	fire	mea	moa	moa	mowa	muea	ŋea	moa	moa	ŋea
47	wood	iwori	ico	ico	ico	iwori	iyoli	ijo	ico	iyoli
48	smoke	motutu	motutu	motutu	motutu	motutu	motutu	motutu	motutu	motutu
49	ash	mbu	mbu	mbu	mbu	mbu	mbu	mbu	mbu	mbu
50	knife	dilɛndi	iwɔ	iwa	ikɔŋgɔ	diɛndi	dilɛndi	erɛsi	iwɔ	irɛndi
51	rope	mokɔli	mokɔli	mokɔli	mokɔri	mokɔli	mokɔli	mokɔli	mokɔli	mokɔli
52	spear	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ	dikɔŋgɔ
53	war	bira	bila	bila	bira	bira	bila	bira	bila	bila
54	meat	ɲama	ɲama	ɲama	ɲama	ɲama	ɲama	ɲama	ɲama	ɲama
55	dog	mgba	mfa	nva	mgba	nva	mgba	nfa	ŋgwa	mgba
56	elephant	njɛku	njɔku	njɔku	njɔku	njɔku	njɛku	ncako	njɔku	njɔku
57	goat	mboli	mboli	mboli	mboli	mboli	mboli	mboli	mboli	mboli
58	bird	inɔ	inɔ	inɔ	inɔ	inɔ	inɔ	inɔ	inɔ	inɔ
59	tortoise	kuekere	erima	erima	ku	ku	ku	erima	erima	naku
60	snake	ɲɔ	ɲɔ	ɲɔ	ɲɔ	ɲɔ	ɲɔ	ɲɔ	ɲɔ	ɲɔ
61	fish	ndɔndi	ndɔndi	ndɔndi	ndɔndi	ɲamamaliba	ndɔndi	ndɔndi	ndɔndi	ndɔndi
62	lice	ɲa	niya	ɲia	ɲa	ɲa	ɲia	ɲia	ɲia	ɲia
63	egg	dike	dikei	dikei	dikeŋ	moce	like	dike	dike	dikee
64	tree	bere	ire	ire	bole	bore	wele	bore	ire	wele
65	bark	ekuku	ekuku	ekuku	ekuku	ekuku	ekuku	ekuku	ekuku	ekuku
66	leaf	eya	eca	eca	eca	eyani	eya	eja	eca	eya
67	root	mili	mokako	mokako	mokako	muri	ŋili	mori	mori	ŋili
68	salt	ikpa	ikwa	ikpa	ikwa	ikwa	ikpa	ikwa	ikwa	ikpa
69	fat	diɔmi	dijɛmu	diɛmu	diwɔ	diɔmi	diɔmi	diɔ	diɛmu	diɔmi
70	hunger	nja	nja	nja	nja	nja	nja	nca	ɲa	nja
71	metal	ekɔkɔ	ebo	ebo	ekɛ	ebo	ekɔkɔ	ebo	ebo	ekɔkɔ
72	one	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ	eyɔkɔ
73	two	bebɛ	bebɛ	beba	bebe	beba	bebe	beba	beba	bebɛɛ
74	three	belalo	beraro	belalo	beraro	beyaro	belalo	berao	belalo	belalo
75	four	bene	beni	beni	beni	beni	bene	bini	beni	benɛi
76	five	beta	beta	beta	beta	beta	beta	beta	beta	beta
77	six	betaliɔkɔ	betariɔkɔ	betaliɔkɔ	betaliɔkɔ	betariɔkɔ	betaliɔkɔ	motoba	betaliɔkɔ	betaliɔkɔ
78	seven	betana bebɛ	betana bebɛ	betana beba	betana bebe	betana beba	betana bebe	moaŋga moba	betana beba	betana bebɛɛ
79	eight	bebɛbese	wambi	wambi	wambi	betanabelalo	bebebese	juambi	wambi	bebɛɛbesee
80	nine	eseeyɔkɔ	eyɔkɔese	eyɔkɔese	betanabeni	betanabeni	eseeyɔkɔ	betanabini	mokɔsumado	mɔkɔasee
81	ten	dondaro	dondaro	dondaro	londalo	dondaro	dondalo	dondaro	dondaro	dondaro
82	come	ɸɔ	iɲa	ya	iya	ɸɔ	fɔ	iya	iya	fɔkɔ
83	send	loma	loma	loma	loma	loma	loma	loma	loma	loma
84	walk	kɛndɛ	ikɛndɛ	kɛndɛ	aka	kɛndɛ	kɛndɛ	kɛndɛ	kɛndɛ	ikɛndɔ
85	fall	kunda	kunda	kunda	kunda	kunda	kunda	kunda	kunda	kunda
86	leave	bura	cica	cica	cica	aloa	bula	aka	cica	aka
87	steal	iba	iɸa	iɸa	iɸa	ube	iba	iba	iɸa	iba
88	pour	soa	wea	wɛ	sukua	sɔŋgɛlɛ	soa	kua	wɛ	soa
90	bite	da	da	da	da	da	da	da	da	kokara
91	wash	ɔkiɛ	ɔkɔ	ɔkɔ	ɔkɔ	ɔkɔ	ɔkɛɛ	ɔkɔ	ɔkɔ	ɔkɔ
93	give	ɲeŋgɛ	iɲea	iɲɛ	beke	iɲɛ	ɲeŋgɛ	iɲɛ	iɲea	ɲeŋgɛ
94	undress	udɛ	idwɛbɛ	idwɛbɛ	ule	idɛbɛ	dula	udɛbɛ	udwɛbɛ	udɛbɛ

No.	English	Ekombe	Ngolo	Bima	Bakundu	Balondo	Mbonge	Bakoko	Batanga	Balue
95	press	miɲa	iteya	itɛ	banda	mita	miɲa	ɲɛ	amoa	ama
96	till	kwaŋga	kɔsɔ	kusa	oloa	furua	duma	kɔsɔ	kɔsɔ	kpɛrɛɛ
97	bury	fura	fura	fura	fula	fure	fula	fura	fura	fura
98	burn	yaŋga	yaŋga	yaŋga	yaŋga	aŋgɛ	yaŋga	yaŋga	yaŋga	yaŋga
99	eat	da	da	da	da	da	da	da	da	da
100	drink	ɲua	ŋwa	ŋwa	ŋwa	ŋwa	ɲua	ŋua	ŋwa	ɲa
101	vomit	ŋoa	coa	coa	coa	yoa	yoa	coa	coa	yoa
102	suck	ɲaŋga	ŋwaŋga	ɲaŋga	ŋuaŋga	ɲaŋga	ɲaŋga	ŋwaŋga	ŋwaŋga	ɲaŋga
103	spit	umua	comea	ceˑmɛ	ima	ɔmɛ	umua	jɔmɛ	ceˑmɛ	umua
104	blow	uŋgea	iŋgwea	iŋgwɛ	uŋgea	injɛ	uŋgeɛ	uŋgwe	iŋgwea	uŋgea
105	breath	sua	fua	sua	soa	soɛ	ŋø	ɸoa	sua	eyɔŋgi
106	birth	yɛ	ca	ca	ca	ya	ya	ja	ca	ya
107	die	wa	wa	wa	wa	wa	wa	wa	wa	wa
108	kill	boloa	boloa	boloa	boloa	boloa	boloa	boloa	boloa	boloa
109	push	ɲoŋga	tindea	tindɛ	uɲa	tindɛ	ɲoŋga	tindɛ	tindea	tundɛlɛ
110	pull	suka	ɔŋgɔtɔ	ɔŋgɔtɔ	ɔŋgɔtɔ	ɔŋgɔtɔ	suka	tura	ɔŋgɔtɔ	suka
111	sing	kɔnɔ	kɔnɔ	kɔnɔ	kɔnɔ	kɔnɔ	kɔnɔ	kɔnɔ	kɔnɔ	bobe
112	play	tonda	saa	saa	saa	tonda	tonda	saa	losa	tonda
113	fear	bɔŋgɔ	bɔŋgɔ	bɔŋgɔ	wɔŋgɔ	bɔŋgɔ	bɔŋgɔ	bɔŋgɔ	bɔŋgɔ	wɔŋgɔ
114	want	saka	saka	saka	saka	saka	saka	saka	saka	saka
115	speak	sɔsɔ	eyoa	bara	sɔsɔ	tɔkɔ	sɔsɔ	taba	eyoa	sɔsɔ
116	see	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ	ɛnɛ
117	show	lumɛrɛ	imɛrɛ	imɛrɛ	imɛrɛ	imɛrɛ	dumɛlɛ	uŋwɛlɛ	imɛrɛ	lumɛlɛ
-	wait	undea	efa	induna	unda	inda	undeɛ	efa	efa	undea
118	hear	bɔka	oka	oka	oka	oka	boka	oka	oka	boka
119	know	iyoa	icoa	icoa	icoa	iwoa	iyoa	ijoa	icoa	iyoa
120	count	laŋga	daŋga	laŋga	laŋga	laŋga	laŋga	daŋga	laŋga	laŋga
-	wipe	tua	yɔ	tua	tuta	toa	tua	tua	tua	tua

APPENDIX 5: Eyakwe Word List (Eyakwe 2002)

Lokundu, Longolo and Mbonge words are extracted from Eyakwe (2002). Londo

words are from Kuperus (1985). Items separated by commas give alternate forms, either

as recorded by Eyakwe (2002) or from Friesen and Friesen (2001).

Num: This number cross-references to the 2000-word list (SIL Africa Area 2000).

Tone: This is the tone for the previous column. Tones in parenthesis (Mbonge and Londo
only) are floating tones. The tone for Lokundu and Longolo was transcribed from
tape. The words had been said and then Eyakwe whistled the tone. The tape
quality was extremely bad, and the whistling was rushed at times. The tone data
for Lokundu and Longolo is, therefore, of marginal quality.

Split: This column contains entries where the dialects have different vocabulary items.
The four letters used (k,m,l,n) correspond to the four dialects, as shown in the
header row. Blank cells indicate rows where all available entries are considered
apparent cognates. Where letters are found in this column, it indicates the dialects
that group together as the same. For example: 'kml' indicates that Lokundu,
Mbonge, and Londo share the same form, and Longolo has a different word.
'ml,kn' indicates a split – Mbonge and Londo are different than Lokundu and
Longolo. 'km' indicates that Lokundu and Mbonge are the same, and Londo and
Longolo are both different, or one of them is different and one blank.

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0002	ankle	ditoŋgo	HHL	litoŋgo	LHH	litoŋgo	LLL	ditoŋgo	LHH	
0003	anus	muɲako	HHL	muɲako		mbea ea muɲako	(L)LH LL LLL	moɲako	LHH	
0004	arm	mokɔ	HL	mokɔ	LL	mɔkɔ	LL	mokɔ	LL	
0005	armpit			ɲafafe	HHL	bakabaka	LHHH	ekombo	LHH	
0006	back	mbisa		mbusa	(L)HL	mbusa	(L)HL	mbusa	HL	
0007	backbone	motende	LHH	motende	LLL	motende	LHH	motende	LHH	
0010	belly	mea	HL	mea	LL	mea	LL	mea	LL	
0013	blood	makia	LHH	makia	LHH	maca, macia	, LLH	makia	LHH	
0014	body	ɲolo	HL	ɲolo	(L)HL	ɲolo	HL	ɲolo	HL	
0015	bone	ese	LH	ese	LH	ese	LH	ese, eyese	,LLH	
0016	bone marrow	diwɔ	LH	mosɔŋgɔsɔŋgɔ	LLLLL			isɔŋgɔ	LLH	
0017	brain	ŋgɔ	LH	wɔŋgɔ, bɔŋgɔ	,LH	lɔŋgɔ	HH	rɔŋgɔ	HH	
0018	breast	dibɛ	LH-L	dibɛ	LH	dibɛ	LH(L)	dibɛ, riβɛ	LH	
0023	cheek			lilama	LHH	lilama	LHL	rirama	LHL	

