An Introduction to African Languages

G. TUCKER CHILDS

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Table of contents

Acknowledgements and dedication **ix**

Preface **xi**

Abbreviations **xv**

List of Maps **xvii**

List of Figures **xix**

List of Tables **xxi**

1. Introduction **1**
1.1 Reasons for studying African languages **5**
1.2 Historical background to the study of African languages **14**

2. The classification of African languages **19**
2.1 The four phyla **21**
2.2 Approaches to classifying African languages **31**
2.3 "Megalocomparison" or mass comparison? **38**
2.4 And then there were three: Merging Nilo-Saharan and Niger-Congo **42**
2.5 Some local problems in language classification **44**

3. Phonetics and phonology **55**
3.1 Clicks **56**
3.2 Nasal processes **61**
3.3 Other "exotica" **65**
3.4 Syllable structure **66**
3.5 Vowel harmony **68**
3.6 Consonant alternation **73**
3.7 Tone **76**

4. Morphology **97**
4.1 Non-concatenative morphology (Afroasiatic and elsewhere) **97**
4.2 Noun class systems: The many genders of Africa **99**
4.3 Verbal morphology **103**
4.4 Verb extensions and argument structure **110**

5. Syntax and semantics **117**
5.1 Language at expressive play: Ideophones **118**
5.2 Predicate structure **124**
5.3 Negation **128**
5.4 Movement: Verb focus/predicate clefting **132**
5.5 Serial verbs **137**
5.6 Agreement phenomena: Animacy rules and things fall apart **141**
5.7 Consecutive tense and switch reference in Supyire **145**
5.8 Syntax and discourse: Logophoricity **147**

6. Historical and typological issues **153**
6.1 Electronic resources **153**
6.2 Language typology and historical linguistics **154**
6.3 Diachronic typology/grammaticalization **155**
6.4 Language and history **164**
6.5 Linguistics, archaeology, and DNA analysis: The "new synthesis" **170**

7. Social effects on the languages of Africa **175**
7.1 Languages of respect, and other special varieties **176**
7.2 Language contact phenomena **188**
7.3 Pidgins and creoles **203**

Appendices **217**

References **223**

Index **261**

Acknowledgements and dedication

This book is dedicated to the victims of civil wars and other strife in Africa and to all of the bereaved family members left behind.

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Preface

The primary goal of this book is to provide an introduction to the linguistic study of African languages. The orientation adopted throughout the book is a descriptive-structural-typological one, as opposed to a formal-theoretical approach. Formalisms are not eschewed per se but rather are invoked when they aid the central thrust of the book, which is to describe and characterize the languages of Africa in a succinct and concise manner, and to make the facts accessible to the unfamiliar reader. To say that the approach is typological means that a given structure is compared to structures of the same type (typically ones familiar to readers), set within an established range of variation, and characterized as usual or unexpected. Further detail is also provided, where possible, the structure's synchronic distribution and diachronic origin. The text assumes at least some knowledge of language structure on the part of its readers, but nothing beyond that acquired in a first-year linguistics course.

The book is organized by linguistic domain or sub-field within linguistics, and each of the chapters can be read independently. Readers can thus read selectively or read the book sequentially from cover-to-cover. Instructors can use the book as a text for a course in African languages or even language typology. There is generous indexing and an expansive table of contents; Appendix 2 contains widely used alternative names for the languages discussed and directs readers to listings in the language index.

For each linguistic domain I provide an overview of the relevant phenomena, selecting in particular features that are unique to Africa or at least robust in Africa and unusual in languages of the world. At the least I have chosen phenomena that are different from the language in which this book is written and from its close congeners in Europe. Exemplification is drawn from a wide range of languages, much of it drawn from my own work and teaching experiences but some of it drawn from secondary sources.

Another important goal of this book is to interest the reader by introducing the reader to some of the fascination and even to some of the controversy

involved in African linguistics. The introduction presents some reasons for studying African languages, but there are many others found in the following chapters themselves.

What this book will not cover is topics tangential to core descriptive linguistic concerns: language and literature, performance, philosophy, etc.; language and society, e.g., language planning and policy. Linguistic theory and formalisms will be avoided, except when discussing linguistic data that has proven particularly intractable or energizing to linguistic theory. The languages that will not be covered in this book are obviously those for which there is no data, but I will also ignore languages that are not, strictly speaking, indigenous to the African continent. Such languages would be European languages and Arabic, except

– as they have had a significant impact on African languages, e.g., extensive borrowings and structural changes; or
– as they have been nativized, e.g., pidgins, or "appropriated", e.g., varieties of French such as *français populaire d'Abidjan* (Manessy & Wald 1984); and
– Malagasy, the language spoken on the continent's often neglected step-child, the island of Madagascar, arriving from Southeast Asia less than 2,000 years ago.

Readers will find references to primary sources within each chapter, and the major sub-domains of the study of African languages are all covered. Students using the book as a text could easily follow up the references contained in the text and footnotes for a good but selective introduction to the original literature. Those not familiar with African languages or researchers such as language typologists will find the book valuable in tracking down primary sources and in focusing their research. In providing an overview of the range of attested structures, the book could also serve as a valuable reference for a field methods course in an African language or as a reference for the field work itself.

On a personal note, like many young Americans who came to age in the sixties, I became interested in Africa through a concern for civil rights and an interest in the Black Power Movement. This interest eventually extended to its African counterparts, *Négritude* and Black Consciousness, as a number of African states struggled for and achieved independence from European powers and Africans began discussing a continental identity. These concerns led me to volunteer for service in Africa with the United States Peace Corps, when, after being assigned to Liberia, I asked to be sent to the point furthest from Monrovia, Liberia's metropolis. I was granted my request and found that even the resident

pidgin, Liberian English, did not help much in understanding the residents for they spoke a language I did not know. Attempting to learn an African language as a Peace Corps Volunteer sensitized me to the importance of language and finally directed me to a career in linguistics. Since that tour I have done research and traveled extensively in Africa, including longish stints in West Africa, East Africa and southern Africa, as my interests, and hopefully my knowledge, grew. This book is something of a recapitulation and summary of those experiences.

Whatever the motivation for opening the book, I hope that all will find it useful and entertaining reading. I have certainly enjoyed the process of putting it together over the years.

Abbreviations

↑	upstep
↘	lowered register
↓	downstep
↗	raised register
ACC	accusative
ADJ	adjective
ADV	adverb
ANC	African National Congress
APPL	applicative
ASSOC	associative
CAUS	causative
BP	before present
CD	compact disk
DEF	definite article, definitivizer
DIREC	directional
e.g.	*exempli gratia* (for example)
EXCL	exclusive
F, FEM	feminine
FV	final vowel
H	high tone
IDPH	ideophone
IMP	imperative
IMPERF	imperfective
INCL	inclusive
IND	indicative
INDEF	indefinite
INF	infinitive
IP	inflectional phrase
IPA	International Phonetic Association
K	thousands
L	low tone
M, MASC	masculine
mN	modified noun
MOD	modal marker
N	noun
NARR	narrative
NB	*nota bene* (note)
NC	noun class
NEUT	neuter
No.	number (non-grammatical)
NOM	nominative
OBJ	object
OM	object marker
PAST	past
PASS	passive
PF	pre-final
PL	plural
POS	positive, affirmative
POSS	possessive
PREF	prefix
PRES	present
REC	recent
RECIP	reciprocal
REM	remote

SC	serial verb connective
SG	singular
SIL	Summer Institute of Linguistics
SM	subject marker
SUBJ	subject
SUBJUNC	subjunctive
SVC	serial verb construction
TBU	tone bearing unit
TMA	tense-mood-aspect
V	verb

ˊ	high tone
ˇ	rising tone
ˆ	falling tone
ˋ	low tone
ˉ	mid tone
˝	extra-high tone
1	first person; Bantu noun class 1
2	second person; Bantu noun class 2
3	third person; Bantu noun class 3
4	Bantu noun class 4, etc.

List of Maps

Map 1. Language density in Africa (Grimes 1996: 158) **7**
Map 2. Language map of Africa (Crystal 1995) **22**
Map 3. The Kordofanian languages (Schadeberg 1989: 66) **27**
Map 4. Bantu, Bantoid, and Benue-Congo **28**
Map 5. So (Carlin 1993: vi based on Heine ms) **45**
Map 6. The Atlantic languages (Wilson 1989: 82) Atlantic **48**
Map 7. The Khoisan languages (Güldemann & Vossen 2000: 100) **51**
Map 8. The Fragmentation Belt (Dalby 1970: 167) **165**
Map 9. Dispersal of Bantu languages **168**
Map 10. Manding (Dalby 1971: 9) **197**
Map 11. Distribution of basic types (Map 1 of Heine 1976b) **199**
Map 12. Areal nuclei (Map 2 of Heine 1976b) **200**
Map 13. Kisi surrounded by Mande **201**
Map 14. Swahili (from Nurse and Hinnebusch 1993) **204**

List of Figures

Figure 1. Niger-Congo classified (Williamson and Blench 2000: 18, slightly modified) **25**
Figure 2. Nilo-Saharan (Bender 1996b, Bender 1996a) **30**
Figure 3. Branching trees **41**
Figure 4. Niger-Saharan (Blench 1995: 88) **43**
Figure 5. The classification of Atlantic **49**
Figure 6. Click production (Ladefoged and Maddieson 1996: 247) **57**
Figure 7. Palatograms (Ladefoged and Maddieson 1996: 253, 255 based on Traill 1985) **58**
Figure 8. Downdrift and downstep schematized **91**
Figure 9. Kisi downdrift **93**
Figure 10. Bambara downdrift (Mountford 1982) **94**
Figure 11. The Macrostem in Chichewa (Mchombo 1997: 191) **106**
Figure 12. The morphotactics of verbal suffixes in Manjaku (Karlik 1972: 195, 245ff) **113**
Figure 13. Genetic tree populations vs. linguistic families (Cavalli-Sforza et al. 1988 in Cavalli-Sforza et al. 1994: 99) **171**
Figure 14. The Mande languages (adapted from Ruhlen 1991) **196**

List of Tables

Table 1. The major language families (phyla) of Africa **23**
Table 2. The most widely spoken languages of Africa **24**
Table 3. Number of languages in Africa (Bendor-Samuel 1989, Crystal 1995) **26**
Table 4. Branching trees (Schadeberg 1986 as in Williamson 1989a: 17) **40**
Table 5. Median dating and retention rates (Ehret 2000: 287–8) **42**
Table 6. Symbols for clicks **58**
Table 7. Clicks and their accompaniments (Ladefoged & Traill 1994) **60**
Table 8. Feature specifications for Igbo vowels (Zsiga 1997: 232) **72**
Table 9. Possible vowel combinations in Igbo (non-compound words) **72**
Table 10. Scale for Consonant Alternation (Sapir 1971: 67–68) **74**
Table 11. The consonant alternation system of Fula (Sapir 1971: 67) **74**
Table 12. The consonant alternation system of Biafada (Sapir 1971: 68) **75**
Table 13. Tone classes and tone cases of Laadi (Blanchon 1998: 21) **84**
Table 14. Tone classes and tone contours of Yoombi nominals (Blanchon 1998: 3) **84**
Table 15. Mandinka sentences with English glosses **92**
Table 16. Tone measurements **93**
Table 17. Verbal suffixes in Manjaku (Karlik 1972) **112**
Table 18. Zulu ideophones featured in Recording 7 **120**
Table 19. Greenberg's stages, illustrated with examples from Gur (Niger-Congo) **157**

1 Introduction

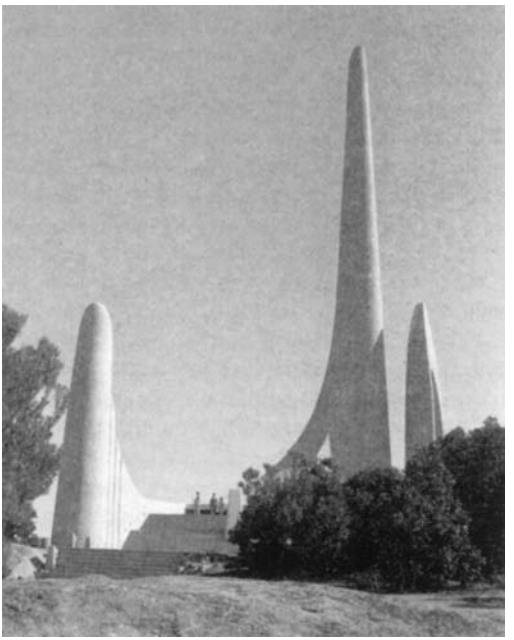
If you speak in a language they understand, you speak to their head.
If you speak in their own language, you speak to their heart.
— Nelson Mandela

know me through my tongue
— Mukalap

The first quote is part of a commentary that then President Nelson Mandela delivered in support of the African National Congress's (ANC) language policy proposals in the "New" South Africa in 1993. Mandela had been freed from Robben Island by that time, of course, and the architects of apartheid had been replaced by the more popularly based ANC, of which Mandela was the head. He understood well the importance of an individual's native tongue, particularly in the context of South Africa where language has played a more prominent role in politics than anywhere else in the world. Language policy decisions, for example, led to the killing of Soweto citizens, many of them school children. Furthermore, where else in the world but in South Africa has a monument been erected to a single language? See the *Taalmonument* honoring Afrikaans in Picture 1.

At the other end of the continent, in the Republic of Mali, there is a very different sort of monument. This one is devoted to indigenous African languages, hopefully representing a bright future for them and leading to what has been called their "valorization" (Hutchison 1999). The language monument in Bamako ("*Le monument de Babemba*") is dedicated to four of the languages of Mali. The face shown in Picture 2 portrays the alphabetic N'ko writing system developed in 1949 by Souleymane Kanté in Kankan, Guinea (Kanté & Jaané 1992 [1962]; Oyler 1995). The orthographies of the three other languages featured on the obelisk are more, strictly speaking, pictographic and do not have near the political importance of N'ko.

The second quote above comes from South Africa as well, but from the less-empowered end of the political spectrum, from the totally disenfranchised.



Picture 1. The Taalmonument in Paarl, South Africa

Interestingly, there are links between the two individuals, even superficial ones, because of the intermingling of the Khoisan and Bantu peoples (see Section 7.2.1). The quote is an excerpt from a special plea made by one of the last !Ora[1] speakers asking Europeans for understanding and appears as part of the endpiece in a pamphlet documenting the death not only of !Ora but of all South Africa's Khoisan languages (Traill 1997a).

Undoubtedly language is important to all peoples, but in places like Africa, language rights (and human rights) have been ignored with the resultant disappearance of languages, cultures, and even the people themselves (see Sommer 1992 and Brenzinger 1998). Aside from some of the newer cases on the African continent, the clearest case of the mass extinction of a people is that of the Khoisan peoples in just a few hundred years.

For countless thousands of years, South Africa has been the homeland of

1. The exclamation point beginning"!Ora" is the phonetic and orthographic symbol for the alveolar click. See "Abbreviations used in this work" (p. xiii) for the phonetic symbols used in this work; see Section 3.1 for some discussion of clicks. Phonetic symbols used in this work come from the IPA, except as noted.

Picture 2. N'ko face of "Le monument de Babemba" in Bamako, Mali

Khoisan peoples. Here they practiced a hunting, foraging and pastoralist economy, and spoke a variety of unique languages, unrelated to any others in Africa and often only distantly related to each other. It has taken only three hundred years to witness the extinction of those cultures and languages. The conditions which led to the destruction of the Khoisan societies are well

documented, varying from disease and genocidal persecution[2] to attitudes of intolerance and disdain. Although the Khoisan peoples fiercely resisted the onslaught, survival ultimately involved abandoning their cultural and linguistic identity. Linguistically, many, perhaps the majority, switched to Afrikaans, creating a distinctive dialect of that language (see 7.3.4). Others adopted a language of their locality: Tswana, Sotho, Zulu, Swati, Xhosa. Socially most found themselves marginalized in an underclass, and economically they became unfree laborers (Traill 1997b: 1)

What follows in (1) is more of the speech from which the opening quote was taken. It is a message conveyed to the delegates at the Third International Congress of Phonetic Sciences, Ghent, Belgium, 1938, rendered in !Ora (Kora). In the first column of (1) is an example of the transcribed speech itself; in the second is a translation. Following the two is the first portion of the speech.

(1) A plea from Mukalap (The full speech can be heard as Recording 1.)

ǁnãu ǁnãu ǀuiba kao na	Listen! Listen! Just listen
ǁnãu i hamtin na gowa	for once how they speak
!khari kao ǁkhawa	so that you should not
ǂʔan tama	again be ignorant.

"Yes, I salute you, you sons of the sea. I do not know you. I have not seen you with my own eyes. You have not experienced me that you know me, that you may realise that the people in this country speak a beautiful language (if I may say so to you, these Europeans [who?] catch and punish a man); so that you may also know that there are people living in this country. You do not know what nation we are. Listen, listen, just for once how they speak so that you should not again be ignorant." — Mukalap (from Traill 1997a).

Recording 1. Plea from Mukalap (Traill 1997a)
!Ora message to the Third World Congress of Phonetic Sciences, 1938 (2:34)

Many of the central issues in language and linguistics, and indeed in humanity, have played themselves out in Africa. Although the focus of this book is

2. The fate of another speaker featured on this set of recordings was documented and illustrates how a language dies, in this case, loses its last speaker. The Kwaluseni region of Swaziland, site of the 1995 World Congress on African Linguistics, was the home of the now extinct ǁXegwi Bushman; its last speaker, Jopi Mabinda, was murdered at Lothair some 50 miles from the conference site (Traill 1997a: 100).

linguistic, it should never be forgotten that language is a core cultural institution and at the heart of an individual's and a society's identity.

A linguist? When meeting new people, particularly in the United States, one is soon asked, "What do you do?" Admitting that one is a linguist engenders a soon familiar sort of consternation on the part of one's questioner and usually a comment something like, "Oh, I had better be careful (about what I say)." On further probing, it is revealed that not only is one a linguist but also a linguist interested in African languages! This news typically dumfounds the unwitting individual, who will quietly change the topic or make one uncomfortable by a good-hearted but clumsy effort to establish some shared knowledge. Why people like me have condemned themselves to ruining normal conversation will be explained in what immediately follows but more so by the book as a whole.

What I will try to do in the next few paragraphs is give the reader some reasons why I and many others have found the languages of Africa (and its people) so very appealing, and perhaps hint at why we all became linguists. I begin with some very general reasons and then state some more explicitly linguistic reasons for studying African languages; I conclude with some more personal reasons. The following section, Section 1.2, gives some historical background to the study of African languages, a section regrettably short, for the history is rich.

1.1 Reasons for studying African languages

The first thing that impresses anyone considering the African continent as a whole is the incredible diversity, whether it be climates, geography, peoples or cultures (Reader 1998). This diversity is also reflected in the continent's 2,000 languages. "One quarter of the world's languages are spoken only in Africa. No other continent approaches this human diversity" (Diamond 1997:377). The languages are not evenly spread over the continent: the Sahara is relatively uninhabited and, from a linguistic perspective, North Africa is relatively homogeneous. Not surprisingly, then, there are concentrations elsewhere. In fact, Africa contains one of the most linguistically diverse areas of the world in northwestern Cameroon and the bordering area with Nigeria (see Map 1).[3]

3. This is not to say the most diverse. In fact, as a linguistic area, Sub-Saharan Africa has a low degree of "genetic diversity", "the ratio of genetic lineages to square miles in an area" (Nichols 1992:232–33).

Other areas are similarly impressive in this regard.

In terms of many typological parameters, that is, the features that make languages the same and different, the languages of Africa exhibit a wide range of attested types, as well as display features found only in Africa. What makes these qualitative differences between languages even more surprising is the relative dearth of detailed descriptive work that has been performed on African languages, despite the logarithmic increase in the past few decades. The majority of Africa's languages have not been fully described, and there are still languages that have not yet been identified by linguists (as many as thirty just in Central Nigeria (Blench 1998)).[4] There is much to be discovered and indeed some urgency to the task, as the opening discussion suggests. Substantive work needs to be undertaken quickly since many languages run the risk of disappearing before they can be described. As an example of what is happening, remember the plea from Mukalap and consider this recent description of the So people of Uganda and their language,

> Although as an ethnic group the So number somewhere between 4,000 and 10,000, the number of So speakers lies at the most around the 100 mark. Since no longitudinal studies exist on this case of language death, it is not possible from the meager amount of data available and the minimal contact with So informants (the main hindrance being the somewhat fluid and unstable social and political situation prevailing in the Karamoja area) to assess satisfactorily the remaining speakers' competence. (Carlin 1993: 5)

We can be grateful for Carlin's timely description of which this quote forms a part, but it should be noted that she did not consider her informants to be fluent speakers of the language. In some sense, then, the language was already moribund at the time of her investigation!

In addition to their purely linguistic fascination and the urgency to their study, African languages are appealing from a socio-historical perspective, not the least for their widespread legacy. If Africa is indeed the continent where the

4. My thanks to Roger Blench for making available many of his papers published and unpublished.

Map 1. Language density in Africa (Grimes 1996: 158)

human species first appeared,[5] then perhaps studying the continent's languages can provide some insights into how language arose and spread, and how it has changed over space and time (Nichols 1992). In addition, the study of languages can contribute to understanding Africa's history, e.g., Ehret & Posnansky 1982, and the reverse is true as well. The rates and the ways in which languages change can often be explained only with reference to social factors. The overweening importance of social, historical, and political factors to the form of many African varieties also makes them worthy of study, especially to historians,[6] social anthropologists and the like, e.g., Dalby 1975.

Finally, there is the relevance of African languages to many New World varieties, for example, African-American Vernacular English (see the papers in Mufwene 1993), the maroon varieties of the Guianas, for example, Huttar 1986, and even Indian Ocean varieties (Baker & Corne 1982), as a consequence of what has somewhat euphemistically been called the "African Diaspora" (for example, Bernstein et al. 1997). African languages are indeed important for understanding many New World phenomena, especially in the Caribbean area, e.g., the ritual speech of the religion known as "*Santeria*" (Lipski 2000) and the worship of Ogun (Herbert 1993a: 151), and many other linguistic (Huttar 1993, Rickford & Rickford 1976) and cultural phenomena (Abrahams 1983).[7] To many people the creole languages and cultures of the Caribbean and elsewhere are very much a part of Africa.

---

5. Raymond Dart's discoveries of fossil human bones in South Africa during the 1920s showed that Europeans were not the first humans. These bones belong to an earlier species than us, but then genetic work in the 1980s showed that *Homo sapiens* also originated in Africa, and a skull discovered in Chad, nicknamed "Toumaï", predates Lucy of Ethiopia by 4 million years and the australopithecans by 3 million. Even more recent archaeological discoveries show that rocks contain designs interpreted as the earliest art (*The Economist*, June 29th 2002, p. 77). Thus Africa may not only have produced our first ancestors but may have also produced the first artists!

6. See Skinner 1999 for a broad consideration of the history of, and motivation for, the study of African languages, both outside Africa and within.

7. Scholars now recognize that what is significant is not the changes that a culture undergoes but rather cultural persistence. "Indeed the adaptability and resilience of African beliefs has been a leitmotif of recent studies of religion in Africa and the Diaspora. The "fugue of gender" in Bwiti religious rituals of the present-day Fang, for example, although fusing Christian with non-Christian belief and practice, becomes more understandable once we see the connections between gender separation and proscribed sexuality with enhanced fertility in earlier rituals of transformation (Fernandez 1982, Fernandez 1991; Werbner 1990)." (Herbert 1993a: 22; cf. Gottlieb 1992).

A similar link can be established to major metropolitan areas in the industrialized states. The study of African languages can thus also contribute to the understanding of urban varieties in Europe where one finds sizable populations of people with an African or Caribbean origin as, e.g., London Jamaican (Sebba 1993) or "Creole" more generally in Britain (Rampton 1995), or the French of the cities of southern France (Escure 1999 p.c.).

Some might also advance an aesthetic reason for studying African languages, especially with the close links of language to performance (Bauman & Briggs 1990). There is the obvious example of the "talking drums" (e.g., Wilson 1963), whose pitch, timbre, duration and loudness seek to imitate human speech. Recording 4 contains an example of the "talking drums" of the Akan peoples of Ghana, discussed in 3.7.

Less obvious is the creation of meaning in the expressive words known as ideophones (see Section 5.1) by an audience (e.g., Noss 1975, Aardt & Godwin 1992). Other reasons could be linked to the appeal of a different culture as represented in its language, whether it be the remnants of a hunting and gathering population in the Kalahari (Wilmsen 1981), or their highly urbanized Bantu neighbors in the nearby cities of South Africa, the "Town" Xhosa rather than the "Red" or traditional Xhosa[8] (Mayer 1961). The richness and resilience of many African cultures can be seen in their persistence in the New World, as well as in urban environments in Africa itself (Groenwald & Makopo 1992), albeit somewhat transformed. Even when deliberately destroyed, cultures can rebound. For example, there is the documented resuscitation of traditional Baga culture on the northern coast of Guinea-Conakry after many years of suppression and attempted destruction by Muslim missionaries and the Guinean government (Lamp 1996). There is even talk of reviving an assumedly dead Khoisan language in South Africa, ǂKhomani, a San language of the southern Kalahari (Traill 1997a: 9).

Ethical and political considerations can focus attention on Africa and its languages. During the time of European colonization and before, there were, of course, gross inequities and mass suffering on the part of Africans, including slavery. In addition to the last evil, there was the semi-slavery of impressment and forced labor throughout the African continent. The ravages of these labor systems persisted, as an institution, well into the twentieth century in the

8. Traditionally minded Xhosa daubed themselves with ocher clay during initiation ceremonies.

apartheid system of South Africa, and its effects will be felt well into the next. There was the concerted extermination of peoples on a massive scale as well, be it the chasing down and hunting of the Khoikhoi by Dutch settlers in colonial South Africa (Thompson 1990) or the killing, violation, and internment of the Hereros by the Germans between 1904 and 1907 (Perelman 1999). Furthermore, Africa has been treated with a history of neglect in the post-colonial period, even by its colonists who benefited from the exploitation of their colonies, e.g., Rodney 1982. Nowhere is this more apparent than in the lack of world attention and resources devoted to Africa's current civil wars, famines, and chronic debt problems at the start of the twenty-first century. And now there is AIDS. Another legacy of colonialism is the persistent discrimination found in Europe, the Americas, and Asia. There is a need for validating and legitimizing Africa, its people and its cultures. One way is by (re-)valorizing the languages of Africa (Hutchison 1999).

The relationship of outsiders to the continent and its peoples has not been an untroubled one even after the colonial period. With regard to linguistics there has been, however, a generally amicable relationship, perhaps because its agents have not been terribly self-conscious or introspective. Goldsmith has discussed the great collegiality among Africanists of whatever theoretical persuasion, whether European, American, or African, despite the "Balkanizing effects" of linguistic theorizing (Goldsmith 1992: 151).

Although the focus of linguistic inquiry has been to a great extent on the more widely spoken languages, e.g., Swahili, Hausa, Yoruba, Zulu, there has been some attention given to the less widely spoken languages and even to language death, e.g., Brenzinger 1992. There have been areal concentrations of research interest, sometimes corresponding to current political factors but most often reflecting former colonial relationships. Not surprisingly, then, one finds German researchers focusing on the languages of Namibia, French researchers in Gabon and francophone West Africa, etc.

Although research traditions differ between Europeans and Americans, there is enough of a commonality to allow for more collaboration than has been possible in other parts of the world. American universities unfortunately do not support Africanists the way European ones do; funding in the United States generally goes towards research on "theory". But because American theory has often been driven by the newly discovered, or perhaps newly understood, phenomena in African languages, there is no absence of solid field research and field researchers in some of the most important American universities, especially those with African Studies Centers, e.g., at the joint center of the University

of California, Berkeley and Stanford, at the University of Pennsylvania, and at Ohio State University. Comparable exemplars can be found in European universities and research institutions where African linguistics is more directly supported, e.g., at the School of Oriental and African Studies (London, United Kingdom), Leiden University (Netherlands), Cologne (Germany), the Musée Royal de l'Afrique Centrale (Tervuren, Belgium), and at Lyon and in Paris as part of the various branches of the CNRS (National Research Center) in France.

Despite these cultural differences between Europe and the United States, i.e., more direct support for African linguistics in Europe, there are several reasons why research on African languages has been possible and productive in the United States (see Clements 1989, Mchombo 1997). One reason is the access to speakers in major research institutions, where there has been funding and institutional support for African studies (although not for professorial positions). For example, there have been grants from the Ford Foundation and from the Department of Education for the Title VI African Studies Centers. This has allowed African students to be supported during their studies, usually by teaching their languages. Another reason is that the recognized paucity of descriptive work on many African languages has inspired support for analyses of both the widely and the less widely spoken languages. This has led to a continuity of research which has now been augmented and continued by native speakers of African languages. As suggested above, theories have not "fragmented" the field; there has always been a full integration of data, description, analysis, and theory in African linguistics.

Within the field of linguistics itself, however, there has been something of a sub-field imbalance with regard to what was being researched. Roughly speaking, there has been more work done on phonetics, phonology, and even morphology, than on syntax, semantics, pragmatics, etc. The reasons for this imbalance are not hard to understand. Much modern work on syntax, semantics, and related fields requires intuitions available only to the native speaker and are sometimes difficult to elicit in the traditional informant-analyst session. It is only rarely that the study of African languages takes a different form. Other reasons are more particular to currently popular theories (Clements 1989). The imbalance is being addressed, however, e.g., Ameka 1992, and Africans themselves have been extremely active in the more applied areas of linguistics, e.g., Mugesera 1987, Elugbe 1997, Bamgbose 2000b.

Another component to African linguistics is the long tradition of (Christian) missionary field research on African languages. Some of the earliest and finest work has come from those seeking to proselytize. Although linguists have

acknowledged these efforts (e.g., Comrie 1988), especially the work of linguists from the Summer Institute of Linguistics (now known as SIL International), there has regrettably been no widespread recognition of their efforts (Welmers 1971, Newman 1992; see Bamgbose 1976: 6–7), possibly for moral or political reasons (see Calvet 1974, Mühlhäusler 1996). Nonetheless, missionary work has been vital in assessing the viability and relatedness of many unresearched languages, as well as providing tools, especially computational ones, for the field linguist, e.g., LinguaLinks, a suite of fieldwork programs and resources developed at SIL. Missionary help has also been important to researchers in the field; missionaries have often provided invaluable assistance in terms of local conditions, contacts, etc., and even room and board! Historically there has always been some overlap between purely linguistic work and missionary efforts; that overlap continues to this day, sometimes comfortable, sometimes uneasy.

Despite all of the progress in our understanding of African languages, there are still pockets of prejudice in the field of linguistics. An African friend with a Ph.D. in linguistics relayed a comment from a worker on syntactic theory at a prominent American university in the northeast. She had asked him why he had treated no African languages in his discussion (which languages she had expected might raise some problems for his analysis). He replied, apparently in all seriousness, "The theory was not designed to treat African languages." The ignorance, parochialism, and maybe even racism reflected in this reply have no place in the study of African languages.

Despite obstacles such as these, the contributions of African languages to linguistic theory and practice have been legion and will continue to be so, especially as more native speakers participate in the effort. Contributions have been particularly important in studies of tone, e.g., Leben 1999, where there has been a profound interaction between data and theory, as documented in Clements & Goldsmith 1984, and its sequel Hyman & Kisseberth 1998. In other areas the interaction has not been so profound but has been rich nonetheless, e.g., the syntax papers in Mchombo 1993a, 1993b, and recent work on comparative Bantu (Hombert & Hyman 1999a, 1999b). Surely this interaction and progress will continue on into the web-based information age. African linguistics has indeed moved on to the web and onto greater accessibility with projects such as the Comparative Bantu On-Line Dictionary (CBOLD) at the University of California, Berkeley (Hyman 1997), and numerous other web sites. In (2) I give some examples of the things linguists have focused on in their studies of African languages.

(2) Foci of researchers on African languages

Phonology (including phonetics): clicks, doubly articulated sounds, tone, tongue root vowel harmony, nasal processes; autosegmental representations, CV phonology, non-concatenative phonology, feature theory;
Morphology: noun class and other nominal systems; verb extensions; verbal inflections, tense, mood and aspect, e.g., consecutive verb tenses;
Syntax and semantics: serial verbs, focus constructions and predicate clefting, logophoric pronouns, formal theories, e.g., Lexical Functional Grammar, the interaction of phonology with syntax and discourse, ideophones;
Language acquisition, e.g., how children learn tonal contrasts and complicated noun class systems; "natural" second language acquisition;
Historical-comparative linguistics: classifying African languages, language typology, tonogenesis, morphologization and grammaticalization, reconstruction and African history;
Creolistics and language contact, language mixing, areal linguistics, pidgin and creole genesis, especially the role of the substrate;
Multilingualism, the rise of urban varieties, the constraints on codeswitching, language shift and language death;
Language ideology, e.g., the changing perceptions of Afrikaans, language attitudes, especially the status of European languages, *appropriation*;
Applied linguistics, language policy and language planning, language development, literacy, education[9].

In a book of this length it is not possible to treat even the subset of topics listed in (2); nonetheless, these topics are all interesting and worthy of study. I now turn to some historical background to the present-day study of African languages.

9. This last area is the preference of African scholars. At the 1st World Congress of African Linguistics (1994), "[T]he predominant interests of overseas linguists … were mainly theoretical and descriptive, and the interests of African scholars … were pragmatic and applied" (Herbert 1997: xi).

1.2 Historical background to the study of African languages

A famous scholar of African history was quoted as saying, "The curse of African studies is that it is limited to Africa" (Hair 1975, as quoted in Dalby 1975: 46). What is suggested by this statement is that scholars interested in Africa tend to limit their focus to Africa and extend neither their geographical reach nor that of their discipline beyond the area of Africa itself. This parochialism may have been true more in the past than today; it is certainly not true of linguistics, as these pages hope to show. But first a little background to the study of African languages is needed.

This section presents some (punctuated) history, starting by briefly recapitulating some of the earliest work. I then look at several early workers whose record of accomplishment shines brightly today. The true blossoming of African linguistics and of linguistics in general is a relatively modern phenomenon, having taken place in the latter part of the twentieth century,[10] but much important foundational work was done well before then. Most of the early history of African linguistics is about language classification, so this section will serve as a natural lead-in to the next chapter, where language classification is the explicit topic.

Although there may have been some observations on African languages by Arab travelers in the tenth century, the Portuguese were the first to actually record the languages of Africa on any significant scale. The first grammar was a study of Kongo, a Bantu language spoken in Angola and the Congo, written by an Italian Capuchin, Giacinto Brusciotto, published in Rome in the seventeenth century (Brusciotto 1659) and later translated into English and Portuguese. There were a number of other publications in the seventeenth century, followed by a relative lull until the latter part of the eighteenth century when several significant grammars and dictionaries appeared. Most of this work was carried out by Roman Catholic missionaries, particularly of the Jesuit and Capuchin orders. From 1830 on most of the missionary work was taken over by Protestants (Cole 1971).[11]

To be sure, this early scholarship is important, but it was not until the

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10. Bamgbose 2000/2001 contains an overview of the West African linguistic scene since the founding of the West African Linguistic Society in 1965.

11. There is a time lag between the arrival of missionaries and the first linguistic description since, "The first Catholic missionaries to Sub-Saharan Africa reached the mouth of the Congo River in 1491. Protestant mission work began in 1732" (Welmers 1971: 560).

second half of the nineteenth and into the twentieth century that a critical mass of significant works was reached. Rather than surveying the period chronologically, I will characterize a few of the more impressive scholars, ones whose works stand up to modern scrutiny and ones that have dazzled me. This personal report aims only to entice the reader on to explore the several overviews available[12] and perhaps track down the life and times of an individual researcher, a rewarding pursuit. One's first reaction to these early scholars is awe; just their productivity is astounding. The quantity alone would instantly deflate any aspiring young academic's thoughts of gaining tenure; the quality is there as well. Furthermore, when one considers the challenging field conditions and the state of technology at the time, one cannot help but be amazed by all they were able to accomplish. Here are brief characterizations of several early researchers and their achievements.

Sigismund Wilhelm Koelle (1823–1902), our first hero, had an unusual research site — the refugee camps of Freetown, Sierra Leone, during the middle part of the nineteenth century. These camps did not have the same source as their present-day counterparts, a bloody civil war, but had just as offensive a cause — human slavery. Koelle's subjects were Africans liberated from slave ships seized in the Atlantic by the British. These "recaptives" had typically been abducted from their homes or had come out on the losing side of a battle with indigenous slave traders (Klein 1998). Soon after, the Africans were sold into slavery and began the deadly trip across the Atlantic to New World plantations.

Koelle's informants[13] were fortunate enough, however, to have that journey interrupted by anti-slavery ships. The Africans were "freed" by these intercessors and dropped off in Freetown, Sierra Leone (see 7.3.2 for some linguistic consequences). On the basis of interviews with these people, Koelle was able to assemble impressive sets of data ("nearly three hundred word lists and phrases" according to the sub-title (actually 283 (Welmers 1971: 564) from

12. An excellent representation and survey of the work done on African languages before 1970 can be found in Berry & Greenberg 1971. The commissioned articles survey the major language families, African pidgins and creoles, language policy, etc. Their first two chapters treat the history of African linguistics up to the 1970s (Cole 1971 covers the period up to 1945; Schachter 1971 covers the period after and has some historical interest since it was written at the dawn of the generative era).

13. "Informant" is the name given to someone providing language data to a linguist. Despite its unfortunate associations with betrayal, the term has generally survived efforts to euphemize it; "indispensable collaborator" has definitely not caught on, and "language consultant", although used, is not nearly so popular.

156 different languages (Koelle 1854d). These lists provide fairly reliable data (tone is not marked and his transcription system was limited) and provide some time depth for languages investigated many years later (Cole 1971: 19). What is even more impressive about Koelle's achievement was that he was allowed only six months for the task (by the Church Missionary Society). Actually finishing the job was no mean accomplishment for anyone ("six months means an average of one language per day, six days per week" (Welmers 1971: 565)), much less for an individual who did much more. The *Polyglotta* appeared within a flurry of other publications. Koelle published grammars of Vai (Koelle 1854c) and Kanuri (Koelle 1854b), two vastly different languages, in the same year as the *Polyglotta*! In his spare time that same year, he also turned out a collection of Kanuri folk tales and proverbs (Koelle 1854a). Just publishing the titles would be a great accomplishment (see the full list in the References beginning on p. 223); truly 1854 was Koelle's *annus mirabilis*![14] Typical of this early work, both the quantity and the quality continue to impress modern Africanists.

A somewhat later hero is Diedrich Westermann (1875–1956), who did most of his work in the Sudanic area of Africa, from the west coast all the way over to East Africa. Although much influenced by his mentor Meinhof (1857–1944), another extremely influential figure,[15] Westermann's work was thorough, extensive, and insightful. Here is one paean:

> Between 1902 and 1956 … [he] produced over two hundred publications (excluding book reviews), most of them on African linguistics topics, and a considerable number of them books of substantial size — grammars, dictionaries, comparative studies, etc. His contribution to African linguistics is unrivaled in quantity and probably also in quality, taken as a whole. His area of specialization extended above the equator from the Senegal River to the upper reaches of the Nile, an area of enormous linguistic complexity which he, probably more than any other individual, helped to unravel. (Cole 1971: 26)

His grammars of three vastly different languages, Shilluk (Westermann 1912), Gola (Westermann 1921), and Ewe (Westermann 1930), continue to serve as

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14. Dalby praises him for his "scholarly caution as a comparative linguist" and notes that these works were published immediately on his return from West Africa AND right after his marriage! (Dalby 1970: 149).

15. Some of Meinhof's work is now disparaged (see page 35). Westermann may have been somewhat intimidated by his mentor or at least reluctant to directly challenge Meinhof's claims (Cole 1971: 26–27).

important reference works, e.g., Koroma 1994. Adopting a much broader perspective are his two *magna opera*, Westermann 1911 and Westermann 1927, both of which hint at a unity to the Sudanic languages that others were later to state explicitly (Wallis 1978). Truly Westermann was an early giant.

A comparable figure in southern Africa was Clement M. Doke (1893–1980), who in his 31 years at the University of the Witwatersrand (1923–53) had an incredible string of publications and instituted a new approach to the study of Bantu languages, all the while working in relative obscurity. Not only was he prolific, as were the first two heroes, but he also abandoned the Euro-centric approach of his colleagues for a more locally grounded one.

> Independently and alone, it seems, Doke had sought what he termed the system of 'Bantu grammar for Bantu languages'. He had realized, unlike his predecessors in the field, that the grammatical structures of Bantu languages are quite different from those of European languages … In 1927, then, Doke presented a new categorization of Bantu 'parts of speech', and appropriate new terminology and descriptive procedures … Doke's grammatical approach was adopted, with minor variations, in all of the South African universities. (Cole 1971:12)[16]

To say, "Doke was a most prolific worker" (Cole 1971:12) considerably understates Doke's achievements. His output was incredible and his life fascinating. His first "field trip" was to "Lambaland" (present day Zambia) in the company of his missionary father at age 20 (described in Doke 1993; see Herbert 1993b). Doke's legacy is not only a string of terrific grammars, e.g., Doke 1927, Doke & Mofokeng 1957, but also dictionaries, e.g., Doke et al. 1990, the book standardizing terminology (Doke 1935) mentioned in the quote above, comparative work (Doke 1954), a history of Bantu linguistics (Doke & Cole 1961), and even some humble cataloguing (Doke 1945), which turned out to have proposed a new (and correct!) classification of Southern Bantu (Cole 1971).

Admittedly not all of this early work is perfect — even the great Doke has been criticized by his fellow countrymen, e.g., van Wyk 1993. Nonetheless, most of the works referred to in this section are still commonly referenced by others. Their imperfections are slight and more attributable to a lack of training or

16. Ironically, in the first heady days of the "new" South Africa, the Dokean model was accused of being too "European" for South Africa's languages (Khoali 1993).

inadequate resources than to anything else. Doke's legacy is considerable.

As a lighter last comment on the early workers, it should be noted that in many cases there was a touch of oddness there, which most will admit persists to this day. Perhaps it is the tolerance of Africans that allows the oddness to flourish. It takes some dedication to succeed in such trying and unfamiliar conditions as often confront the researcher in Africa, and maybe the oddness helps one to get by. A brief anecdote involving a literary figure illustrates the typical mixture of scholarship and eccentricity (and even sadness) that has often characterized such investigators.

When the author Graham Greene was spying for the British government on his travels through West Africa, he stopped at the Holy Fathers Mission in Bolahun, Liberia, where many have benefited from the Fathers' warm hospitality and humor. Greene encountered a German scholar there, characterizing him as somewhat "ephemeral" (Greene 1936).[17] According to Greene, this scholar always appeared in flowing white gowns and was engaged in research of whose nature Greene was unsure (ironic given Greene's mission). This rather bizarre (to Greene) character, who was undoubtedly portrayed with some license, was the linguist Richard C. Heydorn, who died young on the Russian front during World War II. His obituary noted that he had gone to West Africa to escape the war; unhappily he was later drafted and forced to enlist. Strange as he might have seemed to Greene, Heydorn was a first-class scholar, producing excellent descriptions of the complicated noun class system of Kisi (Heydorn 1970, published posthumously), as well as excellent work on Manya (Heydorn 1943–44), an unrelated but nearby language (see Map 10, designated there "MANYAKA"). Thus we see in Heydorn a mix not unusual among Africanists: a bit of oddness perhaps, but coupled with some very serious scholarship. It is the latter with which we will be concerned in what follows.

There are definitely modern equivalents to these early pioneers (in terms of research not eccentricity!), too many to enumerate here. Their citations in the coming pages should be sufficient evidence of the fine work that is currently being done. In the next section I turn to language classification, the basis for much other work.

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17. One can question the reliability of Greene's "non-fictional" account. Greene portrays himself one way in his book, his cousin quite differently in hers covering the same events (Greene 1938 (reprinted 1981) (my thanks to John Victor Singler for the reference)). The contrast between the two is quite stunning. Father Parcell of the Holy Cross Mission, one of their hosts, called the two "babes in the woods".

2 The classification of African languages

This chapter discusses how the languages of Africa have been classified and introduces a few of the controversies that have troubled and indeed still trouble the field. Scholars agree in general as to the major families and even most subfamilies, but there are decided differences as to how some languages and even as to how some groups should be assigned.[18] Although no resolution to these many questions can be found here, the reader will at least become familiar with some of the issues. After some background, the several approaches to language classification are presented, followed by an introduction to the approach known as "mass comparison" championed by Joseph Greenberg. The next part deals with some of the problems that have arisen, dealing primarily with methodological issues. A few case studies illustrating these problems follow, one at the macro or highest level of classification, that of phyla ("family" is also used). The next two studies look at lower level groupings to illustrate first how geographical factors have influenced genetic classification and then how a typological feature has also held sway.

The sources of controversy are multiple and include (historically) at least prejudice on the part of Europeans, who have often allowed non-linguistic criteria to intrude on their classificatory tasks. Probably the greatest hampering factor, however, has been the lack of reliable data. At times the few available forms come from field workers not thoroughly trained in the collection of linguistic data. Egregious problems have arisen when workers have not been sensitive to tone; pitch differences function importantly in many African languages to mark lexical differences as well as grammatical ones (see Section 3.7). Other formal

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18. The cultures of language classification vary. Africanists, for the most part, contrast sharply with their counterparts in Oceania and the New World. The former present a "tidy" picture with every language classified and few isolates, which process in linguistic jargon is known as "lumping". In the latter two areas, the tradition is more of "splitting" and building relationships from the "bottom up" (Blench 1999a: 8).

complexities have similarly hampered analyses: consonant mutation (see Section 3.6) and vowel harmony (see Section 3.5). But the problems are not always due to linguistic complexity, as the following anecdote will show.

The linguistic identity of a group in northern Ivory Coast has been controversial, more for reasons having to do with its analysts than with linguistic data. The Dieli have been considered by some an archaic group of Senufo, and by others an archaic group of Mande.

> It is certainly ironic that, although the debate hinges in principle on whether the Dieli language is related to Siena-re [a Senufo language] or to Manding [Mande], none of the scholars concerned is a trained linguist, nor has any linguistic evidence been cited in the literature substantiating any of the peremptory identifications which have been proffered with an air of authority. (Launay 1995: 155)

Launay continues that a trained linguist who has had a look at word lists, including earlier ones, finds that the evidence is inconclusive.

There is the further complication of multilingualism and the concomitant multiple ethnicities and identities of many Africans. Which is a multilingual individual's mother tongue? What about a "first language" when it has all but been abandoned for a more prestigious variety (see Section 7.3.5)? As has been pointed out with regard to ethnicity,

> …ethnic labels in the African context are at best meaningless, at worst the legacy of a colonial construction designed to control and oppress (Amselle 1985: 11–48). Thus, ethnicity might be more accurately viewed as one of a number of negotiable aspects of one's identity. Identifying himself as Mandingo in the context of our interview (i.e. after having been accused of being Fula) was sufficient for my informant to distinguish himself as Mande from a quite separate ethnic category, [from] the Fula, as well as from other Sierra Leonean ethnicities such as Limba or Temne. It was only during the course of the interview that the leatherworker more precisely defined the origins of his family as Soninke (Frank 1995: 144).

In the townships of South Africa's cities, ethnicity is uncertain if not unimportant; some would deny **any** ethnicity because it smacks of the classifications imposed by the apartheid government. Proclaiming oneself a "South African" can be an affirmation of support for a multiethnic (and multiracial) society. Language similarly poses a problem because of the mixing in the townships; even linguists have trouble identifying the provenance and identity of the extant

varieties, e.g., Calteaux 1994. Another problem arises when a language serves as a lingua franca and serves as a second language to many speakers, where pidginization and restructuring can occur, e.g., Zima 2001.

