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MOULD, Martin Joel, 1942-
COMPARATIVE GRAMMAR RECONSTRUCTION AND LANGUAGE SUBCLASSIFICATION: THE NORTH VICTORIAN BANTU LANGUAGES.

University of California, Los Angeles, Ph.D., 1976
Language, linguistics

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UNIVERSITY OF CALIFORNIA

Los Angeles

Comparative Grammar Reconstruction and Language Subclassification: The North Victorian Bantu Languages

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

Martin Joel Mould

1976

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The dissertation of Martin Joel Mould is approved.

Christopher Ehret

Raimo Anttila

Talmy Givón, Committee Chairman

University of California, Los Angeles

1976

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To Dollie and Chori

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ACKNOWLEDGEMENTS

This study, the use of historical-comparative linguistics to reconstruct some of the early history of the languages and peoples of the Great Lakes region of East Africa, was conceived of before I became a serious student of linguistics. Indeed, my interest in this area was one of the primary reasons for my getting into linguistics, and resulted from my work in Uganda as a teacher of East African history. So in acknowledging the various people I feel have helped me in this endeavor I want to begin by thanking my students at Jinja College, and my friends and colleagues in Jinja and Kampala for encouraging and helping me to learn something about their languages, cultures and histories.

Special thanks go to my sister and brother-in-law, Myrna and Arnold Offen, for making the initial investment that enabled me to come to UCLA, and to Dr. Stockwell, then chairman of the Linguistics Department, for helping me make certain that investment was not in vain. I am deeply grateful to my parents for their love and support, moral and financial, over many years.

I want to thank the Linguistics faculty of UCLA for their teaching and encouragement at every stage of my

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graduate education, specifically Professors Fromkin, Ladefoged, Givón, Bright, Vennemann, Partee, Thompson and Anttila. Thanks also to Audrey Duckert of the University of Massachusetts, my first linguistics teacher.

For discussions and suggestions for improvements of earlier drafts of this study I am indebted to Talmy Givón, Dollie Meyers (who also did the maps), Benji Wald, Raimo Anttila and Chris Ehret. I owe a special debt of thanks to my language informants, named in Appendix I, for their valuable assistance, insights, patience, friendship, and good humor. I also want to thank Dr. John Sharman, who supervised my research in Kenya and with whom I spent enjoyable hours discussing Bantu linguistics. No one is responsible for any errors.

I want to single out for special thanks my teacher, advisor, chairman and friend, Talmy Givón, from whom I learned more linguistics than from any other single person, and who from the beginning has encouraged me to do better work than I thought I could.

Much of the research for this dissertation was carried out while I was in Kenya, financed by a Fulbright-Hays dissertation research fellowship, which I gratefully acknowledge. I originally planned to conduct my research in Uganda, and when it became unsafe to go there, I was enabled to go to Kenya instead. I wish to thank Louise Noodelman at UCLA and John Paul in Washington, D.C. for their

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efforts in helping me cut through the red tape of changing countries. I also happily acknowledge the Institute of African Studies of the University of Nairobi, with which I was affiliated, and thank its most able former adminstrator, Mrs. J.K. Jerath.

Many thanks to Sharon Barr for the superb job of typing. Last but most I thank my family, Dollie Meyers and Chori Orozco, for different kinds of encouragement and support, and in general for greatly enriching my life the past five years. This dissertation is dedicated to them.

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PUBLICATIONS

Mould, Martin. 1971. Predicate nominal agreement in Luganda. Studies in African Linguistics 2:1.

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-------. To appear. The Proto-Bantu voiced consonants and the feature [voice]. Proceedings of the Seventh Annual Conference on African Linguistics.

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ABSTRACT OF THE DISSERTATION

Comparative Grammar Reconstruction and Language Subclassification: The North Victorian Bantu Languages

by

Martin Joel Mould
Doctor of Philosophy in Linguistics
University of California, Los Angeles, 1976
Professor Talmy Givón, Chairman

The twin goals of this dissertation are to effect a linguistically based subclassification of the Bantu languages of Eastern Uganda and Western Kenya, and to reconstruct a partial grammar of the immediate proto-language. The languages involved in this study are Ganda and Soga, spoken in Eastern Uganda, and Luyia--four dialects of which are included--and Gusii, spoken in Western Kenya. The four dialects of Luyia are Saamia, Wanga, Bukusu and Logooli.

The original hypotheses underlying the research were that Ganda, Soga and Luyia would constitute a genetic subgrouping, to be called North Victorian Bantu. The status of Logooli, widely agreed to be related to Gusii rather than to Luyia, was approached with an open mind. It was

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also thought that, due to the great similarities and prolonged social contact among these languages, the Comparative Method might not be very useful for subgrouping because of the likelihood of borrowing and areal change. It was felt that morphological and syntactic criteria might prove more helpful.

Chapter 1 is a brief summary of major relevant literature on the area, both linguistic and historical, focusing on points of disagreement concerning subclassification and directions of migrations.

Chapter 2 is a lexicostatistical study. A tentative subgrouping is proposed which indicates that Logooli is a dialect of Luyia. The cognate percentages are then compared with those of Ehret (1973). Ehret's subgrouping of East and West Lacustrine Bantu languages is then combined with those of the present study. It is concluded that Luyia is part of East Lacustrine, but that Ganda and Soga are still closer to other languages such as Nyoro and Haya; therefore North Victorian Bantu is not a valid subgroup. It is also suggested that Gusii is probably more closely related to West Lacustrine and Central Kenyan languages, and, further, that whereas the Baluyia arrived in Western Kenya via Uganda, the Bagusii most likely arrived there from the south, via Tanzania.

Chapter 3 is an examination of sound change. Section 3.1 deals mainly with the phonological history of Luyia.

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Few sound changes are found to be helpful for genetic purposes, since most were areal, but those that are evidently shared innovations support the subgrouping suggested in Chapter 1. Section 3.2 reconstructs the development of consonant gemination in Ganda.

Chapter 4 is a comparative study of morphology. In section 4.1 is a discussion of noun phrase morphemes--demonstratives, augmentative and diminutive noun class prefixes, and pronouns. In section 4.2 are presented the independent tense markers of verbs. The chapter focuses mainly on reconstruction of proto-morphemes, but a few morphemes, especially some of the tense markers, are seen to be shared innovations and add weight to the already proposed subclassification.

Chapter 5 is a presentation of several aspects of syntax--gender agreement in conjunction-reduction, demonstrative agreement in gapped constructions, and the function of the noun pre-prefix. The discussion attempts to provide a methodology for syntactic reconstruction as well as some insights into the nature and causes of syntactic changes. It is found that, with the aspects of syntax examined, there is little to support the hypothesis that syntactic criteria are very helpful for subgrouping. It is suggested, however, that the difficulty may be due as much to the close relatedness of these languages and to the rules and conditions examined, as to the nature of syntactic change itself.

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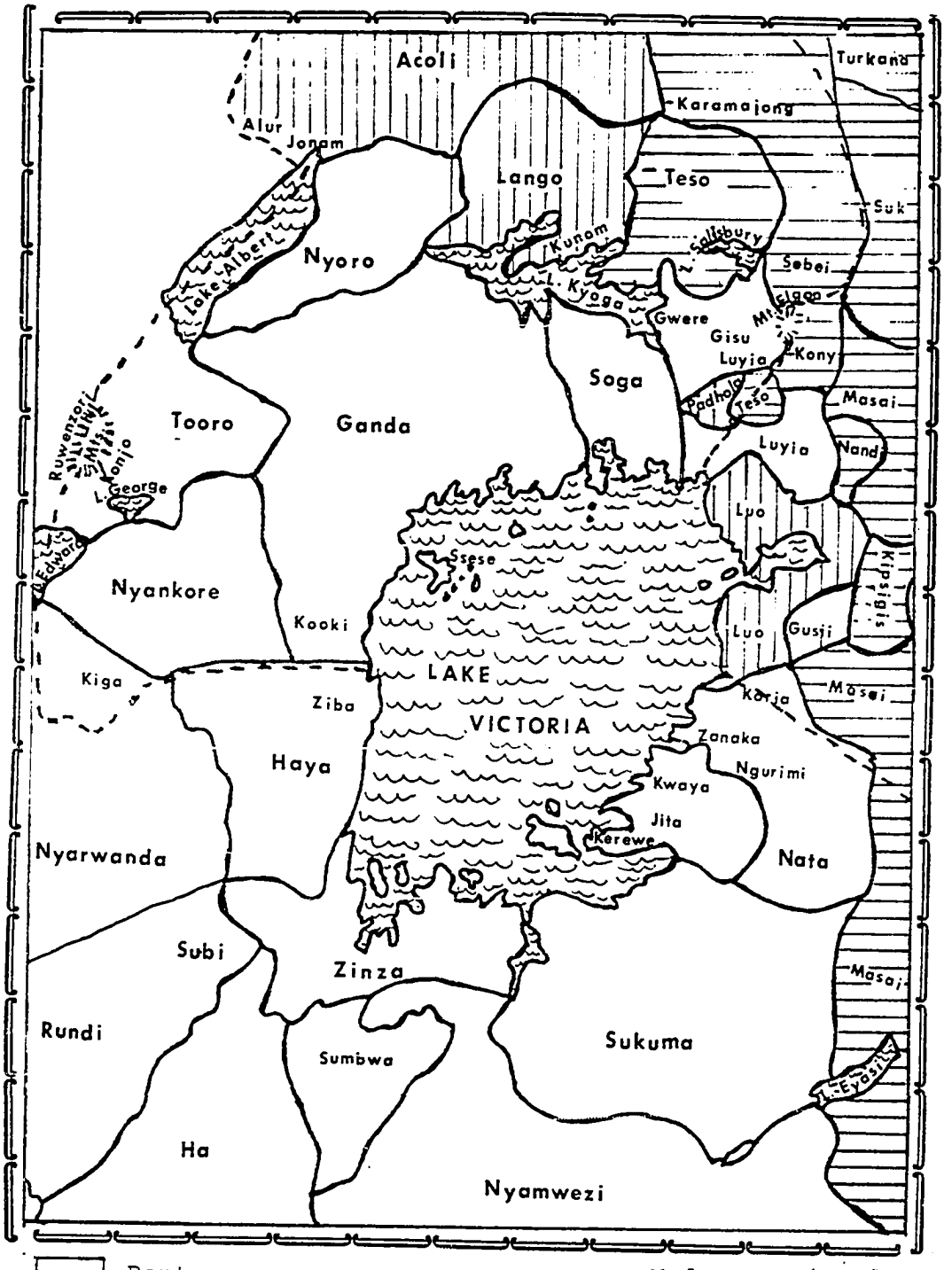

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The comparative method remains today the most powerful device for elucidating linguistic history. When it is carried to a successful conclusion, the comparative method leads not merely to the assumption of the previous existence of an antecedent common language, but to a reconstruction of all the salient features of that language. A reconstructed grammar and dictionary cannot claim any sort of completeness, to be sure, and the reconstruction may be changed because of new data or better analysis. But it remains true, as one distinguished scholar has put it, that a reconstructed protolanguage is "a glorious artifact, one which is far more precious than anything an archaeologist can ever hope to unearth."

Calvert Watkins
The American Heritage
Dictionary of the English
Language, Houghton-Mifflin
Co., 1969, New York

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PREFACE

0. Introduction

The goal of this study is two-fold. It is an attempt to achieve a linguistically based subgrouping for several closely related Bantu languages, and thus also to reconstruct part of the history of the people of the area; and also to begin to reconstruct part of the grammar of the immediate proto-language from which the modern languages are descended. More specifically, the first goal is an attempt to begin the subgrouping of Bantu "from the bottom up" rather than, as has mainly been done to date, from the top down. In other words, instead of subgrouping based on Proto-Bantu, I am attempting to reconstruct an intermediate level genealogy.[1] My hope is that I and other Bantuists will eventually expand outwards from this subgroup and others in all directions, gradually adding languages, and no doubt continually modifying subgroupings, reaching higher intermediate levels, all the way up to Proto-Bantu itself. I believe this to be the best and most valid procedure for subclassification and reconstruction, and it should also provide valuable insights into the nature of linguistic change, both in Bantu and in the realm of human language in general, and also into the history of the Bantu peoples.

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The second goal, grammar reconstruction, is aimed partly to find out more about the grammar of the proto-language than just its lexicon, and phoneme inventory, and partly to learn more about the nature of syntactic change. But I thought it might also be useful for subclassification. In undertaking the research for this study I hypothesized that, since the languages chosen are closely related and already known to be so, both linguistically and geographically, there would be severe difficulties in using just the traditional tools of lexicostatistics and phonological reconstruction. It seemed to me that problems would arise due to the likelihood of extensive borrowing, even in so-called core vocabulary, including borrowing at an early enough time so that loanwords could not be detected due to subsequent phonological changes. It also seemed to me that comparative phonology at this low level might not be very useful, since so many sound changes in Bantu are quite natural and so many are found widely scattered that must have occurred independently, so that one could not be certain whether or when one was confronted by an innovation that was shared or not. In addition, and as Hinnebusch (1973) found in his study of the closely related Northeast Coastal Bantu languages, many such changes must be regarded as areal, rather than as necessarily implying any genetic relationships.

Consequently I decided to test a hypothesis that morphology and syntax might be used in addition to wordlists and sound changes; that perhaps they are less subject to

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borrowing and hence useful criteria for subgrouping. At the very least the added weight of evidence from morphological and syntactic isoglosses might help to confirm conclusions based on the more traditional lexical and sound isoglosses. As a specific example in morphology, we know that most tense markers are not reconstructible to Proto-Bantu and many are of quite recent origin. Therefore, I thought it might prove fruitful to compare tense markers for intermediate level subclassification. An example in syntax is to compare the ways different languages handle the resolution of gender conflicts in conjunction-reduction. Of course this is not a new idea in genetic linguistics; many of the major isoglosses used in subclassifying Indo-European languages are of these latter types, but these possibilities have scarcely been tapped in Bantu studies until very recently, cf. Wald (1974) and Givón (1974b.)

This study is divided into two main parts. Part I employs the traditional tools of the Comparative Method, lexicostatistics and internal and comparative reconstruction in Chapters 2 and 3, respectively, examining sound correspondences and sound change. Chapter 1 is a preliminary discussion of the literature, linguistic and historical, that deals directly with the area covered in this study. Part II deals with morphological and syntactic problems. Chapter 4 consists of comparisons of pronouns, demonstratives and derivational noun-class prefixes, and the independent

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tense markers of verbs. Chapter 5 looks at problems of concordial agreement with regard to conjunction-reduction and gapping with demonstrative agreement, and the uses of the Initial Vowel.

0.1 Languages

The languages examined in this study are: Luganda and Lusoga, spoken in Uganda, and Luluyia[2] and Kegusii, spoken in Western Kenya. Within the Luluyia dialect cluster I have chosen Lusaamia, Luwanga, Lubukusu and Lɪɔgooli. In Part I only, Lwidakho is also represented.[3] There were definite reasons for choosing these languages and dialects in particular. My original hypothesis, when I was expecting to conduct my research in Uganda, was that Ganda and Soga seemed somewhat removed from the rest of the Interlacustrine Bantu languages.[4] When I decided to change my orientation more towards Western Kenya, an extension of my hypothesis, that Ganda and Soga might form a valid subgroup with at least some of the Western Kenya languages, became the primary focus.

Gusii was chosen as representative of the non-Luyia Bantu languages west of the Great Rift Valley, including also Kuria and Suba.

The various Luyia dialects were not chosen arbitrarily. I could not hope to collect data on every dialect and so I selected those listed above for the following reasons; Saamia because it is adjacent to Soga and covers both sides

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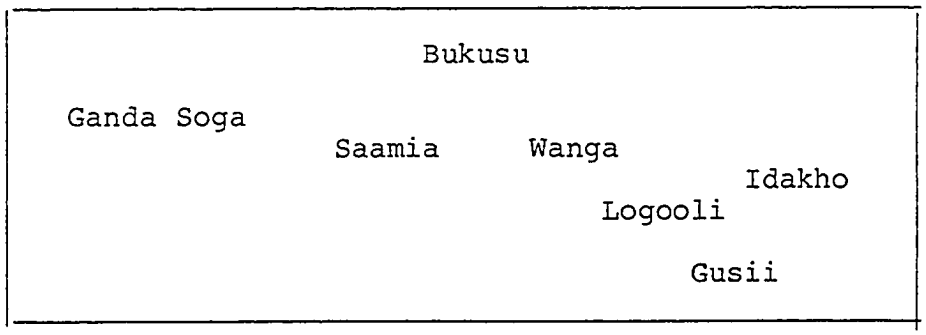
of the Kenya-Uganda border;[5] Wanga for its central location and probable historical status as a prestige dialect; Bukusu as representative of Northern Luyia, including Gishu; Logooli as the extreme southern dialect, and because there is a question whether it is a Luyia dialect at all, or whether it should be classed with Gusii. With respect to the last two I was also interested in the problem of the standard Luyia orthography to which the Babukusu and Balogooli strenuously object, having developed their own in protest.

The following prototype isogloss map shows the relative positions of languages and dialects:



I decided later to include Idakho in Part I since it is a southern Luyia dialect but with many features of central Luyia, and is thus of interest as a transitional dialect. I deliberately omitted Eastern Luyia (Tachon, Kabras) since those people are historically mostly Bantuized Kalenjin. My Bukusu informant felt that they were closest to northern Luyia, while Bennett (1973) places them in an eastern subgroup of central Luyia.

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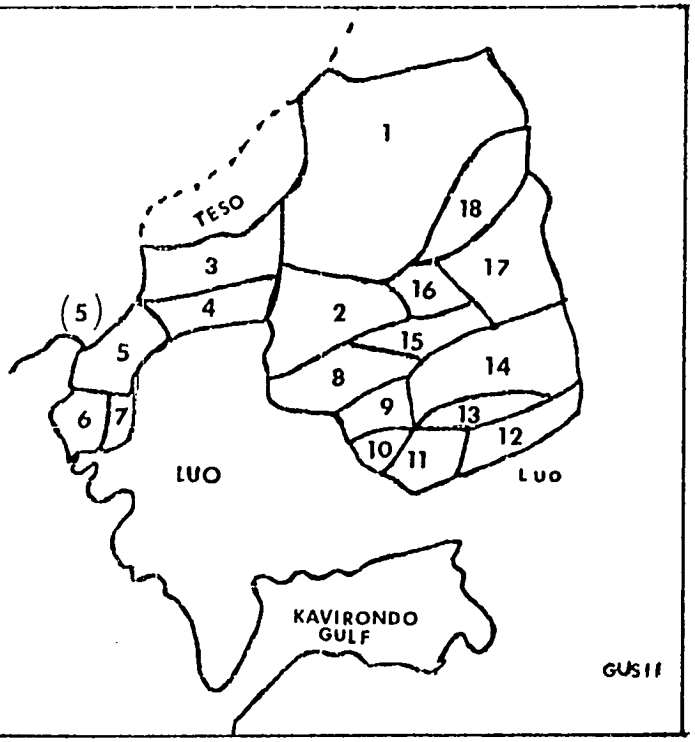
1. Bukusu
2. Wanga
3. Khaayo
4. Marachi
5. Saamia
6. Nyala
7. Songa
8. Marama
9. Kisa
10. Nyore
11. Logooli
12. Tiriki
13. Idakho
14. Isukha
15. Tsotso
16. Nyala
17. Kabras
18. Tachon
(19. Gishu)



Map of Buluyia, showing locations of the subtribes
(adapted from Osogo, 1966)

I should point out here that since only representative dialects of Luyia are under investigation in this work,[6] the various "isogloss maps" that I have made for the various words, sounds and rules are only schematic and the lines rarely have anything to do with real geographic location. Real isogloss maps will unfortunately have to wait for true dialectological studies on Luyia, and studies of the Soga dialects and the "minor" languages of Eastern Uganda such as Gwere and Nyuli. Brown (1972) is a good source, at least phonologically, for subdialects of Gishu.

I was fortunate enough to find informants in Kenya who were all about the same age, early twenties. All spoke only their native language or dialect at home as children, and none really knows any other dialect, though of course they understand some others to a greater or lesser degree. Also most already expressed having a keen interest in their respective vernaculars and told of their going out of their way to converse with older people in the villages to learn to speak the "pure" language, without all the Swahili and English influences found in modern colloquial urban usage. They were very good at indicating what are archaisms and what are neologisms, as well as some subdialectal and dialectal differences. I list them in Appendix I for individual credit and thanks, with their "vital statistics". The points on the accompanying map indicate precisely where they were born and grew up.

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0.2. Orthographic Conventions

It is necessary at this point to explain the orthography used in this study for the various languages and dialects, as well as to explain my transcriptions. Most of the symbols used really need no explanation as they are the normal IPA symbols. These are: p t c k (voiceless stops), b d j g (voiced stops), Φ f s ʃ x (voiceless fricatives), β v z ɣ (voiced fricatives), m n ñ ŋ (nasals), l r ɾ̃ (liquids), h y w (glides). (r is a flap, ɾ̃ is a trill.) Subscript ° indicates voicelessness (e.g. $\underset{\circ}{w}$).

Superscript y and w indicate palatalization and labialization, respectively. f^w is certainly distinct from fw, but it is debatable when and how much k^y and g^y are different from c and j. As often as not, I have probably been influenced by Ganda orthography. Fortunately it is never a serious problem.

Less easily recognized symbols are: for Soga $\underset{\frown}{n}$, $\underset{\frown}{d}$ are interdental nasal and voiced stops, respectively; for Logooli, $\underset{\frown}{\tilde{n}}$, $\underset{\frown}{y}$ are palatalized interdental nasal and interdental glides, respectively, which seem to be phonemically distinct from ñ, y synchronically, if not historically. ɧ is a palatalized h (in IPA ɕ). In various Luyia dialects ɭ is a flapped lateral--or perhaps a lateral flap.

In general I should call my transcription "broad phonetic". Aspiration is not indicated since it is never distinctive. I will only say that p t k in Ganda and Soga

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are aspirated as in English; in Luyia and Gusii they are generally not aspirated, but some degree of free variation exists. /ṽns/ and /ṽnz/ are usually [ṽs] and [ṽz]; $\underset{\circ}{C}V\#$ in Luyia is often $[\underset{\circ\circ}{C}V\#]$, especially before a pause; /mu#/ and /ni#/ are often [mm̥^{w}#] and [nn̥#], especially in Ganda and Soga.

As for the vowels, in the five-vowel languages i e a o u are used, representing what are very close to the cardinal vowels. Minor variations due to low level phonetic vowel harmony of the type

$$\begin{Bmatrix} o \\ e \end{Bmatrix} \longrightarrow \begin{Bmatrix} ɔ \\ ɛ \end{Bmatrix} / \_\_ C \ a$$

are not noted. In the seven-vowel languages ɪ ʊ ɛ ɔ are also found. The first two are found in Logooli, where Proto-Bantu */i̱ i/ were both lowered to /i ɪ /, but */u̱ u/ were not lowered. In Gusii are found the last two, where Proto-Bantu */i̱ i e u̱ u o/ were all lowered to /i e ɛ u o ɔ/. In these two languages vowel harmony of the types

$$ɛ, ɔ \longrightarrow e, o / \_\_ C \begin{Bmatrix} i \\ u \end{Bmatrix}$$

and

$$e, o \longrightarrow ɛ, ɔ / \_\_ C \begin{Bmatrix} ɛ \\ ɔ \end{Bmatrix}$$

are noted.

Hyphens represent morpheme boundaries. NC stands for nasal cluster, while Nc means that the oral one is voiced. The case of Idakho is different. I had not intended to use Idakho at all, since I had Logooli representing Southern Luyia. But my Wanga informant, Ms. Wambani suggested to

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me shortly before I left Kenya that it would be interesting and useful to include it. Lack of time precluded my holding regular sessions so she took my wordlist to a Mwidakho friend to fill out. I received the list in standard Luyia orthography, and while the consonants present no problems the vowels do. Vowel length is never indicated and the orthography recognizes only five vowels, whereas the dialect has seven. So while comparative evidence often enables us to determine what were originally Proto-Bantu */i̱ i ụ u/, etc., I have little idea of what they actually sound like. I had hoped to meet the person and go through the list with her but was unable to do so. I regret this defect in the data and apologize to interested readers. Ehret (personal communication) says they are quite similar to Logooli, and I have written them accordingly.

I also apologize for the omission of lexical tone markings. I did mark tones in my field notes--as best I could--but I decided not to include them here; lexical tone in these languages has a rather low functional load anyway. Readers will note, however, the presence of morphonological tone marking, especially in the verbs, where often only tone is used to distinguish one tense from another, or relative clauses from main clauses. Where marked, / \ ∧ are high, low and falling, respectively.

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FOOTNOTES TO THE PREFACE

[1]This idea for bottom-up subgrouping originated, as far as I was concerned, with Talmy Givón in his Comparative Bantu seminar at UCLA. Cf. also Henrici (1972).

[2]Various spellings can be found in the literature and elsewhere for this group: Luya, Lulya, Luhya, Luyia. "Luhya" is probably most commonly acceptable in Kenya. But the pronunciation implied by that spelling is found only in Logooli. I have chosen "Luyia" because that is the way most of my informants pronounced the word, and because Were and Osogo prefer it.

[3]For the sake of brevity languages and dialects will be referred to without their noun class prefixes, e.g. Ganda, Logooli, Idakho, Gusii, etc.

[4]The term "Interlacustrine" which will henceforth be called just "Lacustrine" (as in Ehret, 1972) refers to the Great Lakes region of East Central Africa, and the languages so named are spoken in the southern half of Uganda, Rwanda, Burundi, and Northwest Tanzania.

[5]I selected the Kenya subdialect of Saamia, since Ugandan Saamia has been much influenced by Ganda, which is

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normally used as the language of instruction in primary schools in that area.

[6]In fact there are several distinct dialects of Soga, too, only one of which is used in this study--Lugabula.

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PART I

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CHAPTER 1

LINGUISTIC AND HISTORICAL BACKGROUND

1. Introduction

In this chapter I will outline what I consider to be the relevant background, both in linguistic and historical work that has been done in the area that concerns us. In section 1.1 I will discuss some of the work done by Bantu scholars to date, insofar as it relates to the languages and scope of this study. In section 1.2 I will briefly discuss what historians have learned about the peoples whose languages are under investigation.

It may be unusual to relegate this discussion entirely to a separate chapter but, for reasons which will become clear in the following pages, previous work by both linguists and historians is not always helpful for a study of this nature, and is therefore not easily subject to criticism, expansion or modification except in a few instances. As will be seen, little reference will be made in the following chapters to most of this previous work. This should not be automatically construed as criticism or disapproval of, or disagreement with, those works. On the contrary, I believe most of them to be valuable contributions and I also believe whatever faults they may have to

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be in many cases relatively minor. It is simply the case that the goals of this study are sufficiently different, so that much of the previous work is not directly relevant. I also want to stress that I feel that no work, including mine, can be taken in isolation in attempting to reconstruct the early history of the area. Each approach has its own emphasis and gives an incomplete picture. My hope and intent are that this dissertation will add a few pieces to the whole.

1.1. Linguistic Background

Comparative Bantu linguistics has a long tradition, nearly as old as comparative linguistics in general, beginning with Bleeck, who first noted the structural similarities among the languages and coined the term "Bantu". Johnston (1919) examined common Bantu vocabulary and recorded the distributions of individual items. Meinhoff (1932) is famous for his study of Bantu phonology and reconstruction of some "Ur-Bantu" vocabulary.

Meeussen's work in Bantu tonology and on individual languages is well known, as is his Bantu grammatical reconstruction (Meeussen, 1967). Perhaps the best known is Guthrie (1967-70) and his work on the reconstruction of Common Bantu[1] and the division of the Bantu languages into zones and groups, and his work will be more fully discussed shortly. A great deal of work was done by these and

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other scholars to lay a solid foundation in the reconstruction of Proto-Bantu.[2] More recently, thanks largely to Greenberg (1966) the large Bantu family has been seen to be merely a subfamily, a single branch of a larger tree, Niger-Kordofanian, which encompasses an even larger area of sub-Saharan Africa.

Aside from the work done on Proto-Bantu a very large number of Bantu languages has been studied individually, to a greater or lesser extent. And recently, and particularly in the United States, Bantuists, especially those working within the framework of Transformational-Generative linguistics, have been examining individual aspects of the grammars of these languages, in the phonetic, phonological and syntactic-semantic components. As a result of all these labors we know a lot about Bantu structure and about Proto-Bantu. We know that it was spoken about 2,500 years ago, probably originated in or near what is now Cameroun, and that sometime thereafter there must have been one of the greatest series of migrations the world has witnessed. These evidently lasted until only a few hundred years ago when the Bantu speaking peoples had succeeded in spreading from West Africa across to East Africa, along both the Atlantic and Indian Ocean coasts, from the Sahara down to the Kalahari Desert.

What we have very little knowledge of, however, is what happened during the two millenia between the initial

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division of the proto-community and the more or less permanent settlement of their descendents approximately where they are to be found today. To put it in linguistic terms, we know very little about intermediate level subgroupings of Bantu languages. We do not know how to subclassify the modern languages accurately; we have little idea of what intermediate level proto-languages were like, and as a result we know equally little about the people who spoke them, where they lived, and how.

1.1.1. Guthrie's Subgrouping

These gaps in our knowledge about genetic Bantu linguistics are the direct result of the orientation and methodology of most comparative Bantu scholars. This can be seen most clearly in Guthrie's Comparative Bantu (1967), where he collected data from a large number of what he considered to be representative languages from all over what he considered to be the Bantu area for his reconstruction of Common Bantu. Then, using twenty-eight "test languages", he made a family tree. That part of his tree that is relevant to this study is reproduced here as Fig. 1.1:

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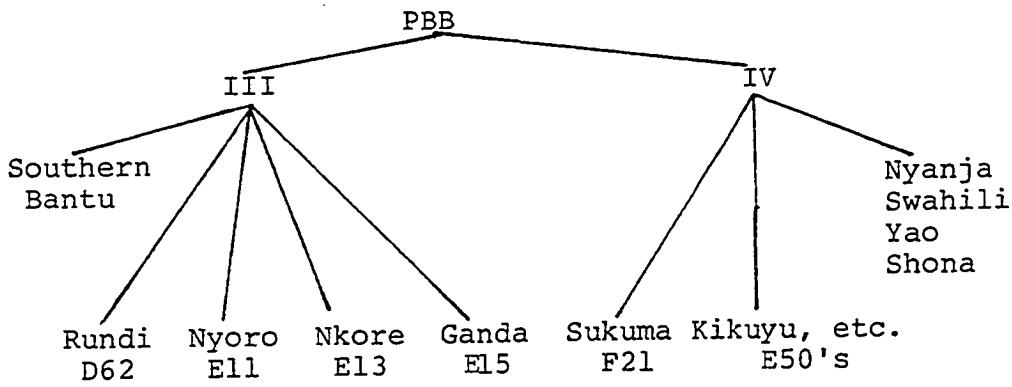

Figure 1.1

Family Tree of Lacustrine Languages
According to Guthrie

Assuming for the moment the validity of Guthrie's tree with respect to his own data (cf. below), there are two major problems. First, a very large number of languages is left out; therefore we are not helped in trying to determine the closer genetic relationships of the modern languages. We could use his data from the other languages and fit them onto his tree, but there are still many unaccounted for, Soga and Logooli, for example. Note that, according to Guthrie's tree Sukuma and Kikuyu have no more immediate ancestor related to Rundi and Ganda than Proto-Bantu B (here PBB) or "Eastern" Bantu. It will be interesting to see how other scholars have discussed the relationships of these languages, and I shall draw conclusions of my own in the next chapter.

The second, and far more serious problem from our point of view, is that with this method there is no real way to reconstruct an intermediate level proto-language,

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say at III or IV. It is merely the case that the languages at the bottom yield a proto-language at the top; then a tree is drawn based somehow on the reconstructed proto-language.

1.1.2. Heine and Henrici's Subgroupings

In fact there have been two attempts known to me to refine and correct Guthrie's tree according to his own data. One is Heine (1973), the relevant portion of which is given as a tree in Fig. 1.2. While on the whole it is something of an improvement, in our area of interest it is even less informative than Guthrie's, since he ends up with just a "brush"--i.e. all the tree branches are coordinate; there are no hierarchical relations.

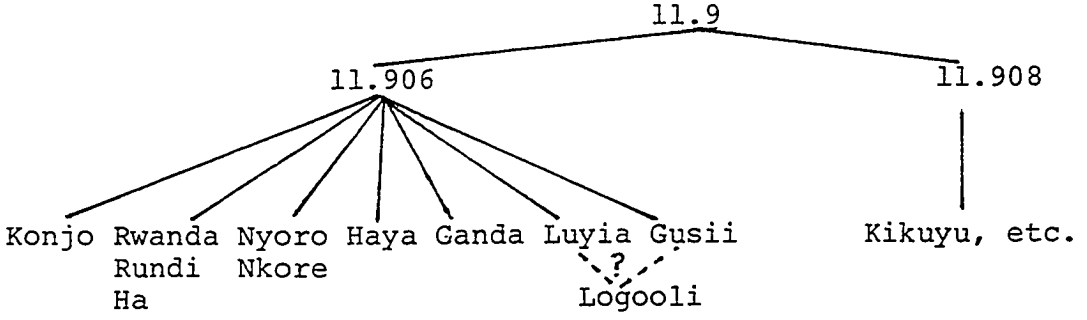

Figure 1.2

Family Tree of Lacustrine Languages
According to Heine

I must emphasize that Heine's tree is an improvement over Guthrie's at the higher levels. It also conforms quite closely at that level to the tree of Henrici (1972),

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arrived at independently, and which is partially redrawn here as Figure 1.3.

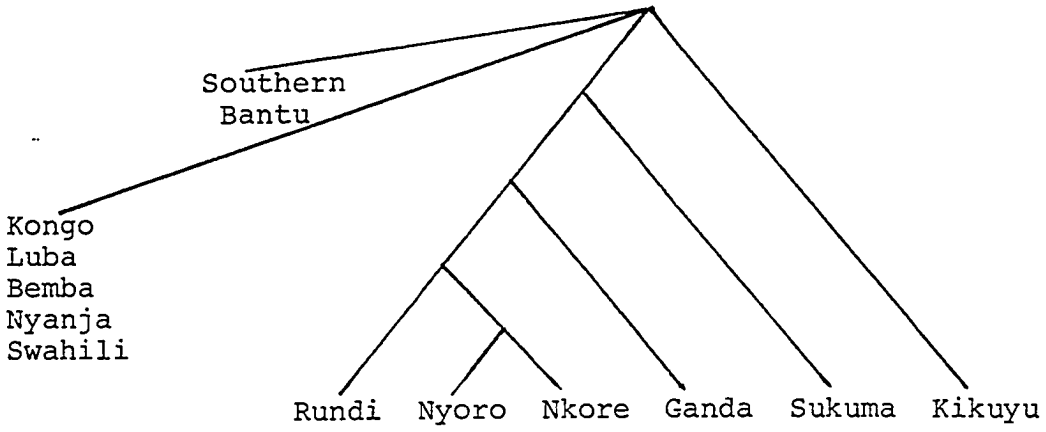

Figure 1.3

Family Tree of Lacustrine Languages
According to Henrici

Note that Henrici's tree claims that Sukuma and Kikuyu are much closer to the Ugandan languages than Guthrie's tree does. At the upper levels of his tree he has the languages of Guthrie's zones A, B and C[3] separate from the rest as the first bifurcation from Proto-Bantu, very similar to Heine. I think this is a significant improvement over Guthrie, who has ABCHKLR all on one branch (PBA). This initial split of Guthrie's seems to be largely responsible for his demographically and linguistically implausible migration-through-the-rain-forest theory.[4]

But these improvements still suffer from the same two deficiencies mentioned above. Henrici does suggest ways of improvement, such as the use of a Swadesh-type list

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and the use of phonological and grammatical criteria; and these will be used in the following chapters. But even these will not suffice for learning about intermediate levels. The only way that can be done is to take separately small groups of probably closely related languages, determine subgrouping for those, and gradually add others from nearby and continually revise the makeups of previously posited subgroupings. This "bottom-up" method of subclassification should provide more accurate subgroups and reconstructions, and at the same time allow--in fact require--intermediate level reconstruction along the way.

1.1.3. Doke's Subgrouping

Doke also attempted to subclassify the Bantu languages (Cole, 1959). Like Guthrie, but earlier (1945), he divided them into zones and groups, and he, too, warned that the zones were more geographical than linguistic. He had a zone 50--"Eastern"--that included Tanzania, except the Northwest, and northern Mozambique, and a zone 20--"Northern"--that included the Lacustrine area and Central Kenya. Cole and Tracey, a Bantu musicologist, added a few languages and names of dialects to Doke's original work. The result is that Luyia was placed in the Northern zone (Lacustrine), Logooli, called Ragole, was considered a dialect of Luyia (but Gishu was not), and Gusii was placed in the Eastern zone along with Sukuma and other Tanzanian languages. This subgrouping is translated into

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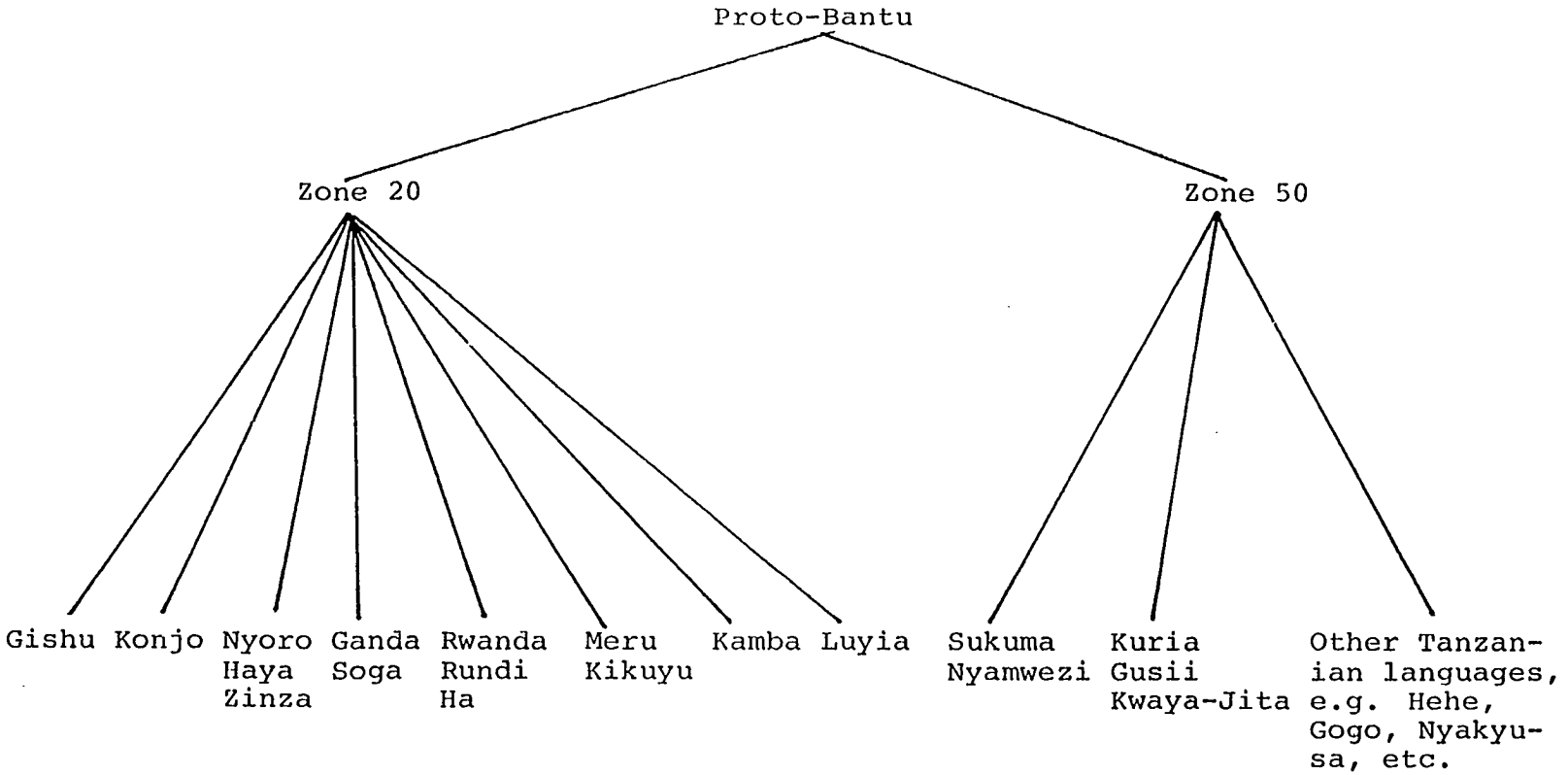

Figure 1.4

Family Tree of Lacustrine Languages
based on Cole (1959)

a family tree, Figure 1.4. There was no suggestion as to how the zones should be connected or subgrouped. Neither was their any indication about further subgrouping the smaller groups. For example, within zone 20 each branch is coordinate with each other; we have another brush, and Kikuyu looks as close to Kamba as to Ganda.

1.1.4. Ladefoged et al. Uganda Subgrouping

Recently some work has been done examining smaller groups of languages and attempting to reconstruct or at least discuss intermediate or lower level subgroups. One such is Hinnebusch's dissertation (1973) on Northeast Coastal Bantu languages, including Swahili, Pokomo and the Mijikenda dialects. Another is Bennett's work on Thagicu, the Central Kenya languages, including Kikuyu, Kamba, Meru, Embu, etc. Bennett has also done a phonological study of the Luyia dialects (1973) and that paper will be discussed in Chapter 3. Brown (1972) is a phonological study of the Gishu dialects; Doke (1961) is a well-known work on Southern Bantu, though faulty in the same ways as Guthrie's. Wald (1973) contains an interesting study of the tense markers of Swahili and related coastal languages. Wald (1974) and a reply, Givón (1974) are among the first studies on historical-comparative syntax in Bantu. Further mention of these will be made in Chapter 5.