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Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0024	chest	ŋgeŋge	LH-L	ŋgeŋge	LL	ŋgeŋge	(L)LH	ŋgeŋge	HH	
0025	chin	bokeko	LHL	njɛli	LL	njeli	(L)LL	bokoko	LHL	ml,kn
0027	crown of the head	dibɛlubɛlu	LLHHL	mbɔbɔ	H(L)H			mbɔβɔ	HL	mn
0028	ear	ditoi	LH(L)	dito	LH	dito	LH(L)	ditoi, ritoi	LHL	
0029	elbow	mobeŋge	LLH	mobeŋge	LLH	ŋgɔlɔkɔsɔ	(L)HHHH	moβeŋge	LLH	kmn
0030	eye	disɔ	HL	disɔ	(L)HL	disɔ	HL	disɔ, risɔ	LH	
0031	eyebrow	eɸoɸo	HLL	efolofolo	LLLLL	efolofolo	LLLLL	eɸoroɸoro	LLLLH	
0034	face	boso	LH-L	boso	LH	boso	LH(L)	βoso	LH	
0037	finger	inɛ	HL	iyanda	LHH	ɲanda	HL	rikɔnjɔ	LLH	ml
0038	fingernail	canda, esɔsɔ	, LLL	esɔsɔ	LLL	esasa	LLL	canda,randa	HL	kml,kn
0039	fist	ŋgoti	HH	ŋgɔti	(L?)HH			ŋgoti	HH	
0041	foot	diko	HL	mbɔ	L	diko	LL	diko	HH	kln
0043	forehead	dibɔnjɔ	LLH	libonjo	LLH	libɔnjɔ, mbonjo	LLH, LLH	riβonjɔ	LLH	
0044	gall bladder			njuŋge	LL	njɔŋgi	LL	njoŋge	HH	mln
0046	hair (of head)	ɲoŋga	LL	ɲoŋga	LL	ɲoŋga, ɲuŋga	, LH	ɲoŋga	HH	
0047	hand	rikɔnjɔ	LLH	likɔnjɔ	LLH	likɔnjɔ	LLH	mokɔ	HH	kml
0048	head	moro	LH-L	molofo	LHH	moroɸo	LHL	moro	HH	
0049	heart	morema	LHL	molema	LHH	molema	LHL	morema	LHL	
0050	heel	etindo	LHL	etinde	LHH	etindi	LHL	etindo	LHL	
0052	hunch (of hunchback)	likuna	LHH	likune	LHH			dikanda	LLH	km
0053	intestines	mea, bekia	, LLL	mea	LL	bebuŋga, ewuŋga	, LLH	bekia	LLH	km
0054	jaw			mobeŋgu	LLH	lilama	LHL	rirama	LHL	ln
0057	kidney	ɸiko	HL	fiko	(L)HL	fiko	HL	piko	HL	
0058	knee	dibɔŋgɔ	LHH	libɔŋgɔ	LHH	libɔŋgɔ	LHH	dibɔŋgɔ	LHH	
0061	leg	mofa, mofaa	LH	ŋende	(L)HH	moɸaŋga	LHH	moɸaŋga, riko	,LH	kln
0062	lip	mombu	LL	mumbu	LL	mumbu	LL	mombu	LH	
0063	liver	dibɛ	LL	libɛ	LL	liba	LL	diβɛ	HH	
0065	lung	jaɸa	HH	esasa	LLL			βaɸa	HH	kn
0066	molar tooth	ekekɔ	HHH	ekiɔkɔ	LLLL	ɛcɔkɔ	LL	ekekɔ	HHH	
0067	mouth	wana	LH	wana	LH	owana	LLH	wana, mombu	HH	
0068	muscle	mutu	HL	mosoni	LLL			mu	H	kn
0070	navel	diteŋgu	LHL	diteŋgu	LHH	diteŋgu	LHL	diteŋgu, riteŋgu	LHL	
0071	neck	dibɔru	LLL	dibɛlu	LLL	dibɔli	LLL	dibɔru	LLL	
0072	nose	do	H	do	(L)H(L)	moɸiki	LLH	moɸiki	LLH	ln,km
0075	penis	eyoko	LLH	eyoko	LLH	eoko	LHH	eyoko	LLH	
0078	rib	mokaŋga	LHH	mokaŋga	LLH	mokaŋga	LLH	mokaŋga	LLH	
0080	saliva	bekɔnɔ	HHL	bekɔnɔ	LLL	ɛkɔnɔ	LLL	bekɔnɔ	LLL	
0081	shin	mboma	HL	mbonja	LH	mbonja ea moɸaŋga	LLH LL LHH	mboma	LL	
0082	shoulder	etuli	LHL	etuli	LHH	etuli	LHL	eturi	LHL	
0086	skin (of man)	ekobo	LLL	ekobo, ɲolo	LLL	ɲolo, ekobo	HL, LLL	ɲoro	HL	kml, mln
0088	small of back	eseŋge	LLH	isiŋge	LLH			isiŋge	LLH	
0090	thigh	eyɔnɔ	LHL	eyɔnɔ	LHH	eloɸo	LHL	eyɔnɔ	LHL	kmn
0094	throat	ŋgɔɔ	LH	ŋgɔmi	LH	kiŋgo	HH	ŋgɔɔ	LH	kmn
0097	tongue	iyeme	LHL	iyeme	LHL	iyeme	LHL	ceme	HL	
0098	tooth	disoŋga	LLH	disoŋga	LLH	disoŋga	LLH	disoŋga, risoŋga	LLH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0099	umbilical cord	ŋgɔbi	LL	ŋgɔbi	LL			ŋgɔβi ca ŋwana	LLLLH	
0102	vein	mosisa	LLH	mosisa	LLH	mosisa	LLH	mosisa	LLH	
0103	waist	ejue	LH	eue, buwe	LLH,	ewe	LH	ecugwe	LLH	
0104	white hair	ɲue	HL	ɲue	LL	ɲowe	HL	ɲue	HL	
0105	wrist	ditoŋgo		laso	LL					
0107	breath (n)	yoŋgi	LLL	eyoŋgi				eyoŋgi	LLH	
0108	excrement	loa	HH	loa	(L)HH	loa	HH	doa	HH	
0109	footstep	etombo		etombo	LHH			etombo	LHL	
0112	hunger (n)	nja	LH	nja	L	nja	(L)L	nja	HL	
0113	nasal mucus	dibɔmbɔ	LLH	ewɔmbɔ	LLH	liombo	LHH	dibɔmbɔ	LLH	
0114	phlegm	ekɔɔ	LHL	ekɔ	LH	eka	LHn	ekaŋ	HH	
0116	scar (n)	ebaŋgo	LLL	ebaŋgo	LLL	ebaŋgo	LLL	ebaŋgo	LLL	
0118	sleep (n)	iyɔ	LHL	iyɔ	LH	iyɔ	LH	iyɔ	LH	
0119	smell (n)	wumbi	LH	esunju	LLH	iyumba	LLL	kaŋgo	HL	kl
0120	tears (n)	bekɛli ba lua	LLL H LL	misɔli	HHL	lisɔli	HHL	misɔri	HHL	mln
0121	thirst (n)	ŋgɔɔ		fɛsɛ	LL	ɸɛsɛ	HH	ŋgɔɔ	LH	kn,ml
0123	urine	miyali,miali	HHL	miɲali	HHL	miɲali		miɲari	HHL	
0125	wrinkle (on skin) (n)	miɲuea		meɲiŋgiteli	LHHLH			ɲiβirana	LLLL	
0127	bald, be	libaɲa	LLH	libaɲa	LLH			dirua eɸoɸoa	LLH LLH	km
0128	bent, become (w/age)	kɔtɔmɔ		kunama	HHL					
0130	drunk, be	sɔkɔ	HH	sɔkɔ	HH			riŋwa	LHH	km
0134	naked	moɲombo	LHL	mosombo	LHH			mosomba	LHH	
0135	old, be (not young)	unu	LL	una	LL	una	HL	dinua	LHH	
0136	sated, be	deca		ula	HH	ulɛ	HL	asarɔri	LLHH	ml
0138	sleepy, be	tuŋga	LL	loŋgɔ	LL			dituŋga	LLH	kn
0141	tired, be	njei	HH	kota	HH	kota	HL	dicɛɛ	LLH	ml
0144	apply (ointment), besmear	ɔkisɛ	HHH	ɔkisɛ	HHL			ɔkɔ	LL	
0145	nbathe (intr.)	ɔkɔ	HH	ɔkɛɛ	HHL			ɔkɔ	LH	
0146	bathe (tr.)	ɔkisɛ	HHH	soɛlɛ, ɔkisɛ	LLL, HHL	soswa	LL	sosa	LL	km,ln
0147	bear (child), give birth	ca, ja	H	ya	H	ya	L	ca, dica	H	
0149	belch	ukuma	HHH	lekɔ	HH			βea	LH	
0154	breath (v)	soa		ŋo, soa	, LL	soɛ	LL	fua		
0163	comb (v)	sasoa	HH	sasoa	LLL			casoa	LLH	
0167	cry, weep	cea	LL	eya	LH			cea	LH	
0170	drink	ŋwa, nwa	H	ɲua	HH	ŋwa, ŋwaa	, HL	ŋwa	H	
0171	eat	da	H	da	H	da, daa	, HL	da	H	
0172	faint	sɛmbɛ	HH	sɛmbɛ		ɔtɔ	HL	sɛmbɛ	HH	kmn
0173	feel,hear	oka, okalanea	HHHH	boka	HH	oka	HL	oka	HH	
0177	incisions, make (facial)	sasa	HH	sasa	HH			sasa	HH	
0178	look, see	tata		iŋgɔ	HH	iŋgɔ	HL	tata	HH	kn,ml
0182	rest (v)	awɔmɛrɛ		wɔmɛɛ	HHL	ɔmɛ	HL	ŋwɛrɛ	HH	
0184	scratch	akoa		usua	LLL	sɛlɛ	HL	ikoa	LHH	kn
0185	see	ɛnɛ	HH	ɛnɛ	HH	ɛnɛ	HL	ɛnɛ	HH	
0186	shiver	ɲiŋga	LH	ɲiŋga	LL	kpakpama	LLL	ɲiŋga	LH	kmn