The next section presents the current classification of the four language phyla of Africa along with some details on each phyla's constituent languages.[19] In the sections following I detail some of the methods used in classifying African languages and some of the current controversies in classification.

2.1 The four phyla

The languages of Africa are generally divided into four major phyla (but see Section 2.4): Niger-Congo, Nilo-Saharan, Afroasiatic, and Khoisan, with Niger-Congo containing more than two-thirds of the 2,000 or so languages spoken on the continent (Bendor-Samuel 1989: vi). It must be remembered that from a classificatory standpoint, all phyla are equal, despite differences in size. See Map 2 for an indication of their rough geographical location.

For each language phylum in Table 1 is given a rough estimate of the number of languages belonging to each group along with some representative languages and the number of mother-tongue speakers after each named language in parentheses (in millions, except where noted as thousands by "K"). Note that Afroasiatic languages are not found exclusively in Africa; the figures here represent only those Afroasiatic languages spoken in Africa.

At least one caveat should be attached to Table 1: multilingualism is a common pattern if not the norm in many parts of Africa and may distort the figures (see Fasold 1984 for many other caveats about interpreting such estimates). For example, it is not unlikely that a typical citizen of Nigeria will speak at least three different languages in addition to Nigerian Pidgin English. What this means is that many people speak more than one language and will use different languages for different purposes (e.g., Myers-Scotton 1993). Thus they will adapt to the situation in which the (language) survey question is being asked. Speakers of Cangin languages in Senegal, for example, speak their languages only at home and were long considered to be speakers of Wolof, a much more widespread and politically important language (Pichl 1966).

19. Phylum overviews can be found in Heine & Nurse 2000; readers of German might also want to look at Heine et al. 1981.

Map 2. Language map of Africa (Crystal 1995)

This one-speaker-to-many-languages mapping is not unusual; nor is the pattern of one language having different meanings. In (3) is shown how using a single language can mean different things depending on the speaker and the situation. Hausa is an Afroasiatic language spoken as a first language primarily in northern Nigeria and southern Niger, but is used as a second language by many other speakers. All of the areas mentioned in (3) are found in West Africa.

(3) Variable significance attached to language choice (Fardon & Furniss 1994: 22–23)

A mother tongue Hausa using Hausa in Kano might subscribe to ideas of Hausa culture, Hausa centrality in the north, and Hausa nationalism that are widely shared in the community;

Table 1. The major language families (phyla) of Africa

	No. languages	**Member languages (No. speakers in millions)**
Niger-Congo*	1650	Bambara (3), Fula (13), Igbo (17), Mooré (11), Swahili (5), Yoruba (20), Zulu (9.1)
Afroasiatic (in Africa)	200–300	Arabic (180, all varieties), Amharic (20), Hausa (22), Oromo (10) Somali (5–8), Songhai (2), Tachelhit Berber (3)
Nilo-Saharan	80	Dinka (all groups, 1.4), Kanuri (4), Luo (3.4), Maasai (883K), Nuer (840K), (Phylum total 30)
Khoisan	40–70	Nama (140K), Sandawe (70K), Kung (8–30K), !Xóõ (3–4K)

* Language number estimates come from Ethnologue 2000 as in Blench 1999:3; speaker numbers come from Grimes 1996. Both are supplemented with data from Crystal 1995.

> A speaker using Hausa in Adamawa, Tabara, or Borno might be using it as an expedient to allow communication between Suwa and Kanuri, or Kanuri and Fulani [Fula];
> The use of Hausa might also signify personal allegiance to a particular group within Maiduguri or the wider north;
> Using Hausa in Cameroon has totally different implications where the northern area has been variably Fulbe-ized; it is a way to finesse committing to Fulbe values.

Depending on the situation, then, a speaker might or might not want to say he or she speaks a given language, i.e., admit to belonging to a particular ethnic group, for there is often a presumed isomorphism between language and ethnic identity. This reluctance is particularly common in cases of language shift where speakers do not want to admit they speak the language being shifted from (Brenzinger et al. 1991). With these facts in mind, we must be circumspect in interpreting the figures in both Table 1 and Table 2.

According to Bender 1996a, the most widely spoken African languages in 1993 are as in Table 2. Note that these numbers are in millions of **both** first- and second-language speakers; compare the figures here in Table 2 with the first-language speakers in Table 1, where only first-language speakers are considered. Note also that the most widely spoken language, Swahili, has barely five million mother-tongue speakers. This attests to its widespread importance as a lingua franca over much of eastern Africa.

Table 2. The most widely spoken languages of Africa

	Classification	Location	No.
Swahili	Niger-Congo	East and Central Africa	48
Hausa	Afroasiatic	West Africa	38
Amharic	Afroasiatic	Ethiopia	20
Yoruba	Niger-Congo	Nigeria	20
Igbo	Niger-Congo	Nigeria	17
Fula	Niger-Congo	West Africa	13

Thus, as this display suggests, not only are Niger-Congo languages the most numerous, they are also the most widely spoken.

Figure 1 presents the classification of **Niger-Congo**, about which there has been some controversy (see Sections 2.4 and 2.5.2). Note that, as elsewhere, some of the nodes represent individual languages (e.g., Ịjọ, Pre/Bɛrɛ), others represent relatively small groups of languages (e.g., Dogon), and still others represent quite large ones (e.g., Bantu). As in the other displays, the nodes are unequal in terms of language numbers but represent an identifiable and cohesive subset of the family as a whole, usually equated with a shared innovation. The asterisks ("*") in the display indicate reconstructed languages; double lines indicate an "ancient dialect continuum"; a dotted line indicates a tentative placement. Although their representation departs somewhat from conventional formalizations, I have chosen to present the Williamson & Blench 2000 figure in its entirety.

Niger-Congo is the largest language phylum **in the world** covering a greater area than any other phylum (Williamson & Blench 2000). Not surprisingly, then, many of the most widely spoken languages in Africa belong to Niger-Congo; it is the *primus inter pares* of African language phyla. Although there has been some question as to the genetic identity of Niger-Congo (Dixon 1997) and indeed to the viability of establishing genetic groups in Africa as a whole (Tucker & Bryan 1956, Dalby 1970, Dalby 1977), most scholars unquestionably accept Niger-Congo as a genetic unity (Williamson 1989b, Williamson & Blench 2000). The proto-language has been estimated as having been spoken some 15,000 years ago (Ehret 2000: 293).[20]

20. Others differ: "The origin of Niger-Kordofanian (= Niger-Kongo) is around 10 kya [thousands of years ago], …Nilo-Saharan … a later origin according to the genetic tree (4 kya). Khoisan (!Kung) … on the order of 50 kya …Afro-Asiatic based on the distance of Berbers from Indo-Europeans is on the order of 15 kya. …The dates indicated here for the origin of linguistic

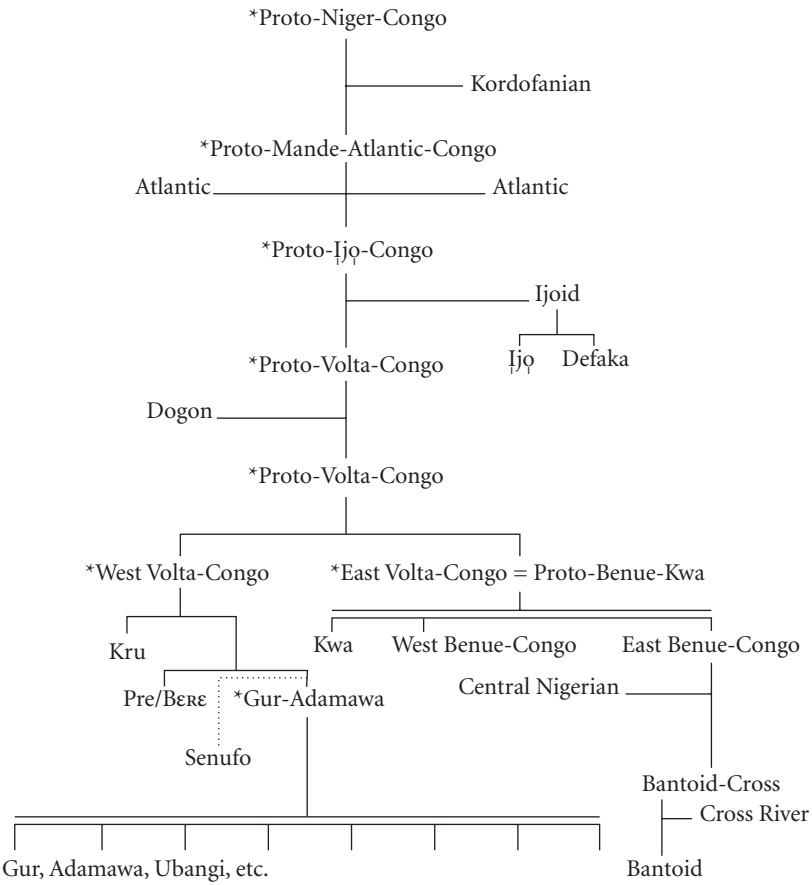


Figure 1. Niger-Congo classified (Williamson and Blench 2000: 18, slightly modified)

Despite the prodigious numbers of their speakers, the well-known Bantu languages are small beer in Figure 1. They are a sub-group of Bantoid which contains Bantu and Bantu-like languages. Nonetheless, Bantu languages form the largest group, are the most widely spoken, and are the most extensively studied. As the figure seeks to represent, Bantu is also a very late branching group; it is relatively "young" from this perspective, 4,000 years old in some estimates (Blench 2001a: 9). To put some numbers on the size of Bantu in terms of numbers of speakers (with the usual caveats), see Table 3.

families are suggestions that should be taken with a ton of salt" (Cavalli-Sforza et al. 1994: 104).

Table 3. Number of languages in Africa (Bendor-Samuel 1989, Crystal 1995)

	Languages	Speakers
Bantu	400+	60 million
Benue-Congo	800	150 million
Niger-Congo	1350–1650	180 million
Africa	2000	480 million

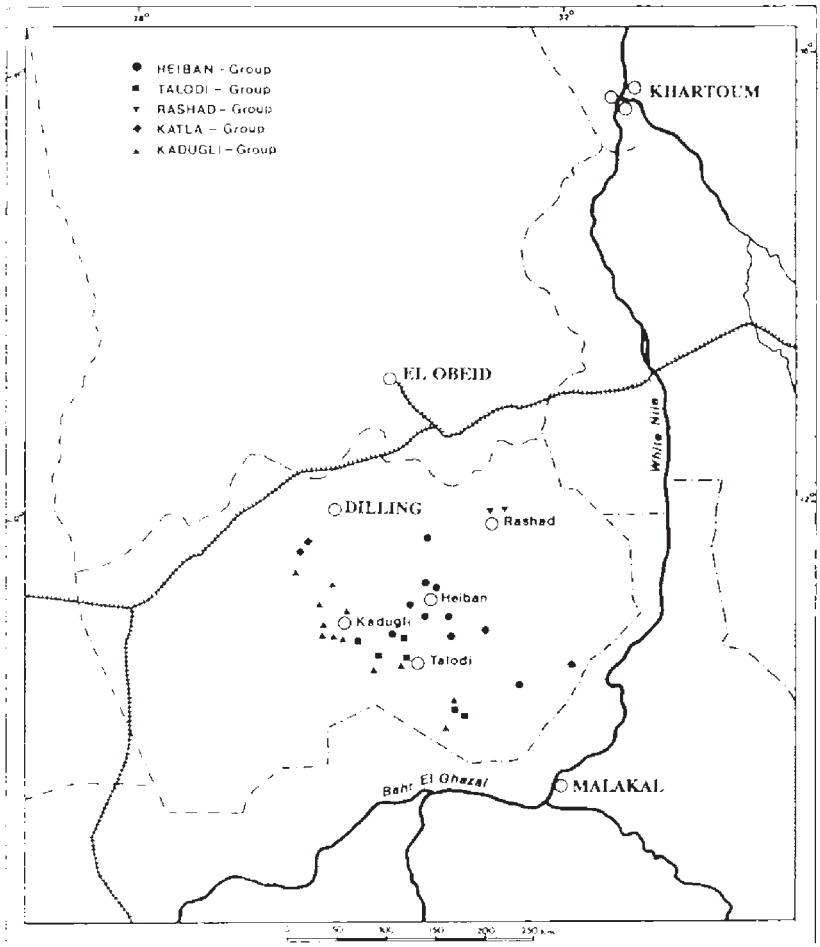
By comparison, Kordofanian, a much earlier branching from the Proto-Niger Congo stock, contains some 20 languages with only 165,000 speakers (see Map 3).[21] The Kordofanian languages are spoken in the Nuba Mountains in the Republic of the Sudan.

In terms of classification, the unity of Bantu and indeed the Benue-Congo family was recognized early on (e.g., Doke & Cole 1961). To linguists working within other parts of Niger-Congo or in other parts of Africa in general, the uniformity to Bantu is impressive, in terms of both the lexicon (cognates) and shared grammatical structure. Word order, morphology and phonology in a typical language are all minor variations on a central Bantu theme, although there are some significant variations as one moves northwest out into the "Bantoid" area of languages (see Map 4) towards the posited Bantu homeland.[22]

This next set of maps intends to make clear the distinctions between Bantu, (Northern and Southern) Bantoid, and Benue-Congo. The maps come from different contributors, as indicated, all in Bendor-Samuel 1989. The map entitled "Non-Bantu Benue-Congo" (Plate 11 in Williamson 1989a) shows mostly the non-Bantu/Bantoid portion of Benue-Congo. "Bantoid languages" (Plate 19 in Watters 1989) shows how the Bantoid part of Benue-Congo stretches from there over into East Africa and down to southern Africa. "Northern Bantoid languages" (Plate 20 in Hedinger 1989) is a relatively small group of languages, but Southern Bantoid includes all of Bantu (often known as

21. Niger-Congo has sometimes been called "Niger-Kordofanian" to underscore the inclusion of the Kordofanian languages within Niger-Congo (Greenberg 1963).

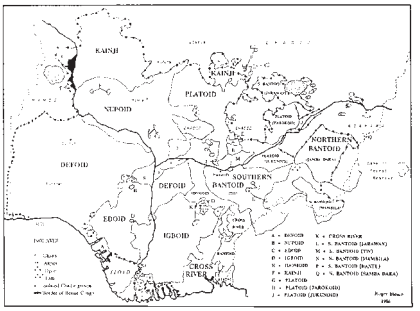
22. These and other languages were once called "Semi-Bantu"; Cole 1971 (p. 12) notes that Johnston 1919–22 "adopted the term 'Semi-Bantu' for the languages of West Africa, from Dakar to Cameroon, which manifest Bantoid noun class systems, but he conceived of these as mixed languages resulting from the impact of Bantu class languages on Sudanic nonclass languages, and not as indicating genetic relationship". Thus, we see yet an example of classification by typological criteria and of Bantu bias.



Map 3. The Kordofanian languages (Schadeberg 1989: 66)

"Narrow Bantu") as well as the Non-narrow Bantu languages (over 100) featured in the map entitled "Southern Bantoid languages" (Plate 21 in Watters & Leroy 1989). Narrow Bantu consists of some 500 languages.

Nonetheless, Bantu represents only a fraction of the genetic and typological diversity found in Africa, despite its scholarly importance (Hinnebusch 1989; see Lyovin 1997). Genetic classification has proven relatively straightforward with regard to Bantu, but outside this remarkably homogeneous core there has been some controversy (Watters 1989).



Non-Bantu Benue-Congo (Williamson 1989a:246)

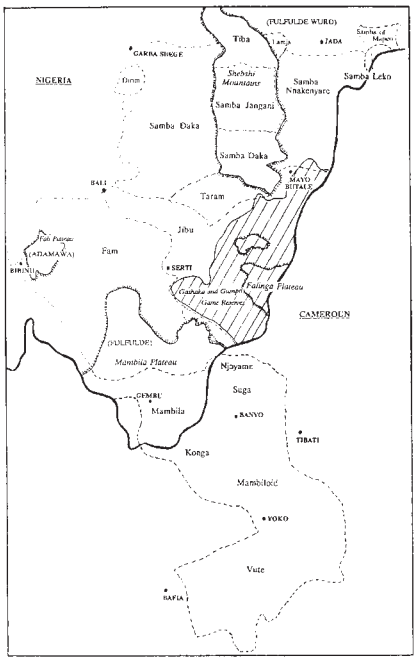
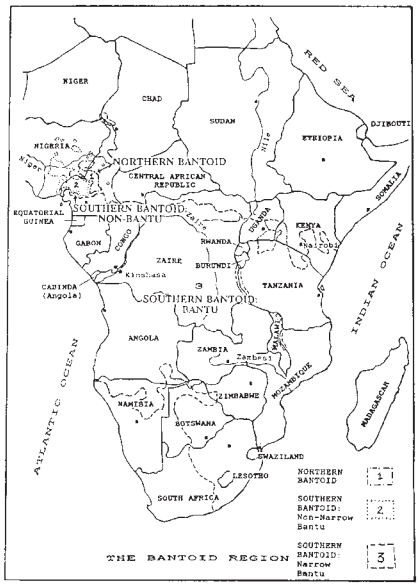
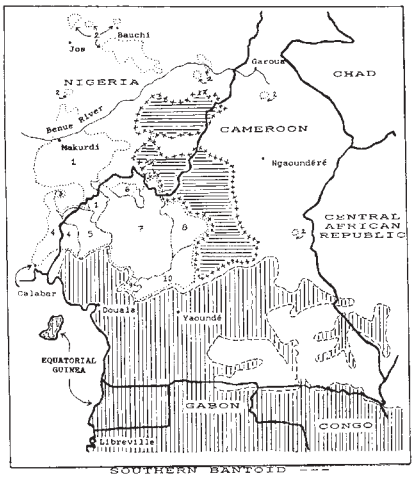


PLATE 20 Northern Bantoid languages

(Hedinger 1989:422)



Bantoid languages (Watters 1989:400)



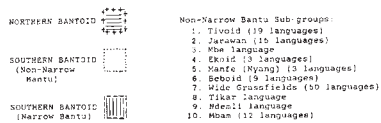


PLATE 21 Southern Bantoid languages

(Waters & Leroy 1989:430)

Map 4. Bantu, Bantoid, and Benue-Congo

Of the other language phyla, **Afroasiatic** has the next greatest number of speakers in Africa. The phylum contains over 300 languages (371 in the *Ethnologue* count (Grimes 1996) spoken by nearly 250 million people. The date of its proto-language, i.e., the date at which the proto-language began to diversify, "has been proposed by Diakonoff 1988 (p. 25) …to a period prior to 8,000 B.C.", over 10,000 years ago (Hayward 2000: 75). Outside and within Africa can be found one of its most important members, Arabic; Hebrew and Aramaic also belong to the phylum, both spoken exclusively outside Africa. The vast majority of Afroasiatic languages, however, are found in Africa and the phylum as a whole originated there. The display in (4) shows how the languages of Afroasiatic are classified, probably the first African phylum to be recognized as comprising a genetic unity (Blench 1997: 95). The numbers in parentheses after each family name represent the number of languages in that family.

(4) The families of Afroasiatic (Hayward 2000)

Berber (30):	Languages spoken by some 10 million people in northern Africa (Morocco, Algeria, Tunisia, Niger, Mali, and Mauritania): Tachelhit, Tamazight, Kabyle, Tamezret, Tamasheq, Zenaga, etc.
Chadic (192):	Languages of Nigeria, Chad, and Cameroon including Hausa, Ngizim, Miya, spoken by some 28 million people.
Cushitic (47–50):	Languages of Ethiopia, Eritrea, Somalia, Sudan, Kenya, and Tanzania including: Dahalo, Iraqw, Oromo, Afar, Somali; 30 million speakers.
Egyptian (1):	Coptic (disappeared in the fourteenth century)
Semitic (50):	Middle Eastern as well as Ethiopian languages including (in Africa): Arabic (regional varieties), Gi'iz, Tigré, Tigrinya, Amharic, etc.; 140 million.
Omotic (20+):	Many languages spoken in Ethiopia. Three million speakers.

Among Africanists there is no great controversy as to the classification of Afroasiatic languages, although there has been some discussion of placing Omotic within Cushitic rather than as a separate family. Near Eastern scholars, however, are less happy with Afroasiatic, resenting the diminished attention accorded their languages in the accepted classification and the extrapolated African origin (Blench 1999b: 11). Some scholars consider them "minor

languages" and exclude them from the Semitic family tree (Blench & Spriggs 1999a: 12).

The next largest family in terms of both numbers of languages and numbers of speakers is **Nilo-Saharan**, probably the second oldest family in terms of the time depth of its differentiation. Bender 1996a has classified the languages of Nilo-Saharan into three major types along a continuum: Outlier-Satellite-Core. In Figure 2 the only languages to form a genetic group are the so-called "Core" languages to the right. It is the Outliers,[23] the three nodes to the left, that have caused many headaches (Sections 2.4 and 2.5.1). Most of the names represent families, although For, Berta, Kunama, Gumuz are individual languages.

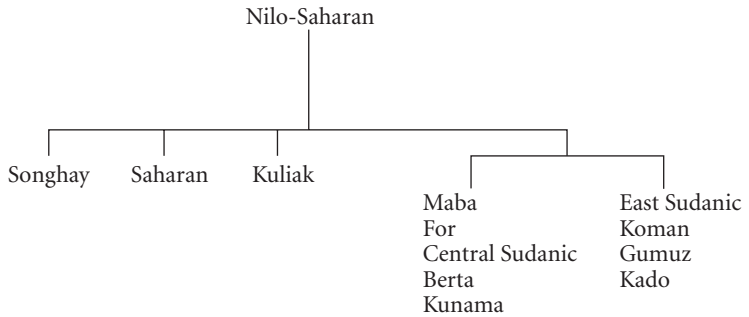


Figure 2. Nilo-Saharan (Bender 1996b, Bender 1996a)

The smallest and likely the oldest group is **Khoisan**, whose languages may not form a single group. The inclusion of the languages traditionally assigned to Khoisan is not uncontroversial, nor does everyone accept genetic relations between the parts. These problems are not surprising given the issues around the available data (see Traill 1995 for an overview). Not only do workers have the problem of incomplete data but there is also the fact that the family's fragmentation is likely of a greater time depth than any of the other families, making it harder to relate the languages (see Section 2.5.3 for details). The group contains some thirty or more languages, most of which are threatened with extinction. All have clicks, although those in Hadza and Sandawe are less robust, and all but the same two languages are spoken in southern Africa (Namibia, Botswana, Angola, and South Africa). A recent consensus seems to

23. Such languages have been called isolates or 'floaters' (*flottants*), problematic languages or groups inconsistently grouped on the basis of different methods (Bastin & Piron 1999: 150).

Northern (7):	Languages spoken in Angola and Namibia.
Southern (6):	Four in South Africa including ǁXegwi; and two in Botswana, !Xóõ and ǂHua.
Central (20):	Includes Haiǁom, Kwadi, Nama, !Ora, Xiri, and others spoken in Botswana.
Hadza (Hatsa)	
Sandawe	

Example 5. Khoisan (based on Grimes 1996 and Sands 1998)

be that Hadza and possibly Sandawe should be classified as isolates (Sands 1997 as in Blench 1999b: 4, Sands 1998).[24]

With the idea of these four phyla in mind, we will now consider some of the controversies and issues that have arisen in the classification of African languages.[25] Section 2.4 treats the problematic Nilo-Saharan family and how it can be related to the major African phylum, Niger-Congo. Section 2.5.1 treats two of its purported members, the languages Kuliak and Songhay, which may not be part of Nilo-Saharan at all. The following parts of Section 2.5 treat other unruly children.

Despite all of these complexities and resultant analytical shortcomings, there is considerable agreement, perhaps unwarranted, on how African languages should be classified. The section outlines the major approaches to classifying languages, all of which have been used in Africa. In the following section Greenberg's method of mass comparison is discussed and contrasted with more traditional ones.

2.2 Approaches to classifying African languages

In some cases the criteria used for classifying African languages have been and continue to be typological and even areal or geographic. In other parts of the world, languages are said to be genetically related only if they share linguistic

24. The genes of the speakers are not Khoisan: "the Hadza and Sandawe … show little if any evidence of Khoisan genes." (Cavalli-Sforza et al. 1994: 103). Note that the term "genetic" is used by linguists as well as by geneticists. Linguists use it to describe a relationship between languages that is characterized by a putative common parent: languages **genetically** related in linguistics were once unified but have since diverged (see Section 2.2).

25. There is no one review of African language classification, but see the phylum chapters in Heine & Nurse 2000. Cole 1971 contains a concise historical review. Williamson 1989b and other papers in the edited volume, Bendor-Samuel 1989, are also important.

properties and items which cannot have been borrowed, thereby demonstrating that they have a common "parent". Using the comparative method, the agreed-upon approach to language classification, the analyst seeks cognates, pairs of form-meaning correspondences between possibly related languages, in order to establish whether or not the two languages are related and in order to reconstruct their parent or proto-language (see further discussion below p. 31). Reconstructed Proto-Atlantic, then, would be the hypothetical language from which all attested Atlantic languages are descended (e.g., Pozdniakov 1993).

In the classification of African languages, additional, non-genetic procedures have been employed to supplement and sometimes to replace the comparative method, which procedures have not gone entirely unchallenged. It is not that non-genetic classifications are of no use, it is simply that it is inconsistent to use non-genetic criteria for making claims as to genetic relatedness. In fact, the validity and value of genetic classifications for African languages have been debated, e.g., Dalby 1970, that is, it has been questioned whether it is possible or worthwhile to perform such operations.

Genetic classifications are only one, albeit one very useful, way of grouping languages, but much can be learned by adopting areal and typological perspectives, especially coupled with a good knowledge of socio-historical facts. Nonetheless, as opposed to the others genetic classification is the only method of the three which has the desirable properties of being necessarily exclusive (only one classification is possible), exhaustive (every language has a place, even if as only an isolate at some level), and non-arbitrary (based on common historical development). The coincidence of phonological and syntactico-semantic content guarantees this (Bender 1996a: 11).

In a typological as opposed to a genetic classification, analysts will use a prominent, often unusual, feature to group languages. For example, languages using clicks (see Section 2.5.3) are assumed to form a linguistic group; languages with noun class systems (see Section 4.2) have also been grouped together. On the basis of their having noun classes similar to Niger-Congo, the Kordofanian languages were classified with Niger-Congo, as an early-branching family (see Figure 1). This classification, however, was not accepted until formal similarities (shared sound-meaning correspondences) could also be demonstrated, to show that "the resemblance of the Kordofanian noun class system to that of Niger-Congo is highly systematic and not merely typological" (Schadeberg 1981: 123–24, as referenced in Williamson 1989b: 13). The same sort of detailed comparative work has recently been performed on some of the languages in Khoisan, somewhat to the detriment of its unity (see Section 3.1).

In another non-genetic approach, areal or geographic classification, the place where languages are spoken, is crucial. Languages are grouped together on the basis of being spoken next to each other and typically share features due to this proximity. The Atlantic Group of Niger-Congo was given its first name "West Atlantic" on this basis: its languages are spoken along the **Atlantic** seaboard of **West** Africa.[26] At higher levels of classification geographic names are often used to designate a group, e.g., the Northern, Southern, and Central branches of Khoisan; the branches of Mande are known as Northern-Western, Northern, Southwestern, Southern-Eastern, etc. There is nothing wrong with this practice per se. What is misleading is when these geographical groupings are put forward or interpreted as genetic groupings.

A final technique is one rarely used to determine genetic relationships but is useful at the lowest level of classification, i.e., determining whether two varieties are dialects of the same language or two separate languages. The test is one of mutual intelligibility, evaluating whether speakers of Language A can understand the speakers of Language B and vice versa. It is a more finely grained measure than the others and is used primarily to measure the closeness of two varieties already known to be close, closer than varieties evaluated by the comparative method. In one of its many avatars, the approach plays a speech sample from Language B played to speakers of Language A. The Language A speakers then tested on how well they understand the speech sample. And then the reverse is done: speakers of Language B try to understand a speech sample from Language A. Although this method has not been put to widespread use by linguists in Africa (but see Ladefoged et al. 1972, Schuring 1985, Slabbert & Myers-Scotton 1997), it has been widely used by social psychologists and sociolinguists, e.g., Labov 1981. It features prominently, of course, in the tool box of missionaries, particularly those intent on Bible translation, e.g., Casad 1974, Grimes 1990 (see Simons 1979 for a review). With the information gleaned from such an assessment, missionary analysts can make decisions as to how many different Bible translations are needed for a given area and even which dialect should be chosen as the standard.

What is appealing about the approach is that it offers a measure not of how well speakers hypothetically can understand each other on the basis of a structural analysis, i.e., shared lexicon and grammatical features, the regular

26. The "West" part of the name was subsequently dropped (Doneux 1975). Even earlier the group had been named "North-West Atlantic" (Koelle 1854a).

data of linguists. Rather it is a very real measure of whether people can and **want** to understand the speakers of another variety. It allows the inclusion of social and psychological factors into the evaluation, both of which have been claimed to account for a sizable chunk of mutual intelligibility (15% in one estimate (Simons 1979: 186)). Because of this last feature, an analysis will often turn up surprising asymmetries that are not evident in a purely structural analysis, particularly when there are unequal social roles, e.g., between the Pygmy Efe foragers and the Nilotic Lese farmers (Grinker 1994). For example, speakers of Language A understand speakers of Language B at a rate of 80% but speakers of Language B understand speakers of Language A at a rate of only 60%.

Such measures allow insights into social processes and language change, insights absent from a purely structural analysis, ones that allow a more accurate extrapolation from the purely synchronic to the diachronic. These insights may also allow for extrapolations in the other direction: predictions can be made about language shift and even language death. For example, in the townships of South Africa and elsewhere, urban varieties have arisen that have been claimed by **both** insiders and outsiders to be unintelligible to outsiders, despite being just an age-graded dialect or slang.

A purely structural analysis shows one such variety, Isicamtho [isɬamːtʰo], to be little different from Zulu, something like a youthful slang. Why, then, are outsiders unable to understand it, or rather, why do outsiders **say** they cannot understand it? The reason has to do with the associations of Isicamtho with criminality, violence, sexism, etc., as is the case with many urban vernaculars in Africa. Such varieties as Isicamtho are spoken by young unemployed males who in South Africa typically belong to gangs and have spent time in jail. Undoubtedly the variety is accorded a great deal of (covert) prestige in some circles, but the general populace does not accept the values associated with it and so makes little effort to understand it. In summary, then, an evaluation of intelligibility, in uncovering the social-psychological dimension, tells us much more than a purely linguistic analysis. Although such measures have not often been used in genetic classification, they do provide information on the relatedness of languages at the micro level. From the data they furnish one can make social-historical inferences and thus obtain information on past and future relations between language varieties, useful information for classification.

Before concluding this section, it must be admitted that non-linguistic factors have historically complicated the process of classification in Africa. In the nineteenth century and even beyond, racial factors were important: "races" were equated with language families and sometimes languages were placed on

an evolutionary scale. Some languages (and thus their speakers) were seen as less developed and more primitive than others. Non-European languages were not surprisingly considered to be more primitive, and thus lower on an evolutionary scale, than those displaying the grammatical features of the languages of the European analysts (see Greenberg 1959). This reasoning resulted in "the racist 'Hamitic' concept, which wrongly brought physical type and cultural traits such as pastoralism into linguistic classification and needlessly complicated the placing of such languages as Maasai" (Bender 1996b: 5). Languages such as Fula, Maasai, Somali, and Nama were grouped together in a group called "Hamitic" and were said to have varying amounts of "Negro admixture" and to belong to a superior Caucasoid racial type (Meinhof 1912).[27] Picture 3 shows a Fula couple, Picture 4 a Maasai mother with her son and grandson, and Picture 5 a Nama elder.

Greenberg 1949 shows that Fula (the language) should not be classified with Hamitic on the basis of the Fulfulbe's (the people's) looks but rather with the Atlantic Group, one of the earlier branchings of Niger-Congo (Figure 1).[28] The Fulfulbe have non-Negroid looks but are centrally located, when linguistically classified from a genetic perspective, within the heart of the basically Negroid Atlantic group (Doneux 1978). Picture 6 and Picture 7 feature Kisi citizens of the town of Kpelloe, Liberia. Kisi also belongs to Atlantic.

Such notions as the primitiveness of African languages take a long time to displace and still hold sway in popular opinion. When non-linguists or beginning students ask me if I find African languages "primitive", I can usually jolt them into some rethinking by saying that I know an African language with **twenty-three** genders! (Romance-intent undergraduates are particularly curious now that "gender" has replaced "sex" in politically correct and even popular usage.)

With this brief overview of general approaches to the classification of languages and one shameful admission (the Hamitic Hypothesis), we now turn to the mass-comparison approach initiated by Greenberg, the results of which transformed the classification of African languages. Note that the approaches discussed in the following section all represent **genetic** classification.

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27. The implausibility of this grouping is underscored by the fact that it contained languages from all four genetic phyla (Bender 2000: 57)!

28. Bender notes than an overview of the debate on *Mischsprache* (the idea that languages of the Sudan were mixed) and the concept of Hamitic-Nilotic can be found in Gregersen 1977; an expanded statement of Greenberg 1949 appears in Greenberg 1963.

Picture 3. Fula couple

Picture 4. Maasai mother, son, and grandson (courtesy of Doris Payne)

Picture 5. Nama elder (courtesy of A. Traill)

Picture 6. Kisi elder (courtesy of Bill Baron)

Picture 7. Kisi town chief and his family (courtesy of Bill Baron)

2.3 "Megalocomparison" or mass comparison?

The title of this section comes from an article that questioned Greenberg's methodology when it was applied to Amerindian languages (Matisoff 1990; see Campbell & Mithun 1979), where his approach had nowhere near the success and acceptance it had with African languages. Much of the animosity from Amerindianists is likely attributable to cultural differences, especially the longstanding tradition of "splitting" (see note 18) in classifying New World languages.[29]

This section is limited to Greenberg, who, it should be noted, despite his new approach and considerable insights, relied on the work of others before him, especially Westermann (Williamson 1989b: 7) and Köhler (Bender 1996a: 4[30]). His proposal appeared in partial form in Greenberg 1949 and was expanded upon in subsequent publications, achieving something of a final version in Greenberg 1963.

Before Greenberg, the (genetic) classification of African languages was not based entirely on linguistic criteria, as it should have been. As mentioned above, typological and areal criteria were used, even racial ones. Although he can be faulted on some grounds, Meinhof was the first to apply the received comparative method to African languages, e.g., Meinhof 1899 [1910, 1932], a method which had so successfully been used to show the relatedness among Indo-European languages. Greenberg, however, adopted a new approach.

What Greenberg sought to do is what many others before and after have tried to do, namely, classify the linguistic groups in Africa according to genetic criteria, but he did it in a way some have considered too "quick and dirty".[31] For many reasons the traditional methods used by the Indo-European comparativists were of limited use in classifying African languages (Herbert 1997: ix),[32] so Greenberg invented another approach. What some have found objectionable, roughly speaking, is that he did not follow the prescribed

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29. The cause may also be a lack of agreement on methods or a lack of familiarity with statistical methods (Cavalli-Sforza et al. 1994: 96).

30. Bender recommends the background information on Greenberg's survey in Ruhlen 1987: 76–124.

31. See Winston 1966 for an early statement from an Africanist on this point; Goodman 1970 contains some pointed criticism.

32. There are time limitations to this approach, and the age of African language families may render it useless: Nichols 1992 has stated 8,000 years as a cut-off point for the viability of the comparative method; another source puts it at 10,000 years (Renfrew 1994: 123).

methodology (the comparative method or Neogrammarian model) but rather used a new technique initially known as "mass comparison" (sometimes upgraded to "multilateral" comparison). Certainly Greenberg encountered opposition and even some heat when he made his original proposal, but he experienced nowhere near the vitriol as when he treated Amerindian (e.g., Campbell 1988, Chafe 1987); nor was his "lumping" (see note 18) in the Indo-Pacific (Greenberg 1971) widely accepted. Thus, the method does not have wide acceptance outside Africa. Nonetheless, it certainly put things to order in Africa.

In applying the technique of mass comparison, a great number of languages are compared; the analyst interprets a large number of shared cognates as representing a genetic relationship. It is not a comparison, as in the comparative method, typically limited to a few languages and the reconstruction of a proto-language, but rather involves forms from a great many languages. In later explicating his method, Greenberg sets up "a dichotomy between the traditional comparative method of 'looking at many forms across only two or a few languages' and his own method of 'looking at few forms across many languages'" (Matisoff 1990: 118).

In addition to looking at many languages, Greenberg did not restrict himself to lexical items as had been done in the past, but also compared the form and function of grammatical morphemes. It was not enough that languages shared grammatical systems (typological comparison) but necessary also that the forms of grammatical morphemes be compared as well. He regarded the latter as being particularly strong evidence of relatedness. To most scholars such methodology seems unquestionably acceptable, at least in the preliminary stages when data and full analysis are unavailable. But many grumble that such groupings are incomplete and finally inadequate. Further analysis, however, has not dramatically changed his findings with regard to Africa; some solace can be taken in that his classifications have been generally accepted. Other approaches have not met with the same recognition and approbation, e.g., Mukarovsky 1976–77, Mann & Dalby 1987; Newman 1989 absolutely slams the latter.[33]

The one major revision is in the branch Greenberg called Kwa, one of the

33. Winston 1966 is a balanced early review of Greenberg's classification; more critical is Oliver 1966 and Flight 1985, which come from a historian's perspective; Greenberg 1972 is a response to the first. Bender 1996a contains highly critical comments on Greenberg's work on Nilo-Saharan. Ruhlen 1987 defends the method of multilateral comparison. Newman 1995b provides a thorough overview and history of the controversy surrounding Greenberg's methodology.

main branches of Niger-Congo (see Figure 1), the major phylum in Africa (see Section 2.1 for more details). What happened was that Eastern Kwa went to Benue-Congo, another major division of Niger-Congo, and Western Kwa became "(New) Kwa".[34] The reclassification originated in Bennett & Sterk 1977, which was subsequently criticized and re-analyzed in Schadeberg 1986, whose re-interpretation is widely accepted. Note that although this reclassification is a substantive one, it should not detract from the validity and considerable stability of Greenberg's comprehensive original work.

In the presentation of Schadeberg's results given in Table 4, Kwa has been split into two, some of the languages are in "(New) Kwa", while others are found in "(New) Benue-Congo".

Table 4. Branching trees (Schadeberg 1986 as in Williamson 1989a: 17)

1. Fula	5. Gur	9. (New) Benue-Congo	9.5 Igboid
2. Dyola	6. Adamawa-Ubangi	9.1 Nupoid	9.6 Jukunoid
3. Temne	7. (New) Kwa	9.2 Idomoid	9.7 Cross River
4. Kru	8. Ịjọ	9.3 Yoruboid	9.8 Platoid
		9.4 Edoid	9.9 Bantoid

The way the display in Table 4 is to be interpreted, as represented in Figure 3, is to see each member as representing a branching off from the parent stock ("Proto-Niger-Congo"). What we see, then, is that "Fula" (Fulfulde) is the first language to branch off, followed by Diola ("Dyola") and so on. Note how the first three branches are all separate Atlantic languages. All three belong to a proposed single group (Atlantic). It would be expected, then, that the three would branch off together. They do not because of the cognacy cut-off point of 18%. According to this criterion, no languages can be grouped together that share less than 18% of their common vocabulary, a disabling blow to the purported unity of Atlantic (see Section 2.5.2). It is not just within Atlantic that each language constitutes a separate branch in this treatment, but also outside; the Nigerian language Ịjọ also constitutes its own branch. The nodes in language classification, then, can represent one or many languages (see p. 30 for further examples).

34. The "New's" are a convenient way to keep the familiar names but indicate their difference from the older groups.

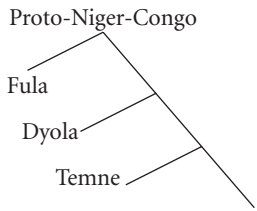

Figure 3. Branching trees

Both studies on the re-alignment of Kwa were based on lexicostatistical analysis, that is, based on percentages of shared cognates between individual languages (see Hinnebusch 1999 for an introduction, Embleton 1986 for a review of the method). Lexicostatistics measures how much two languages have in common in terms of shared basic vocabulary. The technique is an important one in determining genetic relationships, albeit one of several that can be used (Bastin & Piron 1999: 149).

Lexicostatistics was based on the Neogrammarian model, which sees languages as related when they could be shown to have come from a common ancestor (see 2.2). The ways in which the languages under consideration are different from that common ancestor are assumed to be historical changes that they have undergone since they were part of that common ancestor. If two or more of the daughter languages share common changes or innovations, then they are seen as more closely related than are other daughter languages. This technique of "shared innovations" (see Newman 2000a) is an important tool for determining branchings, such as those presented in Figure 3 (the branchings arrived at by a different method, as discussed above).

As a last point, lexicostatistics should be clearly differentiated from glottochronology (Gudschinsky 1964), which, nonetheless, is also based on lexicostatistical data. Using lexicostatistical results, the glottochronologist estimates how long ago proto-languages split apart. Table 5 gives some numbers to show how the technique works. Note that the values in both columns are **median** values. That being said, one can calculate how far back languages diverged on the basis of how much shared basic vocabulary they have. For example, if languages share only 30% of basic vocabulary, they separated some 4,000 years ago.

The critical (and, to many, unwarranted) assumption is that languages change at a standard rate.[35] One factor that can explicitly confound this

35. See Ehret 2000: 297 ff. for some arguments in defense of the approach.

Table 5. Median dating and retention rates (Ehret 2000: 287–8)

Years [BP]	Retention rate
500	86
1,000	74
2,000	55
3,000	40
4,000	30
5,000	22
6,000	16
7,000	12
8,000	9
9,000	7
10,000	5

method is the degree and intensity of language contact, especially when borrowings cannot be identified (Hinnebusch 1999), a phenomenon discussed explicitly in Section 7.2.

With this information as background, we can now turn to some specific and often controversial cases.

2.4 And then there were three: Merging Nilo-Saharan and Niger-Congo

There are a number of issues that swirl around the group known as Nilo-Saharan, both internal and external. There are questions with regard to its constituency and its members' relationships, as well as to its relationship to other phyla, particulary, Niger-Congo. At least one leading scholar considers Nilo-Saharan to be the least known of the four phyla (Bender 1996a: 10), although others argue that Khoisan deserves the honor. Nilo-Saharan has certainly engendered much classificatory interest. In this section I present some of the positions on whether or not Nilo-Saharan constitutes an independent group. Questions as to the group's constituency are treated in 2.5.1.

Although the four African phyla are well established and by definition are separate and unique, there have been proposals to merge two. Under one proposal Nilo-Saharan would be seen as the older, earlier branch of the macro-phylum also containing Niger-Congo. The evidence has been accumulating as more is understood about Nilo-Saharan and many see the merger as inevitable

(Williamson 1989b: 8–9).

The proposal that Nilo-Saharan and Niger-Congo constitute a single phylum was first articulated in Gregersen 1972, although hints of the proposal are detectable in the work of Westermann (Williamson 1989b: 7). Gregersen proposes that two phyla be unified into a larger phylum called "Kongo-Saharan". This claim was furthered with some changes in Bender 1981, and Blench 1995 adduces further data and proposes a new name "Niger-Saharan"[36] on the basis of some non-lexical evidence.

Niger-Saharan, as presented in Figure 4 illustrates the configuration of the combined two phyla. Roughly speaking, Nilo-Saharan languages find themselves as various branchings at the top of the tree, with the entire Niger-Congo set of languages as a lower node coordinate with Central Sudanic. Instead of Nilo-Saharan being one large branching at the root of Niger-Saharan, the relationships are much more finely nuanced in Blench's treatment: Niger-Congo forms a unity with only a subset of Nilo-Saharan. The rest of the Nilo-Saharan languages that have proved problematic (see 2.5.1) retain their relatively autonomous positions atop the tree.

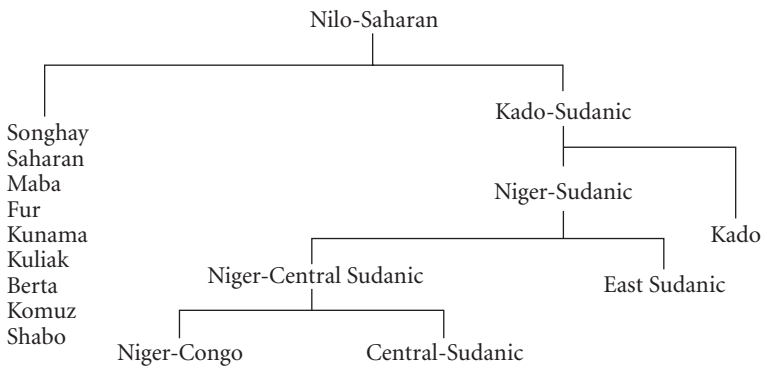

Figure 4. Niger-Saharan (Blench 1995: 88)

The evidence that Blench finds the most compelling is morphological — what he considers identifiable remnants of the Niger-Congo system in Nilo-Saharan, for example, the **ma-** prefix for liquids or mass nouns corresponding

36. This proposal comes not from vainglory, but rather because Gregersen's term "gives a misleading impression to non-specialists of the location of the families" (on a suggestion from Kay Williamson (Blench 1995: 84, 97)).

to **ŋ-** in Kordofanian. In the way of phonology he finds ATR vowel harmony (see 3.5) and labiovelars (see 3.3) in uneven distribution, being confined to only some sub-groups. Despite wide disparities in the quality of the data, he finds that the lexical material confirms the analysis suggested by the phonological data. Note that such features as labiovelars have long been recognized as areal in their distribution (Greenberg 1983) and thus liable to areal diffusion, The picture he presents is given in Figure 4. The list of languages to the left constitutes a single node.

The next section deals with the splitting side of language classification, deciding whether a language belongs to a group or whether a set of languages constitute a group on their own.

2.5 Some local problems in language classification

This section illustrates some more specific problems that have arisen in the classification of African languages by the presentation of some fairly well described examples. Assuredly there are many more problems that could have been treated; what follows is a sample of the problems and issues and the way linguists have gone about resolving them.

2.5.1 Nilo-Saharan (again)

To give the reader a flavor of how various and variable classifications may be, I give the multiple classifications of two of the Nilo-Saharan "Outliers" in Bender 1996b (see p. 30 above), Kuliak and Songhay. After reading this section the reader will probably not want to hear about the other outliers, nor about the other problematic member, the Kado group in the Kordofan Hills of south-central Sudan (Blench 1995: 88).[37]

The first of the two Outliers to be treated here is Kuliak, a set of languages spoken in the mountainous regions in the Karamoja area of northeastern Uganda (see Map 5). So, one of the Kuliak languages, is spoken on three extinct volcanoes in the Karamoja area of northeastern Uganda.

The list in (5) shows ways in which Kuliak has been classified. Not all of these classifications are, strictly speaking, mutually exclusive; they are nonetheless substantively different and certainly illustrate the differences that can arise, even with the best of intentions.