Ladefoged et al. (1971) is the most thorough work to date on the languages of Uganda, Bantu and non-Bantu. Its

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purpose was not historical or genetic but to help determine language policy for the country. But some of its findings are of sufficient interest and relevance to be mentioned here. Using wordlists and tests for mutual intelligibility and phonetic similarity Ladefoged et al. arrived at figures to indicate, not necessarily genetic relationship, but how close these languages and dialects are to one another today. Although some of the figures, for example those for cognate percentages, are very close and present some inconsistencies, they can be represented roughly on a tree, as in Fig. 1.5 and 1.6, for Western and Eastern Uganda, respectively. Note that there is a fairly definite split between Eastern and Western, though there is a language, Ruli-Nyara, pretty much in the middle. Note also that Masaaba (Gishu) and Saamia-Gwe-Nyuli (often considered part of Luyia) are not quite included but are higher up on the tree, raising the question as to whether they are Lacustrine languages. It is at the lowest, dialectal, levels that percentages become inconsistent (e.g. comparing Masaaba and Saamia, 70%, but Masaaba and Gwe, 74%) and tree branching is undoubtedly a poor method of representation. At this level the best thing would probably be to use isogloss maps.

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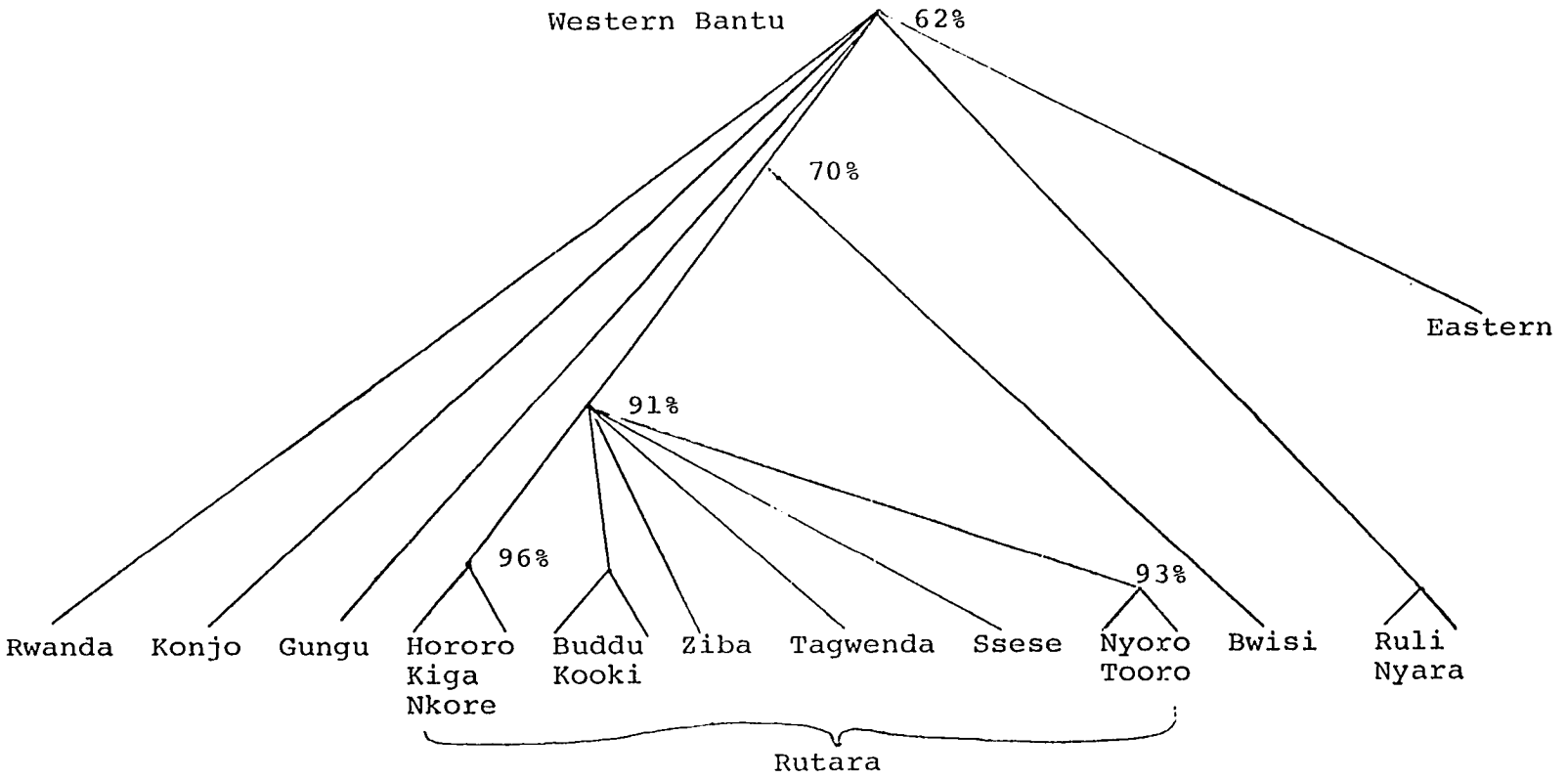

Figure 1.5

Family Tree of Western Uganda Languages and Dialects
Based on Ladefoged, et al.

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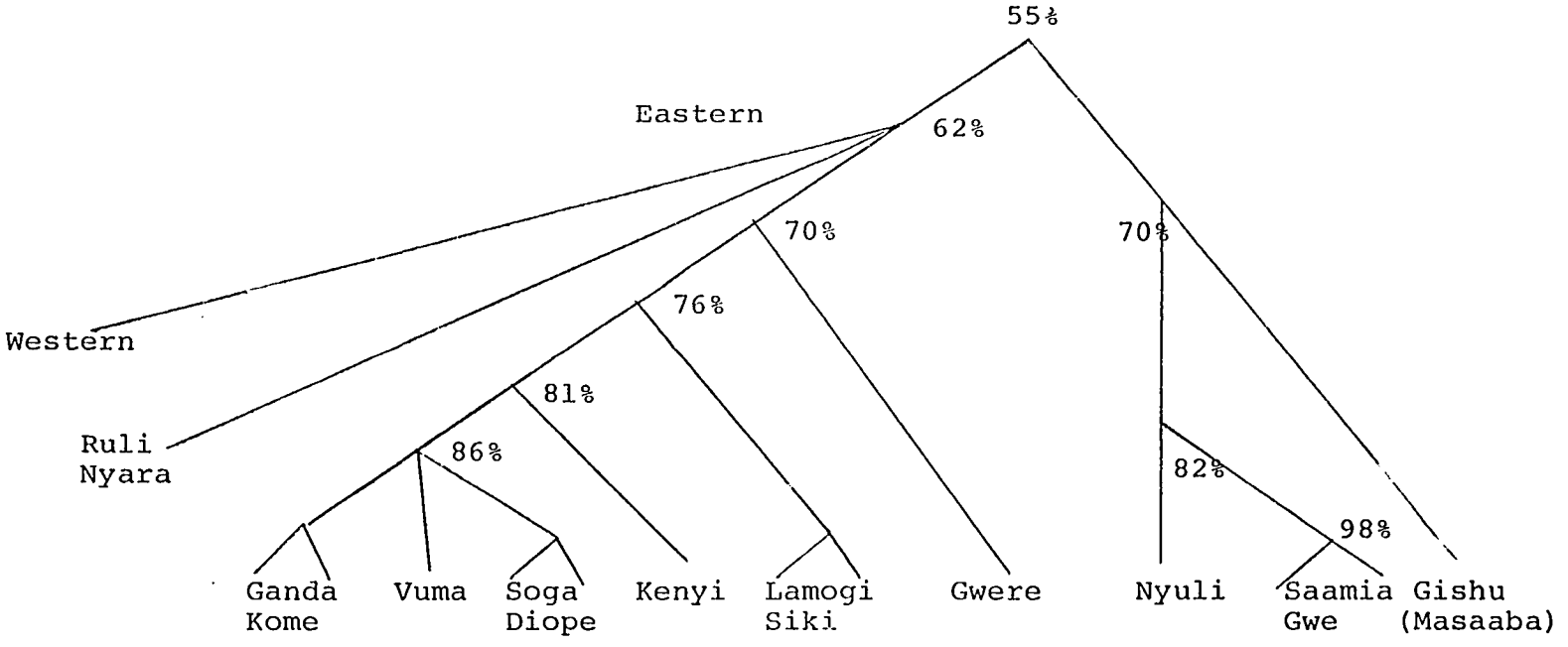

Figure 1.6

Family Tree of Eastern Ugandan Languages and Dialects
based on Ladefoged et al.

The authors consider 75% and above as the criterion for a level called "dialect". Thus Ganda-Soga-Kenyi is a single language, excluding Gwere. Everything between Hororo and Nyoro is a large dialect grouping of a language they call Rutara, after the ancient kingdom of Kitara. Of course this study was not meant to have historical implications but it does make a very good starting point for historical-comparative and dialectological investigation, and when we look at some Eastern Uganda languages in the following chapters we can make some interesting comparisons.

1.1.5 Ehret's Subgrouping

Another, more pertinent work is that of Ehret (1973), which deals with an area partially overlapping that of Ladefoged et al., viz. excluding Eastern Uganda and including Rwanda, Burundi and northwest Tanzania. His is definitely a historical-comparative, genetic study and makes use of a Swadesh-type list. His tree of what he calls Proto-Lacustrine Bantu is reproduced here as Fig. 1.7.

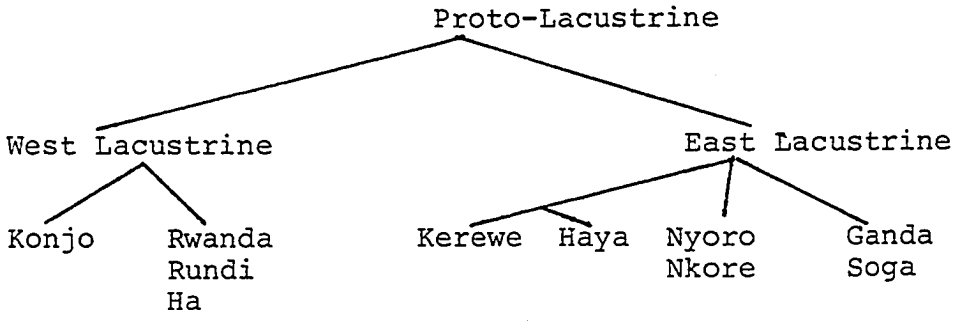

Figure 1.7

Family Tree of Lacustrine Languages According to Ehret

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Note that his East Lacustrine corresponds to Ladefoged's East and West Ugandan, except for Rwanda and Konjo. Ehret does not discuss at all the Eastern Ugandan and Western Kenyan languages. In fact he suggests elsewhere (Ehret, (1973) that Luyia is not in the Lacustrine group. In Chapter 2 we will compare Ehret's findings with our own in detail and expand on his tree.

1.1.6 Some Questions

Of all the studies cited and illustrated above, only Doke's and Heine's specifically mention the languages of Western Kenya, Luyia and Gusii. But Heine's tree, at that level, is the least detailed; nor does he mention Logooli. Current opinion among Bantuists seems to be practically unanimous that Logooli is more closely related to Gusii than to the Luyia dialects. Guthrie's numbering system implies this: Logooli and Gusii are in the E40's while Luyia and the Ugandan languages are in the E10's. Tucker (personal communication) believes this to be the case, mainly on phonological grounds (cf. Chapter 3, below). Bryan (1959) clearly places Logooli in her "Gusii group". Only Doke has Logooli included in Luyia. Bennett has begun working on a putative Proto-Luyia-Gusii reconstruction, implying he thinks this is a valid subgroup.

The specific questions which I will try to answer, therefore, in the following chapters, and which are raised in the immediately preceding discussion of previous work

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and current claims, are as follows:

(1) Is Luyia, contrary to Ehret's opinion, but according to Doke, a Lacustrine language?

(2) Are Ganda and Soga closer to other Lacustrine languages like Nyoro, or to Luyia?

(3) Should Logooli be classed with Gusii, as claimed by nearly everyone, or with Luyia, as claimed by Doke?

(4) Is Gusii closer to Luyia, as Bennett thinks, or to some other languages, such as Sukuma, as Doke asserts?

1.2. Historical Background

The historical literature is less helpful to the aims of this study than is the linguistic literature. In general what historians have to tell us about the area under investigation refers mainly to periods that are either too remote or too recent, with a large gap in between. It is, therefore, not useful to discuss it in any great detail.

What I consider to be the best and most informative histories dealing with this part of East Africa, Oliver and Matthews (1963), and Ogot and Kieran (1968), deal first with what we may call the pre-Bantu era, from the australopithecines and Zinjanthropus to the stone age. They then record the fact of Bantu migration into East Africa, already occupied to some extent by Bushmen, forest hunters

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and some Cushites, and then pick up with the period of about 1300 A.D. and the rise of the diverse political systems--kingdoms and dynasties, ntemi chieftanship, etc. There is, then, a large gap, as regards the Bantu, between the stone age and 1300 A.D.--the same gap as between Proto-Bantu and the modern languages. The histories of the various tribes are almost exclusively political; they are records of war and conquest among already differentiated tribes and subtribes. They are records of successive dynasties, in the cases of the lake kingdoms, of mainly non-Bantu ruling clans who became "Bantuized", i.e. became assimilated, at least linguistically, into the existing society. These are the stories, partly mythological and partly factual, of the Batembuzi, Bachwezi, Bahima-Batutsi, and Babito; they are not, however, the stories of the original Bantu-speaking peoples.

1.2.1. The Oxford History of East Africa

Huntingford (Oliver & Matthews, 1963:85ff) refers to the immigration of these rulers as "secondary movements", implying that the primary were those of the Bantu speakers, but he offers little information about them other than that they were from an "ethnotype A". They entered East Africa from slightly west of Lakes Edward, George and Kivu and moved in two major prongs. One went through Uganda and on into Western Kenya, the other went southeast through northwest Tanzania around the south of Lake Victoria, a

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small branch hiving off north towards (into?) Western Kenya. He states that most Baluyia claim their ancestors came from or through Uganda, and that some (the Balogooli?) claim closer affinity to the Bagusii, seeming to imply that these latter came from the south.

1.2.2. Were and Osogo

Were (Ogot & Kieran, 1968:186-193) gives a brief summary of events concerning the Bantu of eastern Uganda and western Kenya. This includes the Bantuization of many Kalenjin groups, the migration of many other clans from Uganda and the mixing of all these clans in the different subtribal areas. With regard to the Balogooli and Bagusii he claims that according to linguistics evidence (Bryan?) these two are most closely related and that both came from the direction of Uganda, via Rusinga Island, not from the south.

In Were (1967) the author gives a fuller account of the Baluyia clan histories, including some observations about the Basoga. His main point is that the Baluyia are a heterogeneous community made up of Luo, Kalenjin and many Bantu clans, that the Basoga are also a heterogeneous group, comprised of Luo, Teso, and Bantu clans, including Baganda, Bagwere, and Baluyia. He specifically states that the Balogooli came from the north, via Uganda. He writes of the "...well-known fact of the kinship between the Abalogooli

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and the Abagusii. . . a kinship that is further manifested in their linguistic similarities" (p. 76). He cites Bryan (1959), for the alleged linguistic similarities, but that source contains no evidence, just the claim.

Osogo (1966) has very much the same things to say regarding the Luyia clan histories, the originally Bantu ones coming from Uganda, their moving about and mixing with one another and with non-Bantu peoples and coming together to form subtribes. He, too, cites the oral tradition of the Balogooli and Bagusii being off-shoots of the Baluyia, but acknowledges that a few historians have thought they came from the South.

1.2.3. History of the Peoples versus History of Languages

We can see that for two main reasons this historical information is not very helpful for genetic linguistic purposes, and may even be misleading. First is the problem of oral tradition. Consider as a prime example that of Logooli-Gusii relatedness. It is certainly possible, even probable, that one or more clans in each tribe have a common origin, but not the tribes as a whole. Osogo points out that certain Luyia clans seem to be related to some in Bunyoro and even to some in the Congo (Zaïre) but we would not want to infer too much from that.

It is apparent that, as happened even with the non-Bantu ruling clans in Uganda, one clan can become dominant over other clans and its history get taken over as that of

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the whole tribe. Compare in this connection the Shungwaya legend, according to which the Central Kenyan Bantu (Thagicu) are supposed to have hived off from the Coastal Bantu and migrated inland. Hinnebusch (1973, 1974) has shown that there is no linguistic evidence to indicate that these groups are as closely related as the legend claims. Nor is it likely that the legend is entirely false. It may be the case that a few families or members of a clan or two did move from the Shungwaya area to the central highlands and somehow their history was taken over as that of the rest of the people among whom they settled. It does seem to be the case that the Bantu peoples in East Africa have often and readily accepted strangers, not only to live among them but to rule over them, or at least rise to positions of influence. This fact need in no way imply, as some people have done, that the Bantu were docile, inferior, or prone to feelings of inferiority, or that the newcomers were in any way superior (cf. the infamous "Hamitic Myth"). It is said that the Babito of Kitara had to be taught the ways of the rulership they were given.[6]

Second is the problem of the variety of clan histories and the mixing of clans, the heterogeneity of the groups. We can compare this with the situation in modern western nations. How much should the invasions of the Teutonic Lombards and Vandals be taken into account in studying the history of Italian and Spanish? Or consider the United

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States, where the ancestors of the majority did not come from England but the language did. How much of their "clan histories" is relevant to the history of English? In fact, non-English immigrants accept the heroes of the American revolution as their spiritual ancestors. Obviously it is relevant in studying influences on the language, but not for determining genetic relationship. To the extent that Soga is similar to Luyia we may infer some influx of one group into the other's territory and/or a certain amount of social contact. But that does not by itself mean that Soga and Luyia are most closely related to each other genetically. So, too, the fact that Logooli and Gusii share some similarities may indicate contact but not necessarily a close genetic relationship. In fact, while my Logooli informant did cite the oral tradition of a common ancestor and migration from Uganda, my Gusii informant felt that the Bagusii came from the south, and he was non-committal about whether the Balogooli also did so. I have stressed these two tribes here because as we shall see there is little significant linguistic evidence to support the claim of a close genetic relationship, despite the fact that it has become historical and even linguistic gospel.

We must keep in mind that with respect to genetic relationships the history of rulers is not necessarily the history of the whole people, and the history of the people is not necessarily congruent with the history of the

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language. Rather the history of the language is the history of part of the people, and it is that part of the people that I will be referring to. When I conclude that language X is closest to language Y I will not mean that all speakers or clans of X are closest to all speakers and clans of Y, only that the ancestors who brought X and Y, who spoke earlier forms of X and Y are most closely related, and it will be understood that there were others who took them over and had their influence on them, as the Normans influenced English. The descendents of the Normans speak English, but they were not closely related genetically to the original speakers of Anglo-Saxon. It should be clear, then, that this study will of necessity be as incomplete a history of the peoples concerned as are the others, if not more so, but it should add some information and help to clear up some ambiguities and inconsistencies.

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FOOTNOTES TO CHAPTER 1

[1]The difference between Common Bantu (CB) and Proto-Bantu (PB) is a theoretical one. PB is meant to be a reconstruction of the language of the ancestors of modern speakers of Bantu languages. It is supposed to have been a real language, and it is hoped that its reconstruction approximates as nearly as possible its actual grammar. Guthrie did not intend his starred forms to imply historical validity or reality; CB is intended to denote, admittedly arbitrarily, what the modern Bantu languages can be said to have in common. But since the method for arriving at CB is basically the same as that used for reconstruction, Guthrie's disclaimer is strange, and seems designed mostly to avoid making decisions, e.g. between two or more similar starred forms for the same vowel.

[2]For the purposes of this dissertation I will be assuming the general validity of PB as reconstructed by Guthrie, Meinhoff, Meeussen and others. However, it appears to me, as indeed it does to many other Bantuists, that reconstruction of PB to date is skewed far too much in the direction of Eastern Bantu. It is becoming clearer that Eastern, Central and Southern Bantu (Guthrie's zones D-S) all

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together form only a single branch of Bantu and that as a result Northwestern Bantu, especially zone A, and so-called semi-Bantu languages were not accorded sufficient weight. This would be comparable to a reconstruction of Proto-Indo-European which included twenty Indo-Iranian languages, Engligh, Portuguese and Polish, and excluding Celtic altogether. One is thus properly amazed to find, as in Chapter 3 for example, that the Proto-Lacustrine, and even Proto-Luyia sound systems are hardly changed at all from PB. This implies that hardly anything happened phonologically for a thousand years! I will continue to refer to PB but it should be noted that to a large extent what has been reconstructed as PB is probably a lot closer to Proto-Eastern Bantu, Guthrie's zones D-S.

[3]Guthrie divided the Bantu area into "zones" labelled with alphabet letters. Guthrie acknowledges that his zones have more geographical than linguistic validity, and most linguists take them with enough grains of salt enough of the time. Many historians, however, do not seem to have noticed Guthrie's caveat and take his zones and numbers seriously.

[4]Cf. Guthrie (1962). Heine and Henrici tend to support quite well a more reasonable and apparently better founded theory of J. Sharman (personal communication) that the major initial Bantu migration may have been along the watersheds

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around the north and down the east of the rain forest. I will not go into detail here, but Sharman's arguments are based on what seem to me to be strong linguistic, demographic and common sense criteria.

[5]The term "Kalenjin" refers to that group of closely related Nilotic tribes and languages of Western Kenya that include the Nandi, Kipsigis, Elgeyo, Marakwet, etc.

[6]Perhaps it was just the case that strangers were seen to be sufficiently disinterested and objective that they were relied upon to be fair and even-handed in dealing with disputing factions. One could as easily infer that the Bantu were sensible, pragmatic, and far less prejudiced against foreigners than many other peoples.

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CHAPTER 2

LEXICOSTATISTICS

2. Introduction

In this chapter I will begin the two-fold task of reconstruction and subclassification by investigating to what extent lexicostatistics can be useful. This chapter is divided into four sections. Section 2.1 is an examination of the core vocabularies of the languages and dialects based on a two hundred word list. The list was made up by me and was based primarily on the Swadesh and Greenberg lists but adapted with several substitutions thought to be more suitable to Bantu. Section 2.2 is a discussion involving lists of more specialized vocabulary, which, it may be supposed, are less susceptible to borrowing. These are short lists of terms involving kinship terminology, numerals, and common but non-Proto-Bantu adjectives, and the results based on those lists will be compared to those of the two hundred word list. In section 2.3 I will discuss Ehret's work (1973) on the Lacustrine languages and compare his findings with my own. I will also try to determine the status of Gusii in relation to the languages discussed in this and Ehret's studies. Section 2.4 will be a brief look at the technique of glottochronology as it applies to the study of these

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languages.

2.1. The Two Hundred Word List

As I stated in the Preface there is a serious problem with regard to borrowing among languages closely related by both geography and culture, especially interdialectal borrowing. Thus, in trying to get cognate percentages I have attempted to be as strict as possible about allowing pairs of words to be considered as cognates. I have considered as cognates only those pairs that demonstrate regular sound correspondences that will be more fully discussed in Chapter 3. Thus, for example, the Ganda word for 'crocodile', eggoona, although obviously related to the other languages, as well as to Proto-Bantu, cannot be related directly by the regular sound-shift rules and has therefore not been allowed to figure into the percentages. Another example is omukeeka 'mat', found in Luyia. It occurs in Ganda and Soga as omukeeka, too. But as we will see in Chapter 3, Ganda and Soga /k/ corresponds to Luyia /x/, and Luyia /k/ to Ganda and Soga /g/. To be a true cognate, either Luyia should have omuxeexa, or Ganda and Soga should have omugeega. We must therefore conclude that Luyia borrowed this word, probably from Soga, and moreover that it did so after the sound shifting of the Luyia velars. Notice that, had the borrowing taken place before the sound changes, the sound correspondences would have been regular and the word would be considered a good cognate.

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By pairing all the items in all possible pairs of languages we arrive at the cognate percentages given in Table 2.1:

Table 2.1

Cognate Percentages Based on the Two Hundred Word List

	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
Ganda	-							
Soga	83.0	-						
Saamia	54.0	59.0	-					
Wanga	54.0	59.0	88.0	-				
Bukusu	52.0	60.0	77.0	81.0	-			
Idakho	48.0	51.0	71.0	71.0	68.0	-		
Logooli	51.0	55.0	75.0	78.0	70.0	80.0	-	
Gusii	40.0	42.5	48.5	47.5	42.5	44.0	47.0	-

We are immediately struck by three observations. First, Ganda and Soga score very high with each other (83%) as opposed to how they score with all the Luyia dialects. Second, Gusii scores rather low vis-a-vis all the others. Third is that Saamia and Wanga score the highest of all (88%). Also, Logooli and Idakho score fairly high (80%) compared with the other Luyia dialects, though Logooli-Wanga isn't much lower with 78%, and Bukusu scores higher with Saamia and with Wanga than with Logooli or Idakho.

Clearly the data for the Luyia cluster are not very

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conclusive, while we may be more confident with regard to Ganda-Soga as compared with Luyia or Gusii, and with Gusii as compared with Ganda-Soga or with Luyia. Thus, on the basis of Table 2.1 and nothing else we can represent a tentative subgrouping by means of the family tree in Fig. 2.1:

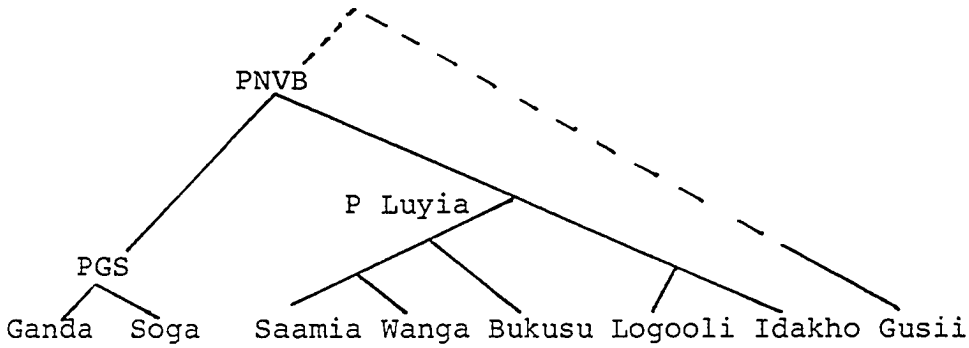

Figure 2.1

Family Tree Based on Percentages in Table 2.1

At this point there is no significance whatever to the relative lengths of any branches or to the positions of the nodes. Fig. 2.1 is meant to be only a rough approximation. The broken lines indicate that no claim is yet being made as to where Gusii fits in. This cannot be done without evidence from several other languages to the south and southwest and east of it, such as Sukuma, the other Lacustrine languages and the Thagicu languages. This will be done in section 2.3.

Figure 2.1 shows us mainly what Bantuists have assumed regarding the split between Luyia and Ganda-Soga. But it also indicates that perhaps Logooli is a branch of Luyia. There is, however, no good reason so far why we could not

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assume the situation in Figure 2.2 instead:

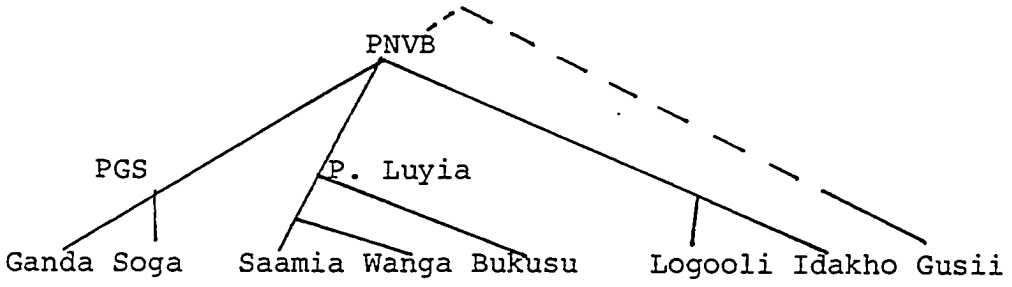

Figure 2.2

Family Tree Alternate Possibility

On the other hand, the idea that Logooli is more closely related to Gusii, represented in Figure 2.3, as suggested by so many linguists and historians (cf. Chapter 1) is not borne out, at least not by these data.

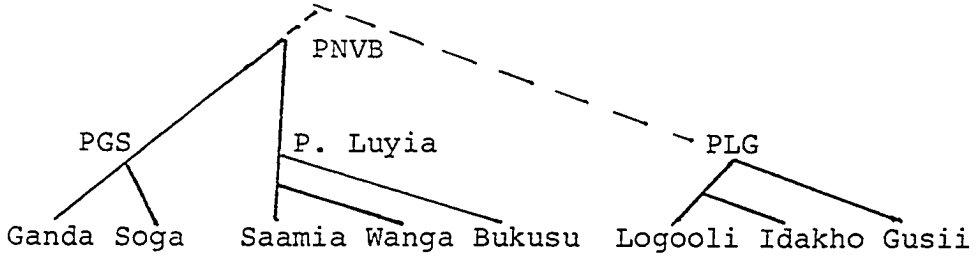

Figure 2.3

Hypothetical Tree Indicating Logooli-Gusii Subgroup and Possible Luyia-Gusii Relationship

But notice that there are certain doubts that can be raised by these percentages. Soga is significantly closer to Luyia, especially Saamia, than is Ganda; Logooli is closer to the other Luyia dialects than is Idakho. This problem becomes clearer to see when we begin to draw some

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isoglosses for individual items in the wordlists (Appendix II.1) and compare the thicknesses of bundles of isoglosses. The maps in Appendix II.2 tend to support the split between Luyia and Ganda-Soga, with forty-two items for Ganda-Soga plus twenty-seven for Luyia (maps 7 and 8 in Appendix II.2). There is little to support Figure 2.2 (map 4). Map 5 indicates little evidence for Figure 2.3. Map 6 shows there is little to support Bennett's claim (1973) of a Luyia-Gusii subgroup.

Table 2.1 and the isogloss maps underscore, it seems to me, the problem posed by the likelihood of extensive borrowing, when trying to base conclusions solely on this type of lexicostatistical analysis. Soga and Saamia have evidently borrowed from each other because they are next to each other. Wanga and any other Luyia dialect share a higher percentage of cognates than any other pair of Luyia dialects, and this is probably due to the central location of Wanga and the fact that it is the language of a once centralized and militarily powerful kingdom and thus a prestige dialect. Add to these the facts of the widespread and long-lasting clan migrations and mixing within the area and we end up not knowing how much we can trust these data. We simply must expect there to have been a lot of borrowing, even in core vocabulary. As a more recent illustration, consider the fact that all the Luyia dialects and Gusii have borrowed a lot of Swahili words. This is

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obviously due to the fact that Swahili has been for many years a lingua franca in commerce among the tribes and it is now an official language of the Kenya government. A significant amount of this borrowing has been in core vocabulary: numbers, conjunctions, adverbs.

2.2. Specialized Vocabulary

Now let us see what happens when we examine some more specialized vocabulary. In particular, we might expect kinship terms to be less susceptible to borrowing. Also we may consider numbers, especially those lower numbers other than the well-known Proto-Bantu 'one' through 'five' and 'ten'. Here not only the numbers themselves are of potential interest but also the morphology of counting, that is, whether the languages count in a morphological base five or base 10. Finally it may be useful to examine the common but non-Proto-Bantu adjectives, i.e. those other than the very limited number of adjectives which are reconstructible to the proto-language. It is likely that these kinds of lexical items may be especially useful for intermediate level subgrouping and reconstruction, not only in these languages but in other, similar studies, precisely because they are not Proto-Bantu yet should constitute part of the core of a language's vocabulary.

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2.2.1. Kinship Terms

Let us first look at kinship terminology. Appendix II.3 is a a list of terms for the closer family relationships, while Appendix II.4 contains maps of the isoglosses for those terms. We notice mainly that these items do not tell us much that we did not already suspect, viz. that Ganda and Soga split with Luyia (map 2 in Appendix II.4). In map 1 we see two important items that separate Gusii from the rest--including Logooli--'aunt' and 'uncle'. There is nothing reliable to indicate how the various Luyia dialects might be subclassified. Perhaps a more comprehensive list, including some more distant relationships, might prove more practicable.

Several of the items here suggest further research that should prove quite interesting. We would like to know how far and where the isoglosses for 'aunt' and 'uncle' extend. The same question should be asked of 'grandchild' since it includes all the languages of this study. The terms for 'mother' are known to be Proto-Bantu.

The terms for 'father' pose a difficult problem in that there is considerable variety among these and other languages, and little consistency in their distribution. This is probably explainable, at least in part, by the fact that the Bantu speaking peoples were originally matrilineal. The peoples whose languages we are dealing with are patrilineal today, but this is evidently the result of their

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contacts with other, patrilineal peoples, namely the Nilotes and Cushites, many of whose other customs have been borrowed.

2.2.2. Numbers

The data for the numbers is found in Appendices II.5 and II.6. Of primary interest are the numbers 'six' through 'nine', and by tens from 'twenty' through 'hundred'. The reason for this is that 'one' through 'five' and 'ten' are known to be Proto-Bantu in origin, and are the well-known *-mu, *-βili, *-tatu, *-ne, *-taanu, and *-kumi. Even here, however, there are two noteworthy exceptions. All the Luyia dialects have -lala for 'one' supplanting the original.[2] Note that Soga also has it, and this seems to indicate borrowing. More intriguing is the Logooli-Idakho word **-βaɣa, for 'three'. It is interesting for our purposes that they share this item in that it supports the grouping of these two dialects together; it looks like a shared innovation. Aside from that one wonders where it came from, since it is not typically Bantu. It is not Nilotic, either (Tucker, personal communication). Ehret (personal communication) suggests that it may be from Southern Cushitic.

One word, -enda 'nine', is found in all the languages. Here again we would like to know how widespread it is elsewhere. The terms for 'seven' and 'eight' seem to have a wider distribution in Eastern Bantu though Gusii is

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odd-man-out again with these.[3] With 'six' Ganda and Soga again split with Luyia. Ehret thinks that -saasaβa may also be Southern Cushitic.

Note that Gusii does its counting morphologically in what looks like base 5 ('six' is "five-plus-one", etc.) rather than base 10. Of course, mathematically the counting is base 10. From 'twenty' to 'ninety' there are two things to observe. First, is the division between Gusii and the others regarding the use of **amakumi versus ɛmɛrɔɔngɔ, the former being the plural of *-kumi 'ten', and the latter being from the stem *-loongo 'twin'.[4] Second is that while Luyia as a whole counts from twenty to ninety based on -kumi, Ganda and Soga, and Gusii more obviously, use systems resembling a base 5 method.[5] This is found elsewhere in Bantu and is presumably an older counting system, so we may conclude that Proto-Luyia was innovative in regularizing this part of the counting system.

Finally, note that Wanga retains a form of -kumi as the basis for the term 'hundred', as do Ganda and Soga, while the other Kenyan cases have emya, which is obviously from Swahili mia. I surmise that the other Luyia dialects used -kumi also at one time but lost it. Observe that 'six', 'seven', and 'nine' in several dialects are normally given in Swahili (from Arabic)--sita, saba, tisa. In fact, when telling time my Luyia informants invariably switched into Swahili completely.

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These data also tend to support those of the two hundred word list but do not give us many further insights as to which of the two trees, Figure 2.1 or Figure 2.2, is the better. We will now proceed to examine some of the more common adjectives.

2.2.3. Adjectives

The lists of kinship terms and numbers do not seem to have provided us with any greater insights than the two hundred word list, although to the extent that they may be less tainted by the possibility of borrowing they tend to show that the two hundred word list may be more trustworthy than I was at first ready to accept. On the other hand, the numerals show how much borrowing is possible. An examination of the common, non-Proto-Bantu adjectives is perhaps only a little better. In Appendix II.7 is a list of thirty adjectives, accompanied by isogloss maps in Appendix II.8. In map 1 (Appendix II.8) are the only items common to all the languages and they are among those reconstructible to Proto-Bantu. Map 2, by numbers of items the most convincing, give us the now-familiar division between Luyia, including Logooli, and its eastern neighbors, Ganda and Soga. Map 4 may provide only slightly more evidence in favor of Figure 2.3, i.e. for a division between Luyia proper and Logooli-Gusii. The other isoglosses give data that cannot be readily evaluated or may be regarded as borrowings, due to their skewed distributions. For

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example, possible borrowings are **-angu into Soga, and **-taambi into Wanga.

2.2.4. Summary

If it is true that adjectives, numbers and kinship terms,as I have hypothesized,are generally less prone to borrowing, then it seems they do little more than show the validity of using the two hundred word list. This may be a significant fact. They do not, however, provide much significant information for deciding between Figures 2.1 and 2.2, but perhaps the latter is less favored now. It does seem that we can all but rule out Figure 2.3 as a viable possibility. It does seem safe to say that Logooli is a Luyia dialect, not closer to Gusii, and also that Luyia is not particularly close to Gusii, as Bennett evidently thinks.

One problem with these data is that where a language is lacking a term common to certain others we cannot be sure in many instances if it once had that term. We may say with some confidence that Gusii probably once had *-mpi 'short', since it is so clearly from Proto-Bantu, if not older. Wanga probably once had *-ogi 'sharp'. But it would be much harder to claim that Bukusu and Idakho once had **-akaŋ̃u 'red', or that Ganda and Soga had **-laapi 'good'. Luyia does have -luungi,'good' in Ganda and Soga, but in Luyia it means 'right(hand)'. In which direction did that semantic shift go? Who was innovative? Many

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such questions about individual items could be answered, especially with information from other languages, but that is beyond the scope of this study. Also beyond our scope, although interesting and certainly useful, would be the examination of items borrowed from non-Bantu sources. For example, 'milk' in Luyia and Gusii is Bantu *amaβeere (from Proto-Bantu 'breasts'), but amata in Ganda and Soga, evidently borrowed from pastoralist non-Bantu invaders; also borrowed was ente 'cow', which supplanted Bantu *ingombe. Even then the difficulty exists as to whether a common ancestor did the borrowing or two or more languages did the borrowing separately. Sometimes the answers can be found. Ehret has done considerable work in this very area and his works are highly recommended. For now, let us turn to the problem of the status of Gusii and the relationship of these languages to the other Lacustrine languages.

2.3. Ehret's Ninety Word List

In Chapter 1 reference was made to Ehret (1973) and his subclassification of what he calls Proto-Lacustrine Bantu (cf. Figure 1.6). That subgrouping was based on a ninety word list. He got cognate percentages for Ganda-Nyoro of 66%, and for Ganda-Rwanda (Western versus Eastern Lacustrine) of 52%. In order to enable us to use and interpret his figures it is necessary to determine if they are comparable to ours in Table 2.1. For our purposes we want to know if his 50% is equivalent to ours, and if not,

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what the difference is, so that we may determine if Ganda and Soga are closer to Luyia or to Nyoro and the other Lacustrine languages. To put it another way, is Luyia part of the Lacustrine group? Ehret surmised that it is not, though Luyia was not included in his sample.

In addition, using Ehret's wordlist and including Gusii, Rwanda, Sukuma and Kikuyu, we may determine tentatively the status of Gusii. Is Gusii, as Bennett predicts, closest to Luyia, or is it perhaps closer to its southern neighbors in Tanzania, or even to the Central Kenyan languages of the Thagicu group? The answer to that question will also help to answer the question whether the Bagusii came to Kisii from the North or from the South.

2.3.1. The Status of Luyia

Having made a comparable wordlist for Ehret's ninety glosses (Appendix II.9), and pairing Ganda with Gusii we get a figure of 44%, quite close to the 40% in Table 2.1. I conclude from this that Ehret's percentages for Proto-Lacustrine are nearly comparable to mine for PNVB; they are slightly higher, but less than 5%. Therefore, recalling that my figures show Ganda-Soga sharing with Luyia an average in the mid 50% range, and Ehret's figures for Eastern and Western Lacustrine as low 50% I conclude that we should first of all place Luyia high up on Ehret's East Lacustrine branch. This is illustrated in Figure 2.5:

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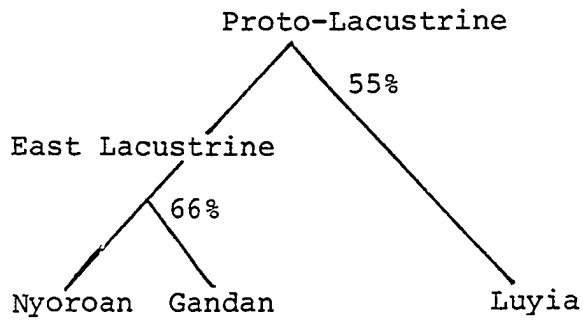

Figure 2.5

Ehret's East Lacustrine with Luyia Added

Thus it appears that Luyia should indeed be considered part of the Lacustrine group, albeit not as close to Ganda-Soga as Nyoro is. Note that this conclusion, while still rather tentative, must further limit the scope of this study. I cannot now try to claim too much in the way of actual reconstruction of PNVB in the absence of adequate data from Nyoro, Haya, etc. It is comforting to know, however, that getting such data is undoubtedly the next step in further research. I will have some things to say about Proto-Ganda-Soga and Proto-Luyia in the meantime, and will venture some guesses about Proto-East-Lacustrine, but it appears that PNVB, as originally defined, is not going to be a legitimate node on the Bantu tree.

2.3.2. The Status of Gusii

To try to determine now the status of Gusii in relation to other languages, I have taken Rwanda, Sukuma and Kikuyu, using Ehret's ninety word list, and arrived at the

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following cognate percentages:

Gusii - Rwanda	52%
Gusii - Sukuma	54%
Gusii - Kikuyu	50%
Sukuma - Kikuyu	47%
Sukuma - Rwanda	62%
Ganda - Kikuyu	30%
Luyia - Kikuyu	30%

The first fact that strikes us is the high percentage for Rwanda-Sukuma. Recalling that according to Ehret Rwanda and Konjo share a percentage in the low 60% range, I tentatively place Sukuma (and therefore also Nyamwezi, a mutually intelligible dialect) on his West Lacustrine branch as a sister of both Konjo and Rwanda as shown in Figure 2.6.