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0188	sleep (v)	naŋga	LH	naŋga	LL	naŋga	LL	naŋga	LH	
0192	suck	ŋuaŋga, ŋwaŋga	HH	ɲaŋga	HH	ɲaŋga	HL	ŋwaŋga	HH	
0193	swallow (v)	mɛ		ma	L	mɛ	L	mɛ	LH	
0194	swim	ɲara		ɲaloa	HHL			ɲaroa	HHH	
0196	touch (v)	asiɛ		mita	LH	sikɛ	LL	ɲɛŋge	HH	
0197	urinate	iɲa		iɲa	HH			iɲa	HH	
0199	wake up (tr.)	tokoa		seŋgisɛ	HHL	sɛŋgɛ	HL	tokoa	HHH	kn,ml
0201	wear (clothes)	wɛmɛ		wama	HH	ama	HL	wɛmɛ	HH	
0203	yawn (v)	ɓawa		uŋgɛ	HH	aŋga	HL	cuŋge	HH	mln
0204	nabcess (n)	makia		emɔli	LLH			cɔrɔ	HH	
0207	cough (n)	ekɔsili		ekɔsili	LHHL	likaŋgo	LLL	ekɔsiri	LHHH	kmn
0210	fever (not malaria)	euwa		ekpili	LLL	ewa	LH	egwa	LH	kln
0213	hernia	motɔrɛ		motɔlɛ				motɔrɛ	LLH	
0214	hiccouph (n)	risɛkusɛku		lisɛkusɛku	LHHHL	isɛkusɛku	LHHHL	esɛkusɛku	LHHH	
0216	illness	ɲambɛ		ɲambɛ	LH			ɲambɛ	LH	
0218	itch (the itch)	aŋgia		ɲɔɲɔ	LL	lokwe	LL	mokaŋgi	LHL	
0219	leprosy	morɔŋgɔ ʔ		liaŋgi	LLH	okoni	LHL	etɔndɔ	LHL	
0222	pain (n)	bogwaki		bowaki	LLL	boaki	LL	bocoaki	LLHL	
0223	pimple	moɲa		moɲa	LL			cɔrɔ	HH	km
0225	pus	roia		lia	HH			roria ʔ	LLH	
0226	ringworm	ekaso		ekaso	LLL	ekaso	LLL	ekaso	HHL	
0228	sore (n)	ɸora		efoki	LLH	boaki	LLL	eyora	LHH	kn
0231	wound (n)	ɸora		fola	(L)HH	ɸola	HH	eyora	LHH	
0243	cough (v)	kɔsia		kɔsia	HHL	kɛsɛ	HL	kɔsia	HHH	kmn
0244	die	wa		wa	H	wa, owaa	, LHL	wa	H	
0250	lick	tɛmbɛ		fɛndɛ	HH			tɛmbɛ	HH	kn
0251	sneeze (v)	sema		isima	HHL	sima, simɛ	HH, HL	sema	HH	
0252	vomit (v)	coa, joa	HH	yoa	HH	yoa, yuwa	, HL	coa	HH	
0255	baby	mokeŋgɛrɛ	LHH	mokeŋgɛlɛ	LHHH	mɔkeŋgɛlɛ	LHHH	ŋwana motiti	HH LHH	kml
0256	boy	moreka	LLL	moleka	LLL	moleka	LLL	moreka	LLL	
0257	child	ŋwana	HL	ɲana	(L)HL	ɲana, ŋwana	, HL	ŋwana		
0261	female, woman	ŋwarana	HHL	ɲalana	HHL	ɲarana, ŋwarana	, HHL	ŋwarana		
0262	friend	moɛ	HL	muɛ	(L)HL	mɔɛ	HH(L)	ŋwinda	HH	kml
0263	girl	ŋgɔndɔ	LL	ŋgɔndɔ	LL	ŋgɔndɔ	(L)LL	ŋgɔndɔ	HH	
0264	male, man	nwiana	HHL	momana	HHL	moina, muina	, LHL	moɲana	HHH	
0266	person	moto	LL	moto	LL	moto	LL	moto	LL	
0270	bachelor	moramba	LLL	mokɔlɔ	LLL			moramba	LLH	kn
0271	barren woman	ekomba	LLL	ekomba	LLL	ekomba	LLL	ekomba	LLH	
0278	cripple (n)			eyɛmɛkɛli	LHHHH			ereki	HLH	
0280	deaf mute	eɓoɓo	LLL	ebobo	LLL			ekpokpo	HHL	
0282	enemy	mokɔkɔ		mokɔkɔ	HHH			mokoikoi	LLHHL	
0284	giant	ewaŋgi	LLL	ewaŋgi				ewaŋgi	LLH	
0296	orphan	ɲue	LH	ɲue	LL			ɲue	LL	
0297	owner	mowɛri	LHL	mowɛlɛ	LHL	ɲwaalɛ	LHL	mowɛrɛ	LHL	
0298	poor man	moɓueɓue		mobuebue	LLHLH			mobuebue	LLHLH	
0300	rich man	mori		moli	LL			mori	LL	
0301	servant	moɓoreri		moboleli	LLLL			moɓoreri	LLLL	
0303	slave	moɸa	LL	mofa	LL	mofa	LL	mofa	LL	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0305	stranger	mokɛ	LL	mokɛ	LL	mɔkɛ	LL	mokɛ	LL	
0307	twin	riasɛ	LHL	liasa	LHH	liasa, liesɛ	LHL, LHL	riasɛ	LHL	
0310	white man	mokara	LLL	mokala	LHH	mokala	LHH	mokara	LHH	
0311	widow	mokpisi	LHH	mokpisi	LHH			mokpisi	LHH	
0314	age-group	kɔrɔ	HL	kɔlɔ	(L)HL	kɔlɔ	HL	kɔrɔ	HL	
0315	ancestor	morimo	LHH	molimo	LHH			sɔmgbɛ		km
0328	family	ŋgɔβi	LL	ebolo	LHH	ilongo	HHL	ŋgɔβi	LL	kn
0329	father	sesɛ	HH	tata	(L)HL	tata	HL	sesɛ	HL	kn,ml
0333	father, your	sesɛ		sɔmgbɛ	HL			sese wa	HHL	kn
0336	girlfriend	eyɔŋgɛ	LLL	eyɔŋgɛ	LLL			ekɔmbɔ ca ŋwarana	LLLH HHL	km
0345	his father	samgbɛ	HL	samgbɛ	HL	saŋgɛ	HH(L)	sesɛ wa		kml
0346	his mother	ɲamgbɛ	LH	ɲamgbɛ	LH	ɲaŋgɛ	LH(L)	ɲamgbɛ wa		
0347	husband	mome	HL	mome	HL	mome, moome	, LHL	mome		
0348	mother	iya	HL	ɲamgbɛ	LH	ɲaŋgɛ	LH(L)	ɲamgbɛ		mln
0352	mother, your	ɲɔmgbɛ	LH	ɲɔmgbɛ	LH	ɲɔŋgɛ	LHL	ɲɔmgbɛ		
0354	my mother	iya	HL	iya	(L)HL	iya	HL	mama owamba		kml
0361	sibling	ŋanabua	HHLH	ŋanabua	(L)HLL	ŋwanabua	HH LL	moaβɛ		kml
0369	wife	nwari	LL	ŋali	(L)HH			ŋwari	HH	
0373	chief, headman	kiɲɛ	HL	keɲi, keni	(L)HH,	muli	LL	keɲi		kmn
0378	fisherman	moroko ndɔndi	LHL HH	molokondɔndi, moloki	, LHH	mobodwa ɲama	LHLLL	moroka ndɔndi	LHH LHH	kmn
0379	hunter	mosɔŋgɔ	LLL	mosɔŋgɔ	LLL	mɔsɔŋgɔ	LLL	mosɔŋgɔ	LLH	
0386	sorcerer	ŋweri	HL	ŋeli	(L)HL	molemba	LLL	ŋweri	HL	kmn
0387	thief	ŋwiɸe		ɲibe	(L)HL	mube	HL	ŋwife	HL	
0389	traveler	mokɛndɛkɛnde	LLHLL	mokɛndɛkɛnde	LLHLL			mokɛndɛkɛnde	LLHLH	
0391	witch	moremba	LLL	molemba	LLL	molemba	LLL	moremba		
0394	animal	ɲama	LL	ɲama	LL	ɲama	LL	ɲama		
0395	antelope	kaβe	HL	kabe	(L)HL	kabe	HL	kaβe		
0397	bat	iwiri	LLL	ikufɛkufe	LLLLL			ekufɛkufe	LLLLL	mn
0399	bat, fruit	moɛmɛ	LHL	ŋeŋe	HL			moɛmɛ	LHL	
0400	bedbug	eβa	LH	eba	LH			eβari	LHH	
0401	bird	inɔ, inɔɔ	LH	inɔ	LH	inɔ, inɔɔ	, LLH	inɔ, inɔɔ	LLH	
0402	buffalo			njibo	LL	njibo	(L)LL	njibo	LL	
0406	chameleon			eyoŋgokoli	LHHHL			ereroawa	LHLL	
0407	civet cat	mba	L	mba	L	mba	(L)L	mba	L	
0408	cobra	mbamba	LL	mbamba	LL			esɔkɔ	LLL	km
0409	crab	sokpɛ	LL	sokpɛ	LL	aɲuŋge	LLH	ekakayo		km
0410	crocodile	ŋgando	LH	ŋgando	LH	ŋgando	(L)LH	ŋgando	LH	
0412	dove	sinjɛ	LH	ndua	LL			ndua	LH	mn
0413	duck	erera	LLL	elela	LLL			erera	LLL	
0414	eagle			eyuŋgu	LHH	eyuŋgu	LHH	cuŋgu	HL	mln
0416	elephant	njɔku	LL	njɛku	LL	njɔku, njɛku	, (L)LL	njɔku	LL	
0417	fish	ndɔndi	LL	ndɔndi	LH	ɲamamaliba		ndɔndi	LL	kmn
0418	fowl	kuβa	HL	kua	(L)HL	kua	HL	kuβa	HL	
0419	frog	esari	LHL	akɔŋgɔ	LHH	diŋgɔŋgɔ	LLH	esari	LHL	kn,ml
0421	gecko			iselele	LHHH			rɔmbira saŋg	LHHH	
0427	hawk	yɔri	HL	eyɔli	LHL	iyɔli	LHL	yɔri	HL	
0431	iguana	ŋgɔmbɛ	LL	ŋgɔmbɛ	LL			ŋgɔmbɛ	LL	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0433	kite	kombe	HH	kombe	(L)HH	kombe	HH	kɔmbɛ	HH	
0435	leopard	ŋgɔ	L	ŋgɔ	L	ŋgɔ	(L)L	ŋgɔ	L	
0436	lion	ŋgia	LL	ŋgia	LL	ŋgia	(L)HL	ŋgia	LL	
0437	lizard	eweketambɛ	LLHLL	eyete	LHH			ewoto	LHH	
0438	mole	ko	H	ko	(L)H	ko	H	ko	H	
0441	monitor lizard	esɔrɔŋgɔ	LHHH	eyoli	LLL			caŋgarakeri	LLLHH	
0442	monkey	kema	HH	kema	(L)HL	kema	HL	kema	HL	
0444	mudfish	ikono	LLH	ŋgu	(L)H			ikono	LLH	kn
0446	owl	eremba	LLL	isekelemba	LLLLL			esikeremba	LLLLL	
0447	pangolin	ija	LH	iya	LH			ica	LH	
0448	parrot	koso	HL	koso	LL	koso	LL	koso	LL	
0450	pigeon	ekoɸe	LLL	ekuku	LLL			ekuku	LHH	mn
0451	porcupine	ŋgomba	LH	ŋgomba	LH	ŋgomba	(L)LH	ŋgomba	LH	
0453	python	kuma	HL	mbɔmɔ, kuma	, (L)HL	kuma	HL	mbɔmɔ	HH	kml, mn
0454	rabbit			itilibo	LLLL					
0455	rat	ɸo	L	etolo	LLL	fo	H(L)	po	H	kln
0457	snake	ɲɔ	H	ɲɔ	(L)H(L)	ɲɔ, ɲo	, H(L)	ɲɔ	H	
0459	squirrel	ekereke	LHHH	sɛbɛ	LL			ekereke	LHHH	kn
0460	toad	ekpɔkpɔ	HHH	ekpaŋgɔlɔlɔ	LHLLL			ekpɔkpɔ	LHH	kn
0461	tortoise (land)	ku	HL	ku	(L)H	ku	H(L)	erima, naku	,HH	kml
0462	turtle (water)	ku ja mariβa	H L LHH	eyafa	LLH			ku ca mariβa	H L LHH	kn
0465	weaver-bird	ŋgaka	HLL	ŋgaka	LL			ŋgaka	HH	
0472	cat	aŋwa	LH	aɲa	LH			aŋwa	LH	
0477	cow	ɲaka	LH	ɲaka	LL	ɲaka	LL	ɲaka	LL	
0478	dog	mgba	H	mgba	(L)HL	nva, mfa	, (L)H	mfa, ŋgwa	L	
0479	domestic animal	eruke	LHH	eluke	LHH			eruke	LHH	
0482	goat	mboli,mbori	HL	mboli	(L)HL	mboli	(L)HL	mboli,mbori	HL	
0491	pig	ŋgoa	LH	ŋgoa	LH	ŋgwea	(L)LH	ŋgoa	LH	
0492	ram	esoka	LLL	esoka	LLL			esoka	LLL	
0493	rooster (cock)	kɔkɔrɛ	HLH	kɔkilikɔ	LHHL			mome wa kuβa	LH LHH	
0494	sheep	morɔŋgi	HLH	molɔ	HL	muleŋgu	LHL	morɔŋgi	HHL	
0496	turkey			kaŋge	(L)HL					
0497	ant	siako	LHL	siako	HHL	caku	HL	sicako	HHL	
0501	bee	ɲoi	HL	ɲo	(L)H(L)	ɲawo	HL	ɲoi	HL	
0502	butterfly	ekorokoro	LLLLL	ikolokolo	LLHLL			ekorokoro	LLHLH	
0503	caterpillar	eroki	LLL	eloki	LLL			ekɔŋgwe	LHL	km
0505	cockroach	ito	HL	fɛnjufɛnju	HHHH			itoo	HH	kn
0509	fly (n.)	iki	HL	iki	LL	ɲiki	LL	iki	LL	
0511	grasshopper			anatandiɛ	LHLHH	mosombe	LLL	ŋganja	LL	
0512	insect	etanda	LLL	etanda	LLH			etanda	LLH	
0513	jigger	ekurumbe	HHHL	ekulumbe	LHLH			ndaw	HH	km
0517	maggot	mokuu	LLH	moku	LH			mokuu	LLH	
0519	millipede	ŋgɔŋgɔrɔki	HHHL	ŋgɔkɔlɔkɔ	LHHL	ŋgɔkɔlɔkɔ	(H)LLHL	ŋgɔŋgɔrɔ	LHL	
0520	mosquito	mokirani	LHHL	mokilani, mokɛlani	, LHHL	ikuŋgu	LLL	rikombe	LHL	km
0522	snail	kɔ	H	kɔ	(L)H	kɔ	H	kɔ	H	
0523	spider	riβoβe	LLL	libobe	LLL	libobe	LLL	diβeβo	LHL	
0524	termite	sɛɛkɛ	HLL	wakaka	LLL			kwakaka	HHL	mn
0525	tick	riwo	LH	libo	LH			riβea	LHL	km