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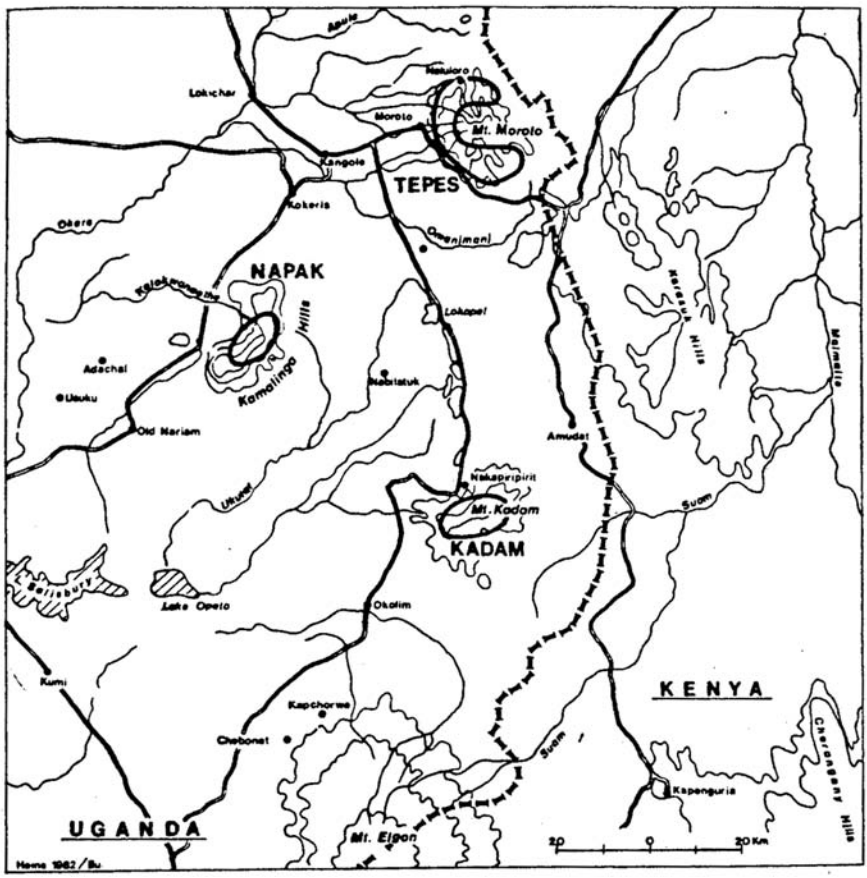
37. Ehret 1995 posits Krongo/Kadu and Shabo as separate families (cf. Blench 2001b).



Map 5. So (Carlin 1993: vi based on Heine ms)

(5) Classifications of the Kuliak family

Fringe Cushitic in the Afroasiatic family (Tucker 1967, as referenced in Carlin 1993);
A distinct branch of Eastern Sudanic in the Nilo-Saharan family (Ferguson 1963, Greenberg 1963, as referenced in Carlin 1993);
Independent, a non-aligned language family (Tucker & Bryan 1966; Laughlin 1975; Heine 1976a, as referenced in Carlin 1993);
An "Outlier" of Nilo-Saharan (Bender 1996a);
An early branching from Proto-Nilo-Saharan (Blench 1999a).

Even more confusing is the classification of Kuliak's fellow Outlier, Songhay. According to Williamson 1989b: 9, the uncertainty of Songhay's status was one of the reasons for the original lumping of Nilo-Saharan and Niger-Congo in Gregersen 1972 (see Section 2.4). If Songhay belongs to both families, then the two families should be united. (Few others advocating the merging of Nilo-Saharan and Niger-Congo use this argument.) Note that the classificatory positions of Songhay range from isolate to membership in every language phylum, save Khoisan (Songhay fortunately has no clicks!). Furthermore, the families to which it has been assigned in Niger-Congo, Mande and Gur, are quite separate from each other (see Figure 1). The final point to be made about the display in (6) shows that even linguists can change their minds.

(6) The many positions of Songhay
- An isolate, Westermann & Bryan 1952; Greenberg 1955, as in Williamson 1989b: 9
- Nilo-Saharan, Greenberg 1963 as referenced in Dwyer 1989: 9; the first branching in Nilo-Saharan, Welmers 1973 as referenced in Bender 1996b: 59; an "Outlier" in Nilo-Saharan Bender 1996a: 64
- Chadic, as referenced in Nicolaï 1990
- Mande, Delafosse & Caquot 1924 (1952), as referenced in Williamson 1989b: 9
- Gur, Westermann 1927 as referenced in Williamson 1989b: 9
- A mixed language based on Touareg and Mande; originated as a pidginized variety of Touareg superimposed on a Mande structural framework, Nicolaï 1990

A recent worker on the Songhay languages concludes that we might as well just throw our hands up in the air and accept the fact that Songhay resists easy classification. As he puts it, "The wider genetic affiliation of the Songhay language family has not been resolved" (Heath 1999: 2; cf. Heath 1998). This is the position also suggested in Dimmendaal 1995 in the absence of adequate historical sources.

The next section treats the Atlantic family, a set of languages that perhaps should not be grouped together at all (Childs 2001c).

2.5.2 Location, location, location: Atlantic

The main point of this section is that areal factors often play and have played an important role in the classification of African languages. The second point is

that scholarly inertia reinforces mistakes, which are thereby perpetuated indefinitely, effectively forestalling any re-examination of the facts. The Atlantic Group likely proceeds from the lumping side of classificationists (see note 18). The reader might also note the relatively minor point in this section that arbitrary decisions in lexicostatistics are sometimes possible.

In Williamson & Blench 2000 (see Figure 1), Atlantic represents a collateral branching with Mande after the first offshoot, Kordofanian, and thus is one of the older branchings. The Atlantic languages were one of three families to be bullied about by the Mande warriors of the fifteenth century; the other two, Gur and Kru are equally interesting from the point of view of language classification and areal factors, a position that will be presented in greater detail in Section 7.2.3. It is likely true that contact with Mande, especially the Manding core, has structurally affected Atlantic languages (Childs 1995c, Childs 2001a); this contact may be obscuring an earlier, closer genetic unity.

The classificatory problems with Atlantic have hardly been resolved but have rather been abandoned in favor of a non-genetic classification. The most recent commentary on the group as a whole admits that the classification is not genetic: "The two features that make Atlantic a meaningful entity are typology and geographical distribution" (Wilson 1989: 81).[38] To many the group seems something of a "wastebasket group",[39] the category to which all languages are assigned that do not fit into the more cohesive Mande family (but see note 39) found in the same area (see Map 6). To some extent the same exclusionary principle is used to group the Khoisan languages together, along with the typological criterion of using clicks (see Section 2.5.3). The internal diversity of Atlantic has been characterized as follows:

> West Atlantic … is a very diverse group, containing at least three major subdivisions. It is possible that some language groups traditionally assigned to West Atlantic are in fact coordinate branches of Niger-Congo. There is no apparent common innovation linking West Atlantic, and evaluation of its status must await further detailed investigation. At present, all that can be said is that the lexicostatistical distance between branches of West Atlantic is nearly as great as that between West Atlantic and the remainder of Niger-Congo. (Bennett & Sterk 1977: 248)

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38. The same claim has been made for Mande, e.g., by Köhler (Kastenholz 1998 p.c.), although the percentages within Mande are somewhat higher (17% or more Bimson 1978: 5 but 20–24% in Welmers 1958 as referenced in Kastenholz 1991/92: 110).

39. Gur is also "a rather heterogeneous and ill-defined group" (Bendor-Samuel 1971: 143).

Map 6. The Atlantic languages (Wilson 1989: 82) Atlantic

Bennett and Sterk found levels of cognacy so low that they posited each of the Atlantic languages they treated (Fula, Diola, and Temne (see Figure 3) as

separate branchings (see p. 40), and gave each a "0" in their scoring.[40]

Wilson 1989 presents the lexicostatistical data, which is pretty grim for anyone championing a cohesive Atlantic Group. Within several subgroups of Atlantic, e.g., the Baga languages, Sherbro, the Cangin group, there are more credible shared lexicons (above 30%), but for the group as a whole the percentage of shared basic lexicon is below 10% (see note 41).

I. Northern Branch
  A. Senegambian languages: Fulfulde, Serer; Wolof
  B. Cangin: Lehar, Safen, Non; Ndut, Palor
  C. Bak: 1. Diola: Bayot-Essin, etc.; 2. Manjaku, Mankanya, Papel; 3. Balanta
  D. Eastern Senegal-Guinea
    1. Tenda*: Tenda Mayo, Basari; Onian, Bedik; Konyagi
    2. Biafada, Badyara
    3. Buy, Kasanga; Bainouk
  E. Nalu: Nalu, Mbulungish, Pukur
II. Bijagó (n = 1)
III. Southern Branch (n=17)
  A. Mansoanka
  B. Mel languages
    1. Temne; Baga Binari, Baga Maduri, Baga Sitemu, Baga Tchitem, Baga Koba, Landuma
    2. Bulom languages: Kisi; Mmani, Sherbro, Krim, Bom
    3. Gola
  C. Limba

* Tenda may also be a non-genetic group based on geography, referring to languages spoken by minorities in eastern Senegal and Guinea-Conakry (Ferry 1991).

Figure 5. The classification of Atlantic

Some analysts have gone so far as to say that individual languages within the group have closer genetic relationships with languages outside the group than with languages within, e.g., Mukarovsky 1966, Wilson 1989. A more recent proposal deals with Bijagó, an agreed upon isolate within Atlantic. The Bijagó, for the most part, live on the islands of the Bijagó Archipelago off the coast of Guinea-Bissau and on the nearby mainland, where they have been relatively isolated for centuries (Henry 1994). The proposal is that Bijagó shows closer

40. This has been seen as an overreaction; arbitrarily replacing the 0's with 17% vastly overstates the level of cognacy among these three languages by as much as threefold (Schadeberg 1986). Seeing this figure of 17%, some have inferred that Atlantic as a whole has a 17% level of cognacy! (Podzniakov 1999 p.c.).

links to languages outside Atlantic than within, namely, to a "pre-Bantu" substrate, "*un stade* ***anterieur*** *au bantou commun*" (Segerer 1997: 6).

The lesson from this section, as indicated in (7), is that areal features may be used as a first step in language classification but cannot be relied upon for a truly genetic classification, even if the languages are related to no other group. There are other revisions to the classification in Figure 5 that will be discussed in a later section. Mansoanka, for example, is a Mande language or at least a mixed language combining both Atlantic and Mande components (Segerer 1999 p.c.). As will be seen in Section 7.2.3, the history of the interaction between Mande and Atlantic has led to all manner of blends.

(7) The lexicostatistics of Atlantic and some interpretations

Shared basic lexicon is around 8%;
Languages of the group do not rise to the 18% level of cognacy needed for languages to be considered related in Bennett & Sterk 1977;
Papel is closer to Common Bantu than to other Atlantic languages (Wilson 1989);
Bijagó may have a pre-Bantu substrate (Segerer 1997).

In conclusion, neither lexicostatistical data nor shared innovations (nor reconstructions) seem to favor treating Atlantic as a genetic group. The culture of lumping and inertia are the only factors favoring its continuance. From the next section we will draw a similar lesson, this time with regard to typological classification: typological features are not reliable for genetic classification.

2.5.3 Clicks and classification: Khoisan

The Khoisan language group, one of the four major language phyla of Africa, has provided analysts with problems of both data and interpretation (see Sands 1995 for a review). What is particularly fascinating about the phylum is that two purported members, Sandawe and Hadza, are located in Tanzania half a continent away from the major locus of the family. Map 7 shows just the "Southern" Khoisan languages in pre-colonial times (excluding Sandawe and Hadza). In the recent past it has been estimated there were more than a 100 languages — today less than 30 exist (Güldemann & Vossen 2000: 99), and many of them are bound for extinction (see 1.1).

This distance, as well as their speakers' physical similarities to their northern neighbors rather than to the distinctive southern African type (Bender 1996a: 9),

Map 7. The Khoisan languages (Güldemann & Vossen 2000: 100)

has engendered some doubts as to their genetic relatedness to greater Khoisan. Recent work has shown these suspicions to be valid. If indeed these two click languages cannot be shown to be related to the Khoisan languages of southern Africa, the question then arises as to which languages Sandawe and Hadza **are** related to, or are they simply linguistic isolates, as was suggested for Bijagó of Atlantic in the preceding section? The general lesson to be learned from this

section is that a typological feature, however distinctive, cannot genetically define a linguistic group.

In addition to the question of the relatedness of the two distant candidate members, a more general question is whether the click languages constitute a genetic group at all. They obviously share a highly marked linguistic feature, the use of the velaric speech mechanism to produce five basic sounds (clicks at five different places of articulation; see Table 6) which, along with their many accompaniments, have led to enormously large phonemic inventories. From Westphal 1971 on to the present, "Khoisan"[41] has been used as a cover term "to refer to those African languages which use clicks as regular speech sounds and which are not obviously members of one of the other families" (Sands 1998: 75). We have already seen how the latter condition and areal factors led to the promotion of Atlantic as a genetic group. The same factors are at work here with the addition of the presence of clicks (and perhaps a racial type). This combination has led analysts to group the languages together and even to include two languages which do not satisfy the areal criterion. The implicit assumption is that clicks (typology) are more important than location (area).

It is hard to come by evidence from shared cognates or reconstructed proto-forms to show a true genetic relationship among the Khoisan languages (Traill 1986). In addition to the question of the group as a whole, there is some question as to the genetic relatedness of the two major sub-groups, the Khoi and the San, who may be only culturally differentiated (Wilson 1986). In a statement about the Khoisan languages of South Africa, Traill baldly states, "The South African Khoisan languages fall into two linguistically unrelated [my underlining] groups" (Traill 1997a).

Although it will be impossible to enter into the evidence in any great depth here, it seems likely that both Sandawe and Hadza do **not** form part of Khoisan. Work on noun class systems suggests that Hadza may not belong (Sands 1998). The implication here is that just as Atlantic may not form a coherent group, so may not Khoisan; in fact it is much more likely. Africanists must simply learn to live with the fact that these isolates are possible if not common outcomes of language change and diversification, determined to stymie neat classification

41. The room in which "Khoisan" was first adopted is one of the classrooms in the Linguistics Department of the University of the Witwatersrand. Not only is it where the politically correct term was proposed as a replacement for the widely used "Bushman" and "Hottentot" (see Tobias 1978), but it was also one of the rooms bombed by campus protesters in 1993. Less importantly it was across from the author's office during his tenure there (1990–94).

and tidy formalizations, particularly as greater time depths are considered. These findings, incidentally, do not hold promise for those interested in Proto-World, the ultimate lump, the mother of all languages, a language from which all languages are descended.

As this chapter ends with a denunciation of clicks as inadequate data for genetic classification, the next will begin with their exaltation as one of the most phonetically interesting phenomena to be found in Africa.

3 Phonetics and phonology

It is probably in the area of phonology (here broadly construed to include phonetics) that African languages have had the greatest impact on linguistics. Data from African languages has been especially important for linguistic theory, particularly that subdivision dealing with formal representations. For example, the mobility and independence of African tone single-handedly created Autosegmental Phonology (Goldsmith 1979), and Afroasiatic's discontinuous morphemes contributed significantly to a reformalization of morphophonology (McCarthy 1982). Venda has contrasts where it should not, according to Jakobson et al. 1951, and also poses problems for Enhancement Theory (Ridley 1991). The sorts of phenomena that phonologists have found interesting are typically not attested elsewhere in the world; it seems there is always something new under the African sun.

An early study documenting some non-Western phonetic features of African languages is Westermann 1930 (the name of the first author should be familiar from Chapter 1). This book was designed to help Europeans learn African languages, and a testament to its usefulness is the fact that is has been re-issued (1990). The careful descriptions of Ida C. Ward (Ward 1933, 1936, 1952) were the first thorough phonetic analyses of several important West African languages, particularly in her treatment of tone. The first investigation to use modern instrumental techniques, however, is Ladefoged 1968, which contains, for example, an introduction to the widespread glottalic speech mechanism. In the production of these sounds the glottis is used as a piston, both to produce sounds by sucking air in (implosives) and by pushing air out (ejectives). Languages with these sounds are widespread in Africa and contribute to the size of consonantal inventories. If nothing else, African languages have expanded our notions of what is a possible sound inventory in a language; this is especially true of the click languages of southern Africa, which is where our first detailed discussion begins.

3.1 Clicks

Clicks are undoubtedly unusual sounds to an English speaker, at least when used linguistically. These sounds use the back and body of the tongue to produce their characteristic popping noise. In English clicks are used paralinguistically to encourage a horse and to indicate disapproval (see Table 6). Clicks are not so unusual in southern Africa and constitute something of an areal phenomena (see Lass 1975). They can even be sung, as shown by Recording 2, excerpted from "The Click Song" by the incomparable Miriam Makeba.

Recording 2. Click Song
Excerpt from "The Click Song" by Miriam Makeba

Picture 8. Singer Miriam Makeba (from http://www.ritmoartists.com/Makeba/makeba.htm)

The "Click Song" is used to celebrate a marriage, and in the introduction to this song Makeba strangely refers to Johannesburg, where she was born in 1932, as "my native **village** Johannesburg" [my underlining]. Johannesburg has been a sizeable city at least since the gold rush of the 1890s! She also remarks that it is called the Click Song because "the white people" can't pronounce the song's real name, Xhosa *Qonqothwane* [!oǃŋotʰwaːne]. The velar nasal after the second click indicates that it is nasalized (my thanks to A. Traill for this transcription). Try it once you have had some practice with the exercises.

To the unfamiliar (English speaker), clicks sound as if they were some sort of an overlay on regular speech. For anyone who has heard a conversation between speakers of click languages or who has seen the late 1980s movie "The

Gods Must Be Crazy" (or its sequel), this perception will be familiar. It is as if some unseen hand were working furiously overtime in the background to create an audio palimpsest with all kinds of pops and sizzles. This perception, however, is obviously not shared by speakers of these languages; clicks are decidedly **not** regarded as being unusual to click users. Just another sound to speakers, they are highly integral to the language, as much a part of the speech signal as any other speech sound. They are certainly not at all unusual or "marked" within the Khoisan family (see Traill 1986, Herbert 1990b).[42]

From an articulatory perspective, clicks employ the velaric speech mechanism crucially involving the back of the tongue, which closes off one end of the air column. When the back of the tongue is raised to the roof of the mouth, the other closure is effected in front of that closure, and the cavity thus formed is expanded by lowering the middle part or body of the tongue, producing a rarefaction or partial vacuum. When this cavity is unsealed, i.e., when the closure is released, the in-rushing air produces the characteristic popping sound of clicks. The production of the alveolar click in !Xóõ is shown in Figure 6.

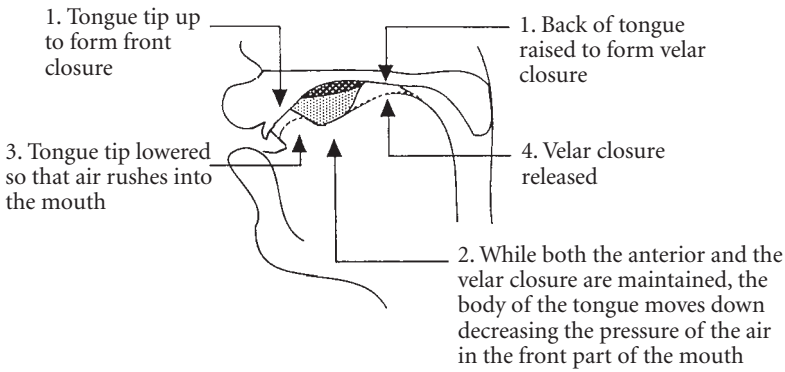

Figure 6. Click production (Ladefoged and Maddieson 1996: 247)

The palatograms in Figure 7 show the size of the air pockets formed when producing clicks. Subjects produced the sounds after having their tongues

42. Please note that I am saying nothing here about the salience of clicks to speakers of Bantu languages with clicks. There is evidence that they are marked sounds in such languages as Zulu, e.g., their uneven distribution across word classes — clicks are more common in ideophones (Childs 1994a). Their markedness may also be why they were originally borrowed (e.g., Herbert 1990a).

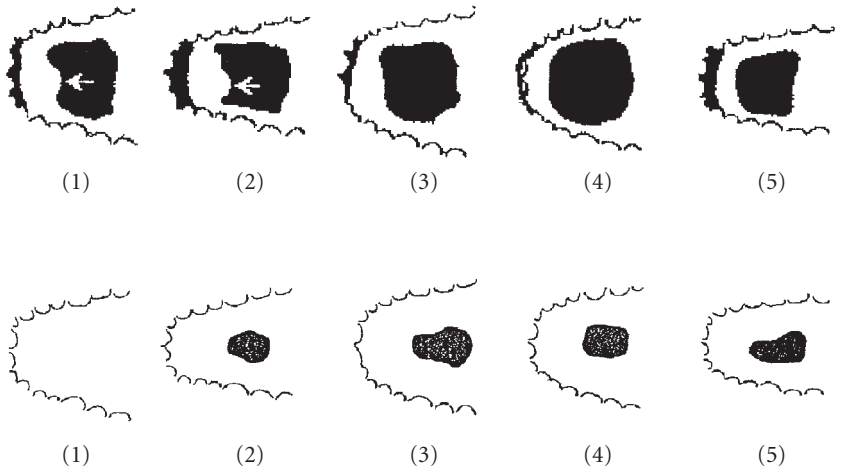

Figure 7. Palatograms (Ladefoged and Maddieson 1996: 253, 255 based on Traill 1985)

sprayed with black powder. Immediately after subjects produced the click, a picture was taken of their palates. The white areas are the places where there was "wipe-off" caused by contact with the tongue as the click was produced.

Table 6. Symbols for clicks

	Front closure	± Noisy	Characterization
[ʘ]	Bilabial	noisy	the inwardly kissing click, air kiss
[ǀ]	Dental	noisy	Scolding "tsk-tsk"
[ǁ]	alveolar lateral	noisy	Giddyap (said to a horse to make it go)
[ǂ]	Palatal	not noisy	
[ǃ]	Alveolar	not noisy	Loud, popping

In Table 6 appear the phonetic symbols for the five (unaccompanied) clicks along with the clicks' front closure, an indication as to whether they are "noisy" (Traill 1994c), and a rough equivalent from English.

To hear these sounds in relative isolation, listen to Recording 3, which contains examples of clicks produced between two instances of [a] followed by a number of other contrasts, including some accompaniments (see Table 7). The recordings were made by the renowned phonetician A. Traill as part of a class exercise for his students (used with his permission). Traill is a fluent speaker of !Xóõ.

Recording 3. Clicks
Lessons on clicks

(8) Lessons on clicks, courtesy of A. Traill

1. Clicks between vowels

1. [a⊙a] Bilabial
2. [a!a] Dental
3. [a‖a] Alveolar lateral
4. [a≠a] Palatal
5. [a!] Alveolar

2. Contrasting similar clicks

1. [⊙] [!] 2. [!] [‖] 3. [≠] [!]

3. Clicks beside their nasal counterparts

1. [⊙] [ŋ⊙] bilabial
2. [!] [ŋ!] dental
3. [‖] [ŋ‖] alveolar lateral
4. [≠] [ŋ≠] dental-palatal laminal
5. [!] [!ŋ] alveolar

5.1 Voiceless clicks beside their voiced counterparts

1. [⊙] [g⊙] bilabial
2. [!] [g!] dental
3. [‖] [g‖] alveolar lateral
4. [≠] [g≠] dental-palatal laminal
5. [!] [g!] alveolar

5.2 Voiceless clicks beside their aspirated counterparts

1. [⊙] [⊙^{h}] bilabial
2. [!] [!^{h}] dental
3. [‖] [‖^{h}] alveolar lateral
4. [≠] [≠^{h}] dental-palatal laminal
5. [!] [!^{h}] alveolar

5.3 Voiceless, voiced, and nasal clicks

1.	[⊙]	[ɡ⊙]	[ŋ⊙]	bilabial
2.	[ǀ]	[ɡǀ]	[ŋǀ]	dental
3.	[ǁ]	[ɡǁ]	[ŋǁ]	alveolar lateral
4.	[ǂ]	[ɡǂ]	[ŋǂ]	dental-palatal laminal
5.	[ǃ]	[ɡǃ]	[ŋǃ]	alveolar

Although the articulatory details are unique and fascinating, what is crucial to the distinctiveness of clicks is not their production but rather their acoustic-auditory target, as Traill has pointed out in many publications, e.g., Traill 1994a.

Clicks are common in the languages of southern Africa, but they show an uneven distribution, which can be interpreted as documenting the historical contact between their users and speakers whose languages originally did not have clicks, namely, the Bantu languages of South Africa. Unlike Khoisan, the Nguni languages of Southern Bantu, e.g., Zulu, have clicks at only three places of articulation. These clicks, strangely enough, are not part of the genetic inheritance of any of the Southern Bantu languages. They have all been borrowed from Khoisan languages, an unusual transfer, whose curious agency is examined in 7.2.1.

Partially because of the clicks, many of the Khoisan languages have incredibly large sound inventories. !Xũ has 141 segments (Snyman 1970), the world record! By contrast, Mura, a Chadic language of Cameroon and Nigeria, has only 11 (Maddieson 1984); English and Zulu both have around forty, a high but not unusual number. What is fascinating about clicks is that they can be combined with secondary articulations to produce a vast array of sounds. To give an idea of how an inventory can be expanded through "accompaniments", I have listed in Table 7 some of the possibilities for just the dental click, all of them attested phonemes.

When one considers that some of the accompaniments can be combined,

Table 7. Clicks and their accompaniments (Ladefoged & Traill 1994)

Voiceless	[ǀ]
Voiced	[ɡǀ]
Nasalized	[ŋǀ]
Aspirated	[ǀʰ]
Glottalized	[ǀˀ]
Breathy-voiced	[ǀ̤]

it becomes clear how an inventory can swell. !Xũ, the language with the largest inventory, has only three of the five (unaccompanied) clicks (it lacks the bilabial and dental) but forty-four accompanied ones, including the "breathy voiced lateral affricated click" (Maddieson 1984: 421–22).

I now turn to something nearly everyone (Ferguson 1963), including English speakers and especially Americans (Ohala 1975), have in common with speakers of African languages, namely, noses. The next section examines the linguistic use of the resonating cavity formed by the nasal passage.

3.2 Nasal processes

This section looks at inventories and changes involving nasality. Alternations can be in the form of a feature, e.g., the spread of nasality through assimilation on to adjacent segments, in the form of a partially nasal segment, e.g., prenasalized stops, or in the form of a variably present segment, such as the velar nasal in several West African languages. Syllabic nasals, i.e., nasals that are capable of constituting a syllabic peak, are discussed in Section 3.4, which treats syllable structure.

3.2.1 Nasalization

Synchronic nasal processes as well as changes in nasals over time are phenomena of great interest to comparativists and historical linguists, e.g., Vydrine 1994. There is some controversy, for example, over whether nasal consonants need to be reconstructed for Niger-Congo, e.g., Stewart 1976, Mukarovsky 1976–77. Stewart 1985 argues that nasal consonants do **not** need to be reconstructed and shows how they arose in Niger-Congo from the spread of nasality from nasal vowels on to adjacent consonants. It is the mobility of the feature nasality, i.e., its status as a suprasegmental (Lehiste 1972), that allows its realization to be so varied. It can spread to the left or to the right, over one or more segments. In northern coastal dialects of Swahili (see Map 14), for example, there is a (phonetic) rule of perseveratory nasalization that nasalizes vowels after a nasal segment, e.g., *mwalimu* 'teacher' will be pronounced [mw̃ãlimũ].

Sometimes there is nasalization with **no** nasal present, as in languages of the Bullom sub-group of Southern Atlantic (Niger-Congo). After [h], in languages such as Krim, a language without contrastive nasal vowels, vowels are strongly nasalized (Pichl 1972), likely due to the open glottis and heavy airflow or "rhino-

glottophilia" (Matisoff 1975:272). Because of the absence of any conditioning nasal, such cases have been called "spontaneous nasalization" (Ohala 1975).[43]

The focus in this section will be on a few of the different ways in which nasality manifests itself synchronically, often with only slight but significant differences in closely related languages. The first item of interest is partially nasalized segments, specifically, those consonants that start off nasal but end up oral.

3.2.2 Prenasalization

Although prenasalized segments are relatively uncommon in languages of the world, they are richly distributed in the languages of Sub-Saharan Africa (Herbert 1986, Childs 1991). Rarely, however, are they reconstructed, and in many languages they must be interpreted as derived, rather than as basic, segments. The typical pattern is for nasality to spill over from a neighboring (nasal) vowel or consonant onto a following segment, as represented in (9).[44]

(9) ãb → ã^{m}b

What a prenasalized stop consists of phonetically is a lowered velum raised only after the closure of the stop has been effected. The nasal cavity remains open until midway into the production of the stop, thus producing a short nasal (stop) before the oral stop itself (see Maddieson 1989b for a discussion of the timing). Such segments are often written or broadly transcribed as [mb], for example, Swahili *simba* 'lion' and [nd], *ndugu* 'brother', etc. These are uncommon sequences in English[45] and other languages but quite common in Africa.

As might be expected on the basis of their historical origin as two segments, the unitary (phonological) status of prenasalized sequences varies from language to language; they are phonemically one segment in one language, two segments in another. Typically they can be seen as part of a diachronic process that has been arrested in various stages of completion. For example, prenasalized

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43. Spontaneous nasalization is also found after American English [h]. The Kennedy-esque pronunciation of the name of a major eastern university that both Jack and Bobby attended, especially as lampooned by Vaughn Meter, is [ˈhɑ̃ɪvəd].

44. Although prenasalized fricatives and trills can be found (Trifkovic 1969), they are relatively rare (Ohala 1975) and I will confine the discussion to stops.

45. I have heard both a nasalized greeting [ˈŋɛlo] 'hello' and a prenasalized closing [mbaɪ] '(good-)bye' in American English.

segments are always derived in Fula, i.e., there are no prenasalized phonemes at all, despite the sequences' widespread presence (Paradis 1990). Silverman 1995 finds that in different instances Bafanji prenasalization is "optional, conditional, and obligatory" [my underlining], suggesting that at least some prenasalized segments are basic. Childs 1995b finds that prenasalized stops are synchronically unitary (single phonemes) in Kisi, but synchronic alternations show that they have arisen historically from what Herbert 1986 calls "abutment". Nasal abutment requires that a nasal consonant be adjacent to an oral one, an environment occurring when noun class markers are suffixed to noun stems in the affixation process shown below in (10). The sequence [ŋ + l] becomes [nd], a single segment.

(10)	Kisi:	lèèŋ	+	léŋ	→	lèèndéŋ	'cutlass, matchete'
		STEM		NCM			

In this scenario, prenasalized stops originate in consonant clusters, a nasal followed by a voiced stop (the liquid "l" changes to a stop in the example), which eventually unite in a single segment to conform to the language's phonotactics.

All of the prenasalized stops in Kisi consist of a homorganic sequence beginning as a nasal and ending as a voiced (non-nasal) stop, a common pattern in languages with such segments (cf. Maddieson 1989b). There are five members of the series in Kisi: bilabial, alveolar, and velar being the most common; the others are a palatal [ɲɟ] and a labiovelar [ŋmgb]. All have a counterpart in the voiced or voiceless series of stops, in line with a reformulation of Ferguson 1963's "assumption" about prenasalized stops always having a plosive counterpart (Maddieson 1984: 68). The general distributional pattern is that the prenasalized stops never occur finally and are found medially rather than initially, in accord with the abutment explanation. In fact, prenasalized stops are regularly barred from initial position in many languages (Herbert 1986: 91). I now turn to cases where a nasal entity has variable realizations, ranging from a fully present segment to a secondary feature to nothing at all, the mysterious "phantom" nasal of Manding.

3.2.3 The phantom nasal of Manding

Within the closely related languages of Manding (Bole-Richard 1984) and most of South-West Mande (Vydrine 1989), all found in West Africa, there is an alternation between a nasal (homorganic to a following stop), vowel nasalization,

and nothing, i.e., no nasality at all. A final nasal variably manifests itself, sometimes considered a "reduced nasal phoneme" (Tourville 1990) or a "nasal glide" (Trigo Ferre 1988). Here are some of the facts from Braconnier 1982 and Braconnier 1986 as referenced in Tourville 1990: 4. Odienné Jula has seven oral (left-hand columns in (11)) and seven nasal vowels (right-hand columns), but the latter have skewed distributions. The nasalized vowels never appear before an oral stop. They appear only before a pause, a vowel, a fricative, a liquid, a nasal, or a glide.

(11) The nasalized vowels of Odienné Jula

bi	to bring water	bĩ̀	grass
flé	corpse	flĩ̀	to turn back
gbɛ̀	to whiten	gbɛ̃̀	to send back
sá	to die	sã́	to buy
gbù	person	gbũ̀	island
só	horse	sṍ	thief
kɔ̀nɔ̀	belly	kɔ̀nɔ̃̀	pearl

The rough version of one solution to this alternation is to posit a nasal element (a "phantom nasal" or nasal autosegment) that attaches to the vowel except when the vowel appears before an oral stop.

In the closely related variety, Mau, the phantom nasal surfaces as a velar nasal when the vowel-initial definite article is affixed, the vowel still being nasalized. The data come from Bamba 1984 as referenced in Tourville 1990.

(12) The velar nasal of Mau

a.	kú	kúò	yam
	yě	yěò	gourd
	nìsì	nìsìô	ox
	básá	básáô	lizard (species)
b.	bĩ̀	bĩ̀ŋô	grass
	sɔ̃̀nzɔ̃̀	sɔ̃̀nzɔ̃̀ŋò	shrimp
	dyɛ̀	dyɛ̀ŋô	child
	vũ̀	vũ̀ŋò	basket

In two closely related varieties to the south some of the vowels stay nasalized all the time while others do not. Thus, the analysis requires nasal specifications for at least those vowels (Bamba & Nikiema 1986).

Examples from Abidjan Jula illustrate what happens to the suffix *-ya*

(making abstract nouns from adjectives) when it follows adjectives which must also be analyzed as possessing a phantom nasal. The palatal glide [j] becomes the palatal nasal [ɲ].

(13) Abidjan Jula nasalization with no nasal vowels (Tourville 1990)

bò	big	bòɲà	bigness
fí	black	fiɲa	blackness
sùrù	small	sùrùɲà	smallness

The final condition is found in Mandinka where a velar nasal is actually present at the end of words, e.g., *dèwùŋ*'pressure', *kâŋ* 'on top of', *kâŋ* 'here', *díŋ* 'small', *lúŋ kíliŋ* 'one day'. When it appears before the vowel-initial definite marker, as in Mau, it is realized as a velar, but elsewhere assimilates to the place of articulation of a following consonant.

With this brief review of the data from several closely related languages within Manding, one can see the descriptive complexity that can arise in the consideration of only the feature [nasal]. Manding is not unique in this respect, for such complexity is also found in such widely dispersed groups as Atlantic (Doneux 1975), Adamawa (Elders 1998 p.c.), and Khoisan (Traill 1977).

I now turn to some rather unusual sounds, ones not commonly found elsewhere.

3.3 Other "exotica"

Even the "impossible" can be found in Africa. One of the most unusual nasalized segments is one predicted not to exist on the basis of air flow constraints (Ohala 1975), namely, nasal fricatives. The logic goes, too much air would be escaping through the nasal passage for there to be any frication. Nonetheless, they have been reported as occurring in Umbundu (Schadeberg 1982).

Another "unusual" sound involves producing two sounds at once. The English labiovelar glide [w] involves closure at both the lips and the velum, just as do the labiovelar stops of West Africa. Throughout West Africa in a decidedly areal pattern (Greenberg 1983), one finds such non-English sounds as doubly articulated stops. These are sounds that involve simultaneous closure at two places in the oral tract, with near simultaneous release. They sound something similar to the way an English speaker would represent the clucking of a chicken, [kpɔkpɔk], or maybe the medial sequence in *backpack*. In the case of these

voiceless labiovelars, there is closure at both the lips, as in a [p], and at the velum, as in a [k]. What detailed phonetic studies show is that these stops can be produced in any one of a number of ways, including the combination of three different speech mechanisms: the pulmonic-egressive, the velaric-ingressive, and even the glottalic ingressive (Ladefoged 1968). The lungs work as they do in the production of most sounds, driving a column of air through the oral tract, but the glottis can act as an independent and separate piston, pushing air out but also in sucking air in. What seems to be crucial, as with the clicks of Khoisan, is the acoustic-auditory result, not the articulatory cause.

Bilabial trills are also unfamiliar to English speakers, except in extralinguistic contexts. What has been called a "Bronx cheer" is, to the best of my knowledge, a voiced bilabial trill: the lips are vibrating due to the rapid air flow, as may also be the vocal folds. In Magbetu one finds three bilabial trills: prenasalized [mB] (an allophone of /mb/), a voiced bilabial trill /B/, and a voiceless one as well, /P/ (Demolin 1990). Maddieson 1989a: 91 notes they are also found in Grassfields Bantu and in scattered Austronesian languages spoken in New Guinea and Indonesia. (See footnote 47 on how to track down a recorded example.) Readers might also want to learn about the labial flap, found primarily in Adamawa-Ubangi (Olson & Hajek 2003a, 2003b).

I now turn to unfamiliar sounds involving syllabicity or syllable structure.

3.4 Syllable structure

A famous linguist was once present in an audience where he was referred to by the speaker, who had obviously not met him, as "Professor McHombo" [məkˈhoʊmbo]. This reference provided some amusement to the few Africanists in the audience, including the honored guest, and great embarrassment to the speaker when she later found out that the professor was not a Celt but rather a Malawian, known as "Professor Mchombo" [m̩tʃɔːmbɔ], where the first sound in his name is the syllabic nasal [m̩]. This sound appears in casual English speech, e.g., *impossible* [m̩ˈpɑsəbl̩], and other syllabic nasals can be found phonetically, e.g., unaccented *incredible* as [ŋˈkrɛdɪbəl], but syllabic nasals are much more common in Africa. In fact southern African (Bantu) names often begin with a nasal, since the prefix marks membership in the human animate class (see Section 4.2).

Just as the beginning of the English examples could be interpreted as the result of losing a vowel, so, too, may many syllabic nasals be interpreted both

synchronically and diachronically as the result of similar processes. For example, syllabic nasals are used prolifically in Fante. In the first sentence of (14) the third person singular pronoun is a syllabic nasal; in the second both of the plural prefixes and the definite marker are as well.

(14) Syllabic nasals in Fante

a. ṅ́ ná wàr pèpa wɛ̀ː-ɲúá
they PAST AUX rub their-eye
'They were rubbing their eyes.'

b. ɔ̀ sɛ̀sáú m̀-bàbá bɔ̀ m̀-bɔ́dɔ́m-n̄̀
she collect PL-stones hit PL-dog-DEF
'She gathers stones to throw at the dogs.'

In some environments the definite marker is nɔ̀, suggesting that the syllabic nasal is a reduced form. This process of reduction can be seen more clearly in Kisi. In terms of syllable structure, there are two changes that take place in the alternations below, the second interpretable as a consequence of the first. As a first step, the vowel is lost and the nasal changes its syllabic status as a consonant to a tone-bearing unit, allowing it to become a site for prominence. Here, as in the case of many African languages, it becomes a tone-bearing unit assuming the tone of the lost vowel.

The noun class subject pronoun for the ŋ-class in Kisi, the mass or plural of 'small, round things', has a number of different realizations, one syllabic, the other non-syllabic. When it is the subject pronoun, it always appears as a syllabic velar nasal, as shown in (15).

(15) The *ŋ*-class subject pronoun ("NCP")

Subject pronoun: *ŋ* (low-toned (syllabic) velar nasal)

yɔ̀ɔ́ŋ ŋ̀ hòwíhówíl yá pó nùú
thorn NCP pierce me boy my
'Thorns pierced my son.'

In nominal constructions, such as those shown in (16), the pronoun's realization can vary, depending on the structure of the preceding syllable. If the coda is filled (as in a.), the pronoun will retain its full tone-bearing syllabic status. But if the coda is empty, as in b., the nasal will fill the coda and lose its syllabicity.

(16) Pronoun in nominal constructions

a. After a full coda: *ŋ̀* a low-toned (syllabic) velar nasal

dìɔ́m-ŋ̀ yùwɛ́í-óŋ	*dìɔ́mŋ̀ yùwɛ́íyóŋ*	'old stupidities'
stupidity-NCP old-NCM		
bɛ̌l-ŋ̀ yùwɛ́í-óŋ	*bɛ̌l-ŋ̀ yùwɛ́íyóŋ*	'old palm kernels'

b. After an empty coda: *ŋ* (velar nasal)

yààwà-ŋ̀ yùwɛ́í-óŋ	*yààwàŋ yùwɛ́íyóŋ*	'old onions'
onion- NCP old- NCM		
bèsùbèsù-ŋ̀ yùwɛ́í-óŋ	*bèsùbèsùŋ yùwɛ́íyóŋ*	'old leftovers'

Thus, with respect to this class pronoun, the relationship between the syllabic nasal and its non-syllabic counterpart is clear.

There are other ways in which syllable structure can change. Here the changes are due to the position of the pronoun with regard to other morphemes and words. The actual form of the pronoun, whether or not it is syllabic, depends, once again, on the syllable structure of the preceding segmental material. From a functional perspective one can interpret this alternation as the language phonologically recovering from the disruption caused by a morpho-syntactic process.

The next phonological phenomenon to be discussed, vowel harmony, is also widespread on the African continent and involves assimilation at a distance.

3.5 Vowel harmony

Vowel harmony is found in all major phyla of Africa (including Khoisan (Traill 1978, *pace* Hulst & Weijer 1995: 511), and it has been suggested that one type, "[ATR or advanced tongue root] harmony[,] may very well be an areal feature of this continent" (Hulst & Weijer 1995: 511). It is certainly widespread throughout Niger-Congo and Nilo-Saharan; it may even be part of Proto-Niger-Congo (Williamson 1989b: 23). Quite simply, vowel harmony is the sharing of a feature, typically by non-contiguous vowels separated by at least one consonant. The vowels may share the feature in the lexicon or one vowel can trigger a change in another. Some English irregular plurals, e.g., *feet* (*foot*) and *mice* (*mouse*), are the result of the latter process. The stem vowel harmonizes with a suffix (originally fronting) in a process still observable in German and

going by the name of "umlaut". The conditioning plural suffix *-i* has since disappeared in English.

Early studies of vowel harmony recognized its prosodic nature, be it the Firthian analysis of Carnochan 1960 or the Bloomfieldian approach exemplified in Welmers 1946. Theoretical and descriptive questions that have bothered people include,

– the phonetic nature of the process, e.g., What is the articulatory nature of vowel harmony?
– the phonological status of the harmonizing vowels, e.g., Which form is the marked one, which one is derived?
– its domains of operation, e.g., How far away is vowel harmony operant?
– its representation, e.g., How should the alternating form be represented?[46]

To show the sort of data that generated these questions, we will look at some examples, first Zulu distal demonstratives and Swahili verb extensions. They illustrate what has been called vowel height harmony since the alternation is between a lower and a higher variant conditioned, respectively, by a low and high vowel. In Zulu the alternations take the form of a sub-phonemic difference, between the sounds [e] and [ɛ], as shown in (17), which belong to the same phoneme. In the a. examples, the vowel of the distal demonstrative changes depending on the vowel of the suffix, whose form is determined by its class. In the b. examples, the contrast is between the imperative and the negative, where the final vowel differs and conditions phonetic changes in the stem vowel of the verb. In the c. examples, there are the same conditioning factors but different morphological environments.

(17) Sub-phonemic Zulu vowel height harmony (courtesy of A. Traill)

a. Class 5 *le-lo* [lɛlɔ] 'that one over there' *le-li* [leli] 'this one here'
Class 11 *lo-lo* [lɔlɔ] 'that one over there' *lo-lu* [lolu] 'this one here'

b. [lɛth-a] 'bring!' [a-ba-leth-i] 'they do not bring'
[bɔn-a] 'see!' [a-ba-bon-i] 'they do not see'

46. Highly recommended for deeper and broader treatment of the topic is Hulst & Weijer 1995. See also Casali 1998 and Casali 1999.

c.	[uku-m-ɛl-a]	'represent'	vs.	[um-me-e-li]	'lawyer'
	[uku-sɔl-a]	'suspect'	vs.	[um-sol-i]	'one who mistrusts'

The examples in (18) (phonetically transcribed) show the iterativity of the process, namely, how vowel harmony causes harmony in **two** consecutive morphemes (third example in a. and b.). The *-ɛ/-el* m̄orpheme is a verb extension, a morpheme which, when added on to a verb, can change the verb's argument structure (see 4.4).

(18)

a.	ngɛn-a	'enter'
	ngɛn-ɛl-a	'enter for'
	a-ba-m-ngen-el-i	'they do not enter for him'
b.	shɔn-a	'set (of sun)'
	shɔn-ɛl-a	'it (the sun) does not set on him'
	a-li-m-shɔn-el-i	'it (the sun) does not set on him'

The second set of examples comes from Swahili. Verb extensions in Swahili, comparable to the Zulu extensions in (18), illustrate an alternation between phonemes in another form of height harmony. If the consonant-final verb root vowel is *i*, *u*, or, oddly, *a*, the form of the extension is *-ia*, as in the a. examples in (19). If the root vowel is *e* or *o*, the suffix is *-ea*, as in the b. examples. In the Swahili example, as opposed to the directionality in Zulu, it is the root vowel rather than the final vowel that causes the change in the suffixed verb extension.

(19) Swahili vowel harmony

	Root	**Gloss**	**Applied form**	**Gloss**
a.	-andik-	'write'	-andiki-	'write for'
	-ruk-	'jump, fly'	-ruki-	'jump at, fly at'
	-anz-	'begin'	-anzi	'begin for'
b.	-som-	'study'	-some-	'study for'
	-end-	'go'	-ende-	'go for/to/toward'

The second type of vowel harmony to be discussed here, ATR or advanced tongue root vowel harmony, does not involve alternations in vowel height but rather a more global sharedness in the whole vocal tract configuration. Lindau 1975 notes that in Akan, a representative ATR-harmonizing language, it is not just the tongue root position that is relevant. Indeed the tongue has different positions for the [+ATR] vowels and the [−ATR] vowels, but what is important

is not just the tongue root displacement but the enlargement of the pharyngeal cavity, simultaneously accomplished by the lowering of the larynx (Ladefoged & Maddieson 1996: 300–02). Impressionistically [−ATR] vowels do not sound so clear or bright as vowels with an advanced tongue root, but rather almost muffled; in a field methods class, students found that associating the Fante vowels with their American English tense-lax counterparts was a rough-and-ready way to hear the contrast, despite the articulatory differences between the two sets of distinctions.[47]

This type of harmony is found extensively in Nilo-Saharan and non-Bantu Niger-Congo according to Clements 2000: 135, but see Leitch 1997, who documents it extensively among the Bantu C languages in the Congo Basin. It is found in all major families, suggesting its areal nature, as mentioned above.

ATR vowel harmony can take many forms; one is purely lexical: a stem will have only vowels sharing the same specification for ATR. In a nicely harmonizing language the vocalic inventory would look something like that below, and only vowels from one set or another would appear in the same (phonological) word.

(20) A "complete" vowel inventory for a language with tongue root harmony

Advanced Tongue Root		Retracted Tongue Root	
Front	Back	Front	Back
i	u	ɪ̟	ʊ̟
e	o	ɛ̟	ɔ̟
a		ä	

Babole exhibits a good start to the pattern: stem vowels in nominals are uniformly retracted or advanced. Affixes, however, will sometimes harmonize and sometimes not. Babole prefixes never participate in vowel harmony but suffixes generally do (Leitch 1995). More extensive exemplification follows from Igbo, beginning with a presentation of the vowel inventory and feature specifications in Table 8, a system not too far away from the ideal exhibited in (20).