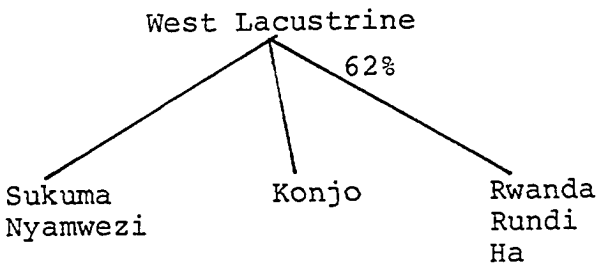

Figure 2.6

Ehret's West Lacustrine, with Sukuma and Nyamwezi Added

Next we notice that Gusii shares cognate percentages in the low 50% range with Rwanda and Sukuma. Recall that

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Gusii and Ganda share in the low 40% range and so too with Gusii and Luyia. If East and West Lacustrine share 52% of cognates then Gusii ought to be coordinate with the two Lacustrine branches (presumably along with Kuria, Suba, etc.) and ought to be placed next to the West, rather than the East, branch. This is illustrated in Figure 2.7.

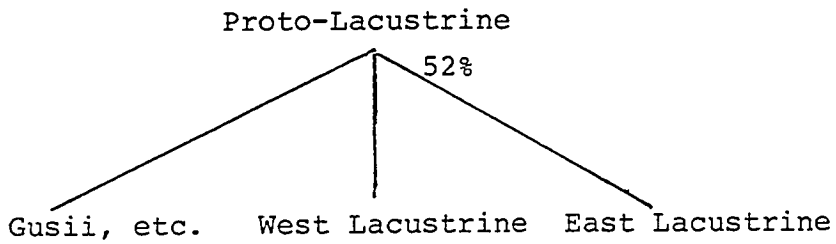

Figure 2.7

Ehret's Proto-Lacustrine with Gusii added

The reasoning for this placement on the west side become clearer when we include Kikuyu. Recall that Gusii and Kikuyu share 50% of cognates and Sukuma and Kikuyu 47%. Kikuyu (and thus all of Thagicu) should now be placed as a coordinate branch next to Gusii. See how in Figure 2.8 between any two branches the cognate percentages are in the low-to-mid 50% range; between every first and third branch the percentages are in the 40% range, and between the first and fourth they are in the low 30% range.

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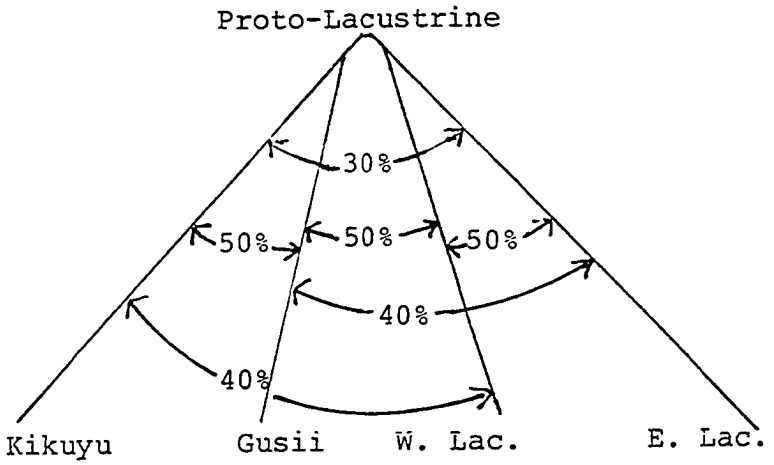

Figure 2.8

Approximate Cognate Percentages Between Major Branches of Revised Proto-Lacustrine Tree

The percentage figures indicate one or both of the following: (a) that Proto-Lacustrine was itself already a dialect cluster, otherwise we should expect that any two branches would yield the same figures as any other two,[6] (b) that periods of geographic proximity led to some borrowing. Remember the situation with Ganda, Soga and Luyia, where Soga shares a higher percentage with Luyia than Ganda does. The fact that the Gusii-Luyia percentages are somewhat higher than Figure 2.8 predicts can be accounted for by the fact that these languages were geographically contiguous for a while before the advent of the Luo. It is known that the Luo did not enter Kenya before the 17th century. I am claiming, therefore, that since Gusii shows highest percentages with West Lacustrine and Kikuyu, that the Bagusii must have entered Kenya from the <u>south</u>, that

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they migrated around the southern shores of Lake Victoria; they did not, as claimed by so many scholars, come from the north preceding the Baluyia. Further evidence for this claim will be presented in the following chapters.

2.3.3. Revision of Ehret's Tree

We can now suggest also a tentative place of origin for the Proto-Lacustrine Bantu. Going by the theory of the shortest and easiest routes of migration (cf. Dyen, 1956), these ancestors probably dispersed from the area between and slightly west of Lakes Edward and Kivu. It is both interesting and significant that Ehret hypothesizes the same approximate location independently and based on other criteria, such as the distributions of loanwords from Southern Cushitic. It is also quite close to Huntingford's location of Bantu Ethnotype 'A' (cf. Chapter 1).

I therefore propose the following as a fairly complete tree and a tentative subclassification of the languages surrounding Lake Victoria. By using an arc at the top of the tree I mean to indicate that Proto-Lacustrine Bantu was probably itself a dialect cluster already.

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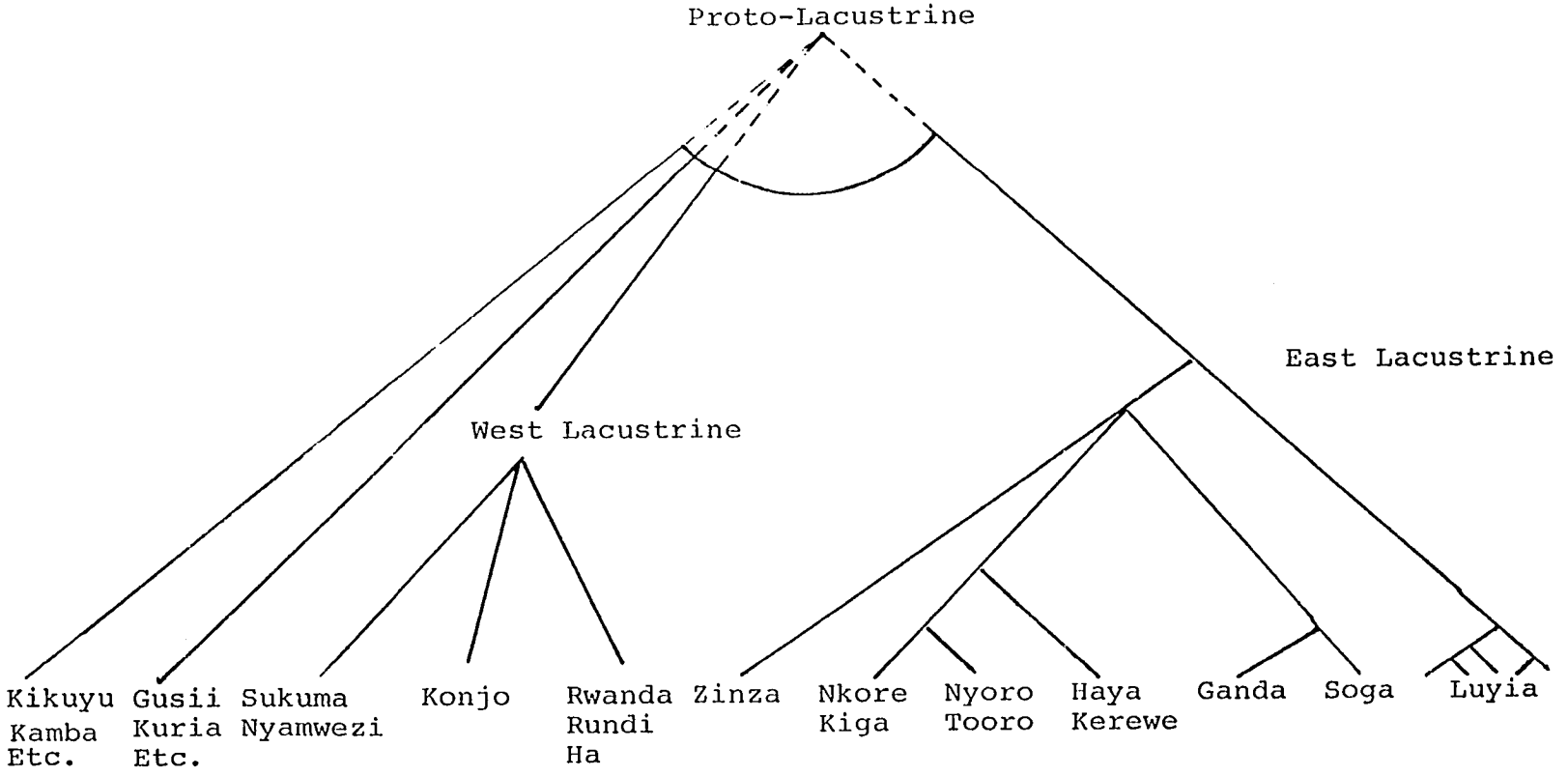

Figure 2.9

Detailed Tree for Revised Proto-Lacustrine,
Showing Minor Branching

2.4. A Note on Glottochronology

To complete this chapter on lexicostatistics it might be useful to say a few words about glottochronology, despite its (dis)reputation. Anttila (1972) discusses briefly how glottochronology works and what its limitations are. He observes that at great time depths (3000 years and beyond) glottochronology runs into problems; he thus implies that it can work fairly well at the shallower time depths.[7]

Since this study is concerned with a relatively shallow time depth of perhaps at most 1500 years, perhaps some determination can be made about when these languages began to diverge. According to Anttila the formula in glottochronology,

$$t = \frac{\log c}{2 \log r}$$

and an assumed retention rate of 81% of cognates per millenium, gives us the following (pp. 396ff.):

66%	1,000 years
43%	2,000 years
29%	3,000 years

Ehret has given some approximate dates for Lacustrine languages. He assumes a retention rate of 85% on a span of four to five centuries, since the Haya-Kerewe split is firmly attested to have occurred in the sixteenth century. Thus, in West Lacustrine, for example, Sukuma, Konjo and Rwanda share cognate percentages in the low 60% range, viz. a divergence at about 800 to 900 A.D., and his Proto-

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Lacustrine at 52% means a divergence at about 200 or 300 A.D. He calculates the breakup of Proto-Eastern Bantu at about 500 B.C., or nearly 2,500 years ago, which means that Proto-Bantu must be older still. This seems too much; most Bantuists consider 2,500 years to be the amount for Proto-Bantu (but cf. Chapter 1, footnote 2).

For our purposes, since Ganda and Soga share about 85%, they, like Haya-Kerewe, may be assumed to have begun to diverge by 1500 A.D. Since the Southern and other Luyia dialects generally share percentages in the middle to upper 70% range, we should place the beginning of the Proto-Luyia breakup at about 1300 A.D.

Now, since Luyia and Ganda-Soga share about 55% of cognates and West and East Lacustrine about 52%, it seems that Luyia is an early offshoot of East Lacustrine, probably not later than 600 to 700 A.D. We also arrive at a time depth for Proto-Lacustrine of about 1,500 years. We may also conclude that the Gusii-Kuria group and the Thagicu group began to diverge from the proto-community at about the same time or a little earlier.

In Chapter 3 we will examine the sound changes in these languages and compare their phonologies in order to see to what extent conclusions based on those criteria conform to the conclusions based on the criteria discussed in this chapter.

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FOOTNOTES TO CHAPTER 2

[1]PNVB stands for Proto-North Victorian Bantu; PGS stands for Proto-Sanda-Soga, which Ehret calls "Gandan".

[2]-lala in Ganda means 'other'.

[3]Note that -saafu in Idakho must be a borrowing since shifts of consonants caused by the loss of close vowels did not take place in this seven-vowel dialect. If this were a native Idakho word it would have /b/ instead of /f/.

[4]The probable reason for this use of the term lies in gestures. Bantu speakers gesture 'five' with a clenched fist, 'ten' by two fists held together. Multiples of 'ten' are expressed by the number of times a fist and its "twin" are tapped together.

[5]Multiples of 'one hundred' are expressed similarly.

[6]I thank Chris Ehret (personal communication) for this explanation.

[7]In personal communication Anttila states that to the extent that glottochronology works at all it works best at time depths of between 3,000 and 500 years. As an example of problems at too shallow a time depth he has called my

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attention to Campbell's dissertation (1971). Glottochronological calculations based on data from two Guatemalan brothers could have indicated a separation of seven hundred years!

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CHAPTER 3

COMPARATIVE PHONOLOGY

3.0. Introduction

In this chapter I will examine and compare the sound correspondences and shifts of the languages and dialects, in an attempt to determine to what extent the closer genetic relationships can be ascertained of what I was calling North Victorian Bantu. As we saw in Chapter 2, this does not seem to be a linguistically valid subgrouping, since Ganda and Soga do not appear to be closer to Luyia than to the other East Lacustrine languages such as Nyoro, Haya, etc. We shall see, however, that, as was seen in Chapter 2, there is increasing confirmatory evidence that Gusii is not an East Lacustrine language, and also that Logooli is a dialect of Luyia.

This chapter consists of two sections. Section 3.1 deals with the consonants primarily, though there is a brief look at the vowel systems in terms of which languages have a seven- or five-vowel system. I will discuss the mainly historical changes, i.e. those that are no longer productive. These include p-lenition, Dahl's Law, and a series of consonant shifts which I have chosen to call the Luyia Law. Consonant rules that are by and large still productive are

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the devoicing of fricatives, nasal loss and voicing in nasal clusters.[1] Section 3.2 is a digressive discussion of the origin of the gemination of consonants in Ganda. Appendix III consists of several isogloss maps illustrating their distributions, and data from the various languages and dialects to illustrate the rules.

3.1.1. Bennett on Luyia Phonology

An important paper relevant to this discussion is Bennett (1973). It is a phonological comparison of what he terms North-East Victoria Bantu (NEV), the term being equivalent to Luyia, including Logooli. It is also one of the first studies I am aware of that deals with the problems of lower level sub-grouping and reconstruction in Bantu. It is a fairly thorough investigation, and although based primarily on secondary and not always accurate sources of data, many of Bennett's findings and conclusions conform to what I have found independently. In addition, he includes the other dialects, though his dialect subgrouping conforms quite well to what I have been assuming, as indicated in the Preface. His are: Northern, including Gishu and Bukusu; Southern, including Logooli, Idakho and Isukha; and Central, which he further subdivides into Western--Saamia, Khaayo; Eastern--Tsotso, Tachon, Kabras; and Central--Wanga, Marama, etc.

Bennett concludes that on the basis of purely

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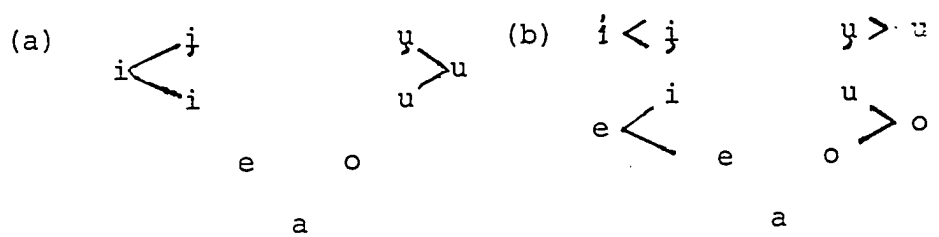
phonological evidence that it is most difficult to show that his dialect clusters shared a more immediate common ancestor than one including other languages; that rather it can only be said that at one time they shared a period of common development. It is only on this basis that he includes Logooli in his NEV. We may be more confident, however, in calling the realtionships among these dialects genetic, not only on the basis of the evidence presented in the previous chapter, but also on the basis of the following dicussion. It seems to be the case that while most of the sound changes cannot be proved to be other than areal phenomena, and therefore useless from the point of view of genetic subclassification, nevertheless there are a few rules that can be relied upon for genetic purposes, at least to the extent that we can include Logooli in Luyia. Ironically those few rules are those mentioned above as being still productive.

3.1.2. The Vowel Systems

I begin with the vowels but the only change I will discuss here in any detail is the shift from the Proto-Bantu seven-vowel system to a five-vowel system (cf. Appendix III. 1). This shift, or merger, was usually as shown below, either in (a) or in (b):



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Logooli and Idakho have retained seven-vowel systems, as has Gusii, but with some phonetic modifications. The Idakho data was not elicited by me personally, so I cannot say what those vowels were like precisely. Ehret (personal communication) asserts that they are very similar to those in Logooli. In Logooli they are:

ɨ > i ʉ
i > ɪ u
e o
a

with lowering or laxing in front but not in back, as compared with Proto-Bantu.

In Gusii there was lowering both front and back, though somewhat differently, and as far as I can tell very much as in Kikuyu and Sukuma.

ɨ > i u < ʉ
i > e o < u
e > ɛ ɔ < o
a

Note how the similarity in vowels between Gusii and Kikuyu and Sukuma and the difference between Gusii and Logooli conforms to the conclusion of the previous chapter, section 2.3.

The presence of seven vowels in Logooli, with the lack of consonant spirantization that normally accompanied the

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merger of vowels was evidently the major criterion in Guthrie's classifying it with Gusii, as was illustrated in Fig. 2.3 of Chapter 2 (A. Tucker, personal communication). Why the rest of Southern Luyia was not also so included is not explained, but I suspect the effects of the Luyia Law (cf. section 3.1.4.2) would have been sufficient justification.

Looking only at the situation with respect to the vowels one might wish to suggest that it supports Fig. 2.3. in that a Proto-Ganda-Soga-Luyia innovated the vowel merger. However, as the discussion in 3.2. will show, the merger in Ganda and Soga, at least, must have occurred relatively recently and was not completed until after the split between those languages. Thus the merger would probably have to have been more recent even than a Proto-Saamia-Wanga-Bukusu, therefore the vowel merger must be regarded as areal. It is, of course, much more widespread in Bantu.

3.1.3. The Consonants: Internal Reconstruction

Turning now to the consonants, taken from the vocabulary lists in Appendix II, we can see that in each case purely internal reconstruction yields something very close to Proto-Bantu, which I am assuming was the following, mainly after Meinhoff.[2] The following discussion, especially sections 3.1.4.2, 3.1.4.3, and 3.1.4.4 will serve to justify using Meinhoff's *β / γ rather than *b d g, which are preferred by many Bantuists, especially Guthrie and Meeussen.

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Major allophones are shown in parentheses.

p	t	c	k
β(b)	l(d)	(j)	γ(g)
m	n	(ñ)	(ŋ)

Specifically, we find for pre-Ganda the following:

	t		k
β (b)	l(d)	j	g
	s		
m	n	(ñ?)	(ŋ)
w(p)		y(j)	

with the following historical changes:

1. Modern /p,d,c/ from loans.
2. /f,v/ from spirantization before *u̯.
3. /s,z/ from spirantization before *i̯.
4. Most other /s/ from PB */c/.
5. /ñ/ from *ni̯V.
6. /w/ from *p
7. /g,w,y/ from *γ

Pre-Soga reconstructs exactly as Luganda with the additional change that /ñ,j/ > /n̯,d̯/. (Cf. section 3.2 for a full discussion of the geminates in Luganda, which I consider to be phonemic synchronically.)

For pre-Saamia we arrive at the following inventory:

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	t(d)	c(j)	k(g)	ø(b)
β (b)	l(d)			
	s		x	
m	n	ñ	(ŋ)	
		y(j)		

with basically the following history:

1. Some /b,d,w/ borrowed.
2. /d,g/ from Dahl's Law < *t,k
3. /s/ from spirantization before *j̊.
4. /f/ from spirantization before *ẘ.
5. Some /f,s,c/ < **/v,z,j/
6. N → ø /___f,s,x
7. NC̊ → Nc
8. *p̊ > ø (via **h); some > y.
9. g > k; k > x.
10. b > p

In pre-Wanga we get the same inventory of consonants as for pre-Saamia and the same rules except that Wanga went further and has the following additional rules:

(1. h > ø)
2. t > r̃ (via r̃̊?)
3. d > t
4. k,β in cl. 7/8 >, f; s in negative prefix.
5. c, nj > ts,nz
6. k,g → c,j /___i,e
7. x → ʃ /___ i,e

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The pre-Bukusu inventory also looks like that of the previous two. Its history is primarily that of Saamia but it shares the changes with Wanga of d > t, and t > $\tilde{r}$.

Logooli and Idakho reconstruct very nearly alike and almost exactly like the other Luyia dialects, namely:

	t(d)	c(j)	k(g)	h(b)
(b)	l(d)	j	g(Logooli only)	
	s		x(Idakho only)	
m	n	$\tilde{n}$	(ŋ)	
		y(j)		

The main difference is that these two still maintain a seven-vowel distinction and so did not undergo the spirantization of consonants associated with the mergers of */i̯,u̯/ of the other dialects. Rare occurences of /f/ are evidently from loanwords. Otherwise, the history of Idakho is the same as that of Wanga, including the same palatalizations of s,k,x,ŋg > ʃ,c,ʃ,nj, the shift of c,nj > ts,nz, and β > f in the class 8 prefix.

Logooli, on the other hand, while sharing with the rest of Luyia the rules of NC voicing, nasal loss and reflexes of Dahl's Law that yield /d,g/, does not have any of the Luyia Law.

It does have s,z < */c,j/, palatalization of g > j. It also has a few interesting additions of its own:

1. β → v /___ unrounded vowels (optional).
2. /$\tilde{n}$,y/ > /$\tilde{n}_{\eta}$,y$_{\eta}$/

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3. s,h ⟶ ʃ, ɦ /___i,ɪ[3]

4. Obstruentization of glides.

5.
umuβ ... ⟶ ummb...
imiβ ... ⟶ immb...

6.
ulul... ⟶ ull...
ɪlɾl... ⟶ ɪll...

It also has Dahl's Law productively but optionally on prefixes in addition to the relics found stem-initially throughout Luyia.

Finally, the pre-Gusii consonant inventory is reconstructed as:

	t	c	k	Ø(p)
β(b)	l(d)		γ(g)	
	s			
m	n	ñ	(ŋ)	
		y		

and with surprisingly little phonological history. There are only a few reflexes of the stem-initial Dahl's Law, but the law operates productively on both prefixes and suffixes. Otherwise the only historical changes are:

1. *p > Ø (via **h?)
2. */c,j/ > /s,c/
3. k,γ ⟶ k^y, γ^y /___i

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Table 3.1.

Consonant Changes

Proto-Bantu	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii	Proto East Lacustrine
*p	w	w	ø	h	ø	h	h	ø	w̥
*t	t	t	t	r	r	r	t	t	t
*k	k	k	x	x	x	x	k	k	k
*β									β
*l	l	l	l	l	l	l	r	r	l
*ɣ	g	g	k	k	k	k	g	ɣ	g
*c	s	s	s	s	s	s	s	s	s
*j	j	d	c	ts	c	ts	z	c	j
*t,k	f	f	f	f	f	--	--	--	t,k
*l,ɣ	v	v	f	f	f	--	--	--	l,g
*t,k	s	s	s	s	s	--	--	--	t,k
*l,ɣ	z	z	s	s	s	--	--	--	l,g
*t	--	--	d	t	t	t	d	--	t
--	--	--	p	p	p	p	b	--	(b)

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3.1.4. Analysis of Consonant Changes

Table 3.1. is a summary of vowel correspondences. Only the obstruents and the liquid are listed since the following discussion is limited to them. The fricatives /f,v,s,z/ in the first five are those from spirantization due to high vowel merger; the d/t and b/p correspondences found only in the Luyia dialects are those due to Dahl's Law and/or the Luyia Law.

Putting together the rules presented below we can make the following preliminary observations. First, it is clear that Ganda and Soga are quite distinct from all the Luyia dialects phonologically. They did not participate in Dahl's Law at all, or in the consonant shifting, viz. the Luyia Law, or in the nasal cluster rules or fricative devoicing. They do share with Luyia the spirantization and vowel merger, the shift of *c > s, the phonemization of /$\tilde{n}$/ (but not of /η/), and p-lenition. We see that Gusii, too, did not share any of the changes with Luyia, other than p-lenition, *c> s, and some of Dahl's Law. Dahl's Law, it should be pointed out, is also found in Kikuyu, Sukuma, Rwanda, and languages related to them. Let us now examine these rules more closely, one by one.

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3.1.4.1. P-lenition

The rule of p-lenition (cf. Appendix III.2) which is widely attested in Eastern Bantu (cf. Hinnebusch, 1973) evidently occurred as *p > Φ at a very early stage, possibly by analogy with * β . Φ is attested in modern Pokomo. In most languages, including the Lacustrine, ** h. But Ganda and Soga have /w/. I would extend Hinnebusch's claim of *p > Φ and propose for Proto-Lacustrine the further change, **Φ > w̥, since from w̥ we can derive both /h/ and /w/ by changing only one feature. In other words, most languages delabialized w̥ to yield /h/, whereas Ganda and Soga voiced w̥. Hinnebusch asserts that, due to its distribution on the coast and elsewhere, p-lenition must have been an areal change and I would agree. And even in the case of Ganda and Soga the decision to voice rather than delabialized could have been a shared innovation, but we cannot be certain since, according to Bennett, Gishu also has /w/, not /h/.

Incidentally, p-lenition is a good example of a rule inversion, as discussed by Vennemann (1972). In the first stage the rule was

$$p \longrightarrow [+\text{continuant}] \quad /V\_\_V$$

which was soon extended to include the word-initial environment. Eventually rule inversion took place, giving the rule

$$\left\{ \begin{matrix} h \\ w \end{matrix} \right\} \longrightarrow p \quad /N\_\_$$

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where [p] is now the allophone, not the phoneme.

3.1.4.2. The Luyia Law

The next change to discuss is the group of rules of consonant shifting, similar to Grimm's Law in Germanic, and what I am calling the Luyia Law. In Bennett's discussion of these rules he acknowledges that they are functionally related but does not have much to say about the implications and ramifications of that fact. In its complete form it entails the devoicing of voiced stops and the "spirantization" of the voiceless stops:

b,d,j,g > p,t,c,k

p,t,c,k, > ɸ,r̃,s,x[4]

The Luyia Law is particularly interesting in that we can see that it did not happen all at once or even all in the same place, and we can tell the chronology of its development.

I would suggest that the law really began with the much earlier, probably Lacustrine Bantu, p-lenition, and the shift of *c > s (cf. Appendix III.3) though I cannot say for certain which of those two rules was first, my guess being the former. In most languages little or nothing else happened, though in Gusii, for example, *j > c, and in Logooli and some others *j followed *c into the alveolar area and became /z/.

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3.1.4.3. Dahl's Law and Meinhoff's Reconstruction[5]

Now, if we accept Meinhoff's reconstruction of the Proto-Bantu voiced series as * β,l,γ, instead of Guthrie's and Meeusen's *b,d,g, it is easier to see why in most languages nothing else occurred, whereas in Luyia much more shifting took place. The next step in Luyia was Dahl's Law, a voicing dissimilation affecting stem-initial /t,k/ and resulting in [d,g] (cf. Appendix III.4). A few instances of /b/ evidently came in via loanwords, while some others seem to indicate that * β > b sporadically. It was these voiced consonants, not the original ones, that took part in the Luyia Law, except that it is evident that *γ had by then became [g] in several environments and in many other languages as well. Bear in mind that Logooli was affected by Dahl's Law but not at all by the Luyia Law, and that Idakho was affected.

Next was that Dahl's Law ceased to be productive--in Bennett's terminology it became "fixed"--phonemizing the voiced stops and creating the beginning of a true voicing contrast in the stops. I will discuss what I mean by that and try to justify that claim shortly. The result was a chain shift, the Luyia Law. I agree with Bennett that the first step in the law was k > x (cf. App. III.5.1), followed soon after by g > k (App. III.5.2), which in turn was followed by j > c and b > p (cf. App. III.5.5). This must be so because although we might expect the last to be

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first, since there were already gaps in the *p,c slots, the problem of the voicing contrast would have been felt in the velar area first. The alveolars shifted later: t > r̃, d > t (cf. Appendix III.5.3.4). The fact that western Luyia did not participate in this last part, or has not yet, indicates that it was a later, and perhaps relatively recent, development. It may also now be seen that (strident) fricative devoicing, v,z > f,s (cf. discussion below) was in a sense related to the Luyia Law, these fricatives having arisen mainly from the spirantization caused by the high vowel merger.

Finally, the shift found in central and southern Luyia (except Logooli again) of c,nj > ts,nz (cf. Appendix III.6) is an unrelated chainshift. In precisely those dialects there has also been the completely phonologized palatalization of k,ng→c,nj (cf. Appendix III.9) before front vowels. We may assume that the former was the earlier and pulled the palatalized velars fully into the palatal area.[6]

3.1.4.4. The Non-Distinctiveness of [voice]

From the evidence presented above the feature [voice] seems not to have been a distinctive feature in Proto-Lacustrine, or even Proto-Bantu. Rather what was distinctive was the feature [continuant], [voice] being only a redundant feature. This conclustion makes Dahl's Law more easily motivatable, since if there was no voicing contrast in the Proto-Bantu stops then the voiced allophones

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would not have interfered with anything, what was already voiced being also continuants. It would have been the possibility for free variation that would have allowed the phonologization of the law. In the same way NC voicing in Luyia did not interfere with anything. But the phonemization of the voiced stops caused by the fixing of Dahl's Law was about to make [voice] a distinctive feature. So the voiceless stops began to spirantize. It began with *k > x where there was the severest problem due to the change of *γ > g and since *p,c had already become h,s. In fact we can now see that the first shift, *c > s, may have been to correct the situation of a voicing distinction in the Proto-Bantu palatal area, *j having arisen from an earlier phonemization of what was probably originally an allophone of *γ. The further shift in Gusii of *j > c was also a corrective change to make it so that all stops were the same in voicelessness. We may even consider the change of **Φ > $\overset{w}{o}$ as an avoidance of the voicing distinction with *β, caused by the change of *p > Φ. Thus the devoicing of /g/ and eventually the rest of the Luyia Law became desirable.

As will be seen below the devoicing of strident fricatives was already a constraint in the dialects, both due to and contributing to the lack of distinctiveness of the feature [voice].[7] This is so since voiced fricatives /v,z/, coming from the spirantization due to vowel merger, after the fixing of Dahl's Law, would have created a true voicing

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contrast in the fricatives.

In most Luyia dialects the feature [voice] still has a rather low functional load. In Saamia, not having participated in the alveolar part of the Luyia Law, plus the effect of borrowing, have led to a voicing distinction, and it remains to be seen what, if anything, Saamia will do about that. Logooli has the voicing distinction to a limited degree, mainly in the stops, by virtue of its not having taken part in any of the law. Ganda and Soga developed the distinction early, mainly through the fricatives resulting from the spirantization due to the vowel merger, and only recently, through borrowing, in the stops as well. It is perhaps ironic that whereas Ganda and Soga are closer to Proto-Bantu in their consonant inventories, Luyia on the whole remained truer to the Proto-Bantu situation with respect to the lack of distinctiveness of the feature [voice]. Gusii is closest to Proto-Bantu and still has no true voicing distinction at all.

3.1.4.5. The Nasal Cluster Rules

There are two more important consonant rules to discuss, that have been briefly alluded to already. These are the rules involving nasal clusters--the voicing of stops after nasals (cf. Appendix III.7.1) and the loss of nasals before fricatives (Appendix III.7.2). These rules, as well as fricative devoicing (Appendix III.8) occur in all Luyia dialects, including Logooli. Nasal cluster rules are

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quite common in Bantu generally, and it seems that the creation of nasal clusters in the first place, in languages that otherwise prefer CVCV syllable structure, caused problems, which many Bantu languages have tried to resolve in different ways. For example, in Southern Bantu voicless stops after nasals often become ejectives, in Eastern Bantu they often are aspirated, and in some of these either the stop becomes lost, leaving the aspiration behind (cf. Rundi, Sukuma), or the nasal may be lost, as in Swahili, or the nasal may become devoiced, as in other coastal languages (cf. Hinnebusch, 1973). Thus the NC rules in Luyia are other possibilities of this Bantu phenomenon.

A logical question to raise here is what was the chronology of these rules. If nasal loss applied in front of voiceless fricatives only then the NC voicing must have followed, unless the latter was restricted to stops. Also, did nasal loss precede fricative devoicing, since comparing, for example,

**invula > ifula 'rain'

**musanvu > musaafu 'seven'

shows that nasal loss occurred before fricatives regardless of voicing. But did fricative devoicing follow, or did those fricatives devoice due to an already present constraint? Accepting as fact that Proto-Luyia had the Proto-Bantu seven-vowel system (cf. section 3.2) then there was only one fricative at the time: /s/, since /f,v,z/ did not

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yet exist, and of course neither did /x/. The example /haasi/ 'ground' < *pansi, cannot tell us whether voicing was restricted to stops, or nasal-loss preceded voicing, or whether devoicing came after, or was an already present constraint. No matter how we order these we can arrive at the correct derivation, by hypothesizing different conditions on the rules and there is no way to reconstruct those conditions.

The most that can be said is that these rules were present in Proto-Luyia and not in Proto Eastern Lacustrine, and may thus be considered true shared innovations. Also shared was the fixing of Dahl's Law and the resulting phonemic splits that produced /d/ and new instances of /g/.

3.1.4.6. Evidence for Subgrouping

As far as the main parts of the Luyia Law are concerned, it seems we cannot use them at all for any kind of subgrouping. From my own data it appears that at least the first stages--k > x, g > k, j > c--are common to a putative Proto-Saamia-Wanga-Bukusu (SWB), and even though they also occur in Idakho we could suggest that they began in SWB and then spread southeastwards. However, Bennett's data, including as it does other dialects such as Nyuli and Gishu, indicate that all aspects of the law are skewed in one direction or another to the extent that even the early stages cannot be considered shared innovations. To give some of Bennett's examples, his isoglosses for k > x, g > k extend

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only as far north as Southern Gishu. Moreover, those two do not even coincide, as the former includes Fumbo, the Western Gishu dialect, and Nyuli; the latter does not.

It is worth recalling that the whole Luyia Law is found in Idakho and none of it in Logooli. I am thus compelled to follow Bennett in saying that the Luyia Law can tell us no more than that the various dialects were in close contact with one another over an extended period of time. It does seem to be the case, however, that nasal-loss and NC voicing were shared innovations and these support the inclusion of Logooli as a member of the Luyia dialect cluster on genetic grounds, i.e. as a daughter of Proto-Luyia, and not just on grounds of prolonged contact. Here is more solid evidence in support of Fig. 2.1. of Chapter 2. Indeed, the Luyia Law demonstrates that, unlike Idakho, Logooli was not much in contact with the rest of Luyia. What is more likely, on the contrary, is that the Balogooli had more contact with the Bagusii, being geographically contiguous to them before the Luo intruded and separated them. This would help to explain why they themselves believe they are more closely related to each other than they evidently are.

3.1.5. Application of Southworth's Envelope

By way of concluding this section we may take the lexicostatistical results of Chapter 2 and those of the foregoing comparative phonological analysis, and put them together. We can do this thanks to the innovation of

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Southworth (1964), that being the use of an "envelope" superimposed on a family tree. The tree gives us an approximation of the genetic relationships among the languages based on vocabulary. The envelope is a device to capture the wave theory of spreading, non-genetic changes that result from contact. The two together give us a nice picture that more nearly approximates the history of the languages. The wedges in the envelope indicate the amount of contact in that a shallow one shows that relatively many features or changes are held in common, while a deep wedge indicates fewer common characteristics.

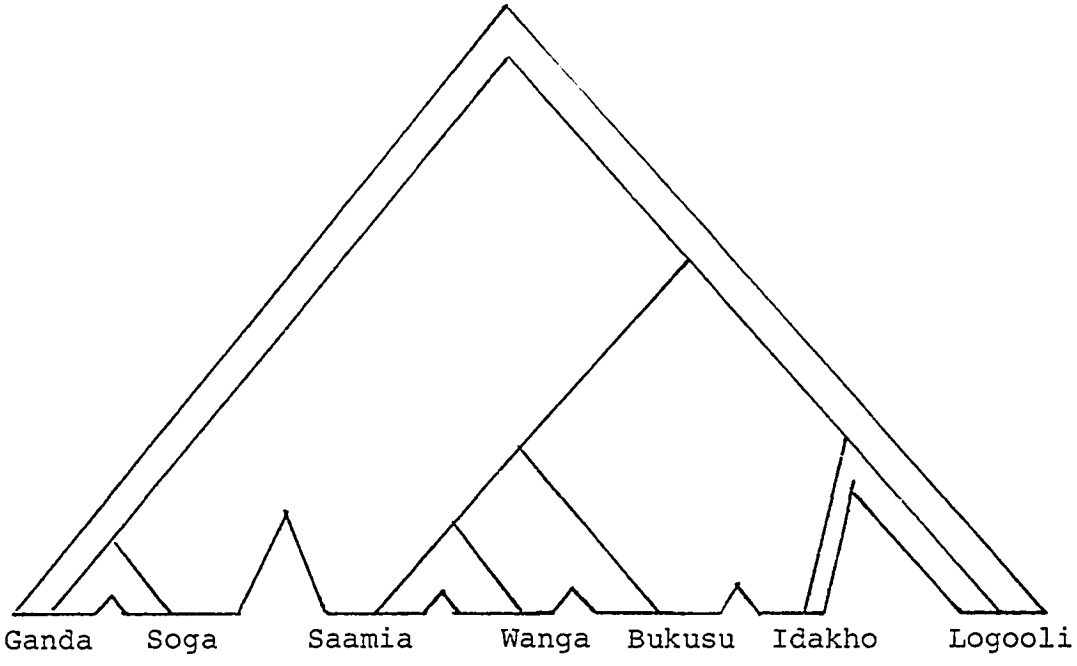

Figure 3

Application of Southworth's Envelope
to Family Tree (cf. Fig. 2.1)

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The most striking feature of this illustration in Fig. 3 concerns Idakho. The tree shows it to be genetically closest to Logooli, while the wedges separating it from Logooli and the Saamia-Wanga-Bukusu branch indicate that phonologically Idakho shares many more features with SWB than with Logooli. This indicates either that the Beedakho had much more contact with their northern cousins than with their closest kin, or it may indicate the predominant direction of those spreading changes--namely from the central Luyia area--or perhaps both of these.

3.1.6. Conclusions

With the traditional comparative method we have been able to draw certain conclusions that we can now put together as a summary, to answer some of the specific questions posed at the end of Chapter 1.

1. Luyia is an East Lacustrine language.
2. Ganda-Soga is closer to the other Lacustrine languages, Nyoro, Haya, than to Luyia; therefore "North Victorian Bantu" is not a valid subgrouping.
3. Logooli is genetically a dialect of Luyia, and is not to be subgrouped with Gusii.
4. Gusii is genetically closer to its southern and eastern neighbors and therefore a putative Luyia-Gusii subgroup is not valid.
5. The Baluyia evidently arrived in their present location from Uganda, whereas the Bagusii reached their

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present home from the south, via Tanzania.

Note that these conclusions support Doke's classification (except for Kikuyu). These conclusions, while still tentative, reopen some questions thought by historians to have been answered by oral traditions, especially that of a Logooli-Gusii relationship. Perhaps a few clans of each are genetically related, but in general, linguistic evidence points the other way. Recall the Shungwaya legend, mentioned in Chapter 1. Thus it must be clear that when we speak here of the Basaamia or the Balogooli, etc., we are naming linguistic ancestral peoples who were not the ancestors of all the present day people bearing that name, any more than when we speak of the Anglo-Saxons as the speakers of Old English, but not as the ancestors of all the Danes, Britons, Normans, and all the immigrants who settled in Canada and the United States. We must be careful to speak of language history partly divorced from the history of the people and we see clearly that neither history can give a complete story; one without the other is bound to be misleading. It is well here also to caution historians, as Hinnebusch (1974) has, against the use of the kind of typological classifications of Guthrie, Tucker and Bryan.

In Part II we will take up some other areas of grammar, particularly morphology and syntax, and see if we can use those data to corroborate the findings in section 3.1, see if other criteria are at all useful, and we will

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try to do some intermediate level reconstruction of grammar.

3.2. The Origin of the Luganda Geminates[8]

It is evident that the only universal syllable type is CVCV and that it is the most natural and unmarked. Moreover, a great many languages that have consonant clusters employ various methods of breaking up those clusters to yield less marked syllable types. Kisseberth (1969) showed that Yawelmani has a vowel epenthesis rule to break up clusters in certain CCVC morphemes into CVCVC. Hooper (1973) shows that Spanish uses vowel epenthesis word-initially on loanwords to change the syllable structure by moving the syllable boundary, i.e. changing $CCVC to VC$CVC. Languages in general have fairly strong constraints on what clusters are allowed, and most have the syllable boundary inside the clusters. It seems to me, therefore, both interesting and worthwhile for our understanding of language to ask the question of languages which clearly once had the unmarked syllable structure CVCV, how did they develop consonant clusters.

Bantu languages are well known as originally preferring CVCV syllable structure. For the most part the only consonant clusters allowed are nasal clusters (NC) and the sequence of consonant-glide (CG). We already know that the former arose historically from losses of vowels, namely from *niC and *muC; the latter arise from the gliding of high--and sometimes mid--vowels before another, usually

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non-identical, vowel. We also know that these languages, when borrowing from other, mainly European, languages, use vowel epenthesis extensively to break up all other clusters. So in Luganda, for example, the name 'Sylvester' is pronounced as /sirivesitiri/.

Despite this heavy constraint on syllable structure, Luganda--relatively recently, it appears--developed geminate consonants. Luganda still maintains the constraint familiar to Bantuists that all syllables are open, i.e. they end in a vowel,[9] so that these geminate clusters are not even broken up by syllable boundaries: they occur word-initially. They are also by themselves morae and carry tone. It has generally been assumed that most geminates in Luganda came historically from the sequence *jC (where j is the close vowel and C is any obstruent, nasal, liquid or glide). Meeussen (1965) states this explicitly, based on comparative evidence. No one, however, seems to have thought it necessary or interesting to try to determine precisely the reason for such a change even though the language otherwise so strongly prefers CVCV syllables. To say that *jC became CC is essentially to claim that a vowel became a consonant, and while the change to a completely homorganic one is, I suppose, the most reasonable, why should a vowel become a consonant at all? In this section I propose a scenario of historical development that explains how Luganda got its geminate consonants. I hope to show that there was reasonable

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phonetic motivation for this change, and evidence in support of this explanation, or at least suggestive, comes from Lusoga.