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0526	tsetse fly	eβoko	LLL	eboko	LLL			eβoko	LLH	
0527	wasp	roŋgeŋga	LLL	likpi, mofafaloŋgo	, LLLLL			eŋgaŋga	LLL	kn
0528	worm	ɲokpɛ	LL	aɲɔki	LLL			etanda	LLH	
0529	beak, bill, (bee stinger)	moseke	LLL	moseke	LLL	moseke	LLL	moseke	LLL	
0533	elephant's trunk	ekɔtɛ	LLH	ekɔtɛ				moaŋgo	LHL	km
0535	feather	esa	LH	esa	LH	esa		esa	LH	
0538	fur	meɔ	LH	miɔ	LH			meɔ	LH	
0541	horn	meseba, moseβa	LHH	museba, moseba	LHH	moseba	LHH	moseba, moseβa	LHH	
0542	hump (of cow)	riɸundu	LHL	likune, likuŋga	, LLL			rifundu	LHL	kn
0544	tail	mokondo	LLH	mokondo	LLH	mokondo	LLH	mokondo	LLH	
0547	wing	eɸaɸa	LLH	diɸaɸe	LLH	diɸaɸe	LLH	eɸaɸa, rifafa	LLH	
0548	anthill			esombali	LLLL			esombari	LLHH	
0552	footprint	riko	LL	likɔki	LLH			riko	LH	kn
0553	herd (of cattle or sheep) (n)			liyaŋga				mokanda	LLH	
0554	hole	eɸɔndɔ		eyoko	LHH	eyuku	LHH	eyoko	LHH	mln
0555	nest	rumbu		lumbu	HH			rumbu	HH	
0556	shell	ekpiri		ekpele	HLH	ekobo	LLL	ekpere	LLH	kmn
0557	spider's web			etambotambo	LHHHL			mesiŋga ma riβeβo	LLLH LHH	
0560	bark (as dog) (v)	boma	HH	boma	HH			kanda	HH	km
0561	cackle			kɔkɔ	HH	kɔkɔ	HL	kɔkɔ	HH	
0562	crow (as a rooster) (v)	βeka	HH	tɔŋgɔ	HH			diβeka	LHL	kn
0564	fly (v)	ɛrua	LHH	uŋga	HH	kolwa	LL	dɛrua	LHH	kn
0568	lay (eggs), excrete	ɲa	H	ɲa	L	ɲaa	HL	ɲa	H	
0571	bamboo	ekoko	LLH	ekoko	LLH	aɲaɲaŋ	LHH	ekokambo	LLH	km
0574	bush	ndiko	LH	ndiko	LH	moliki	LLH	moriki	LLH	km,ln
0575	coconut palm	moβaŋga	HHH	moaŋga	LLH	moaŋga	LLH	moβaŋga	LLH	
0579	grass	esumbu	LLH	esumbu	LLH	esumbu	LLH	esumbu	LLH	
0581	mould (n)	riβume	LLH	iyɔnjɔ	LLH			diβuma	LHH	kn
0583	raffia	ritutu	LLL	likɔ	LH	moka	LL	ritutu	LLL	kn
0590	tree	bole, βore	LH	wele	LH	bole	LH	ire, bore	LH	
0593	bean	rikoni	LLH	kondi	(L)HL	kondi	HL	rikoni	LLH	kn,ml
0595	cocoyam, taro	ende	LH	nda	(L)H	mɔseŋgu	LLH	ende	LH	kmn, kmn
0597	cola nut	riβeu	LLH	libe	LH			ribeu	LLH	
0602	groundnut	ŋgɔndɔ	LH	ŋgɔndɔ	LH	mbaasaŋ	(L)LHH	ŋgɔndɔ	LH	kmn
0605	maize	mgbi	L	mgbi	L	kpawo	LL	mgbwi	LH	kmn
0609	oil palm	ria	HL	mosɔ, lia	LL, HH			ria	HL	
0610	okra	riβunɛ	HHH	libuna	LHH			ribunɛ	HHH	
0612	orange	nasari	HHH	ɲasali	(L)HHH	anasali	LLHH	nasari	LLH	
0613	palm nut	mbia	HL	mbia	LL			mbia	HL	
0615	pineapple			esɔmɛ	LLL	ekoko ea mokala	LLL HH LHH	esɔmɛ	LLH	mn
0616	plantain	mokɛrɛ	LHH	mokɛlɛ	LHH	mɔkɛlɛ	LHH	mokɛrɛ	LHH	
0617	pumpkin	riβɔkɛ	LLH	libɔkɛ	LLH			dibɔkɛ	LLH	
0621	sugar cane	esoŋgo	LLL	likoko	LLH	ekoko	LLL	rikoko	LLH	mln