As in Babole, all non-compound Igbo words have vowels from only one of the two sets, [+ATR] vowels or [−ATR] vowels, as shown in Table 9. The vowel [ä] patterns with both groups.

The domain of vowel harmony, as mentioned above, is often the phonological rather than the morphological word. Some affixes undergo vowel harmony

47. See Ladefoged & Maddieson 1996: 302–06 for some details. The difference can also be heard at the web site for the book Ladefoged 2001 in the "Akan" section

Table 8. Feature specifications for Igbo vowels (Zsiga 1997:232)

	i	ị	e	ẹ	u	ụ	o	ọ
High	+	+	–	–	+	+	–	–
Round	–	–	–	–	+	+	+	+
ATR	+	–	+	–	+	–	+	–

Table 9. Possible vowel combinations in Igbo (non-compound words)

	i	**u**	**e**	**o**	**ị**	**ụ**	**ạ**	**ọ**
i	isi 'head'	ihu 'face'	ihe 'thing'	igbo Igbo				
u	ubi 'farm'	ukwu 'big'	uwe 'clothing'	ugo 'eagle'				
e	ezi 'loan'	ezu 'millipede'	eze 'teeth'	ego 'money'				
o	obi 'heart	ozu 'corpse'	ose 'stream'	obodo 'town'				
ị					ịsị 'tell'	ịzụ 'buy'	nkịtạ 'dog'	ịchọ 'want'
ụ					ụdị 'kind'	ụmụ 'children'	ụwạ 'world'	ụlọ 'house'
ạ	'scorpion'	'kola nut'	'soap box'	'thought'	ạnyị 'we, us'	mmạdụ 'people'	ạdạ 'daughter'	ạtọ 'three'
ọ					ọtị 'grub'	ọdụ 'tusk'	ọtạ 'shield'	ọzọ 'another'

while others do not. The examples in (21) show how two different suffixes, shown in the first column, change their specification for [ATR] depending on the [ATR] specification of the verb.

(21) Inflectional suffixes harmonize (Zsiga 1997:233)

-ạ/-e	sị-ạ	si-e
IMPERATIVE	'Tell!'	'Cook!'
-ghị/-ghi	sị-ghị	si-ghi
NEG INDICATIVE	'did not tell'	'did not cook'

Examples in (22) show that vowel harmony does not apply to all affixes; only some of the vowels in the multi-morphemic words below have the same [ATR] specification.

(22) i-bi-kọ-rị-tạ
INF-live-ASSOC-APPL-DIREC
'to live together to one another's advantage'

ibe ạ-ghạ-gbu-go m
Ibe PREF-turn-hurt-PAST 1SG.OBJ
'Ibe cheated me' (Zsiga 1997: 234)

From the phonologically motivated assimilatory process of vowel harmony, we turn next to what seems to be the phonologically unmotivated change of a consonant with one manner of articulation to a different manner.

3.6 Consonant alternation

Consonant alternation (sometimes known as consonant mutation) refers to changes in the manner of articulation of a sound. The place of articulation stays the same, but in different environments the sound could vary from a nasal through a prenasal to an oral sound, or from a glide on to a fricative and further on to a voiceless stop. Languages with a full consonantal inventory could potentially have a different series or more than one series at every place of articulation. In Serer, there are two types of consonant alternation, both involving three alternants: the first series ranges through a voiced stop, a voiceless stop, and a prenasalized stop; the second through a continuant, a stop, and a prenasalized stop (McLaughlin 1995). These facts taken together with the varying places of articulations allows Serer to have thirteen distinct gradation sets of consonant alternation!

The conditioning factors for the alternation may vary, although the origin is likely phonological (Doneux 1991; Storch 1996). Consonant alternation may be lexically determined but is typically conditioned by various parts of the grammar: syntax, morphology, or phonology, not at all unlike that found in the Celtic languages, e.g., Welsh (Ball & Müller 1992) and Irish (Ní Chiosáin 1991).

I begin the discussion with some data from Northern Atlantic, where consonant alternation was first recognized (Klingenheben 1925) and where it is widespread and robust (Greenberg 1966; Storch 1996). Less robust systems

are found in nearby Mande languages (Manessy 1964; Heydorn 1943–44); in the Plateau languages of Benue-Congo Aten (Blench 2000a) and Hyam (Blench 2000b); and in the Khoisan language !Xóõ (Traill 1977). The facts of consonant alternation have played an important role in theoretical discussions, e.g., Anderson 1976, Churma 1987, Herbert 1986, Gnanadesikan 1997, and have certainly challenged language learners!

In languages with consonant alternation, the variants comprise a series as represented in the scale below in Table 10. Each column is progressively "stronger" than the column on the left, usually involving fuller or longer closure, greater sonority, or some combination of those features.

Table 10. Scale for Consonant Alternation (Sapir 1971:67–68)

WEAK			⇒		STRONG
Continuants, semi-vowels, Ø, and [ʔ]	Voiced stops	Simple nasals	i. Voiced and nasal geminates ii. Voiceless stops	Voiceless geminates	Nasal compounds

An attested series of alternating consonants from Fula is shown in Table 11. Fula has 25 noun classes with formally differentiated patterns of agreement (Arnott 1970). Each column represents a single phoneme and each row a "grade"; each cell thus represents an alternant "stronger" than the one below which it appears.

Table 11. The consonant alternation system of Fula (Sapir 1971:67)

I.	f	t	s	h	w (b)	r (d)	y (j)	y	w	ʔ (g)
II.	p	t	c	k	b	d	j	g	g	g
III.	p	t	c	k	mb	nd	nj	ŋg	ŋg	ŋg

Not all Fula consonants participate in these alternations; the following sounds do not: [ɓ, ɗ, ʔy, l, m, n, ɲ, ŋ]. In Table 12 is shown the consonant alternation system of Biafada, another Northern Atlantic language There are three grades as in Fula but the system is more extensive in that it involves more phonemes and a widespread use of gemination, here represented with double symbols.

The examples in (23) show the different morphosyntactic environments in which consonant mutation occurs. Biafada is a prefixing language, which means that the agreement markers all appear at the beginning of dependent words to

Table 12. The consonant alternation system of Biafada (Sapir 1971:68)

I.	f	r	s	h	bw	b	d	j	g	bw	l
II.	p	t	c	k	bw	bb	dd	j	gg	gb	r
III.	mp	nt	nc	ŋk	mbw	mb	nd	nj	ŋg	ŋgb	nr
I	m	n	ɲ	ŋ	w	y					
II	mm	nn	ɲɲ	ŋŋ	ww	yy					
III	mm	nn	ɲɲ	ŋŋ	ww	yy					

show concord with the governing noun (see 4.2). In genitive constructions (a. examples) agreement is shown by the prefix on the word glossed as 'of'. Similar agreeing prefixes can be seen on both possessives (b. examples) and relatives (c. examples).

(23) Biafada consonant mutation (Sapir 1971:89)

a. Genitives:

boo-fa bu-be u-sa / maaga-fa maa-be bi-sa
NCM_i-head AGR_i-of NCM_j-man / NCM_i-head AGR_i-of NCM_j-man
'the head/s of the man/men'

nunda numbe usa / madda mabbe usa 'the child/ren of the man'
nnaga bbe usa / genaga gebe usa 'the cow/s of the man'

b. Possessives:

boo-fa bu-beeli / maaga-fa maa-bəleebə
NCM_i-head AGR_i-1SG POSS / NCM_i-head AGR_i-1PL POSS
'my head' / 'our heads'

c. Relatives:

u-sa leem u-leegəre / bi-sa leem bi-leegəre
NCM-man I-saw REL-come NCM-man I-saw REL-come
'I saw the man/men who came.'

puula leem reegəre / maafuula leem maaleegəre
'I saw the girl(s) who came.'
nunda leem nunreegəre / madda leem maleegəre
'I saw the child/ren who came.'

In a provocative proposal, Doneux suggests that consonant alternation may have arisen from vowel harmony (Doneux 1991). The details of his hypothesis

are too involved to go into here, so we will rather press on to perhaps the most challenging and fascinating phonological phenomenon of all — African tone.

3.7 Tone

Perhaps no linguistic phenomenon engenders more fear in a North American student at the beginning of a fields methods class than the announcement or just the suspicion that the language under study has tone. If it is any consolation to such students, early field workers missed the boat or even ignored the analysis of tone and went blithely ahead with their work. Later workers fully realized the importance of tone and within one of the Bible-translating groups, a field-worthy pitch analyzer was developed just to overcome such difficulties. That device, its successors, and its counterparts have been used in the field by many linguists, but still the best analytical device is one's own ears and speech processing.

Tone is not hard to understand conceptually — it has a straightforward acoustic correlate in pitch or fundamental frequency (F_0). In its prototypical form in Africa, every syllable or mora has its own tone, and the inventory will consist of two level tones, a high and a low, and one or two contour tones, a rise and/or a fall. Beyond these statements, however, straightforward characterizations are more difficult. Even in a "simple" tone language, the analysis can be complicated (Newman 1999). The difficulties extend into how to analyze tone, or rather, how to analyze tone in a given language. Sometimes no agreed upon analysis is possible. Questions arise as to whether the analysis should be tonal or accentual, autosegmental or metrical. Different analyses are proposed for the same language, sometimes by the same person (Odden 1999: 188–89)!

One way to understand tone is by contrasting it with a more familiar prominence system, lexical stress, as found in English. English stress has a number of acoustic correlates: although pitch is the most important of the cues, loudness, lengthening, vowel quality, etc., are also important. Tone is typically limited to F_0 differences. Stress has nowhere near the mobility of tone, as exemplified in several rules of tone spreading and shifting given below. Stress is assigned to syllables; tone can be, too, but it can also be assigned to smaller units than the syllable, the mora. Khoisan languages behave slightly differently. Khoekhoe, for example, uses "paradigmatic displacement of melodies rather than feature changing rules" (Haacke 1999: 73), paying attention to units larger than the syllable.

Furthermore, more than one tone can be assigned to the tone-bearing unit (TBU), and there can be many-to-one mappings the other way — a single tone may be assigned to a series of TBUs. Stress could never be so versatile. But what is most important is that stress is **syntagmatic** and tone is **paradigmatic** (cf. Donohue 1997). The prominence of a stressed syllable comes from its sequential salience among unstressed syllables. Tone, on the other hand, represents a choice from a set of possibilities. Every tone-bearing unit bears a tone, so that we can get such minimal n-tuplets as shown below in (24). (See p. xiii for a complete list of symbols used.)

The examples in (a) show lexical contrasts. Note that the second item, *sàà´* 'Saa (name)' has a high tone with no vowel below it. This is what has been called a "floating" tone because it is unattached at this level of representation. In Kisi the tone associates to a following syllable when possible, as shown in example (c), where the first tone of *sàà* 'grab.HAB' is raised from a low to a high. In isolation *sàà´* 'Saa (name)' is pronounced with low tones.

The examples in (b) show what grammatical tone looks like. Inflectional contrasts, here mood and aspect, are registered on the verb by changes in tone. A final point to be made about the display in (24) is that different tones can occur on a single long vowel, here represented by doubling the symbol. Each one of those phonological units is a mora.

(24) Lexical and grammatical tone in Kisi

a. *sàá* 'sheep (SG and PL)
   sàà´ 'Saa (name)'
   sáá 'the month around October'

b. *sáá* 'Grab!'
   sáà 'grab.HORT'
   sàá 'grab.PERF'
   sàà 'grab.HAB (without *sàà* 'Saa (name)' as subject)'

c. *sàà sáà sàá*
   Saa grab.HAB sheep
   'Saa grabs the sheep.'

With this information, we can now contrast African tone with Asian tone (Yip 1995; Yip 2002). Both areal types are used to mark lexical differences, but only African tone marks grammatical differences as has been seen here and as discussed in 3.7.1. African tone is far and away more complex, although tonal inventories are richer in Asia and the Americas (Yip 2002: 132)

Phonetic differences also exist. Asian languages exploit tone changes more than African languages, making them more dynamic than the mostly level tones found in African languages. African languages have contour tones, but in most cases they can be analyzed as sequences of level tones (Goldsmith 1979; cf. Newman 1986).

But probably the most striking feature is the phonology of the two systems. Asian tone is "segmental", closely tied to the TBU with which it is associated. African tone is much more mobile, and seems to operate on a level at times independent of the segmental level with which it eventually associates, making it **suprasegmental** (Williams 1976 (1971); Leben 1973); it is this feature that that has inspired much phonological theorizing, e.g., Goldsmith 1990.[48] African tone is both more mobile and also more stable or persistent diachronically. This may sound like a contradiction but in fact the mobility logically follows from the stability. Just because African tone is relatively independent of segmental material, the segmental material may die and the tone live on. That is how floating tones, as in (24), typically arise. A functional hearer-based explanation has been proposed:

> In such cases we can imagine the loss of all segmental features of a morpheme places an undesirable burden on the hearer faced with the challenge of recovering the morphemic content of an utterance. This is in fact precisely the explanation proposed by Schuh 1995 (p. 55) (Casali 1997: 507).

Language games and secret languages also reveal the suprasegmental or autosegmental nature of tone. A number of related experiments had subjects perform various tasks (Hombert 1986), involving the displacing of segmental material. In the word game shown in (25) only syllables were transposed. Subjects were speakers of African tone languages (Bakwiri, Dschang (a Bamileke language spoken in Cameroon), and Kru and speakers of Asian tone languages (Mandarin, Cantonese, Taiwanese, and Thai).

(25) $C_1 V_1 C_2 V_2 > C_2 V_2 C_1 V_1$ (Hombert 1986: 180)

Given what has been said about the independence of African tone and the segmental nature of Asian tone, you can probably guess what happened. Speakers of African languages consistently left the tones behind; speakers of

---

48. This may be why talking drums occur only in West Africa, where the tone languages are more prototypically tonal (see (27)). Note also that whistled tones are found in the New World **tone** language Mazteco (Cowan 1964).

Asian languages transposed them with the segmental material to which they were attached.

The independence of African tone is also seen in the naturally occurring Bakwiri word games that inspired these experiments (Hombert 1973). Once again syllables are transposed with the tones remaining in place (examples in a.); the same pattern holds in the Kisi boys' secret language *kpéleémɛ́íyé* (examples in (b)) (discussed in 7.1.2).

(26) Tones are independent in African languages

a. In a Bakwiri language game (Hombert 1986: 178)

mɔ̀kɔ̀	>	*kɔ̀mɔ̀*	'plantain'
kwélí	>	*líkwé*	'death'
mɔ̀kɔ́	>	*kɔ̀mɔ́*	'one person'
kwélì	>	*líkwè*	'falling'

b. In a Kisi secret language

tùŋndó	>	*ndòtúŋ*	'dog'
ɲààyó	>	*yòɲáá*	'cat'
súúkúúnɔ̀ɔ́	>	*kúúnɔ́ɔ́sùú*	'student'

Illustrating the further independence of African tone is that fact that it can mark grammatical differences, e.g., aspect, as was seen in (24). This is also the last major difference between African and Asian tone: only African tone is grammatical, seen further in 3.7.1.

A sketch, then, of what has been called a "prototypical" system (for Bantu) is given in (27). Generally speaking, if "toneless" is understood as "Low", there are two tones that are assigned fairly freely. Nouns and affixes allow full tonal contrasts, and verbs are somewhat limited in lexical contrasts but allow grammatical contrasts.

(27) A *prototypical Bantu tone system* (Cassimjee & Kisseberth 1999: 261–62)

Inventory: consists of an (underlying) H mora which contrasts with a toneless mora; only the H is active in the phonology;
Verbs: Lexical contrast between H and toneless verb stems;
Verbs: grammatical tone assigned by the morphology;
Nouns: allow contrasts between H and toneless moras;
Affixes: contrast lexically.

Tonal languages that have lost lexical tonal contrasts to some degree have been called "predictable tone systems" (Odden 1989 as referenced by Cassimjee & Kisseberth 1999:261). Very often this begins with the verbs losing their contrasts (e.g., Childs 1989a). In some sense, the predictable tone system can be interpreted as a development away from the prototypical tone system, since fewer contrasts are maintained. Childs 1995c illustrates how languages can lose their tone.

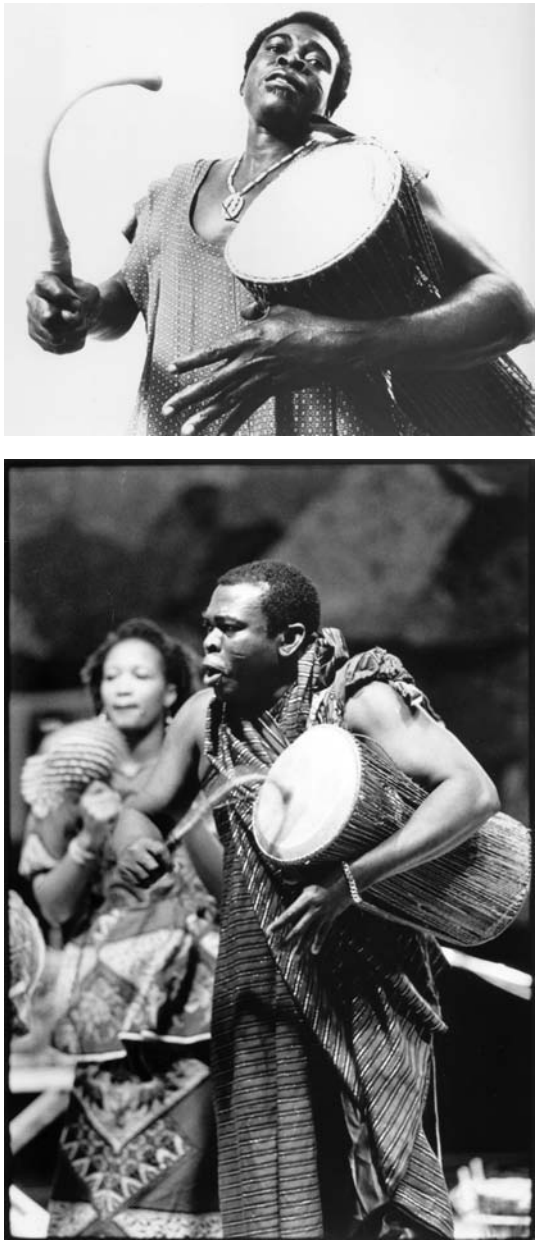
After this introduction, the reader should now listen to Recording 4, which contains "drumming in the speech mode" to hear some tones and hear what they sound like when they are "drummed".

Recording 4. Talking drum (Kumi & Manu 1996)
Talking drum (0:41) "Talking Drum" by Elizabeth Kumi, appellant; Josepha Manu, drummer. Recorded in Kyekyewere, Ghana, from "Rhythms of Life, Songs of Wisdom: Akan Music from Ghana, West Africa," Smithsonian Folkways SF CD 40463 © 1996. Used by permission.

The drummer often uses a pair of large hourglass-shaped, stick beaten drums called *atumpan* in Twi and *dundun* in many other places (see Picture 9). There are bands or leather thongs around the outside of the drum, which allow the player to loosen or tighten the tension on the stretched skin, which is then struck with the stick. It is this process that allows the drummer to produce a wide range of pitch, thus mimicking the rise and fall of the human voice in producing tone.

What is useful for hearing linguistic tone in the recording is that the actual speech mimicked by the drum accompanies the drumming (see the transcription below, unfortunately with tones unmarked). Thus, a direct comparison can be made between the two modes.[49] What is most evident in the drumming is, of course, the tone of each syllable. This struck me dramatically at the 2000 WALS meeting at the University of Legon in Ghana. I was amazed to hear the Yoruba-speaking attendees respond, in unison, with the words to every one of a long string of proverbs produced by musicians drumming in the speech mode, i.e., with no words being spoken! Talking drums are found widely in West Africa as far west as the Bijagó Archipelago all the way over to Cameroon.

49. The great linguist Edward Sapir had done some work on Grebo (Sapir 1931) with a native speaker in the United States. He had some trouble with the tones (see Newman 1986 for some reasons why) and wanted to verify his findings. He felt that going to Liberia and checking his data against the signaling drums would provide good corroboration. He went and it did (Herzog 1964:312)!



Picture 9. Obo Addy playing the talking drum (courtesy of Obo Addy)

Transcription and translation of "Talking Drum" text
By Dr. Daniel Agyei Dwarko, Lecturer in History, University of Cape Coast

Greetings to those present

Me ma mo atena ase, Nana ne ne mpaninfoo
I welcome you, Nana and his elders
Owura dwamtenani,
Mr. Chairman,
Enanom ne agyanom,
Mothers, fathers,
Ne anuanom a yeahyia ha,
And brethren here gathered,
Yegye me asona
The response to my greeting is "asona"
Saa atweneka yi fa Odeefoo Boa Amponsem, Denkyira hene ho
The drum language is about Odeefuo Boa Amponsem, King of Denkyir
Odomakoma kyerema, ma no nko
Creator's drummer, let it go!

Actual drum language glorifying the King of Dekyira

Adawu, Adawu, Denkyira mene sono.
Adawu, Adawu, Denkyira is the devourer of the elephant
Adawu, Adawu, Denkyira penteprem, omene sono, ma wo ho mene so
Adawu, Adawu, Denkyira the quicksand, devourer of the elephant, come forth in thy light, exert yourself
Pentenprem, ma wo homene so,
Quicksand, come forth in thy light …

3.7.1 Grammatical tone

Tone is used both lexically and grammatically in African languages; one grammatical use of tone has already been illustrated, namely, inflectional contrasts in the verbal morphology (see (24)). Although tone does not mark grammatical contrasts in such robustly tonal Asian languages as Lahu (Matisoff 1973a), it does mark inflectional contrasts in a few places outside Africa: in Comaltec Chinantec, a Meso-American language, verbal inflection "usually

involves tone modification" (Silverman 1997: 479). For the tonal Amazonian languages, the general pattern, however, is for tone to mark only lexical contrasts, e.g., in the Amazon Basin (e.g., Aikhenvald 1999). In African languages, however, tone is used widely to mark a number of grammatical distinctions.

As the next set of examples show, tone is used in one language to mark syntactic roles (case), that is, whether a noun is the subject, the object, or something else, and in another language to mark distinctions in definiteness and referentiality (whether or not an item is being specifically referred to). Some distinctions not to be shown here are found in the Kru language family: singular/plural, between different sets of pronouns (possessive, relative, subject, etc.), and also in the formation of compounds and noun phrases (Marchese 1989: 131). In addition, the "associative", a construction that signals a number of different relationships, e.g., 'with, and, of', is often marked only by a tone. In Édó, a Kwa language of Nigeria, a floating high tone marks the "possessed/possessor relationship (Sheedy 2002). Such markings are never found in Asian or American languages.

In the so-called "tone-case" languages, tone is used to mark two and sometimes three case distinctions. Table 13 shows data from Laadi, a Bantu language spoken close to the "Kongo zone".[50] The letters in the first column represent the tone class of a noun. Nouns fall into one of the four classes on the basis of their lexical tones, which can, as in the cases presented here, be altered by other tones that are prefixed to mark grammatical distinctions. Historically, class A comes from Proto-Bantu tone class *LL, and the others similarly derive from historically reconstructible noun classes, as indicated by the parenthetical material below the tone class letter in the first column. The forms in the second column represent the tone pattern in citation form, the fourth column shows the forms when the nouns are subjects, and the third column shows the tone marking in all other syntactic positions. Note that the forms are segmentally identical for all three cases; for each noun (going across), there are at least two different tone patterns and sometimes three.

Another way in which tone has been used is to mark semantic/pragmatic distinctions, namely, definiteness and referentiality. In Table 14 the forms in the second column represent, roughly speaking, the definite form of the noun, and in the third column the indefinite form. You will note that in several cases the

50. Turkana, a Nilotic language spoken in Kenya, also marks case distinctions with tone (Dimmendaal 1983).

Table 13. Tone classes and tone cases of Laadi (Blanchon 1998: 21)

	Citation	Elsewhere	Subject	Gloss
A	lùbú	lùbú	lùbù	'mosquito'
(*LL)	bìnùnú	bìnùnú	bìnùnù	'old people'
	bìpà:kú	bìpà:kú	bìpà:kù	'rifts'
	bàbàkàlá	bàbàkàlá	bàbàkàlà	'men, males'
B	bìsá↓lúlù	bísàlúlù	bìsàlúlù	'tools'
(*HL)				
C	màzúlù	màzúlù	màzúlù	'sky'
(*LH)	bùlǒ:mbì	bùlǒ:mbì	bùlò:mbì	'darkness'
D	màbá	mábà	màbá	'palm trees'
(*HH)	màɣátà	máɣàtà	màɣàtá	'villages'
	màɣá:là	máɣà:là	màɣà:lá	'forked branch'
	bàtékòlò	bátèkòlò	bàtèkòló	'grandchildren'

segmental strings are not identical; in the last line of each tone class the definite form of each noun is prefixed with [yí]. This is the sole remnant of the definite morpheme, sometimes called a "pre-prefix" or "augment". The other nouns have no such segmental material prefixed.

What this prefix indicates is that the definite marker was once fully segmen-

Table 14. Tone classes and tone contours of Yoombi nominals (Blanchon 1998: 3)

	Definite	Indefinite	Gloss
A	múnù	mŭnù	'mouth'
(*LL)	kínúnù	kìnŭnù	'old person'
	líbákələ	lìbàkələ	'man, boy'
	yíŋgá:ŋgə	ŋgă:ŋgə	'medicine man'
B	ŋ̀kyĕ:ntù	ŋ̀kyé:ntù	'woman'
(*HL)	kíkòtsúlù	kìkó↓tsúlù	'cough'
	yínt^{h}ĭ:nù	nt^{h}í:nù	'speed'
C	lúbâ:nzì	lùbâ:nzì	'rib'
(*LH)	yínûnì	nûnì	'bird'
D	mítì	mìtí	'trees'
(*HH)	lúsàlə	lùsúlə	'feather quill'
	mə́ßàngìtì	màßángítí	'shoulders'
	yífùmù	fúmú	'chief'

tal but has disappeared before most nouns; in all other cases the prefix has left only a tonal trace. Thus, one can infer that many tonal morphemes (non-lexical or grammatical tones) may have as their source a more substantive form that has (segmentally) eroded.

A second point can be made about the displays in Table 13 and Table 14. Through some rather complicated argumentation which will not be presented here, Blanchon 1998 shows that the two sets of tonal distinctions are related; in fact, the case distinction may simply be a later stage of the semantico-pragmatic marking. The camel's-nose-under-the-tent first step of reanalysis begins with the well-known association of subject-hood with definiteness. That is, definite arguments are likely to be found in subject position. Speakers assume that because nouns marked [+definite] always occur in subject position, the tonal markings found on that item actually signal subjecthood. Thus begins the reanalysis of the tonal markings as signaling syntactic roles. Because the explanations for how the other syntactic positions acquired tone are more involved, they will not be discussed here.

3.7.2 Tonogenesis and tone-splitting

In its narrowest sense, "tonogenesis " refers to the creation of tonal contrasts where none previously existed. Occasionally the term will be extended to cover cases where new tonal contrasts appear in a language which already has tonal contrasts. In this book the latter phenomenon will be known as "tone splitting" since the new tone typically marks a subdivision within a tone system already in place, i.e., it splits an already existing tone class into two or more different distinctions, e.g., Maddieson 1974, Andersen 1986, Hombert 1984. It is also possible for there to be a new tone added without splitting an already extant tone class, either internally through the change of stress to tone in a language already using tone, e.g., Childs 1989a, or externally, through contact, e.g., Boyeldieu 1991, Boyeldieu 1996.

Tonogenesis has been documented as taking place historically in a number of different parts of the world. In the highly isolating languages of Asia, there is an inverse correlation between complex syllable structure and complex tone systems Matisoff 1973b: 78–79. Lahu, for example, has seven identifiable tones (5 on open syllables, two on "checked" (syllables closed with a glottal stop) and very simple syllable structure (Matisoff 1999: 6–8 gives minimal septuplets). Inventories such as these have been demonstrated as arising from the loss of segmental contrasts, also called tonogenesis, e.g., in Vietnamese (Haudricourt 1954). This may offer some historical explanation for why Asian tone is so

segmental compared to Africa.

The same phenomenon has taken place in North America within Athabaskan, the largest and most widely spoken set of languages in North America, something like what happened in Asia. What makes the Athabaskan case so different is that the languages have quite complicated word structure — the languages are highly synthetic, as opposed to the tonal languages of Asia and West Africa. The precursor to the marked tone of modern Athabaskan languages was a phonation type which Leer calls *constriction*, something like a weak glottal stop leading to the phonation type of creaky voice. "The exact nature of constriction remains debatable, since no surviving Athabaskan language has retained this phonation type as such … Nevertheless, it is clear that constriction was none other than *the suprasegmentalization of glottalization*" (Leer 1999: 44). Thus tonogenesis was, in its origin, segmental in nature. Note that both here and in Asia tone seems to have arisen multiply: there is nothing particularly stable about tones: neither Proto-Athabaskan nor Proto-Sino-Tibetan had tonal contrasts … tones develop easily in languages fully isolated from tonal languages (Campbell 1997: 347).

Tonogenesis may also have taken place independently in Amazonia, but not enough is known about the languages of South America to say for sure (but see the papers in Kaji 1999). "The geographical distribution of tone languages is very wide, and they belong to various linguistic stocks not known to be genetically related" (Moore 1999: 297). The uneven distribution across genetic lines suggests tonogenesis may have taken place there as well.

What is quite surprising, then, is that there are no documented cases of tonogenesis in Africa, despite the wide variety of languages, including a great number with just the laryngeal features (e.g., Denning 1989, Demolin 1999) which evolved into tone elsewhere (e.g., Kingston 1985) and the widespread presence of tone on the continent. It is not rare for segments to affect African tones, e.g., "depressor" consonants in Zulu lower tones (Traill et al. 1987), but nowhere can it be interpreted as the *primum mobile*, the trigger for tonogenesis.

Now that we understand where tone comes from everywhere except Africa, we can look at some of the ways in which tones pattern and interact.

3.7.3 Tone rules, synchronic and diachronic

We have mentioned a number of tonal phenomena already: supra- or autosegmental tone, floating tones, and tone spreading; this section looks at a few other processes in detail. To begin with, tones can be lost, as is illustrated by one

of the most common rules in Bantu, Meeussen's Rule. "Following Goldsmith 1984, I refer to the rule as *Meeussen's Rule* after the similar rule discovered by A. E. Meeussen in Tonga … Such a rule is widespread in the family and indeed in tone languages generally" (Myers 1998).[51] For example, Kimenyi 2002 writes about its operation in the Rwandan language Kinyarwanda, and it is also found widely in southern Bantu, e.g., Venda (Poulos 1990). The rule simply says that a high tone will disappear when another high tone precedes it. The first high tone usually appears as part of the morphology when verbal affixes are prefixed to the Bantu stem (see 49).

(28) Meeussen's Rule $H \rightarrow \varnothing$ / H ___

This rule seems relatively straightforward, but it can trigger all sorts of other rules and leave the surface tonal pattern quite different from the underlying one. It has often been asked why African tone systems are so complex. Some answers are given below and include such rules as Meeussen's. It seems an overly active high tone is to blame, along with complex verbal morphology.

(29) Why Bantu tone systems are so complex (Hyman & Kisseberth 1998: vii)

- the richness of the verbal morphology (see 4.3),
- the "mobility" of High tones (they "spread" or shift their positions from their point of origin to other positions),
- the susceptibility of High tones to spreading or shifting across word edges, resulting in significant interactions between tonality and syntactic structure

We now consider some of the tonal complexities of Bantu, based on a wonderful set of data gathered together in Cassimjee & Kisseberth 1998, much of it based on their own fieldwork. In Ruciga a high tone (H) can be located on any syllable (including none) on the noun stem, but only one H is allowed per stem. The ellipsis '…' indicates the forms are within a phrasal context.

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51. A note on rule-naming. Myers honors a great linguist here, but there has also been some tongue-in-cheek puffery with regard to tone rules: the "**Great** Igbo tone shift" (Hyman 1974) and the "**Great** *HL Split" in Bantu A40 (Blanchon 1990 and Blanchon 1998). Non-tonal rules have been more serious in paying homage to pioneers: Stevick's Rule (Mutaka & Tamanji 2000), Dahl's Law (Myers 1974), Katupha's Law (Schadeberg 1999), and one of my personal favorites, Klingenheben's Law (Klingenheben 1927/28 as discussed in Newman 2000b: 230).

(30) Ruciga noun stems (original data from Kisseberth & Ndabarasa 1993)

ebi-takuri	'sweet potatoes'	omu-gano	'bamboo'
e-sagama …	'blood …'	omu-kázi …	'woman …'
en-tabíre …	'cultivated plot …'	ei-papá …	'wing …'
oru-kagaté …	'sp. plant …'	en-gwe	'leopard'
		en-kú …	'firewood …'

This seems relatively straightforward, but let us now look at what happens in Setswana, where a single high tone on verbs ends up as two tones (if possible) on TBUs to the left of where the tone started out (indicated by underlining).

(31) Setswana "doubling" (original data from Mmusi 1992)

g̲ofá	'to die'	gowa	'to fall'
g̲oŕéká	'to buy'	golema	'to plow'
g̲obóláya	'to kill'	gotsamaya	'to walk'
g̲oágísanya	'to live in harmony'	gokhúrúmɛlɛtsa	'to cover for'

"[T]he hallmark of Bantu tone systems is the 'mobility' of H tone, i.e. the phenomenon whereby a H tone is not necessarily heard (only) on the sponsor, but may (also) be heard some distance to the Right (or sometimes to the Left) of the sponsor" (Cassimjee & Kisseberth 1998:48).

In Kibondei the H can spread as far as to the penult syllable. Examples from Tsonga show that the domain will extend farther than the prosodic word. The crucial forms are the last three in the second column in (32). Note how the high tone spreads from the verb with which it is lexically associated onto a low-toned direct object up to its penultimate syllable.

(32) Xitsonga (Tsonga) spreading in an "unbounded" fashion (Cassimjee & Kisseberth 1998:53)

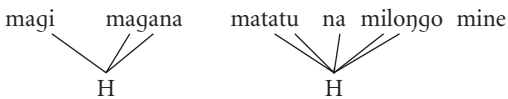
1st sg. [ndza/i]	3rd pl. [vá]	Gloss
ndzati:rha	vátírha	'I/they work'
ndzatsutsu:ma	vátsútsú:ma	'I/they run'
ndzatlomute:la	vátlómúté:la	'I/they fish'
ndzxɪxava nya:ma	váxává ná:ma	'I/they buy meat'
ndzɪxava tingu:vu	váxává tíngú:vu	'I/they buy clothes'
ndzɪxava xihlambetwa:na	váxává xíhlámbétwá:na	'I/they buy [a] pot'

High tones will also spread on to adjacent words in Shambaa. Below the data in (33), I have given a formal representation of the spreading. Note where the sponsor tones come from ('eggs' and '3' in parentheses).

(33) Tone spreading in Shambaa (Philippson 1998: 320–321)

a. mawe magana mane na miloŋgo mine '440 stones'
(*mawe* 'stones'; *mane* '4')

b. magí mágána matátú ná mílóŋgo mine '340 eggs'
(*magí* 'eggs'; matátú '3')



In Xhosa the jump is from the prefix only as far as the antepenult, analyzed as being an avoidance of the prominence found on the penult, a long vowel (shown below as a doubling of the penultimate vowel) as in (34).

(34) Isixhosa (Xhosa) (Cassimjee & Kisseberth 1998: 77)

ba̲yáciisa	'they explain'	ba̲yachukúmiisa	'they provoke'
ba̲yamóneela	'they are jealous'	ba̲yaqonóndiisa	'they emphasize'
ba̲ya	'they forgive'		

In all of these cases and in many others not shown, note that the H never extends on to the final vowel.

In Mijikenda the movement takes place over the same distance (from the sponsor to the penult) but here only the penult is H, as if the tone jumped from the sponsor to the target and then erased the telltale trail of Hs between the two sites.

(35) Mijikenda "shifting" (Cassimjee & Kisseberth 1998: 59)

ninarima	yu̲narírna	'I/he cultivate/s'
ninagula	yu̲nagúla	'I/he buy/s'
ninalamusa	yu̲nalamúsa	'I/he greet/s'
ninavumikiza	yu̲navumikíza	'I/he agree/s'
ninagula nyama	yu̲nagula nyáma	'I/he buy/s meat'
ninalamusa muganga	yu̲nalamusa mugánga	'I/he greet/s [a] doctor.'

A last rule to be exemplified is a dissimilatory one. Referencing Anttila 1995, Bodomo states that the tone of a Dagaare affix is always the opposite of the stem

to which it is affixed. The affix is thereby said to exhibit "tonal polarity".[52]

(36) Tonal polarity in Dagaare (Bodomo 1997: 16)

wìr-rí	'horse'
yí-rì	'house'

In Hausa a similar rule is operant. There are two "stabilizers" (copulas or linking verbs), which have a tone opposite to the tone on the preceding word. Note also that the stabilizers change their form depending on the gender of the noun they modify. The form **nee** is used with words that are masculine singular or plural; **cee** is used with feminine words. Note how the falling tone is followed by a high tone on the stabilizer, just as are words with a final low tone (Hausa has only three tones). These facts support the analysis of the falling tone as a sequence of high-low (see 3.7).

(37) The polar tone of the Hausa stabilizer (Newman 2000b: 160)

Masculine	wánnàn jáákíí nèè	'This is a donkey.'
	wánnàn dóókì néé	'This is a horse.'
	wánnàn bààbûr néé	'This is a motorcycle.'
Feminine	wánnàn rììgáá cèè	'This is a gown.'
	wánnàn táágàà céé	'This is a window.'
	wánnàn tààsî céé	'This is a taxi.'

In addition to such language-specific rules such as these,[53] there are also processes that have some universal phonetic basis, as discussed in the next section.

3.7.4 Downdrift and downstep

Downdrift affects the absolute level of like tones in a given span. The general phenomenon is that tones fall in pitch over the course of an utterance. It can be

52. The alternation has been attributed to stress (Anttila & Bodomo 2000).

53. There is a vast literature on tone and tone rules. A look at the dimensions and structure of tone systems can be found in Maddieson 1977 and Maddieson 1980. More on tone rules appears in Hyman & Schuh 1974, Schuh 1978, Hyman 1978, and Odden 1995. Looking at how tone interacts with intonation, one could start with Inkelas et al. 1987, Inkelas & Leben 1990, Leben 1985, and Faraclas 1984. Yip 2002 contains the most general and detailed overview.

interpreted as a process that lowers the upper pitch range limit (and sometimes the lower) over the course of an utterance In other words, a tone at the beginning of an utterance will be higher than its counterpart at the end of an utterance. Downdrift likely originates in the general tendency of the human voice to fall over the course of an utterance (Bolinger 1978), but **downstep**, in some sense one of downdrift's possible consequences (cf. Hyman 1978), is a language-specific phenomenon. Downstep is typically the result of grammaticalized downdrift, meaning that the lowering is no longer phonetically predictable.[54]

The first representation in Figure 8 contains a sequence of three high tones all at the same pitch level, but in b. the intervening low causes the second high tone to be appreciably lower than the first. In cases where the low-tone trigger for this process is lost, represented by "(L)" and "(CV)" in c., the high tone is said to be downstepped. Once again we see the relevance of an unassociated or "floating" tone, likely resulting from the loss of segmental material, which can occur both synchronically and diachronically.

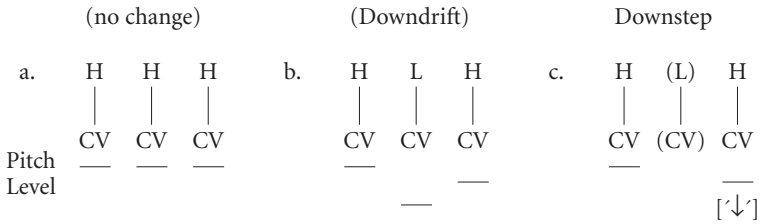


Figure 8. Downdrift and downstep schematized

Schuh 1978 presents examples from Dschang Bamileke (Tadadjeu 1974) where the segmental portion of a low-toned associative marker disappears in rapid speech. Nonetheless, the tone remains and lowers adjacent high tones, producing a downstepped high. In the first example it is on the first high to the right, in the second on the preceding high.

(38) /lətɔ́ŋ ` məsə́ŋ/ → [lɔ̀ɔ́ŋ mə$^{\downarrow}$sə́ŋ]
/m̀bhɯ́ ` məsə́ŋ/ → [m̀$^{\downarrow}$bhɯ́ məsə́ŋ]

Since most languages have some form of downdrift, it is likely that if a language

54. See Ladd 1984 and Connell & Ladd 1990 for a discussion of these phenomena and a slightly different use of the terms. There is also the phenomenon of **upstep** not discussed here, but see Hulst & Snider 1992.

has downstep, it will also have downdrift, but the opposite is also possible. Kanuri, for example, has downstep without downdrift (Badejo 1995). It is, of course, also possible to have downdrift without downstep, as is obviously true for non-tonal languages and also for some tonal languages. Dagaare, for example, has dramatic downdrift of both high and low tones but no downstep (Bodomo 1997: 17ff.). As will be seen below, it is not necessary for both high and low tones to downdrift; sometimes just the high tones will lower over the course of an utterance.

To hear what downdrift sounds like in a language in which both high and low tones lower, listen to the recorded Mandinka sentences in Table 15, all part of Recording 5. This recording features several sentences from Mandinka illustrating the dramatic downdrift in the language. The sentences come from Rowlands 1959, whose method of marking tone has been normalized to follow the system used elsewhere in the book. The sentences have also been transcribed to reflect the dialect of our speaker, which may have been different from the speech rendered by Rowlands.

The words in bold in the first two sentences form a minimal pair and are meant to contrast the main lexical tonal contrast, between what Rowlands called "Level" (here transcribed as Hs) and "Moving", rendered here by LH. The other sentences simply illustrate the dramatic downdrift in the language.

> In these examples the pitch of the voice over each successive accent unit (word or word group) is slightly lower than over the preceding one until on the last syllable of the sentence it drops away into inaudibility at the bottom of the voice. (Rowlands 1959: 21)

Recording 5. Mandinka downdrift

Table 15. Mandinka sentences with English glosses
(My thanks to David Bennett and Lamin Jabbi for making these recordings.)

	Mandinka	English gloss
1.	**súnkútóó** kúmándí nâm	'Call the girl here.'
2.	**ɟàtá** kúmándí nâm	'Call Jata (lion) here.'
3.	m̀ mám kódóó ɟé	'We did not find the money.'
4.	à ké bòòtóó kónó	'Put it in the bag.'
5.	díndímó táátá kúnkóò tò	'The child went to the farm.'

Below is a sentence from Kisi, illustrating downdrift in that language. The superscript notations on the tones are used to identify the tones in Figure 9; "H+" represents an extra-high tone.

(39) Downdrift in Kisi

L^1	H^1H^+	H^2L^2	H^3
a	*data*	*tamba*	*le*
you condemn Tamba NEG			

'You did not condemn Tamba.'

Figure 9 and Table 16 illustrate how the pitch (F_o measured in Hertz) decreases for both low tones and high tones. The first low tone (L1) has an average value of 124.5 Hz, while the second low (L2) averages just 83.5 Hz. The high tones similarly decrease from 139.8 Hz (H1) down to 93.3 Hz (H3). Note also how the extra-high tone "H+" is considerably higher in pitch (152.5 Hz) than the high tones.

Table 16. Tone measurements

L1	H1	H+	H2	L2	H3
124.5	139.8	152.5	138.5	93.3	83.5

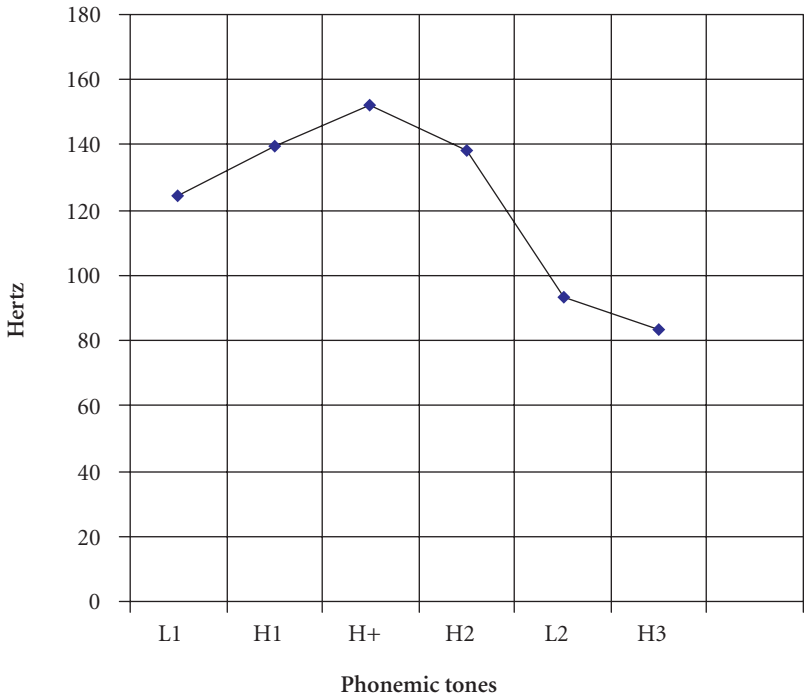


Figure 9. Kisi downdrift

Bambara is a cousin of Mandinka, both languages being part of the closely related "Manding cluster" (see 7.2.3). In Bambara both the upper and lower declination lines fall, as shown in Figure 10, but the lower does not fall as rapidly. Several things should be pointed out about this illuminating figure from Mountford 1982. The data are from three sentences and three tokens of each. His "topline" represents the high tones of the utterance and the "baseline" the low tones. The vertical lines represent the standard deviations around the means. Along the y-axis is F_0 in Hertz and along the y-axis is the syllable number (1–21). It is clear both highs and lows fall gradually over the course of the utterance, the highs more than the lows. What is incredible is how close both the topline and baseline correspond to a straight line. The r-value for the upper line is .90; for the bottom line it is .93. The "r-value" is a statistical measure of how closely the individual data points correspond to a straight line, where a value of 1.0 represents a straight line.

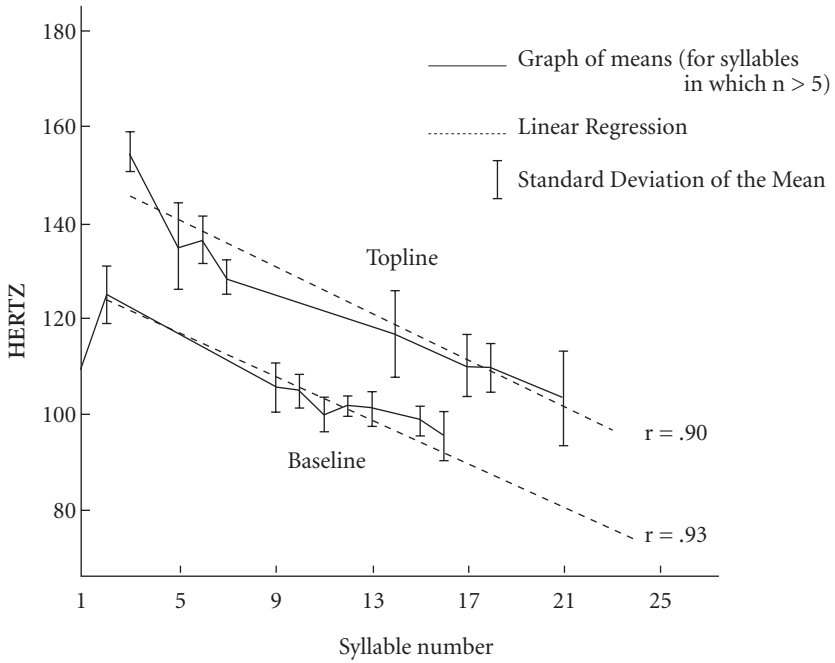


Figure 10. Bambara downdrift (Mountford 1982)

This look at downdrift and downstep has shown that the phonetic realization of a relatively simple paradigmatic binary opposition of a High and a Low can be considerably complicated by both phonetic and phonological factors.