3.2.1. The Data

Every consonant in Luganda has a geminate counterpart. There are seven environments or sources that give rise to geminates:

	Luganda		Lusoga	*PB
(1)	verb stem-initial			
	oku-bba	'steal'	oku-iβa	*jɟβ-
	oku-tta	'kill'	oku-ita	*jɟt-
	oku-jja	'come'	oku-iɲa	*jɟj-
	oku-ggula	'open'	oku-igula	*jɟɣul-
	oku-ddayo	'go back'	oku-irawo 'come back'	---
(2)	Modified base of certain verbs: PB *ɣɟl-e			
	-βa-dde	'be'	-βaire	*-βa-ɣɟle
	-li-dde	'eat'	-liire	*-li-ɣɟle
	-fu-dde	'die'	-fwiire	*-fu-ɣɟle
(3)	Stem-medial (non-alternating)			
	omusajja	'man'	omusaaɲa	*mu-caɟja
	okuβajja	'carve'	okuβaaɲa	*ku-βaɟja
	amazzi	'water'	amaaɲi	*ma-jɟji
	mukoddomi	'son-in-law'	mukoirome	---

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	Luganda		Lusoga	Luyia
(4)	Class 5 prefixes: PB *lɟ-			
	eg-gumba	'bone'	ei-gumba	lɟ-gumba
	eb-beere	'breast'	ei-βeere	lɟ-βeere
	ef-fumu	'spear'	ei-fumu	lɟ-fumu
	ek-kumi	'ten'	ei-kumi	lɟ-xumi
	ed-doβoozi	'voice'	ei-doβoozi	
		(pl.)	amaloβoozi	
	eg-gwanga	'tribe'	ei-gwanga	
		(pl.)	amawanga	
	ej-jala	'big hunger'	ei-jala	
		(pl.)	amayala	

(5) NN or NC and Meinhoff Law

en-nimi ← en-limi 'tongues'

n-nima ← n-lima 'I dig'

n-naa-genda 'I'll go'

em-motokaa 'car'

(6) PB *pi, pu > hyi, hwu > yyi, wwu > jj, ggw (Meeussen, 1965)

*-pia > -jja 'new'

*-pu > -ggwa (but -wa in Lusoga) 'be finished'

(7) Occasional VVC — VCC

**-oona > onna 'all'

**-zaaña > zañña 'play'

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**-ooka > -okka 'only'

**eriiña > eriñña (pl. amañña) 'name'

** eriiño > eriñño (pl. amañño) 'tooth'

but

eri-iso (pl. amaaso) 'eye' (Lusoga, amaiso)

Note that in (4) the plurals, which are the same in Luganda and Lusoga, show that the underlying stem-initial consonants are /l,y,w/, which when geminated are realized as [dd, jj, ggw].[10,11]

With respect to (2-4) Meeussen and others have usually reconstructed for Proto-Bantu (PB) or Common Bantu (CB) *ɟC, even for the class 5 prefix. Many Bantuists would now agree that that prefix was *lɟ- and for a detailed and convincing argument for that reconstruction, cf. Hinnebusch (1973). In Mould (1972) the Modified Base (MB) is reconstructed as *γɟl-e, and it seems to me that the protoforms in (3) should also have consonants posited between the vowels; although it is not yet possible to decide which one, it was undoubtedly either *l, *γ, or *j.

3.2.2. The Consonant Explanation

Now if all of those cases have a consonant before the *ɟ one might want to suggest, as Givón has (personal communication), that it was the *ɟ that was lost instead, causing the consonant to completely assimilate to the following one, on the theory that since Luganda would not like

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clusters geminates would be the least intolerable type. This explanation appears to be better motivated phonetically than the one that claims that the vowel caused gemination because it is easier for one consonant to assimilate to another. But regardless of the merits of this explanation on phonetic grounds,[12] we must reject it on comparative grounds.

All the evidence from neighboring languages, particularly those of the Lacustrine subgroup such as Nyoro, Nyamwezi and Rundi, and those of the East Lacustrine subgroup, including Lusoga and the Luyia dialect cluster, to both of which Luganda seems to belong, indicates that those consonants were already lost in those environments in (1-3) at least by the time of the Proto-Lacustrine language. According to the glottochronological calculations of Ehret (1973) that would be before 300 A.D. (and if true for Proto-Eastern Bantu, ca. 500 B.C.). The same calculations place Proto-Ganda-Soga (PGS), also before gemination, at about 1400 A.D., at least a thousand years later than the losses of those consonants. All those languages have /iC/ in the environments of (1-3), and all except most Luyia dialects in (4) as well. Since Luyia in general still retains /li-/ for class 5 nouns we cannot say for certain when that /l/ was lost in these other languages.

3.2.3. The Tense Vowel Explanation

Here we need to take a closer look at the Lusoga data. Observe especially (4). Lusoga does not have

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geminates, not even in the nasal environment of (5).[13] But notice what happens to stem-initial /l̇,y,w/ in class 5 nouns; they are realized phonetically as [d,j,gw]. As far as I can tell this is a productive, synchronic, though not purely phonological, rule, but I cannot tell for certain since there are just not many words whose stems begin with those segments.

One may be tempted, as I was, to venture the claim that Lusoga represents an intermediate stage, so that PGS developed a rule "strengthening" /l,y,w/ after *j̱. This could be explained as having been caused by the extreme tenseness of the vowel. In Logooli, *j̱ > i, *i > ɪ, but *u̱ is still very tense, with extreme rounding; one can actually hear a buzzing or stridency. If the *j̱ was that tense it seems plausible that that feature could provide the motivation for the consonantalization and devocalization of the liquid and glides.

Unfortunately this rule does not occur with stem-initial verbs, or medially, or in the Modified Base of verbs (cf. (1-3)). That difficulty could be explained by hypothesizing that the *j̱ had laxed already in those environments in Lusoga but that the class 5 prefix was the last place to undergo laxing and this rule intervened. We are then left with trying to explain why the *j̱, presuming it was still tense in Luganda, became a consonant subsequently. The way this could have happened is that, since the vowel was a

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mora and a tone carrier, and once it got lost, something would have had to take over to maintain the number of morae, otherwise much of the tonology of the language would have been seriously disrupted. So the following consonant lengthened, or copied itself, the result of which was a geminate consonant, the first half of which was itself a tone-carrying mora. This scenario seems forced and labored, mainly because it would be difficult to motivate the loss of the vowel, but also because, assuming that *j was laxed in Lusoga, except in class 5, but at the same time not laxed in Luganda, begins to sound like a lot of ad hoc measures to save the theory. It would be better instead to consider other aspects of the phonologies of these languages and not just these data.

3.2.4. The Long Vowel Explanation

Recall the sources of Luganda gemination in (7), where sequences in cognate forms V:C became VC: (where : stands for gemination or length). In connection with this, and as pointed out by Bennett (1973), there was a diphthong simplification of *ajj > aaj. This change included Lusoga and most of Luyia except the northern dialects (Gisu, Bukusu). It evidently did not occur in languages west of Luganda. I claim that it did include Luganda and that at one time Luganda had intermediate forms:

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(8) (Cf. (3))

*omusaaja

*okuβaaja

*amaazi

which underwent gemination in the same way as those in (7).

It is also important to note that while Lusoga (and Nyankore) allows vowel sequences /ei/, /ai/, /oi/, from PB *ej *aj *oj, without vowel assimilation, Luganda does not have these. Luganda normally has vowel gliding and assimilation rules, including those for sequences /ei/, /ai/, /oi/, where the /i/ is from PB *i. But intriguingly there are gaps with respect to the three sequences with *j, and in fact also with the sequence from *uj where one would expect normal gliding. These sequences are not found at all and precisely where one would expect to find them one finds instead the geminate consonants. I claim that at an earlier stage Luganda had those sequences and that, like many Bantu languages but unlike Lusoga, vowel assimilation rules applied to them yielding long vowels /ee/, /aa/, /oo/, /uu/.

Now it is true that the attested assimilation rules in Luganda, from sequences involving *i, yield /ee/, /ee/, /wee/,/wee/,[14] but the ones I am claiming are found in other languages, along with ones comparable to those attested in Luganda. In Gusii, for example, one finds the following:

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(9) okooβa ⟵ oko - iβa 'steal'

omoocokoro 'grandchild' cf. Luganda omuzzukulu

Lusoga omwiidukulu

In Rundi one finds in the Modified Base of verbs cognate with those in (2):

(10) -βaaye ⟵ -βa-ɨle

pfuuye ⟵ -pfu-ɨle

and not, as the normal assimilation rules of Rundi would lead one to predict:

(11) *-βeeye

*-pfwiiye

In fact, an exception to the gemination rule in Luganda, cf. (7) /amaaso/, instead of */amasso/, or, as we expect from the normal assimilation rules */ameeso/ or */amesso/, attests this kind of assimilation rule in Luganda itself. Perhaps the assimilation went the other way to differentiate these sequences from those resulting from sequences with the lax high vowel. It was these long vowels that underwent the same change as those in (7). Grover Hudson (personal communication) informs me that this change of V:C to VC: is not uncommon in Eastern Cushitic languages such as Galla and Sidamo.[15]

3.2.5. History of the Change

Thus I claim the scenario was as given in the sequence of changes in (12):

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(12) Proto-Ganda-Soga:

1. aįj > aaj (spread into Luyia)

2. r,y,w ⟶ d,j,gw /į [-------] [class 5]

Luganda only:

2a. generalization of rule 2 to all /ir iy iw/

3. eį aį oį uį ⟶ ee aa oo uu

4. V:C ⟶ VC: / [-------] [rule 3]

(13) Some sample derivations and comparisons:

Modern Luganda	Early Luganda	Lusoga	Luyia
nzija 'I come'	nzija	nd̪id̪a	njica
ojja	ooja	oid̪a	wiica
ajja	aaja	aid̪a	yeeca
tujja	tuuja	twiid̪a	xwiica
mujja	muuja	mwiid̪a	mwiica
βajja	βaaja	βaid̪a	βeeca
eggumba	eegumba	eigumba	liigumba
eggwanga	eegwanga	eigwanga	-wanga
-βadde	-βaade	-βaire	-βeere
mukoddomi	mukoodomi	mukoirome	---

The impetus for change 3 probably was by generalization from change 1, beginning with other instances of *aį. Change 2 must have begun in PGS and been extended in Luganda by 2a to other environments where *į occurred, motivated by the extreme tenseness of that vowel, but not, as suggested

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earlier, as an assimilation of that feature. Rather, what is more likely phonetically is that the tenseness of the close vowel slowed down the process of articulation. Recall that the liquid is always a flap after the front vowels. We know that in English rapid articulation of /t,d/ intervocalically results in flaps (/rayd/, /rayDr/, etc.). Hence the slowed articulation of the flap in PGS resulting in a stop /d/ is a reasonable converse of the English rule. By the same token the constriction of the vowel and slower articulation of the glides also resulted in stops.

Recall also the geminating environment (6) where *pi, *pu became /jj, ggw/ presumably via intermediate steps as posited by Meeussen (1965). It could well be that at a stage when *yy, *ww, existed, probably contemporary with the occurrence of change 2a, gemination began in the environment of (6), as happened in Old Norse (cf. footnote 11). Also geminate nasals undoubtedly existed already, as illustrated in (5), though these are now simplified in Lusoga. Thus there seems to have been a conspiracy of sorts towards gemination from several different sources. Then the change in 4 began, with the liquid and glides, analogous to (6) and spread to the other environments and consonants.

Finally, note the context of change 4 that says only those long vowels causes by change 3 underwent the rule. This global condition is necessary, of course, because other long vowels are not affected, with the interesting

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exceptions of those unsystematic cases given in (7). This suggests that change 4 followed fairly quickly after change 3, at least before the merger of the tense and non-tense high vowels; I am assuming that synchronically Luganda has underlyingly a five-vowel system.

We can perhaps avoid this global condition if we consider changes 3 and 4 to have applied simultaneously. There are other rules in Luganda and Bantu which seem to require simultaneous application. For example gliding and compensatory lengthening is undoubtedly best described as a single process.

In this section I have shown that by positing intermediate stages, each one attested in Luganda or in closely related languages, and each one phonetically well-motivated, the apparently crazy change from *iC to CC is not crazy at all, but is merely a sequence of natural changes.

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FOOTNOTES TO CHAPTER 3

[1]Some rules that will not be discussed here in any detail are the allophonic variations of /l/ (l,r) vowel rules of gliding, fusion, lengthening, shortening, the phonemization of /ñ, ŋ/, and the spirantization of consonants before */i̯, u̯/

[2]This is partly Meinhoff's (β,l,γ) and partly Guthrie's and Meeussen's (c,j). The reasons for this will be made apparent in the following discussion. Givón (personal communication) omits the palatals, following Meinhoff, evidently the result of internal reconstruction of Proto-Bantu itself. I am inclined to believe that the palatals, especially *c, had become phonemic in Proto-Bantu.

[3]I believe it is the Logooli pronunciation [oluʃya] that gave rise to the spelling Luhya, common in Kenya.

[4]Perhaps /r̃/ was at first unvoiced, since all the others are, and became voiced later for reasons of markedness.

[5]The following discussion in this and the next subsections will appear separately, revised and expanded, as Mould (1976).

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[6]Logooli is similar here: j > z and g → j /___ $\{^{i}_{I}\}$

[7] β and γ were always exempt from fricative devoicing. In nasal clusters they were always stops and intervocalically and early on become /g, j, y or d/ and so could not be affected. That leaves /β / to account for and it seems that stridency was or became part of the redundancy rule.

[8]This section has appeared separately as Mould (1974).

[9]The sole exception to this is that words ending in /mu/ are usually pronounced with a syllabic nasal. But even though the lips are not opened, lip-rounding follows the nasal articulation: [mm̩^{w}].

[10]/l/ is always realized as a tap [r] after front vowels, so it is easier to see why /rr/ would become [dd].

[11]As Meeussen points out, geminate glides in Old Norse also became /ggy, ggw/. Cf.:

OHG		ON
zweio	'two'	tveggya
houwan	'beat'	hoggwa

[12]In fact, Ladefoged, in personal communication, stated that both explanations are about equal in being not very easily motivated on phonetic grounds.

[13]There is one exception. In the near future tense,

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n+naa+βaaɖa ⟶ nnaaβaaɖa 'I'll carve'

[14]The last of these is hypothetical, since it is extremely rare to find morphemes in modern Luganda beginning with either high vowel. I elicited this one from an informant using nonsense words.

[15]Anttila suggests that this may be rather common in languages, especially with nasals and liquids. He cites the alternation in the poetry of Catullus between phasēlus phasellus.

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PART II

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CHAPTER 4

COMPARATIVE MORPHOLOGY

4.0. Introduction

In Part I we looked at vocabulary and sound change, the traditional tools of the comparative method, to try to determine how closely the languages of this study are related, and to begin to reconstruct an intermediate level protolanguage. Some conclusions were reached, namely that Logooli is a dialect of Luyia; that Luyia is more closely related to East Lacustrine languages than to Gusii; that Ganda and Soga are closer to other East Lacustrine languages like Nyoro, than they are to Luyia; that Gusii may well be more closely related to West Lacustrine languages like Rwanda and Sukuma, and to the Thagicu group of central Kenya, such as Kikuyu.

Thus part of my original hypothesis--that Luyia and Ganda-Soga would constitute a linguistically valid subgroup named North Victorian Bantu--has been disconfirmed. What we do have now, evidently, is two lower-level subgroups, Ganda-Soga and Luyia; but the tree node that connects these two is not the next highest. The next highest joins Ganda-Soga with Nyoro, Haya-Kerewe, etc., as in Fig. 4.0 (cf. Figs. 2.5, 2.9, in Chapter 2):

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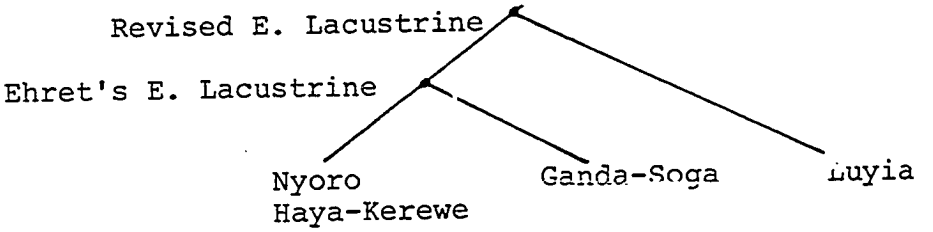

Figure 4.0

Revision of Ehret's East Lacustrine Subgroup

We may recall from Chapter 1 that Ehret called that intermediate node "East Lacustrine". Since my data indicate that Luyia is closer to Ehret's East Lacustrine than the latter is to West Lacustrine, I conclude that Luyia is an earlier offshoot of East Lacustrine. Therefore I will from now on define the name as including Luyia, as indicated in Fig. 4.0.

This state of affairs has created a problem for reconstruction in that I do not have adequate data for Nyoro, Haya, etc. While we can determine some reconstruction of Proto-Luyia and of Proto-Ganda-Soga, Proto-East Lacustrine cannot yet be reconstructed with accuracy. This problem was predicted in the Preface when I stated that, as languages are added and we move farther out to other languages and so up the tree towards Proto-Bantu, previously posited subgroups would probably have to be revised. It is interesting to see that this has happened already, and it is certainly useful to know that the next steps to take in

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future research will be to reconstruct Proto-Nyoro-Haya and then Proto-Nyoro-Ganda.

On the other hand, we need not expect the "Nyoroan" languages to differ drastically from what we find in the languages of this study. I will, therefore, continue to examine the data from these, and will include some data from two Nyoro dialects, Tooro and Nyankore, where available. In this and the following chapter I will discuss several features of morphology and syntax to try to find additional evidence for or against the conclusions drawn in Part I.

4.1. Morphology in Noun Phrases

In this chapter I will discuss a group of morphemes in the languages and dialects under investigation. I will not examine their functions directly; the task of applied morphology, or morphosyntax and morphosemantics, will be the subject of Chapter 5. I will discuss, rather, their phonological shapes--their "spelling". In particular, I will examine in section 4.1 demonstratives, pronominal forms, and the derived noun classes 12, 13, 14, 20 and 22.[1] In section 4.2 I will discuss several morphemes of the tense--aspect systems. These areas of morphology ought to be useful for subclassification, the pronouns especially, because they are among the least likely to be borrowed of lexical items, so that whatever shared differences there are may with some confidence be considered genetic. Some of the tense markers are shown to be useful in Bantu

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because so few of them are reconstructible to Proto-Bantu and they are so varied that they turn out to be helpful in establishing intermediate level subgroupings. On the other hand, we will also see that these kinds of morphemes are susceptible to borrowing as are sound changes and other lexical items.

4.1.1. Demonstratives

It is quite clear that Proto-Bantu had four "orders" of demonstratives, schematically reconstructed as follows, where CV indicates the noun class prefix, and VCV that prefix preceded by the Initial Vowel, or pre-prefix. The differences in meaning will be explained in the discussion below:

1. *CV-nu 'this'$_1$
2. *VCV 'this'$_2$
3. *VCV-o 'that'$_1$
4. *CV-lia 'that'$_2$

It is a very interesting fact that most Bantu languages presently retain only three demonstratives. A few exceptions retaining four are Bemba (cf. Givón, 1970), Wanga and Logooli. It also is the case that normally those languages with three retain (3) and (4) and lose (1) or (2). I suggest that, in Bantu generally, a useful criterion for subgrouping may be to see which languages lose which demonstrative.

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I would suggest also that there is a reasonable explanation for the fact that most Bantu languages have three demonstratives, and that very many other languages also have three. To begin with, it is most convenient to describe demonstratives, since they are deictic, by using the two features [speaker] and [hearer], with the values + and - translatable as 'near to' and 'distant from', respectively. Thus the four orders in Proto-Bantu exhaust the possible combinations of those features as follows:[2]

1. 'this'$_1$ [+speaker, -hearer] = 'near speaker only'
2. 'this'$_2$ [+speaker, +hearer] = 'near speaker and hearer'
3. 'that'$_1$ [-speaker, +hearer] = 'near hearer only'
4. 'that'$_2$ [-speaker, -hearer] = 'distant from both'

The question arises, if these are the possibilities, why do so many languages use only three, and why do most of those omit the same semantic one, namely the second? Why do so many have three rather than two? I believe the answers to these questions are essentially the same and involve the personal pronouns. These are also deictic, of course, and can also be most conveniently represented by the same two features:

1. I [+speaker, -hearer]
2. you [-speaker, +hearer]
3. he/she/they [-speaker, -hearer]
4. we [+speaker, ±hearer]

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'We' is in most languages ambiguous with respect to the feature [hearer]. There are some languages that distinguish between inclusive and exclusive 'we', viz. between [+hearer] and [-hearer]. It might prove fruitful, therefore, to investigate whether there is any correlation between those languages that have four demonstratives and those that distinguish between inclusive and exclusive 'we', a project unfortunately beyond the scope of this study. Unfortunately it is already fairly certain that Proto-Bantu did not so distinguish; on the other hand, Quechua does. We do, however, have a plausible hypothesis to explain why, when a Bantu language has lost a demonstrative, it is normally either (1) or (2), leaving one to indicate [+speaker], and leaving the feature [hearer] ambiguous; that is, that such loss is motivated by analogy with the pronouns.

Below are listed the demonstratives of the various languages. As remarked above, Wanga and Logooli still retain four, although Wanga has begun to lose one (2); my informant found difficulty in distinguishing between (1) and (2) semantically and preferred (1).

We notice that, except for Logooli, which retains all four, Ganda, Soga and Luyia have dropped (2) while Gusii has dropped (1). It could be pointed out that other languages south of Gusii have also dropped (1) and retained (2) and this would support further the position of Gusii in Fig. 2.9. However, the evidence from Wanga and Bukusu

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Table 4.1

Schematic Representation of Demonstratives

Language	1	2	3	4
Ganda	CV-no	-	VCV-o	CV-li
Soga	CV-no	-	VCV-o	CV-le
Saamia	CV-no	-	VCV-o	CV-la
Wanga	CV-no	(VCV)	VCV-o	CV-lya
Bukusu[3]	CV-no	-	VCV	VCV-o
Logooli	CV-nu	VCV	VCV-o	CV-ra
Gusii	—	VCV	VCV-o	CV-lia

indicate that in the Luyia area, at least, these developments were relatively recent and later than the earlier splits. Moreover, in Tooro VCV was dropped while in Nyankore CV-nu, and these dialects are even closer than, say, Wanga and Bukusu. We must conclude that there were four demonstratives as late as Proto-Nyoro-Ganda and Proto-SWB and that the reductions to systems with three are very recent, too recent, and either due to borrowing or done independently, to be useful for genetic purposes.

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4.1.2. Derived Noun Classes: Augmentative and Diminutive

All the languages and dialects of this study use class 5/6 (li-/ma-) derivationally for augmentation, and all use class 12 for diminution. But Ganda, Soga and Luyia, including Logooli, also use class 20 as their augmentative, while Gusii does not. There are complications in the plurals, though. Ganda and Soga use class 22 as the plural of 20, while Luyia dialects have class 4. Ganda has class 14 as the plural of 12, Gusii and Bukusu have class 8, and the rest of Luyia uses class 13 as the plural of 12; Soga uses both 13 and 14 as the diminutive plural:

Table 4.2

Comparison of Derived Augmentative and Diminutive Noun Classes

Language	Augmentative	Diminutive
Ganda	gu-/ga- (20/22)	ka-/βu-(12/14)
Soga	gu-/ga- (20/22)	ka-/βu-ɲtu (12/14ɲ13)
Luyia	ku-/mi- (20/4)	xa-/tu-(12/13)
Wanga	ku-/mi- (20/4)	xa-/r̃u-(12/13)
Bukusu	ku-/mi- (20/4)	xa-/βi-(12/8)
Logooli	gu-/mi- (20/4)	ka-/tu- (12/13)
Gusii	--- (5/6 only)	ka-/βi- (12/8)

To begin with the augmentative, class 5/6 seems to be reconstructible to Proto Lacustrine at least, and perhaps

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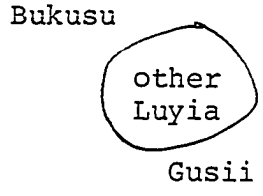
to Proto-Bantu, being fairly widespread, whereas class 20 appears to be a post-Proto-Bantu innovation. I do not know where else it may be found and it does seem to be later even than Proto Lacustrine. It certainly separates Gusii from the others, and may be confined to East Lacustrine. Concerning the class chosen to be paired with 20 as its plural, there does not appear to be any clear way to decide whether 22 or 4 is older or innovative. At any rate the data indicate a clear split between Luyia and Ganda-Soga, with Logooli part of Luyia.

Turning to the diminutive, class 12 certainly can be traced to Proto-Bantu, and even class 13, found very widely, was probably paired with 12 in Proto-Bantu. The data from Ganda and Soga indicate that Ganda may have innovated the use of 14 as the diminutive plural and Soga, since it uses both 13 and 14, could have begun to borrow 14 from Ganda. The use of 14 is also found in Tooro and Nyankore, along with 13, so it seems either to have begun to spread in both directions from Ganda or to have been a Proto-Nyoro-Ganda innovation, completed only in Ganda. The use of class 8 in Bukusu and Gusii looks very strange. Geographically it appears to be an example of a relic:



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But class 13 is undoubtedly the older element--a retention. It is doubtful that class 8 was an early innovation with 13 reintroduced later. It must be noted that class 7/8 is also used as a kind of diminutive in many languages. An example is Swahili, which lost class 12 and perhaps also 13. Class 12, but not 13, can be found in early Swahili poetry. Evidently there is some tendency in Bantu for class 12/13 to merge with 7/8 semantically and disappear, the loss of the more marked plural occurring first and the singular considerably later. If this speculation is correct, or at least close, it is not unreasonable to expect that Bukusu and Gusii have lost class 13 and replaced it with 8 independently.

The other noun classes and their subject, object, relative, and modifier agreement forms are the same morphologically. Differences occur with regard to sound changes, discussed in Chapter 3, and morphosyntax, to be discussed in Chapter 5. The only other significant difference is the presence of a consonant before the VCV prefixes of the nasal classes 3, 4, and 6 in Bukusu:

Class 3: kumu- kumusaala 'tree' (cf. Saamia: omusaala
Class 4: kimi- kimisaala 'trees' emisaala
Class 6: kama- kameeci 'water' amaaci)

There has long been a dispute among Bantuists as to whether this is a retention of an earlier form of the pre-prefix--in all other languages which retain a pre-prefix it is

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only a vowel--or is an innovation. I will not take sides at this time, though it does seem significant that it is not "retained" anywhere else. I simply wish to point out the fact that it occurs only in the northern Luyia dialects, Bukusu and the Gishu subdialects. This is, at least, an indication that northern Luyia is a valid lower dialect subgrouping.

4.1.3. Personal Pronouns

There is one area in Bantu that demonstrates a surprising degree of diversity both among and within languages, considering that the languages are relatively closely related; that is the area of the personal pronouns. It is surprising because pronouns are one area in comparative linguistics where the greatest similarity is normally expected. In fact it has been argued (cf. Sherer,1968) and generally agreed, that pronouns are among the best criteria for indicating genetic relationships. They are probably the least likely of lexical items to be borrowed. In this section I will attempt to show that the diversity and dissimilarities found in Bantu pronouns are more apparent than real, and that they are only marginally useful for subclassification. We will see that to a significant degree the pronouns have simply been affected by some of the normal sound changes discussed in Chapter 3, and, not so simply, they have otherwise been subjected to analogical levelling, often from different directions. I will begin with the

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first and second person singular forms, then go on to their plurals, examining the independent pronouns, possessive, subject and object agreement affixes. Finally I will take up the third person singular forms and will include the relative subject and object forms.

4.1.3.1. First and Second Person Singular

The following table illustrates the first and second person singular pronominal forms for independent pronouns, possessive suffixes attached to the -a-, meaning 'of' (which in turn is prefixed by class concord of the noun possessed), subject and object morphemes affixes to verbs:

Table 4.3

First and Second Person Singular Pronominal Forms

Language	Ind	Poss	Subj	Obj
Ganda	nze	-nge	N-	-N-
	ggwe	-o	o-/w-	-ku
Soga	nde	-nge	N-	-N-
	iwe	-o	o-/w-	-ku-
Saamia	ese	-nge	N-	-N-
	ewe	-o	o-*/w-	-xu-
Wanga	esye	-nje	N-	-N-
	ewe	-o	o-*/w-	-xu-
Bukusu	ese	-nge(-se)	N-	-N-
	ewe	-o	o-*/w-	-xu-
Logooli	InzI	-nge	N-	-N-
	IβI	-o	u-/w-	-ku-
Gusii	ince	-ne	N-	-N-
	aye	-#o	o-/kw-	-ko-

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(*The w- in the subject column indicates the gliding that occurs before vowels, such as with the -a- tenses. N represents the homorganic nasal assimilated to following consonants. The asterisks in Saamia, Wanga and Bukusu represent the fact that in those dialects the o- becomes u- just in case the -N- object infix immediately follows, e.g. o-mu-lola 'you see him', but u-n-lola (undola) 'you see me'. The boundary (#) in the Gusii possessive is due to the fact that there is no vowel fusion, e.g. kyá-ò-→kyô, whereas fusion is otherwise normal in Gusii. This probably indicates a recent loss of a consonant.)

Looking first at the subject and object affixes it is quite easy to see that all the languages are nearly identical (Tooro and Nyankore are the same as Ganda). In fact these forms are attested all over Bantu. /x/ is merely due to the Luyia Law. Gusii has kw- instead of just w- before vowels and is older. The [u] before N- in the three Luyia dialects is also undoubtedly a relic from a time before which the subject affix was u everywhere. It is the case with these dialects and also Ganda and Soga and other languages that word initial, non-close high vowels, most notably the pre-prefixes, have been lowered, as have also many final vowels, as in the first demonstratives, taano 'five', etc. We may with confidence reconstruct these forms as:

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	Proto-East Lacustrine	Proto-Lacustrine (and Proto-Bantu?)
Subject	*N-	*N-
	*u-	*ku-
Object	*-N-	*-N-
	*-ku-	*-ku-

Regarding the possessive forms we find near identity except for Gusii -ne which does fit a pattern in other languages.[4] Also, the lost consonant indicated by the boundary symbol, was undoubtedly k; cf. Swahili -a-ko. The palatalization in Wanga -nje is regular. Tooro also has -nge; Nyankore has -ng^{y}e, from a palatalization rule very much the same as Wanga. So the Proto-East Lacustrine forms were clearly *-ng^{y}e, *-o, and the Proto-Lacustrine and probably Proto-Bantu form of the second person at least was *-ko.[5] Reconstruction of the first person possessive to Proto-Bantu or even Proto-Eastern Bantu is more uncertain, since there is considerably more variation, especially in the vowel: Swahili has -ngu; Nyanja has -nga; Bemba has -ndi.

Turning to the independent pronouns, again Gusii does not fit well. The second person is significantly different from the others. Even ince doesn't fit exactly, though obviously related and very similar. It doesn't conform to the regular sound correspondences (cf. Chapter 3) where Gusii /c/ corresponds to Ganda /j/ and Luyia /c> ts/. The Luyia forms are simply due to nasal loss and fricative devoicing. The presence of the glide in Wanga esye and not in the

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others is explained by the fact that Wanga has generally not undergone the glide "absorption" after /s,ʃ,z/ as have the others. (Cf. Saamia ekesa 'teach', -kusa 'sell', and Wanga -ekesya, -kusya, from *-ekel-i̯-a, **-gul-i̯-a.) We now see that -e is a suffix and the fully reconstructed form should be *(i)nzi-e.[6] But if Proto-East Lacustrine did not yet have /z/, as shown in the previous chapter, then it must have been *j, and the following vowel *i̯ to induce the spirantization to /z/. The form must have been *(i)nji̯-e. And, since Gusii /c/ is from Proto-Bantu or Proto-Lacustrine *j then the Proto-Lacustrine was also *(i)nji̯-e. Now, if Proto-Bantu *j arose from a palatalization of *ɣ (*g after a nasal), as I claimed in Chapter 3, then the Proto-Bantu, or at least pre-Bantu form would have been *(i)ngi̯- and it becomes clear how the independent and possessive forms can be related.

Finally, the second person pronoun was probably *i̯wi in Proto-East Lacustrine. The gemination of the /w/ in Ganda indicates that the first vowel must have been the close one (cf. Chapter 3, section 3.2). Evidently Logooli (and Idakho, too) innovated an obstruentization of /w/ to /β/, since /w/ is extremely widespread in Bantu and reconstructible to Proto-Bantu. The evidence from the other forms in the table indicate also that at one time the /w/ was probably from an underlying /u/ and before that from /ku/.

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The evidence presented lends a bit more support to the claim of a rather close genetic relationship between Ganda-Soga and Luyia, including Logooli, as against Gusii.

4.1.3.2. First and Second Person Plural

Turning our attention to the first and second plural forms we find things a bit more complicated. The various forms are given in Table 4.4:

Table 4.4

First and Second Person Plural Pronominal Forms

Language	Ind	Poss	S.C.	O.C.
Ganda	ff^{w}e	-ff^{w}e	tu-	-tu-
	mmwe	-mmwe	mu-	-βa-
Soga	if^{w}e	-if^{w}e	tu-	-tu-
	imwe	-imwe	tu-	-βa-
Saamia[7]	ef^{w}e	-ef^{w}e	xu-	-tu-
	eŋwe	-eŋwe	mu-	-mu-
Wanga	efwe	-efwe	xu-	-xu-
	eñwe	-eñwe	mu-	-mu-
Bukusu	efwe	-efwe	xu-	-xu-
	eñwe	-eñwe	mu-	-mu-
Logooli	kuñi	-ito	ku-	-ku-
	muñi	-iñu	mu-	-mu-/-va-
Gusii	intwe	-ito	to-	-to-
	inwe	-ino	mo-	-βa-
P.E.Lacustrine	*ɟtɣ-e	*-ɟtɣ	*tu-	*-tu-
	*ɟñɣ-e	*-ɟñɣ	*mu-	*-βa-
Proto-Luyia	*ɟkɣ-e	*-ɟtɣ	*ku-	*-tu-
	*ɟñɣ-e	*-ɟñɣ	*mu-	*-βa-

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Looking first at the second person subject and object affixes, the first thing to notice is that Ganda, Soga (and the Nyoro dialects), Gusii, and optionally Logooli, have -βa- as the object pronominal form. This is most likely the same βa as the third person, class 2 form. It is found scattered over the Bantu area as a second person marker and is probably original. Luyia is, then, evidently innovative, using -mu- by analogy with the subject form. The fact that Logooli has probably only recently begun to use -mu- indicates that the innovation was not Proto-Luyia, but could have been Proto-SWB.

The reason for Proto-Bantu *-βa- may have been due to the kind of politeness that we find in many languages. For example, the use of Sie 'you (pl.)/they' in German is analogous. Other ways are the second person plural used throughout Indo-European as a polite singular, and to a lesser extent the use of the third person singular in direct address in English, as with honorific titles, e.g. 'your honor', with third person agreement on the verb: "Does your majesty command me . . ."

Second, the independent and possessive forms are again very similar to each other. But from language to language there are some strange dissimilarities, mainly in Logooli and Gusii, but also in the Nyoro dialects, which are itwe, iñwe, and itu, iñu, respectively. Note that, superficially at least, Ganda, Soga and Luyia--minus Logooli--are the most

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similar, mainly due to the forms with fu. Indeed, this similarity in pronouns was one reason for my original prediction of a North Victorian Bantu subgrouping. We must examine these forms carefully and resolve if possible the several problems of alternation, /mu~ñu/, /tu~fu/, and the most vexing, /tu~fu~ku/, in Luyia.

Looking at the second plural forms it seems that -iñu- may have been the original Proto-East Lacustrine form in both independent and possessive pronouns, with Proto-Ganda-Soga being innovative and analogizing from the agreement affixes mu-.

The first plural forms are not so easy to determine. The most perplexing feature is the *ku in Luyia. It is found nowhere else in Bantu and the Proto-Bantu consonant is clearly *t. Neighboring non-Bantu languages do not have /k/, either, and it seems impossible to motivate that change, especially since ambiguity with the second person singular has resulted. It occurs in all dialects, including Logooli, and is so unusual that it is undoubtedly a Proto-Luyia innovation. On the other hand, Saamia has -tu- for object agreement, while Logooli has -itu for the possessive. These are undoubtedly relics, so the *k innovation probably occurred in either the subject agreement prefix or the independent form, and spread later by analogy to the other forms. Notice, however, that we cannot say which of those forms innovated *k because of the later, obscuring change

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to /f/ in the independent forms; /f/ could have come from either /t/ or /k/ under the influence of the close vowel /ɥ/, so we cannot tell what the /f/ was originally in any dialect. The fact that Logooli has /k/ makes it likely that the /t/ > /k/ happened in Proto-Luyia because we already know that Logooli was unaffected by later sound changes from the rest of Luyia.

We have already seen that the consonant changes due to high vowel merger probably occurred rather late and must also have been areal. The evidence from Nyoro lends further support to that conclusion since it does have /f/, but not in the pronouns.

We can conclude with confidence that the /k/ originated in Proto-Luyia. It is such a unique and unlikely change that it is bound to be a very strong case of a shared innovation and thus very good support for the Luyia-Logooli kinship. To summarize, the first and second person plural pronominal forms should be reconstructed as follows for Proto-East Lacustrine:

Independent & Possessive	Subject	Object
i̯tɥ-e	tu-	-tu-
i̯ñɥ-e	mu-	-βa-

Two details are left to explain. The reconstruction of *i̯ is necessitated by the occurrence in Ganda of gemination, as was seen also in the second person singular forms.

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Finally, other languages have fu- in independent and possessive forms (cf. Bemba ifwe, Givón, 1970), but no language has fu as subject or object agreement affixes.[8] It seems, then, that Proto-Bantu had *ʉ for the former but *u for the latter. There may have occurred a laxing of that vowel, and positing *ʉ for all forms should be claimed, if at all, only for Pre-Bantu.

4.1.3.3. Third Person Singular

We now turn to the third person singular (human) pronouns, and to the table presented below we must add the subject and object relative forms. With the third person we find less consistency, more innovation and levelling, and reconstruction and subgrouping become more problematic. But some interesting observations are still possible.

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Table 4.5

Third Person Singular Pronominal Forms

Language	Ind.	Poss.	Sub.Conc.	O.C.	Sub. Rel.	O. Rel.
Ganda	ye	-e	a-/ya-	-mu-	a-/èyá-[9]	gwe
Soga	(dem)	-e	a-/ya-	-mu-	a-/èyá-[9]	gwe
Saamia	(dem)	-ye	a-/ya-[#]	-mu-	-o-	yi-
Wanga	ye	-e	a-/ya-[#]	-mu-	u-/owu-[9]	we
Bukusu	niye	-we	a-/ka-[#]	-mu-	-o-	niye
Logooli	(dem)	-e	a-/ya-	-mu-	u-...dem[10]	wa...dem
Gusii	ere	-ye	(n)a-/o-	-mo-	dem o-	dem
Proto-E. Lac.	*ye	*-(y)e	*a-/ya-	*-mu-	*u-	*(ɣu)e

[#]In Saamia, Wanga and Bukusu the subject agreement prefix is a- except when followed by the first person singular object infix, when ya- is used, e.g., a-mu-lola 'he sees him', but ya-n-lola 'he sees me'. Cf. section 4.1.3.1 re the second singular subject prefix alternating o-/u-.

The first observation is that all the languages have -mu- as the object infix and that is indeed the reconstructed Proto-Bantu form *-mu-. Second, all but Gusii have as the independent pronoun ye or substitution of a demonstrative. Normally, independent pronouns are used for emphasis or contrast; otherwise the subject agreement prefix suffices. Thus it is easy to see why Soga, Saamia and Logooli would instead tend to use demonstratives, which are already emphatic, and we may suppose that *ye was the original Proto-East Lacustrine form. The Gusii form may be a separate innovation; other eastern Bantu languages, e.g. Swahili, have ye also.

The possessive suffix was probably originally *-ye, the glide having been lost in Proto-East Lacustrine. Saamia and Bukusu seem to be more recent glide insertions; they seem to have done that frequently, cf. the independent and possessive forms for the first and second persons.

Turning to the subject prefix we note that all the languages use a- before a consonant, and this is certainly traceable to Proto-Bantu. The y- found before vowels is nearly as widespread and may also have been in Proto-Bantu. The exception of Bukusu /k/ is perplexing; I can only guess that this /k/ may be related to the /k/ found on the pre-prefixes found in classes 3, 4, and 6 (cf. section 4.1.2) since class 1 also uses the bilabial nasal.

The two relative markers present a more difficult

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problem. Syntactically all these languages relativize in the same way; only the phonological shapes of the morphemes differ. The first thing about them we notice is that round vowels and glide predominate. These /u, o, w-/, and even /gu-/ in Ganda and Soga (Tooro and Nyankore have ou) are probably from a Proto-Bantu or Eastern Bantu *ɣu- or *oɣu. Reflexes of this are found all over Eastern Bantu, at least, often as relative markers, but also in place of the a-/ya- subject prefix, as in Zulu, where a- is found only in the subjunctive and a few negative tenses. In Swahili, on the other hand, no reflexes of it are found, unless perhaps buried in the now mostly archaic yu- forms.

One gets the general impression from Table 4.5 that, at least in Proto-East Lacustrine a-/ya- was the subject prefix and u- or ɣu- was the relative marker, and that perhaps Saamia and Bukusu were affected by analogical levelling in the object relative from the independent pronoun, while in Ganda and Soga (and Tooro, too) the subjective relative was affected by the subject agreement marker. I do not think it is possible to go beyond this speculation with the limited data from these languages, except to observe also that from the point of view of subclassification it appears that either Proto-Ganda-Soga or Proto-Luyia could have been innovative regarding the subject relative marker, more likely the former, since Gusii, and Nyankore, too, are similar to Luyia in this respect.