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0622	sweet potato	motika	LHH	motika	LHH			arɛkɛ	LHL	km
0624	yam	ekue	LLH	lisua	LLL	eyo	LH(L)	risua	LHH	mn
0625	bark (of tree)	ekuku	LLL	ekuku	LLL	ekuku		ekuku	LLL	
0626	base of tree trunk	tina	HH	tina	(L)HH			tina	HH	
0628	branch, stick	moraβe	LHL	elabe	LHH	elabe	LHL	moraβe	LHL	
0629	bud			njɔkɔ	LL			ndɛmbutɛmbu	LLLL	
0633	leaf	eca, eja		eya	LH	eyani	LHL	eca	LH	
0639	root	mokako, mori		ŋili	LL	muri	LL	mokako	LHL	kn,kml
0640	seed	eɸuma		ndondo	LL	mbuma	(L)LH	ndondo	HH	kl,mn
0644	stump	eku		eku	LL			eku	HL	
0645	thorn	rijɔi		njɛnjɛ	(L)HH	njɛnjɛ	(L)HH	ricɔi	LLH	kn,ml
0650	sprout (v)	kɛkɛ		busa	HH	tua	HL	βusa	HL	mn
0654	bend, crook, curve (n)	kɔtɔmɔ		kɔtɔmɔ	HHL			kɔtɔmɔ	HHH	
0655	boundary	ŋwe		moyo	LL			ŋwe	L	kn
0656	bridge	rijnaŋgi		likala, lijnaŋgi	LLL, LLH	likala	LLL	dikara	LHH	km,ln
0659	cave	bokɔkɔ		ikoka, ilɛ	LLL,			ikoka	LHH	mn
0661	country	mboka		ekombo	LLL			mboka	HL	kn
0662	course of river	eβu		litombo	LHH			ditombo	LHL	mn
0665	dew	βekɛri		bekɛli	LLL	ekeli	LLL	bekɛri	LLL	
0666	dirt	ruŋga		ŋiŋgo	LL	muŋgu	LL	ŋwiŋgi	LH	
0667	dust	moβu		ndondi	LL			eɸuɸu	LHH	
0670	fire	mowa, moa		ŋea	(L)HH	muea, ŋwea	, HH	moa	HH	
0671	flame			elolo	LLL			iyeme ya moa	LHH / L HH	
0672	flat rock	eβaraβanja	LHHHH	elabanja	LHHH			eβaranja	LHHH	
0675	forest	motindi	LLL	ŋaŋga	(L)HH	moliki	LH	ndima ndiko	LLLH	
0680	ground	moɲɛrɛ	LLL	muɲɛlɛ	LLL	moɲɛlɛ	LLL	moɲɛrɛ	LLH	
0682	hill, mountain	mokori	LLH	mokoli	LLH	mokoli	LLH	mokori	LLH	
0685	lake	mbo	H	mbo	(L)H(L)			mboo	H	
0687	life	roŋgɛ	LH	lɔŋgɛ	LH	winda	LL	roŋgɛ	LH	kmn
0692	moon	ŋgɔndɛ	LL	ŋgɔndɛ	LL	ŋgɔndɛ	(L)LL	ŋgɔndɛ	LL	
0695	mud	esanja	LHH	motambi	LLL			esanja	LHL	kn
0699	place (n)	woma	HL	eɲaka, uma	LLH, (L)HL	uma	HL	oma, βoti	HL, LL	
0701	pool	ndiβa	LL	esɛku	LLH			ndiβa	LL	kn
0702	rainbow	ŋguβarɛndi	LHHHL	ŋgoalendi	LHHH			ŋguβarɛndi		
0704	river, stream	iliba, iriβa	LHH	iliba	LHH	iliba	LHH	iliba, iriba	LHL	
0706	road (path)	njea	LH	njea	LH	njea, njia	, LLH	njea	LH	
0708	sand	ɲaŋgu	HH	ɲaŋgɛ	LL	ɲaŋga	LL	ɲaŋga	HH	
0714	slime	mokɔnɔ	LLL	ɲɔlɔ	LL			mokɔnɔ	LLH	kn
0715	smoke	motutu	HLL	motutu	HHL	motutu	HHL	motutu	HHL	
0718	star	tɛtɛri	HHL	tɛtɛli	HHL	teteli	HHL	tɛtɛri	HHL	
0719	stone	bɔrɛ	LH	bolale	LHH	waale	LHL	bɔrɛ	LH	
0721	sun	ɲaŋgu, roβa	,HL	disɛnji	LHH	loba	HL	loba, loβa	HL	kln
0724	valley	eyoŋgo	LHL	eyoŋgo	LHL	eoŋgo	LHH	eyoŋgo	LHL	
0725	water	mariba, mariβa	LHH	maliba	LHH	maliba	LHH	maliba, mariβa	LHH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0726	waterfall	ikoka	LLL	liyowa	LHH			diyowa	LHL	mn
0729	wood	ico, ijoo	LH	iyoli	LLH	iwori, ile	, LH	ico	LH	
0730	world	ekondo	LLL	mokondo	LLL	mokondo	LLL	ekondo	LLL	
0733	cloud	ekutukutu	LLHLL	ekutukutu	HLHLL	motutu		ekutukutu	LLHLL	kmn
0734	cold	euwa	LLH	bokandi		ewa	LH	ewa	LH	kln
0736	dry season, hot season	eyomi	LHH	lokpe	LL	iyo	LH(L)	yoi	LH	
0740	flood (n)	ɲua	HH	ɲua	(L)HL			makui	HHH	km
0742	hail	ritanana	LHHL	litanana	LHHL			ritanana	LHHL	
0747	moonlight	ŋweri	HL	ŋɛli	(L)HL	ŋwɛli	HL	ŋweri	HL	
0748	rain	mbua	LH	mbua	(L)HL	mbua	(L)HL	mbuwa, mbua		
0749	rainy season	ikuku	LHL	efufa	LLL	nikukɛ	LHL	ekukpɛ		kl
0755	storm	ekpiri	LLL	mokpili	LLL	ekuli	LLL	ekpiri		
0763	darkness	ekikia	LHLL	ikikia	LLLL	befidifidi	LLHLL	ekikia	LHLH	kmn
0766	day before yesterday	wasiβɛ	HHL	wasubɛ	HH(L)H	wasiba	HHL	kwasiβɛ	HLH	
0767	day; daytime	wiɲa, ŋwese	HH	buɲa	(L)HH	buɲa	HH	kwiɲa	HH	
0770	evening	mokoko	LLL	mokoko	LLL	mokoko	LLL	mokoko	LLL	
0772	morning	eɸɔrɔ	LHH	efɔlɔefɔlɔ	LHHLHH	muusu	HL	eɸɔrɔ	LHH	kmn
0774	night	bulu, buru	HHL	bulute	LHL	bulute, bulite	, LHH(L)	buru	LH	
0775	noon, afternoon	ŋwese	HH	ɲese	(L)HH	ŋwese	LL	ŋwese	HH	
0776	now	rikɛ	LL	inanani, inenani	, H(L)HLL	nina	HL	rikɛrikɛ	LLLL	kn
0777	olden times	koβa	LH	koba	LH	koba	LH	koβa	LH	
0781	time	ɸonda	HH	ete	LH	ete	LH	ete	LH	mln
0782	today	nina	HL	yɔboni	LLL	eawo	LHL	kwiɲa bo	HHL	
0783	tomorrow	jana	HH	efɔlɔ	LHH	eana	LHH	cana	HH	kln
0784	year	ŋwa	HL	ŋa	(L)H	ŋwa	H(L)	ŋwa	H	
0785	yesterday	jana	HH	yana	LL	eana	LHH	cana	HH	
0788	earlier	ŋwa		fenja	HH			burɛrɛ	LHH	
0791	bag	ekpa		ekpa	LL	ekpa	LL	ekpa	LH	
0792	bed	rinɔŋgɔ		linɔŋgɔ	LLL	linɔŋgɔ	LLL	dinɔŋgɔ	LLH	
0794	bell	ŋgaɲika		ŋgandika	HHH	ŋganikaŋ	LHHH	ŋgaɲika	HHH	
0795	boat	gwaro		walo	(L)HL	walo	HL	kwaro	HL	
0799	cane (stick)	ndɔŋgɔ		ndɔŋgɔ	LHH	mole	LH	ndɔŋgɔ	HH	kmn
0802	chair	ebɔŋgo		ebɔŋgo	LLH	eboŋgo	LLH	eβɔŋgo	LLH	
0803	circle, ring	erende		elende	LLL			ŋwɔŋgɛ	LH	km
0805	door	muna		muna	LL	muna	LL	muna	LL	
0807	fence	boka		boka	LH			boka	LH	
0809	gift	ewɛ		ndɛ	L	ndɛ	(L)L	ndɛ	H	mln
0811	handle	mokɔ		mofembe		mofembe	LLH	mokɔ	LL	ml,kn
0812	hat	itau		ikpoto	(L)HHH	ikpoto	LHH	itaŋ	LH	ml
0814	heap (n)	mokiri		mokili, ŋindi	, (L)HH	mundi	LL	mokiri	LHH	kmn, ml
0815	hook (n)	iyɔβi		iyɔbi	LHH	iyobi	HHH	iyɔβi	LHH	
0816	hut	riβondo		libondo	LHH			diɔkɔ	LLH	km
0817	iron,metal	ekɛ, ekɔkɔ		ekɔkɔ	HHH	ebo		ebo, ekɔkɔ	LLH	ln,kmn
0819	lamp	etɔnika		itɔnika	HHHH	otilikaŋ, otonikaŋ	HHHH, HHHH	etɔnika	LHHH	
0822	load (n)	muna		muna	LL	muna	HH	ŋwina	HH	
0824	mat	esasi		esasa	(L)HHH	esasa	LHH	esasa	LHH	
0829	pocket	ekpa		kolo	LH			riβara	LHL	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0833	ring	jati		njati	(L)HH	ɲaki	HL	iyɔndɔ ya inɛ	LLH HH LL	km
0835	rope	mokɔri		mokɔli	LLH	mokoli, mɔkɔli	, LLH	mokɔli, mokɔri	LLH	
0836	rubber	riɲɔŋɔ		liɲɔŋɔ	LHH	liɲɔŋɔ	LHL	riɲɔŋɔ	LHL	
0840	shoe	etambi		ilati, etambi	HHL, HHH			etambi	HHH	
0850	tobacco	ŋwɛni	LH	ŋɛni	LH	ŋwɛni	LH	ŋwɛni	LH	
0854	wax	itwa	LH	ituwa, itua	, LLL			itoa	LHL	
0859	compound	esiŋgi	LHH	esiŋga	LHH			isiŋgi	LHH	
0865	farm (n)	eyonda	LHH	eyaŋga	LHH	menani	LHH	eyonda	LHH	kn
0866	fork (in road etc.)	mata	LH	mata	LH			mata ma njea	HH L HH	
0867	grave	morima	LLH	molima	LLL			morima	LHH	
0869	house	ndabo, ndaβo	HL	ndabo	HL	ndabo, ndawo	, (L)HL	ndabo, ndaβo	HL	
0877	room	ritoŋgo	LHH	litoŋgo	LHH	litoŋgo	LHH	ikura	LHH	kml
0881	village	mboka	HL	mboka	(L)HL	moki	LH	mboka	HL	kmn
0889	egg	dikeŋ, rikeu	LH	like	LH	moce	LH	dikei, rikei	LLH	kmn
0890	fat (of animals)	diwɔ, riwɔ	LH	diɔmi	LHL	diɔmi	LHH	dijɛmu, diwɔmi	LHH	
0892	food	moreri	LHH	moleli	LHH	moleli	LHH	moreri	LHH	
0893	fruit	eɸuma	LLH	efuma	LLH	efuma	LLH	eɸuma	LLH	
0894	garden			likoko	LLL			rikoko	LLH	
0898	harvest (n)			efate	LHH	moboti	HHL	eɸate	LHL	mn
0899	honey	ɲoi	LH	bo	L	bo	L	ɲoi	LH	kn,ml
0900	leftovers (food)	βekuru	LLH	bekulu	LLH			bekuru	LLH	
0901	lump	ŋweŋge	LL	mbɔndɔ	(L)HH			ikama	LLH	
0906	oil	mosoa	LHH	mosoa	LLL	mosoa	LLH	mosoa	LLH	
0908	palm-wine	βeraŋga	LLL	elaŋgi	LLL			beraŋga	LLH	
0910	pepper	ndoŋga	HH	ndoŋga	(L)HH	mokalɛ	LHL	ndoŋga	HH	kmn
0911	salt	ikwa, ikpa	,LH	ikpa	LH	ikwa	LH	ikwa	LH	
0913	vegetable	riβura	LLH	libula	LLH			riβura	LLH	
0914	wine (alcohol)	mimba	HH	mimba	(L)HH	mimba	HH	mimba	HH	
0915	ashes	mbu	H	mbu	H	mbu	(L)H	mbu	H	
0916	basket	eruŋga	LHH	motonda	LHH	motonda	LHH	iruŋga	LHH	kn,ml
0917	bottle	eɸosi	HHH	ekpemi	HHH			eɸosi	LHH	kn
0919	broom	itaŋga	LLH	itaŋga	LLH			eyɔi, iyanjo	LLH, LHL	km
0920	calabash	mbambe	LH	ikpoki, mbambe	, LH	mbambe	(L)LH	ekuŋgu	LHH	kml
0921	charcoal	ɸindi	HH	findi	(L)HL	findi	HH	kando	HL	kml
0923	cooking stone	risoso	LHL	lisoso	LHH			risoso	LHL	
0925	embers	kando	HL	makando	LHH?	bekando	LHL	kando	HL	
0926	fireplace	ru	HL	lu	(L)H	lu	H(L)	ru	H	
0928	grinding stone	βorɛ wa ndoŋga	HH H HL	ikɔ	HH			borɛ	LH	kn
0929	knife	ikɔŋgɔ, erɛndi	LLH	dilɛndi	LLL	diɛndi, malɛndi	, LHH	iwɔ, ikɔŋgɔ	, LHH	kml,kn
0933	pestle	mbɔrɔkɔ	LLL	ɲɛnɛ	(L)HL			mbɔrɔkɔ	LLL	kn
0935	pot (for water)	mbea ja mariβa	HLLL HH	mbea	(L)H	mbea	(L)LH	mbea	LH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
0937	spoon	toko	HL	toko	(L)HL	toko	HL	ikpaŋ, toko	LH,	
0938	upper grind-ing stone	moriki	LLL	ŋgɔkɔ	LL			moriki	LLH	kn
0941	boil	tɔkɔ	LH	okɛ	HH	kilɛ	LL	tɔkɔ	LH	kn
0944	cook	kirɛ	LH	kilɛ	LL	kilɛ	LL	kirea	LLH	
0945	cover	kutea	HH	kutumɛnɛ	HHLL	kute	HL	kutea	LHH	
0946	cut (tr.)	kɛsɛ	HH	lena	HH	lena	HL	rena	HH	mln
0948	fry	aŋga	HH	aŋga	HL	fala	HL	aŋga	HH	kmn
0950	mix (v)	saŋga	HH	kitɛnɛ	LLL	sɔbɛnɛ	HHL	kitɛnɛrɛ	HHHH	mn
0951	peel (v)	ondoa, ɸɔmbɔ	LHH, LH	fɔmbɔ	LL	tɔndɔ	LL	ondoa	HHH	km,kn
0953	pound	tia	HH	tɔlɔ	LL	tɛkɛ	LL	tia	HH	kn
0955	roast (v)	βumba	LH	uɛ	LL			duwea, bumba	LLL, LL	mn,kn
0957	sieve (v)	ɛŋgɔ	LH	sɛkɛlɛ	LLL	sɛkɛlɛ	LLL	disɛkɛrɛ	LLLL	mln
0958	stir	ɸuŋgua	LHH	abisɛ	HHL			aβisɛ	LHH	mn
0960	take from cooking fire	ɸoa	HH	foa, kiroa	HH			diɸoa	LHL	mn
0964	hoe	joŋgo	HL	ekɔli	HHL	ɛsɔni	LLL	coŋgo	HL	kn
0967	winnow (n)	diɸɛɸɛ	LLH	ifɛfɛni	LLLL			eɸɛɸɛni	LLLH	
0972	feed (animals)	resɛ	HH	lisɛ	HH			resɛ	HH	
0980	pick (fruit)	ɸata	HH	fata	HH			ɸata	HH	
0981	plant (v)	ona	HH	ona	HH	ona	HL	dona	HH	
0990	transplant			onolɛ	HHL			ɸandoa	LHH	
0993	bury	fula, ɸura	LH	fula	LL	fure, furɛ, furwɛ	, LL, LL	fura, ɸura	LH	
0994	chop into pieces	sɛrɛ	HH	sɛsɛ	HH	sɛɛ	HL	disɛrɛ	LHH	
1001	dig,till	oloa, ruma	, HH	duma	LL	furua, fula	LL, LL	kɔsɔ, ruma	HH	kln
1005	grind	sia	LH	sia	LL	sia	LL	disia	LHH	
1009	light (v)	toɛrɛ	LHH	kolɛ, kota	LL	kota	LL	toŋga, toɛrɛ	LH	kn,ml
1016	put away, store,undress	ule, arorɛ	, LHH	dula	LL	idɛbɛ, ilɛ	, HL	idwɛbɛ	LHH	km,ln
1018	sharpen (as a knife)	eβa	LH	olisɛ		eba	LL	eβisɛ	LHH	kln
1020	sweep	aŋga	HH	yɔŋgɔ	HH	ɔŋgɔ	HL	oŋgoa	HHH	mln
1022	tie up	kata	HH	kata	HH	kata	HL	kata	HH	
1023	untie	kakoa	HHH	unjua	LLL	unjwa	HL	kotoa	HHH	ml
1028	axe	iyondo	LHL	iyondo	LHL	eyondo	LHL	iyondo	LHL	
1030	birdlime	mokambo	LLH	mokambo	LLL			mokambo	LLH	
1039	gun	mokumba	LLH	mokomba	LLH	mokumba	LLH	mokumba	LLH	
1042	hunting	risɔŋgɔ	LLL	bokanda, bofalo	LHH, LHL			bosɔŋgɔ	LLL	kn
1045	net	riɔtɔ	LHL	liɔtɔ	LHH	ikoŋgi	LHL	diɔtɔ	LHL	kmn
1048	sword			njomba	LH			njomba	LH	
1050	trap (n)	erambi	LHH	ilambo	LHH	ilambi	LHH	itambi	LHH	
1051	trap, falling			likua	LLL			dikuwa	LLL	
1052	catch	uwara	HHH	banda	HH	uwala	LHL	iwira	HHH	kln
1054	defend	awɛnɛrɛ	LHHH	sebeɛ	HHL			awanɛrɛ	LHHH	kn
1058	gather	kosoβɛnɛ	LHHH	kosɛnɛ	LLL	kɔsɛnɛ	LLL	dikosɛnɛ	LLHH	
1059	hunt (v)	ɸara	HH	fala		lɔ	H	bosɔŋgɔ	LLH	km
1060	seize	koana ŋgiɲa	LHH HL	koana	LLL					
1061	set (trap)	wɛ erambi	LLLL	lamba	HH	lamba	HL	ramba	HH	
1063	slaughter			bɛ	L	bɛ	L	kakoa	HHH	ml