The section as a whole has shown that it is rather a bewildering array of possibilities: polar tones, floating tones, tone doubling, tone shifting, and tone erasure. As the title of Newman 1999 suggests (Hausa tonology: "Complexities in an 'easy' tone language"), there may be no such thing as an "easy" tone language.

4 Morphology

This section treats three complicated morphological phenomena: the so-called "non-concatenative" morphology of Afroasiatic (and elsewhere); the gender or "noun class" systems of Niger-Congo, which give headaches to students of Fula, Swahili, Zulu, and the like; and finally some examples of verbal morphology, including inflectional systems and verb extensions.

4.1 Non-concatenative morphology (Afroasiatic and elsewhere)

The most widely publicized instantiation of this phenomenon occurs in Classical Arabic, e.g., where sequences of consonants can be recognized across a wide variety of words containing a semantic core. Consonants always appear in the same order but may be interrupted by other morphemes as well as by epenthetic segments, hence, because of all the interruptions, the term "non-concatenative" or "discontinuous" morphology. Note how the *k-t-b* sequence, known as a "triliteral", is always present but never in the same way.[55] The triliteral *k-t-b*, a discontinuous morpheme, is part of each of the following forms:

(40) The non-concatenative morphology of Classical Arabic (Anderson 1985: 34–36)

kitaab	'book'
katab	'write'
kaatab	'write to someone
ʔaktab	'dictate, cause to write'
takaatab	'correspond, write to each other'

55. The discussion has been considerably simplified. Interested readers can follow the formal treatment of such phenomena in a series of publications beginning with McCarthy 1981. In addition to triliterals, Arabic also has a few "biliterals" and "quadriliterals".

ktatab	'be registered'
staktab	'ask someone to write'

Classical Arabic seems to be the language where it is most heavily grammaticized, but this situation is likely due to its functioning as a religious language, being highly structured and not widely spoken. Schuh 1997 contains some illustrative examples from Miya, another Afroasiatic language, where paradigms are not so full. This section looks at the phenomenon in Arabic and other related languages and then outside Afroasiatic for examples less heavily involved in the grammar.

The Arabic Plural and Diminutive are expressed by imposing a light–heavy syllable sequence (an iambic foot) on the singular noun base. In the case of the Plural, the grammar disregards the vowels and looks at only the first two consonants of the Singular, inserting an **a** after the first and **aa** after the second to form a light and a heavy syllable. Such morphemes are called templates, which impose prosodic conditions but not phonological ones (McCarthy & Prince 1988: 319). The Diminutive can thus be seen to be composed of the same light-heavy sequence, but this time the vowels are **u** after the first syllable and **ay** after the second consonant. The morpheme for 'judgement' is ħ-k-m, the only material that is constant across all three columns; for 'grape' it is the three consonants ʕ-n-b, etc. The last two examples in (41) illustrate four-consonant morphemes or "quadriliterals" (see note 57).

(41) Discontinuous and templatic morphemes in Arabic

Singular	*Plural*	*Diminutive*	*Gloss*
ħukm	ħa**k**a**a**m	ʕu**k**a**y**m	'judgement'
ʕinab	ʕa**n**a**a**b	ʕu**n**a**y**b	'grape'
ʃaaʏil	ʃa**w**a**a**ʏil	ʃu**w**a**y**ʏil	'engrossing'
jundub	ja**n**a**a**dib	ju**n**a**y**dib	'locust'
sulṭaan	sa**l**a**a**ṭiin	su**l**a**y**ṭiin	'sultan'

Yoruba also uses discontinuous morphemes consisting of three consonants, found in the expressive part of the lexicon containing ideophones (see Section 5.1). Such sub-morphemic partials have been called "phonaesthemes"; equivalent (but non-discontinuous) English examples are *gl-* for things having to do with visual phenomena: *glimpse*, *gleam*, *glitter*, etc. (Bolinger 1950). The examples in (42a) list some discontinuous morphemes; in (42b) are attested examples (with vowels filled in).

(42) Yoruba phonaesthemes (Awoyale 1988b)

a.	r-g-d	'roundness, width'	t-p-r	'stiffness'
	k-t-p	'hard hitting or landing'	p-l-b	'flatness'
b.	regede	'bulging, solid, average size'		
	gbìrìgìdì	'of solid matter rolling with much impact'		
	rigidi	'round, solid, massive'		
	ragada	'very wide'		
	ròg̀òdò	'round, large size'		
	rogodo	'round, average size'		
	rógódó	'round, small size'		

These examples show how non-adjacent segments can convey meaning in the same way as any other morpheme.

The next phenomenon is a bit more accessible, illustrating, nonetheless, a different way of classifying nouns.

4.2 Noun class systems: The many genders of Africa

All four of the major phyla of Africa mark gender in some way, ranging from the relatively straightforward two-gender systems of Afro-Asiatic and Nilo-Saharan to the rather more complicated multi-gendered systems of Niger-Congo (see (45) and (46) below), whose workings are deeply involved in the morphosyntax. Within the Africanist literature, the latter are generally called "noun class" systems.[56] A noun class system will consist of a complete division of all nouns in the language into a number of classes. Though this division need not register itself on the noun itself, it must do so with other classes of morphemes, "modifying" or "dependent" elements such as adjectives and demonstratives; "the determining criterion of gender is agreement" (Corbett 1991:4).

> A noun gender [class] system may be regarded, then, as involving the intersection of two basic factors, classification and agreement, the two being in a relation of mutual determination, the gender being defined by the agreements, and the agreements being determined by the genders. (Greenberg 1978:150)

56. Corbett 1991 provides a thorough treatment of gender. The theoretical literature on noun class systems is fairly extensive; some representative examples are Mufwene 1981 and Bresnan & Mchombo 1995.

Ideally, a classification is exhaustive and divides the universe into mutually disjoint sets (Greenberg 1978: 52–53). The markers can come before or after the noun or its dependent element (Greenberg 1977, Childs 1982) and generally have their diachronic source in definite markers or demonstratives (Greenberg 1978, Childs 1983).

Many African languages are fastidious in the way that they neatly divide the universe of nouns and register agreement following the pattern of Latin's "relentless rhythm" (E. Sapir, as quoted in Greenberg 1978: 53) or "alliterative concord", Greenberg's prosaic but more precise term (cf. Corbett 1991: 117–19). In the case of the examples in (44), the agreement marker is the same as the marker on the noun itself; this is not the case for all such morphemes in either Swahili or Limba.

(43) The "relentless rhythm" of Latin
*ill-**ōrum** saev-**ōrum** vī-**ōrum***
those savage men
'of those savage men'

(44) The "alliterative concord" of Bantu and Atlantic[57]
Swahili:
***ki**-tu **ki**-kubwa hi-**ki** **ki**-lianguka*
thing large this fell
'This large thing fell.'

Limba:
***ŋa**-yen **ŋa**-sɔnwunthe **ŋa**-lɔhɔi **ŋa** **ŋa** thimo-yii **ŋa** …*
boards six good the which look-you the
'the six good boards that you are seeking…'

***ba**-wai **ba**-sɔnwunthe **ba**-lɔhɔi **ba** **ba** thimo-yii **ba** …*
'the six good beams that you are seeking…' (Berry 1958: 172)

To hear some alliterative concord, listen to Recording 6.

Recording 6. The relentless rhythm/alliterative concord of Swahili

The first two examples from Swahili feature the *ki-/vi-* (7/8) pair of classes. The prefixes come from Swahili, but the numbers are used for comparative purposes; the first item represents the singular, the second the plural. In most cases the

57. Concord has even been accorded some aesthetic value in Zulu (Claudi 1997: 63).

noun class (concord) marker (bolded below) comes at the beginning of the noun, verb, or dependent element, except for the proximal deictics *hiki* and *hivi* 'this/these' (noun classes 7 and 8 respectively), where it comes at the end. In addition to the alliterative concord, listeners may also hear the prominent penultimate stress of Swahili (discussed in 7.3.1).

(45) Swahili noun class agreement
***ki**-tu hi-**ki** **ki**-kubwa **ki**-lianguka*
thing this large fell
'This large thing fell.'
***vi**-tu hi-**vi** **vi**-kubwa **vi**-lianguka*
things these large fell
'These large things fell.'

Because the speakers providing these sentences are also native speakers of Kikuyu and Maasai, I asked them to devise and say equivalent sentences in those languages for contrast. Kikuyu is also a Bantu language, so you will probably notice some similarities in the syntax and marking of concord. Maasai, however, is a Nilotic language of dramatically different structure with no noun class system, although masculine and feminine genders are distinguished. Both languages are tonal, as opposed to Swahili. Transcriptions were provided by the speakers themselves.

(46) Kikuyu and Maasai equivalences
Kikuyu:
kīndū gīkī kīnene nīkīagūire
thing this big fell
'This large thing fell.'
indo ici nene nīciagūire
things these big fell
'These large things fell.'
Maasai:
etuurori ena toki sapuk
fell this thing large
'This large thing fell.'
etuurori kuna tokitin sapukin
fell these things large
'These large things fell.'

Despite the complexity of Niger-Congo noun classes, even the first African grammar, a description of Kongo (Brusciotto 1659), displayed an understanding of the system. Nouns were assigned to their various classes on the basis of their concordial agreement rather than on the basis of their prefixes (Cole 1971: 3). Although noun classes are not unique to Africa (being found in the Pacific, the Caucasus and various parts of North America (Gregersen 1999); see Corbett 1991 and papers in Craig 1986), they are particularly robust in Africa, appearing prolifically in a great number of languages, being particularly widespread in Niger-Congo. There is some controversy, however, about their existence in the Mande Group (Dwyer 1989), where they are vestigial at best (Gottlieb & Murphy 1995: xviii), and in other groups they are sometimes not obvious. In the Benue-Congo language Kana, for example, they are not superficially present, although they can be reconstructed (Ikoro 1996: 55). In the Khoisan phylum they have been documented only in Taa and Ju (Güldemann & Vossen 2000: 111).

This section continues by characterizing such systems semantically, morphologically, and syntactically. Readers may be interested in reviewing the phonological changes ("consonant alternation", see 3.6) that take place in different morphosyntactic environments where the system holds sway.

The apportionment of nouns to noun classes generally has a semantic basis to it, most obvious in Bantu where the close relatedness of the languages allows for easy comparison and reconstruction. Basing themselves on reconstructions (Guthrie 1967–1971), Creider and Denny find shape, size, and configuration to form the semantic basis of the system, as shown in (47). After each feature I give some representative examples from each class. Other features important to the system are [animacy], [plural], and [collective].

(47) Configurational basis to Bantu noun classes (Creider & Denny 1975)

LENGTH or THINNESS, e.g., sugar cane stalks, hoes, tails
SPHERICALITY, e.g., pebbles, oranges, eggs
LIQUIDITY, e.g., water, palm oil[58]

Another relevant feature to many systems is size, smallness and/or largeness. Languages such as Serer, for example, have special diminutive and augmentative classes. Nouns belong to a maximum of five noun classes, including a

58. There is also the "Alcoholative" class, so labeled by Cole because alcoholic beverages cluster within it (Welmers 1973: 167, as cited in Gregersen 1999: 3).

diminutive singular, a diminutive plural, and an augmentative singular; coupled with other semantic distinctions this leads to a total of fifteen classes (McLaughlin 1995). Typically these classes have no unique members but rather allow nouns from other classes to be diminutivized or augmented by replacing their normal marking and agreement patterns with patterns showing membership in the two "derivative" classes.

The connotations for each size class can be pejorative or ameliorative. In Swahili, for example, the diminutive classes are *ki-* 'singular' and *vi-* plural, classes commonly used for objects of daily use (Swahili has no unique augmentative and diminutive classes). A child is *mtoto* but an infant is *kitoto*. The *ki* class is also where one finds non-prototypical human beings. People with disabilities belong to the *ki-/vi-* classes: *kipofu* 'blind person', *kiziwi* 'deaf person', and *kiwete* 'lame person', as well as 'slaves' *kitwana* and another word for 'child' *kijana*. In fact, though, some of these *ki-/vi-* nouns will take animate concord (in example (48), from the animate plural *wa-* class for the plural *vi-* class) in most morphosyntactic environments, semantics thus overruling morphology (see 5.6).

(48) *vi-jana* *ha-wa* *w-ema*
NCM$_{vi}$-child this-AGR$_{wa}$ AGR$_{wa}$-good
'These children are good.' (Ashton 1947: 90)

In an impressive, detailed study of the morphophonology of two little researched dialects of Fula, Breedveld 1995 looks in detail at the semantics of the noun classes. What she finds is that their meanings are deeply grounded in Fulbe cultural practices and even mythology; only with that knowledge can one understand how cows, fire, and the sun all belong to the same noun class.

Further complexity and richness can be found in the verbal morphology, as well as a great deal of variety.

4.3 Verbal morphology

This section begins by presenting the verbal complex of a typical Bantu language. Bantu languages are renowned for their prolific and highly agglutinative morphology, although the Nilo-Saharan language Kanuri could have served just

as well (Cyffer 1997: 39).[59] The transparency and tractability of the system, along with its sheer bulk and homogeneity, have allowed Bantu to serve as a metric for other languages on the continent. The Bantu languages are also relatively well documented.[60]

(49) The (traditional) basic Bantu verbal complex

(NEG–) SM – TMA – (OM–) Root (–Ext_1–$Ext_{2...}$) – FV

The first element is the subject marker ("SM"), represented by *a-* in (50a), which can be preceded only by the negative marker (see the b. sentence). It shows agreement with the subject "*Juma*" (a name) in person, number, and noun class membership where relevant (first and second person pronouns do not participate in the noun class system (see 4.2)). Following the subject marker in sentence a. is *li-* the "tense" marker ("TMA" tense-mood-aspect above). Next comes the object marker ("OM"), which represents or agrees with the object (here the animate benefactee rather than the direct object *ugali* 'porridge' (see (4.2 and 5.6)). In sentences a. and b. the concord marker is *a-*, but in the c. sentence it changes to *wa-* to agree with the *wa*-prefixed benefactee. Next follows the verb extension(s), here just the "Applicative" *-i* (see 4.4), found in all four sentences. At the end of the verbal complex is the appropriately named "final vowel" *-a* ("FV"), which has been said to represent the modal distinction between subjunctive and indicative (here the latter, INDIC). In sentence d. the final vowel has changed to *-i*, to signal the subjunctive (SUBJUNC), one function of which is asking permission.

(50) The verbal complex in Swahili

a. Juma a-li-m-pik-i-a Ahmed ugali
Juma SM-PAST-OM-cook-APP-INDIC Ahmed porridge
'Juma cooked Ahmed some porridge.'

b. Juma h-a-ku-m-pik-i-a Ahmed ugali
Juma NEG-SM-PAST.NEG[61]-OM-cook-APP-INDIC Ahmed porridge
'Juma did not cook Ahmed some porridge.'

---

59. Even the African creole Kituba has a rich system of distinctions (Mufwene 1990).

60. Hinnebusch 1989 summarizes work on Bantu since 1971, and the following summarize the work before; Guthrie 1971, Kähler-Meyer 1971, Williamson 1971).

61. The change from the Past marker *li* to the Negative Past marker *ku* is another mark of negation (see p. 129).

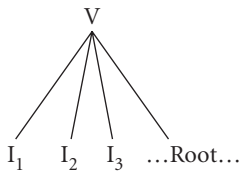
c. Wa-toto wa-ta-wa-pik-i-a wa-tu ugali
NCM-child SM-FUT-OM-cook-APP-INDIC NCM-human porridge
'The children cooked the people some porridge.'

d. Wa-pishi wa-ta-wa-pik-i-i wa-tu ugali
NCM-cook SM-FUT-OM-cook-APP-SUBJUNC NCM-human porridge
'Should the cooks prepare the people some porridge?'

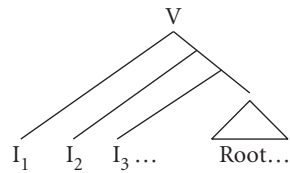
There is some controversy as to the complex's unitary nature and structure, especially when the TMA component is fully expanded. Some have argued that it should be split into two parts, the first of which is something like an auxiliary, the second something like a verb stem. Instead of the flat structure in (51a) or even the prefixed structure of (51b), Myers 1998 proposes the binary branching structure in (51c).

(51) The structure of the Bantu verb

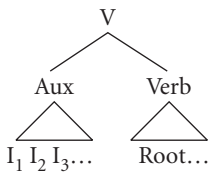
a. Flat, morphemes as sister nodes



b. Binary-branching, morphemes as prefixes



c. Separate inflectional Aux node



The evidence that Myers adduces is phonological, morphological and syntactic, and comes from a set of widely distributed Bantu languages. For example, in Swahili, as reported in Barrett-Keach 1986, a secondary accent can be heard on the first constituent as identified in (51c) and can be followed by a slight pause. Evidence on the morphological side that makes Myers's proposal more appealing is that in the "slot-and-filler" model represented in (51a), there are severe co-occurrence restrictions on what can occur; moreover, there is double marking of some morphological distinctions that hints at agreement between Aux and the verb. His proposal is quite appealing and is in line with the

"macrostem" proposal in Hyman & Ngunga 1994. The macrostem includes the OM and everything to the right, a division observed in Odden 1998.

The Macrostem (or Suprastem) has been invoked for the facts of Chichewa, and the division there is quite neat between the macrostem (the lexicon and morphology) and the prefixes (syntax). Phonological (vowel harmony) and lexical (derivational processes such as nominalization and verb extensions) operations take as their domain the stem, while the verb prefixes handle more inflectional or syntactic operations, e.g., TMA, agreement, negation (see Mchombo 2003). Figure 11 shows a formal representation of a sentence such as the one in (52).

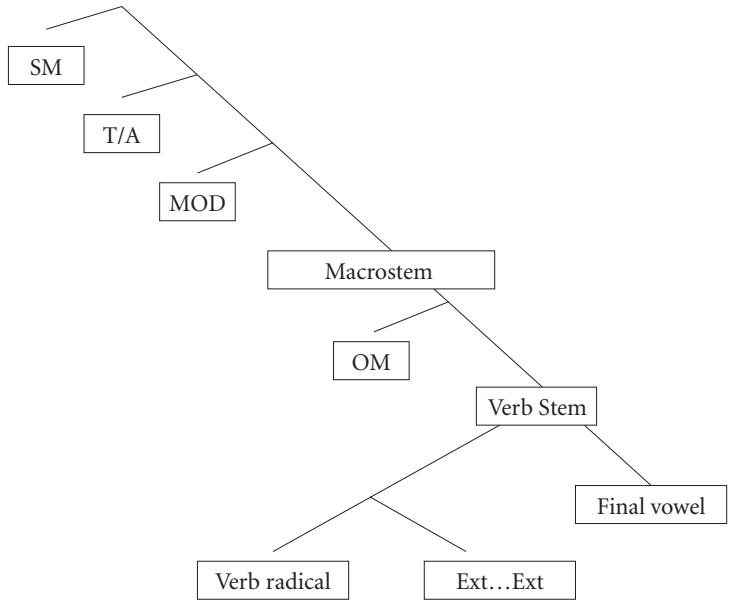


Figure 11. The Macrostem in Chichewa (Mchombo 1997: 191)

The following sentence illustrates the arrangement of these distinctions.

(52) The Chichewa Macrostem (Mchombo 1997: 191)

si-á-ku-dzá-ngi-u-phîk-its-irá
NEG-SM-PRES-DIR-MOD-[3OM-COOK-CAUS-APPL-FV]$_{\text{MACROSTEM}}$
maúngu mkángo
pumpkins lion
'He is not merely coming to get pumpkins cooked for the lion.'

The division is not so neat everywhere. In Setswana, for example, another Bantu language, some TMA inflectional information that normally precedes the root in other Bantu languages can appear **after** the verb root. In the example below, the morpheme "*-íts-* represents the prefinal of the perfect positive". There are no TMA markers before the verb.

(53) The "prefinal" of Setswana (Creissels 1998: 157)

kì- dí- rékís -íts -é dikgomo
SM- OM- sell -PERF.POS FV cows
'I have sold them the cows.'

It is not clear how these facts would be handled without some movement rule or alternative structures.

Outside of Bantu, one can find much of the same morphological complexity, especially in Atlantic, e.g., Fula (Arnott 1970). Kru languages, marking as many distinctions, tend to be more analytic and less fusional than the other languages in Niger-Congo, as can be exemplified by Grebo. As described in Innes 1966, Grebo distinguishes five moods marked by differences in the subject pronoun, tone pattern on the verb, or both. The moods are: Indicative, Subjunctive, Conditional, Result, and Imperative. With the addition of an auxiliary, a third mood is distinguished, the Optative (not shown in (54)). Grebo has four tones: "1" High; "2" High-mid; "3" Low-mid; "4" Low.

(54) Mood in Grebo (Innes 1966: 54)

		Tones	Gloss
Indicative	**ne du bla**	1 1 4	I have pounded the rice
	o du bla	2 2 4	They have pounded the rice
Subjunctive	**bé du bla**	4 1 4	Let me pound the rice
	bo du bla	2 2 4	Let them pound the rice
Conditional	**ne du bla**	2 1 4	If I pound the rice
	bo du bla	2 1 4	If they pound rice
Result	**ne du ble**	2 1 4	…(and) I have pounded rice
	o du bla	2 1 4	…(and) they have pounded rice
Imperative	**du bla**	2 4	Pound rice

All of the moods can be marked for tense, shown by a suffix on the verb stem, most of them to a maximum of six temporal distinctions. One is unmarked (non-finite?, consecutive?), and the others Innes calls 'before yesterday',

'yesterday', 'today', 'tomorrow', and 'after tomorrow'. Thus there is a present, as well as near and remote distinctions in both the past and the future.

(55) Tense distinctions in Grebo (Indicative mood) (Innes 1966)

Tense 1: without suffix		
ne du bla	1 1 4	I have pounded rice
ne pĩ bla	1 1 4	I have cooked rice
Tense 2: with suffix **-da/-na**		
ne duda bla	1 12 4	I have pounded rice before yesterday
ne pina bla	1 12 4	I cooked rice before yesterday
Tense 3: with suffix **-dɔ/-nɔ**		
ne dudɔ bla	1 11 4	I pounded rice yesterday
ne pinɔ bla	1 11 4	I cooked rice yesterday
Tense 4: with suffix **-ɛ/-ɛ̃**		
ne duɛ bla	1 12 4	I pounded rice today; I shall pound rice today
ne pĩɛ̃ bla	1 12 4	I cooked rice today; I shall cook rice today
Tense 5: with suffix **-a/-ã**		
ne dua bla	1 12 4	I shall pound rice tomorrow
ne pĩã bla	1 12 4	I shall cook rice tomorrow
Tense 6: with suffix **-dɔ/-nɔ**		
ne dudɔ bla	1 12 4	I shall pound rice after tomorrow
ne pinɔ bla	1 12 4	I shall cook rice after tomorrow

In addition, there are two aspects distinguished, perfective and imperfective. The distinction is marked on the stem, as a suffix, inside the suffixes for tense.

(56)

Perfective	Imperfective
du pound	*dui be pounding*
wa break	*wɛ be breaking*

ne du-da bla ne
I pound-REM.PAST rice FOC
'I pounded rice.'
ne du-i-da bla ne
I pound-IMPERF- REM.PAST rice FOC
'I was pounding rice.'

As a final remark on Grebo, one verbal distinction not yet mentioned is Polarity

Negative vs. Affirmative. It will not be exemplified here (see 5.3), but the reader may be assured it adds another wrinkle to the already complicated verbal morphology, despite the basically analytical nature of the language.

There are also "simple", more analytical languages to be found, such as those within Kru and the Mande Group of Niger-Congo, where morphemes are more often separate words and the contrasts are relatively few. Thus, one can speak of some simplicity to the verbal system (see 7.2.3 and Childs 2002a).

In (57) are some sentences from Mandinka, a language from the Manding cluster of Mande. The examples (tones not shown) are meant to show a more isolating language than any seen thus far. The first sentence shows how separate the TMA markers are from the verb. Not only is the Perfective marker a separate word, it also appears far away from the verb, after the subject and before the object (see the second sentence in c. for another example). In the b. sentence, the Negative Imperfective ***buka*** appears in the same position. Even when the TMA marker is right after the verb, as in the first of the two c. sentences, it stands as a separate word. There is not much morphology in Mandinka, as is shown by the two pairs of sentences in b. and c. The b. sentences show one way in which negation is accomplished, and the c. sentences show causation. In both cases, a completely separate, lexically distinct word marks the distinction.

(57) The analytic nature of Mandinka

a. **wulɔɔ yɛ ɲamɔ tee**
dog PERF grass cut
'The dog has already cut the grass.'

b. **lamin kari ɲambo sɛnɛ**
Lamin IMPERF cassava grow
'Lamin was growing cassava.'

lamin buka ɲambo sɛnɛ
Lamin NEG cassava grow
'Lamin is no longer growing cassava.'

c. **jaba suna ta**
Jaba sad PERF
'Jaba is sad.'

jaba yɛ lamin suna ndi
Jaba PERF Lamin sad CAUS
'Lamin made Jaba sad.'

Before moving on to verb extensions and serial verbs, I want to exemplify the way in which African languages often mark TMA distinctions on subject pronouns, rather than on the verb itself. We have already seen some examples in Grebo. In Hausa, pronouns and TMA markers combine in "weak subject pronouns" or, more technically, a "person-aspect-complex" (Newman 2000b: 485–86).

The situation is similar in Wolof and Kisi, two languages distantly related to each other. Wolof marks the majority of verbal distinctions on its subject pronouns (Sauvageot 1981), while Kisi marks a few. The examples from Kisi below show a few verbal distinctions (there are many more) marked by changes in the subject pronoun, which like the weak subject pronouns in Hausa show agreement.

(58) Subject pronoun changes in Kisi

Habitual:	*ò kìàl*	'She (usually) bites.'
Past Habit:	*óó kìàl*	'She used to bite.'
Neg Past Habit:	*óó kìl lè*	'She never used to bite.'
(General Neg:	*ò kíl lé*	'She does not/did not bite.')
Subjunctive:	*mbò kìàl*	'that she bites.'
Past Subjunctive:	*mbó kìàl*	'that she bit.'

The Past marker for the Habitual (Negative and Affirmative) is a high-toned mora with its features unspecified, likely all that is left after phonetic erosion (see the discussion of floating tones in 3.7.1). Note in (59) the form of the second person plural pronoun *là* in the Past Habitual. The form is not *lálá*, as would be the case if the morpheme in its entirety were reduplicated.

(59) Kisi Past Habitual: *lá á mál* 'You (Pl) lost (something) (but then found it).'

We are now ready for verb extensions, a rich area of morphology with implications for the syntax and for linguistic theory in general (Mchombo 1997; see Chapter 5).

4.4 Verb extensions and argument structure

Verb extensions are derivational suffixes that alter the meaning and often the argument structure of a verb. The causative extension, for example, allows the

addition of an argument in the person of the cause, while the passive, stative, or middle signals the loss of an argument, the agent. Other extensions do not affect the number of arguments; the plural extension, for example, allows only for any argument to be pluralized or the action itself to be repeated. The Reversive does little to the argument structure, changing only the semantics, "un-doing" some action. The typical number of extensions for a Bantu language is ten, and many Atlantic languages have more, but there are usually restrictions on which ones can co-occur, so rarely will more than five appear on a single verb at one time.

A number of descriptive and theoretical issues surround the study of verb extensions. Because they are so widespread and so phonetically robust, their reconstruction has been fairly straightforward for Niger-Congo (Trithart 1983, Voeltz 1977). They are also found in such Chadic (Afroasiatic) languages as Hausa (Newman 2000b), Miya (Schuh 1997), and Hdi (Frajzyngier & Shay 2002). Other questions are not so easily resolved; I give a partial listing in (60).

(60) Problems and issues in verb extensions

- Historical-comparative 1: What is the ultimate source of verb extensions? Why is it that they have no tone (in Bantu)?
- Historical-comparative 2: Where have all the (reconstructible) extensions gone? Why have they disappeared? What collapsing of extensions has occurred?
- Morphophonemics: What changes are there in the suffix or stem, e.g., vowel harmony (see 3.5))?
- Morphotactics: In what order can and do the extensions appear? With what other extensions? Are the constraints semantic?
- Semantics: Is it possible to identify a unique meaning for each extension? What happens when they combine?[62]
- Syntax: What are the effects of the affixation of extensions on argument structure?[63] What is the range of variation? Is there a maximum number of allowable arguments?

62. Hyman 1993 is a broad comparative approach; Fleisch 2000 looks at the verbal complex of a single language in great detail.

63. Rugemalira 1993 is a thesis-length treatment of the topic, a topic of great general interest. An entire workshop, for example, was devoted to one extension, the "8th Niger-Congo Syntax and Semantics Workshop on Applicative Architectures" in 1995.

I begin with some examples from the Atlantic language Manjaku, which has a great number of derivational and inflectional affixes, including verb extensions. Proper verb extensions number ten and are bolded in Table 17. The verb extensions and the syntax of verbal suffixes are shown in all their glory in Figure 12, the verb extensions once again bolded to contrast with other suffixes. The numbers in Table 17 correspond to those in Figure 12. In the second column is given a suggestive name and in some cases a gloss. In the next column appear the morphemes themselves, and in the third and fourth columns appear some examples which may help to clarify the more opaque meanings.

Table 17. Verbal suffixes in Manjaku (Karlik 1972)

1.	Verbal	*-a*		
	Neutral	*-ax*		
2.	**Reciprocal**	*-el*	me-el-ar	'know each other'
	Plural ('repeating')	***-and***	know-RECIPROCAL-BENEFACTIVE	
			a-xɛpand-and unkanel	'He also took the sheep.'
			He-take-PLURAL sheep	
3.	**Reversive** ('undoing')	***-es***	*bual-es*	'uncover'
	Manner ('thus')	***-enk***	*chax-enk-er*	'feign death'
			die-MANNER-self	
4.	**Instrumental**	***-na***		
5.	**Factitive**	***-and***		
	Benefactive ('for someone')	***-ar***		
	Causative	***-an***	*xêp-and-a*	'be led'
	Passive	***-a***	go-CAUSATIVE-PASSIVE	
6.	Inflectional affixes			
7.	**Approximating** ('near')	***-i***	*a-pɛn-i*	'He left and is coming.'
			He-went.out-hither	
8.	Pronouns (objects)			

The northern Atlantic languages rival Bantu in terms of the richness of the verbal complex (see Figure 12); this feature is part of the reason they have been claimed to be genetically close to Bantu (Mukarovsky 1958), a claim needing further substantiation. The display in Figure 12 is incomplete since it does not show the obligatory noun class or pronominal prefixes.

What is a little odd about the syntax of the Manjaku verb is that one

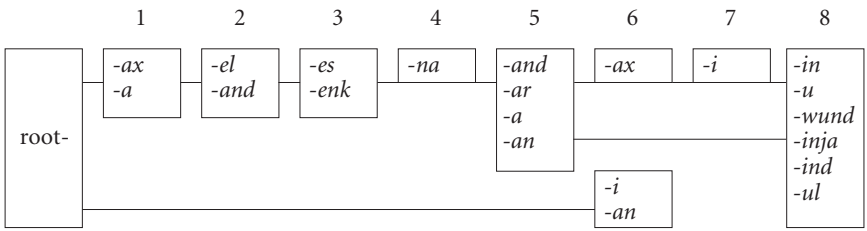


Figure 12. The morphotactics of verbal suffixes in Manjaku (Karlik 1972: 195, 245ff)

extension, the "Approximating", appears outside (farther away from the verb) or after the inflectional morphemes (in slot 7 after slot 6) — others are "inside", the expected pattern with regard to derivational vs. inflectional morphemes (Bybee 1985).

Not so odd is that some of the extensions cannot co-occur, as represented by shared enclosure in a box: the two extensions in box 2 cannot co-occur, as cannot the two in box 3, etc. In fact such collocational restrictions on verb extensions are relatively common, e.g., in the Cangin language Noon (Soukka 2000), likely a consequence of the semantics of both the verb and the extensions (cf. Hyman & Mchombo 1992). Bantu has general restrictions on where extensions can appear and with what other extensions, as seen in (61).

(61) Morphotactics of Bantu verb extensions (Welmers 1973)
The applicative and the causative may appear in any order.
The passive and the stative may only be the last extension.
The reciprocal may be followed by the applicative, causative, or stative, but not by others.

Chichewa allows four such extensions, shown below in the following order: Reciprocal, Causative, the Applicative (Benefactive) and Passive.

(62) Morphotactics of Chichewa verb extensions (Mchombo 1997: 188)

	meny-a	'hit'
RECIP	*meny-an-a*	'hit each other (fight)'
CAUS	*meny-an-its-a*	'cause to hit each other (cause to fight)'
APPL	*meny-an-its-ir-a*	'cause to hit each other for (cause to fight for)'
PASS	*meny-an-its-ir-idw-a*	'be caused to be fought for'

The meaning of what Karlik calls the "Approximating" in Table 17 is clearer in Bijagó, an isolated Atlantic language spoken on the Bijagó Archipelago off the coast of Guinea-Bissau, and introduces an additional semantic distinction. In addition to the relatively more common 'hither, here' affix, Bijagó has a less common 'hence, there' extension. The two are used with verbs of direction to indicate "movement towards or away from the speaker" [or subject]; with other verbs their meaning is "perceived proximity or distance" (Wilson 2000/01: 18).

(63) Verb extensions in Bijagó (Wilson 2000/01: 18)

Infinitive	Gloss	-à 'hither, here'/ -ám 'hence, there'	Gloss
ŋɔ́-nak	'go up/down'	mè-nàk-à	'come up/down!'
		mè-nàk-ám	'go up/down!'
ŋɔ́-bàk	'take hold'	ŋɔ́-bàk-à	'take (with one)'
ŋó-rè	'to be at…'	ŋó-rè-ám	'to be (away) at…'
ŋù-rí-à	'pick up and bring'	ŋù-rí-ám	'pick up and remove'

Grebo, a Kru language spoken in Liberia, does Bijagó one better. In addition to the 'here' and 'there' extensions, it has a third locative extension, one which "specifies more exactly the place of an action" (Innes 1969: 58).

Some examples of extensions used together in Wolof follow in (64) (note that tense is outside or after the two extensions as expected). Wolof is not so agglutinative as Bantu; because of the fusion, the examples have not been morphologically decomposed. The first example has two extensions and the second has three.

(64) Verb extensions in Wolof (Ka 1994: 48)

jubbëntééndóówóón		*jéémëntuwaaleeti*	
ROOT-EXT$_1$-EXT$_2$-TENSE			
'had put in a correct position together'		'try also without conviction once more'	
jub	'to be upright'	*jéém* 'to try'	
-anti	EXT$_1$ 'corrective'	*-antu*	EXT$_1$ 'depreciative'
-andoo	EXT$_2$ 'comitative'	*-aale*	EXT$_2$ 'associative'
-oon	PAST	*-ati*	EXT$_3$ 'reiterative'

In Chaga and other languages (Moshi 1998), there can be a one-to-many mapping of verb extensions and post-verbal arguments: one verb extension will allow for more than one argument. Other languages are more exacting. They allow for the introduction of post-verbal arguments with verb extensions to be sure, but only in a one-to-one match — an extension for every new argument. Kinyarwanda is unusual in that it allows multiple instances of the same extension *-er* for each of its additional arguments, here, 'child', 'book', and 'house'.

(65) Kinyarwanda verb extensions (Kimenyi 1995 as referenced in Moshi 1998: 139)

umugore a-r-ii-som-er-er-er-a abaana igitabo muu nzu
woman she-PRES-REFL-read-APL-APL-APL-ASP child book in house
'The woman is reading the book to/for the children in the house.'

As a final word on verb extensions, I would like to comment on their diachrony, specifically, on how a function persists despite phonetic erosion. Kisi has a set of four extensions, one of which, the Plural, has merged formally with the Causative. Because speakers still need to differentiate the two, they have shown some of the creativity shown by speakers of pidgins (Childs 2002b) — they have created a new form; in other words they have renewed the form of a needed function. In this case, speakers had no obvious morpheme they could use, so they simply repeated the one they had — reduplication used as a morphological process (see Schuh 2001). In some sense reduplication is the most "natural" sort of morphology. It is more than serendipity that the function being renewed, plurality or "pluractionality" (a Chadicist term (Schuh 2001), has a mnemonically helpful iconic relationship with that which it represents: formal reduplication and plural meaning, a perfect match! (See Childs 1987 for a detailed discussion.)

Because verb extensions have considerable ramifications for the syntax, the transition should be easy into the next section, particularly as the chapter contains some discussion of verb extensions.

5 Syntax and semantics

The dazzling agglutinative morphology of Bantu has often blinded investigators to other morphosyntactically unusual or complex features of African languages. There are many to be discussed and to be discovered, too many for this book. Nonetheless, we will once more enter the fray and introduce the reader to some typologically distinctive and/or widespread features on the African continent. It should always be remembered that what is covered in each section is always a subset, sometimes highly personalized, of what is out there to be **un**covered — the possibility of discovery is certainly one source for the fascination African languages hold.

The rich morphology of Bantu has also changed American generativists' thinking about syntactic functions being performed in the lexicon. The system of verb extensions (see 4.4), part of the morphology, does what once was seen as being done only by transformational rules in the syntax, e.g., the passive transformation. Bantu languages thus "suggested the possible elimination of the transformational rules with the attendant elaboration of the lexical component" (Mchombo 1997:188). There has indeed been a great simplification of the syntactic rule component in generative theory (down to "Move α"), much of it due to the facts of languages in Africa. African languages have also had a hand in creating some competition to the mainstream generative strain: "significant aspects of this theory (Lexical-Functional Grammar (LFG)) have been inspired by the facts about Bantu languages" (Mchombo 1997:190). As we will see, there remain many phenomena to challenge the analyst and theoretician.

This chapter contains an eclectic selection that is organized as follows. It first considers a word category that does not figure prominently in English grammars — ideophones. The next section treats argument structure (multiple objects), followed by a sentence-level phenomenon, negation. Attention then turns to one "movement" rule, focus, that has wide relevance, for African languages including pidgins and creoles. The focus then moves to serial verbs, which certainly involve more than one verb and perhaps more than one clause,

and finally on to agreement and interclausal phenomena. The chapter concludes with a consideration of logophoricity, a typologically unusual marking that is common in a geographically delimited part of Africa.

First, a look at African ideophones, a set of words that has been neglected in the past, probably because they were just too much fun.

5.1 Language at expressive play: Ideophones

This section, updating Childs 1994a, demonstrates why ideophones have frustrated and fascinated linguists. Roughly speaking, ideophones represent a lexicalization of the expressive function in a word category robustly attested throughout Africa. At times, however, they have been considered something of a pariah or "stepchild" (Noss 1985a) to mainstream analysts, but recently seem to have moved from the lunatic fringe and have garnered some general interest (Voeltz & Kilian-Hatz 2001).

In the past they have been ignored and misunderstood: Munro & Gaye 1991, a Wolof dictionary, contains no ideophones, despite their well known presence in the language (an entire monograph (Dialo 1985) is devoted to Wolof ideophones!). They have even been denied linguistic status: "Ideophones are not considered to be lexical morphemes and cannot be generated by the grammar" (Voorhoeve 1965: 197 as quoted in Samarin 1971b: 135). Despite this opposition, some analysts have pressed on and continued to include them in language descriptions, e.g., Schaub 1985, Hutchison 1981a. Ideophones have also been considered worthy of interest for their aesthetics (Noss 1975), their vitality (Samarin 1991) and pervasiveness in the languages of Africa.

As a working definition, ideophones constitute a phonologically aberrant class with meanings often difficult to articulate. They serve an expressive function with close ties to context. More often than in the matrix language, they feature onomatopoeia and even sound symbolism. The sentences in (66) illustrate some rough equivalents from English.

(66) *The town was laid out all higgledy-piggledy.*
Tucker ran away from his creditors lickety-split.

The phonology of ideophones represents one area of interest in that ideophones use phonetic resources not part of the language's "regular" phonology. Speakers say that ideophones sound "funny" or "odd", violating the phonotactic constraints of a language, by using:

- a raised or lowered register (F_0 or pitch range)
- a rapidly modulated or exaggerated register range
- phonation types not part of the matrix language: breathy voice, creaky voice, voicelessness and whisper
- overly short or long duration
- a fast or slow speaking rate
- pauses setting off the ideophone from the rest of the sentence, initially, medially or finally
- phones not belonging to the regular phonemic inventory, or phones not exhibiting regular phonemic oppositions (neutralization of contrasts)

In (67) some Swahili examples illustrate this distinctive phonological aberrancy.

(67) *kuanguka chubwi* [overly short syllables and high on final syllable]
fall-down IDPH
'to fall down PLOP'
amempiga *pu-u-u* [prolonged final fall]
he-struck-him IDPH
'He whacked him.'

The reader is now invited to listen to some Zulu ideophones from Childs 1996 in Recording 7. A list of the ideophones featured appears in Table 18. These ideophones are read (performed?) by Dumisani Khrushchev Ntshangase at the University of the Witwatersrand, Johannesburg, South Africa (1992). Ntshangase has a wonderfully deep voice probably due to socialization as a Zulu male (Webster 1991); he is much shorter than one would expect on the basis of hearing his voice.

The recording begins with three pairs of sentences, each pair with the same ideophone, but produced in different contexts. As you will hear, the first two pairs feature ideophones with clicks, and the third features an ejected laterally released velar affricate made with the velaric speech mechanism [kʟ']. Clicks feature heavily in ideophones, and the last sound is found only in ideophones. The last four ideophones may have an onomatopoeic component to them. How would you describe or imitate the phenomenon each ideophone refers to, in the same way? In other words, do the sounds directly imitate nature or is there some mediation by the language?

Recording 7. Zulu ideophones

Table 18. Zulu ideophones featured in Recording 7

1.	Ideophone	Rough characterization
2.	*qhwa*	Underscoring whiteness
3.	*qhwa*	Underscoring whiteness
4.	*buqe*	Underscoring blackness
5.	*buqe*	Underscoring blackness
6.	*klebhu*	Referring to redness
7.	*klebhu*	Referring to redness
8.	*tshwii*	Of rushing out
9.	*voshovosho*	Running of a chicken
10.	*bhee*	Sound a goat makes
11.	*mpo*	Of water dripping

Ideophones are found widely throughout the languages of Africa and are attested in every phylum. At one point it was believed that ideophones were not found in Khoisan (Samarin 1971b) but recent work shows that they are, e.g., in Nama (Haacke & Eiseb 1991) and Kxoe (Kilian-Hatz 2001). Those not familiar with ideophones often dismiss them as being "merely" onomatopoeic and therefore not worthy of study (see Saussure 1916 (1948): 69; cf. Klamer 2002). Most ideophones do not imitate sounds in nature simply because many make no reference to sound, as in (68). It should be especially clear from the first example, where the ideophone represents silence! The examples I have chosen are from a total set of seventeen ideophones furnished me by the first author.

(68) Nama (Khoekhoe/Damara) ideophones (from Haacke & Eiseb 1991)

ǀnanup kʸe !ʔe təmîî ko ǀʔû
rain IND IDPH so-say REC.PAST cease
'The rain stopped suddenly.' (the ideophone denoting sudden silence)

nǀavu təmîî ko !kxʰoo te ʔarip kʸe
IDPH so-say REC.PAST catch me dog IND
'The dog caught me just like that.' (the ideophone emphasizing the seizing/catching)

ʔaop kʸe ti ʔai!ʔââ sûî təmîî LO ʔii
snake IND my front-of IDPH so-say REC.PAST pass
'The snake shot past me.' (the ideophone denoting the swiftness.)

It has been argued that the knowledge and use of ideophones have strong associations with "local identity" (Childs 1998). What this means is that ideophones signal one's affiliation with the "local team" (Blom & Gumperz 1972). In the case of South Africa they conjure up a rural identity generated and prescribed by the apartheid-government, an association which young urban dwellers wish to shed or disavow (Childs 1996). What may be more surprising is that they appear also in the continent's pidgins and community-based lingua francas (Childs 1994b), as well as in many New World creoles with an African substrate (Bartens 2000). Their sociolinguistic and linguistic importance is thus considerable.

With regard to their semantics, a common feature is the employment of sub-morphemic partials or "phonesthemes" (Bolinger 1949 (1965)), discussed in 4.1. These associations arise via a gradual accretion of sound-meaning correspondences that can lead to sound symbolism (Childs 1989b). This sort of association represents the most common type of non-arbitrary association between sound and meaning in languages with a large inventory of ideophones. The association here is consistent within the language (perhaps only in the ideophonic subsection) but is not universal (cf. Brown 1958: 111). The partials that illustrate conventional sound symbolism may be segmental or prosodic, or even non-concatenative (see 4.1). The examples of phonesthemes below come from two Nigerian languages (tones not shown).

(69) Nembe (Maduka 1988b: 107)

m_1	[+SOFT]	mo̰go̰lo̰-mo̰go̰lo̰ 'soft **and** small **and** thin' mo̰guru-mo̰guru 'soft **and** large **and** round'
kp_1	[+WELL-MARKED]	kpokoro-kpokoro 'large(r) **and** round **and** well-marked'
gb_1	[+WELL-MARKED]	gbodoroo 'large(r) **and** round **and** well-marked'

(70) Igbo (Maduka 1988a)

k_m (=medial [k] or [g])	'back and forth'
regerege	'swinging from side to side'
kwakakwaka	'shaking from side to side'

Another characteristic feature of ideophones is that they are immune to or unaffected by phonological rules. The three historical changes referred to as Klingenheben's Law in Hausa do not apply to ideophones (Newman 2000: 230), nor does Low Tone Raising (McHugh 1982). Yet presumably because Hausa ideophones do not constitute a separate word category in Hausa (Newman 1968), they are at least partially integrated into the language. They do participate in the phonology at one point, conditioning the polarity rule determining the tone on the copula or "stabilizer" *nee/cee* (see 3.7.3), seen in (71).

(71) Ideophones condition tonal polarity in Hausa

fàrìí fát nèè
white IDPH COP
'It is really white.'

gáràm néé
IDPH COP
'It is the sound of something falling.'[64]

With regard to morphology, little can be said. Reduplication may be used but typically does nothing more than iconically suggest repetition or intensity. Some derivational processes can be identified. The close relationship between verbs and ideophones often manifests itself in the cross-linguistic tendency for ideophones to be derived from verbs (Childs 1989b), although the opposite is certainly well attested in Bantu (Samarin 1971b: 141), e.g., Swahili and Kinyakusa (Bentley 2001).

Whether ideophones constitute a unique and separate category varies cross-linguistically. Southern Bantu languages feature verbal ideophones (e.g., Marivate 1985) and they are considered a separate category in Chichewa, another southern Bantu language (Kulemeka 1997). In Kanuri, a Nilo-Saharan language, ideophones qualify adjectives, verbs, and less frequently nouns (Hutchison 1989). In Hausa ideophones are generally adverbial, and in Tera, another Chadic language, ideophones cannot be differentiated from adjectives, except on phonological grounds (Newman 1968). The conclusion from these facts is that ideophones cannot be defined as a word class solely on the basis of their syntactic features.