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Finally I would like to conclude this section by offering a hypothesis as to the reason for the presence in Bantu of these two types of third person markers. Givón (1971b) presents some persuasive arguments on the history of the noun class system. Briefly, he claims that at some pre-Bantu period human and animate nouns were all lumped together in class 9/10, and cites the persistence of the y-concord, used also for class 9, for class 1, as one piece of evidence. He asserts that class 1/2 was created de novo and human nouns were gradually moved into it. This was due, he said, to a change in world-view on the part of speakers from one where the noun universe was perceived in a non-hierarchized system of semantic features, with [animate] being one feature, to a hierarchized anthropocentric system with the features [human], [animate], [concrete], [abstract]. It was this change that precipitated the deterioration of semantic regularity in the rest of the noun classes, so that today those classes are largely morphosyntactic in function. I would extend this theory and add that when class 1/2 was created new concord markers were also. Since class 1 is similar to class 3, so were the concord markers, *u or *ɣu. This resulted in competition between the new marker and the old, class 9 marker. Different languages have been attempting to resolve this conflict in their own ways, towards the goal of "one meaning, one form", relegating each to different areas of their grammars, often not very systematically.

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In Zulu u/w- has almost completely displaced y- and even a-. In Swahili, meanwhile, y- has nearly won out over w. So in the North Victorian area u- has on the whole become more or less confined to relatives--and also to what is called secondary concord, i.e. that used with demonstratives, numerals (e.g. ono 'this', omu 'one', etc.), while y- is mainly confined to use with verb tenses, the independent and possessive pronouns, and a few quantifiers, like yoosi, yenna, etc. The forces of analogy can continued to interfere, however, as suggested before, such as in the Saamia and Bukusu object relative pronouns.

4.2. Morphology in Verbs

In this section I will examine some of the morphology of the verbs. In particular I will compare the independent tense markers which are used for the habitual, past, present, and future tenses, and the "still" and "just now" tenses. I will not be concerned in this discussion with negatives, the compound tenses, viz. those that use the various forms of 'be' and other auxiliaries. Nor will I discuss the aspectual verb extension suffixes such as the causative, stative, reversive, intensive, etc. I have omitted these mainly because they are so similar in these languages, the main differences being primarily those of usage and productivity. Thus, this is not a complete discussion of verb morphology; it is only concerned with certain crucial morphemes.

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What is of primary interest to this study is that several of the tense markers, especially those for the future tenses, are not traceable to Proto-Bantu. As Givón (1971c) (1974a)has demonstrated, Proto-Bantu evidently had few tense markers and must have relied heavily instead on modal verbs, such as 'begin', 'fail', 'want', 'finish', 'come', 'go', etc.[11] Modern Bantu languages present abundant evidence that many present-day tense markers were originally modal verbs which, over a period of time, became reduced phonologically and semantically until they ended up as bound morphemes.

Some examples of this in Swahili are the perfect tense marker -me-, from the old perfect form of the verb -mala 'to finish'. Its negative counterpart, -ja 'not yet', is probably from -ja 'to come'. The future -ta- is from -taka- 'to want', and even occurs as the full -taka in the presence of the relative infix -ye and the temporal/conditional -po:

(1) ni-ta-rudi 'he will return'

(2) a-taka-ye-rudi '(he)who will return...'

(3) a-taka-po-rudi 'if/when he returns...'

We can see this type of evolution even now, in varying stages of development, too. Taking another Swahili example, there is a marker -mesha-, meaning 'already', or a completive aspect, which has evolved only recently in the following way: from the perfect -me- tense on the verb kwisha 'to be

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finished', being used as a modal:

(4) a-me-kwisha ku-fanya kazi

'he has finished working'

through a loss of the infinitive ku- on the main verb:

(5) a-me-kwisha fanya kazi

to a loss of the infinitive kw- on the modal itself, as well as the stem-initial vowel, and the binding of the resultant morpheme to the verb itself:

(6) a-mesha-fanya kazi

'he has already worked/he's through working'

Many other examples could as easily be cited, e.g. the newly acquired aspectual uses of 'come' and 'go' in Bemba (cf. Givón, 1972).

We find, moreover, that relatively closely related languages may use the same marker for different tenses: for example, -li-, undoubtedly from the defective verb -li 'to be', is in Swahili the past tense, but in Ganda the far future. Conversely, different markers might be used for the same tense. We may therefore draw two conclusions: first, that Bantu languages have a built-in drift, in Sapir's sense, away from the use of modal verbs and towards the reduction of those modals to bound morphemes.[12] Second, that much of this drift probably began to manifest itself relatively recently, otherwise we should expect greater similarity among the markers of different languages.

For these reasons the tense markers are of interest in

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this kind of study; for if languages share certain innovative morphemes it may be good evidence for genetic subclassification.

4.2.1. The Tense Markers

Let us look first at the tense markers for these languages. Table 4.6 gives a clear picture of the independent markers for comparative analysis. It must be borne in mind that many of these tenses, especially the distinctions between 'near', 'middle', and 'far', are approximate and not so inflexible as the glosses indicate. There are syntactic and pragmatic factors that influence the choice. For example, there is some neutralization, or loss in the number of contrasting past and future time divisions, in some kinds of subordinate clauses or even under the scope of negation. Or, if the discourse is using months as the basic unit of time--as when workers talk about pay--one may find the tense normally used for 'yesterday' used to express the notion 'last month'. Wald (1973) shows how social and other dialectal factors may determine usage of tense markers in Swahili.

In this table the tenses are presented schematically for ease of exposition. Tense markers (TM) occur between the subject agreement prefix (SA) and the optional object agreement infix(es) (OA) or the verb stem (V). The verb stem is followed by a vowel suffix(S), though aspectual, extension suffixes (E) may intervene. A full verb form looks

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as follows in Ganda:

SA	-	TM	-	(OA)	-	V	-	(E)	-	S
n	-	á	-	mu	-	kol	-	er	-	a
I		past		him		work		benef.		indic.

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Table 4.6

Independent Tense Markers

Tenses	Ganda	Soga	Saamia	Wanga	Bukusu	Logooli	Gusii
Habitual	Ø__a	Ø__a	Ø__anga	Ø__anga	Ø__anga	Ø__anga	Ø__a
Present	Ø__a	Ø__a	Ø__áà	Ø__áà	Ø__a	Ø__a	(comp.)
'still'	kyàà__a	kàà__a	sì__a	ʃì__a	sì__a	kɨ__a	(comp.)
'just now'	àkà__a	àkà__a	àxà__a	àxà__a	xà__a	àkà__a	(modal)
Perfect	Ø__MB	Ø__MB	àxà__a	Ø__MB	Ø__MB	Ø__MB	àà__MB
Near Past (earlier today)	à__MB	à__MB	Ø__MB	Ø__MB	à__MB	à__MB	áà__a
Middle Past (yesterday)	(á__a)	(á__a)	àà__MB	àà__MB	(à__MB)	á__a	áá__ɛtɛ
Far Past (before yesterday)	á__a	á__a	á__a	á__a	á__a	áá__a	áà__ɛtɛ
Near Future (later today)	náá__a	náá__a	ná__a	lá__a	lá__a	rá__a	na..Ø_ɛ
Middle Future (tomorrow)	(lì__a)	(lì__a)	ná__a	na..Ø__e	lá__a	na..Ø_e	(ráà__ɛ)
Far Future (after tomorrow)	lì__a	lì__a	àxá__e*	àxá__e	xá__e	ràká__e	ráà__ɛ
Indefinite Future	--	--	àxá__e	lì__a	lì__a	rì__a	--

*lì__a = archaic.

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In the table only the tense markers and suffixes are indicated. The symbol ∅ means there is no overt marker. MB refers to the Modified Base, a verb suffix found in some past tenses and which may look very different among and within languages, as in Ganda, for phonological reasons; but it is reconstructible to Proto-Bantu as *-ɣil-e, and originally indicated perfective aspect (cf. Mould, 1972; Givón, 1969,1971a). The -anga suffix also seems to have been in Proto-Bantu as an habitual aspect marker; -a is called the neutral suffix vowel, occurring generally in affirmative, indicative tenses, as opposed to -i and -e which are no longer productive or regular, and are usually now confined to some negatives and subjunctives, respectively, or otherwise non-factive tenses and moods.

4.2.2. Present and Habitual

Looking first at the present and habitual tenses we see that Ganda, Soga and all the Luyia dialects have what may be called the unmarked form--no tense marker--for present tense. Nyoro does, too, while Gusii uses a compound tense with the auxiliary -li-, as do the West Lacustrine languages. Gusii uses the unmarked form for the habitual, as do Ganda, Soga and Nyoro, whereas all the Luyia dialects use the -ang- suffix. In fact Luyia uses that suffix quite productively with other tenses to express past and future habituals also, as a real aspectual marker. On the other hand, Ganda, Soga use -ang- only for past habitual and far

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future imperative; it thus appears to be only a relic in these languages. Gusii seems to have lost it altogether.

Regarding reconstruction of Proto-East Lacustrine, we ought to conclude that the unmarked form was the present tense marker, and that -ang- was a productive habitual aspect suffix. Luyia, then, has been rather conservative with these. Perhaps Proto-Ganda-Nyoro innovated the merger of present and habitual, allowing the -ang- to atrophy. Gusii, instead of merging the two, simply shifted the tenses, from present to habitual and developed a new, compound, present tense.

4.2.3. 'Still' and 'Just Now'

Turning to the 'still' and 'just now' tenses we see again the greatest similarities among Ganda, Soga (and Nyoro) and Luyia, including Logooli. All have *-àkà-, which might have been a Proto-East Lacustrine innovation. As for the 'still' marker, Nyoro also has -kì-, so perhaps we can reconstruct *-kì-, with Ganda-Soga having innovated an additional a and Soga later losing the i. Gusii lacks both these markers. But -ki- is found elsewhere in Bantu and very likely goes back to Proto-Bantu (cf. Givón, 1974a). In Swahili it is used in present, vivid conditions and particularly in compound tenses. Also a possible Proto-Bantu marker is -ka-, used in Swahili for narrative tenses. We cannot be certain if that -ka- is related to this -àkà-. If these *-kì- and *-àkà- are in fact derived from Proto-Bantu *-ki-

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and *-ka-, then they are not shared innovations but simply retentions. On the other hand the additional a could be considered shared innovations. More evidence is needed from other languages to determine the Proto-Bantu meanings of these markers, in order for us to decide if there were semantic shifts that could be considered to be innovations.

4.2.4. Time Divisions

Before considering the past and future tenses it is necessary to mention a problem with the number of time divisions. Notice in the table that Ganda and Soga have two past and two future tenses, near and far, not counting the 'just now' tense. Luyia dialects have three of each, not counting the indefinite future. Gusii has three past and two future tenses. Bemba has four of each (cf. Givón, 1970), while Swahili has one of each. According to Wald (1973), other Northeast Coastal languages have two while Central Kenyan languages have three of each. It would help us to know how many Proto-Bantu had. Wald suggests that there were three. If that is correct there seems to be a tendency in Bantu towards a reduction in the number of time divisions which, however, makes Bemba's further proliferation appear highly anomalous, As we will see, the Luyia dialects manifest some tendency towards loss or merger of some tenses. I will avoid further speculation about Proto-Bantu, but with other Lacustrine languages having two or three I will assume a priori, as a basis for the following discussion, that

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Proto-East Lacustrine had three, and see where that assumption leads.

4.2.5 Perfect and Past

Examining the perfect and past tenses, and assuming three time divisions, we see that the time divisions pose an interesting problem for reconstruction. It seems clear that the perfect tense should be reconstructed as *Ø___MB. Saamia apparently merged the perfect and 'just now' tenses and shifted the old perfect to the near past. Wanga has evidently merged the perfect and near past tenses and Bukusu may have merged the near and middle pasts. Ganda and Soga could have merged the middle and far pasts. Only Logooli shows a real four-way distinction (excluding the 'just now' tnese), but it is debatable whether á and áá are historically really different.[13]

Note how the near past in Ganda, Soga, and Logooli and Bukusu corresponds to the middle past in Saamia and Wanga. This seems to be due to the shift in Saamia of -àxà- to the perfect and of Ø__MB to the near past, in turn causing a shift of à___MB to middle; and a Wanga broadening of Ø__MB to include the near past. It also looks as though the far past should be reconstructed fairly easily as á____a.[14] Bukusu doesn't really have a middle past, only a near past that extends further in time. What, then, should be the reconstructed middle past?

In fact it seems impossible to reconstruct a middle

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past for Proto-Luyia, let alone Proto-East Lacustrine. There are no other morphemes. It makes much more sense to assume two past time divisions rather than three. We can now account for the addition of a third in Saamia and Wanga by means of the shifting, and in Logooli with the vowel lengthening in the far past past explained as the result of exaggeration due to emphasis. It also makes more sense from the point of view of Bemba to say that the tendency, or drift, in Bantu is towards proliferation, not reduction. I believe the lack of time divisions in Swahili is a totally separate phenomenon, due to the Arabic superstratum.

As for Gusii, it is just very different and not readily comparable. Notice, incidentally, the -ɛtɛ- suffix, used in addition to the more common MB to help form past tenses. This peculiar suffix (found also in neighboring Kuria) is certainly a post-Proto-Bantu innovation. It is peculiar because verb suffixes in Bantu are much older, and probably also are derived from modal verbs, reflecting an earlier Niger-Congo SOV word order (cf. Givón, 1974a). Proto-Bantu itself was already an SVO language, developing tense marker prefixes instead of suffixes.[15] But Kikuyu also has this -ɛtɛ- suffix and as far as I can tell no other languages have it. This strange innovation may therefore say something about a relationship, genetic or areal, between Gusii and Kikuyu.

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4.2.6. Future Tenses

The future tenses should be the most valuable for subgrouping, since all are post-Proto-Bantu. The first thing we notice is that all the languages except Gusii have a -lì- tense, used for non-near future.[16] Tooro also has it; Nyankore has -rìà-, but -rì- in the negative. It is clear enough that this marker is reconstructible to Proto-East Lacustrine and probably not beyond (to Proto-Lacustrine) since I don't know of any West Lacustrine languages that have it. Many, like Rundi, have -zò- instead, which may prove a good criterion for West Lacustrine subgrouping.

The other future tense markers are far less clear. The near future markers -náá-, -ná-, and -lá-, could have been the same originally, a suggestion bolstered by the fact that Nyoro also has -lá-. There could have been, therefore, a later nasalization of the /l/ and lengthening of the vowel in Ganda-Soga, the former extended into Saamia.

The other markers are even more confusing. The -àxá- and -xá- are probably the same, reconstructed as *-àká___e[17] but we cannot be certain if Logooli -ràká___e is also the same, with the other Luyia dialects having dropped the /l/. Note, too, that Gusii's -ráà___e also looks very similar, though the tones are different. This could be construed as evidence for a Proto-Luyia-Gusii subgrouping, with a reconstruction of *-laka___e as a shared innovation. Moreover, Gusii has na...Ø___e and so do Logooli and Wanga, but not

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Saamia or Bukusu. This last one looks much more like an areal phenomenon, the marker spreading from south to north. In these cases I think speculation is unwise before data can be accumulated from other Luyia dialects and languages related to Gusii, such as Suba and Kuria.

4.2.7. Conclusion

For the purpose of subclassification, the habitual, present, perfect and past tenses should not count, despite their obvious closeness, since they are undoubtedly retentions of older forms, although possible semantic shifts may represent shared innovations. These are the present-habitual merger in Ganda, Soga and Nyoro, the suffix vowel lengthening in the present tense in Saamia and Wanga, and perhaps the shift in the latter languages of the perfect into the near past and of the near past into the (new?) middle past. The 'still' and 'just now' tenses look very good for Proto-East Lacustrine subgrouping, including Logooli, but we cannot yet tell if these are retentions or innovations, either morphologically or semantically.

In the future tenses both reconstruction and subgrouping are very difficult. I suggest very tentatively that the Proto-East Lacustrine near future be reconstructed as *-lá___a. With much more confidence we may consider the far future *-lì___a a good example of a shared innovation reconstructible to Proto-East Lacustrine. Finally, it seems most reasonable to conclude that our protolanguage had only

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two past and future time divisions and I will make no guesses about the numbers for Proto-Lacustrine or Proto-Bantu, except to point out that in the area under investigation the tendency seems to be towards addition, rather than subtraction.

The evidence gleaned from examining the tense markers has been less than overwhelming, but it does seem to me to be solid, if small, support for the subclassification proposed in Part I of this study.

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FOOTNOTES TO CHAPTER 4

[1]The morphologies of the other noun classes are nearly identical, except for the phonological differences discussed in Chapter 3, and so present nothing of interest from a comparative point of view.

[2]The idea of using these two features is due to Givón in his Comparative Bantu seminar, UCLA, 1971.

[3]Bukusu is, I think exceptional in that, while keeping CV-no as [+speaker] it has picked up on VCV as [+hearer], dropping the [+speaker] feature. My numerical arrangement appears to be correct hierarchically. Bukusu has shifted 2 → 3 → 4 and "bumped" 4 off completely. Interestingly, Tooro has done the same with VCV but has dropped VCV-o.

[4]Note the Bukusu alternate form -se. This looks very much like a recent attempt at analogical levelling of forms based on the independent form ese.

[5]Tooro and Nyankore have -we instead of -o, which may be due to analogizing from the independent and possessive forms.

[6]I am putting the initial i- in parentheses since I cannot be certain if it was original or epenthetic. Some

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Luyia dialects use an epenthetic i- before the N- of the first person singular of verbs. On the other hand, the iconic tendencies of pronouns makes it reasonable to suppose that the i- (or ɨ) may have been original but lost in Ganda and Soga, since it occurs in the second person and in the plural forms.

[7] /ŋ/ seems to be a common replacement for /ñ̃/ in Samia, especially but not exclusively before back vowels, cf.

ŋoko	'your mother'	cf. Wanga ñoko
ŋina	'his/her mother'	ñ̃ina
oxuŋwa	'to drink'	oxuñ̃wa

It is intriguing that throughout Bantu we find unsystematic correspondences of /ŋ/~/ñ̃/, /nd/~/ŋg/. Cf. Ganda -siŋga versus Swahili -shinda 'defeat'; -ŋge 'my' versus -ndi in Bemba.

[8] tu and fu are far from exhausting the possible first person plural forms. Throughout Bantu are also found ti, si, su and for second person plurals ni, ñ̃i, nu, ñ̃u. Normally a given language has more than one variant at a time; Gusii having to in all four columns is quite unusual. But usually the vowels will all be the same, all /i/ or all /u/, undoubtedly for reasons of iconicity. Swahili is an exception to that, however, having sisi, ñiñ̃i for independent forms but tu, nu/mu for the others. At least the same vowel is found in any one column. I believe it is significant that

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with all that variety I have not found anywhere in Bantu fi or mi. Cf. Mould (forthcoming) for an explanation of those gaps.

[9]The vowel before the glide is the pre-prefix, the function of which, including that in relativization, is discussed in section 5.3.

[10]The use of demonstratives along with the relative markers in these cases is directly related to the atrophy of the function of the pre-prefix denoting referentiality and definiteness and its replacement by demonstratives, cf. section 5.3.

[11]This use of modals is reminiscent of the serial verb constructions in other Niger-Congo languages such as the Kwa group, cf. Lord (1976) and other references listed there.

[12]This phenomenon is of course not confined to Bantu. We see the same process of drift in Indo-European, one of the clearest examples of which is that of French and Portuguese future tenses coming from Latin habeo 'to have'. The fact that these are suffixed is due to the earlier SOV word order.

[13]In Rundi, for example, the third demonstrative is -ria- 'yonder', and there is a "fourth", -riiya 'way over there' which seems to be, or to have been originally, no more than an exaggeration of the vowel of the third demonstrative. I have heard East Africans use such vowel lengthening in a

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variety of discourse situations, evidently for rhetorical effect, and it seems to me that the áá tense in Gusii could easily have originated in the same way.

[14]Tooro and Nyankore have kà instead, but a is so widespread in Bantu that the /k/ probably ought to be treated as a Nyoroan innovation.

[15]The compound present tense in Gusii is also very strange in that the auxiliary and SA prefix are suffixed to the verb infinitive: /iŋgɔ-sɔma-n-le/ (iŋgɔsɔmaande), /iŋgɔ-sɔma-o-le/ (iŋgɔsɔmoole), etc. No other tenses are formed this way in Gusii, however.

[16]Though not used in the speech of my Saamia informant, he said he heard it regularly in the speech of his grandfather and others of that generation, and only rarely in that of his parents, as a far future tense. This seems pretty good evidence that Luyia originally had two future tenses like Ganda and Soga, and that the addition of middle and indefinite futures were later, and in fact relatively recent.

[17]Note the consistency in Bukusu regarding the lack of a first a in both this and the 'just now' tenses. It is more likely, then, that there were a's originally and that Bukusu dropped them.

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CHAPTER 5

COMPARATIVE SYNTAX

5. Introduction

In this chapter we will look at some aspects of syntax from a comparative point of view, both to reconstruct some of the grammar of the protolanguage and also to see whether or to what extent syntactic criteria may be useful for subgrouping. As we will see, we cannot go very far, at least at this low level of subgrouping and with the aspects of grammar that I have chosen to examine. Whatever syntactic isoglosses we may try to draw there is little to conform to the results obtained in Part I. There is little consistency in the syntactic criteria and it seems there are no strong arguments that can be found to prove that syntactic criteria are better than lexical and phonological. This is not enough to make me pessimistic about my original hypothesis, however. There are, for example, several other aspects of grammar that will not be investigated in this chapter because the languages in this study do not manifest any differences. These include topicalization, relativization, pronoun resumption, and focus, which may yet prove useful at a higher level of subgrouping, perhaps at the level where East and West Lacustrine diverge.

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This chapter is misnamed, strictly speaking, because purely syntactic criteria play a small role. I am here distinguishing what I consider pure syntax, i.e. rules involving movement, deletion and word order, from morphosyntax and morphosemantics--what many linguists call applied morphology. Specifically I will examine two aspects of the system of concordial agreement, that of the resolution of gender conflicts in conjunction-reduction, and demonstrative agreement in gapped constructions. I will also examine the functions of the initial vowel, or pre-prefix.

These aspects show the roles of rule features and conditions, rather than of rules themselves. This is understandable considering the closeness of the languages.

Commenting on the possibilities of using syntactic criteria in subgrouping and reconstruction Anttila (1972) makes the following, pessimistic, observation (pp. 318ff):

> Syntax gets the same evaluation as onomatopoeia. [on a table of criteria for genetic relationship]... Both are evidently iconic. It can be said that syntax belongs largely to all languages; the more universal any feature is, the less valuable it is for classification. Any language can be derived from a universal deep structure with omnipotent transformations. Thus the whole notion of syntax is rather limited if not useless for classification. On the other hand, there is no doubt that syntax can also be inherited. But it has not been possible to establish genetic relationship purely on syntactic criteria. Whenever syntactic facts have been retrieved, sound correspondences have also played a part...The fullest treatment of the role of syntax in the question of language relationship (by D.R. Fokos-Fuchs) comes to the conclusion that syntax alone cannot be used, but neither should it be neglected. This is true, of course. The problem is that syntax can be described

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> so many ways, and for no language family do we have commensurate syntaxes as a basis for further study. Take Indo-European as an example. To prove genetic relationship by syntax alone one would have to write a grammar for each language on exactly the same principles and show that a different subgrouping from the use of other criteria would result. Then one would have to show why this grouping is more valid than the others based on different criteria. No such program has been carried out. Rather, all facts of Proto-Indo-European syntax that have been discovered rest firmly on sound correspondences as well.... Indeed, it is here where evidence for genetic relationship is strongest, and it is a serious mistake to think that proof is even better when sound correspondences are discarded.... All levels of grammar are intimately tied together, and we have seen that various grammatical facts can condition sound change. There cannot be syntax without sound in the actual functioning of the language. Thus the best target for genetic classification still remains the middle of language. We have to compare higher levels of grammar, but not too high, because then we get into universal grammar. To ensure that we do not float too high, our units of comparison have to be anchored to the lower levels by sound correspondences.

I am testing his assertions by investigating several aspects of syntax, analyzing each language on the same principles, and comparing my findings with those based on the well-established and more reliable criteria. Moreover, it seems to me that Anttila is referring to problems with a much greater time depth than what we are concerned with, one where whole sentences may be reduced to words--the "willy-nilly" type of sound change, and where verbs and pronouns become reduced to conjunctions and affixes.

The method used in syntactic reconstruction is basically the same as for phonology. In the reconstruction of proto-rules, rule conditions and constraints, we must

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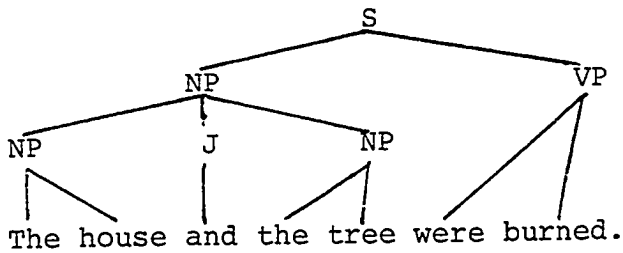
suppose that if a proto-language P had a reconstructed feature [F], and if in some daughter language A [F] is functional but in another language B it is not, we should conclude that [F] was functional in the proto-language and lost its function in B, rather than that it was both present and without function in P and developed a function in A later. As a corollary, it is also more reasonable to assume that in general constraints tend to become more relaxed over time, rather than tightened, particularly if the result of relaxation is some greater regularity or uniformity in the grammar. The following sections will serve to illustrate these principles.

5.1. Gender Conflicts in Conjunction-Reduction

It is generally agreed by transformationalist grammarians that in most cases conjunctions of major categories such as nouns and verbs are, at a level of deep, or underlying, structure, conjunctions of sentences, and that these conjoined sentences are reduced to single sentences by transformations.[1] Thus the sentence

(1)



can be analyzed as coming from an underlying structure approximately as in (2):

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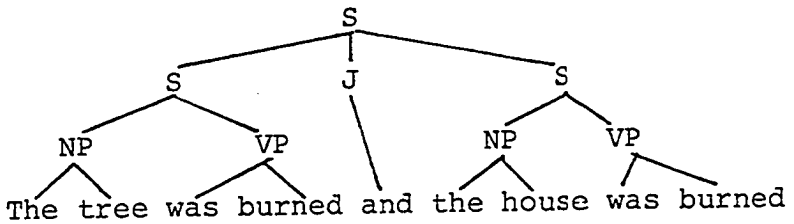
(2)



The second occurrence of the VP is deleted by a transformation under the condition of identity. The second NP is moved and Chomsky-adjoined to the first, and finally an agreement rule is applied to give the correct, plural, number to the verb.

In languages that mark gender agreement on predicates the agreement rule must also provide for gender agreement. In many languages, e.g. Indo-European and Afro-Asiatic, we find that when there are two or three genders, masculine, feminine, and sometimes neuter, the masculine is used as the "unmarked" gender for conjunction-reduction (CR). Thus in French and Hebrew, (3) and (4) respectively, we find the following:

(3) a. L'homme est beau et la femme est belle. ⇒
m. m. f. f.

'The man is handsome and the woman is beautiful.'

b. L'homme et la femme sont beaux/*belles.
m. f. pl. m. f.

'The man and the woman are good-looking.'

(4) a. ha-shor oxel__ və-ha-para oxelet ⇒
m. m. f. f.

'The ox eats and the cow eats.'

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b. hashor vəhapara oxlim/*oxlot
m. f. m. f.

'The ox and the cow eat.'

One can readily see that the problem is compounded in Bantu languages since they may have a half dozen or more paired noun classes, or genders, and gender agreement pervades the whole grammar. A priori one would expect a Bantu language to solve the problem of CR of nouns from different genders in any one of only a few ways:

(a) disallow CR unless the nouns are in the same class;

(b) choose one class as unmarked and allow all CR;

(c) allow some CR and disallow some, on some semantic grounds;

(d) allow CR and use the plural of one of the nouns, e.g. the one closest to the predicate.

In fact all of these possibilities are found in Bantu languages;[2] (a) is found in Zulu; (b) in some Luyia dialects; (c) in Ganda; (d) is sometimes possible in Logooli.

The following data illustrate the problems of gender conflict in CR in the languages of this study. Ganda and Soga are exactly the same, so only the latter is included. The numbers refer to the noun classes as they are commonly designated. Noun classes are paired, for singular/plural designation, as 1/2, 3/4, 5/6, 7/8, 9/10, 11/10, 13/12, 14/6, 15/6, 20/22 in Ganda and Soga, 20/4 in Luyia (cf. section 4.1.2).

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(5) Soga (and Ganda)

a. 'The frog and the dog came.'

ecikere n'embwa βyaiḍa
7 9 8

b. 'The man and the dog came.'

*omusaaḍa n'embwa...
1 9

omusaaḍa yaiḍa n'embwa

c. 'The huge man and the tiny woman came.'

ogusaaḍa n'akakazi βaiḍa
20 12 2

d. ogusaaḍa n'ogukazi {βaiḍa 2 / gaiḍa 22}

(6) Wanga

a. liishere nende imbwa fiitsire
5 9 8

b. musaatsa nende imbwa fiitsire
1 9 8

c. okusaatsa nende axaxasi {*βeetsire 2 / fiitsire 8}
20 12

d. okusaatsa nende okuxasi {ciitsire 21 / *βeetsire 2}
20 20

(7) Saamia

a. exere nende embwa βyeecere
5 9 8

b. omusaaca nende embwa βeecere
1 9 2

c. okusaaca nende axaxasi {βeecere 2 / βyeecere 8}
20 12

d. okusaaca nende okuxasi {βeecere 2 / kyeecere 4}
20 20

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(8) Logooli

a. ɨlikele n'ɨmbga viizi
5 9 8

b. umusaaza n'ɨmbga {yaazi 1 / vaazi 2}
1 9

c. ugusaaza n'akakali {vaazi 2 / viizi 8}
20 12

d. ugusaaza n'ugukali {vaazi 2 / jiizi 4}
20 20

(9) Bukusu

a. lixele n'embwa βieca
5 9 8

b. *omuseeca n'embwa...
1 9

c. okuseeca ne xaxasi {βieca 8 / *βeeca 2}
20 12

d. kuseeca ne kuxasi {*βeeca 2 / kieca 4}
20 20

(10) Gusii

a. ɛɣiɔtɔ n'ɛsɛɛsɛ imbiacɪtɛ
7 9 8

b. *omonto n'ɛsɛɛsɛ...

c. liisaaca n'aɣakungu {imbaacɪtɛ 2 / imbiacɪtɛ 8}
5 12

d. liisaaca ne liikungu {imbaacɪtɛ 2 / ingaacɪtɛ 6}
5 5

Notice in the first example sentence in each language that CR of nouns of different classes is allowed and class 8, indicated by the prefixes βi-, vi-, fi-, has been chosen as

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the unmarked class. So far the rules involved are the same for all.[3]

But observe what happens when a human noun and a non-human noun are to be conjoined (b). Ganda, Soga and Gusii and Bukusu disallow CR completely and a comitative construction (using 'with' instead of 'and') is necessary. There is, then, a semantic constraint on the syntax that blocks CR in this situation, based on the feature [human].

In Saamia and Logooli CR is allowed, but instead of using the unmarked class 8, the human plural, class 2, is used. Here the feature [human] plays a role, that of controlling the "spelling" of the plural, but it does not interfere with the CR process. In Wanga, on the other hand, CR is allowed with human and non-human nouns and the unmarked class 8 agreement prefix is used. In this case the semantics plays no role; CR is totally (morpho-)syntactic.

We can complicate matters by deriving human nouns into other classes (c and d). We see that in all these languages if the nouns are derived into the same class as in (d), it is a simple matter of the concord being the plural of that class. Five languages offer an additional alternative, using the regular human class 2, but this changes the meaning slightly.[4]

CR is even further complicated if the nouns are derived into different classes, e.g. one augmentative and the other diminutive as in (c). In Ganda, Soga, Gusii, Saamia and

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Logooli they are still considered human; concord in class 2 is possible. In Bukusu and Wanga they are not; concord is only in class 8.

I will assume, for the purpose of effecting tentative reconstruction, that the other East Lacustrine languages, Nyoro and Haya, will not--cannot--differ significantly from what we find here. They are evidently closer to Ganda and Soga than are the Luyia dialects, and I believe there are relatively narrow limits to the ways in which languages can differ. Gusii, being much more distantly related but quite similar, illustrates this very well. I will therefore go ahead with reconstruction, with the caveat that it may be subject to minor revision when comparable data from the other languages are known.

The data clearly indicate that the feature [human] is pertinent to the problem of gender conflicts in CR in those languages. We must conclude, then, that that feature was relevant in the proto-language. If it was, then it is most reasonable to suppose that in regular CR it was functional, as in Ganda and Soga, i.e. that CR between human and non-human nouns was disallowed. This conclusion is borne out by the presence of that constraint in the more distantly related Gusii, and also by the fact that the constraint is optional in Logooli. Note how, in Saamia and Logooli, while CR is allowed, the feature [human] still plays a role, namely that the human concord is required. It seems it is

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not coincidental that Logooli, having the constraint optionally, uses class 2 when the constraint is relaxed. This indicates that the use of class 2 is intermediate, while the use of class 8 in Wanga should be seen as a further step, removing the constraint altogether for the sake of maximization and greater regularity in the CR process. Furthermore, since Bukusu still has the constraint as fully as Ganda, we should also conclude that Proto-Luyia also had it.

One may ask why we should choose to start with the semantic constraint and claim it was relaxed, rather than start with a strictly morphosyntactic process and say that the semantic constraint came in later. The former clearly was the case in Swahili, where animate concord--using class 2 agreement for animals as well as humans--can be shown to be a more recent development intruding into class concord.[5] It seems both directions are possible, depending on what the language is after. In the Swahili case an increase in the role of the feature [animate] is the goal; in our case the goal is the regularization of the rules of CR and an increase in the role of class 8 as the unmarked class. Note also that in general the history of the noun class system in Bantu shows that it was originally semantic but is now largely syntactic in function.

Thus the situation here with CR can be seen also as a continuation of that general development, and the Swahili

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case is somewhat anomalous, going against the general drift. There is a struggle between syntax and semantics, I think, that is analogous to that in phonology and morphology. The latter is known as Sturtevant's paradox: sound change is regular but leads to irregularities in paradigms; analogic change is irregular but leads back to regularity in paradigms. In phonology there is another struggle, between ease of articulation--assimilation--and ease of perception--dissimilation. The former is speaker-oriented and the latter is hearer-oriented. In all these cases the struggles help to maintain balance and stability, preventing language change from becoming too extreme.

The third example of sentences, where human nouns are in different classes, are, in terms of reconstruction, more difficult to determine. Looking at them we see that all but Bukusu and Wanga may resolve the conflict to class 2, whereas the others allow a choice between the human and the unmarked plurals. Here it seems hard to tell in which direction the change has gone, but I believe that Wanga and Bukusu represent a later stage, considering the whole process of CR and considering that Wanga in sentence (b) has evidently gone furthest in regularizing and syntactifying CR. In this case, Bukusu is strange; it has gone further, with Wanga regarding derived human nouns, but remains conservative with respect to the human/non-human resolution.

Finally, notice the choice in sentence (b) in Logooli.

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Vaazi is allowing CR with human concord, class 2; yaazi is in class 1, a singular class. Therefore the latter must be a comitative construction and n' means 'with'. But note the position before the verb and the fact that ne means both 'with' and 'and'. This appears to be a likely first step in moving from comitative to CR. The position of the preposition between nouns plus the ambiguity of the preposition leads to its re-interpretation as the conjunction. The normal position is as in Ganda and Soga, with the prepositional phrase after the verb.

5.2. Gapping and Demonstrative Agreement

It is normal in all the languages I know of that in sentences with predicate nominal constructions a demonstrative (or pronoun) in the subject NP agrees with the subject noun if there is one, but with the predicate noun if there is no subject noun. For example, in Ganda the sentence This animal is a mouse is translated in (11):

(11) ensolo eno musu
9 9 3

animal this (is) a mouse

The subject noun ensolo is in class 9, and the demonstrative (Dem) agrees with it, while the predicate noun is in class 3. However, in the sentence This (one) is a mouse, where there is no subject noun, the Dem agrees with the predicate noun, as is seen in (12):

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(12) guno musu
3 3

this (is) a mouse

I decided to see what would happen in the languages of this study with a series of predicate nouns of different classes and only one subject noun. I used the frame, "This animal is a _____, this one is a _____, this one is a ____", as if someone were pointing out animals to a child in a zoo, to see if the subject noun agreement would carry through beyond the first Dem. In other words, I wanted to see if gapping was allowed in such sentences. I also used another frame, one with topicalization, where resumptive pronouns are used in these languages, to see what kind of pronoun agreement was used. That frame was, "This animal they call (it) a _____, this one they call (it) a _____, this one they call (it) a _____". The same results were obtained for the pronouns as for the demonstratives.[6] I will here illustrate only the sentences with the demonstratives. These are the sentences in (13):

(13) a. Ganda and Soga

ensolo eno mondo, {*eno 9 / guno 3} musu, {*eno / kano} kadada
9 9 1a 3 12 12

animal cheetah mouse squirrel

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b. Bukusu

esaŋi yino lixese, {*yino / lino} lixele, {*yino / sino}
9 9 5 5

animal sheep frog

sisonga
7

ewe

c. Saamia

esolo yino ni ebwe {sino / yino} ni sijusu,
9 9 5 7

animal fox bushbuck

{luno / yino} ni oluñiñi
11 9 11

mouse

d. Wanga

isolo ino ni liibwe, {ʃino / ino} ni eʃisuutse,
9 9 5 7

animal fox wolf

{lino / ino} ni likondi
5 9 5

sheep

e. Logooli

eñama ɣɪɣɪ n'ɪkɪvwi, {ɣɪli / ɣɪɣɪ} n'ɪligondi,
9 9 7 5 9 5

animal fox sheep

{ɣɪkɪ / ɣɪɣɪ} n'ɪkɪrungu (=mongoose)
7 9 7

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f. Gusii

eŋiti	elia	ne	βasweeti,	{*elia 9 / lilia 5}	ne	liiruβi
9	9		1a			5
snake			python			cobra

As can be seen in (13a, b, f), Ganda, Soga, Bukusu and Gusii do not permit the agreement with the subject noun to extend beyond the first demonstrative in the series, while the other Luyia dialects all do. This means that in the former gapping is not possible; in the latter gapping is possible, though those constructions are not necessarily perceived initially as gapped. In fact, in all cases the ungapped sentences were consistently given first. The gapped ones were readily accepted, but had to be elicited. The fact that the gapped structures were so quickly accepted in Luyia (except Bukusu) and at the same time so firmly rejected in the others makes it clear that speaker competence indicates the presence or absence of a rule for gapping. The distribution of the rule's presence among these languages, plus the nature of the rule itself lead to the conclusion that the rule is an innovation, rather than that its absence indicates a rule loss.

The fact that Bukusu does not allow gapping in these structures indicates that the innovation postdates Proto-Luyia, so Proto-Eastern Lacustrine certainly did not have it.

The fact that this rule is so passive--it is a matter

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of pragmatics and gestalts rather than syntax proper--leads me to suppose that it is probably not very accurate to characterize it as a rule. Rather, it may be dependent on, or the result of, some other syntactic process, but I am unable to decide what that might be.

5.3. The Functions of the Pre-prefix

In this section I will examine the functions of the pre-prefix, or Initial Vowel (IV), used on nouns and their modifiers. The IV in Bantu is a vowel preceding the class (gender) prefix. Some languages do not have it at all, such as the Central Kenyan and Northeast Coastal languages; in some languages it seems to have little or no function, being mostly frozen to the class prefix. But in many languages it is functional. Givón (1970, 1972b) has shown that in Bemba the IV denotes referentiality. Bokamba (1971) demonstrates that in Dzamba, spoken in Zaïre, it is used in opaque contexts to denote referentiality (his term is "specificity"), while in non-opaque contexts it denotes definiteness. In Mould (1972) I showed that in Ganda the IV denotes referentiality, and in only one context--locatives--also definiteness. The IV is certainly reconstructible to Proto-Eastern Bantu, if not to Proto-Bantu. I will compare the findings in Ganda with those of the other languages of this study. Before that, however, it will be helpful to define and briefly discuss the notions of

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referentiality, specificity, and opacity, after which I will summarize the details of the role of the IV in Ganda.

5.3.1. Defining Terms

There is a problem of definitions, mainly with the terms referential, specific, and attributive. These terms are being used slightly differently in current literature; particularly, Jackendoff (1971) used the term specific, while Partee (1970) and Givón have used the term referential, and apparently the terms are supposed to be considered synonymous. But Givón and Jackendoff differ on the status of a few modalities such as multiple and Wh. Also, Partee uses the term referential, and, after Donellan (1966) (cited in Partee), contrasts that term with attributive as opposite values of a single parameter, whereas Givón maintains that they are two separate parameters. Thus Givón and Jackendoff are not talking about exactly the same thing, and Givón and Partee are defining referential in different ways. A careful comparison of the data and explanations of these authors leads me to conclude, as I hope to show below, that referential and specific are not the same parameter, that neither are referential and attributive, but rather referential and specific are two distinct parameters, while specific and attributive may be opposite values of a single parameter. If I am correct then a major source of confusion and disagreement is removed and insights about opacity and the roles of modalities already made become

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clearer and more useful.

I shall used Givón's definition of referential, as I have in Mould (1972), in briefly discussing the notion of opacity. Givón (1972b) defines referential as meaning "presupposed by the speaker to exist". He defines a non-opaque context as one in which a noun or complement must be presupposed to exist, and an opaque context as one in which a noun complement may or may not be presupposed to exist. So in examples (14) both (a) and (b) are non-opaque; the objects are referential and contrast with respect to definiteness, whereas in (d) and (e) only the definite object is referential. The indefinite object is not normally presupposed to exist, i.e. is not referential. Hence (d) and (e) are opaque:

(14) a. Thror saw the hobbit. (+ref)

b. Thror saw a hobbit. (+ref)

c. *Thror saw any hobbit. (-ref)

d. Thorin didn't see the hobbit. (+ref)

e. Thorin didn't see a/any hobbit. (-ref)

Jackendoff uses the terms [±specific] in discussing opacity and the two terms may--so far--be considered synonymous.