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1066	bead	mosaŋga	LHH	mosaŋga	LHH			mosaŋga	LHH	
1067	cloth	eɸaɸe	LLH	efafe	LLH	efafe	LLH	eɸaɸe	LLH	
1072	needle	ndɔndɔki	LLL	ndɔndɔki	LLL			ndɔndɔki	LLL	
1075	sew	βea	LH	bea	LL	lɔndɔ	LL	rɔndɔ	LL	km,ln
1077	weave	tuma	LH	sila / tuma	LL	sila / tuma	LL, LL	tuma	LL	
1080	beam, rafter	moraŋgi	LLH	mokɔkɔ	LLH			mokɔkɔ	LLL	mn
1084	floor	eβɔndɔ	LHH	ebɔndɔ	LHH					
1087	ladder	mokpara	LLL	mokpolo	LLL	ekadako	LLLL	mokeŋgo	LLL	km
1090	nail (n)	atɔni	LLL	ebo	LL			itɔni	LHL	kn
1091	plank (n)	eβambu	LHH	ekuka	LLH			eβambo	LHH	kn
1098	thatch (n)	sɔu	LH	sɔ	(L)H	sewu	LL	sauŋ	LH	
1101	wall	βoriβo	LLL	elombo	LLL	elombo	LLH	moriβo	LLL	ml,kn
1104	work (n)	ndutu	LL	ndutu	LL	ndutu	(L)LL	ndutu	LL	
1105	build	roŋga	HH	loŋga	HH	loŋga	HL	roŋga	HH	
1110	make round, cut	keŋgiranise	HHHH	iŋgilise	HHLL			iŋgira	HHH	mn
1112	mend; repair	toŋga	LH	tambolɛ	LLL			kekera	HHH	
1120	belongings	risaŋga	LLH	lisaŋgo	LLH	lisaŋgo	LH	disaŋga	LHH	
1121	debt	βorumbu	LHH	bolumbe	LHH	bolumbe	LHH	borumbu	LHH	
1124	inheritance			elikalika	LHHH			esaŋgo	LLH	
1125	money	ikɔ	LL	ikɔ	LL	fandi	HL	ikɔ / kaβa	LH, LL	kmn
1126	payment	motaŋgo	LHH	motaŋgo	LHH			motaŋgo	LHH	
1128	price	erua	LLL	elua	LLL	elua	LLL	erua	LLL	
1134	buy	anda	LL	anda	LL	anda	HL	anda	LH	
1143	sell	kaβisɛ	LHH	kabisɛ	LHH	kaba	LL	kaβisɛ	LHH	
1144	dance (n)	mosaki	LHL	mosaki		masaki	LHH	mosaki	LHL	
1146	drum, big	motembe	LHL	matembɛ	LHL			ritembɛ	LHL	
1147	drum, medium	moromba	LLH	molomba	LHH			moromba	LLH	
1148	drum, small	ikɔmɔ	LLL	ikɔmɔ	LLL	ikɔmɔ	LLL	ikɔmɔ	LLL	
1149	drum, talking	isimi	HHL	ilimbi	HHH			motɛkɛ	LHH	
1155	song	mokɔni	LHL	mosɔkɔ	LLL	mɔkɔni	LHL	mokeke	LLL	kl
1159	dance (v)	saka	HH	saka	HH	saka	HL	saka	HH	
1163	sing	kɔnɔ	HH	kɔnɔ	HH	kɔnɔ	HL	kɔnɔ	HH	
1166	curse (n)	rituma	LLH	mauka,lituma,e boma	, LLH, LHH	mauka	LLL	rituma	LLH	kmn, ml
1167	devil	emisi	LHH	elimo		muuu	LHL	esisako	LLLL	
1170	ghost	emisi	LHH	esisako	LLLL	muuu	LHL	esisako	LLLL	mn
1171	God	obasɛ	LLL	obasɛ	LLL	obasɛ, oasɛ	LLL, LLL	oβasɛ	LLL	
1181	witchcraft	boremba	LLL	bolemba	LLL	bolemba	LLL	boremba	LLL	
1193	death	du	H	lu	(L)H	loo	LH(L)	rɔŋ / ru	H,LH	
1198	hardship, distress	reɲa	HL	leɲa				bue	LH	km
1199	kindness			bolɔlɔ	LLL	molema bɔlɔlɔ	LHL LLL	morema mosaŋgi		ml
1201	marriage	boruka	LHL	boluka	LHH	boluka	LHL	boruka	LHL	
1203	mistake	riβuse	LLH	libuse	LLH			dusa	LL	km
1205	polygamy	risoŋgono	LHHH	lisoŋgono	LHHH			risɛŋgɛni	LHHH	
1207	theft	wiɸe	HL	wiba				wiβa	HL	
1208	war	bira, βira	LH	bila	LH	bira	LH	bila, bira	LH	
1212	accept; recieve; take	awa	LH	kamana	LLL	kama	LL	awa	LH	ml,kn
1216	beg (for money)	ɔmbɔ	HH	tiŋga	HH	tiŋgɛ	HL	ɔmbɔ	HH	ml,kn
1217	bless, forgive	namisɛ,	LHH	namisɛ,	LLL			namisɛ	LHH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1219	bring up (a child)	rakisɛ ɓomboa	HHH	lakisɛ boŋgoa	HHL			ɓomboa	LLH	
1224	divide	kaɓa	LL	kaba	LL	kabɛnɛ	LLL	kaɓa	LL	
1227	dress (some one)	gwesɛ	HH	wamisɛ		taŋwɛbɛ	LLL	wɛmisɛ	LLL	mn
1228	drive away	ita	HH	ita	HH	itɛ	HL	ita	LH	
1233	exchange	eŋgorɛnɛ	LHHH	seŋgolɛnɛ				soŋgorɛ	HHH	
1234	fight	ana	LH	ana	LL	ana	HL	ana	LH	
1236	get	rua	HH	lua	LL			rua	LH	
1237	give	beke, iɲia	HHH	ɲɛŋge	LL	iɲɛ	HL	iɲea	HHH	kln
1242	help	oŋgoɛnɛ	HHHH	oŋgoɛnɛ	HHLL			oŋgoɛnɛ	HHHH	
1245	inherit	tɛnɛ	HH	likana	HHL			tɛnɛ	HH	kn
1247	judge	kaisɛ	HHH	kɔmisɛ		kɔmɔ	HL	kɔmɔ	HH	mln
1249	kill	boloa, boroa	HHH	boloa	HHL	bolwa	HL	boloa, boroa	HHH	
1254	marry	ruka	HH	luka	HH	luka	HL	saka	LH	kml
1256	meet	ɓoanea	HHH	boaneɛ	HHLL	boɛnɛ	HHL	kuma	LH	kml
1259	play (v)	saa	LH	tonda	HH	tonda	HL	saa, sa	LH	ml,kn
1264	quarrel	taŋga	HH	saŋgoa				motaŋgo	LHH	kn
1267	return (give back) (tr)	timbisɛ	LHH	timbisɛ	LLL			timbɛrɛ	LHH	
1269	send	loma, roma	HH	loma	HH	loma	HL	loma, roma	HH	
1274	show	imɛrɛ	HHH	dumɛlɛ	HHL	imɛrɛ	LHL	imɛrɛ	LHH	
1277	spy (v)	ɸetɛ	LH	bɛmeɛ	LLL	tɔdɔmɔ	HLL	diɓemɛrɛ	LLHH	mn
1278	stand	unwa	HH	ima	HH	imana	LHL	iŋwa	HH	
1279	steal	iɸa	HH	iba	HH	ube, uba	, HL	iɸa, diiɸa	HH	
1284	take	nɔŋgɔ	LH	koa	LL	kwaa	HL	koa, nɔŋgɔ	LH, HH	mln,kn
1287	teach	ekorɛ	HHH	okolɛ	HHL			ekorɛ	HHH	
1288	threaten	sisa	LH	kimeɛ	HHL			kimea	HHH	mn
1289	tickle (v)	ɲɔŋgire	LHH	ɲɔŋgilisɛ				ɲɔŋgirɛ	HHH	
1291	wait for	unda	HH	undeɛ	HHL	inda	HL	efa, undea	HH	
1295	agreement	ekoaro	LLLH	ekoalo	LLLH			ekoaro	LLHH	
1296	announce-ment	reŋga	HH	leŋga	(L)HH			reŋga	HH	
1301	law	mbenda	HH	mbenda	(L)HH	mbenda	(L)HH	mbenda	HH	
1302	lie (n) (falsehood)	moraŋga	LLL	elaŋga	LLH	elaŋga	LLH	moraŋga	LLH	
1303	name	dina, rina	HL	dina	(L)HL	dina	HL	dina	HL	
1304	news	njambe	LL	njambe	LL	njambe	(L)LL	njambe	LL	
1306	oath	ɓeri	HL	beli		njibidi	(L)LLL	beri	HL	kmn
1308	promise (n)	rikaki, moriko	LLH, LHL	likake	LLH			rikaki	LLH	
1309	proverb	mokana	LLH	lifaŋgo	LLH			rikana	LLH	kn
1316	whisper (n)	kundu	LL	esambo	LLL			iŋgiɲɛnɛ	LHHH	
1317	word	eyara	LLL	eyala	LLL	eyala	LLL	iyara	LHH	
1319	advice (N, not V)	marea	LHH	malea	LHH			marea	LHH	
1323	answer (v); reply	awa	LH	koalo	LHL			awa	LH	kn
1324	argue	ɸenda	LL	fenda	LL			ɸenda	LL	
1325	ask	jua / tɔrɛ	HH	iyɔlɛ	HHL	iyɛlɛ	LHL	tɔrɛ / cuwa	HH HH	kn,ml
1328	boast, brag, praise onself	isase	HLH	sasa		sasɛ	HL	imɛrɛkɛ	LHHH	kml
1329	call (v)	erea	HHH	belɛ	HH	bɛlɛ	HL	erea	HHH	kn,ml
1330	chat (v)	koa	LH	koa		koa	LL	koa	LH	
1335	explain			saŋgolɛ	LLL			saŋgorɛ	LHH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1340	grumble	ɸiri	HL	uŋguɲa	LLL	uŋguɲa	LHL	iŋguna	LHH	mln
1343	insult (v)	roa	HH	lola	HH	lola	HL	diroa	LHL	
1344	lie (v) (tell lies)	raŋga		laŋga	LL	ɔnjɔ	HL	moraŋga	LLL	kmn
1345	listen	oka	HH	bokaneɛ	HHLL			oka	LH	
1347	pray	kanɛ	HH	kanɛ	HH			kanɛ	HH	
1350	say, speak	sɔsɔ, ɔmɔ	LH	sɔsɔ	LL	tɔkɔ	LL	eyoa, taɸa	HH	km
1351	shout (v)	kanda	HH	kanda	HH	kanda	HL	kanda	HH	
1354	stutter	kukuma	HHH	kukuma	HHL			kukuma	LHH	
1357	tell someone	βea	HH	sɔsɔɛ	LLL			βea	HH	kn
1358	thank	soma	HH	soma	HH	kɔmɛ	HL	soma	HH	kmn
1362	eagerness, zeal	okaya	LHH	kanda, lua	, LL			ndiŋgi	HH	
1363	fear (n)	wɔŋgɔ, bɔŋgɔ	HH	bɔŋgɔ	(L)HH	bɔŋgɔ	HH	bɔŋgɔ, βɔŋgɔ	HH	
1367	jealousy	ŋgɔngi	LH	ŋgɔngi				ŋgɔŋgu	LH	
1368	knowledge	riβiɛ	LHH	libiɛ	LHH	libiɛ	LLH	riβiɛ	LLH	
1369	laughter	rɔ	L	lɔlɔ	LL	lɔlɔ	LL	rɔ	H	
1371	madness	ŋwɛɲɛ	HL	ɲɛɲɛ		muɲɛ	HL	ŋwɛɲɛ	HL	
1372	meaning	janda	HH	ndaŋgo	LL			ndaŋgo	LH	mn
1373	pity (n)	rokiri	LLL	lokili	LLL			rokiri	LLH	
1374	shame	isɔ	LH	isɔ	LH	isɔsɔ	LHL	isɔ	LH	
1376	stupidity	erema	LLH	wemo				emoa	LHH	mn
1378	truth	mbarɛ	HL	mbalɛ	(L)HL	naɲaŋge	HLH	mbarɛ	HH	kmn
1379	wisdom	riomo	LHH	likɛnju, bokɛnju	, LHH			riβiɛ	LHH	
1381	angry, be	kua	HH	tata	LL			ɸiri	HL	
1388	mad, be	eja, ŋwɛɲɛ	HH HL	libɛ eleŋgaleŋga	LLLLL			ŋwɛɲɛ	HL	kn
1394	startled, be	ɲiŋga	LH	kpasima	LLL	kpɛsɛmɛsɛ	LLLL	kpesima	HHL	mln
1396	surprised, be	maɲaka	LHH	maɲaka	LHH			maɲaka	LHH	
1401	admire			simoa				tata	HH	
1406	believe	ruβɛ	HH	lubɛ	HH			ruβɛ	HH	
1409	choose	βɔsɔ	LH	bɔsɔ	LL	ɸɔsɔ	LL	ɸɔsɔ	LH	
1410	come on suddenly			esulɛsulɛ						
1411	count (v)	laŋga, raŋgoa	HH	laŋga	HH	laŋga	HL	daŋga, raŋga	HH	
1417	find, want	saka	LH	saka	LL	saka	LL	saka	LH	
1419	frighten	sisa	LH	sisa	LL	sisa	LL	sisa	LH	
1420	hate (v)	bosiŋga	LHH	kɔ	H	kɔ	L	kɔ	L	mln
1422	hide (intr.)	sɔmɔ	HH	sɔmɔ	LL	sɔmɔ	LL	sɔmɔ	LH	
1426	know	icoa, ijoa	HHH	iyoa	HHL	iwoa, iywa	, HL	icoa	LHH	
1427	laugh (v)	ɔjɔ	LH	ɔyɔ	LL	ɔlɔ	HL	ɔcɔ	LH	
1428	learn	ekoa	HHH	okoa	HHL	okwa	HL	ekoa	HHH	
1432	measure (v)	mɛnɛ	LH	mɛlɛ	LL	mɛnɛ	LL	mɛrɛ	HH	
1436	plan (v)			kima		kima	HL	njakeˇñ	LH	ml
1442	satisfy			kulɛ	HH			idua	HHH	
1443	smile (v)	riŋwɛŋgesɛ	LHHH	oŋgoɲa	LHH			ɔcɔ	LH	
1445	suffer	tekera	HHH	tikila	HHL	tuka	HL	tekera	HHH	kln
1447	try	keka	LH	keka	LL	keka	LL	keka	LH	
1452	write	tira	LH	tila, lɛtɛ	LL, ?	lɛtɛ	LL	tira	LH	kmn, lm
1456	his-her (human)	eyei	LLH	eye				eyei	LLH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1457	I	mba	H	mba	H	mba	(L)H(L)	mba	H	
1459	our	eyasu	LHH	eyasu				eyasu	LHH	
1460	self	mɔiti	LHH	mɛnɛ	HH			mɛnɛ	LH	mn
1462	their (human)	eyaβu	LHH	ˌyabu				eyabu	LHH	
1463	them	bɔ	H	bɔ	H			bɔ	H	
1466	thing	joma	HL	ema	HH	ema	HL	coma	HL	
1467	this	eŋge	HL	eni				eŋge	HL	kn
1469	we (incl.)	isɛ	HL	isɛ	HH	sɛ	H(L)	isɛ	HL	
1471	you (pl.)	iɲɛ	HL	iɲɛ	HH	ɲɛ	H(L)	ɲɛ	H	
1472	you (sing.)	wɛ	L	owa	LH	oa	LH	gwɛ	H	
1473	your(s) (pl.)	eyaɲu	LHH	eyaɲu				eyanu	LHH	
1474	your(s) (sg.)	eyaβɛ	LHL	eyabɛ				eyaβɛ	LHL	
1480	down	ose	LH	wase, ose	LH,	ose	LH	ose	LH	
1484	outside	oβoka	LHL	lota	LH	eboka	LHL	esiŋgi	LHH	kl
1486	under	ose	LH	ose	LH			ose	LH	
1488	again	eɸete	LHL	fɛkɛ	LL			eɸɛete	LHL	kn
1489	all	besusu	LHL	ˌsusu	HH			esusu	LHL	
1491	because			linalama, eβaɲja	HHHL			cɔkɔ	HH	
1496	how?	ne	H	nawe	HL			nɛɛ	H	kn
1499	neuter	jɔ	H	efala	LLL			eɸara	LHL	mn
1500	no	aye	HH	aye, iʔi	LH			iʔi	HH	km,mn
1505	perhaps	nɔkɔ	LH	mɛnɛkɛ	LLL			benoma	HLH	
1511	what?	jaa	H	njamɛ	HH			ca	H	
1513	where?	owe	HH	owe	H(L)H			owe	HH	
1515	who?	nja	H	nja	H	nja	(L)H	nja	H	
1522	(000.5) half	eɸasi		ebasi, esuŋgu	LLL, LHH	esuŋgu	LHL	esuŋgu	LHL	km, mln
1523	(001) one	eyɔkɔ	LHH	eyɔkɔ	LHH	eyɔkɔ	LLL	eyɔkɔ, mɔkɔ	,LH	
1524	(002) two	bebe, βeβɛ	HH	bebe	H(L)H	beba	HL	bebɛ	HL	
1525	(003) three	beraro	HHH	belalo	HLH	beyaro	LHL	beraro	HLH	
1526	(004) four	beni, bene	HL	bene	H(L)H	beni, bini	, HL	beni	HL	
1527	(005) five	beta	HH	beta	HH	beta, betaa	, HHL	beta	HL	
1528	(006) six	betaliɔkɔ, betariɔkɔ	HHLHH	betaliɔkɔ	HHLHH	betariɔkɔ	HHLLL	betariɔkɔ	HHLHH	
1532	(010) ten	londalo, rondalo	HLH	dondalo	HLL	dondaro	HHL	dondaro, rondaro	HLH	
1537	(015) fifteen	okɔrɔ	LHL	okɔlɔ	LHL	ɔkɔlɔ	LHL	okɔrɔ	LHL	
1558	(1,000) thousand	ikori	LHH	ikoli	HHH	ikoli	LHH	ikori	HHH	
1559	colour			lɔki	(L)HH			rɔki	HL	
1560	whiteness	boɸuɸi	LHH	bofufi, fue	, LL			boɸuɸi	LHH	
1561	black, be	inda	HH	inda	HH	inda	HL	diinda	HL	
1568	red, be	roma	HH	loma	LL	loma	LL	diroma	LLH	
1573	red, make	romisɛ	HHH	lomisɛ				romisɛ	LHH	
1574	white, make	ɸuɸisɛ	HHH	fufisɛ		ɸuɸa	HL	ɸuɸisɛ	HHH	
1575	bigness	bokɔri	LLH	bokɔli		bɔnɛnɛ	LHL	bokɔri	LHH	kmn
1576	fatness	mokuku	LLL	mokuku	LLL			mokita	LLH	km
1577	height	bojawi	LLH	bowabi	LLH			bocawi	LLH	
1579	smallness	botiti	LHH	botiti		botiti	LHH	botiti	LHH	
1580	weight	boriri	LLH	bolito		boletu	LLH	boriri	LHH	kn,ml
1581	wideness	takama	HHH	efota	LLH			kɔrɔ	HH	
1582	big	kɔrɔ	HH	kɔlɔ	LL	kɔlɔ	LL	kɔrɔ	HH	
1585	few	bɔɔkɔ	LHH	tɔlɛ	LH			yomoma		