As with the phonology and the morphology, ideophones function somewhat independently from the syntax. The typical observation is that ideophones

64. These examples come from Mahamad Sabo, a native speaker from Niger.

are set apart from the rest of an utterance, often so dramatically that they can be treated as a separate element. Kunene 1965 comments on the "syntactic aloofness" of the ideophone in Southern Sotho, and Moshi 1993 advocates treating ideophones as an "adjunct" in Chaga since they appear "syntactically unattached"; Ekere 1988 reaches a similar characterization of Ibibio ideophones. Another suggestion is that ideophones are all that is left of an embedded clause with everything else deleted (Noss 1985b: 249), or an early branch off a higher node at the same level as the sentence itself (Bohnhoff 1989: 19). Others have suggested that ideophones constitute full predicates (Awoyale 1981: 143). These analyses taken together demonstrate the relative lack of integration of ideophones into any lower structures. Even when ideophones participate in regular syntactic processes such as movement rules, there is something special about their behavior. In Hausa ideophones most often occur at the end of a VP but can be fronted for emphasis without the use of a "stabilizer" (see (71)) (Newman 2000b: 250).

Another marked syntactic feature is that ideophones are often introduced by a dummy verb meaning 'do', 'say', 'quote', or 'think'. In Kanuri the verb **-ɲin** say, think' is used for this purpose and has (diachronically) combined with ideophones to form a large class of verbs in the language. Other dummy verbs in Kanuri are glossed as 'go', 'fall', and 'beat' (Hutchison 1989: 4). The verb **-ti** (likely cognate with Zulu **-thi** 'do') is used in ChiTumbuka (Mphande & Rice 1989). In Hausa the verb **yi** 'do, make' can be used in comparable constructions (Hutchison 1981b: 229). ShiNzwani ideophones are set off by **mbaý** he said, quote' (Ottenheimer & Primrose 1989), and Yag Dii has the possibly related form **mbàà** 'sit, is', as well as **mòò** 'speak', and **kɔ́** ' do' to introduce ideophones (Bohnhoff 1989: 12). Igbo ideophones can be preceded by an indefinite verb meaning 'has the qualities of' (Emenanjo 1978). See also the verb **təmîî** glossed 'say' in the Nama examples in (68).

Tight collocational restrictions characterize ideophones. For example, Grebo ideophones occur with only one or a few verbs (Innes 1966: 48). Wolof ideophones also appear with only a limited number of verbs (Samarin 1970: 168). The Swahili ideophones **tititi** (underscoring 'blackness') and **pepepe** (underscoring 'whiteness') can be used, respectively, only with the verbs **-eusi** 'be black' and **-eupe** 'be white'. Finally, ideophones appear only in a few sentence types, generally only in declarative sentences.

In summary, ideophones can be variably assimilated into a language, and this fact determines their diffusion into other word classes or their isolation in their own word class. Ideophones rarely possess any syntax unique to their class

except the relative absence of any syntax. Typically they are set apart by grammatical and phonological devices. What little syntax ideophones have consists primarily of collocational restrictions.

Thus we see that the lack of integration into the formal grammar has likely encouraged linguists to avoid their analysis. Besides, there is not much there to analyze in the traditional sense of language structure. Their close ties to context and to social features suggests a different approach, however, sociolinguistic or ethnographic, for example, to uncover their secrets (Childs 2001b; Nuckolls 2001).

The next section considers matters more centrally grammatical, what kind of argument structure verbs have.

5.2 Predicate structure

African verbs behave much in the same way as verbs everywhere else, although we have already seen some complexity to verb extensions. Most of the questions arising around the quantity and quality of post-verbal arguments have already been discussed in 4.4, the section focusing on verb extensions. In this section we once again mention verb extensions but the topic will be the ordering and number of arguments both with and without verb extensions. We will have little concern with subjects, since it is with objects that one finds some variation and complexity (Broekman 1997: 255).

There are two places where Bantu verbs permit non-subject arguments: one before the root within the verbal complex as pronouns; the second after the verb as full NPs. I repeat the template, slightly slimmed down from (49), topped by a reminder of basic Subject-Verb-Object (SVO) word order, and illustrated with two Swahili examples. Sentence a. shows the object appearing after the verb; sentence b. shows it within the verbal complex.

(72) (Subject) Verb (Object)
SM – TMA – (OM) Root– FV

a. taska a-li-kunyw-a maji
Taska SM-PAST-drink-FV water
'Taska drank the water.'

b. taska a-li-ya-kunyw-a
Taska SM-PAST-it-drink-FV
'Taska drank it (the water).'

The questions to be considered are: how many arguments are allowed as objects; what is their syntactic status; and, what is their order?

A semantically ditransitive verb, 'give', 'send', etc., can allow two unmarked post-verbal arguments, as in Balanta, Fula and Igbo.

(73) Balanta (Fudeman 1999: 243)

segu num-ud fi mariama
Ségou bring-APPLIC 5.PRO Mariama
'Ségou brought it (the water) for Mariama.'

(74) Fula and Igbo (Heusing 2000: 566)

Fula: musa wind-an-i fatima patakeewol
Musa write-GOAL-ASPECT Fatima letter
'Musa wrote Fatima a letter.'

Igbo: musa de-e-re fatima leta
Musa write-GOAL-ASPECT Fatima letter
'Musa wrote Fatima a letter.'

In some languages, with similar verbs such as 'give to', 'send for' and 'send with', underived verbs allow up to three post-verbal NPs, as shown in (75). The a. sentence has two, and the b. sentence has three (Moshi 1998 considers the locative to be an argument like any other).

(75) Post-verbal arguments in underived Chaga verbs (Moshi 1998: 138–389)

a. mangí n-á-lé-zrík-a mchilyi nyáma
chief FOC-SM-PAST-send-FV messenger meat
'The chief sent the messenger with the meat.'

b. mangí n-á-lé-zrúm-a máná nyámá kílrí-nyi
chief FOC-SM-PAST-send-FV child meat room-in
'The chief sent the child for (to get) the meat from the room.'

The examples in (76) show how the number can soar to five when the applied affix (see 4.4) is introduced. In b. the chief cut the meat for the expected recipient, the child, but on behalf of his wife. The roles can only be distinguished contextually.

(76) Post-verbal arguments in Chaga applied constructions (Moshi 1998: 138–389)

a. mangí n-á-lá-wé-í-á máná nyáma
chief FOC-SM-PAST-slice-APL-FV child meat
'The chief sliced the meat for the child.'

b. mangí n-á-lé-zrúm-a mká máná nyámá kíshú kílrí-nyi
chief FOC-SM-PAST-slice-APL-FV wife child meat knife room-in
'The chief sliced for the child for the wife the meat with a knife in the room.'

As to arguments within the verbal complex, the same sort of generalizations apply. Most languages are content with just one object represented, with no set semantic role: the patient in (77a), the recipient in (77b), the instrument in (78).

(77) Lamang

a. ghù-nì-s ndònò
send-me-SEPARATIVE Ndono
'Ndono sent me (away).' (Wolff 1983: 234, in Heusing 2000: 573)

b. vinda-mu'wa-vinda-hang letter
ASPECT-you-write-they letter
'They wrote you (PL) a letter.' (Heusing 2000: 572)

(78) Chichewa (Alsina & Mchombo 1993: 38)

anyăni a-na-í-yénd-ĕr-a (ndōdo)
2.baboons 2SM-PAST-9OM-walk-APPL-FV (9.stick)
'The baboons walked with it (the stick).'

Below in (80a) and (80b) appear some more examples of single-object marking within the verbal complex. Example (80c) shows how two objects can be marked within the Chaga verb. In Runyambo, a Bantu language spoken in Tanzania near the Ugandan border, three arguments can appear within the verb, as shown in (79).

(79) Runyambo (Rugemalira 1997: 209)

kakúru a-ka-ga-ba-m-pé-er-a
Kakuru SM-PST-it-you-me-give-APPL-FV
'Kakuru gave it (the money) to you for me.'

With regard to the quality of arguments, there are two different ways objects can be treated. Some languages treat all objects as equivalent; others treat them as having different statuses. Chaga is what is known as a "symmetrical" object language, where multiple objects display "primary object" status, e.g., they can be passivized, they show agreement, and they can appear adjacent to the verb (Bresnan & Moshi 1990). In Chaga, for example, "any or all of the multiple objects may be expressed by markers on the verb, including both patient and beneficiary markers on an applied verb" (Bresnan & Moshi 1993 (1990): 51). In (80a) the beneficiary is marked on the verb with the object marker from Bantu class 1 ("1OM"); in the (b) sentence it changes to the class 7 marker for the unexpressed class 7 noun 'food', seen in (80a) In the (c) example, both are marked.

(80) a. n-ǎ-ǐ-m̀-lyì-í-à k-èlyâ
FOC-1SM-PRES-1OM-eat-APPL-FV 7-food
'She is eating food for her.'

b. n-ǎ-ǐ-kì-lyì-í-à m̀-kà
FOC-1SM-PRES-7OM-eat-APPL-FV 1-wife
'She is eating it for the wife.'

c. n-ǎ-ǐ-kì-ḿ-lyì-ǐ-à
FOC-1SM-PR-1OM-eat-APPL-FV
'She is eating it for her.'

In asymmetrical languages, on the other hand, one object will be allowed to do some things that the other cannot (Marantz 1993). Chichewa is one such language that does not allow all objects to be passivized and does not allow all objects to be marked inside the verbal complex. One object is considered "primary", the one that qualifies for all these privileges, and the others are secondary (see Alsina & Mchombo 1993).

Kikuyu does not have symmetrical objects, or rather has both possibilities — in some cases it is possible, in others not, depending on whether the NP has a preposition and on whether an applied extension is present (Masunaga 1983). Example (81) shows the non-passivized sentence. In (82a) the verb has no extensions and the recipient has to be preceded by a preposition and the order of arguments is fixed, as in all these sentences. In the (b) sentence the Applicative suffix is added and the preposition is no longer needed. Kikuyu does allow both post-verbal arguments to be passivized but only when the applied extension is present.

(81) Kikuyu (Masunaga 1983: 284)

moana a-tuar-e-irɛ moarimo mahoa
child SM-send-APPL-IP teacher flowers
'The child sent flowers to the teacher.'

(82) Passivized

a. mahoa ne-ma-tuar-e-ir-uɔ moarimo ne moana
flowers SM-send-APPL-IP-PASS teacher by child
'The flowers were sent to the teacher by the child.'

b. moarimo ne-ma-tuar-e-ir-uɔ mahoa ne moana
teacher SM-send-APPL-IP-PASS flowers by child
'The teacher was sent flowers by the child.'

Other conditions determining predicate structure come from other parts of the grammar and perhaps from pragmatic considerations. Hyman & Duranti 1982 demonstrate the importance of semantics, specifically, the Animacy Hierarchy (Silverstein 1976), how close a noun phrase is to a first-person singular human being. The basic generalization is that objects higher in animacy than other arguments are able to move closer to the verb than would be otherwise warranted. "The conclusion is that, within Bantu as well as without, if a language has clitics, semantic hierarchies acquire an upper hand in determining object properties, while grammatical considerations step to the side" (Hyman & Duranti 1982: 237).

For Runyambo, however, this explanation may be complicated by other factors. Rugemalira 1997 sees the Animacy Hierarchy as irrelevant. Drawing on a look at external conditions, he finds more relevant a hearer-based processing condition, which he calls the "Upper Limit Constraint". "The claim is that the observed limit of three to four arguments per verb is not accidental. Rather, it appears to be an important aspect of human cognitive structure" (Rugemalira 1997: 218), which aspect, unfortunately, is not fully articulated. As the author recognizes, validating such a claim would require "considerable psychological experimentation".

5.3 Negation

In many treatments of African languages, negation is treated as another sort of verbal inflection and is even called a "tense" just as other, non-temporal

distinctions such as mood and aspect, are also labeled, e.g., Wilson 1961: 25–26, Welmers 1973 (see 4.3). In Bantu negation is typically marked on the verb as a prefix (see 4.3). In Runyoro-Rutooro, a Bantu language spoken in Uganda, negation is marked by the prefix *ti-*, realized also as: *t-*, *-ta-*, *-te-*, *-to-*, and underlined in the examples in (83).

(83) Negation in Runyoro-Rutooro (Rubongoya 1999: 175–76)

Enkooko tiikooka kiro honka.
Cocks do not crow only at night.

Genda mpora otagwa.
Go slowly lest you fall.

Abaana tibazaanira habyokulya.
Children do not play at meals.

This is the typical Bantu pattern but there are many others. This section focuses on several, slightly different ways in which negation is marked in African languages. The first is quantitatively different from the Bantu pattern — negation is marked simultaneously in three different places. The first is qualitatively different, being marked, at least partially, by a change in word order.

5.3.1 Discontinuous and multiple marking of negation

As mentioned above in note 63, the change from the Swahili (affirmative) past marker *li* to the negative past marker *ku* (historically related to *ku-*, the infinitive marker (Hinnebusch & Mizra 1979: 88)) marks negation. It appears concomitantly with the negative prefix appearing before the subject marker (see 4.3). In Swahili, the same prefix appears whenever the verb is negated; the marker, however, varies from tense to tense. Other negative tense markers are *-i* (a suffix) for the Present, *ku-* for the Past, *ja-* for the Perfect and *ta-* for the Future (no change from the affirmative). In the examples which follow, the negative parts of the forms are underlined (second Swahili column). Note that there are many more affirmative tenses than negative ones, for some negative forms can negate more than one affirmative tense, a cross-linguistically common pattern.

(84) Negation in Swahili

tunasema	we are speaking	*hatusemi*	we are not speaking
tulisema	we spoke	*hatukusema*	we did not speak
tumeshasoma	we have spoken	*hatujasema*	we have not spoken
tutasoma	we will speak	*hatutasoma*	we will not speak

Thus, one could consider the negative prefix to be a primary mark and the change in the tense marker to be secondary, particularly because sometimes it does not change.

In Kisi there is just the same patterning of a primary and a secondary marker of negation. The primary mark of negation is a somewhat unusual clause-final clitic *le*, as in (85).

(85) The Kisi negative particle

a. ò tàsélándɔ́ í síná lé
to first-time I know NEG
'At the beginning, I did not know.'

b. à cɪ́ɔ́ú ndú lé
they cure him NEG
'They did not cure him.'

A secondary mark, which just as easily could be considered a second primary mark because of its regularity, is a tone change on the verb. Additionally, many verbs use a third mark, verbal ablaut, e.g., affirmative *cal* vs. negative *cel*.

Remarkably, a number of Ubangian languages exhibit the same pattern. Generally speaking, negation is marked sentence finally and sometimes additionally on or near the verb (papers in Boyd 1995b). In Zande, for example, negation is marked by what is called a "discontinuous morpheme", a sentence-final ***té*** and a verbal suffix ***-ngà(à)***, as in (86) This is, of course, exactly the same sort of multiple marking seen in Kisi.

(86) Negation in Zande (Boyd 1995a: 188)

ānī ā-bātī-ŋgāà yò té
nous TMA-se sauver-NÉG là NÉG
'Nous n'arriverons pas a nous mettre à l'abri la-bas.'
['We will not manage to shelter ourselves over there.']

In Banda-Linda, another Ubangian language, negation is also quite complicated, although a sentence-final particle (*nē*) still forms part of the array. Intransitive verbs require a reduplication of the first syllable of the verb, but transitive verbs have two distinct patterns. In the a. example the first syllable of the verb is simply reduplicated, as with intransitives, but in the b. example, the more common pattern, the verb is actually repeated **after** the direct object, just before the negative particle.

(87) Banda-Linda (Cloarec-Heiss 1995: 94–95)

a. mə̀ mámâ kòsárà nē
je RP-NÉG-faire travail pas
'Je ne travaille pas.' / 'I am not doing the work.'

b. More common:
mə̀ má kòsárà mâ nē
je faire travail NÉG-faire pas
'Je ne travaille pas.' / 'I am not doing the work.'

In that the word order has changed slightly in the last example — the verb, in some sense, being both before and after the object — we have a nice segue into another way to mark negation, by changing the order of major constituents.

5.3.2 Negation by word order change

Just as in some forms of English negation (*Never did I question authority!*), word order change can be involved in marking negation. In Dewoin, a Kru language spoken in Liberia, the change is from SVO word order to SOV (Marchese 1986). In Tanda, an Atlantic language, a "Tanda sentence pattern is illustrated by the literal gloss 'cow saw-I-it', with negative 'I-it-saw-not cow'", thus O V-S-AGR vs. S-AGR-V-NEG O (Wilson 2003 (In press): 14–15). A similar alternation takes place in Legbo, a non-Bantu Benue-Congo language spoken in Nigeria.

(88) Negation in Legbo (Good 2003)

SVO (affirmative): ba ké lídzil ŋ-kɛ ìzɔɔn
they put food in pot
'They put food in a pot.'

SOV (negative): bɛ lídzil ŋ-kɛ ìzɔɔn áaà ké
they food in pot NEG put
'They did not put food in a pot.'

Notice also that the subject pronoun has changed. A diachronic understanding for the word order change seems plausible on the basis of synchronic alternations. Good and Hyman (2002 p.c.) suggest that there was once a negative verb in second position, which can still be found in "non-root" subordinate clauses, e.g., relatives. This negative verb has subsequently disappeared in main clauses.

The opposite can take place as well. In Logbara/Ma'di affirmative sentences feature an SOV word order, which changes to SVO-NEG when negated (Crazzolara 1960 as referenced in Payne 1985: 230). In fact, negation is also marked in other ways, paralleling the thrice marked forms in Kisi (see 5.3.1).

5.4 Movement: Verb focus/predicate clefting

After looking at the phenomenon of focusing in general, this section treats verb focus or predicate clefting in some detail because of its formal difference from focusing nouns. With nouns, the whole NP is moved, but with verbs a (nominalized) copy of the verb appears in the focus position. A similar pattern appears in Nweh, a Grassfields Bantu language of Cameroon (Nkemnji 1995 as referenced in Koopman 1997) and Turkana, a Nilotic language of Kenya (Dimmendaal 1983). In Turkana, however, the process goes in a different direction — the copied verb winds up at the **end** of the sentence.

Focus constructions have always interested linguistic theoreticians, particularly in these days of minimizing movement, since few would deny that movement is involved in focus constructions. If Move α is restricted to nominal elements, how do we explain verb copying? Other issues relate to questions about the diachronic origin of these constructions; there are further questions as to how such constructions can inform us about reconstructing word order. Clearly verb focusing is a phenomenon of some analytic appeal!

This section treats the formal features of focus in Kisi — the basic pattern is that when a constituent is focused, the item is fronted and the particle *ní* appears at the end of the clause in which the fronted item appears. This contrasts with the usual, expected placement of the focus marker immediately adjacent to the item of focus in other languages, e.g., Bambara (Creissels 1991: 336), Miya (Schuh 1997: 137). No phonetic trace of the item appears at the place of extraction, except when the focused constituent is a verb or adjective.

The basic generalization about trace-less focus targets, then, is that only nominal elements can be moved to the front of a sentence without leaving anything behind. All nominal items in Kisi can be focused, including adposit-

ional phrases and nominalized adjectives. If the focused item is a non-pronominal subject (normally found initially), the only surface evidence of its being focused is the final focus particle; pronouns, however, always show a change in case from nominative to accusative.

Because only nominal constituents can appear in focus position, adjectives and verbs can appear there only if nominalized. When finite verbs are focused, in what has been called "predicate clefting", e.g., Mufwene 1987, DeGraff 1996, a nominalized form of the verb appears in initial (focused) position while the inflected form remains *in situ*. Because the fronted verb is sometimes identical to the verb left behind, the process has been called "verb doubling" (Koopman 1983). Mufwene 1987 points out that despite the formal similarity between the two elements in some, typically isolating, languages, the fronted element is always a nominal one. A similar process applies to adjectives. Other items that cannot be nominalized are never focused. Thus, items that cannot be focused (without modification) are inflected verbs and adjectives; items that cannot be changed and thus never appear in focus position are ideophones, adverbs, adpositions, conjunctions, and other function words.

We will now look at some examples (most of which come from Childs 1997a). All types of nominal phrases can be fronted, as mentioned above. In fact, a Kisi clause can consist only of a noun and the focus particle *ní* (as in (89a)); the copula *cò* is optional but possible, as in (89b). Note that the first-person-singular pronoun is in the accusative (vs. nominative *ì*).

(89) a. *yá ní* 'It is me.'
me FOC

b. *yá cò ní* 'It is me.'
me be FOC

I give several examples of subject focus in (90). The (a) sentence shows a proper noun being focused, the name of a woman, *wàŋgó*; (b) a pronoun (with a change in case from nominative *í* to *yá*); (c) a modified noun, *yɔ̀ŋ wɔ̀ɔ́ŋndó* and (d) a relativized noun, *nyɛ̀*.

(90) a. *wàŋgó có wàná sɔ̀ŋmgbɔ́ɔ́ŋndó ní*
Wango be person stingy FOC
'Wango is a stingy person/It's Wango who's stingy.'

b. *yá kàándíá ndú ní* (í = 1SG NOM PRONOUN)
I whip him FOC
'I (myself) whipped him/I'm the one who whipped him.'

c. *yɔ̀ŋ wɔ̀ɔ́ŋndó kélέŋá ndú yùùwìá ní*
thing bad hurry him age-PL FOC
'It's the bad things [he did] that made him get old quickly/
Disreputable behavior has caused him to age prematurely.'

d. *nyɛ̀ wànà mándàŋ-ó có còŋgùláŋ ní*
thing people careful-REL be gossips FOC
'The thing that people have to be wary of is gossips.'

Object NPs can equally well be focused with a gap at the point of extraction, between *có* and *cùùcúúwo* in the (a) sentence; word order here is S-AUX-O-V. In the (b) sentence there is no auxiliary, so the word order is S-V-O (see 6.3.3); thus the 'swaggerers' have been moved from a spot right after the verb *cà* 'see'.

(91) a. *mààlóŋ ó có cùùcúúwó ní*
rice he AUX sow FOC
'It is rice that he is sowing.'

b. *wànàà-pɛ̀ɛ̀lǎŋ pílá ŋ̀ cà núà ní*
people-swagger one you see thus FOC
'These are just swaggerers that you see.'

Adpositional phrases can also be focused with *ní*. In both cases the adpositional phrase comes immediately after the verb (and its object).

(92) a. *lé kɔ̀láŋ ŋ̀ hìŋ ní*
for going you come FOC
'Did you come just to leave?'

b. *ò bɔ́lɔ́ɔ́ bɛ̀ŋgú ndá cɔ̌l yá ndú ní*
to banana foot they bury me him FOC
'Under the banana tree they buried him for me.'

Adjectives can be focused but only when preceded by the pronoun of the noun they modify, the same form used when they appear as predicate adjectives, following the copula *có*. The first example shows such a construction with the *o*-class subject pronoun *ò*; the comparison sentence immediately below shows the same sentence without focus. Example (b) features an adjective preceded by the *ŋ*-class pronoun *ŋ̀*. Adjectives themselves cannot be focused when they directly modify a noun, although they may be fronted with their noun, as in (90c).

(93) a. *ò-hùŋnǎŋ kó ó có nîŋ ní*
PRO-come indeed he COP now FOC
'He is really ready to come now.'
Cf. *ò có nîŋ ò-húŋnŋ kó*
PRO be now PRO-come indeed
'He is now prepared to come.'
b. *ŋ̀-fùlùlǎŋ mààlóŋ mûŋ cò ní*
PRO-parboil rice this COP FOC
'Is this rice parboiled?'

That it is only nominal constituents that can be focused is even more dramatically demonstrated with finite verbs. The morphosyntax of the focus construction is superficially quite different for verbs: the finite form of the verb is left behind in its original spot while a non-finite form of the verb is fronted to the focus position, as in (94). "Verb copying" with front focusing is quite common in West Africa, e.g., Yoruba, Akan, Temne (Gilman 1986: 39), and in Caribbean creoles (see Hutchinson 2000 for a typology). Koopman 1983 discusses the same phenomenon in several Kru languages (Vata and Gbadi), and Lefebvre 1992 discusses it in Fɔ̀n and other, related languages, as well as in Haitian Creole. I give rather non-idiomatic glosses for some Kisi focus constructions to clarify the syntax.

(94) a. *pùéŋ-ndáŋ yá púéŋ ní*
forget-NOM I forget FOC
'It is forgetting that I forgot.'
b. *yòù-wó yá yóú ndú ní*
lend-NOM I lend him FOC
'It is lending to him I lent.'
c. *kpùwà-á ò kpúwá yá ndú ó bà ní*
grab-NOM he grab me him to hand FOC
'It is grabbing he did to me.'

That it is the nominalized form that is fronted is shown by the different nominalizing suffixes ("NOM"), realized differently for each verb in (94), respectively, *-ndáŋ* in (a), *-ó* [wó] in (b), and *-á* in (c). These forms can be compared to the finite forms (without the suffix) appearing later in each sentence. Note also that it is not the full VP that is fronted, only the nominalized form of the verb without its complements.

Further evidence comes when the second part of a compound verb (one with an auxiliary) is focused. In this situation there is no change in the verb and no verb form is left behind (represented by the "Ø" in the Kisi lines of (95)). Here the focused verb form is *pìsúltáŋ*. The finite auxiliary *wa* immediately precedes the Ø.

(95) *pìsúltáŋ ndá wà Ø ní*
play they AUX FOC
'It is playing they were doing.'
Cf. *ndá wà pìsúltáŋ*
they AUX play
'They were playing.'

It is clear, then, that it is the non-finiteness of the verb/its lack of nominalization that precipitates the copying.

As a last point, I will say something how focus interacts with negation, the subject of Section 5.3. Its interactions and complementarity with negation show that claims for an inherent focus of negation (Marchese 1983) are well founded. The shared functionality of focus and negation is illustrated in such pairs of sentences as appear in (96).

(96) Pragmatic similarity of *lé* and *ní*

a. *tàndǎŋ ní* — *ò có má tándà lé*
pubic-hair FOC — it be PRO pubic-hair NEG
'It is pubic hair.' — 'It is not pubic hair.'

b. *à fèèyáá lé wàŋndá wàà ní*
they brush NEG people plow FOC
'They were not clearing the brush; the people were plowing.'

What is vastly different between the two is the syntactic object of focus. Negation affects the finite verb or INFL, while focus is restricted to noun phrases. They are semantically complementary functions with decidedly different syntax.

In the next section we concentrate more closely on verbs, this time looking not at verb copying but rather at verb serialization, stringing out a series of verbs without any connectives between them. As with the previous construction, serial verbs have had an enthusiastic following among both descriptivists and theoreticians, e.g., papers in Lefebvre 1991.

5.5 Serial verbs

This section introduces serial verbs as a prototype category and illustrates some of the dimensions along which they can vary. Verb serialization on the African continent is found primarily in the Kwa languages of Niger-Congo, e.g., Akan, Fon, Nupe, and in Benue-Congo, e.g., Yoruba, Idoma, but also in Supyire (Gur; Carlson 1994), in Gbaya (Oubangian; Roulon-Doko 1996) and in Khoisan, e.g., Jul'hoan (Dickens 1992) and !Xóõ (Traill 1994b). They are "old" in some sense: Proto-Niger-Congo has been said to have serial verbs (Williamson 1986), and they are widespread. They are widely attested in resident African pidgins, where serial verbs form part of the substrate, e.g., Sango with its Ubangian substrate in the Central African Republic (Samarin & Walker 1994), Krio in Sierra Leone (Williams 1971). In addition, they form a regular feature of Atlantic creoles (Holm 2000a: 205), where a substratal influence is again probable. Outside of Africa and beyond the influence of an African substrate, serial verbs are found in the languages of Southeast Asia, East Asia, and Papua New Guinea, there known as "verb concatenation", e.g., Kachin (Matisoff 1974) and Vietnamese (Trán Trong Ha 1975), in Pacific pidgins with an Oceanic substrate (Keesing 1988: 74).

One early mention[65] of the phenomenon appears in the Ewe grammar of Westermann (one of our early heroes, see 1.2),

> A peculiarity of Ewe is that we often find a row of verbs one after the other. The chief features of this are that all the verbs stand next to each other without being connected, that all have the same tense and mood, and that in the event of their having a common subject and object, they stand with the first, the others remaining bare; should a conjunction stand between the two verbs, the subject and the object must be repeated. …In English these consecutive verbs are partly rendered by composite sentences … very often several Ewe verbs may be expressed by a single verb in English.

Westermann's "explanation" (cf. the discussion of Fanagalo in 7.3.3) follows:

> …the Ewe people describe every detail of an action from beginning to its end, and each detail has to be expressed by a special verb: they dissect each happening and present it in its several parts, whereas in English we seize on the leading

65. Hugo Schuchardt apparently noticed even earlier the similarity between Ewe serial verbs and Surinam creole constructions (Muysken & Veenstra 1995: 289).

> event and express it by a verb, while subordinate ideas are either not considered or rendered by means of a preposition, adverb, conjunction, or a prefix of the verb. (Westermann 1930: 126, cited in Stewart 1971: 181)

The several criterial characteristics of serial verbs are all contained in this definition. Defining serial verbs is still problematic: there are exceptions and enough variation to render formal definitions difficult, and semantic or functional definitions vague (see Boretzky 1978: 164). They are best seen as a prototype category (Croft 1990) or "syndrome" (Seuren 1990).[66]

To reiterate, in serial verb constructions (SVCs) a series of verbs (with no conjunctions) performs a function comparable to what in English would be accomplished by either a single verb, a verb and a preposition, or even several conjoined verbs. Serial meanings are transparently related to the meanings of the verbs in isolation, and the meanings of the verbs are related (cf. Sebba 1987). Between serial verb constructions and their semantic equivalents in English, there are many-to-one (many verbs in a series for a single English verb) and one-to-many relations (one SVC rendered by many clauses). Typically, all of the verbs must be analyzed as independent verbs. In every way they are full verbs. The closest approximation in English would be sequences such as those in (97), in which the meaning of the first verb has been characterized as being aspectual.

(97) The "aspectual" use of *come* and *go* (Jaeggli & Hyams 1993: 313–314)

a. *Come talk to me.*
b. *Go climb a rock.*
c. *He will go talk to his advisor today.*
d. *Whenever I/you have time, I/you go watch a movie.*
e. *Whenever I need some advice, I come talk to you.*

The sentences in (98) illustrate similar constructions and suggest how serial verbs can arise in a language. The examples illustrate a coordinate sentence in a. (note the pronoun and conjunction), a consecutivized sentence in b. (note the conjunction), and glorious, true verb serialization in c. (note the absence of both conjunction and pronoun). The obvious claim is that "consecutivization" represents the intermediate stage in the possible evolution of SVCs in a language.

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66. There is a rich, technical literature where more definitions can be found; several definitions are presented and evaluated in Houngues & Hutchison 2000; a useful typology appears in Schiller 1990.

(98) Nupe (Hyman 1971: 29, as in Bamgbose 1982: 17))

a. *u la duku ci u be*
he take pot and he come
'He took the pot and he came.'

b. *u la duku ci be*
he take pot and come
'He took the pot and came.'

c. *u la duku be*
he take pot come
'He brought the pot.'

Note that each sentence in (99) contains an example of verb serialization with more than one verb filling the verb slot and that both verbs have the same subject.

(99) Serial verbs in several African languages (from Foley & Olson 1982)

Igede *ahi hu olo chu*
we take load put-on-head
'We carried the load.'

Yoruba *o mu iwe wa*
he took book came
'He brought the book.'

Vagala *u kpa kiyzee mong owl*
he take knife cut meat
'He cut the meat with a knife.'

Verbs in such constructions typically share inflections for tense and aspect. What rubs the analyst most is that an unconnected series of up to five verbs functions as a single verb, all separate verbs which function independently elsewhere in the language. Furthermore, they are phonologically separate.

Another problem is that all of the criteria given above can be violated. I list below in (100) possible violations and parameters along which SVCs can vary. Note that in each of the languages listed as containing a "violation", there remain many more well-behaved SVCs, enough to warrant consider the language as otherwise having SVCs.

(100) Dimensions of variation and criterial features violated

Identical tense-mood-aspect specification is not obligatory, e.g., Izi, Igbo (see (102))

Serial verbs may be non-finite forms, e.g., Igbo (see (102))
Verbs may not have the same object or subject, e.g., Yoruba "Causatives" (see (101)); Vagala (see (99))
Not all serial verbs can function as independent verbs, e.g., the Yoruba the verb *fi* 'take, put, use', common in SVCs is "defective" (Lord 1974: 198); Ewe (Ansre 1966)
The extent to which the SVC functions as a single word, "idiomatization"
Conjunctions may be possible, e.g., Nupe (see (98))
The number of serial verbs that can be concatenated (minimum of two)
Serial verbs may vary as to their distribution, e.g., Efik (Welmers 1973: 369–371)
Grammaticalization (Givón 1975; see 6.3.2)

The following example illustrates an SVC in which the object of the first verb is co-referential with the subject of the second. Given the proper first verb, e.g., 'make', 'do', 'cause', etc., such constructions function as causatives, as in Yoruba and Akan (Schachter 1974).

(101) Yoruba causatives (Lord 1974: 197–201)

ebí pa omo náà kú	*fémi dá èrù bà dàda*
hunger strike child the die	Femi make fear touch Dada
'The child starved to death.'	'Femi frightened Dada.'

fémi tì akin subú
Femi push Akin fall
'Femi pushed Akin down.' (Femi pushed Akin and then (Akin) fell.)

Sometimes the second verb will not be a proper verb, and sometimes the second verb will not have the right inflection. The first example features a second verb *kpá* with a nominal prefix *à-*; in the second example the second verb has a consecutive marker suffixed *-á*.

(102) Igbo serial verbs (Welmers 1973: 368)

a. há nọ̀ ↓nócé à-kpá ŋ́kàtá
'They're sitting and chatting.'
('they sit on chairs holding conversation.')

b. há nọ̀ ↓nócé kpá-á ŋ́kàtá
'They sat and chatted.'
('they sit on chairs and-hold conversation.')

Some verbs in Yoruba and Nupe, given in (103), occur only in serial constructions and thus fail the test of solid "verb-ness" (Lord 1993).

(103)

fi	'take, use'
bá	'accompany'
sí	used after verbs of motion, with a meaning of 'arrive at'
tún	'do something again' (often translated as 'again')

In conclusion to this section on serial verbs, we can say that we have a theme with some variation. Some of the variation has allowed us to see how SVCs may have originally arisen (in (98)). Serial verbs may be reconstructed far back into linguistic history, back into Proto-Niger-Congo and perhaps further. That they are persistent has been shown by their presence in African pidgins and in Atlantic creoles. They are heavily involved in grammaticalization processes. From a synchronic perspective one question has been as to their formal represention, particularly if they are coordinate constituents with no coordinator sharing a single specification for tense or the like. In some languages (or even in the same language) the verbs may be coordinate, in others they may represent a unified monolithic predicate, and in others some combination of the two.

Muysken & Veenstra 1995 see the analytical possibilities as resolving themselves into coordination, subordination, or adjuncts, with the first approach providing the greatest challenge. That serial verbs are special can be seen in the extensive theoretical literature and in their being accorded their own "parameter" in one formal theory, allowing for some special properties (Baker 1989; Stewart 2001). In this approach the complexity of serial verbs is handled in the syntax (see Collins 1997 for some criticism), while in other approaches it takes place in the lexicon, where complex predicates are allowed (Awoyale 1988a; Déchaine 1993). The question of their status may not in fact be answerable and agreement unattainable. Accordingly we shall look for some agreement in the next section, where there is plenty to go around.

5.6 Agreement phenomena: Animacy rules and things fall apart

Section 4.2 has already illustrated some agreement irregularities in noun class systems. Nouns show inflection suggesting they belong to one class, but they show agreement patterns belonging to a different class. To recapitulate and expand, Swahili nouns denoting relationships, titles, and people with disabilities take human agreement markers (those of classes 1/2) despite being assigned to non-animate classes. Titles such as *bwana* 'sir' and *bibi* 'madam' belong to the

ji/ma pairing (5/6) but always take human agreement. *Kipofu* 'a blind person', *kiziwi* 'a deaf person', and *kiwete* 'a lame person' all take agreement markers from the human classes despite belonging phonologically to the *ki/vi* pairing (7/8). Similarly, the *n*-class noun *ndugu* 'brother, sister, comrade' takes agreement in classes 1/2, where all human beings are found (Ashton 1947: 89). Thus the semantic feature [human-ness] can override morphological class assignment in determining agreement in Swahili.

Originally noun classes had specific semantic properties, but with borrowings and diachronic decay, some of these semantic properties have been obscured or lost. What seems to be persistent, however, is the importance of human-ness and perhaps animacy to the system, as shown above. Other features such as configuration and even number do not seem to be so important, although liquidity has some persistence (Childs 1982). For example, borrowings from English into Kisi, if liquid, readily go into the liquid class, e.g., *Fanta*, *whiskey*, and *Vick's vapor rub*. Most other borrowings go into the swelling *o* class, which contains both animates and inanimates, animates taking plurals in the animate plural *a* class, inanimates going into the inanimate *la* class. Greenberg has noted that animals that do not normally take human concords will show human agreement when anthropomorphized in folk tales (Greenberg 1977). Even in a slang form of Zulu, the generalization holds — the English borrowing *gents* will be prefixed by the augmentative noun class marker *ma-* but still take agreement in the plural animate class (Childs 1997c).

The importance of animacy (here used in the general sense of Silverstein 1976 and Dixon 1979; see 5.2) outweighs discourse and other semantic factors in Chichewa, as considered in Bentley 1997, a paper which reacts to the discourse-motivated analysis in Bresnan and Mchombo 1987 and to the role-based approach in Bresnan & Kanerva 1989. The first authors argue that the status and distribution of the agreement markers (subject and object) in the Chichewa verb (and Bantu in general) are determined by their discourse function, as Topic or Focus. The second set of authors propose a "thematic hierarchy", as a way to implicationally rank NPs: agent > benefactee > recipient/experiencers > instrument > theme/patient > locative. Thus an argument to the left is more likely to be marked than one to the right and if an argument to the right is marked, so will be all arguments to the left.

Bentley finds, first of all, that the object marker's function is "blurred" by animacy and that the thematic hierarchy fails to predict which argument in ditransitive constructions will be cross-referenced. Animacy explains the facts better, especially when it is expanded to include word category (pronoun,

interrogative, lexical NP) and person. In questions, as in (104a), the preferred form is the one with cross referencing, i.e., with an agreement marker on the verb, something that should not happen, according to Bresnan & Mchombo 1987, when the animate dative object is questioned or focused. The object marker is also preferred when the direct object is fronted, as in (104b), again running counter to predictions, but when both objects are present ((104c)), object marking is optional.

(104) Object marking in Chichewa (examples from Bentley 1997)

a. Questions a- na-**m**-patsa **ndani** bukhu
3SG TNS-OM-give who book
'To whom did he give a book?'

b. Fronting bukhu ndi-na-**m**-patsa **mayi**
book 1SG-TNS-OM-give Mother
'The book I gave to Mother'

c. ndi-na-(**m**)-patsa bukhu **mayi**
1SG-TNS-OM-give book Mother
'I gave Mother the book'

What these examples are meant to show is that animacy, rather than discourse function, determines whether or not the object is cross referenced. The "thematic hierarchy" or ranking of functional roles is similarly inadequate. The Swahili examples in (105) make this point clear. No matter what the role of the animate NP, it will always be the argument that is cross referenced.

(105) Obligatory cross-referencing in Swahili (examples from Bentley 1997)

mwuzaji a-li-m-punguz-i-a bei **mteja**
seller 3SG-TNS-OM-lower-APPLIC-FV price customer
'The seller lowered the price for the customer.'

a-ka-m-funga **baba** shuka kiuno-ni
3SG-TNS-OM-fasten Father cloth loin-LOC
'He then fastened the cloth on Father around the loins.'

mwalimu a-li-**wa**-andik-ish-a **watoto** masomo
teacher 3SG-TNS-OM-write-CAUS-FV children lessons
'The teacher made the children write lessons.'

mama a-na-**m**-pa **mtoto** chakula
mother 3SG-TNS-OM-give child food
'The mother is giving the child food.'

Thus, just as we saw animacy overruling agreement within the noun phrase, so again does animacy determine agreement within the verb phrase. Animacy rules!

The last topic of this section illustrates what can go wrong with agreement. As a noun system decays or collapses, distinctions are lost, classes are syncretized with some surprising results. An illustration of what this means can be seen in Zande, a widely spoken language of central Africa. The masculine *ko* and feminine *ri* have the same plural form; thus, there is a collapse of the gender distinction in the plural (both are *i*). In addition, the neuter form *si* is the same in the plural; thus there is also a collapse of a number distinction in one gender.

(106) Zande personal pronouns (Claudi 1985: 82–91 in Corbett 1991: 194)

	Singular	**Plural**
Masculine	ko	i
Feminine	ri	i
Neuter	si	si

Further examples come from the Cushitic branch of Afroasiatic, where Bayso (Corbett 1991: 195–96) has four distinctions in number, in terms of inflectional classes.

i. unit reference "refers either to an individual member or the class of the referent"
ii. singulative reference that "refers to a particular member only"
iii. paucal reference "refers to a small discrete number (two to six) of individuals"
iv. multiple reference "refers to a plurality of individual members or units"

The first two classes, however, take the same agreement, thus being united as a "singular". Just as the unit/singulative distinction seems to be collapsing, so does the paucal-plural, so there is some considerable syncretism in number. Bayso also has two genders, masculine and feminine, but with some further gaps. The two genders are distinctive only in the singular. What a mess!

Even wilder results can occur. Syncretism can result in a sort of cross-dressing in agreement patterns (see 1.1). The article for the feminine singular is the same as that used for the masculine plural and the masculine singular is the same as that used for the feminine plural, as seen in (107). The phenomenon is limited, being found only in noun-phrase internal agreement and does not apply to all nouns, but certainly is unusual enough for comment.

(107) Agreement "polarity" in Somali (Serzisko 1982: 184–86 as in Corbett 1991: 196)

	Singular	**Plural**
Masculine	ki i	ti i
Feminine	ti i	ki i

We will now move beyond the clause to see what sorts of things can happen between clauses.

5.7 Consecutive tense and switch reference in Supyire

This section discusses the stringing together of narrative clauses into "chains" and how one language helps the audience and perhaps the narrator keep track of who is doing what. The phenomenon is described and illustrated in the terrific Supyire grammar, Carlson 1994, from which the discussion and examples are taken.

The consecutive tense has been mentioned once earlier (see p. 107) and exemplified (p. 139) but not discussed. It is a common enough feature, especially in Niger-Congo, and is not unlike the "narrative tense" in some English dialects: in Australian English (Eisikovits 1991) and, more controversially, in African-American Vernacular English (Myhill & Harris 1986). Here is an example from Inner Sydney (Australia) English. Note how the tense is established in the first clause of the (b) sentence and the other verbs are followed by *-s*, regardless of the person.

(108) Marking the "historical present" in English narratives (Eisikovits 1991: 125)

a. *So I goes inside and she says, 'What've I gotta do?' I says 'I don't know'.*
b. *They were watching television so we gits on the floor and we crawls in my bedroom.*

Supyire uses the consecutive tense in much the same way in narrative clauses. "In Kampwo Supyire … the initial clause in a narrative typically sets the tense-aspect stage with one of the past tense auxiliaries. After that the narration is for the most part carried forward by clauses in the narrative or sequential tense" (Carlson 1994: 597). It is marked by the narrative/sequential auxiliary *sí* which

functions "to indicate subsequence to that [established] temporal reference point" (Carlson 1994: 349).

In addition, Supyire conjunctions indicate when the subject has changed, known in the literature as "switch reference" (see 5.8 for differences from logophoricity). The narrative conjunctions *kà* and *mà*, both of which could be translated as 'and then', provide switch reference information: *kà* indicates a different subject (and then is followed by the new subject); *mà* indicates the same subject as the preceding clause (and is followed by no pronoun).[67] In the example in (109), when the different-subject conjunction *kà* appears, it is immediately followed by the new subject, *nɔ̀ŋi* 'husband' in line 4, *u* in line 6 (vs. 'husband') and *u* again in line 9. Notice that the u in line 9 refers to the 'old woman' a different 'she' than the 'wife', the subject of the preceding clause. After *mà* 'and then (same subject)' no pronoun or noun phrase appears since it is understood that the subject is the same as that of the preceding clause.

The passage in (109) is a long one but illustrates well the several notable features of Supyire mentioned above. In the first sentence the time is established by means of the past marker *màha*; it appears nowhere else in the following lines of the narrative. What replaces it is the "Narrative" auxiliary *sì* (line 4) in several different reduced forms (lines 6 and 9), once written conjoined with the same subject conjunction *mà/ma* (line 9), there realized as *maá*.

(109) A Supyire folktale (Carlson 1994: 350–51)

(1) *ceèŋi wà u màha u poo*
woman.DEF INDEF she PAST her husband
'A certain woman was scorching her husband's

(2) *baga yanɔgɔnɔ páárέ*
house bedbugs scorch.IMPERF
house's bedbugs

(3) *mà tòra à u poòŋi `nɛŋké sùùgò*
and pass SC her husband.DEF tail.DEF burn
and burned her husband's tail (= his flywhisk).

(4) *kà nɔ̀ŋi sì ù pyì*
and husband.DEF NARR her tell
Then (her) husband told her

67. See Wedekind 1990 for discussion of a similar phenomenon in Cushitic.

(5) *na u Ø sà kà cya.*
that she SUBJUNC go INDEF.PRO look.for
that she must go get one (to replace it).

(6) *kà u ú yírà a kàrè sigé e*
and she NARR get.up SC bush.DEF IN
So she got up and went to the bush

(7) *mà sà a ɲàárè,*
and go PROG walk.IMPERF
and was hunting (lit. walking),

(8) *mà sà nɔ́ ciɲjyèŋí wà na,*
and go arrive woman.old.DEF INDEF at
and met and old woman,

(9) *maá ú↓ shyéére. kà u ú ú↓ yígé …*
and.NARR her greet and she NARR her ask
and greeted her. She (= the old woman) asked her …

Another discourse-governed phenomenon often coded in pronouns is logophoricity, the topic of the next section.

5.8 Syntax and discourse: Logophoricity

Discourse-oriented approaches to African syntax have been important in revealing structures beyond the level of the sentence and in expanding the focus of linguistic theory, e.g., Bresnan & Mchombo 1987; Givón 1984, 1990; Mchombo 1997. Rather than treat discourse-oriented approaches broadly, this section focuses rather narrowly on a single discourse-sensitive feature known as logophoricity.[68] Although the marking of such distinctions is not unique to Africa ("relativized deixis" in Anderson & Keenan 1985 or "reference tracking" in discourse (Frajzyngier 1997b)), logophoricity is confined to a roughly contiguous area of West Africa (Culy 1994a; Comrie 2000). To begin, note how there are differences in English between the pronouns used in direct and indirect speech:

68. Some relevant references (not all of which are cited in this section) are: Comrie 1999, Comrie 2000; Culy 1994a, 1994b, 1997, Culy et al. 1995; Frajzyngier 1985a, 1985b, 1989; Roncador 1992. My thanks to both Chris Culy and Zygmunt Frajzyngier for making their papers available to me.

(110) English pronouns in direct and indirect speech

Direct: Tamba said, "I will come."
Indirect: Tamba said he would come.

In the (b) example above, if English were a logophoricity-marking language, the pronoun *he* would have different forms depending on its referent, the speaker or someone else.