Partee observes that sentences like (14b) are ambiguous; while both interpretations presuppose a hobbit's existence, in one interpretation Thror saw a particular hobbit, but in the other he saw such a creature, someone who was a "hobbit". She also observes that this kind of ambiguity occurs even with definites. In her sentence (10):

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(15) John wants to murder the man who lives in Apartment 3.

there is the interpretation that John wants to kill a particular person that he knows and the definite article means there is only one person in the apartment or that the hearer knows who it is, while in the other John wants to kill whomever it is that lives there, not knowing who it is. After Donellan she calls this ambiguity that of referential versus attributive. Givón states that (his) referential nouns may or may not be attributive, but non-referential nouns are always attributive. Clearly referential is being used to mean two things, one to Givón and another to Partee. If we substitute non-attributive for referential in Partee's analysis and referential for "presupposed to exist" there are two parameters and no conflict.

Returning to the notion of opacity, Givón has shown that a small number of modalities are capable of producing opacity. It is NEG, which includes inherently negative verbs such as doubt, which produced opacity in (15d, e); the other modalities are FUTURE, including future tense, future implicative verbs such as want, and modal verbs of permission, ability, obligation, such as may, can, and must; HABITUAL, and NON-FACTIVE verbs such as believe. Conditionals and yes-no questions are also included under FUTURE since semantically they are dominated by the performatives will and request, respectively. I won't bother with details or examples here. The common denominator of these four,

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he says, is "the lack of factive presupposition with respect to the referential identity of a nominal in an opaque context".

Jackendoff has independently come up with very much the same analysis, using slightly different terminology for naming his "modal operators", of which he has seven: unrealized, future, possible, negative, multiple, generic, and Wh. The first three are collapsible under Givón's FUTURE and NON-FACTIVE, and generic seems equivalent to Givón's HABITUAL. Thus Jackendoff really has only two more modal operators than Givón--multiple and Wh. Givón does not mention multiple at all but he does discuss Wh (constituent identity questions), claiming they do not produce opacity. What is the reason for the conflict concerning these last two operators? First, recall that Jackendoff is using the term "specific" and not "referential". Thus he shows that "...indefinite NPs in Wh- questions do not have specific referents (p. 509)". So in the sentence (numbered (95) in Givón):

(16) Who killed Caesar?

"Who" (Wh-someone) has no specific referent--that is the information being sought. But as Givón points out, "the relevant conceptual structure is: (96) Someone killed Caesar, and I request that you tell me who that someone is." [Italics are Givón's--M.M.] "Someone" is outside the scope of "request" and as the sentence subject, is presupposed

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to exist, hence referential. But since it is also true that who has no specific referent, both authors are correct in terms of their respective terminology. The problem is that referential and specific are not synonymous.

Second, Jackendoff's discussion of the operator multiple revolves around the parameter specific, but he makes no claim about presuppositions of existence, and indeed it seems to me that they are referential, unless, of course, they come within the scope of one of the other opacitators. Now we see why Jackendoff has two more modal operators than Givón; it is because Givón is talking about presuppositions of existence while Jackendoff is talking about specificity--they are two different parameters.

But let us consider also generics. Jackendoff rightly claims that generics do not have specific referents, i.e. they are non-specific. Givón maintains they are (also) non-referential, since they come under the scope of the opacitator HABITUAL. But he says of the sentence

(17) John always reads books.

"while the speaker may commit himself to the proposition that 'some books exist', he may still not have a specific book in mind..." [italics mine--M.M.] Unless I misunderstand him this should mean that books is referential, though non-specific, and he is going contrary to his own definition of referential. I would agree that in such a sentence the speaker presupposes the existence of some books. The same

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is true of generic subjects. If one says:

(18) Lions are carnivores.

one is presupposing that lions exist, at least in the universe of the discourse, which, as Givón correctly points out, is the only relevant universe for discussing such matters.

Generics, therefore, may be characterized as the combination of the two parameters [+referential, -specific] when within the scope of the modality HABITUAL, and is thus not a separate parameter by itself.

5.3.2. The IV in Ganda

Now let us look at Ganda, where the use of the IV is most productive and interesting. First, there are several contexts where the IV is always obligatorily present.

(18) Subjects

a. omwana yajja [+ref, ±Def]

'A/the child came'

b. *mwana yajja

(19) Objects of factive verbs

a. nalaβa omusawo [+ref, ±Def]

'I saw a/the doctor'

b. *nalaβa musawo

(20) Topicalized objects

a. omusawo namulaβa [+Def]

'I saw the doctor (lit. 'The doctor, I saw him')'

b. *nalaβa musawo

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In nearly all sentences subjects are presupposed to exist, i.e. are referential. An exception would be with a modal like Any thief would be able to get in. In Ganda (and Bemba, but not Dzamba) these, too, must have an IV, but this is evidently a case of morphological neutralization.

Objects of factive verbs, without opacitating modalities like Neg, normally must have an IV. There is an interesting exception to this which involves a different semantic interpretation and which will be explained below.

Note that (18a) and (19a) are ambiguous regarding definiteness. Sence (20a) is not; these sentences always have the interpretation of definiteness since the resumptive pronoun -mu- is obligatory and pronouns are by definition definite. It is preferable--nearly obligatory--in Ganda to topicalize objects which are definite.

In some contexts the IV is optional. One example is with non-factive verbs, which do not inherently presuppose the existence of their objects. This is illustrated in (21):

(21) a. nnoonã omusawo [+ref, ±Def]
'I'm looking for a/the doctor'

b. nnoonã musawo [-ref]
'I'm looking for a/any doctor;

The IV is optional also with negative implicative verbs:

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(22) a. mbusaaβusa oβa yalaβa omwana [+ref]

'I doubt that he saw the child'

b. mbusaaβusa oβa yalaβa mwana [-ref]

'I doubt that he saw any child'

The verb okwagala means both 'like/love' and 'want'. The former meaning is implicative; the latter is not. As might be expected the presence or absence of the IV on the object can disambiguate this verb, as seen in (23):

(23) a. njagala okuzina [+ref]

'I like dancing'

b. njagala kuzina [-ref]

'I want to dance'

Even adverbs, which are a kind of nominalization, can show a contrast, as in (24) and (25).

(24) a. βwe okola eñño

'When you work hard... (I know you will).'

b. βwe okola ñño

'When you work hard... (I'm not sure you will)'

(25) a. Senga okola eñño

'If you work hard...(I'm sure you will).'

b. Senga okola ñño

'If you should work hard...(uncertain).'[7]

There are three main contexts where the IV is obligatorily omitted. The first of these is with predicate nouns and adjectives. (The present tense copula is Ø.)

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(26) a. omusajja mubbi [attrib]

'The man is a thief.'

b. mukasa mulungi [attrib]

'Mukasa is handsome.'

The simple explanation for this is that these kinds of predicates are attributive, not referential. But even referential predicate nominals cannot have an IV:

(27) a. omusajja ye mubbi [+ref]

'The man is the thief.'

b. Mukasa ye mulungi [+ref]

'Mukasa is the handsome one.'

This is another case of morphological neutralization, not any semantic constraint, and the emphatic pronoun must be used to differentiate referential from attributive predicate nominals.

The second context that disallows the IV is with locatives:

(28) a. ali mu ñ̃ñ̃umba [±Def]

'He's in a/the house.'

b. *ali mu e̲ñ̃ñ̃umba

This, too, is morphological, not semantic. We can prove this by adding a modifier, and we see that it is merely the case that only the word immediately following the locative preposition cannot take the IV. Compare (29a) and (29b), and also (30a) and (30d), where we see that that is true for the predicate nominals, also:

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(29) a. mu ñ̃ñumba ntono [-Def]

'in a small house'

b. mu ñ̃ñumba ẹntono [+Def]

'in the small house'

(30) a. kiso [attrib]

'It's a knife.'

b. kiso kitono [attrib]

'It's a small knife.'

c. kye kiso [+ref]

'It's the knife.'

d. kye kiso ẹkitono [+ref]

'It's the small knife.'

The locative examples are the only true cases of contrasts involving definiteness, and they are possible only with modifiers.

The third context which disallows the IV is that after a negativized verb, and that is true even if the object is definite, or rather, referential.

(31) a. saalaβa musawo [-ref]

'I didn't see a/any doctor.'

b. *saalaβa ọmusawo

Note that (31a) is not ambiguous; the only way to express a referential object after a negativized verb is by topicalization:

(31) c. ọmusawo saamulaβa [+Def]

'I didn't see the doctor.'

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Furthermore, adding a modifier, as with the locatives and predicate nominals, is not quite acceptable, although a relative clause is:

(31) d. *saalaβa musawo omulungi
'I didn't see the beautiful doctor.'

e. ?saalaβa musawo eyajja
'I didn't see the doctor who came.'

Finally, there is one context where the IV is omitted where unexpected, and that is after affirmative verbs, even factive ones. I said before that (19b) can be grammatical, but it has a special meaning. It means 'I saw someone who is a doctor" or "I saw a doctor" with contrastive stress on the gloss,'doctor'. This is what I have called attributive focus; being attributive, it is being used non-referentially and therefore the IV is dropped.

To summarize, the IV in Ganda denotes referentiality; it denotes definiteness only in opaque contexts, where definite is equivalent to referential; the main device for definitization of objects is the syntactic one, topicalization, which has become virtually obligatory; there is one context where there is a true definite/indefinite contrast--in locative constructions; there are a few cases where the IV is obligatorily present or absent for reasons of morphological neutralization, not for any semantic reason, and which are probably the result of analogical leveling, e.g. all sentence subjects.

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5.3.3. The IV in the Other Languages

5.3.3.1. The IV in Soga

Now let us look at the other languages. Soga is almost exactly the same as Ganda with respect to the IV, as indeed it is in most other respects. There are three contexts where there is a difference, however. The first is that, after a negativized verb, while an object noun still cannot have an IV, any modifier can have one for a referential interpretation of the whole NP, though topicalization is preferred in Soga, too. Thus (32) is grammatical.

(32) tiβona musawo omulungi [+ref] (cf. (31d))
'I don't see the doctor.'

The second context is with NEG factive verbs (but, as in Ganda, not with future implicatives) where the IV is obligatory on the object of the lower sentence (cf. (22b)):

(33) a. tikakosa nga yaβona omwana [+ref]
'I doubt that he saw the child.'

b. tikakosa nga yaβona omwana yenayena [-ref]
'I doubt that he saw any child.'

Note that the morpheme 'any' is needed to disambiguate omwana.

Finally, referential predicate nouns and adjectives have the IV (cf. (27a, b)) and the copula ni is also required:

(34) a. omusaaḍa ni omulungi [+ref]
'The man is the good one.'

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b. omusaaɋa ni omwiiβi [+ref]

'The man is the thief.'

Before continuing with the presentation of data for the Luyia dialects, it will be helpful to say something about the copula ni. It is, according to Givón (1974) reconstructible to Proto-Bantu and even to Proto-Niger-Congo, though subject to phonological reduction and fading so that in many Bantu languages only relics of it are left. For example, it may have been reduced phonologically to -N-, or syntactically, relegated to cleft constructions. What is particularly interesting is that in all of Ganda there is no trace whatever of it; in Soga its use in referential predicates seems to be the only trace. This is one reason that Wald theorized that it may have been a later innovation (Wald, 1974). As we proceed into Luyia we will see more and more of it and at the same time less use of the IV. The connection between the two is unmistakable.

In Luyia generally the IV is used far less than in Ganda and Soga, and in fact it seems to be well on its way to extinction, either by loss or by becoming frozen to the class prefix, this in time forcing some other changes to make up for that loss. Recall that in Central and Eastern Kenya the IV has already been lost completely, and it looks as though that loss is moving eastwards toward the Great Lakes. That distribution and the distribution within Luyia, as we shall see, indicates that the change is areal and

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therefore useless for genetic purposes, but reconstruction is still possible.

5.3.3.2. The IV in Saamia

We turn now to Saamia, representing Western Luyia and bordering on Soga. Looking first at predicate nominal and adjective constructions we see that they are exactly like Soga.

(35) a. omusaaca mulayi [attrib]
'The man is good.'

b. omusaaca mwiiβi [attrib]
'The man is a thief.'

(36) a. omusaaca ni omulayi [+ref]
'The man is the good one.'

b. omusaaca ni omwiiβi [+ref]
'The man is the thief.'

As in Soga (and Ganda) the IV is deleted from attributive predicates, as is seen in (35); with referential predicates the IV is present and the copula ni is used, as in Soga.

In opaque contexts, the examples in (37), Saamia is quite different from Ganda and Soga.

(37) a. ndaβweene omusaaca [+ref, ±Def]
'I saw a/the man.'

b. omusaaca ndamuβweene [+Def]
'I saw the man.'

c. sindaβweene omuseeca ta [±ref]
'I didn't see a/the man.'

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d. omusaaca sindamuβweene ta [+ref]

'I didn't see the man.'

e. sindaβweene omusaaca ono ta [+ref]

'I didn't see the/this man.'

f. sindaβweene omusaaca yeesiyeesi ta [-ref]

'I didn't see a/any man.'

g. akooña esitaβo [±ref]

'He's looking for a/the book.'

h. esitaβo asikooña [+ref]

'He's looking for the book.'

i. akooña esitaβo sino [+ref]

'He's looking for the/this book.'

j. akooña esitaβo syoosisyoosi [-ref]

'He's looking for a/any book.'

In these examples the IV is frozen to the class prefixes and has no function whatever. Other morphemes must be added for disambiguation: a demonstrative for definiteness (in opaque contexts really referentiality); 'any' for non-referentiality. As in the other languages the syntactic device of topicalization is also available (37b, d, h). Saamia also has the morphological constraint that there can be no IV immediately after a locative, but it shows up on following modifiers.

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5.3.3.3. The IV in Wanga

In Wanga, as might be expected by now, the situation is very similar to that in Saamia. In opaque contexts it is the same. The IV is frozen, the morpheme 'any' can be used for non-referential objects, and there is a special morpheme, tsana (*jana), to denote definiteness, though demonstratives are also possible. Examples are given in (38):

(38) a. enduutsi omusaatsa [+ref, ±Def]
'I saw a/the man.'

b. enduutsi omusaatsa tsana [+Def]
'I saw the man.'

c. ʃenduutsi omusaatsa ta [±ref]
'I didn't see a/the man.'

d. ʃenduutsi omusaatsa tsana ta [+ref]
'I didn't see the man.'

e. ʃenduutsi omusaatsa yeesi ta [-ref]
'I didn't see a/any man.'

f. ʃembaɾ̃a mbu yasoma eʃitaβo tsana ta [+ref]
'I doubt that he read the book.'

g. ʃembaɾ̃a mbu yasoma eʃitaβo yosi ta [-ref]
'I doubt that he read any book.'

With predicate nouns and adjectives, however, the situation is very different. Observe the sentences in (39) and (40):

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(39) a. omusaatsa ni omulayi [attrib]
'The man is good.'

b. omusaatsa ni omwiifi [attrib]
'The man is a thief.'

(40) a. omusaatsa niye omulayi [+ref]
'The man is the good one.'

b. omusaatsa niye omwiifi [+ref]
'The man is the thief.'

Note how even in these examples the IV is there, frozen, that ni is used with attributive predicates, and referential predicates are distinguished from the attributive by the addition of the pronoun -ye. Recall the use of those pronouns in Ganda (27) but without ni. Obviously there is a connection between the inability of the IV to be deleted and the presence of the copula.

5.3.3.4. The IV in Bukusu

In Bukusu things get a bit complicated because much is determined on phonological grounds. Northern Luyia is the group of dialects in Bantu that have a CV pre-prefix instead of an IV, except for classes 1 and 9, which have o- and e-, respectively, and which are never dropped for any reason. Also, where the ICV precedes the sequence CGV or CVV, e.g.

li - li - olu ⟶ lilyoolu 'nose'

βa - βa - ana ⟶ βaβaana 'children'

that CV is normally never dropped.[8]

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In opaque contexts e- and o- are always present and the ICV is (except for the above-mentioned case) optional with no meaning difference; there is evidently some free variation, and I believe the grammar is beginning to lose it. In fact on polysyllabic nouns (disyllabic stems or larger) dropping the ICV seems definitely to be preferred. Definiteness/referentiality is expressed by demonstratives and non-referentiality by the 'any' morpheme. These facts are illustrated in (41):

(41) a. naβoone omuseeca/*museeca [+ref, ±Def]
'I saw a/the man.'

b. sinaβoone omuseeca/*museeca ta [±ref]
'I didn't see a/the man.'

c. naβoone (si)siindu [+ref, ±Def]
'I saw some/the thing.'

d. sinaβoone (si)sindu ta [±ref]
'I didn't see any/the thing.'

In Bukusu, too, topicalization is an available device for disambiguation.

With predicate adjectives and nouns Bukusu is different from the others, as can be seen in (42) and (43):

(42) a. omuseeca omulayi [attrib]
'The man is good.'

b. omuseeca omwiif^{w}i [attrib]
'The man is a thief.'

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(43) a. omuseeca ali omulayi [+ref]
'The man is the good one.'

b. omuseeca ali omwiif^{w}i [+ref]
'The man is the thief.'

Attributive predicates neither drop the IV nor retain the copula, ni. Like Ganda, Bukusu seems to have lost ni completely; -li is the defective verb 'to be' found in all Bantu languages. In Ganda and Soga it is not allowed in the third person, present tense, except with locatives. That is true in Swahili, too, where ni is used. Since both ni and the use of the IV have been lost Bukusu has turned to -li and allowed it in this environment.

5.3.3.5. The IV in Logooli

In Logooli we find that predicate noun and adjective constructions are the same as in Wanga: ni and the IV for attributive, and ni plus pronoun and the IV for referential, predicates:

(44) a. umusaaza ni umurahi [attrib]
'The man is good.'

b. umusaaza ni umŋiivi [attrib]
'The man is a thief.'

(45) a. umusaaza niye umurahi [+ref]
'The man is the good one.'

b. umusaaza niye umŋiivi [+ref]
'The man is the thief.'

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In other contexts, however, the IV is fully optional. But referentiality and opacity have nothing to do with determining the presence or absence of the IV. As in the other dialects Logooli uses demonstratives for definite, and the 'any' morpheme for non-referential, nouns. Logooli also has the definitizer morpheme zana, cognate with Wanga's tsana. Observe the following sentences.

(46) a. ndoli ɪkɪvwɪ

'I saw a fox.'

b. ndoli kɪvwɪ

'I saw the fox.'

c. sindoli ɪkɪvwɪ daave

'I didn't see a fox.'

d. sindoli kɪvwɪ daave

'I didn't see the fox.'

(47) a. ŋanagaña niva arasoma ɪkɨtaβo

'I doubt that he read a book.'

b. ŋanagaña niva arasoma kɪtaβo

'I doubt that he read the book.'

My informant consistently claimed that with the IV objects are interpreted as being new information to the hearer and the absence of the IV as old, known information. It thus appears that Logooli has turned the IV into a kind of indefinite article, though that is not an exact characterization since it could be definite in the speaker's mind (e.g. unique in the discourse, as 'the' is used in English)

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while he assumes that it is new information to the hearer. For example, in English the sentence

(48) I saw the brother of my friend.

"the brother" is definite, even if new information, telling the hearer that my friend has only one brother. In Logooli the IV on 'brother' would mean that the word was being introduced into the discourse for the first time and would not mean that there must be more than one brother; the absence of the IV would mean that 'brother' was old information but would not mean that there had to be only one brother. Compare the following sentences.

(49) a. umundu ɣaazi kondola
'A man came to see me.'

b. mundu ɣaazi kondola
'The man came to see me.'

c. umundu ura ɣaazi kondola
'That man (new information) came to see me.'

d. mundu ura ɣaazi kondola
'That man (old information) came to see me.'

The use of the IV as an "indefinite" article holds true for subjects as well, and even when there is a demonstrative. How can it be new information with a demonstrative? The subject in (49d) is familiar to the hearer; it is "that man that you know" or "that man who I mentioned before". The subject in (49c) is "that man there (pointing) who I think you don't know". Hence in (49c) but not (49d) the

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demonstrative is deictic.

I will only briefly summarize the situation in Gusii, since it will not figure into our reconstruction. With predicate nouns and adjectives it is just like Wanga and Logooli. After negativized verbs it acts the same as Ganda. Real definiteness is expressed with demonstratives, non-referentiality with the 'any' morpheme. Everywhere else (e.g. with non-factive or NEG factive verbs, etc.) the IV is frozen to the class prefix.

5.3.4. Reconstruction of the Functions and History of the IV and the Copula

For the purpose of facilitating reconstruction we can tabulate the data as in Table 5.1 below:

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Table 5.3

Schematic Representation of Functions and Distribution of the IV

Language	Predicate Nominative		Opaque-objects		Locatives
	Attrib	Ref	Neg	Fut	
Ga	Ø copula -IV	pron -IV	-IV (IV okay rel. cl.)	±IV	-IV (±IV on mod.)
So	Ø copula -IV	ni+IV	-IV (+IV okay on mod.)	±IV	-IV (± IV on mod.)
Sa	Ø copula -IV	ni+IV	+IV Dem 'any'	+IV	-IV (±IV on mod.)
W	ni+IV	ni+pro +IV	+IV Dem 'any'	+IV	-IV (±IV on mod.)
L	ni+IV	ni+pro +IV	Dem 'any'	---	-IV
B	Ø copula +IV	-li+IV	+IV	+IV	-IV(+IV frozen)
Gu	Ø copula +IV	ni+pro +IV	-IV (+ IV on mod.)	±IV	---[9]
*PELac.	ni-IV	ni+IV	±IV	±IV	-IV (± IV on mod.)

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Assuming that Nyoro and Haya do not hold any unusual surprises, the following conclusions may be made about the usage of the IV and the ni copula in the proto-language.

It should be concluded first of all that PELac. had both the IV and ni. The copula was used in both attributive and referential predicate nominal constructions, and the IV was used to differentiate the two, its presence denoting the latter. This conclusion is, first of all, in line with reconstructing the function of the IV generally as a referentiality marker, supported by both the rest of the data and also consideration of its function in such distantly related languages as Dzamba and Bemba, not to mention Gusii. Reconstruction of ni in both predicate nominal constructions is warranted by its presence in Soga and the more distant Gusii, coupled with the presence and distribution of the pronouns in those contexts.

The pronoun suffixes used with ni are evidently innovations. They occur precisely where the IV can no longer denote referentiality: in Ganda where the IV is absent due to a morphological constraint; in Luyia where the IV is frozen and without function (except in Saamia where the IV is not frozen in just that context); and in Gusii where the IV is frozen in just that context. I submit that the loss of use of the IV in that context caused the introduction of the pronoun. The pronoun, being automatically referential because pronouns are definite, was the most logical choice and was probably introduced into those languages

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independently.

In Soga and Saamia the IV did not lose its function there and the pronoun was not necessary. On the other hand, the copula was seen as redundant (in this case in Ganda, too) and therefore was dropped where possible. This is in accord with the well-known principle of the tendency towards "one meaning, one form", often stressed by Anttila (1973) and with Wald's contention (1974) that ni and the IV were in competition.

Bukusu is interesting, even though it does not count for much in our attempt at reconstruction because the ICV has acted very differently for purely phonological reasons. Bukusu has lost ni entirely as a copula[10] and replaced it with -li in the referential predicate nominative construction, probably taking it by analogizing from the use of -li in locatives. It does seem unusual, though, that ni would have been dropped in the attributive predicate nominatives, because the result is that now there is no difference, except intonation, between (50a) and (50b).

(50) a. omuseeca omulayi (cf. 42a)
'A/the man is good.'

b. omuseeca omulayi
'a/the good man' (a NP)

In Ganda, for example, ni could be dropped (as long as the pronoun was there in the referential) because omusajja mulungi cannot be a single constituent, a NP; it must be a

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sentence, while omusajja omulungi must be a NP.

The IV functioned generally as a referentiality marker in opaque contexts, viz. under the scope of NEG and Future, probably very much as in modern Ganda. In Luyia, then, the IV began to lose that function. Logooli's having developed a new function for the IV indicates that the loss was far from complete at the time of that dialect's divergence from the rest of Luyia.

The fact that after NEG referential objects can still have the IV on modifiers in Ganda and Soga, plus the fact that the IV is frozen on, not gone, in that context in Luyia--it is not frozen on in the locative constructions--indicates that in the protolanguage referential object nouns could carry the IV following the negativized verb. As topicalization was undoubtedly already the common way to indicate definiteness, in opaque as well as non-opaque contexts, the commonest occurrences of object NPs after NEG were the non-referential--without the IV. This led to the perception in Ganda and Soga of a constraint against having an IV, which in turn led to increasing preference for topicalization until it is now virtually obligatory. Ganda has gone a step further than Soga in disallowing the IV even on modifiers except relative clauses. In fact Ganda is not too happy with those, either.

That morphological constraint against having an IV after NEG was probably encouraged by the fact that a similar

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constraint already obtained in locative constructions. All these languages share that and we may conclude that PELac. had it, as well as the use of the IV on accompanying modifiers as a definitizer. In fact, the constraint may have been an East Lacustrine innovation, because there are other Bantu languages, including, I think, West Lacustrine, which allow the IV immediately after locatives.

There is one last interesting bit of evidence to note. In Luyia, as the IV began to lose its function the demonstratives and 'any' came into use as replacements. In Gusii, where the IV still retains its function pretty well in opaque contexts, we see that if the IV is absent 'any' must be used. This seems to indicate that the IV is just beginning to lose its status as an independent morpheme; the object cannot stand alone without its IV. This, perhaps, indicates an earlier stage that the Luyia dialects went through. If 'any' became obligatory the IV became redundant and ended up frozen. The demonstratives were then brought in to unambiguously indicate referentiality.

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FOOTNOTES TO CHAPTER 5

[1]A transformationalist approach is not essential to this discussion. I have used it for the purpose of clarity of exposition.

[2]There is another solution, found in Xhosa, where low-level phonological criteria determine when CR is permitted. Cf. Voeltz (1972) for the interesting details.

[3]For details of the rules and formalisms that I am assuming in this exposition, see Givón (1970).

[4]These and other derived classes, when applied to humans, are pejorative as well as descriptive. When class 2 is used for agreement on predicates it has the effect of lessening the pejorative effect and emphasizing the purely descriptive aspects.

[5]For details of the development of animate concord in Swahili and coastal languages, cf. Wald (1975).

[6]In Ganda, for example the sentence is

(i) ensolo eno bagiyita musu
9 9 9 3

'This animal, they call it a mouse.'

but

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(ii) guno bamuyita musu
3 3 3

'This (one), they call (it) a mouse.'

[7]In Greek grammar, this difference between (25a) and (25b) is called that between "more vivid" and "less vivid" conditions, respectively.

[8]There is only one place I know of where the ICV can be dropped from these nouns with vowel-commencing stems. That is in predicate noun constructions where intonation and context indicate something like surprise, disbelief and/or contempt. For example,

(i) lino lyoolu!!

(lit.) 'This is a nose.'

is more accurately rendered in English as "You call that a nose?!"

[9]In Gusii the locative system (PB *pa *ku *mu) has almost totally degenerated and been replaced with derived prepositions. All that is left is mo 'in'. Nothing can be determined about the role of the IV in locatives because mo and other locative words are suffixed or postposed, as is the verb -li (cf. Chapter 4, footnote 15).

[10]Notice (section 4.1.3.3) that in Bukusu the independent pronoun is niye, etc., rather than ye, a good example of a relic, and also indicating that the dialect did indeed have at one time the ni+pro construction manifested in all

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the other dialects.

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APPENDICES

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APPENDIX I

INFORMANTS

I wish to thank the following people, who did so much to assist me in my research into their languages. Some helped me to find some of the others. They were more than mere sources of data; they all offered opinions and observations that were interesting, insightful, and very useful.

1. Gusii

Name:	Henry Nyanchoka
Age:	24
Education:	One year, University of Nairobi
Home:	Sameta village, Bogetaakio sublocation, Bassi-Chache location, Kisii district
Other Languages:	English, Swahili, a little Dholuo
Parents:	Both Bagusii
Language Opinion:	Closest is Kuria, then Meru, then Luyia; a little difficulty understanding Kuria.

2. Logooli

Name:	Gershom Lugusa
Age:	23
Education:	Finished secondary ("O" level) at Chavakali
Home:	Kidondo village, Logoba location, Kakamega district
Other Languages:	English, Swahili
Parents:	Both Balogooli

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Language Opinion:	Can understand all Luyia dialects about equally well; understands only a little Gusii

3. Bukusu

Name:	Oscar Mwambu
Age:	22
Education:	Finished secondary ("O" level) at Cwele
Home:	Milo village, Muci sublocation, Bungoma district
Parents:	Both Babukusu
Other Languages:	English, Swahili
Language Opinion:	Understands best Nyala, Tachon, Kabras; understands Gishu pretty well, little Logooli

4. Wanga

Name:	Margaret Wambani
Age:	23
Education:	Two years, University of Nairobi
Home:	Mumias, East Wanga, Kakamega district
Other Languages:	English, Swahili
Parents:	Both Bawanga, one Marama grandparent
Language Opinion:	All central Luyia dialects mutually intelligible; Saamia, Bukusu, Logooli are all difficult to understand

5. Saamia

Name:	Evans Okumu
Age:	22
Education:	Finished secondary ("O" level)
Home:	Bufudubiri, Budongo location, Busia district

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Other Languages:	English, Swahili
Parents:	Both Basaamia, know a little Dholuo
Language Opinion:	Closest to Saamia are Nyala, Marachi; some difficulty in understanding Khaayo

6. Soga

Name:	Christine Wanyana Kwoba-Abungu
Age:	23
Education:	Two years, University of Nairobi, primary in southern Busoga (Bugembe), secondary at Buddo, in Buganda
Home:	Kamuli, Bugabula, Busoga
Other Languages:	English, Ganda
Parents:	Mother is Muganda, father Musoga; mother speaks Soga, father knows little Ganda; mostly Soga spoken in home
Language Opinion:	Her dialect (Lugabula) closer to Ganda, Kaliro dialect closer to Saamia; northern Soga closer to Nyoro than to Ganda; Gabula and Gwere muturally intelligible

7. Ganda

I studied Luganda in Uganda from the point of view of learning to speak it, and from a linguistic perspective at UCLA where I had two different informants. Upon my return from Kenya a third informant was consulted about possible dialect differences. The few differences are minor and do not bear on the data in this study except where specifically indicated. All three informants have been graduate students at UCLA, and all were taught the standard Luganda in school. I do not have detailed statistics about all of them. They all spoke Ganda growing up in the home and learned English. Livingstone Walusimbi is from Gayaza, in the heart of the standard dialect area. He is a linguist, and also knows Tooro. Sam Mugalasi is from Masaka district, a little west of the standard area; Bede Ssensalo is from Bulemeezi, slightly northeast of the standard dialect area. Both are bi-dialectal.

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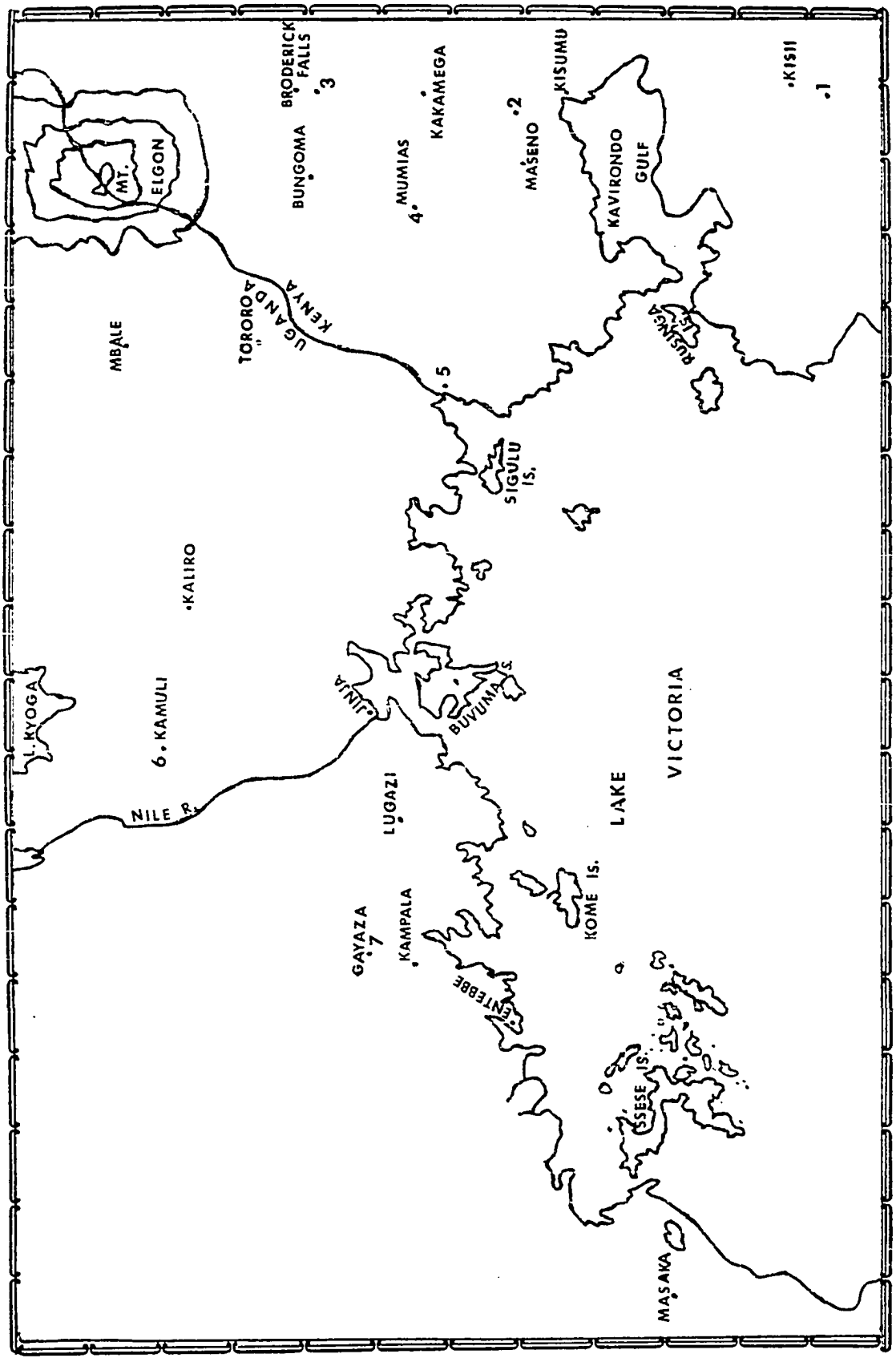

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APPENDIX II

WORD LISTS AND ISOGLOSSES

This appendix consists of word lists and isolgloss maps from which have been drawn the discussion and conclusions in Chapter 2. Section 1 is the two-hundred word list and section 2 contains the accompanying isogloss maps. Sections 3 and 4 are the list of kinship terms and isoglosses, respectively; sections 5 and 6 contain the numbers and their isogloss maps; sections 7 and 8 are the adjectives and corresponding isoglosses; section 9 is the ninety-word list. Entries having a following asterisk are archaisms. The words given on the isogloss maps are meant to be tentative reconstructions, or in other words free of language-specific phonology.

1. 200-Word List

The two-hundred word list follows.

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
1. one	emu	ndala	ndala	ndala	ndala	lala	ndala	ɛyɛmo
2. two	bbiri	iβiri	ciβiri	tsiβiri	ciβiri	-βɪrɪ	kavɪlɪ	iβere
3. three	ssatu	isatu	cidatu	tsitaɾ̃u	citaɾ̃u	-βaka	kavaga	isato
4. four	ñña	ina	cine	tsine	cine	-ne	kane	inɛ
5. five	ttaano	itaanu	citaanu	tsiɾ̃a-ano	ciɾ̃aano	-ɾ̃aanu	kataano	isaano
6.	ekkumi	eikumi	exumi	exumi	lixumi	lixumi	likumi	ikomi
7. father	kita-	lata-	lata-	so- sa se-	ɾ̃aɾ̃a-	---	baaba-	so se
8. mother	mma- ññoko ñña	mama- -iŋoko iŋina	ma- ŋina-	ma- (ñoxo) ñina	ma-	---	maama- (ñoko) ñña	maa- ñoko ŋina
9. head	omutwe	omutwe	omutwe	omuɾ̃we	kumuɾ̃we	muɾ̃wɪ	umutwɪ	omotwe
10. hair (of head)	env^{w}iiri	env^{w}iiri	ef^{w}iiri	ʃiʃswi	licune (liswi)*	liswi	liisu	ɛtuukya
11. ear	okutu	okutu	oxutwi	eʃiɾ̃wi	liɾ̃u ~ xuɾ̃u	liɾ̃oyi	ugutu	oɣoto
12. eye	eɪiiso	eriiso	emoni	imoni	emoni	ɪmoni	emoni	ɛʃiisɔ
13. mouth	omumwa	omunwa	omunwa	omunwa	kumunwa	munwa	umunwa	omonwa
14. tongue	olulimi	olulimi	olulimi	oluʃimi	lulimi	lulɪmɪ	ullɪmɪ	oromeme

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
15. tooth	eriiñño	eriino	eliino	eɭiino	liliino	liinu	ɪliinu	ɛɭiino
16. breast	ebbeere	eiβeere	oluβeere	oluβeere	lituřu	luβeele	ɛroveele	ɔrɔβɛɛre
17. arm	omukono	omukono	omuxono	omuxono	kumuxono	muxono	umukono	ɔmɔkɔnɔ
18. armpit	eŋkwaawa	eŋkwaawa	exwaaya	ixwaaha	muxwaha	ɪkwaaha	ɪkwaaha	ɛntiɣatiɣa
19. back	omugooŋ-go	omugooŋ-go	omukooŋ-go	omukooŋ-go	kumuko-oŋgo	mukooŋ-go	umugooŋ-go	ɔmɔɣɔːŋgɔ
20. heart	omutima	omutima	omwooɣo	omwooyo	kumwoɣo	mwooyo	umwooyo	ɛŋkɔrɔ
21. leg	okugulu	omugulu	oxukulu	eʃireen-je	sikele	mukulu	ekeleeŋ-ge	okoɣoro
22. buttocks	ettako	eitaƘɔ	edaxo	ɲiitaxo	litaxo	litaxo	ɪlidako	ɛñɔɔŋ ga
23. penis	embolo	embolo	oluβolo	oluβolo	emboro	ɪmbolo	emboro	mboro
24. testicle	ekinege	(omunege) eiβata	eneke	ɲiinece	lineke	linace	ɪlinege	ɛŋgɛtia
25. vagina	emmana	emana	esipodo	eʃipoto	kumuñe	lisono	ekebodo	ɛmbɛrɛ
26. body	omuβiri	omuβiri	omuβiri	omuβiri	kumuβili	mbɪlɪ	ummbɪlɪ	omoβere
27. blood	omusaayi	omusaayi	amaβaaŋ-ga	amalasi-re, ama-tsaayi	kamafuki	musaayɪ	amasahɪ	amañiiŋ-ga
28. bone	egguumba	eiguumba	esikuum-ba	eʃikuum-ba	sikuum-ba	ʃɪkuum-ba	ɪkɪguum-ba	ɲiuɣa

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
29. urine	eŋkali	eŋkali amaine	amanyi	amañi	kameñi	miñaali	amiiñaa-li	amasiñɔɔ-ro
30. feces	amazi	amazi	amaf^{w}i	amaf^{w}i	kamaf^{w}i	maβi	ammbi	amaβi
31. sweat	entuuyo	olugezi	oluuɣa	oluuya	lukesi	luceli	orogeli	ɛβiɣali
32. saliva	amalusu	amalusu	amate	amaře	kamaře	maře	amate	amatɛ
33. person	omuuntu	omuuntu	omuundu	omuundu	omuundu	muundu	umuundu	omoonto
34. man	omusajja	omusaaɖa	omusaaca	omusaa-tsa	omuseeca	musaatsa	umusaaza	omosaaca
35. woman	omukazi	omukazi	omuxasi	omuxasi	omuxasi	muxali	umukali	omokuuŋgu
36. child	omwaana	omwaana	omwaana	omwaana	omwaana	mwaana	umŋwaana	omwaana
37. chief	omwaami	omwaami	omwaami	omwaami	omwaami	mwaami	umŋwaami	omoruoti
38. God	katoonda	katoonda	ñasaaye	naasaaye weere	ñasaye wele ka-tonda	ñasaaye	ɲasaaɣe	ñasaayɛ
39. stranger	omugeni	omugeni	omukeni	omuceni	omukeni	muceni	umugeni	ɔmɔɣɛni
40. wizard	omulogo	omulogo	omulosi	omulosi	omulosi	muloci	umuroji	ɔmɔrɔɣi
41. water	amazzi	amaaɖi	amaaci	amaatsi	kameeci	maatsi	amaazi	amaace
42. river	omugga	omwiiga	omwaalo	omwaalo	luluuci	mucela	umugera	orooc ɛ
43. lake	eññaanja	eɲaanɖa	eñaanja	iñaanza	eñanja	ɪñaanza	ɪɲaanza	eñaanca

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	Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
44.	rain	enkuβa	---	efula	ifula	efula	ɪmbula	ɪmbura	embura
45.	sky	eggulu	eigulu	ekulu	ɭiikulu	likulu	likulu	ɪliguru	ɛɭioβa
46.	sun	enjuβa	enɖuβa	elyuuβa	eɭyuuβa	enaaŋga (lilyuuβa)*	lyuuβa	ɪlyuuβa	ɭiisasɛ
47.	moon	omweezi	omweezi	omwoosi	omweesi	kumweesi	mweeli	umweeli	omotieñi
48.	star	emmuñe-eñe	emuɳeɳe	eŋiniŋi-ni	iŋiniŋi-ni	eŋeniesi	ɪñɪnɪñɪ-nɪ	eŋeleŋanɪ	ɛŋɛnaŋɛ-nia
49.	day (24 hours)	olunaku	olunaku	esidete	ɭiihooŋ-ga	enaaŋga endaɭo	lituxu	ɪlidikɣ	ɭiituko
50.	fire	omuliro	omuliro	omuliro	omuɭiro	kumuliro	mulɪlu	umullu	omolero
51.	ash	evvu	eivu	ekoxe	amakoʃe (li)	kamakoxe	likoʃe	amagoke	amaβu
52.	coal	amaanda	amaanda	amaanda	amaanda	kamaanda	maanda	amaanda	amakara
53.	tree	omuti	omuti	omusaala	omusaala	kumusaa-la	musaala	umusaara	omote
54.	leaf	ekikoola	eikola	esaafu	ɭiisafu	lisafu	lisaambu	ɪliitu	ɭiito
55.	seed	ensigo	ensigo	emwo	olufʷa	lumico	ɪmu	ulugɣza	ɛntɛtɛrɛ
56.	hill	olusozi	olusozi	olugulu	eʃikulu	sisiili	ʃɪkulu	ɪkɪguru	eɣetenwa
57.	ground	ettaka	eitaka	aasi	haasi	asi	haasɪ	haasɪ	insɛ
58.	mud	ebisooto ebitoomi	eβitya-aŋka	edosi	amatoo-yi	kamatosi	matoyi	ɪliduʃi	ɛsikɛ