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1588	heavy, be	rira	LH	lita	LL	leta	LL	dirira	LLH	kn,ml
1593	light, be (not heavy)	sɛsɛrɛ	HHH	foama		fɛmɛ	HL	diwoa	LHH	
1594	little small, be	tita	HH	titia	HHL	tita	HL	dititia	LHHL	
1595	long, be	tomba	HH	waba	LL	awa	LL	cawa	LH	mln
1597	round, be	kiŋgirana	HHHH	iŋgilana		tuŋgulɛnɛ	LLLL	diiŋgira	LLHL	
1598	short, be	kutua	HHH	kutua	HHL	kutwa	HL	tui	HH	kml
1600	thick	ira	HH	lifama	LLL			tika	HH	
1606	lengthen	tombisɛ	LHH	wabisɛ				cawisɛ	HHH	mn
1608	shorten	kuturɛ	HHH	kutulɛ				tuisɛ	HHH	km
1614	bump (n)	iɸendo	LLH	ikpɔki				ekpɔki	LLH	mn
1616	heat (n)	boyaki		boyaki	LHL	lia	LH	boyaki	LHH	kmn
1620	rust (n)			wonjo, wunjo	, LL			maŋgareri	HHHL	
1621	slipperiness	ɲɔkɔtɔ	LHH	bɔɲɔli		lɔɔɲɔ	LHL	ɲɔrɔ	LH	
1623	strength	ŋgiɲa	HL	ŋgiɲa	(L)HL	ŋgiɲa	(L)HL	ŋgiɲa	HL	
1624	able, be	ɸorɛ	HL	folɛ	HH	ɸedɛ	HL	diɸorɛ	LHL	
1626	abundant, be	okunɛ	LHL	tumbɛnɛ, okunɛ	HHL	ɸua	HL	diɸua	LHL	km,ln
1627	accustomed, be	ijoea	HHHH	iyoanɛɛ	HHLLL			dicoanɛɛ	LHLHL	
1628	alone, be	wiiti	HHL	iti / mbaiti	LH			mbaiti	HHH	
1630	bad, be	bɔkɔ	HH	beba	HH			diβɔkɔ	LHL	kn
1631	barren, be (of land)			komba / koɲa	LL			koɲa	HL	
1637	clean, be	saŋga	HH	saŋga	LL			disaŋga	LHL	
1638	cold, be	diwɔ	LH	kanda	HH	ɲala	LL	diɲara	LLH	ln
1639	crooked, be	kɔtɔmɔ	HHH	kɔwɔmɔ	HHL			diweŋgama	LHHL	km
1641	different, be	isio	LLH	isio	LHH			esakɛnɛ	HLHH	km
1642	difficult, be	kamba	LH	kamba	LL	kamba	LL	dikamba	LLH	
1644	dry, be	wɛsɛ	HH	wɛsɛ	LL			dikora	LHL	km
1645	empty, be			efue	LLH			dimaisɛ	LHHH	
1646	enough	tiŋgɛnɛ	HHH	tiŋgɛnɛ	LLL			tiŋgɛnɛ	HHH	
1649	fast, be			fandama	HHL			diɲakama	LHHL	
1653	full, be	dironda	LHH	londa	HH	londa	HL	dironda	LHL	
1654	good, be	rɔrɔ	HH	lɔlɔ	LL	lɔlɔ	LL	dirɔrɔ	LHH	
1658	hot, be	ya	H	ya	H	ya	L	diya	LH	
1660	last, be (final)	rikanea	HHHH	komeɛ	LLL	liŋwenɛ	LLL	dimanea	LHHH	
1667	many	okunɛ	LHL	tumba	HH	fua	HL	ɸua	HH	ln
1668	new, be	ekɔrɔnɔ	LHHH	mokɔlɔnɔ	LHHH			ekɔrɔnɔ	LHHH	
1670	only	be	H	ŋga	L			bee	LH	kn
1674	quiet, be	sai	LL	sai	LL			da sai	LH LH	
1675	resemble (in appearance)	akana	HHH	akana	HHL	kita kwenɛ	LL, LL	akɛnɛ	HLH	kmn
1676	right, be correct	bomɛnɛ	LHH	bomɛnɛ	LLL	bɔmɛnɛ	LLL	dibomɛnɛ	LHHH	
1678	rotten, be	bɔ	H	bɔtɔ				diβɔ	LH	
1683	sharp, be	dora	LHH	ola	HH	ola	HL	doora	LHL	
1684	shrivelled, be wrinkled	ɲukea	LHH	ɲikea				ɲiβiri	HHH	km
1687	slippery, be	diɲɔkɔtɔ	LLLL	ɲɔlɔ	LL	ɔɲɔ	HL	diɲɔrɔ	LHH	
1690	soft, be	dijɛ	LL	bɔbɔ	LL	yɛ	L	dicɛ	LH	kln
1691	sour, be	dikaka	LLL	kaka		kaka	LL	dikaka	LLH	
1693	straight, be			imana		iŋwenɛ	HHL	diŋwanea	LLHLH	
1694	strong, be	direra	LLL	leta	LL	leta	LL	direra	LLH	
1695	sweet, be	ditɛmɛ	LLH	ɲeɲɛ	LL	ɲeŋgɛ	LL	ditɛmɛ	LLH	kn,ml