The term **logophoric** comes originally from Hagège 1974 and refers to forms that are used to track co-referentiality in reported or indirect speech. Logophoric pronouns are usually described as pronouns which are used to refer to the person whose "speech, thoughts, or feelings are reported or reflected in a given linguistic context" (Clements 1975: 141), distinguishing that person from all others, including the speaker (Culy 1997: 845).

The crucial semantic feature to logophoricity is **reported speech**, which can, in some languages, be extended to thoughts and feelings. Typically this distinction is shown by marked pronouns, which indicate coreferentiality with nouns in the higher clause. Thus, in reported speech (indirect quotation), pronouns shift to their logophoric realizations, different from those used in direct speech. The pronoun in the lower clause thereby indicates co-reference with a noun phrase in a higher clause. In the a. example in (111) the pronoun is not coreferential with the speaker; in the b. example the logophoric pronoun ("LOG") must be used because it is.

(111) Aghem pronouns (Hyman 1979 as in Anderson & Keenan 1985:230–03)

a. wìzɨ́n mɔ̀ dzɛ̀ ŋɨ́á ò mɔ̀ bvù nò
woman PAST say that 3SG PAST fall
'The woman said that he/she (≠ the woman) fell.'

b. wìzɨ́n mɔ̀ dzɛ̀ ŋɨ́á é mɔ̀ bvù nò
woman PAST say that LOG PAST fall
'The woman$_i$ said that she$_i$ fell.'

Donno SO, a Dogon language spoken in Mali and Burkina Faso, has a single logophoric pronoun *inyem'*, which only takes singular antecedents, but with the plural marker *mbe*, used for common nouns, it can also have plural antecedents.

(112) The logophoric pronoun of Donno SO (Culy 1994b)

a. Singular
yaanɔ anta wa inyemɛ le sɔ sɔyyaa be gi
woman-DEF Anta SUBJ LOG with word talked PAST said
'The woman$_i$ said that Anta talked with her$_i$.'

b. Plural
yaanɔ gɔmbe anta wa inyemɛ-mbe le sɔ sɔyyaa be gi
woman DEF Anta SUBJ LOG-PL with word talked PAST said
'The women$_i$ said that Anta talked with them$_i$.'

Although the logophoric pronoun is limited to third person, it can function in any syntactic capacity in the embedded clause, be it subject, object, indirect object, etc. It can generally appear anywhere in the stretch of indirect discourse, including discourse embedded within another discourse. Semantically, verbs that take logophoric pronouns vary cross-linguistically. In Donno SO they are limited to speech and thought predicates (Culy 1994b).

Mupun has two sets of logophoric pronouns, one referring to the speaker, the other to the addressee of the main clause (they mark gender as well, see Frajzyngier 1985b). In the a. example, the reference is to the speaker (*ɗî* 'he' in the lower, quoted clause refers to wu 'he' in the higher clause). In the (b) example, the reference is to some other actor. In the (c) example the reference is to the addressee (*gwar* 'he' refers to *wur* 'him'), and in the (d) example to some other actor in the discourse.

(113) Speaker- and addressee-determined logophoric pronouns (Frajzyngier 1989)

a. wu sat nə́ ɗî nas an
3SG.M say COMP 3SG.M.LOG beat 1SG
'He$_i$ said that he$_i$ beat me.'

b. wu sat nə́ ɗî nas an
'He$_i$ said that he$_j$ beat me.'

c. n-sat n-wur nə gwar ji
1SG-say PREP-3SG COMP 3SG.M.LOG come
'I told him$_i$ that he$_i$ should come.'

d. n-sat n-wur nə wu ji
'I told him$_i$ that he$_j$ should come.'

One variation on this pronominal marking of logophoricity is marking the distinction on the verb. In the b. example below, the suffix on the verb *dɔ̀* 'fall' in the dependent clause shows that the second 'he' is coreferential with the first.

(114) Verb-marked logophorics in Gokana (Hyman & Comrie 1981)

a. à nyíma kɔ a-è dɔ̀
he know that he-PST fall
'He$_i$ knows that he$_j$ fell.'

b. à nyíma kɔ a-è dɔ-ɛ̀
he know that he-PST fall-LOG
'He$_i$ knows that he$_i$ fell.'

There are even "anti-logophoric" languages where the marked form indicates **non**-coreference, e.g., Mabaan, a Western Nilotic language spoken in the Sudan (Andersen 1999, as referenced in Comrie 2000).

With embeddings more than one logophoric pronoun may be present, with the chance of ambiguity, as shown in Banda-Linda and Ewe.

(115) Banda-linda logophoric pronouns (Cloarec-Heiss 1986: 504 as in Culy 1997)

letorɔ$_i$ pa de kolefia$_k$ pa de … nek na gand ne$_i$…
toad say that Zorille say that LOG go house LOG
'Toad$_i$ replied that Zorille$_k$ had said that … he$_k$ had been to his$_i$ house…'

(116) Multiple logophoric pronouns in Ewe (Clements 1975: 173 as in Culy 1997)

kofi$_i$ xɔ-e se be ama gblɔ be ye$_{i/k}$-bu ye$_{i/k}$
Kofi$_i$ receive-PRO hear that Ama say that LOG-beat LOG
'Kofi$_i$ believed that Ama said that he$_i$ beat her' or 'Kofi$_i$ believed that Ama said that she beat him$_i$.'

Another distinction is between "pure logophoric languages", that is, languages which have special forms used only in logophoric domains. Logophoric pronouns in "mixed logophoric languages" allow forms used elsewhere in the language in logophoric contexts, e.g., reflexive pronouns (Culy 1994a). **Pure** logophoricity is not found in a contiguous area, but logophoricity in general is, yet all (n=32) of the pure logophoric languages are found in Africa (Culy 1994a: 7).

This concludes the discussion of several syntactic structures in African languages; as has been noted, the variety is considerable. An even broader view on linguistic structures is adopted in the next chapter. Chapter 6 looks at what can be learned by comparing languages, both about languages themselves and about their history. The next step is to extend those findings to history itself to discuss how linguistics can and has been useful to historians and others. Chapter 7, the final chapter, reconsiders language contact, which seems to be responsible for the geographic distribution of both syntactic features, e.g., logophoricity, serial verbs; morphological ones, e.g., noun classes; and phonological ones, e.g., tone, clicks, and labiovelars.

6 Historical and typological issues

The general goal of this chapter is to illustrate how and for what purposes African languages have been compared to each other and to other languages. The analysis proceeds on many fronts within the African context as it does elsewhere: how languages change, in what form they originated, and in how many flavors they now come (cf. Newman 2000a). From extensive cross-linguistic comparison, analysts expect to reach greater and greater generalizations and perhaps gain insights into the language faculty itself.

6.1 Electronic resources

What has made the work more feasible or efficient than in the past has been the availability of electronic resources for the collection, analysis, and dissemination stages of the process. For example, one initiative has resulted in the documentation on the web of the endangered language (see 1.1) Ega in Côte d'Ivoire. The westernmost Kwa language, Ega is completely surrounded by Kru languages, and thus is under some pressure (see 7.2.3). It is probably one of the few less widely spoken languages that has its own web site; readers are invited to go there for a greeting in Ega, as well as evaluate a collection of language materials (Ega). Support for such work has come from the Volkswagen Foundation (VW-Stiftung, Germany), the Foundation for Endangered Languages (FEL, UK), the Endangered Language Fund (ELF, USA), and the Endangered Languages Documentation Programme at the School of Oriental and African Studies, University of London (ELDP). Their support will be crucial for the documentation and electronic dissemination of knowledge about this and other such languages.

A project more directly involved with comparative linguistics is the Comparative Bantu On-line Dictionary (CBOLD) project at Berkeley. Launched in 1994, CBOLD's goal is to assemble and supply access to lexical data on Bantu

languages, primarily for comparison and historical reconstruction. As stated at their web site, the associated Bantu Working Group aims to:

– set up a collaborative, accessible database for researchers in Bantu languages;
– establish a unified format for computational lexicographic work in Bantu; and
– input extensive (annotated) dictionaries and wordlists of Bantu languages.

With regard to the last aim, the project scans published dictionaries to make them available to scholars worldwide. Fortunately, web access is becoming increasingly feasible as the web spreads through Africa, and African scholars have been taking advantage of this resource. As the flagship for such African language databases, CBOLD has served as a useful model (and goal) for other language groups, for comparativists, and for typologists.

Another useful site for researchers is that of the Summer Institute of Linguistics (SIL) especially its Ethnologue sub-link (Ethnologue). There one can find a listing for individual languages giving such useful data as classification, location, number of speakers, and alternative names. The last resource is extremely helpful for many African languages have a great number of names.

6.2 Language typology and historical linguistics

Typological study can furnish insights into reconstruction and history in the absence of written records (Heine 1980, Childs 1995b), as is commonly the case in Africa. The vast majority of the work in the area of historical and comparative linguistics has focused on description and classification. The latter subdiscipline has a long and sometimes not so glorious history, already covered in Chapter 2. More recently, however, language typology has supplemented and broadened the focus of historical linguistics to include language change and even explanation for language change, especially in the "**functional**-typological" approach (Croft 1990: 2), where explanation is actively sought. In this latter approach, the typologist explains patterns by reference to such things as discourse, pragmatics, and cognition (Givón 1979b: 3–4).

In its earliest application to African languages, language typology was an important source for understanding how languages are related to each other, particularly when there is a notion that they are genetically related. It allows for a reconstruction-like ordering of types and positing a set of separate histories.

It does particularly well at arranging similar types in a putative diachronic sequence, as illustrated by the work of Joseph Greenberg. In the first section of this chapter I treat his "dynamic approach" to language typology. Since Africa does not have much in the way of written historical records, Greenberg's approach allows us to extrapolate from the available synchronic data.

The second focus of Chapter 6 is on how language classification and (language) reconstruction can be used to understand the past. As part of this second focus, I devote one section to how historical and comparative approaches that have helped historians to understand the origins and movements of people in Africa. The second section presents an exciting new approach — the use of DNA sampling to triangulate with findings in archaeology and linguistics.

6.3 Diachronic typology/grammaticalization

Several names come to mind when speaking of grammaticalization on the African continent, but especially those of Greenberg and Heine. Both have been incredibly prolific over an extended period of time and have inspired many others, including me. Greenberg's interests were incredibly broad, and the following discussion represents only a sliver of his complete oeuvre. Heine's work builds on and complements that of Greenberg. His interests are also quite broad and have involved intensive fieldwork on unresearched languages; his name is now very much associated with an outgrowth of these interests — grammaticalization. Their approaches both involve consideration of a wide variety of languages, and both scholars have contributed greatly to the understanding of African languages. I begin by discussing Greenberg; the second part of this section deals with some of Heine's findings.

6.3.1 Greenberg's dynamic paradigm

Typologists do not just designate categories and then pigeonhole observed language features, they usually do something more with those categories and their contents. They make observations as to the distribution of forms within those categories since not all categories will be equally filled. Thus, if only three of four logically possible types are attested, the distribution must be accounted for or at least represented as a language universal. If one adopts a diachronic perspective, the formal attestations of a given function may represent a change in a single system, particularly if it occurs in closely related languages. Green-

berg's set of processural approaches is designed to relate such formal types.

The approach to be exemplified here is "processural comparison" in the "intragenetic mode" since "the comparison is confined to a genetically delimited group of languages" (Greenberg 1969: 184). The basic technique used by Greenberg is relatively straightforward, involving a comparison of related but distinct formal types within a genetic group. First of all, one identifies a set of functionally related forms in a set of closely related languages. The next step is to arrange them in a plausible sequence that suggests the diachronic evolution of a structure into the most "advanced" or innovative form. The discussion and the following examples focus on the evolution of noun class markers, a hallmark feature of African languages (see 4.2) in Greenberg 1977 and Greenberg 1978.

Establishing which is the dominant and/or older pattern, and which is the innovative pattern in such an analysis is usually readily apparent. One examines the cognate forms both formally and functionally. If the form has suffered phonetic erosion, i.e., it has lost phonetic substance in the pattern of *gonna* from an earlier *going to*, the fuller form is likely the earlier one. If the form has undergone semantic expansion and or shift, particularly in ways such as those discussed in Heine et al. 1993, that is, from a lexical orientation to a more grammatical one, then the latter represents the newer function. At an earlier date the English verb *get* had only the lexical meaning of 'have, hold, possess', but now has a more grammatical one of Passive in 'I got hit by the ball.' With this brief introduction as a bit of methodological preamble, we can consider one of Greenberg's showcase examples.

There are two parts to Greenberg's proposal, birth and renewal, and it is primarily the second that concerns us here, but it is also true that renewal can often recapitulate birth in something of a reincarnative spiral, formal rebirth. In the Gur languages, noun class languages where the noun class markers are generally suffixed, Greenberg hypothesizes that the origin of the few cases of prefixed noun class markers can be traced back to the demonstrative via the definite article. It is true that the suffixes show signs of phonetic erosion and the prefixes are transparently related to the demonstrative, so we now turn to the functions.

First of all, Greenberg identifies an initial stage in which there are no prefixes and no definite article. There is a demonstrative limited to demonstrative functions and appearing **before** the noun in Moba ("Stage 0"). In Stage 1 the Gurma demonstrative has expanded its bailiwick to include the function of a (preposed) definite marker. In Stage 2 there is a prefixed article which has even more functions than [DEFINITE] and in the final stage the marker becomes

Table 19. Greenberg's stages, illustrated with examples from Gur (Niger-Congo)

0: Demonstrative	Moba	No prefixes (suffixes already in place)
1: Definite article	Gurma	Definite article preposed
2: Non-generic article	Gangan	Prefixed article with more functions than definitivizing, e.g., [+SPECIFIC]
3: Noun marker	Akasele, Tobote-Basari	Marker obligatory

an obligatory marker on the noun. Thus we see how suffixes get "renewed" as prefixes.

To bolster his claim, Greenberg notes the identical stages in Atlantic, and sees the same process operant in Bantu "augments", sometimes called "pre-prefixes" (cf. Mugane 1997:32) or "initial vowels". These markers appear before the noun class prefix and make it more definite, as illustrated in (117). In the first pair of examples we see how the prefixed augment, which agrees with the noun, makes the noun definite. In the second set of examples we see how the augment can be added to the adjective for emphasis and even to both the noun and the adjective at the same time to achieve both definiteness and emphasis.

(117) The Kinyamwezi augment (Maganga & Schadeberg 1992:68)

a.	akagólıle nuúmba	'He did not buy a house.'
	akagólıle ı-nuúmba	'He did not buy the house.'
b.	ŋwaaná ḿdo	'a small child.'
	ʊ-ŋwaaná ḿdo	'the small child.'
	ŋwaan' úú-m̀do	'the SMALL child.'
	ʊ-ŋwaan' úú-m̀do	'THE SMALL child.'

In summary, what processural comparison allows us to do is order synchronic data in a putative diachronic order that recapitulates the evolution of the form. The next topic, grammaticalization, has identified a set of limited paths along which such changes can take place.

6.3.2 Grammaticalization in African languages

The first book devoted to grammaticalization in Africa was Heine & Reh 1984, preceded by Heine's groundbreaking book on the typology of African languages Heine 1976b. There was certainly a great deal of important work done on grammaticalization before the book, for example, by Givón, Hyman, and others, including Heine himself, but Heine & Reh 1984 was important because it

looked on the whole of Africa as a linguistic area from a typological perspective. Later work in the same vein was just as exciting, as Heine explored the cognitive basis for typological patterns and continued his work on grammaticalization in an impressive string of publications: Heine et al. 1991, Traugott & Heine 1991, Heine 1993, Heine et al. 1993, Heine 1994, Heine 1995, and Heine & Kuteva 2001.

As noted above, grammaticalization is a natural outgrowth of the technique of dynamic comparison introduced by Greenberg. It is a massively deductive enterprise which has great use in the study of African languages, for understanding both where given structures came from and also where they are possibly going. Nonetheless, when dealing with a mass (mess?) of language data from an unknown language, having these guidelines is extremely helpful, at the least in allowing one to narrow down the possible hypotheses. Knowing "grammaticalization chains" (Heine 1992) helps not only to understand the past and future of a structure but also to identify unknown or peripheral structures (Heine 1997).

Briefly, grammaticalization is the process by which a lexical item, typically nouns or verbs, become more grammatical ones, such as adpositions, verbal markers, or specifiers. The process has been illustrated above in 6.3.1 with regard to definite articles and the renewal of noun class markers. Grammaticalization, however, does more; it goes beyond the tracking of a change by stating that the change, first of all, is "unidirectional", that it can happen only one way.[69] It goes on to say that there are constraints on what semantic concepts are grammaticalized, both universally and areally. Heine 1997 contrasts some African patterns with those in Oceania. I give one such generalization below.

> (In Africa:) If a language acquires a comparative of inequality construction of the type *X is taller than Y*, then the most likely source is an Action Schema of the form *X is tall defeats/surpasses Y or X defeats/surpasses Y in tallness.*

In Kisi the comparative pattern is just that: a verb meaning 'pass, surpass, overcome' is used in comparative constructions. The examples in (118) all mean 'He is taller than I' and illustrate the two orders. I have given more literal translations below each morpheme-by-morpheme gloss to make the structure clear.

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69. Frajzyngier 1997a challenges this assumption, but only for "the change from one grammatical function to another" not for the changes we are talking about here (p. 19). Wald 1997 has noted a process he calls "de-grammaticalization": a distinction in the tense-aspect system becoming "a set of pragmatic strategies", specifically, an auxiliary and "declining" method of focus.

(118) Kisi comparative constructions of inequality with *bandu* 'be tall'

a. *ò bàndú mbó hìàù yá*
he be-tall CONJ-3SG surpass me
'He is tall and he passes me.'

b. *ò hìòù yá bàndéí*
he surpass me height
'He surpasses me (with respect to) height.'

As noted in Greenberg 1983, using a verb meaning 'pass' in comparative constructions is an areal feature in this part of Africa, and this is the sort of generalization that Heine works into his predictions. This generalization, then, about the source for inequality comparisons is not a universal but rather an areal one, and contrasts with what is found elsewhere, as seen by a comparison to what happens in Oceania:

> In Oceanic languages … comparative constructions of the form *X is taller than Y* appear to be most commonly expressed by a polarity schema of the form *X is tall, Y is not tall*; such a schema is virtually non-existent in Africa. (Heine 1997:3)

Similarly, in Oceanic languages, the body part 'tooth' provides an important source for 'inside'; it is irrelevant in African languages, where the body part 'belly/stomach' provides the primary model (Heine 1997:3). This is common in the Manding languages where a cognate form is the word for 'stomach' and functions as the postposition meaning 'inside', e.g., Mandinka *kɔnɔ*. Another common pattern is for the noun 'back' or 'buttocks' to be used as a locative, e.g., Wolof *ginnaaw* 'back' also functions as an adposition 'behind', extended to 'after' and 'except' (Robert 1997).

There are other well known grammaticalization paths attested: for example, in Akan the future marker is derived from the verb for 'come'; the verb for 'come' is also the source for a future or incipient marker, being found in Liberian English, a pidgin based on English but whose substrate is Kru and Mande (Singler 1988). A common expression in Liberian English is, "I'm coming to go just now," implying that one is about to leave. Verbs for 'come' and 'go' are commonly used for the future in African languages and some languages use both (Heine 1997:3). In Swahili the future originally came from the verb 'want' (*ta* from *taka*) (Welmers 1973), another fairly common path.

An example of a less common sort of grammaticalization is the change of a word meaning 'yesterday' into a past tense grammatical marker. This may be another areal feature peculiar to Africa (Heine & Kuteva 2001:316). The first

example comes from Baka (a scattered Pygmy group of some 28,000 in Cameroon and Gabon), the second from the Kru languages (Liberia and Cote d'Ivoire), and the third from Kipsikiis (a dialect of Kalenjin, a widely spoken language of Kenya).

(119) YESTERDAY > PAST (Heine & Kuteva 2001: 315)

a. Baka *ngili* 'yesterday' > *-ngi*, verbal suffix of near past.

pámɛ̀ ʔé wɔ̀tɔ̀-ngi ngili
wild boar 3SG pass-PAST yesterday
'A wild boar passed [by] (here) yesterday.' (Brisson & Boursier 1979: 342)

b.

	Kru language	'yesterday' >	PAST
i. Marchese 1986: 256:	Nyabo	*pàmā*	*mā*
	Borobo	*trótʊ*	*to*
	Dyabo	*pama*	*ma*
	Cedepo	*tómɔ́tè*	*tè*
	Tepo	*tʊtʊtʊ*	*tʊ*
	Grebo	*tèdɔ́dɔ́*	*dɔ́*
ii. Marchese 1984: 256–57	River Cess Bassa	*pàniwá*	*wà*

River Cess Bassa: *ɔ kpɔ̄ wɑ̀ smi-ɔ̀ seèedɛ̀*
he catch PAST fish-DEF a long time ago
'He caught the fish a long time ago.'

Grand Bassa	*maɓàa*	*maá*
Gbuu	*pooplakana*	*ka*
Neyo	*kaalaa*	*la*

Neyo: *ma ɓóylée blá la mɔ́ɔ*
but foot kill PAST me
'But my foot was killing me.'

c. Kipsikiis *koon* 'yesterday' > *kɔɔ-/koo-*, past tense marker

The Kru examples are the most revealing since the word for 'yesterday' is not cognate across the Kru languages. Thus, it is not a common lexeme found in Proto-Kru that has changed to the past tense marker before the languages

separated, but rather has changed in independent but parallel processes, as would happen in unrelated languages. The process is not dissimilar to what happens during creolization (see 7.3), e.g., *baimbai* (< English *by and by*) being contracted to [bə], losing stress, and becoming a future auxiliary in Tok Pisin (Sankoff & Laberge 1974). The unanswered question is, of course, why? Some attempts at answering the question through recourse to social factors will be attempted in 7.2, but first we need to consider a central conundrum, which came first, the object or the verb?

6.3.3 Proto-Niger-Congo word order: SOV or SVO?

This section touches on all of the preceding concerns, cross-linguistic comparison, reconstruction, and grammaticalization, in looking at one specific problem, the original word order of Niger-Congo: Was it SOV or SVO? If one or the other, how do we explain how one so prolifically changed into the other, since both word orders are widespread? On first consideration, it may seem improbable for a language to change its word order, but it is quite common in fact, having happened more than once in Niger-Congo.

It should be stated that there are many problems with the notion of "basic" word order. For example, synchonic variation may provide multiple possible word orders. Discourse type may condition different word orders, and different criteria may lead to different answers. Which is basic when the criteria conflict? The question arises in the discussion below in this section.

Leaving aside this controversy for the moment, we will accept for heuristic purposes that a language may be said to have a "basic" word order by one set of criteria or another. What is more crucial, however, is that they have a secondary or non-basic word order lurking about (see the English example in Section 5.3) ready to supplant or change a language's "basic" word order (compare German and English). Words can change categories and even disappear — a lot can happen over time, and Niger-Congo is a very old phylum.

We have already seen how Greenberg's dynamic paradigm has been further articulated into unidirectional grammaticalization clines. What predictions can these make about whether languages will go SVO>SOV or SOV>SVO? Often grammaticalization can play a role, but what is the importance of discourse considerations and language contact? These are just some of the questions that have been raised in a perhaps irresolvable debate. In the end, however, after reviewing some of the proposals, it may seem to be something of a chicken-or-the-egg phenomenon, or maybe even a chicken-**and**-the-egg phenomenon.

Whatever the case, you should at least understand some of the difficulties in doing this kind of work and some of the controversy it has engendered.[70]

What is fascinating about the discussion is the variety of mechanisms that have been invoked to get a language to lumber from one word order to another. One line of argument is that it is more common for the change to go one way rather than the other, thus appealing to probability. Another blames the changes on successive waves of language contact. Another approach attributes the change to discourse considerations, a word order transformed by focus or emphasis, and perhaps even by … uh … Hey, afterthought! Yet another denies that any change has taken place.

Claudi 1993 attempts to resolve the question of Proto-Niger-Congo word order by using the findings of grammaticalization, such as were presented in Section 6.3.2. Gensler 1997 reviews this thesis, commenting on both the methodology and the underlying assumptions. It is his account, as well as Gensler 1994, that forms the basis for this section. We will begin with Claudi.

Noting that only a few grammaticalization paths are logically possible given the existing facts (the details are fairly complicated), Claudi concludes that Niger-Congo must have had SVO basic word order. The logic goes like this: Daughter languages of Proto-Niger-Congo are both SVO and SOV, so one or the other must have been the original and the original must have developed, in some cases, into the other. What accounts for the changes? Grammaticalization patterns show that only the SVO-to-SOV patterns are possible. For example, Claudi sees grammaticalization as a change in word order which falls out when adverbs grammaticalize to auxiliaries, or when serial verbs (see 5.5) change to adpositions or auxiliaries. Therefore, Proto-Niger-Congo must have been SVO. In addition to this central argument, Claudi demolishes the previous opposition. She argues against claims that VO to OV changes are rare and that TMA markers are all derived from verbs (Givón 1979a). She also argues against the SOV>SVO development laid out in Williamson 1986.

What Gensler tellingly points out is that there are flaws in both the underlying assumptions and in the methodology. First of all, the very notion of "basic word order" may be problematic in, for example, excluding the inclusion of structures with auxiliaries. What about a highly analytical language like Mandinka (see (57)), where the language has both S-TMA-O-V and S-V-TMA-O

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70. The argument has gone on for some time. References not mentioned in the text include Heine 1976b (SVO) followed by Givón 1979a (SOV) (preceded by Givón 1971b, Givón 1971a, and Givón 1975), and by Williamson 1989b (SVO and SOV).

(in different contexts, **not** free variation) and each element is a separate word? Related to this is the problem of what Gensler calls the "myth of word order consistency", that languages conform to certain homogeneous types (Gensler 1997: 60). What this means is that various constituent orders tend to co-occur — there are consistent word-order correlations, e.g., Lehmann 1973, 1978. Indeed numerous Niger-Congo languages show the "inconsistent" combination of SVO clause-level order and the order Gen-N at the NP-level (Heine 1976b; Childs 1995a).

Other assumptions are equally as telling: that it is an either/or situation, a binary choice between OV or VO. This goes along with the forced choice of a "primary" or "basic" structure discussed in the previous paragraph. Perhaps the most damaging assumption is that grammaticalization is the only mechanism available for word-order change — Gensler gives some examples of other possibilities. Claudi never mentions language contact, an important force throughout Africa (see 7.2), as has already been mentioned many times as a factor in language change. There are analytical mistakes as well, e.g., treating the copula as a **transitive** verb so it can be used as evidence for earlier SVO word order. The final glaring misinterpretation is ignoring the auxiliary and treating the syntagm S-AUX-O-V-Other in the same way as the few true verb-final S-O-V languages such as Ijo.

If Claudi's predecessors did not get it right, and her account needs amending, how does Gensler solve the problem? Despite leaning towards the SVO position, he proposes a *tertium quid*:

> …I argued [in Gensler 1994] that presupposing this dichotomy [OV/VO] fundamentally distorts the problem. The word order structure most characteristic of Niger-Congo is S-Aux-O-V-Other, that is, a pattern which though technically "SOV" is actually verb-medial … This differs fundamentally from the truly verb-final nature of almost all languages worldwide normally described as "SOV" … the striking rarity of S-Aux-O-V-Other outside of Niger-Congo makes this syntagm a prime candidate for attribution to the proto-language". (Gensler 1997: 68, 91)

Because this word order is unusual in the world's languages (Gensler terms it a "quirk"), it is something inherent or basic to Niger-Congo and may have been there *ab ovo* (to continue with the egg motif of this section).

In conclusion, what is the answer to the question posed at the beginning of this section, Is it OV, VO, both, or neither? The answer is thus the rather untidy

S-Aux-O-V-Other.[71] Viva the quirk of Niger-Congo! Readers might want to look ahead to Section 7.2.3, where OV word order is documented as spreading by contact due to the Mande Expansion.

The focus now shifts to language and linguistic analysis as a source for information about history.

6.4 Language and history

The relationships between linguistics and other disciplines has been relatively one-sided, at least from the perspective of the linguist — give, give, give.[72] This is nowhere more true than in the reconstruction of the past. Other disciplines have been impressed with the methodology of comparative and historical linguistics, especially the much ballyhooed successes with Indo-European. Linguists themselves have certainly recognized the relevance of their work. Swadesh 1964 stated early on how useful linguistic classification, mapping, etc., could be to the reconstruction of the past, and in an early paper Greenberg 1964 showed how this could be done with evidence from Africa (cf. Heine 1991).

Historians have increasingly put the findings of linguists to use, although not uncritically (Oliver 1966, see the response in Greenberg 1972). In addition to the regular sources of evidence such as documents, oral history, and archaeology, historians have found language classification of vital use, especially when it involves the positing of dates. Even a secondary school text recognizes the discipline's importance:

> Linguists can tell by comparing the languages of the peoples of West Africa which groups are closely related to each other. They can also tell how long ago two peoples who once shared the same language began to develop their own separate languages (Crowder 1977:11).

Not all linguists, however, would share this rather upbeat belief about dating

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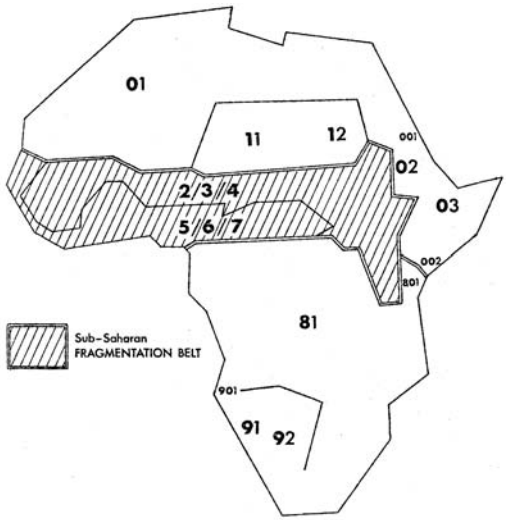
71. As part of the World Conference on African Linguistics, a workshop at Rutgers (June 2003) devoted itself to this topic, the typology and theoretical significance of what were there known as "distributive (or split) predicates".

72. Part of this may be due to the self-absorption and arrogance of linguists, feeling all they needed to know was linguistics and ignoring research outside their field, e.g., sociolinguists with no social theory (Williams 1992; Eckert 2000).

the separation of two languages from a common parent, e.g., Hinnebusch 1999.

The insights have been greatest where the linguistic evidence is the clearest, and the evidence is clearest where there has been little contact, a rarity in Africa with its great settled antiquity. The fact that a broad swath of Sub-Saharan Africa has been called the "Fragmentation Belt" attests to extensive population shifts and language contact (Map 8 contains a schematization). This map illustrates an area of great linguistic diversity and complexity, likely implicating a great deal of population "overlays" and language "over-printing" (MacDonald 1998: 35). To the north is the Sahara where there are not many languages any more, and to the south, roughly speaking is a desert of linguistic homogeneity, the Bantu expansion (Phillipson 1982 (1977); see 6.4).



Map 8. The Fragmentation Belt (Dalby 1970: 167)

> …a single belt extending across Africa from the coast of Senegal in the west to the Ethiopian and East African Highlands in the east. This belt, some 3,500 miles in length but only 700 miles in average width, runs immediately to the south of and parallel to the Saharan desert, and, in terms of its location and linguistic complexity, may be usefully termed the "Sub-Saharan Fragmentation Belt". (Dalby 1970: 163; cf. Dalby 1977: 14)

Similarly, on the southern end of the Bantu area, where a few remnants of Khoi and San populations are found, there is also some "fragmentation". There,

however, the lack of close and reconstructible relations may be attributable to the antiquity of the stock and the Khoisan people being organized into small and transitory groups (Wilmsen 1973) rather than to their isolation or lack of interaction (cf. Wilmsen 1981).

Nonetheless, I will give several examples of the historian's use of linguistics. The leading proponent of this methodology is Christopher Ehret, who has made many meals out of reconstructing the movements and histories of people on the basis of linguistic evidence.[73] The first step in the process is to establish a family tree (the linguist's job; see Chapter 2), which allows one to note which languages should be grouped together at what historical periods, typically using glottochronology (see 2.2).[74] The next step is to associate the words with various points and levels in the evolution (brachiation or speciation in evolutionary terminology) of the proto-language and correlate those observations with socio-cultural and archaeological findings. The assumption is that "the sequence of language divergences … translates directly into a natural time line of the societal divergences that drove those successive splits" (Ehret 1998: 25). With some successful triangulation this allows for the construction of history. An example will help clarify the process.

One of Ehret's most revealing investigations looked at non-Bantu words that have entered Bantu ("borrowings"), to understand what it says about cultural changes. Individual words may reveal the introduction of a new item or new practice into a culture. The words used for 'cattle' and 'sheep' he recognizes as being borrowed from Central Sudanic languages. This shows that speakers of Bantu languages learned cattle and sheep herding from their Central Sudanic confreres. It was a new technology acquired at the time they came in contact with speakers of those languages, which then spread southward as they migrated all the way down to southern Africa. This contrasts with the word for 'goat', which is common to all of Bantu and reconstructible back to Proto-Bantu *-búlị̀. This "word history" suggests that goats were already part of the agricultural economy in the Bantu homeland and that goat husbandry has persisted to the present. Not only does each word have its own history, but each word may reveal a broader history.

Much has been learned about the spread of the Bantu peoples from linguistic investigations. Early on it was recognized that the dispersal of the

73. Much of the methodological discussion comes from Ehret 1998 and Ehret 2000.

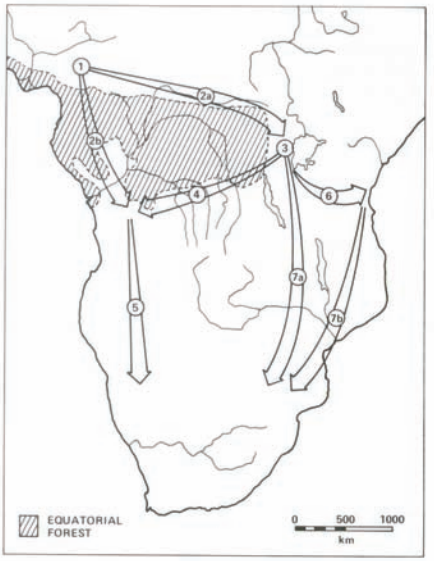
74. See, however, the apparent disclaimer in Ehret 1998: 29.

Bantu languages was roughly isomorphic with the distribution of Early Iron Age sites, suggesting that the Bantu speakers were responsible for the spread of the technology. On the basis of further archaeological evidence, it was clear that the newcomers had brought with them mixed farming and a developed pottery style. The linguistic evidence was once again used to substantiate and further articulate this general finding. Languages were compared and proto-forms were established. In fact, reconstructed forms contained a good number of words describing "key elements of Early Iron Age culture", thus confirming the important contribution of the Bantu speakers (Phillipson 1982 (1977): 66).

Other, more comprehensive linguistic evidence was equally as revealing. On the basis of linguistic/genetic diversity, the Bantu expansion was pegged as originating in Cameroon. Not only did Greenberg find the greatest Bantu diversity there, he also found the greatest similarity to non-Bantu languages (Greenberg 1955, Greenberg 1963). With these and "archaeological considerations, the beginning of the spread of Bantu-speaking farmers is located in Cameroon and dated at about 3000 years ago or earlier" (Cavalli-Sforza et al 1994: 105). Additional linguistic evidence in the form of shared vocabulary and genetic relatedness was used to posit further dispersal centers and movements (see Map 9). The map shows schematically how the Bantu languages spread; the map comes from Cavalli-Sforza 1986: 363, based on Phillipson 1980. The numbers on the map indicate ordered salients of migration. Point 1, in present-day Cameroon, is where the presumed site of origin can be found. Migration 2a took place between 1000–400 BC; 2b between 200–100 BC. Migrations 3 and 4 correspond to early iron age cultures dated 400–300 BC and 300–100 BC, respectively. Migration 5 began around 100 BC, Migration 6 from 100–200 AD. Migrations 7a and 7b are simply said to have taken place "later" (Cavalli-Sforza 1986: 363).

As another example of linguistics applied to historical questions, consider how linguistic analysis helps to sort out the relative chronology of iron-working and the development of the caste system in West Africa. At one time it was believed that the two were simultaneous and indeed causally intertwined, since ironworkers often constitute a special, often stigmatized subgroup within many societies even today (Tamari 1991). In fact, however, massive evidence shows that castes actually post-date iron-working. Castes date only from the thirteenth century at the time of the Malinke-Susu wars, well after the advent of iron-working (Tamari 1995).

The history of what happened on the coast and interior of West Africa during the sixteenth century was decided by linguistic evidence, a few words in



Map 9. Dispersal of Bantu languages

an unpublished diary. Although the debate was between two historians, its resolution has some real linguistic implications (Childs 2002a). Were there speakers of Manding varieties in the invasions that completely overcame and may have even destroyed the autochthonous peoples? If there were not, then the claims as to Manding's vast influence, including the creation of several mixed languages, are completely specious. The claim that Manding warriors formed part of the Mane invasions (Rodney 1967: 235 and Rodney 1970: 56), was initially denied (Hair 1967) but later accepted in a strikingly public admission. Texts not originally available to either researcher decided the issue. Hair nobly writes, "I came upon six terms in Alvares [an unpublished source] for war-medicines which appear to be genuinely Manding (and not even Vai) … I now accept that there were Manding-speakers present" (Hair 1975: 77). By extension the widespread linguistic influence of the Manding peoples could be acknowledged as well.

Another linguistic approach to understanding history is onomastics, the study of place names, or "toponymic research". Since languages rarely have written records going back more than 5,000 years, "Toponymy may occasionally give older, but undated information" (Cavalli-Sforza et al. 1994: 96). Bühnen

1992, for example, applies the technique to the Senegambian region of West Africa. In examining place names, he notes that some of the names are unanalysable while others can easily be broken down into their component parts, as shown in (120). (The quote from Houis used by Bühnen returns to the egg motif established in this chapter, and suggests that great insights have still to emerge from this sort of endeavor — literally, 'West African toponymy has not yet left the egg'.) An analysis of the names reveals that many are compounds with "settlement etyma", all from Mandinka. The first word in each of the pairs represents the settlement etymon, the second exemplifies a place name based on that etymon.

(120) "La toponymie ouest-africaine n'est pas encore sortie de l'œuf" (Houis 1958)

kunda	'compound, extended family habitation'
Mansakundu	'king's compound'; *mansa* 'king')
du(gu)	'land'
Sonkodu	'land of the Sonkos (a clan name)'
su	'compound'
Sukoto	'old compound' (*su* + *koto* 'old')

The recoverability of these names shows their newness, according to Bühnen, and, thereby, that the Mandinka are relative newcomers to the area. Voilà, a crack in the egg shell.

Not covered in this section is one already discussed linguistic approach to unlocking unrecorded history. Heine 1997 suggests how grammaticalization can help to learn "about the patterns of areal relationship among African languages" (see 6.3.2 and 7.2 where the approach is discussed).

The link between linguistics and history is not a one-way street, however, as may have been suggested at the beginning of this section. Linguists have learned a great deal from historians. Historical facts can be used to understand the structure of a language. Chapter 7 treats how the knowledge of socio-historical circumstances explains some of the otherwise anomalous facts about a language's structure.

In sum, what these linguists and historians have done is shown how historical reconstruction can be done on the basis of linguistics and how that product can be checked with archaeological findings (and even historical documents, epic poems in the case of Tamari 1991) for corroboration and/or elaboration of the history thus created. But there is other evidence that can be invoked. An even

more powerful tool has become available for revealing the movements and relationships among various peoples, DNA analysis, the topic of the next section.

6.5 Linguistics, archaeology, and DNA analysis: The "new synthesis"

DNA analysis is an exciting new line of evidence that can be added to the linguistics-history-archaeology interface: "the new synthesis", as it has breathlessly been proclaimed (Blench & Spriggs 1999a: 16). The fact that genes are relatively impervious to short-term environmental forces allows them to be a reliable yardstick for measuring the extent to which populations have mixed or have kept separate. The old anthropomorphic measurements used by anthropologists are, of course, much more subject to such forces. Bone measurements, for example, would be dramatically affected by such environmental forces as malnutrition, especially a lack of calcium. Such conditions would not, of course, affect one's genetic makeup.

This section presents a comparison of linguistic grouping to grouping by means of DNA analysis to evaluate the extent to which the two converge. Much of this discussion is based on the massive Cavalli-Sforza et al. 1994, especially Chapters 1–3. Just the title of the book is daunting: *The History and Geography of Human Genes*; it is an incredible work with a stupefying scope. An earlier work, quoted within, contains a figure making the comparison of linguistic vs. genetic grouping, replicated in Figure 13. The authors state, "The one-to-one correspondence between genetic clusters and linguistic families is remarkably high, but is not perfect". On the basis of an examination of the African data, the claim for congruence may be overstated.

The figure, however, needs a word or two of introduction before the review can begin. On the left side of Figure 13 are the genetic groupings of the authors' 42 chosen populations; on the right are the linguistic groupings. New to this discussion on the linguistic side are groupings above the level of the phylum or family familiar from Chapter 2, Nilo-Saharan, Khoisan, etc. The additions are the Nostratic and Eurasiatic superfamilies, groupings which have not gained wide acceptance. Note, however, that only one African phylum, Afroasiatic, actually falls into any of the postulated superphylums, which will therefore not have much importance to the discussions that follow. Although the level of the superfamily is where the greatest congruence occurs, we will resolutely (and perhaps unfairly) limit the discussions to what they have found with respect to

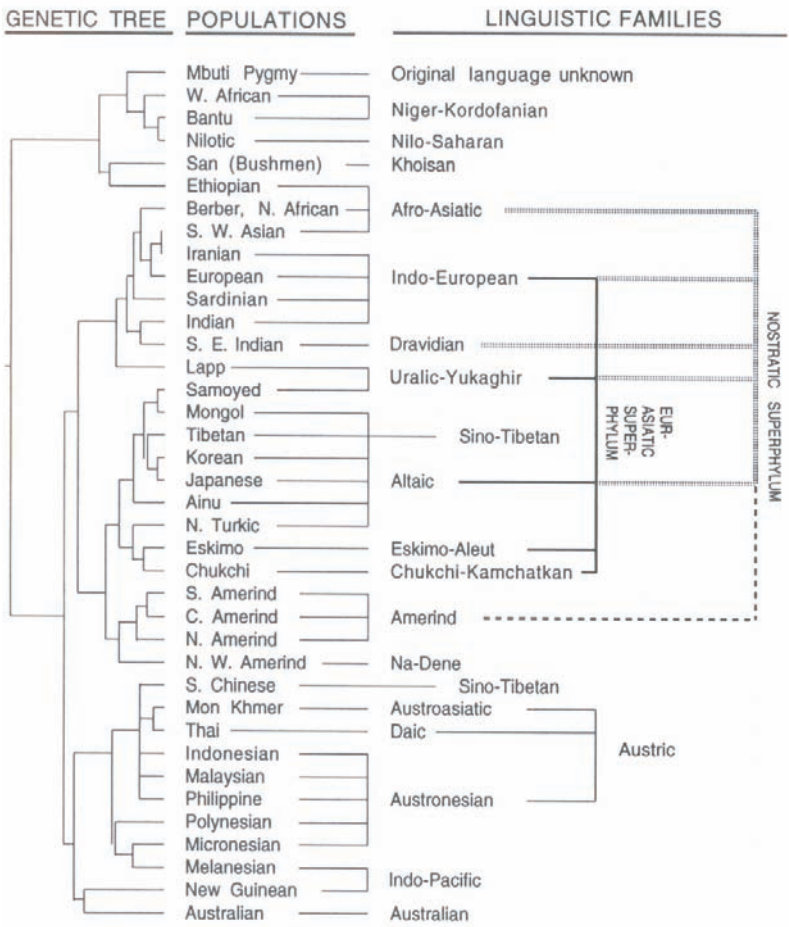


Figure 13. Genetic tree populations vs. linguistic families (Cavalli-Sforza et al. 1988 in Cavalli-Sforza et al. 1994: 99)

African languages.[75]

A first problem is that the Afro-Asiatic phylum straddles the boundary between two groups at the highest level of divergence in the genetic family tree.

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75. Later tests of other claims support this contention. In a comparison of genetic and language trees on a global basis, the conclusion is, "The consensus between language trees and genetic trees is low … so low as to make the trees incomparable" (Chen et al. 1995: 610 as in Blench & Spriggs 1999a).

Thus the "Ethiopians" on the genetic tree are genetically African but linguistically not — Afroasiatic is part of the Nostratic superphylum, as is no other African phylum. The Berbers, who are genetically Caucasoid, belong to the same linguistic family. There is thus one serious mismatch between the linguistic and genetic data. It is likely that the rest of the African side of Afroasiatic (Chadic, Cushitic, etc.,) would follow the same pattern as the Ethiopians, and the Near Eastern side of Afroasiatic (Semitic, etc.) would parallel the Berbers. Thus, this one mismatch may represent an even greater lack of congruence beyond that of the Ethiopian-Berber finding.

Niger-Congo (their "Niger-Kordofanian" in Figure 13) is also split across two genetic groupings. "Bantu" goes with "Nilotic" while "W[est] African" has its own grouping. Curiously they ignore another grouping of families, the higher level grouping of Niger-Congo and Nilo-Saharan, discussed in Section 2.4. As a reminder, there were two separate proposals for a "Kongo-Saharan"/"Niger-Saharan" lumping, which would contain the two families of Nilo-Saharan and Niger-Congo. If that linguistic grouping were shown, it would concur only with the second level of genetic grouping, qualifying as only a partial match.

Another mismatch can be found further south (but on the first line of Figure 13). Language shift or what the authors call "language replacement" can fatally skew the congruence between linguistic and genetic groupings. The Mbuti Pygmies may not speak the language their ancestors spoke — they may have shifted to the language of their patrons. In fact, Pygmy populations rarely speak a language of their own; they generally speak the language of their neighbors, who are often Bantus (Murdock 1959, Turnbull 1965, Vansina 1990, Cavalli-Sforza et al. 1994). Thus no evaluation of the correspondence between the two is possible since the Mbuti have shifted to another language. Language shift is a considerable problem for the whole approach, especially on the African continent, where multilingualism is such a dominant fact of life, e.g., Bamgbose 2000a, and movements can be complex, e.g., Bouquiaux & Thomas 1980.

There may be an even more basic mismatch — Are apples and oranges being compared? The authors chose "aboriginal" populations, those in residence before 1492. Their approach was "atomistic"; they chose small, widely separated populations in order to minimize the effects of language contact and migration, two contaminating factors. The linguistic classification is, of course, performed on a much wider sample, and thus represents a significantly different sampling. It is difficult to understand, then, how the statistical tests they devised to test the correlation can be justified. Their claim, "The difference between the

observed value and those obtained by chance is thus highly significant, and the statistical test confirms the congruence between genetic and linguistic differentiation" (Cavalli-Sforza et al. 1994: 101), seems suspect, at least for the African data presented.

One strength of DNA analysis, historical depth, is unfortunately one of its weaknesses in such an exercise — genetic diversity and linguistic diversity do not march in step. Simply put, "Languages evolve much faster than genes" (Cavalli-Sforza et al. 1994: 23). The authors estimate that languages become mutually unintelligible in a thousand years. It is hard to think of an analogical process on the genetic side. Furthermore, the common forces disruptive to either orderly course of evolution do not have the same effect. The two "processes" that are said to cause exceptions are *gene replacement* or *language replacement* (the latter discussed above as "language shift"), which rarely are caused by the same social forces, i.e., one force does not affect the two processes equally, in many more ways than the authors state. In fact, the ultimate effects can be seen as quite independent from each other. Think of the effect of a conquering force, such as the Manding warriors in West Africa (discussed in Section 7.2.3). Because of their overreaching empire, the conquerors were constantly in the minority and thus had to recruit foot soldiers for their army. They had little effect on the genetic pool because of their small numbers, but the linguistic effects were considerable (e.g., Thomas 1919–1920).[76] Hypothetically, a conquering group could also be a more pacific, migrating one, as was the first wave of the Mande Expansion and there could be more gene mixing than language replacement.