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
59. dust	enfuufu	enfufu	olufu	olufu	lituxulu	lukuʃi	ulugɣɣci	ɛβuusɛ
60. forest	ekiβira	eciβira ecisaka	esicaxa	omutsuñu	kumusiñu	muliñu	umulitu	ʔiinani
61. house	eññuumba enju	eɲuumba eɲɲu	eñuumba	inzu	enju	ɪnzu	ɪɲ̃uumba	eñoomba
62. door	oluggi	olwiiji	oluiki	omulya-aŋgo	kumuli-aŋgo, lulwiiki*	mulyaaŋ-go	umulyaaŋ-go	eɣesieli
63. doorway	omulya-aŋgo	omulya-aŋgo	omulya-aŋgo	mumulya-aŋgo	muliaŋgo	mumulya-aŋgo	mumulya-aŋgo	eɣesieli
64. path	olugudo	eŋgira	eŋgira	injira	eŋgila	ɪnjɪla	ɪnzɪra	ɛncɛra
65. stone	ejjiinja	eiβaale	ekina	ʔiicina	liβale	---	ɪligina	ʔiiɣena
66. cooking-stones	amasiga	amaika	amayika	amaika	kamayika	mah ka	amahɪga	amaiɣa
67. clan	ekɣika	ecika	oluyia	--- (oluyia)	exolo	ʃɪliβwa	ɪɦiili	eɣesaku
68. animal	ensolo	ensolo	esolo	isolo	esolo	ɪñama	ɪɲ̃ama	ɛŋiti
69. hyaena	empisi	empiti	eŋu	ifisi	namuuñu	liŋu	ɪmbiti	ɛñaŋaau
70. lion	empalo-goma	empolo-goma	edalaŋi	italañi	etalaŋi	ɪsiimba	ɪsiimba	ɛndo
71. leopard	eŋgo	empala	eŋgwe	iŋgwe	eŋgwe	ɛŋgoyɛ	eŋgo	ɛŋgɔ

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	Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
72.	elephant	enjovu	enɲdovu	enjofu	inzofu	enjofu	ɪnzokɣ	enzogɣ	ɛncoɣu
73.	buffalo	embogo	embogo	emboko	imbooŋgo	emboko	ɪmboko	ekebooko	ɛŋera
74.	monkey (gen.)	eŋkima	eŋkeembo	exene	ʔiiʃene	exima	ɪxoondo	egekoon-do	ɛɣɛkɔɔndɔ
75.	crocodile	eggooña	eŋgweena	egweena	ikweena	ekwena	ɪkweeno	ɪŋwrɪna	ɛmaamba
76.	snake	omusota	omusota	enjuxa	inzoχa	endemu	ɪnzuxa	enzoka	ɛŋiti
77.	spider	nabbuβi	naambuum-buli	oluβuβi	ʔiiβuβi	luβuβi	luβuβi	uluβuβɪ	oronaam-boβɛ
78.	termite	enswa	enswa	eswa eke	ʔiice iswa	eswa	lice	ɪswa	ʔiiɣɛ
79.	louse	ensekere	ensekere	enda	inda	enda	ɪnda	ɪnda	enda
80.	flea	eŋkukuñi	eŋkukuɲi	esikiiŋ-gi	eʃiroβo-to	siloβo-to	ʃɪlɪmbo-to	ɪsuli	ɛkɛrɔɔm-bɛɛta
81.	mosquito	ensiri	ensiri	esuna	isuna	siŋeŋe	ɪsuna	ɪsuna	ɛumbu
82.	bee	enjukʸi	endukʸi	enjuxi	inzuʃi	enjuxi	ɪnzuʃɪ	ɪnzukɪ	ɛncoke
83.	frog	ekʸikere	ecikere	exere	ʔiiʃere	lixele	luŋalo	ɪlikele	ɛɣyɔɔtɔ
84.	cow (gen.)	ente	ente	eŋoombe	iŋoombe	exafu	ɪŋoombe	eŋoombe	ɛŋɔɔmbɛ
85.	goat	embuzi	embuzi	embusi	imbusi	embusi	ɪmbuli	ɪmbuli	ɛmboli

	Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
86.	rabbit	akamyu	eŋkere akamyu= 'hare'	esiduyu	eʃitsusu	enduyu	ʃɪsugula	ɪkɪfʷɣayo	eɣesusu
87.	chicken	eŋkoko	eŋkoko	eŋgoxo	iŋgoxo	eŋgoxo	ɪŋgoxo	eŋgoko	ɛŋgɔkɔ
88.	dog	embwa	embwa	embwa	imbwa	embwa	ɪmbwa	ɪmbɣa	ɛseese
89.	bird	eññoñi	ecin̪on̪i	eyoni	ɿiiyoni	eñuni	liñoñi	ɪliñ̪oñ̪i	ɛñoni
90.	fish	ekyeññaanja	eceen̪an̪d̪a	eŋeeni	iñeeni	eŋeni	ɪsutse	ɪsuzɪ	ɛnswe
91.	egg	eggi	eigʸi	eβuyu	ɿiiβuyu	liβuyu	liβuyu	ɪlivuɣ̪u	ɿiiɣɛna
92.	horn	ejjeembe	eiga	oluika	olwiika	lulwilka	lwiika	ulʷwɪɪga	oroɣuncara
93.	tail	omukʸira	omucira	omuxira	omuʃira	kumuxira	muʃɪla	umukɪra	ekemiinca
94.	meat	eññama	emaamba	eñama	iñama	eñama	ɪñama	ɪñama	ɛñama
95.	soup	omucuuzi	omucuuzi	omuuñu	omuuñu	kumuñu	muuñu	umuuñu	omosoli
96.	salt	omuuñu	omuuñu	omuuñu	omuuñu	cumbe	ɪcuumbɪ	ɪjuumbɪ	omoño
97.	millet	oβulo	oβulo	eβere	ɿiiβere	βuulo	maβele	ammbele	amaɛmba
98.	milk	amata	amata	amaβeere	amaβeere	kamaβeele	maβeele	ammbeere	amaβeere
99.	oil	amafuta	amafuta	amafuta	amafuɾ̃a	kamafuɾ̃a	makuɾ̃a	amaguta	amaɣuta
100.	fat	amasavu	amasavu	amasiña	amasiña	kamafuɾ̃a	ʃɪβana	ɪsamuli	eɣetiña

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
101. spear	effumu	eifumu	efumo	ʃiifumo	lifumo	liɾ̃imu	ɪlitimu	ʃiitimo
102. shield	eŋgaβo	eŋgaβo	eŋgaβo	ingaβo	lisaxa	ɪŋgaβo	ɪŋgavo	ɛŋguβa
103. axe	embazzi	empasa	eyaayiwa	ihaaywa	eyayiwa	ɪhaaywa	ɪmbaazi	eɣesire
104. knife	akaambe	akaambe eciso	exaande	omuβano	kumuβano	ɪlutwa	ummbano	omoɣyo
105. rope	omuggwa	omuguwa olukoβa	omukoye	omukoye	kumukoye luxoβa	mukoye	umogoχe	ɛŋgɔli
106. drum	eŋŋoma	eŋgoma	eŋoma	iŋoma	eŋoma	ɪnduumba	ɪnduumba	ɛkɔnu
107. thing	ekʸiintu	eciintu	esiindu	eʃiindu	sisindu	ʃɪɪndu	ɪkɪɪndu	eɣeento
108. work	omulimu	omulimo	omulimo	omuʃimo	kumulimo	muyinzi-lo	umulɪmu	ɛtici (L.) omoɬemo
109. war	olutalo	olutalo	eye	ʃiihe	kamaaya	lihe	uβulᵛwa-ani	eseeɣi
110. sleep	otulo	endolo	endolo	tsindolo	cindolo	tsindolo	ɪzindooro	citɔrɔ
111. truth	amazima	amazima	ɔβwaadi-yɔri	oβwaati-yeri	βuŋali	katoto	agɪligali	oβomaɛnɛ
112. place	ekʸifo	ecifa	aβuundu	haβuundu	aβuundu	haβuundu	haβuundu	aasɛ
113. load	omugugu	omugugu	omusiyɪ-go	omusiiko	kumukuku	musiiko	umusiigo	omosiiɣo
114. boat	eryaata	eryaato	elyaato	eʃyaaɾ̃o	lilyaaɾ̃o	lilaaɾ̃o	ɪlyaato	oβwaato

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
115. paddle	eŋkasi	eŋkasi	eŋgasi	omwiixo	kumukaŋ-go	mwiixo	ummbaaŋ-go	---
116. hunger	enjala	endala	enjala	inzala	enjala	ɪnzala	ɪnzala	ɛncara
117. large	-nene	-nene	-xɔɔŋgo	-xooŋgo	-βoofu	-kali	-nene	-nɛnɛ
118. small	-tono	-tono	-diidi	-tiiti	-tiiti	-t iti	-didiidi	-nini
119. long,tall, high	-waanvu	-leeyi	-leeyi	-r̃aambi	-lei	-r̃aambɪ	-taambɪ	-taambɛ
120. short	-mpi	-mpi	-mbikiti	-mbikiti -kir̃i*	-mbi	-mbɪ	-mbɪ	-ɛŋɛ
121. good	-luuŋgi	-luuŋgi	-layi	-layi	-lai	-layɪ	-rahɪ	-ya
122. bad	-βi	-βi	-βi	-βi	-βi	-βi	-vi	-βe
123. ripe	eŋgevu	-envu	-aŋgafu	-eŋgu	-r̃oβe	-eŋgɣ	-eŋgɣ	-tɔβu
124. rotten	-vuundu	-vuundu	-βolu	-βolire	-βoru	-a-kɣɣn-da	-vofu= 'sour' -gɣɣndu	-ɣundo
125. many	-ŋgi	-ŋgi	-ŋgi	-ɲji	-kali (-ŋgi)	-niʃi	-iŋgɪ	- ŋgi
126. all	-onna	-ona	-osi	-osi	-osi	-osi	-osi	-ɔnsi
127. how many	-mɛka	-meka	-ŋga	-ŋga	-ŋga	-aŋga	-ŋga	imbireeŋ-ga

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
128. only	-okka	-oŋka	-oŋene	-oñene	-oŋene	-oñene	-eñɪne	-oka
129. other	-lala	- ndi	-ndi	-ndi	-ndi	-ndɪ	-ndɪ	-kɛ
130. -self (emph.)	-eññini	-eene	-ịne	-tsana	cana -ene	-ene	-ene	-oka
131. today	(olwaa)-leero	(olwaa)-leero	ñaaŋgayi-no	ʃeero	leelo	nunuundi	karuunu	ʃɛɛrɔ
132. near	kuumpi	kuumpi	aambi	ahaambi	ayeembi	hiimbɪ	aʃiimbɪ	aaŋɛ
133. far	wala	wala	eyale	ehaaʃe	aleyi	ɪhale	ehale	alɛ
134. very much	(e)ññ̃o	iṇo	muno	po muno	lukali	muno	muno	mɔnɔ
135. inside	muunda	muunda	mukati	mukaĩ̃i	mukaĩ̃i	mukaĩ̃ɪ	mukatɪ	imɛ
136. outside	eβweeru	kuliya	erwaañi	erwaañi	enje	ɪlwaañi	ɪcoova	isiko
137. top	waggulu	waigulu	akulu	heekulu	xuŋgaki	ɪkulu	yiiguru	iɣoro
138. underneath	waansi	waansi	aasi	hasi	asi	---	haasɪ	insɛ
139. front	waamberi	embere	emberi	imberi	eβweeni	---	ɪmbɪlɪ	βosyo
140. behind	eññuma	eṇuma	eñuma	iñuma	eñuma	---	ɪñɪma	maɣɛɣa
141. middle	wakati	wagati	katikati	haKaĩ̃i	akaĩ̃ikaĩ̃i	---	hagatɪ	ɣati
142. eat	okulya	okulya	oxulya	oxuʃia	xulia	xulya	ukulya	okolya

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
143. drink	okuñwa	okuŋwa	oxuŋwa	oxuñwa	xuñwa	xuŋwa	ukuñwa	okoñwa
144. urinate	okunnya-ala	okuŋaala	oxwiiña-ala	oxwiiña-ala	xuxwiiñ-aala	xwiiña-ala	ukfwiiña-ala	oɣosiñɔ-ɔra
145. defecate	okunya	okunya	oxunya	oxunia	xunia	xunya	ikunya	okonia
146. do	okukola	okukola	oxuxola	oxuxola	xuxola	xuɣin-zɪla	ɵgokola	ɔɣɔkɔra
147. go	okugeen-da	okuja	oxucya	oxutsya	xuca	xutsya	ukuzya	okoɣɛɛnda
148. come	okujja	okwiiŋa	oxwiica	oxwiitsa	xuxwiica	xwiitsa	ukuza	oɣooca
149. enter	okuyiiŋ-gira	okwiin-jira	oxwiiŋ-gira	oxwiiɲ-jira	xuxwiiŋ-gila	xwiin-jɪla	ukfwiiŋ-gɪra	ɔɣɔsɔa
150. exit	okufu-luma	okufu-luma	oxutula	oxuñula	(xuca enje)	xwiiñuxa	ukutura	ɔɣɔsɔɔka
151. run	ɵkudduka	okulumu-ka	oxwiiru-xa	oxwiiru-xa	xutima xuxwii-luxa= 'away'	xwiiluxa	ukuŋagu-ra	ɔkɔmɔñɔ-ka
152. hunt	ɵkuyigga	okuyiiga	oxuyiima	oxuyiima	xuyiima	xuhɪɪtsa	uguhɪrma	oɣotuara
153. accept, agree	okukkiriza	okwiiciriza	oxufukirira	oxucama oxufucirira	xufukilila	xwiiyema	ukuβugɪlla	oɣuaanca

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
154. deny, refuse	okugaana	okuloβa	oxukaana oxuxaya	oxuloβa oxukaana	xuloβa xukania	xwaamba-xana	ugusuura	oɣokaana
155. wait	okuliin-da	okuliin-da	oxuliin-da	oxuʃiin-da	xuliinda	xulɪɪnda	ukulɪɪn-da	okoɣaña
156. bathe (itr.)	okunaaβa	akunaaβa	oxwooka	oxwoosya oxusii -ga	xuxwee-yoka, xuxusiiŋ-ga	xwiisɪɪ-ŋga	ukwiisɪ-ɪŋga	oɣweesiβ-ya
157. vomit	okusese-ma	okusese-ma	oxusala	oxusala	xusala	xusala	ugusala	okoroka
158. fear	okutya	okutya	oxutya	oxuřia	xuřia	xuřya	ugutya	ɔkwɔɔβɔ a
159. see	okulaβa	okuβona	oxuβona	oxulala	xuβona	xulola	okolola	ɔkɔrɔra
160. hear	okuwuli-ra	okuwuli-ra	oxuwuli-ra	oxuhuli-ra	xuwulila	xuhulɪla	uguhulla	okoiɣwa
161. look for	okunooña	okunooɲa	oxukooña	oxuxaaβa	xulola	xuxaaβa	ukeweeñe-liza	okoliɣya
162. hit	okukuβa	okukuβa	oxuxuya	oxuxupa	xuxupa	xutuya	ugukuba	oɣwaaka
163. fight	okulwaa-na	okulwaa-na	oxuxuya-na	oxuxupa-na	xuxupa-na	xulwaana	ukukuba-na, ukul^{v}-waana	okorwana
164. kill	okutta	okwiita	oxuita	oxiiřa	xuxwiiřa	xwiiřa	uk^{f}wiita	oɣoita

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
165. cook	okufuum-ba	okufuum-ba	oxudeexa	oxuteexa	xufuka	xuteexa	okodeeka	okoruɣa
166. be ill	okulwaa-la	okulwaa-la	oxulwaa-la	oxulwaa-la	xulwaa-la	xulwaala	ukul^{v}waa-la	okoruara
167. bring	okuleeta	okuleeta	oxuleeta	oxuřeeřa	xuřeeřa	xuleeřa	okoleeta	ɔkɔlɛɛnta
168. sleep	okweeβa-ka	okuteen-duka	oxukona	oxukɒna	xukona	xukona	okogona	okoraara
169. open	okuggula	okwiigu-la	oxwiiku-la	oxwiiku-la	xuxwii-kula	kwiikula	uk^{f}wiigu-ra	okoiɣora
170. close	okuggala	okwiiga-la	oxwiika-la	oxwiika-la	xuxwii-kala	xwiikala	ukuhana	okosieka
171. bury	okuziika	okuziika	oxusiixa	oxusiixa	xusiixa	xuřa	ukuɥavɪra	oɣotinde-ka
172. burn	okwookya	okwooca	oxusaam-ba	oxusaam-ba, oxu-yia	xusaam-ba, xux-woosya, xuya	xusaamba	ukusaam-ba	okoɣya, oɣosaamba
173. say	okugaam-ba	okukoβa	oxuβoola	oxuβoola	xuβoola	xuβoola	okoβoola	ɔɣɔtɛɛβa
174. ask for	okusaβa	okusaβa	oxusaβa	oxusaβa	xusaβa	xusaβa	ukusava	oɣosaβa
175. sing	okuyiim-ba	okweemba	oxweemba	oxwiimba	xuxwiim-ba	xwɪɪmba	uk^{v}wɪɪm-ba	ɔɣɔtɛɛra

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Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
176. cut (axe)	okutema	okutema	oxutema	oxuɾ̃ema	xuɾ̃ema	xuɾ̃ema	okotema	ɔɣɔtɛma
177. like/love	okwaaga-la	okweenda	oxuxeera	oxucama oxweeñ̃a	xusiima xuxweeñ̃a	xuyaanza	ukuyaan-za	oɣwaanca
178. want	okwaaga-la	okweenda	oxweeñ̃a	oxweeñ̃a	xuxweeñ̃a	xweeñ̃a	okweeñ̃a	okoɣania
179. fuck	okutoom-ba	okutoom-ba	oxusooda	oxusota-na	xusoota xuxuunda	xuxuunda	ugukuun-da	ɔɣɔtɛta
180. steal	okubba	okwiiβa	oxwiiβa	oxwiiβa	xuxwiiβa	xuhuβa	ukᵛwiiᵛa	okoiβa
181. fall	okugwa	okugwa	oxuxwa	oxukwa	kuxwa	xukwa	ukugᵛwa	okoɣwa
182. think	okulowo-oza	okulowo-oza	oxupaara	oxupaaɾ̃a	xukana-kana	xupaaɾ̃a	ukugana-gañ̃a	ɔkɔlɛɛŋgɛr-ɛlia
183. know	okumañ̃a	okumaɳa	oxumañ̃a	oxumañ̃a	xumañ̃a	xumañ̃a	ukumañ̃a	okomañ̃a
184. dig	okulima	okulima	oxulima	oxuʔima	xulima	xulɪma	ukulɪma	okolema
185. learn	okuyiga	okweega	oxweeka	oxweeka	xuxweeka	xweeka	ukᶠwɪɪga	ɔkweɔrokɛr-ɛlia
186. cry	okukaaβa	okulira	oxulira	oxulira	xulila	xulɪla	ukulɪra	okolera
187. laugh	okuseka	okuseka	oxucexa	oxutsexa	xucexa	xusaxa	okoseka	ɔɣɔsɛka
188. give	okuwa	okuwa	oxuβeer-esa	oxuha	xuwa	xuha	ukuha	okoa
189. bite	okuluma	okugaβa okuluma	oxuluma	oxuluma	xuluma	xuluma	ukuluma	okoroma

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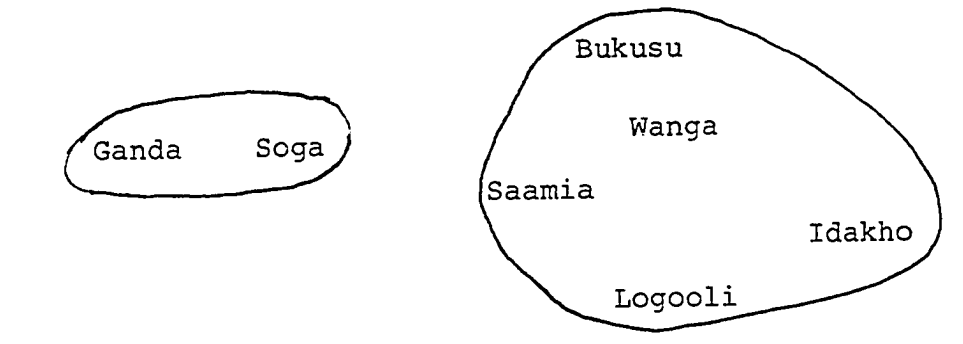
Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
190. buy	okugula	okugula	oxukula	oxukula	xukula	xukula	ukugula	okoɣora
191. sit	okutuula	okutyaama, okusigula	oxwiixala	oxwiixala	xuxwiixala	xusosa	okᶠwiikara	oɣoikara
192. die	okufʷa	okufʷa	oxufwa	oxufʷa	xufwa	xukɥtsa	ugukɥza	oɣokwa
193. dance	okuzina	okucina	oxuxina	oxuʃina	xuxina	xusieba	ukuvina	ɔɣɔtɛɛŋga
194. finish	okumala	okumala	oxumala	oxumala	xumala	xumala	ukumara	oɣokoora
195. dry up (itr.)	okukala	okukala	oxwooma	oxuɯa	xuxwooma	xuuma	ukufɥɥma	okuoma
196. grow (itr.)	okukula	okukula	oxuxula	oxuxula	xuxula	xutuxa	ukuviruka	oɣokiina
197. surpass	okusiiŋga	okusiiŋga	oxuxira	oxuʃira	xuxila	xulecelela	okorega ukugɥɥta	okoβua
198. get	okufuna	okufuna	oxuñoola	oxuñoola	xuñoola	xuñoola	okoñoora	ɔkɔñɔɔra
199. break (itr.)	okumeñeka	omumeneka	oxufunixa	oxufunixa	xufunixa	xwaatɪxa	ukuvunɪka	okoβuneka
200. follow	okuloonda	okunomereza	oxuloonda	oxuloonda	xuloonda	xuloonda	okoroonda	okoβwaatia

APPENDIX II (continued)

2.1 Map 1



Gusii

Ganda-Soga		Luyia	
muti	'tree'	musaala	'tree'
-cuuzi	'soup'	mũnu	'soup'
-oka	'only'	-õnene	'only'
-geenda	'go' (-Soga)	-ya	'go' (+Soga)
-mu	'one' (-Soga)	-ndala	'one' (+Soga)
-βu	'ash'		
liiso	'eye'	imoni	'eye'

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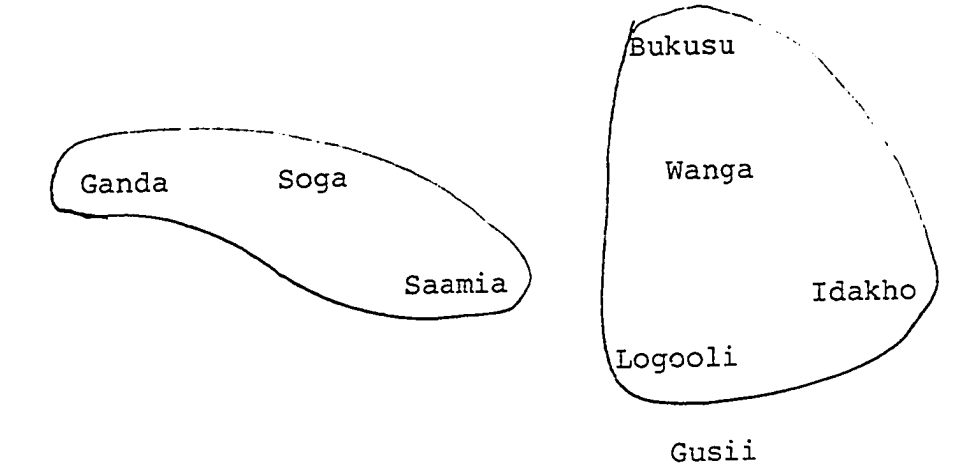
APPENDIX II (continued)

2.2. Map 2



Ganda, Soga and Saamia		Other Luyia	
nviiri	'hair	liswi	'hair'
luigi	'door'	mulyaango	'door'
nkasi	'paddle'		

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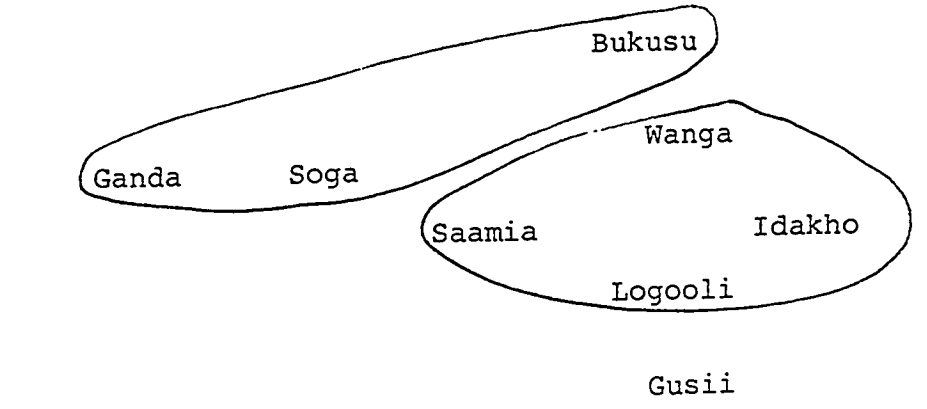
APPENDIX II (continued)

2.3. Map 3



Ganda, Soga and Bukusu		Other Luyia	
βulo	'millet'	maβere	'millet'
mugugu	'load'	musiigo	'load'
nkima	'monkey' (-Soga)		
katonda	'God'	ñasaaye	'God' (+Bukusu)

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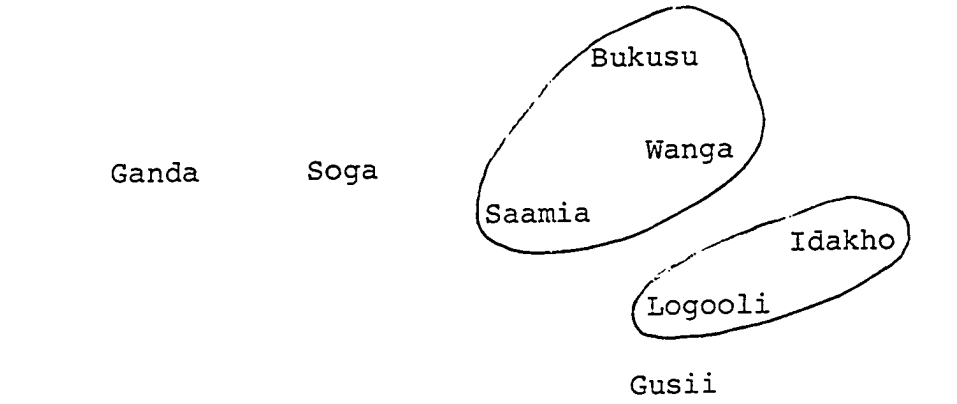
APPENDIX II (continued)

2.4. Map 4



Saamia, Wanga and Bukusu		Logooli and Idakho	
manyi	'urine'	-kuza	'die'
lisaafu	'leaf'	ndumba	'drum'
edalaŋji	'lion'	ɪsuzi	'fish'
e ŋjeeni	'fish'	-simba	'lion'
lihaaywa	'axe' (+Idakho)	eñama	'animal'
		ɪñaali	'urine'
-βol-	'rotten'	-βaga	'three'
-sooda	'fuck'	-kuunda	'fuck' (+Wanga)
-xira	'surpass'		
-kubana	'fight'	-isɪɪnga	'bathe' (+Wanga)

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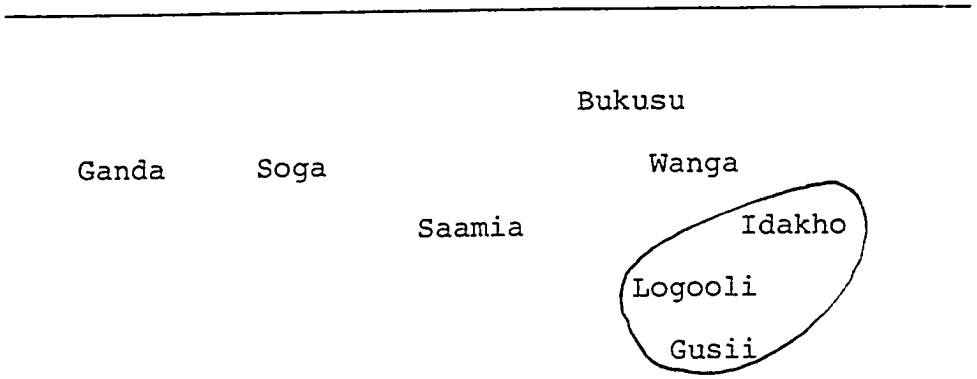
APPENDIX II (continued)

2.5. Map 5



Logooli-Idakho and Gusii

-anza	'love'
-koondo	'monkey'
-lola	'see' (+Wanga)

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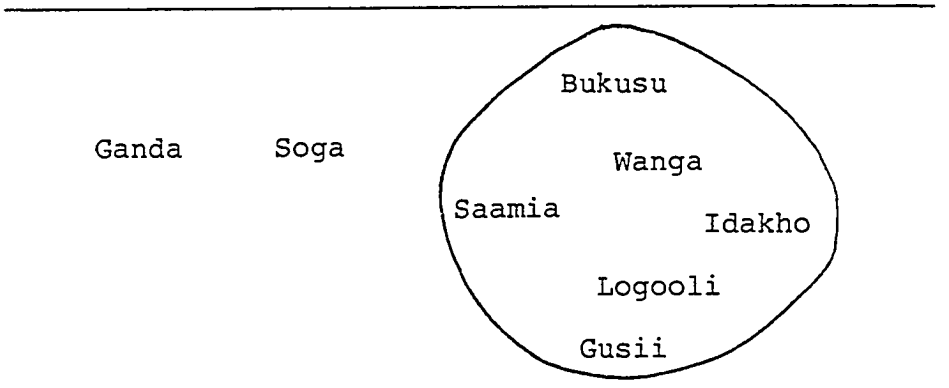
APPENDIX II (continued)

2.6. Map 6



Luyia and Gusii

mate	'saliva'
nda	'louse'
-uma	'dry up'
-βunika	'break'
-ikala	'sit'
-ñoola	'get'
-saamba	'burn'
-o(n)si	'all'

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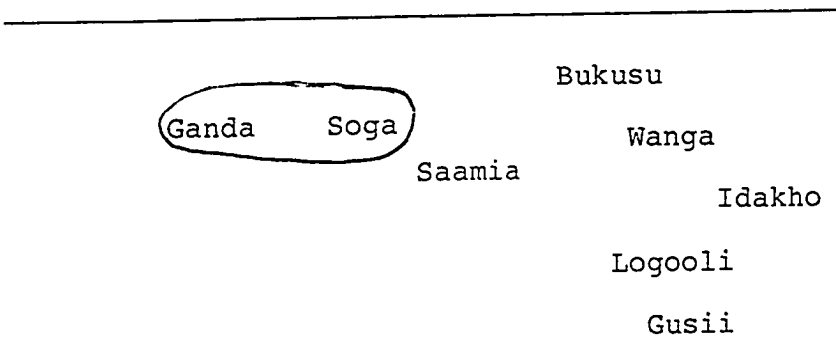
APPENDIX II (continued)

2.7. Map 7



Ganda-Soga

enkali	'urine'	emana	'vagina'
amalusu	'saliva'	omuiga	'river'
olunaku	'day'	ekikoɬa	'leaf'
ekiβira	'forest'	-lungi	'good'
ekika	'clan'	-oona	'all'
ensiri	'mosquito'	-tono	'small'
omutima	'heart'	-meka	'how many'
ensekere	'louse'	munda	'inside'
omusota	'snake	-fuluma	'exit'
enkukuni	'flea'	-ɣiiga	'hunt'
ente	'cow'	-ikiriza	'agree'
akamyu	'rabbit'	-naaβa	'bathe'
amasavu	'fat'	-sesema	'vomit'
eɬigi	'egg'	-nooña	'look for'
akaambe	'knife'	-fumba	'cook'
olutalo	'war'	-tomba	'fuck'
amazima	'truth'	-lowooza	'think'
eɬitaka	'ground'	-kala	'dry up'
ekifo	'place'	-singa	'surpass'
olusozi	'hill'	-funa	'get'
amata	'milk'	-meñeka	'break'

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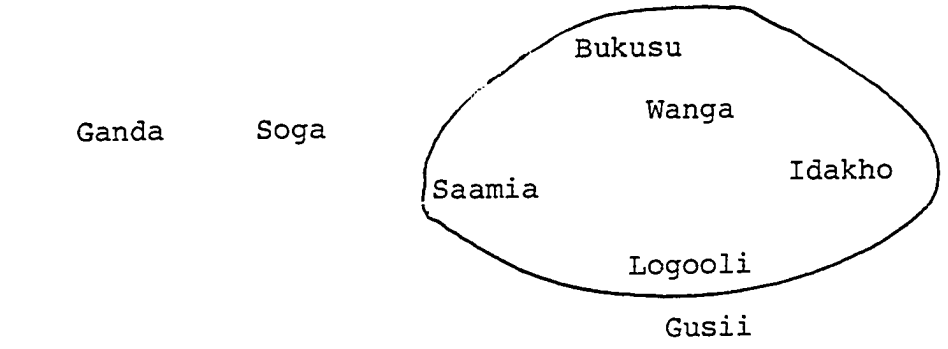
APPENDIX II (continued)

2.8 Map 8



All Luyia, including Logooli

liswi	'hair' (-Saamia)	-ndi	'some' (+Soga)
imoni	'eye'	-nga	'how many'
umwooyo	'heart'	mugati	'inside'
amagoke	'ashes'	-tura	'exit'
-gulu	'hill' (-Bukusu)	-yiima	'hunt'
injuka	'snake'	fukirira	'agree'
isuna	'mosquito'	-sala	'vomit'
liβuyu	'egg'	-deeka	'cook' (-Bukusu)
umuñ̃u	'soup'	-ñ̃oola	'get'
umugoye	'rope'	-gona	'sleep'
lihe	'war'	-βoola	'say'
umusiigo	'load' (-Bukusu)	-eña	'want'
haβundu	'place'	-ikala	'sit' (-Idakho)
-layi	'good'		

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APPENDIX II (continued)

3. Kinship Terms

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
father	kita	lata-	baaba lata- se-	paapa so se	baaba ɾaɾa	----	baaba	laata so se
mother	mmaange ñoko ñina	maama iŋoko iŋina	maama ma- ŋina	maama ma- ñina	mai-	----	maama (ññа-= of)	maama ñoko ñina
paternal uncle	kita- (omuto)	lata-	baaba- wundi	paapa	baaba	βaaβa	amwaaβo βaaβa	taata mɔke
paternal aunt	sseŋga	sooŋga	seeŋge	seenje	seeŋge	seenje	seeŋge	maakɔmɔ- ke
maternal uncle	kkojja	ɖaɖa	xooca	xootsa	xooca	xootsa	kooza	maamɛ
maternal aunt	mmaaŋge (omuto)	maama	maama- wundi	maama	mai	maama	amwaaβo maama	maakɔ- moke
brother	(equi) mugaanda	mugaanda	omusyaa- ni, mwa- anama	omwaana- weefu	wandaya- se	(equi) mumwiiru	(equi) amwaaβo	mumura
sister	(non-eq.) mwañina	mwaŋina-	omuxana mbooco	omwaana- weefu	wandaya- se	(non-eq.) muβotso	mboozo	mumura ~ omweesi- ke

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APPENDIX II (continued)

3. Kinship terms (continued)

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
son	mutaβani	mutaβani	omusyaa-ni	omwaana	omusole-li, omu-sani	mwiixula	umuɣaɣi	momura
daughter	muwala	muwala	omuxana	omwaana	omukoko omuxana	muxana	umukaana	eñaroka
grandchild	muzzuku-lu	mwiiɖu-kulu	omwiico-xulu	omwiits-uxulu	omwiicu-xulu	mwiitsu-xulu	umwiisu-kuru	omooco-koro
grandfather	jjajja	ɖaɖa	kuuka	kuuka	kuuka	kuuka	guuga	sokoro
grandmother	jjajja	ɖaɖa	nguuxwa	kuuxu	kuuxu	kuuxu	guuku	maaɣokoro
son-in-law	mukod-domi	mukoiri-me	omuxwe	omwaana	musaani	mukuka	uguuga	mwaana
daughter-in-law	muka mu-taβani	muwala	omuxana	omwaana	umuxana	mukuuxu	umukaana navizara	mwaana
father-in-law	m. sseza-laala; f. mukoddomi	mukoir-ome	omuxwe	naaxufya-ala	baaba	mupaapa	m. uguuga f. baaba	taata
mother-in-law	m. ñña-zaala; f. mukoddomi	mukoir-ome	masaala	naaxufya-ala	mai masaala-wase	mumaama	m. naviza-ra; f. ma-ama	βaaβa

APPENDIX II (continued)

3. Kinship Terms (continued)

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
sir	sseβɒ	iseβo	oweesiti-βwa	owaʃya - ɲje	naxurya	mwaami	umwaami βuɣu	omosɪke
madam	ɲɲaβo	iŋaβo	omuxaye	omuxaye	muxaye	muxaye	umukaɣɪ	omosɪke

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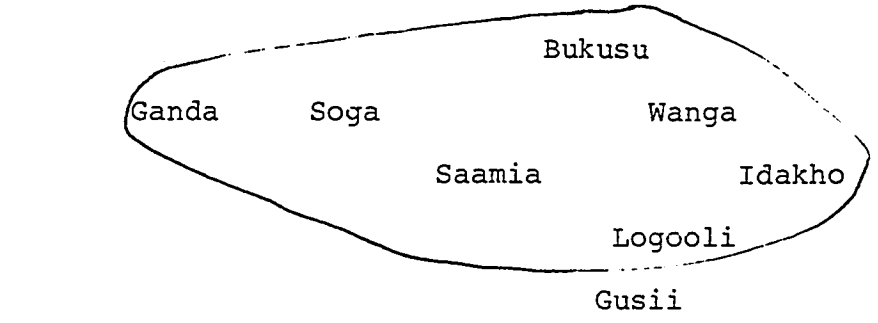
APPENDIX II (continued)

4. Kinship Isoglosses and Maps

4.1. Map 1



In All Languages		Ganda, Soga and Luyia	
mu-ijukulu	'grandchild'	kooja	'uncle'
ma-	'mother'	seenge	'aunt'
ñoko	'mother'		
ñina	'mother'		

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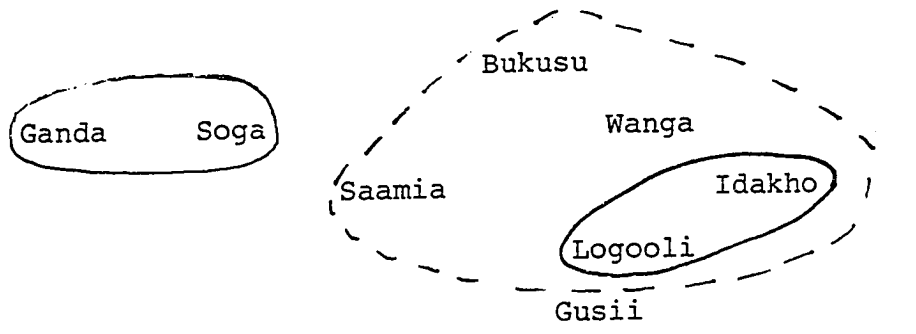
APPENDIX II (continued)

4.2. Map 2



Ganda-Soga

iseβo	'sir'
iñaβo	'madam'
mukoiromi	'son-in-law'
jaja	'grandparent'
muwala	'daughter'
mutaβani	'son'
muganda	'equi-gender sibling'
mwañina	'non-equi-gender sibling'

Luyia, including Logooli

mukaye	'madam'
guuga	'grandfather'
guuku	'grandmother'
mukana	'daughter'

Logooli-Idakho

mwaami	'sir'
muguuga	'son-in-law'

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APPENDIX II (continued)

5. Numbers

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
six	mukaaga	mukaaga	ci saa-saβa	tsisaa-saβa	siita	tsisaa-saβa	siita	isa na emo
seven	musaanvu	musaanvu	saba	musaafu	saba ~ musaafu	musaafu	saba	isa na iβere
eight	munaana	munaana	munaane	munaane	munaane	munaane	munaane	isa na isato
nine	mweenda	mweenda	tisa	tsiɾ̃aano natsine, ʃyeenda	tisa	---	tisa	kiaanda
twenty	amakumi aβiri	amakumi aβiri	amaxumi kaβiri	amaxumi kaβiri	kamaxumi kaβili	amaxumi kaβiri	amakumi gavili	emerooŋgo iβere
sixty	ŋkaaga	ŋkaaga	amaxumi kasaa-saβa	amaxumi kasaa-saβa	kamaxumi siita	---	amakumi siita	emerooŋgo isaneemo
seventy	nsaanvu	nsanvu	amaxumi saba	amaxumi musaafu	kamaxumi saba	---	amakumi saba	emerooŋgo isanaiβere
eighty	kʸinaana	ciŋaana	amaxumi munaane	amaxumi munaane	kamaxumi munaane	---	amakumi munaane	emerooŋgo isanaisato
ninety	kyeenda	cyeenda	amaxumi tisa	amaxumi kaɾ̃aano na kane	kamaxumi tisa	---	amakumi tisa	emerooŋgo kiaanda

APPENDIX II (continued)

5. Numbers (continued)

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
hundred	kYikumi	ci kumi	emya	eʃixumi-ra	emya	---	emya	emya