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1697	tight, be	diβoβoa	LHHH	tika	HH			dikata	LHL	
1698	torn, be	diɲa	LH	komboa				diɲa	LH	kn
1700	unripe, be	erumba	LLL	etumba				esa tani	HLHL	km
1702	weak, be			bɔlɔmɔ		sɔmbɔlɔ	LLL	onɔki	LLH	
1703	wet, be	diwɔ	LHL	ɲala	LL	ɲala	LL	dicɛkɛrɛnɛ	ml	
1704	whistling (adj.)	rondɔ	HH	uŋakeɛ				ɔmbirɛ	LLH	
1708	begin	botea	LHH	boteɛ	LLL			βotea	LLH	
1713	burn (intr.)	yaŋga	HH	yaŋga	HH	aŋgɛ	HL	yaŋga, uwea	HHH	
1716	cease	reni	HH	lenɛ	HH			kasa	HH	km
1718	cooked, become	kireβɛ	LHH	kilama				diβea	LLH	
1719	cool off, become cold	wɔise	LHH	ɲalisɛ		ɲala	LL	ɲarisɛ	LHH	mln
1722	dry up, evaporate	wɛsise	HHH	wɛsise	HHH	osa	HL	wɛsise	HHH	kmn
1723	dry (tr.)	wɛse	HH	wɛsɛ	HH	famba	LL	wɛsɛ	HH	kmn
1724	equal, become	ditiŋgai	LLLL	tiŋgana	LLL			tiŋganea	LHHH	
1726	finish	marɛ	LL	misɛ	LL	ma	L	maisɛ	LHH	
1732	hurry, be in a			biakeɛ						
1736	lean (v) (become leaning)	ɛkɛmeɛ	HHHH	ɛkɛmeɛ	HHHL	ɛkɛmɛ	LHL	ɛkɛrɛ	LHL	
1744	smell (bad) (intr.)	umba	LH	umba	LL	umbɛlɛnɛ	LHHL	imba	HH	
1745	smooth, make	ɲɔŋgɔrɔnɔ	LHHH	ɲɔlia	LLL			ɲɔβɔrɔnɔ	LLHH	
1746	soft, become	dijɛ	LLH	bɔbɔ	LL			diceise	LLHH	kn
1747	split (intr.)	sara	HH	salaba				sara	LH	
1751	straighten	uŋwarɛ	HHH	imalisɛ				iŋwarɛ	LLH	kn
1753	swell (v intr.)	ronda	HH	uɲa				ronda	HH	kn
1754	swell, cause to	rondisɛ	HHH	uɲise				rondise	HHH	kn
1760	end (n)	bekueri	LLHH	bekomeli	LLHH	dikɔmɛ	HLH	bemaneri	LHHH	kml
1762	here	waŋga	HL	wani	HH	ano	HL	waŋgea	LLH	
1763	journey (n)	ikendɔ	LLL	ikɛndɛ	LLL	lɔkɛndɛ	LLL	ikɛndɔ	LHL	
1764	left (dir.)	riɔsi	LLL	lɔsɔ	LL			momɔsɔ	LLH	kn
1767	middle	watiwati	LHHL	watewate	LHLH	tete	HL	watiti	LHL	
1772	side	ŋwiri	HL	fesi	LL	efasi, mbamba, muli	LLL, (L)HL, HL	ɸeɔ	HH	kl,ml
1776	there	onɛ	HL	wanɛ	LL	aŋgaa	HHL	onɛ	HL	kmn
1780	far	su	HL	cu	H			o caweri	L LHL	km
1784	slow, be	wɛŋgerɛ	LLL	wɔlɔmɔ	LLL			wɛŋgerɛ	LLH	kn
1785	surround	mesɛɔ	LLL	olɛnɛ	HHL			daβea	LLH	
1796	bow, bend (v)	reŋgemeɛ	HHHH	ɔndɔɛ		bɛlɛmɛ	LLL	reŋgemeɛ	HHHL	kn
1797	bring	yana	HH	fɔnɔ	LL	ɸɔnɔ	HL	iyana	HHH	kn,ml
1798	carry away	akanaka	HHHH	akana				akanaka	HHHH	
1799	carry in arms	sɛβɛ	HH	sɛbe		tɛkɛ	HL	sɛβɛ	LH	kmn
1801	carry on head	tɔŋgɔ	HH	tɔŋgɔ	HH	tɔŋgɔ	HL	tɔŋgɔ	HH	
1804	chase	ita	HH	kutɛ				koma	HH	
1806	climb, ascend	ɸotoa	LHH	tɔtɔ	LL	ondwa	HL	ondoa	LLH	ln
1807	close	riβa	LH	liba	LL	liba	LL	riβa	LH	
1808	come	iya, yaka	HH	fɔ	H	ya, ɸɔ	L, L	iɲa, nde, iya	LH	kln,ml
1809	come from	uwea	HHH	uweɛ	HHL	uwa	HL	iweri	HHH	
1815	curve, bend (v) (tr.)	kɔtɔmɔ	HHH	felamise		ɲika	LL	weŋgama	HHH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
1816	descend, go down	ɔndɔ	HH	ɔndɔ	HH	ɔndɔ	HL	ɔndɔ	HH	
1817	dive (v)	siβa	LH	siba		siba	LL	siβa	LH	
1818	drag, pull	ɔŋgɔtɔ	HHH	suka	LL	ɔŋgɔtɔ	LHL	ɔŋgɔtɔ	HHH	kln
1822	follow	koma	HH	koma	HH	koma	HL	koma	HH	
1823	get lost	bɔ	H	bɔ	H	bɔ	H	diβɔ	LH	
1825	go	akaka	HHH	aka	LL	kɛndɛ	LL	akaka	LHH	kmn
1826	go away	aroa	LHH	aloa	HHL	alwa	HL	aroa	LHH	
1827	go back, return	timba	LH	timba	LL	timba	LL	timba	LH	
1830	go in	kpea	HH	kpeɛ	LL	kpɛɛ	HL	kwea	HH	
1831	go round	kira	LH	aba	HH			aβa	HH	mn
1834	jump (v)	siβa	LH	embelɛ	HHL	fema	HL	siβa	HH	kn
1836	lean (intr.)	ɛkɛmeɛ	HHHH	ɛkɛlɛ	HHL			ɛkɛmea	HHHH	
1839	somewhere (original list: leave something somewhere)	oma wɔkɔ	HLHH	uma	LL			oma wɔkɔ	HHHH	
1842	lift	ombɛ	HH	ombɛ	HH			ombɛ	HL	
1844	load (v)	kaŋga	LH	kaŋgeɛ	LLL	kaŋga	LL	kaŋgea	LHH	
1845	lower (v)	ɔndɔre	HHH	ɔndɔlɛ, ɔndɛlɛ	, HHL			ɔndɔre	LHH	
1847	move away, migrate			onja	HH			aβa	LH	
1849	open (v) (as a box)	riβoa	LHH	liboa	LLL	buŋwa	HL	riβoa	LHH	kmn
1852	pass (tr.)	ɸesa	LH	tomba	HH	aka	HL	ɸesa		kn
1857	push	uɲa	HH	ɲoŋga		tindɛ	HL	tindea, tundɛre	HHH	ln
1858	put down	surisɛ	HHH	mata	LL	lika	HL	soa ose	LHLH	
1861	remain, stay	tɛ	H	tɛ	L	tɛɛ	HL	tɛ		
1862	rise up (intr.)	uŋwanea	HHHH	tokolɛ	HHL			ombɛ		
1863	run	isuma	HHH	bia	HH	bia	HL	isuma		kn,ml
1867	sit	sumama	HHH	lia	LL			sumama	LHH	kn
1873	squat	noŋgama	HHH	ɲoŋgama	HHL	ɲuŋgama	HHL	maɲuŋgɛ	LHH	
1874	stamp (with feet)			ndale				riko	HL	
1885	unload	kaŋgoa	LHH	fumbua				ɸumbua	HHH	mn
1886	unload from head	surisɛ	LHH	sunɛ	HH			sunɛ	HH	
1887	walk	aka, kɛndɛ	, LH	kɛndɛ	HH	kɛndɛ	LL	ikɛndɛ, kɛndɛkɛ	HH	
1890	beat	oβa	HH	oba	HH	oba	HL	oβa	HH	
1894	break (tr.)	boa	HH	boa	HH	boa	HL	boa	HH	
1895	burst			basa	HH			turua	HHH	
1896	burst open			basa	HH			turua	HHH	
1897	choke	uka	HH	ukɛ				ikwa	LH	
1899	destroy, spoil	bɔkise	HHH	tiba	HH	bukɛsɛ	HHL	bɔkise	HHH	kln
1908	press	banda, miɲa	, LH	miɲa	LL	mita	LL	iteya, mɛtɛ	LH	km,ln
1909	shoot	aŋgoa	LHH	aŋgoa	LLL	aŋgwa	HL	diɸeɸe	LLH	kml
1911	smash, break	rarea	LHH	lalee	LLL			rarea	LHH	
1913	stab	tuβa	HH	tuba	HH			tuβa	HH	
1914	throw	ɸimba	HH	fimba	LL	ɸimba	LL	ɸimba	HH	
1920	bar (door) (v)	riβa	LH	mbiŋgo	LL			riβa	LH	kn
1925	blow up, inflate	uŋgea	HHH	uŋgeɛ	HHL	injɛ		iŋgwea, uŋgea	HHH	
1927	contract,	miɲa	LHH	katisɛ				rerise	LHH	

Num	English	Lokundu (k)	Tone	Mbonge (m)	Tone	Londo (l)	Tone	Longolo (n)	Tone	Split
	tighten (tr.)									
1928	create	weka	LH	kemɛ	LL			weka	LH	kn
1929	dip	suβa	HH	ina	LL			ina	LH	mn
1930	disappear	ɲɔŋgɔ	HH	ɲɔŋgɔ	HH			ɲɔŋgɔ	HH	
1931	drip	sɔnjɔ	HH	tɔndɔ	HH	tɔɔ	HL	tɔndɔ	HH	mn
1936	fill	rondɛ	HH	londɛ	HH			rondɛ	HH	
1940	fold (v)	kuna	LH	ɲika	LL	ukula	LHL	ukura	HHH	ln
1943	hang up	kɛrɛ	LH	aŋgɛ	HH	kɛlɛ	LL	ɸeta	HH	kl
1944	hold	koɸa, uwara	HH	kofa	LLL	kofa	HL	koɸa	HH	
1945	increase (tr.)			kɔlisɛ	LLL			diɸuisɛ	LLHH	
1950	lose (tr.)	bɔrɛ	HH	ɔbɔʔ		bɔlɛ	HL	bɔrɛ	HH	
1951	make	bora	HH	bola	LL	bola	LL	bora	HH	
1952	melt (tr.)			ɲɔŋgisɛ				ɲɔŋgɔ	HH	
1957	prepare	boŋgisanɛkɛ	LHHHH	sakɛɛ	LLL			boŋgisanɛ	LHHH	kn
1958	produce, give out	diβota	LH	liyonda	LLL	bulɛ	HL	rionda	LLH	mn
1959	protect	sina	LH	sinɛ	LL			kɛŋga	HH	km
1960	quench, extinguish	bɔrɛ / rimɛ	HH	lima	HH	limɛ	HL	bɔrɛ	HH	kn,ml
1964	rub,wash	ɔkɔ	HH	ɔkɛɛ	HHL	ɔkɔ	HL	ɔkɔ	HH	
1965	scatter (intr.)	ɸaŋgɛ	HH	faŋgɛɛ		ɸakɛ	LL	ɸaka	HH	
1966	scatter (tr.)			faŋga	HH			ɸaka	HH	
1967	scrape	soroa	HHH	ɔmbɔ	HH	ɔmbɔ	HL	ɔmbɔ	HH	mln
1971	shake (tr.)	βinda	HH	ɲiŋgisɛ	LLL	ɲiŋgɛ	LL	ɲiŋgisɛ	HHH	mln
1972	shave (v)	soroa	HHH	sina	HH	solwa	HL	soroa	HHH	kln
1977	split (tr.)	sara	LH	sala	LL	sala	LL	sara	LH	
1979	spread (as disease or fire)	ɸaŋga	HH	koloa	LLL			ɸaŋganea	HHHH	kn
1980	sprinkle	ɸaɸa	LH	sɛsɛɛ	LLL	sɛsɛlɛ	LLL	mama	LH	ml
1981	squeeze	amoa	HH	amoa	HHL	ama	HL	ama	HH	
1984	stick (v -intr.)	bara		kamba	HH			bara	HH	kn
1985	stick (v) (tr.)			kambisɛ				bara		
1987	stretch	eɲoa	HHH	eɲoa	HHL	ɔɲuɛ	HHL	eɲoa	HHH	
1991	tear (tr.)	ɲa	HH	kamboa	HHL	ɲatwa	HL	ɲa	LH	kln
1995	wash (tr.)	sosa	LH	sosa	LL	soswa	LL	sosa	LH	
1997	wind (v)	ekwili, diɸeɸɛ	LHH	ŋguŋga	LL	ŋguŋga	(L)LL	ŋguŋga	LH	mln
1998	wipe	tuta, dituta	LH	tua	LH	toa, tua	, LL	yɔ, siroa	LLH	kml,

APPENDIX 6: Sample Mbonge Text

The following story was collected by Michael Scott from Mokwe Silas of Big

Bekondo, Cameroon in January 2000. It was translated and transcribed by Eyakwe Joe.

The transcription has been modified to fit the orthographic recommendations in this

paper.

Ngɔ e laka mboli.   One momana fɛ a lu ngɔ.   A mo lua dikɛlɛ.
A leopard eats goats. This man also has a leopard. He has a plantain stalk.

A mo lua mboli. Nga a ma bula nina o maliba, e buleli ea a maliba ama
He has a goat.   If he reaches a stream,   on reaching the stream he says

"How?"   Nga mɔ a mati dikɛlɛ   or nga anji ngɔ
"How (shall I cross)?" If he leaves the plantain stalk or if he takes the leopard

a tombani monɛ ŋili maliba onɛ,   mboli eni e ko da dikɛlɛ dini,
and crosses to the other side of the water, the goat will eat the plantain stalk,

kwɔta-kwɔta.   Nji ko kuma dikɛlɛ.   Nga mba nanji
"munch-munch." I know that I won't see the plantain stalk. If I take

mboli,   mati na ngɔ eni,   ndombani dikɛlɛ,   ngɔ
the goat, and leave it with this leopard, and cross with the plantain, the leopard

mboli, how?   Ama "Esekpo," ama, "Ngo bɔlɛnɛ bema beni."
(will eat) the goat, how? "No doubt," he said, "I will lose these things."

A manja dikɛlɛ na mboli a maakana.   Matimbeli a
(So) he took the plantain and the goat and carried them away. On returning he

mo timbana mboli.   A manja ngɔ a maakana.
brought back the goat. (Then) he took the leopard and went with it.

Free translation:

Everyone knows that leopards eat goats. Once there was a man who had a leopard, a plantain stalk and a goat. When he reached a stream, he wondered how he would cross. If he left the plantains and took the leopard across, the goat would eat the plantains and he would not have any plantains left. If he left the goat and leopard, and took the plantains across, the leopard would eat the goat. He thought to himself "Both ways I lose something." Finally, he took the plantains and the goat across. Then he brought the goat back and took the leopard across.

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