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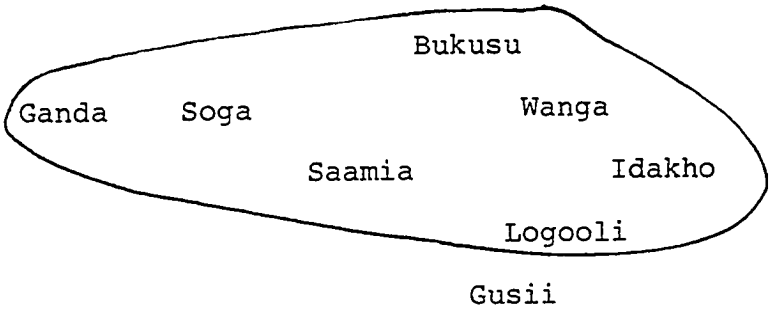
APPENDIX II (continued)

6. Number Isoglosses

6.1. Map 1



All Languages

-enda 'nine'

Ganda, Soga and Luyia

musaanvu	'seven'
munaane	'eight'
amakumi	'multiples of ten: 20-50'

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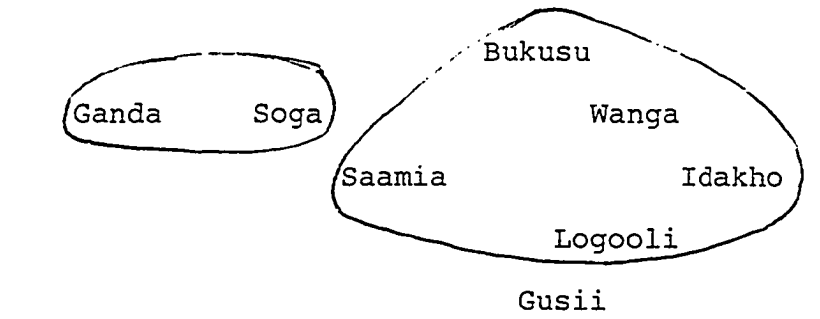
APPENDIX II (continued)

6.2 Map 2



Ganda-Soga		Luyia	
mukaaga	'six'	-saasaβa	'six'
kikumi	'hundred' (+Wanga)	-lala	'one' (+Soga)
amakumi	20-50 only	amakumi	60-90

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APPENDIX II (continued)

7. Adjectives

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
heavy	-zito	-zito	-sito	-siro	-siro	-litoho	-litu	-lito
light	-wewufu	-angu	-angu	-angu	-angu	-angu	-angu	-ɣusu
large	-nene	-nene	-xooŋgo	-xooŋgo	-kali -βoofu	-kali	-nene	-nɛnɛ
small	-tono	-tono	-diidi	-tiiti	-tiiti	-tiiti	-didiidi	-sinini -kɛ
thick	-kwaafu	-nene	-xomefu	---	-βoofu	-xomefu	-litu	-nɛtu
thin	-wewere	-tono	-ñerere	-ñerere	-ñelele	-añeleha	-ŋafu	-ñɛrɛrɛ
wide	-gazi	-gazi	-takala-fu	-βambuli-fu	-βalai	-ambuxu	-vaambalu	-ɣale
narrow	-fuunda	-fuunda	---	-ñerere	-tiiti -ñelele	-ñelele	-ŋele	-ñɛrɛrɛ
hard	-gumu -ziβu	-gumu	-omu	-tinu	-andalafu -omu	umakanu	-diñu	-kɔŋu
soft	-goonvu	-goonvu	-dooto-dooto	-toro-toro	-olu	-otoranu	-dotoolo	-ɔrɔɔrɔ
sweet	-womere-vu	-womere-ra, ḍuḍu-la	-ñuñufu	---	-nulu	-lutijixu	-nolu	-ansu

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APPENDIX II (continued)

7. Adjectives (continued)

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
bitter	-kaawa	-kaawa	-lulu	-lulu	-lai	-lulu	-lulu	-roro
sour	-kaawa(?) (fudde = milk)	-kaawa		-lulu	-lulu	-lulu	-lulu	-roro
long	-waanvu	-leeyi	-leeyi	-r̃aambi	-lei	-r̃aambɪ	-taambɪ	-taambɛ
short	-mpi	-mpi	-mbikiti	-mbikiti	-mbi	-mbɪ	-mbɪ(gidi)	-ɛʊɛ
good	-luungi	-luungi	-layi	-layi	-lai	-layɪ	-rahɪ	-ya
bad	-βi	-βi	-βi	-βi	-βi	-βi	-vi	-βe
ripe	-engevu	-envu	-angafu	-engu	-r̃oβe	-engʉ	-engʉ	-tɔβu
rotten	-vuundu	-vuundu	-βolu	-βolire	-βoru	-kʉʉndu	gʉʉndu (vo̱fu= milk)	-ɣundo
dirty	-jama	-naga	-cafu	-cafu	-mayani -cafu	-mwaamu	-mᵑwaamu	-mwaamu
clean	-yoonjo	-yoonḏo	-lafu	-lafu	-miliyu	-laβʉ	-ravʉ -nifu	-raβu
fat		-nene	-xomɛfu	-xomefu	-nafu	-xo.melʉ	-komerʉ	-nɛnɛ
sharp	-ogi	-ogi	-oki	- yaaka- alwe	-oki	-ucɪ	-ugɪ	-oɣa

APPENDIX II (continued)

7. Adjectives (continued)

Gloss	Ganda	Soga	Saamia	Wanga	Bukusu	Idakho	Logooli	Gusii
blunt	-ogi+Neg	-suwa	-fuβu	-fuu	-fuhu	-tuu	-duufu	-tu
hot		-isu	-βafu	-ʃiyire	-βilile	-hili	-ʃu	-saambu
cold	-ñogovu	-ɲogovu	-ñifu	-ñifu	-ñifu	-ʃɪndu	-zilɪru	-keendu
weak	-nafu	-nafu	-kata	-tofu	-olu	-teʃele	-angu	-ɔrɔ
black	-ddugavu	-iɲugavu	-mali	-mali	-mali	-mwaamu	-muɣamu-uɣũ	-mwaamu
white	-yeru	-yeru	-lafu	-lafu	-waanga	-laβu	-ravu	-raβu
red	-myuufu	-myuufu	-axañu	-axañu	-βesemu	-muci	-akañu	-βaliili

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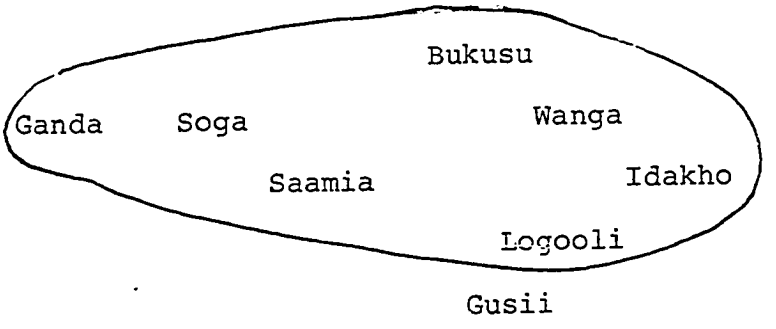
APPENDIX II (continued)

8. Adjective Isoglosses

8.1. Map 1



All Languages (from PB)		Ganda-Soga and Luyia (from PB)	
-lɨtu	'heavy'	-mpi	'short'
-βi	'bad'	-eng(ev)ɥ	'ripe'
-ugi	'sharp'		

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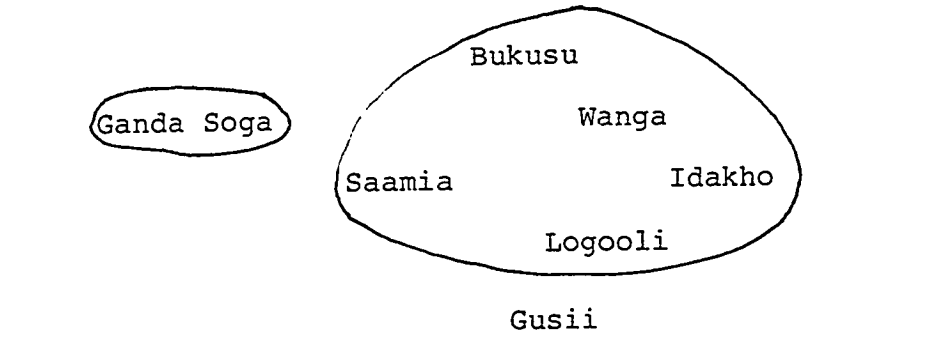
APPENDIX II (continued)

8.2. Map 2



Ganda-Soga

-nafu 'weak'

-tono 'small'

-gazi 'wide'

-fuunda 'narrow'

-goonvu 'soft'

-womerevu 'sweet'

-kaawa 'bitter'

-luungi 'good'

-yoondo 'clean'

-ñogovu 'cold'

-lugavu 'black'

-yeru 'white'

-myuufu 'red'

All Luyia, including Logooli

-laahi 'good'

-komelu 'fat/thick'

-angu 'light' (+Soga)

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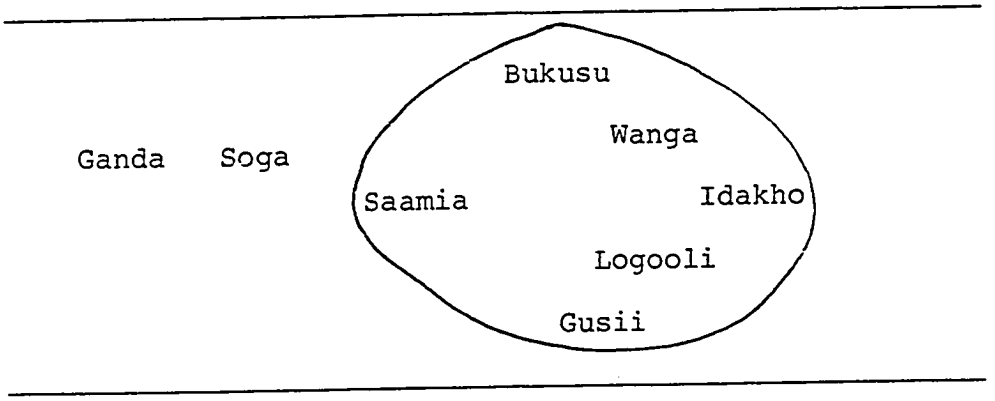
APPENDIX II (continued)

8.3 Map 3



Luyia and Gusii

-(du)fu	'blunt'
-lafu	'clean/white'
-ñerere	'thin'

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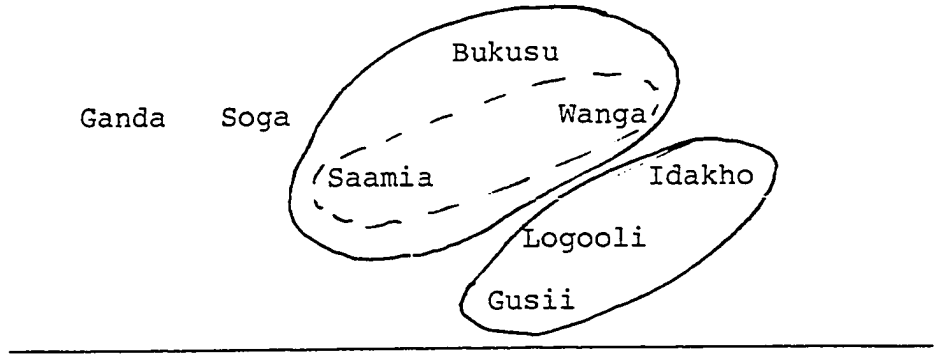
APPENDIX II (continued)

8.4 Map 4



Logooli, Idakho and Gusii

-mwaamu 'black/dirty' (from Cushitic)

Saamia, Wanga and Bukusu

-mali 'black' (from Nilotic.[Ehret])

-ñ̃ifu 'cold'

-βol- 'rotten'

Saamia and Wanga

-xoongo 'large'

-dootoɗooto 'soft'

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APPENDIX II (continued)

9. 90-Word List

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
1. I	nze	ʒe	neene	ince	niĩ
2. you	ggwe	wowe	βeeβe	aye	we
3. we	ff^{w}e	twe	βiiswe	intwe	ithuĩ
4. who	ani	nde	naani	iŋo	ŋoo
5. what	ki	ki	ki	iŋki	-ke
6. all	-onna	-ose	-ose	-ɔnsi	-othe
7. many	-ŋg^{y}i	-nʃi	-ŋgi	-ŋgi	-ŋgi
8. one	-mu	-mwe	-mo	mo	-mwe
9. two	-βiri	-βiri	-βili	-βere	-gĩrĩ
10. long	-wanvu	-re-re	-liihu	-taambe	-raihu
11. small	-tono	-to	-do	-nini	-niini
12. big	-nene	-nini	-taale	-nɛnɛ	-nene
13. woman	omukazi	umugore	ŋkiima	omokuuŋgu	mũtumia
14. man	omusajja	umugaβo	ŋgooʃa	omosaaca	mũndũrũme
15. person	omuntu	umunhu	umunhu	omoonto	mũndũ

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9. 90-Word List (continued)

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
16. fish	ekyeñ̃ñ̃anja	ifi	nidiilo	ɛnswɛ	mbĩ̃a
17. bird	eñ̃ñ̃oñ̃i	iñ̃oni	noni	ɛñ̃ɔni	ñ̃oni
18. dog	embwa	imbga	nwa	ɛseese	gui
19. louse	enda	inda	nda	enda	ndaa
20. tree	omuti	igiti	umuti	omote	mũ̃ti
21. seed	ensigo	imbuta	mbegu	ɛntɛtɛrɛ	mbegu
22. leaf	olulagala	ikiβaβi	-duutu	liito	ihuti
24. root	ekikolo	umuzi	-----	omoli	mũ̃rita
25. skin	eddiβa	uruhu	-----	liisaβo	rũ̃ũ̃a
26. meat	eñ̃ñ̃ama	iñ̃ama	ñ̃ama	ɛñ̃ama	ñama
27. blood	omusaayi	amaraso	amainiŋga	amañ̃iŋga	thakame
28. bone	egguumba	igufa	-guhwa 5/6	liuɣa	ĩ̃hĩ̃ndĩ̃
29. fat	amasavu	ikinure	----	ɛɣɛtiña	-noru
30. egg	eggi	igi	-gi 5/6	liiɣɛna	itumbĩ̃

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9. 90-Word List (continued)

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
31. horn	ejjembe	iheembe	-pembe 9/10	oroɣuncara	rũhĩa
32. tail	omukira	umuriiʒo	-kila	ekemiinca	mũtiŋo
33. feather	ekyooya	iβaβa	-oya 11/10	liiriɔña	rugoya
34. hair	enviiri	umusatsi	-ele 11/10	ɛtuukya	njuiri
35. head	omutwe	umutwe	umutwe	omotwe	mũtũe
36. ear	okutu	ugutwi	-tu	oɣoto	gũtũ
37. eye	eriiso	iʒiiso	-iso 5/6	eliiso	riitho
38. nose	eññindo	iʒuuru	-ulu	ɛmioro	iniuru
39. mouth	akamwa	akanwa	-lomo	omonwa	kanua
40. tooth	eriññ̃o	iriiñ̃o	-ino 5/6	ɛliino	igego
41. tongue	olulimi	urulimi	-limi 11/10	oromeme	rurimi
42. fingernail	olwala	urwaara	-----	orocara	ruara
43. foot	ekigere okugulu	ikireenge	-pambala	okoɣoro	kũgũrũ
44. knee	evviivi	ivi	-zwi 5/6	liiru	iru
45. hand	omukono	umukono	umukono	ɔmɔkɔnɔ	mũthiimo

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9. 90-Word List (continued)

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
46. belly	oluβuto	inda	inda	ɛnda	nda
47. neck	oβulago	iʒosi	-tingo	liiɣɔti	ngiingo
48. breast	ebbeere	iβeere	-kuβa 7/8	ɔrɔβɛɛrɛ	ñondo
49. heart	omutima	umutima	ŋholo	ɛŋkɔrɔ	ngoro
50. liver	ekiβuumba	umwiiʒima	timaa	liini	ini
51. to drink	okuñwa	ukuñwa	-ŋua	okoñwa	kuñua
52. eat	okulya	ukurya	-lia	okolya	kuria
53. bite	okuluma	ukuruma	-luma	okoroma	kũrũma
54. see	okulaβa	ukurora ukuβona	-lola -βona	okorora	kuona
55. hear	okuwulira	ukuumva	-igwa	okoiɣwa	guthikĩrĩria
56. know	okumaña	ukumeña	-maña	okomaña	kũmeña
57. sleep	okweeβaka	ukuraara	-laala	okoraara	gũkoma
58. die	okufa	gupfa	-fa	oɣokwa	gukua
59. kill	okutta	ukwiica	-βulaga	oɣoita	gutheca
60. go	okugeenda	ukujya ukugeenda	-jya	okoɣɛɛnda	gũthĩĩ

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9. 90-Word List (continued)

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
61. to fly	okuβuuka	ukuguruka	-lala	okoiruruka	koomboka
62. come	okujja	ukuuza	-iza	oɣooca	gũũka
63. sit	okutuula	ukwiicara	---	oɣoikara	guikara
64. stand	okuyimirira	ughagarara	---	oɣotɛnɛna	kũrũgama
65. give	okuwa	uguha	-ha	okoa	kuha
66. say	okugaamba	ukuvuga	-haya	ɔɣɔtɛɛβa	kũraria
67. sun	enjuβa	iʒuuβa	---	liisasɛ	riũa
68. moon	omweezi	ukweezi	---	omotieni	mweri
69. start	emuñeeñe	iñeñeri	insonda	ɛŋɛnaŋɛnia	njata
70. water	amaazi	amaazi	-inzi 11/10	amace	maĩ
71. rain	eŋkuβa	invura	imbula	embura	mbura
72. stone	ejjinja	urutale	-tale 5/6	liiɣena	ihiga
73. sand	omuseñu	umuseeñi	---	omocaaŋga	mũthaŋga
74. earth	ensi	isi	insi	inse	thi
75. cloud	ekire	igihu	-lunde	liire	itu
76. smoke	omukka	umwootsi	oci 5/6	ɛlioki	ndogo

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9. 90-Word List (continued)

Gloss	Ganda	Rwanda	Sukuma	Gusii	Kikuyu
77. fire	omuliro	umuliro	mu-oto	omolero	mwaki
78. ash	evvu	ivu	---	amaβu	muhu
79. burn	okwaaka	ukwaaka	---	okoɣia	gũcina
80. path	ekkuβo	inzira	---	ɛncɛra	njira
81. mountain	olusozi	umusozi	---	ɛɣɛtunwa	kĩrĩma
82. red	-myuufu	-tuku	-za	-βaliili	-tuune
83. black	-lugavu	-raβura	---	-mwaamu	-irũ
84. white	-yeru	-eru	---	-raβu	-erũ
85. night	ekiro	iʒoro	---	βotuko	utuku
86. be full	okujjula	ukwiʒura	---	oɣoicalia	kũiyũra
87. new	-ggya	-shya	-pya	---	-eru
88. good	-lungi	-iza	-iza	-ya	-ega
89. dry	-kalu	-umye	---	-omu	-ũmũ
90. name	eriñña	i-zina	liina	ɛliɛta	rĩĩtũa

APPENDIX III

SOUND CORRESPONDENCES

Language names are here abbreviated: Ganda = Ga; Soga = So; Saamia = Sa; Wanga = W; Bukusu = B; Idakho = I; Logooli = L; Gusii = Gu.

1. Seven vowels versus five vowels (section 3.1.2).

1.1. *j-caused consonant changes (spirantization)

	'feces'	'woman'	'goat'	'heavy'
Ga	amazi	omukazi	embuzi	-zito
So	amazi	omukazi	embuzi	-zito
Sa	amaf^{w}i	omuxasi	embusi	-sito
W	amaf^{w}i	omuxasi	imbusi	-sĩro
B	kamaf^{w}i	omuxasi	embusi	-sĩ́ro
I	maβi	muxali	mbuli	-litoho
L	ammbi	umukali	mbuli	-litu
Gu	amaβi	-	emboli	-lito
PB	*ma-βj	mu-kalj	N-βulj	-ljtu
P E. Lac.	ama-βj	umu-kalj	iN-βulj	-ljtu

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APPENDIX III (continued)

1.2. *i-did not cause consonant changes.

	body	bee	thing (cl. 7)	dig
Ga	omuβiri	enjuki	ekiintu	-lima
So	omuβiri	enduki	eciintu	-lima
Sa	omuβiri	enjuxi	esiindu	-lima
W	omuβiri	inzuʃi	eʃiindu	-ʔima
B	kumuβili	enjuxi	sisiindu	-ʔima
I	mbɪlɪ	ɪnzuʃɪ	sɪɪndu	-lɪma
L	ummbɪlɪ	ɪnzukɪ	ɪkɪɪndu	-lɪma
Gu	omoβere	encoke	eɣeento	-lema
PB	mu-βili	N-yuki	ki-ntu	-lima
P.E.Lac.	umu-βili	iN-yuki	iki-ntu	-lima

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APPENDIX III (continued)

1.3. *ɣ-caused consonant changes (spirantization)

	elephant	oil	rotten	die
Ga	enjovu	amafuta	-vundu	-fu-
So	endovu	amafuta	-vundu	-fu-
Sa	enjofu	amafuta	-	-fu-
W	inzofu	amafuɾ̃a	-	-fu-
B	enjofu	kamafuɾ̃a	-	-fu-
I	Inzoku	makuɾ̃a	-a-kunda	-kuts-
L	enzogu	amaguta	-gundu	-kɣz-
Gu	encoɣu	amaɣuta	-ɣundo	-ku-
PB	N-ɣoɣɣ	ma-kɣta	-ɣɣndu	-kɣ-
P.E.Lac.	iN-yoɣɣ	ama-kɣta	-ɣɣndu	-kɣ-

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APPENDIX III (continued)

1.4. *u-did not cause consonant changes.

	ten	person (cl.1)	tongue (cl.11)	mouth (cl.3)
Ga	ekkumi	omuntu	olulimi	omumwa
So	eikumi	omuntu	olulimi	omumwa
Sa	exumi	omundu	olulimi	omunwa
W	exumi	omundu	olu?imi	omunwa
B	lixumi	omundu	lulimi	kumunwa
I	lixumi	mundu	lulɪmɪ	munwa
L	lixumi	umundu	ullɪmɪ	umunwa
Gu	ikomi	omonto	orometne*	omonwa
PB	-kumi	mu-ntu	lu-limi	mu-nwa
P.E.Lac.	-kumi	umu-ntu	ulu-limi	umu-nwa

*The first /m/ seems to be due to an irregular assimilation.

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APPENDIX III (continued)

2. *p-lenition (section 3.1.4.1)

	hear	give	under (cl.16)
Ga	-wulira	-wa	wansi
So	-wulira	-wa	wansi
Sa	wulira	-	aasi
W	-hu?ira	-ha	hasi
B	(w)ulila	-(w)a*	asi
I	-hulɪla	-ha	-
L	-hulla	-ha	haasɪ
Gu	-	-a	inse**
PB	-pulila	-pa	panci
P.E.Lac.	-wulila °	-wa °	wansi °

*In Saamia and Bukusu h > Ø generally, but in these verbs it is difficult to say whether they are exceptions or a later glide insertion rule is involved.

**This form is not locative. Gusii has lost most of the forms involving *pa *ku *mu.

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APPENDIX III (continued)

3. *c,j (section 3.1.4.2)

	man	father	come
Ga	omusajja	(sse-)*	-jja
So	omusaaɖa	(isa-)*	-iɖa
Sa	omusaaca	-	-ica
W	omusaatsa	-	-itsa
B	omuseeca	so, se	-ica
I	musaatsa	-	-itsa
L	umusaaza	-	-za
Gu	omosaaca	so, se	-ca
PB	mu-caɟja	co, ce	-jɟja
P.E.Lac.	umu-saɟja	so, se	-ɟja

*These are now noun class prefixes of cl. 1a.

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APPENDIX III (continued)

4. Dahl's Law (stem-initial), section 3.1.4.2.

	buttocks	ash	oil	cook	grandmother
Sa	edaxo	ekoxe*	amafuta**	-deexa	-
W	ʔiitaxo*	ʔiikoʃe*	amafũ̃a**	-teexa*	kuuxu*
B	litaxo*	likoxe*	kamafũ̃a*	-	kuuxu*
I	litaxo*	likoʃe*	makũ̃a	-teexa*	kuuxu*
L	ɾlidako	ɾligoke	amagɥta	-deeka	guuku
P. Luyia	iliʒ-tako	iliʒ-koke	ama-kɥta	-teeka	kuuku

*The law is not obvious in these forms since g,d > k,t by the later Luyia Law (cf. App. III.5 below).

**In these cases g > v by spirantization (cf. App. III. 1.3) because v > f by fricative devoicing (cf. App. III.7.3, below).

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APPENDIX III (continued)

5. Luyia Law (section 3.1.4.2)

5.1. k > x

	ten	arm	chicken	do
Sa	exumi	omuxono	engoxo	-xola
W	ʔixumi	onuxono	ingoxo	-xola
B	lixumi	kumuxono	engoxo	-xola
I	lixumi	muxomo	ingoxo	-xola
L	likumi	umukono	engoko	-kola
P. Luyia	liʲ-kumi	umu-kono	iN-kuku	-kola

5.2. g > k

	fall	learn	buy	rope
Sa	-ku-	-eka	-kula	omukoye
W	-ku-	-eka	-kula	omukoye
B	-ku-	-eka	-kula	kumukoye
I	-ku-	-eka	-kula	mukoye
L	-gu-	-ɪga	-gula	umugoye
P. Luyia	-gu-	-iga	-gula	umu-goye

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(APPENDIX III continued)

5.3. t > r̃

	head	saliva	cut	kill
SA	omutwe	amate	-tema	-ita
W	omur̃we	amar̃e	-r̃ema	-ir̃a
B	kumur̃we	kamar̃e	-r̃ema	-ir̃a
I	mur̃we	mar̃e	-r̃ema	-ir̃a
L	umutwɪ	amate	-tema	-ita
PB	mu-tui	ma-te	-tema	jɟta
P. Luyia	umu-twi	ama-te	-tema	-ɟta

5.4. d > t (/d/ from Dahl's Law)

	three	lion	cook	not
Sa	cidatu	edalaŋi	-deexa	daawe
W	tsitar̃u	italaŋi	-teexa	ta
B	citar̃u	etalaŋi	-	ta
I	-	-	-teexa	ta
L	-	-	-deeka	daave
PB	-tatu	(-dalaŋ)*	-	daawe
P. Luyia	-tatu		-teeka	-

*This is probably a loan from a non-Bantu language.

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APPENDIX III (continued)

5.5. b > p (only sporadic in these data)

	hit	vagina	think
Sa	-xuβa	esipodo	-paara*
W	-xupa	eʃipoto	-paãra
B	-xupa	-	-
I	-	-	-paãra
L	-kuba	ekebodo	-

*This seems to have been borrowed from Wanga. The word itself (and bodo, too) are non-Bantu loans to begin with.

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APPENDIX III (continued)

6.

6.1. c > ts (< */j/)

	uncle	go	water
Sa	xooca	-cya	amaaci
W	xootsa	-tsya	amaatsi
B	xooca	-ca	kameeci
I	xootsa	-tsya	matsi
L	kooza	-zya	amaazi
P. Luyia and P.E. Lac.	kooja	-jya	ama-ɟji

6.2. nj > nz

	house	elephant	hunger
Sa	enju	enjofu	enjala
W	inzu	inzofu	inzala
B	enju	enjofu	enjala
I	Inzu	Inzoku	Inzala
L	-	enzogu*	Inzala*
P. Luyia	iN-yu	iN-yoɣu	iN-yala

*In Logooli all *j > z and is independent of nj > nz in the other dialects. It seems to be in direct response to *c > s. Cf. Gusii, *c > s; *j > c (encoɣu, encala).

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APPENDIX III (continued)

7. Nasal cluster rules (section 3.1.4.4).

7.1. Voicing

	person	chicken	short
Ga, So	omuntu	enkoko	-mpi
Sa	omundu	engoxo	-mbi
W	omundu	ingoxo	-mbi
B	omundu	engoxo	-mbi
I	mundu	ɪŋgoxo	-mbɪ
L	umundu	eŋgoko	-mbɪ
PB and P.E. Lac.	umuntu	iN-koko	-mpi

7.2. Nasal loss before fricatives

	rain	termite	down	animal
Ga, So	-	enswa	wansi	ensolo
Sa	efula	eswa	aasi	esolo
W	ifula	iswa	hasi	isolo
B	efula	eswa	asi	esolo
I	ɪmbula*	-	-	(ɬsɨmba)**
L	ɪmbura*	ɪswa	haasɪ	(ɬsɨmba)**
PB	N-βula	N-swa	panci	N-colo
P.E. Lac.	in-βula	iN-swa	wansi	iN-solo

*Proto-[b] did not change to [v] by spirantization, hence no nasal loss or fricative devoicing.

**There is no cognate but the form cited ('lion') shows the rule.

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APPENDIX III (continued)

8. Fricative devoicing

	bury	oil*	heavy
Ga, So	-ziika	amafuta	-zito
Sa	-siixa	amafuta	-sito
W	-siixa	amafuřa	-siřo
B	-siixa	kamafuřa	-siřo
I	-	mafura	-litoho**
L	-	amaguta	-lito**
PB and P.E.Lac.	-liika	ama-kuta	-lito

*Ganda and Soga have /f/ directly from *k since they did not particpate in Dahl's Law (cf. Logooli).

**Note the lack of spirantization (cf. App.III.1.1).

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APPENDIX III (continued)

9. k, ng → c, nj /____ {i, e}

	agree	path	aunt
Sa	-fukirira	eŋgira	seeŋge
W	-fucirira	iɲjira	seenje
B	-fukilila	eŋgila	seeŋge
I	--	injila	seenje
L	-βugɪlla	ɪnzira	seeŋge
P. Luyia	-βuɣilila	iŋgila	seeŋge

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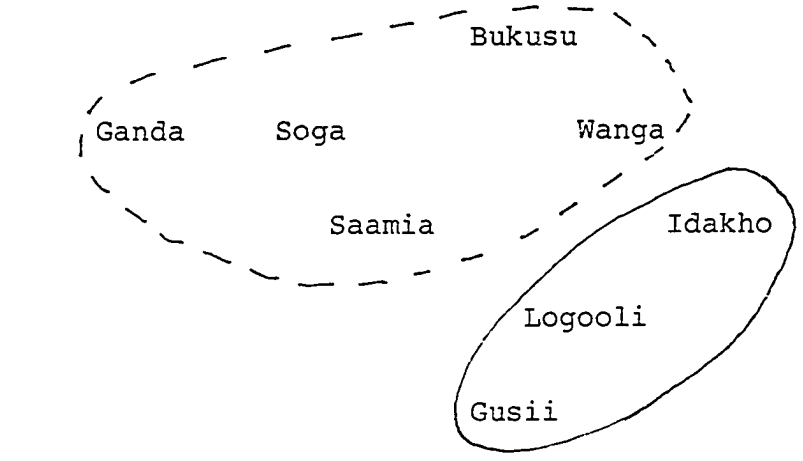
APPENDIX III (continued)

10. Isogloss Maps

10.1. Map 1



Seven vowel system ———

Vowel merger and spirantization --------

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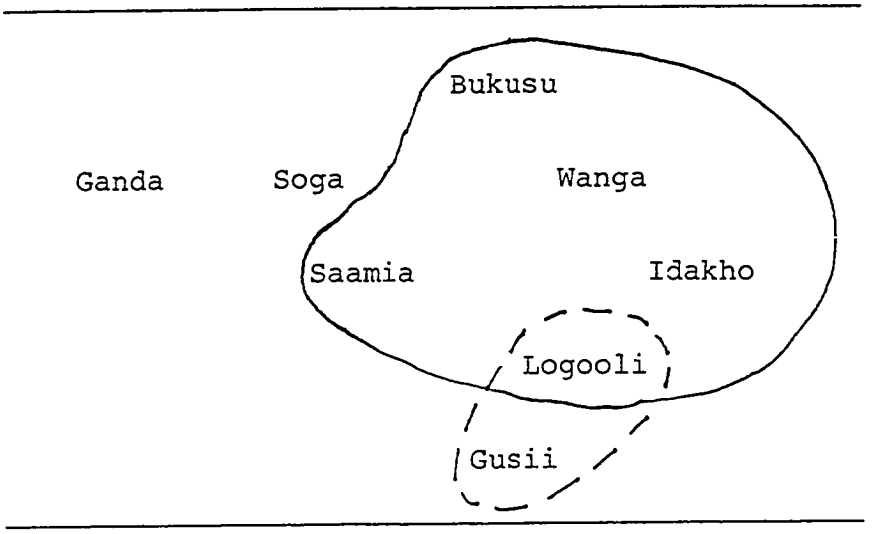
APPENDIX III (continued)

10.2 Map 2



Dahl's Law - stem-initial, unproductive ———

Dahl's Law - prefixes, productive ------

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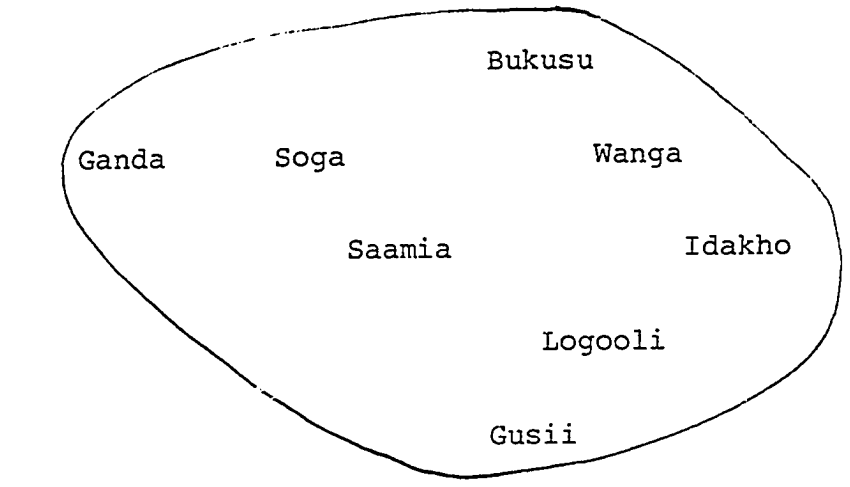
APPENDIX III (continued)

10.3. Map 3



P-lenition

c > s

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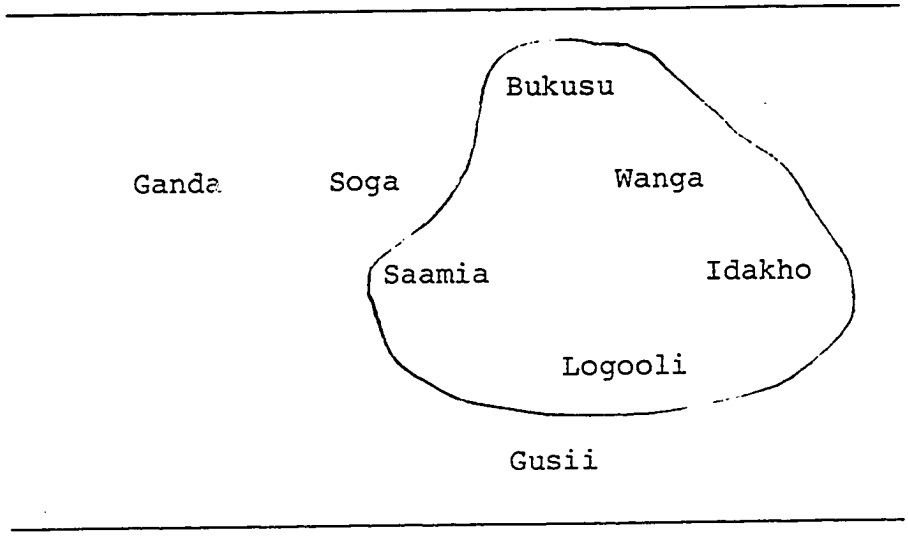
APPENDIX III (continued)

10.4. Map 4



k > x

g > k

b > p

j > c (except Logooli)

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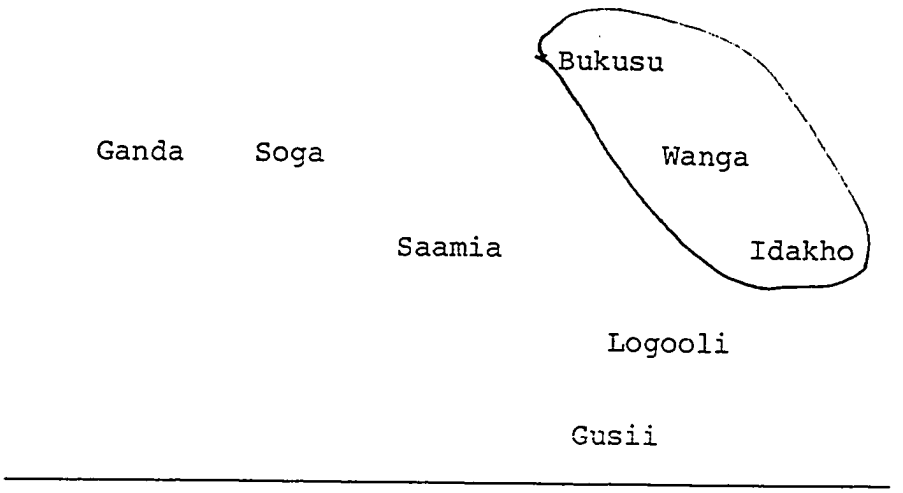
APPENDIX III (continued)

10.5. Map 5



t > r̃

d > t

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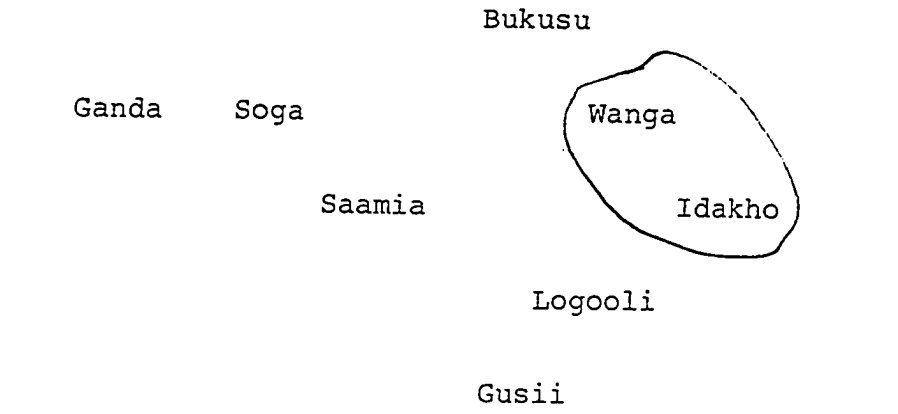
APPENDIX III (continued)

10.6. Map 6



c, nj > ts, nz

k, ng → c, nj

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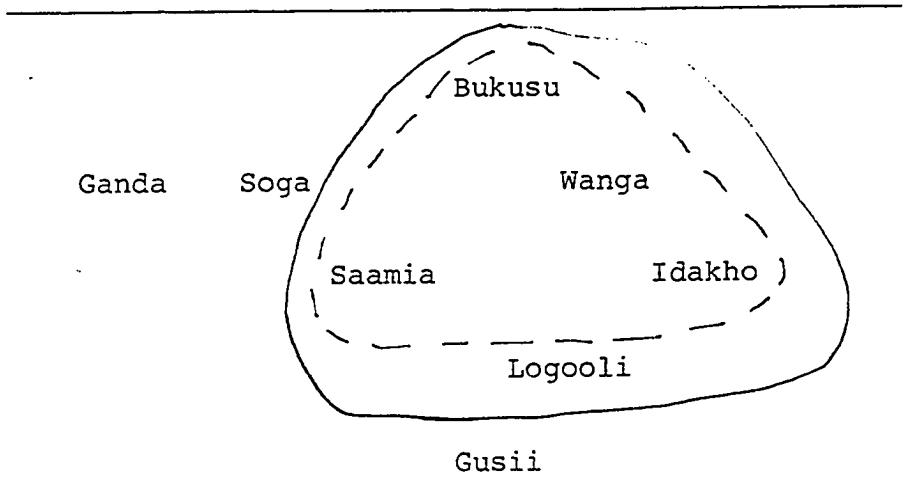
APPENDIX III (continued)

10.7. Map 7



NC° voicing ————

N → Ø / ___ [+cont, -voice] ————

Fricative devoicing -------

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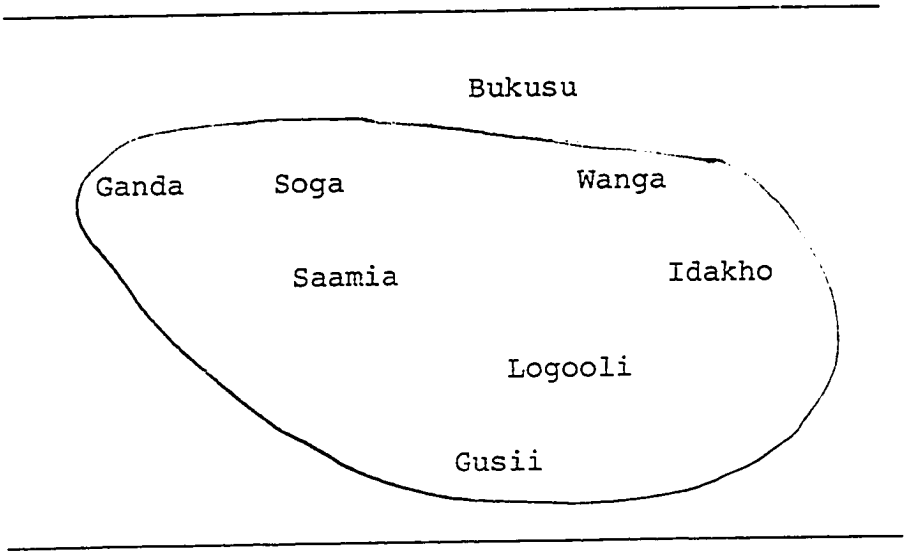
APPENDIX III (continued)

10.8. Map 8



*aɟj > aaj

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