It is usually the case that population mixing takes place on a gradual basis, but language mixing can be quite abrupt, being more sensitive to social forces. Language mixing is attested but relatively rare (Bakker & Mous 1994; see 7.2.2), but new languages have been created many times. There is no equivalent to pidgin and creole genesis (see 7.2) in the genetic domain. Although pidgin formation has been called "tertiary hybridization" (Whinnom 1971) making reference to a genetic model, the analogy must fail at some level since languages are not members of a species and they do not breed. Thus one would expect mismatches between the two systems of classification, if any sort of disruption

76. A similar situation occurred in Hungary where the nomadic Magyars from Russia crossed the Carpathian Mountains to impose a lot of their language but not so much of their genes on Romance-speaking peoples. Hungarian is totally unrelated to any of the languages in the near vicinity (Cavalli-Sforza 2000: 151).

took place, be it relatively benign or severe (see the discussion in Cavalli-Sforza 2000: 145ff.).

The authors state two necessary conditions for the validity of their measure.

> The average genetic distance between two populations or population clusters will increase in proportion to the time of separation under random genetic drift, provided that (1) the population size remains approximately the same, on the average, in the two branches during the process of evolutionary differentiation, and (2) genetic exchange by migration between branches is not important, or at least it is proportional in the various branches. Neither expectation will ever be completely satisfied, but it is enough if they hold approximately (Cavalli-Sforza et al. 1994: 93)

When one thinks of the Fragmentation Belt running across Africa's mid-section (Map 8), which represents centuries and centuries of interchange, it is difficult to imagine many groups that would fit the population criteria given above. An application of the method *grosso modo* to language classification yields the most revealing results, particularly when there are egregious mismatches, but that is hardly what the analysts are after. The mismatches indicate, of course, that something has happened to upset the parallel developments.

What is exciting about this approach is that it may be able to be applied in time as well as in space "developments in molecular technology have generated the hope of obtaining substantial information from individuals or populations that have been dead for a long time" (Cavalli-Sforza et al. 1994: ix). It is the linguistic side that needs development and consensus. Nonetheless, the future is promising, more for historians than for linguists. In this endeavor, at great time depths, linguistics is just a handmaiden to historical research. DNA analysis still has great value for providing insights into more local situations (cf. Blench & Spriggs 1999b: 22), e.g., Herbert 1990c (see 7.2.1).

The next chapter presents a great number of cases where social factors, comparable to those mentioned here, have had an enormous effect on the languages of Africa.

7 Social effects on the languages of Africa

This section considers how social factors determine or change the forms of African languages, specifically, what has been called "restructuring" (Neumann-Holzschuh & Schneider 2000). These are changes to what would be the inherited, genetic structure of a language. Typically this is due to contact with one or more other languages, particularly in Africa's cities, e.g., Manessy 1990. But in some cases variable forms may be attributable to internal social factors, such as prescribed gender roles, as is the case with *hlonipha* below, castes, e.g., Irvine 1974, or other socio-ethnic divisions. These changes may be relatively minor, such as with borrowings or calquing (direct translations). But sometimes they may be greater, to the extent of changing the language so much that it becomes unintelligible — speakers can then be seen as abandoning their former language.

Just how complicated African multilingualism can be, especially in its cities, is revealed in a thorough study of codeswitching in the Gambia (Haust 1995). The author finds few structural constraints on what can happen in a code-switching encounter. The three languages involved are quite different typologically: English, Wolof, an Atlantic language belonging to the Northern Branch, and Mandinka, a language belonging to the Manding nexus of Mande. For starters, just to compare the two African languages, Wolof has accent, and Mandinka has tone. Wolof syllable structure is more complex than Mandinka (CVC vs. CV), and Wolof has a larger inventory of sounds. Wolof is SVO, Mandinka SOV. Wolof is rich morphologically, Mandinka is not (see (57)). She also finds that rather than speakers shifting from one language to another, there is an increase in the extent of (individual (vs. societal)) bilingualism. Although bilingualism is a necessary precursor to language shift, e.g., Fasold 1984, there is no language shift. Speakers also resist a more widespread process. *Wolof-isation* is a common process in Senegal (D'Alton 1987), the country virtually surrounding Gambia. For many years a whole group of Atlantic languages near Thies in Senegal was unknown because their speakers used Wolof with outsiders — they were discovered only by accident because they were languages of the

home (Pichl 1966). Thus, it seems speakers prefer to be multilingual rather than to abandon their mother tongue.

This chapter presents the repercussions of social factors on the restructuring of African languages, including speakers abandoning the language and/or the language completely disappearing.

7.1 Languages of respect, and other special varieties

This section considers language varieties that are in some sense derivative from, or even parasitic on, what can be considered the basic or most common form of a language. The focus varieties are not separate languages (7.2) or new languages (7.3). In some case, they are merely alternate forms or a sub- or "co-existent" system (Labov 1998). Furthermore, none involve writing or the adaptation of an external language but rather represent indigenous ways of performing basic language functions. I begin with a summary of a brief ethnography of the highly hierarchical kingdom of Burundi to show how social distinctions manifest themselves linguistically in a general sort of way. Further examples show more specific ways.

In more pacific times, speech among the Barundi was explicitly recognized as an important instrument of social life, eloquence was greatly valued, and the people possessed a highly articulated system of genres (Albert 1972). Skill at manipulating rhetorical devices was highly valued. Within this hierarchical, basically feudal, society, norms governing uses of speech explicitly differentiated as to caste, sex, and age. The social hierarchy is laid out in (121).

(121) Social hierarchy in the traditional kingdom of Burundi (Albert 1972)

Imana	'the high god'
mwami	'the king'
baganwa	'princes'
abafasoni	'nobles'
Batutsi	'herders' ("Hamitic", long-limbed, slim-boned, narrow headed)
Bahutu	'farmer-peasant class' ("Bantu", shorter, thicker)
Batwa	'the lowborn pariahs' (Pygmies)

Here follow some examples of socially prescribed speech behavior as to various social parameters.

– Nobles must never allow emotions to show, never raise their voices
– Peasants must follow something of a "Steppinfetchit" stereotype (the "competence of incompetence") towards superiors, i.e., slow, bumbling speech, however eloquent they may be among themselves.
– Girls are trained to silence and evasiveness and careful listening for later repeating

Among the Wolof, where social inequality is pervasive, similar meanings are coded in greetings (Irvine 1974; see discussion in Scotton 1983:185). Not only the form of the greeting is socially determined, but also the order in which people are greeted.

Another way in which social factors may influence linguistic forms is in the disappearance of older forms, typically due to social changes. Among the Fula words of respect and address forms are fast disappearing. In 2000 few university students in Kankan, Guinea, were conversant with a large vocabulary of respect known to their parents and grandparents. The students had heard it and might understand it, but they were not comfortable using it.

> The vocabulary of respect which can be conceptually distinguished from the older system of titles (chief, *alemany*, etc.), concerned the body of the honored person, the clothing he wore, and the objects he used. For example, the respectful form of *to speak* is *maakagol* instead of *woulugol*. The respectful word for *head* is *sala* instead of *hoore*. The decline in the use of the vocabulary of respect mirrors the decline in the social institutions that supported such usage (Derman & Derman 1973:69).

The variety was accompanied by forms of prostration:

> when affines meet formally, both individuals squat on the ground, look away from each other, and use the polite forms of greeting … A simplified form of greeting is often substituted, in which the one who has to show respect kneels partially, holds his left hand to his right arm and shakes the hand of the other while using the polite form of salutation (Derman & Derman 1973:76).

At the same time as some forms disappear, others are being created or renewed. Gregersen 1974 presents many examples of how respect is shown in African languages, some of which involve active renewal. In some languages, showing respect involves pluralizing a singular title. Thus the noun class prefix marker for plurals is prefixed to singular titles. In many Central Bantu languages, words for kin (singular) such as 'grandfather', 'father's brother', and many

in-law terms usually take a plural marker, e.g., Nyanja (here the prefix *a-* which (historically) denotes plurals):

(122) Honorifics in Nyanja (Gregersen 1974: 52)

amai	'aunt-in-law'
atate	'father's brother' or 'mother's sister's husband'
ambuye	'uncle-in-law' or 'grandparent'

Furthermore, a whole new noun class may have been created as a byproduct of showing respect. "The noun class prefixes 1a and 2a set up by Doke may represent a reinterpretation of originally optional honorific forms into an obligatory non-honorific inflection" (Gregersen 1974: 52). This analysis seems the correct one for this class contains kinship terms and similar items.

The example in (123) shows how the function of the plural marker in marking the plural has atrophied through (over)use of the plural marker as a respect marker. The original plural prefix for nouns denoting human beings, *vá-* (reconstructed Bantu **ba*), is now used almost exclusively as an honorific singular. A new prefix has been developed for the plural, namely, *acáá.*

(123) Renewal of plural marking in Yao (Mozambique) (Gregersen 1974: 52)

jwámbúmba	'woman' (informal)
vámbúmba	'woman' (honorific)
acáámbúmba	'women' (plural for both)

Gregersen also reports on a particularly unusual case of borrowing among the Gbeya. An honorific was introduced by a foreigner and eventually was adopted for general use. Showing respect, coding hierarchical social rankings, is a serious business, especially for new brides among the Nguni for whom the onus is considerable.

7.1.1 R-E-S-P-E-C-T: Hlonipha among the Nguni

> There is a Zulu saying that no woman can escape the *isidwaba.* The *isidwaba,* a leather kilt [apron] worn by tribal married women, serves in this sense to symbolize the inferior status of females in a purely tribal society (Becker 1974: 179).

This section treats the linguistic representation of the social asymmetry characterized in the quote above, symbolized by the wearing of the *isidwaba.* The linguistic practice is the extreme form of *hlonipha* (the Zulu word for 'respect')

found among speakers of Nguni languages, purported to show deference. *Hlonipha* can be described as a way of registering social relationships, coding the asymmetrical power or status relationship between two social entities. In the linguistic form of this behavioral pattern, certain linguistic forms are taboo to a newly married woman; her avoidance of these forms is interpreted as showing respect to the family into which she has married. In the Zulu and Xhosa realizations of *hlonipha*, a newly married woman is not allowed to pronounce any syllable in her husband's name or in the name of a male closely related to her husband (names come from ordinary words):"… *hlonipha* could be described as a socially governed sub-system of the Xhosa language" (Finlayson 1981: 138). The practice is also found among the South Sotho, Swati and Ndebele, albeit in a slightly attenuated form.[77]

This section presents some details of the practice's linguistic characteristics. A few explanations are advanced before embarking on a consideration of *hlonipha*'s evolution: Is it disappearing, are younger women eschewing phonologically based avoidance, or is it perhaps developing into a language of solidarity among women?

Cross-linguistically, name avoidances can take all of the following forms, according to Herbert 1990a:

– Name taboo: The name or the word itself is taboo.
– Word taboo: The name and any word employing the same root are taboo.
– Phonological word avoidance (syllable avoidance): The actual name, words employing the same root, and any similar phonological strings are taboo.

In the third type, the most extreme, any word containing the same syllable must be avoided, as illustrated in (124). The primary name of avoidance is that of the father-in-law, but it may include other older males up to two generations away, dead or alive. In some societies, the Zulu may also prohibit any talking between a woman and her father-in-law (Gregersen 1974: 49).

(124) (Traditional) *Hlonipha* exemplified (Finlayson 1981)

A great-grandfather's name is *Saki*
Both [sa] and [ki] must be avoided, e.g., [s] is replaced by either *ty* [ʧ'] or [ts], both vocalic portions remain unchanged
Only radicals, not inflections are affected

77. Other articles used but not directly referenced in this section are Finlayson 1978 and Finlayson 1995.

Finlayson 1981 writes that many forms are close to Common Bantu, as well as to Southern Bantu, and even Common Nguni. Another strategy is to use descriptive phrases or circumlocution, and verbal derivatives for a name, e.g., 'one who returns'. There are many obvious examples of borrowings from Khoi and San (and other Bantu languages), and the newest practitioners use many words from English and Afrikaans. Herbert 1990a presents a number of different strategies, as shown below.

(125) Consonant substitution (Zulu)

ulunya 'cruelty'	>	*ulucha*
qabuka 'make up'	>	*xabuka*
umuhla 'day'	>	*umugca*

(126) Consonant change (with concomitant class change) (Xhosa)

usana 'baby' (/*u+sana*/ Class 11)	>	*intsana* /*in+sana*/ Class 9
usapho 'family' (/*u+sapho*/)	>	*intsapho* /*in+sapho*/

(127) Delete a consonant (Xhosa)

hleka 'laugh'	>	*eka*
umlenze 'leg'	>	*umenze*
qhitsa 'belly'	>	*itsa*
umnono 'foreleg'	>	*umono*

Clicks are a preferred substitution: The dental clicks (variants on [ǀ]) are "popular hlonipha sounds" presumably because sounds borrowed from Khoisan languages are rare in Zulu personal names (van Rooyen 1968: 38). Van Rooyen suggests that this is how clicks entered southern Bantu, just because they provided such an easy substitute: "…one is tempted to put the question whether the many click sounds in Zulu were not originally introduced for the purpose of *hlonipha*-ing" (van Rooyen 1968: 41), a possibility later developed in the proposal that *hlonipha* "primed" languages for the clicks to be borrowed (Herbert 1995 [1990]: 62). See Section 7.2.1.

Other strategies are lexical, i.e., the substitution of one word for another. Herbert 1990b reports that these strategies are used more by younger women; the examples continue to be drawn from Herbert 1990a.

(128) Synonymy, using a word with approximately the same meaning

Swati			
-fa 'die'	>	*-shona*	'set; die'
-hlala 'sit'	>	*-tinta*	'sit at ease'

Xhosa

-álátha	'point'	>	*-khômba*	'point with the finger'
íntlóko	'head'	>	*ínwéle*	'a single strand of hair'
isiálam	'poor person'	>	*ínkédâma*	'orphan'

(129) Derivation in Swati

umbaso 'thing for kindling'	for *umlilo* 'fire' (< *-basa* 'kindle')
inkhuleko 'thing for tethering'	for *imbuti* 'goat' (< *-khuleka* 'tether')
inyatselo 'thing for treading'	for *indlela* 'road' (< *-nyatsela* 'step, tread')

(130) Neologism: creating a totally new word (Zulu)

inhlenda	for	*isizense* 'scissors'
umgacek	for	*umusa* 'kindness'
ingqumathi	for	*ishumi* 'ten'
ukukhathula	for	*ukuxosha* 'drive away'

(131) Borrowing (Xhosa)

umilisi 'maize'	<	Afrikaans *mielies*
ukupeya 'money'	<	English *pay*
izambane 'potato'	<	Zulu *izambane*
koloiya 'wagon'	<	Southern Sotho *koloi*

Hlonipha may use forms much like what could be considered proto-forms, drawn from some older source, shown in (132). The same practice is followed in the non-Nguni language Southern Sotho (Kunene 1958).

(132) Archaisms (Xhosa)

inombe 'cow'	<	**ngombe* 'cow' (cf. Xhosa *inkomo*)
inkumba 'house'	<	**nyumba* 'house' (cf. Xhosa *indlu*)

Sometimes a single word will have different *hlonipha* equivalents due to nonce creations by different women (as in (133)), despite the fact that the practice has been claimed to be rule governed (van Rooyen 1968:36).

(133) Individual variation in *hlonipha* forms

íntlóko 'head':	*íphobá*, *úkhando*, *ínwéle*, *ítyhódi*, *ítyhóntsi*
iswékíle 'sugar':	*éwekete*, *íyólísa*, *íntlábáthi*, *í-ékíle*

Furthermore, there is more to the practice of *hlonipha* than just avoiding certain phonetic strings; other behaviors are required. In general, women must keep

their bodies covered, and there is no nursing of a baby in the father-in-law's presence Prostration, i.e., keeping oneself at a level below that to whom one is showing respect, is also common (see p. 139) and represents a general practice. A colleague at the University of the Witwatersrand in Johannesburg with an advanced degree from a prestigious American university was still conflicted, even as a university professor. When she entered my office, she was torn between the Zulu practice of showing respect, getting as low as possible, and the European practice of being polite by remaining standing until asked to be seated. She ended up bobbing back and forth, trying to follow both cultural practices simultaneously.

Hlonipha is not used just by new wives. The formal side of *hlonipha* is practiced in other contexts, for example, in initiation rites. Here the range of words affected is **semantically** determined, however: avoided are the objects and events associated with the initiation itself. The avoidance behavior is also common during the change from child to adult, another transition period, but here it is all lexical substitution. Other examples are: diviners practicing formal avoidance, children not pronouncing their parents' names. In addition, there are individual word taboos. For example, the Zulu word 'leopard' *ingwe* is replaced by 'wild beast' *isilo*; and the Ndebele do not use the word for 'cattle' *inkomo*. A traditional doctor avoids the ordinary names of his medicines (Laydevant 1946: 91 as referenced in Lickey 1985: 60).

The linguistic practice of *hlonipha* is not restricted to the new bride. The son-in-law and mother-in-law practice reciprocal *hlonipha*, as opposed to the one-way, non-reciprocal practice of the daughter-in-law. Linguistic avoidance is also used to show respect outside the family. During the first World Congress of Linguists at Kwaluseni, Swaziland, in 1994, the King of the Swati, who heads one of the oldest monarchies on the continent, made it clear that he did not want his name to be uttered during the event, and his wishes were honored. Even the great Zulu warrior Shaka was still shown respect in this way, despite the fact that his power peaked in the first part of the nineteenth century and his image has become rather tarnished since then, however restored it is in Picture 10, a (somewhat idealized) picture of Shaka in his prime. It was reported that Zulu speakers could not utter either — *shaya* 'to hit' nor — *shanela* 'to sweep' some seventy or so years after his death (J. de N. R. 1899–1900: 446 in Herbert 1990c: 306).

Other nearby languages expand this practice to a separate variety used around those in power. Consider the extent to which respect is shown to a Venda chief. According to Khuba 1990, all Venda speakers, except for the chief,

Picture 10. The Zulu leader Shaka (1785–1828)

Source: http://www.southafrica-travel.net/history/eh_zulu.htm ("Shaka as a young warrior"). Drawing (Cape Archives, colour © KGH), 18 Aug 2002.

must control two different but related language varieties, a situation something like diglossia (Ferguson 1959). *Musanda* is a "royal language" based on Venda used only by the court (*musanda*) among themselves and by all non-musanda people when addressing the chief (*Vhamusanda*). The Musanda community use Musanda among themselves but switch to Venda when outsiders are present. The two varieties cannot be mixed within a single sentence, and words are borrowed from Musanda into Venda, but Musanda resists any borrowing. Here follow some examples.

(134) Homophonous words with slightly different meanings.

Venda	*luvha* 'pay homage to the chief, beg; flower'
Musanda	*luvha* 'greet, pay homage, receive punishment from the chief, (for women to) sleep with the chief'.

The next example shows the specificity or specialization of lexical items relating to the chief. *Nutsha* can refer only to the chief's nails; *nala* to those of anyone else.

(135) 'The chief's nails are manicured.'

Venda	*nala dza vhamusanda dzo tumulelwa*
Musanda	*nitsha dza musanda dzo tondwa*

Note how in the following example there is even a special concord marker for the chief. (Concord *ho* shows respect; *vho* used for married elder.)

(136) 'Is the chief asleep?'

Venda	*vhamusanda vho edela*
Musanda	*musanda ho famiwa*

Thus, the constraints at the Venda court are also considerable and illustrate another context in which varieties encoding social differences arise, although Musanda, as reported here, does not encode gender distinctions so famously as does *hlonipha*.

The Nguni practice is of interest for a number of reasons, its severity for one but also for its persistence and vitality. The prominence of avoidance and its pervasiveness are remarkable; Zulu names come from objects or events of everyday occurrence, as seen above. Newlywed wives thus operate under considerable linguistic constraint, and the consequences of violating this taboo are considerable. For a slight infringement, violators only have to look over their shoulder and spit, but sometimes the violator is sent back to her home to return with a gift (Finlayson 1981). Furthermore, the wife may continue to *hlonipha* throughout her life, although in some cases she may be able to stop when she passes child-bearing age or when she has a child. She may also be able to stop when she becomes the female head of the household or when her first son marries (Finlayson 1984).

To understand the motivation for the practice one must understand the culture, as explained in Herbert 1990a. Zulu society is strongly patriarchal. The homestead or *kraal* forms the locus of the family; it is into the *kraal* that a new bride will move, and when she does, she will begin practicing *hlonipha*. Marriage is (clan) exogamous: it is prohibited between all kin related through clans of any of the four grandparents; the new bride is thus something of an outsider. In addition to her status as an outsider, the newly married woman has to deal with the general Southern Bantu practice of treating women as socially inferior. It is this combination of factors that promotes the use of *hlonipha*.

Finally, the vitality of the Nguni practice is remarkable. Husbands in cities have sent their wives back to mothers-in-law to learn hlonipha (Finlayson 1981). It is the mother-in-law who reports all violations. Female students in

graduate school at the University of the Witwatersrand during 1991–94 told me how they maintained the practice in their own households. In addition, a variation study showed that the practice was highly valued among both men and women (Childs 1996). It has been reported generally that many people, even women, regret the passing of the custom (Finlayson 1981). Several amusing and perhaps telling anecdotes illustrate the continued vitality of the practice. Kunene 1958 reports that post office officials were having great difficulty locating a person. Because he was such an important person, and his name was taboo, he could not be tracked down. A similar story was told me by a graduate student at the University of the Witwatersrand. The name of an unfortunate woman's bus stop was the same as her husband. Because she could not pronounce his name, she always had to get off a stop later and walk back. *Hlonipha* is alive and well.

Related to the issue of vitality is the development reported by Finlayson. She reports that *hlonipha* is used for camaraderie among women and led to "a degree of secretiveness both from men and from whites able to speak Xhosa, as women were able to speak without men and whites able to understand this 'language of women' (Finlayson 1981:62). Although it is not yet clear whether *hlonipha* will develop into a women's language of solidarity, many other varieties fill just that same sort of niche, secret and play languages, the topic of the next section.

7.1.2 "Secret" and play languages

The varieties discussed in this section, "secret" and play languages, often perform the same function of obscuring meaning to outsiders. They have sometimes been called "anti-languages" (Halliday 1976) or "langues spéciales" (Van Gennep 1908 as in Moñino 1991:5), varieties used by a social group of a certain age and/or political orientation or associated with certain activities, something like a social argot or jargon. The several varieties I consider here show some systematic relationship to a more widely spoken variety that could be considered the main language of a speech community. These special varieties are used by speakers of the main variety in a rural setting; Section 7.3.5 looks at several functionally similar urban varieties.

Why should we bother looking at such varieties? From a linguistic perspective, I think there are several reasons, in addition to the more obvious aesthetic consideration, for these varieties are often quite creative and lively. First of all, much can be learned about language, "the linguistic capacity in its broadest

sense", by studying such expressive behavior as language games (Bagemihl 1995: 697). For example, Ohala 1986 recognizes language games as being one part of the evidence that can be brought to bear on phonological issues (see 3.7). Bagemihl 1988 presents a great number of possible phonologies and morphologies that are used to mark a variety as distinct from its matrix language. Ideophones, already discussed in 5.1, employ such resources at the lexical level. Thus, such peripheral varieties reveal the possibilities of language, performing functions beyond the merely denotational.

In the languages of Ethiopia, something of a speech area or *Sprachbund* (Ferguson 1976), such resources are employed in a variety of ways. Hudson 1995 notes a number of different argots or "speech disguises". Their functions range from the ceremonial to the criminal and involve different linguistic processes, ranging from lexical substitution (including borrowing) to "manipulation of the CV-skeleton while the root phonemic melody remains unaltered" (see 4.1), perhaps the wildest of the phonological transformations attested (McCarthy 1984: 305 as referenced in Hudson 1995: 796). Usually when speakers try to make their speech unintelligible to others they do the opposite — they leave the syllable structure intact and change the segments (melody).

In Section 3.7 example (26) were given several examples from a secret language used in the Kisi-speaking area of Liberia, known as "*kpélémɛ́íyé*". Young men in the Mendekorma area of Liberia near the Sierra Leone border speak this "secret language", which is based on Kisi. No non-Kisi speakers can speak it, nor do any Kisi-speaking females. It is decidedly an age-graded variety, not intended to show respect (see 7.1.1) but rather to obscure its speakers' speech from others and mark its speakers as distinct from others. The word *kpélémɛ́íyé* translates as 'garden leavings, the few things that are left after the plants are uprooted'. Garden scraps are hardly useful to anyone, and the name is used ironically since the variety obviously is of some importance to its speakers. The use of opposite meanings is a common feature of such varieties and slang in general (Eble 1996). No one could tell me where it had originated, and it was not overtly taught — young boys learned it on their own, much as second language learning generally takes place on the African continent.

I now give some of its formal characteristics. One structural feature is syllable reversal, seen easily in two-syllable words.

(137) Syllable reversal in *kpélémɛ́íyé*

hùnɔ̀ɔ́	>	nɔ̀ɔ́hù
kùɛ́ɛ́né	>	nɛ́kùɛ̀ɛ̀

Structurally, however, *kpélééíyé* is not just the reversing of syllables, but other transformations are not so easily characterizable. I have suggested some possible "rules" to the right of other word-level transformations in (138). The unknown form *ndú* is in the a. example is identical to the third person singular non-subject pronoun. What happens in the second example is also mysterious. What does seem clear is that the transformations are syllable-based.

(138) Other word-level transformations

a. (*tùŋ+nù+ó*) *tùŋnùú* → *ndúnùùtú* (NCP3SG?+*ó*+*nù*+*tùŋ*)
dog+POSS+NCM 1–2–3 ?-2–3–1
'my dog'

b. (*wálí+cíé+ó*) *wálícíóó* → *lówácíélé*
work+town+NCM 1 2 3 4 4 1 3 2 ?
'town worker, day laborer'

Consider the sentence-level transformations in (139) for some more puzzlement. One notes the expected syllable reversal in the last word, 'Foya', but other changes are not so clear. Starting from the left, the pronoun is the same and in the same place; the second element is unknown, and the realis auxiliary *có* has been replaced by the irrealis auxiliary *wá*. What looks to be a rule of nasal insertion in the fourth word is actually another example of syllable reversal since the regular form is *kɔ̀láŋ*. The Present Progressive form on the left, *lákɔ̀*, is irregular. The syntax seems to be the same in the first *kpélééíyé* example but not in the second, where the negative marker has moved to the left and the non-subject first-person-singular pronoun appears in the place of 'knife's' pronoun.

(139) Sentential transformations

a. *í có lákɔ̀ fóóyá* *í wó wá láŋkɔ̀ yáfóó*
I AUX-REAL go Foya(town) I ? AUX-IRR go Foya
'I'm going to Foya.'

b. *í nɔ́ mà mwè lé* *í wɔ̀lé nɔ̀ yá mwè*
I have NCP_i $knife_i$ NEG I ?-NEG have me knife
'I do not have a knife.'

The point is that no simple rule can characterize the transformations that take place. Despite the opacity of its rules at this point, the variety is widely known and used among young men and boys. Another feature that makes *kpélééíyé* hard to understand is the speed with which it is uttered; undoubtedly this

further hides from the uninitiated what the speakers are saying.

Even more difficult to decipher is another little known "secret language" found in the same general area. In 1983 I met an old and very ill Kisi man who spoke a different secret language he called *lóndùé*. It was similar to *kpélémέíyé* in that it involved the transposition of syllables but even more complicated in that it was a mixture of Kisi and what he called "Mandingo" (see 7.2.3). I was only able to spend a few hours with him because he was very ill; unfortunately he had died by the time of my next visit several weeks later. No other speakers were ever found. This variety was functionally different from *kpélémέíyé* because it was used primarily by older men, as he explained. He could not tell me its origin nor did I find out how it was learned. I suspect that it was related to rituals or communication in a secret (initiation) society, since these institutions often transcended linguistic and tribal divisions, e.g., the Poro and Sande societies of Sierra Leone and Liberia. It was definitely different from *kpélémέíyé*, as the few examples in (140) show. None of the *lóndùé* forms given bear any relation to Mende or Manding forms (Vydrine 2002 p.c.).

(140) *Londue* as spoken by Saa Kila Nyuma, August 12, 1983

	lóndùé	Kisi
'rice'	ndòníkí	mɔ́mɔ́/mààlóŋ
'go'	ndòlátá	kɔ̀láŋ/làkɔ̀
'chicken'	sísà	sɔ̀ɔ́

These two varieties represent just two examples of what seems to be a widespread phenomenon in Africa. In the case of *kpélémέíyé*, it is something of a youthful slang restricted to males, much like the township variety *Isicamtho*, discussed in 7.3.5. *Londue*, on the other hand, has a nobler calling, more centrally located in the culture. These represent just two of the many attested varieties arising from within; the next set of varieties arise from without just because of contact with another culture.

7.2 Language contact phenomena

One of the many things that have bedeviled Western researchers in their study of Africa is the lack of easy and constant categories in which to put things.

Language classification is no exception to this generalization, as we have seen above. The fact that there seems to be no isomorphism between language and ethnicity has seriously bothered researchers. The abundance of areal phenomena (see Heine 1997), both linguistic and cultural, has been part of the problem. Commonalities across ethnicities and linguistic groupings are represented by such widespread practices as iron smelting and iron working, hunting, and pottery (Herbert 1993a), or other more social ones such as initiation societies (e.g., Moñino 1991) and "caste" systems (Tamari 1988). In West Africa the notion of a "Deep Culture" (Hale & Stoller 1985) has some currency, despite the linguistic complexity (see Chapter 2). The subject of this section is areal phenomena confined primarily to linguistic features rather than to general cultural practices.

In this section I present several case studies where languages have acquired features not shared with their genetic confreres. The cause is language contact, the proximity of a structurally different (and unrelated) language, one which speakers of the changed language feel compelled to use (see Thomason & Kaufman 1988). The spread of Bantu is undoubtedly one of the most momentous migrations in the known history of Africa. Its linguistic repercussions have been great, likely causing the disappearance of many languages in its wake and the creation of others (Lipou 1997). There are a few cases where invaders lost their languages. Examples include the Tutsis, who migrated to Rwanda and Burundi about four to seven hundred years ago and now speak Kirundi and Kinyarwanda, rather than their ancestral Nilotic languages, as their vernaculars. The experience was not shared by another Nilotic population, the Maasai in East Africa, who have preserved their language (Mufwene 2001:168). In fact, the "speciation" of Bantu languages is attributable to contact in the same way that Latin became the various Romance languages of Europe (Mufwene 2001:3, referencing Vansina 1990 and Newman 1995a).

The first situation to be discussed arose as a consequence of the late Bantu Expansion into southern Africa with subsequent and prolonged interaction between speakers of Bantu languages and the resident speakers of Khoisan (click) languages. The second study recounts a tale of a similar power asymmetry where the speakers of a Nilotic language (Ma'a) held onto at least some of their language in the face of mounting pressure, much further north in Tanzania, but still attributable to Bantu influence. The final study of this section deals with the linguistic effects of the several waves of Mande expansion in West Africa.

7.2.1 How clicks came to be found in non-click languages

One relatively well understood phenomenon is the presence of clicks in some southern Bantu languages, primarily Nguni (Zulu, Xhosa, etc.) but also two Sotho languages, Tswana and Southern Sotho. The speakers of Khoisan languages are the original inhabitants of at least southern Africa and are now much in decline, as are their languages (see 1.1). Certainly this is one possible disastrous effect of language contact, the death of cultures and languages. There were once known to be more than 100 languages and now there are thirty (Güldemann & Vossen 2000: 99). The focus here, however, is on influence going the other way — how Khoisan influenced Bantu (see also Louw 1974).

Khoisan's overall effect is not extensive but is quite obvious, particularly to western ears, its saliency likely being the cause of its notoriety. While it is undoubtedly true that clicks entered southern Bantu from Khoisan, the exact mechanism of the transfer is less well understood. What exactly was the nature of the contact? How would it promote the transfer of a set of sounds from one language into another without much else? After giving a few details of how extensively clicks have intruded themselves into southern Bantu phonologies, I will summarize a few of the explanations that have been advanced.

Not all Bantu languages with clicks have the same number of clicks, either in terms of place of articulation or accompaniments (see 3.1). Herbert 1990b points out that Bantu languages have neither the bilabial nor the palatal (his "alveolar" see Table 6 above) clicks, although the clicks that they do have may have accompaniments, thus allowing for some expansion of the phonemic inventory. Before looking at a Bantu language with clicks, it might be helpful to recall the huge size of the phonemic inventories of some Khoisan languages. Compare the size of !Xũ, a Khoisan language with 141 segments, as compared to only forty or so in Zulu (and English). There are roughly equal numbers of clicks (48) and non-click (47) consonants in !Xũ, making up two-thirds of the inventory, the pattern in other click languages with large inventories (Maddieson 1984). For the sake of comparison, Nama, another Khoisan language, has a much smaller inventory, thirty-eight phonemes, of which 13 are non-click consonants, 20 are clicks, and five are vowels (Hagman 1974).

Returning to a consideration of Nguni, we see that Zulu, one of the click-borrowing languages, with forty total sounds, has six clicks according to Maddieson 1984, and Xhosa has twelve clicks with a total inventory of fifty-five sounds, according to Louw et al. 1978 (revised 1980); Herbert 1990c puts these numbers much higher: Zulu and Xhosa respectively added "seventeen and

twenty-one (more likely twenty-five) consonants to their native stocks"; his calculation may include non-click consonants as well (p. 299). In terms of lexical frequency, words with clicks are fairly common but not so common as in click languages: only 15% of Xhosa and Zulu words contain clicks (Herbert 1990c: 296). Thus, although these languages have borrowed clicks, they possess nowhere near the numbers nor near the proportions found in true click languages. It is nonetheless a presence to be accounted for, a significant addition to the phonology.

A number of authors have mentioned *hlonipha* (see 7.1.1) as a possible source for the clicks that have entered Bantu, but do not detail how this would have occurred. Herbert 1990c expands on the suggestion and gives the dynamic. He uses a great number of arguments, including genetic evidence of the kind first mentioned in 6.5, as well as geography and cross-linguistic comparison. He first demolishes what he calls the "myth of invading Bantu males" to replace it with a prolonged period of more pacific contact, where many Bantu and Khoisan live together in symbiotic harmony, even in composite groups, which lasted into the twentieth century (p. 298).

Herbert further notes a number of important correlations, both positive and negative, which point the way towards seeing *hlonipha* as the primary agent in effecting the transfer: "the practice of *hlonipha* 'primed' the language to be receptive to click incorporation" (Herbert 1995 (1990): 62).

> There is no way to understand the intensity and restrictedness of Khoisan influence without recourse to some very peculiar aspect of the social contact situation. Specifically, it is argued that the native (i.e. Khoisan) phonological inventory provided Khoe, San, and Nguni women with a ready-made and "natural" source for consonant substitutions as required by *hlonipha.* (Herbert 1990c: 304)

He first of all shows that it was not the degree or extent of the contact that promoted the incorporation of clicks. Gene flow data from Nurse et al. 1985 shows how it could not be the extent of contact, as represented by admixture since there is no correlation between population admixture and transfer. But there is a correlation, a positive one, between languages that practice *hlonipha* and those that have incorporated several series of clicks, thus suggesting some close connection between the two. Furthermore, the languages that have incorporated only one click practice a more attenuated form of *hlonipha.*

> …It is surely not accidental that the languages in which syllable avoidance is most widely practiced are the same languages that have incorporated three click types (in addition to a number of other Khoisan consonants) …The so-called Okavango languages — Bantu languages in contact with San languages in Botswana and Namibia — do exhibit clicks. However, these clicks are not fully incorporated into the phonological systems; they occur infrequently and *only* in borrowed words. …*Hlonipha* is unknown by speakers of the Okavango languages. Similarly, *hlonipha* is not practiced in those Southern Bantu languages that show limited click incorporation — for example, Tsonga, which shows clicks only in Zulu borrowings and in ideophones. (Herbert 1990c: 305)

This last mention of the ideophones may also be important, as suggested in Lickey 1985. Using the framework of Thomason & Kaufman 1988, she also notes the somewhat unusual borrowing of clicks, not following any of the patterns attested elsewhere. She mentions the practice of *hlonipha* as a possible source but also suggests that ideophones (see 5.1) may have played a role in promoting the adoption of click-laden words into the Bantu languages. This helps her to explain why the lexicon shows skewing and why there has been no morphosyntactic influence.

Surely the exoticness of clicks played a role — their expressiveness is attested to by their multiple paralinguistic functions as well as their perceptual saliency (see 3.1). That they come from a foreign language is also important to the whole process, especially the suitability of words with clicks for *hlonipha* substitutions. Finlayson 1984 reports that Afrikaans and even English words are used as lexical substitutes. The relationship between *hlonipha* and click incorporation is clear, as cogently argued by Herbert, but what if the order were reversed, *hlonipha* originated in marking click-using wives?

This would slightly alter Herbert's argument but would make use of the same sort of evidence. The extreme form of *hlonipha* arose just because the Khoisan wives were such "outsiders". Recall that no males married into Bantu households and no Bantu females married out. Not only did these new wives have the status of not being part of the *kraal*, they were not even part of the tribe. They also looked different and spoke an entirely incomprehensible language brimming with clicks. Thus clicks and the wife as complete outsider were strongly associated and gradually the same sort of behavior began to be required of Zulu wives as well. The demonstration of social inferiority is independent of the use of clicks to symbolize that difference of course, but they certainly reinforced each other. The true answer for how clicks entered Bantu

and where the extreme form of *hlonipha* came from probably involved some interaction and mutual reinforcement between the two phenomena.

The next case study treats a single, or perhaps double, language known as Ma'a, spoken in the Eastern Province of Tanzania. The title for the following section comes from Goodman 1971, a paper with the same title that detailed its strange mixture of features. Ma'a is the name used by the people themselves; Mbugu is the name used for the people by outsiders.

7.2.2 "The strange case of Mbugu"/Ma'a

Strangely, Ma'a shows no simple genetic relatedness to either Bantu or Cushitic, the groups to which all other languages in the area belong. It shows allegiance with both! Its dual heritage thus challenges classicatory efforts. The first few displays characterize some of the structural features, identifying some as Bantu and others as Cushitic.[78] I follow the practice of Thomason 1996 and call the people Mbugu, their Bantu language Mbugu and their mixed language Ma'a. Their "Bantu language" is one very similar to Pare and has also been influenced by the other surrounding Bantu language Shambaa.

Ma'a is definitely a mixed language. With regard to its phonology, it has a number of sounds the surrounding Bantu languages do not have. Its morphology is basically Bantu, as is its syntax. The lexicon is where the real differences occur. Mous 1994 is the primary source for the linguistic analysis.

(141) Ma'a has basically Bantu morphology

- Cushitic uses suffixes primarily with a few prefixes and reduplication with infixes; Ma'a has prefixes with some suffixes and no productive reduplication.
- Cushitic has masc./fem. sex-based gender; Ma'a has a Bantu noun class system.
- Verbal morphology: Ma'a has Bantu morphotactics, subject and object concord markers are only slightly different from Pare; the same TAM prefixes
- The final vowel (see (49)) does not inflect for TAM; in Mbugu all verbs follow regular Bantu pattern
- Nominal morphology: relic Cushitic (detachable) plural suffix
- Ma'a has non-Bantu derivational suffixes.

78. Sources are Goodman 1971, Thomason 1996, but primarily Mous 1994.

(142) Ma'a has basically Bantu syntax

- Word order is Subject-Object-Verb (SOV) with postpositions ("prepositions" after the noun) in Cushitic; in Ma'a word order is SVO with prepositions, as in Mbugu/Bantu.
- Cushitic has an obligatory copula; Ma'a and Mbugu/Bantu do not.
- Demonstratives and possessives (when used as modifiers) show no agreement in Ma'a; they do in Mbugu.
- Ma'a's pronouns are only slightly different from those found in Mbugu.

Older speakers tend to have a better knowledge of the Ma'a lexicon. Pare words all belong to Mbugu; if a word can be shown to be Cushitic or Maasai, it belongs to Ma'a. In (143) I present the salient features of its lexicon.

(143) The Ma'a lexicon (Mous 1994)

- Many lexical entries have two forms with one meaning and one morphological classification
- There are no Bantu lexical categories, e.g., color semantics: Ma'a has the Cushitic 5-division color system vs. the Bantu 3-division one.
- Basic vocabulary (natural events, low numbers, etc.) is Cushitic but there are many Bantu borrowings
- The lexicon also varies as to semantic domain, e.g., non-domestic animals have only single entries (predominantly of Shambaa or Swahili origin)
- In fact, most single entries have a Bantu origin, often Shambaa or Swahili

Mous 1994 explains that the two varieties are acquired as a first language and are used within the family with most speakers being able to adjust to either register. Children may also acquire Shambaa and Swahili before they start school. The Pare people are able to understand Mbugu, which they recognize as different, but Ma'a is considered to be incomprehensible and very difficult.

The interpretations of Ma'a are several. Relying primarily on lexical evidence, Thomason & Kaufman 1988 believe that it is a Cushitic language that underwent massive borrowing from a Bantu language (Pare). Möhlig 1983, on the other hand, believes that it is an example of "Cushiticized" Bantu using the following logic: If a grammar is borrowed, then a lexicon must have been borrowed first. Brenzinger 1985 sees it as a pair of shifts canceling each other out.

Speakers consciously shift back to a lost language that they originally shifted from. Comparably, Mous sees Ma'a as a lexical register created by speakers of Mbugu to set themselves apart from their Bantu neighbors (see Childs 1994c and 7.3.5), although Ma'a may be a separate language due to its mutual unintelligibility with Mbugu (Thomason 1996: 477).

What is certain is that the Mbugu ((Va)Ma'a) are a relatively small group that to this day adamantly resists assimilation into the Bantu-speaking milieu. The Ma'a actually look different from their neighbors and practice cattle keeping, having arrived in two different waves of settlement, although their history is a little uncertain according to Mous 1994. They now live in three mixed pockets with Shambaa and some Pare. There are also several other pockets of ethnic Mbugu with no knowledge of Ma'a. Mous Forthcoming refers to it as an "ethnoregister" of Mbugu.

The question then arises as to why there has been such a heavy Bantu influence. The answer is probably the prolonged and intense contact. In recent history the current Ma'a people separated from other Ma'a speakers who subsequently shifted to a Bantu language. Nonetheless, the two groups maintain contact. Another relevant fact is the high degree of bilingualism and the heavy interaction with their Bantu-speaking neighbors.

The next section sketches a whole range of rather more diffuse linguistic effects of the Mande languages on the languages of the non-Mande peoples during the so-called "Mande Expansion".

7.2.3 Linguistic effects of the Mande Expansion

This section gives some historical background to the Mande Expansion and then illustrates some of the contact-induced changes in non-Mande languages, whose speakers were generally dominated by speakers of Mande languages, especially during the days of the Mali Empire (13th-15th centuries) and after. What makes the exercise possible is that the Mande languages are typologically distinct from the languages among which they dispersed. Despite the fact that Mande and Atlantic are both Niger-Congo languages separating from the main stock at roughly the same time (see Figure 1), they are so different that it has been said, "typologically the Mande languages are, in important points, the very reverse of Atlantic, and are genetically totally unrelatable to them" (Wilson 1989: 83). The same could be said of Mande and Gur, and the other non-Mande languages encountered by the Mande imperialists. Mande influence was indifferent as to linguistic group.

That the Mande Expansion had considerable linguistic effects on the conquered peoples cannot be doubted. Perhaps it also affected the Mande languages themselves in that second language speakers soon rose to positions of prominence in the imperial apparatus, as the conquerors recruited local soldiers (see below). Bird 1970 claims that this fact explains the homogeneity of the Manding "languages", which actually constitute a dialect continuum, e.g., Kastenholz 1991/92. Mande underwent considerable simplification and probably leveling in the mouths of second language speakers. I will return to this point at the end of this section.

I first introduce the languages of Mande, especially the group known as Manding and often called "the Manding core". Figure 14 shows how the Mande languages have been classified.

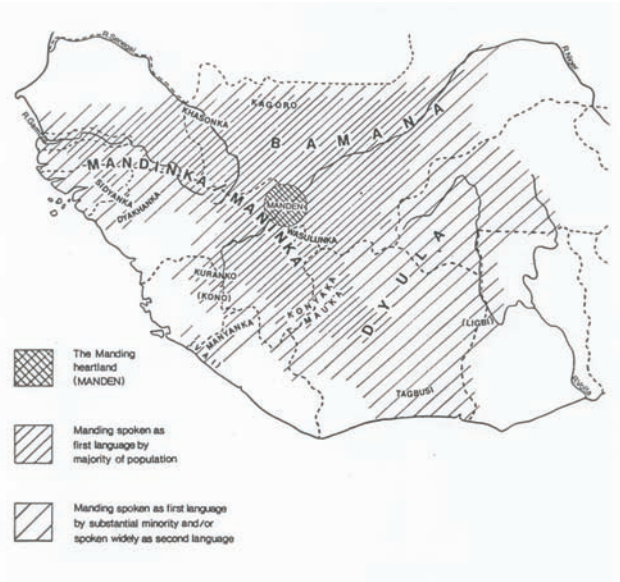
A. Northern-Western
   1. Northern
      a. Soninke, Bozo
      b. Susu, Yalunk
      c. Ligbi, Numu
      d. Vai, Kono, Kuranko
      e. Manding
         i. West: Mandinka, Xasonke
         ii. East: Maninka, Bambara, Dyula
   2. Southwestern
      a. Loko, Loma, Kpelle
      b. Mende, Bandi

B. Southern-Eastern
   1. Southern
      a. Mano, Dan
      b. Kweni, Mwa, Nwa, Tura
   2. Eastern
      a. Bisa, Busa
      b. Sane, San

Figure 14. The Mande languages (adapted from Ruhlen 1991)

The Mande languages and the Manding core also need to be located geographically. Map 10 illustrates not only the Manding core but also the extent of the group's expansion.

In terms of geographic spread, what happened was that Mande-speaking peoples spread west, south and east from the area of present-day Mali and Guinea, forcing speakers of Atlantic languages towards the coast and eventually



Map 10. Manding (Dalby 1971: 9)

into the uninhabited rain forest, much in the same way as the Kru were forced into southern Ivory Coast by the Mande (Person 1966). To give some flavor to this account, here are some details on the cataclysmic incursion of the Manding warriors, who followed the well-established routes of their more pacific predecessors, the Mande traders.

> Circumstances changed with the conquests by the horse warriors for they imposed Mandekan [Manding] languages in conquered areas. People constrained to adopt Mandekan languages included individuals of every status among conquered societies ruled by the Mali Empire (thirteenth-fifteenth centuries) and its satellite states, particularly the captives taken in warfare or purchased by Mandekan speakers. Captives were strongly motivated to learn their owners' languages as a crucial step in adapting to new social circumstances and changing their own status from non-persons to individuals attached to kin groups and protectors. (Brooks 1993: 98)

Rodney gives, if not the most accurate, at least the most dramatic, account, which epitomizes the nature of the contact between the warriors and others. One can hardly imagine a more hierarchical arrangement than the army, unless it be slavery, which was the offered alternative to enlistment.

> Whatever the origin of the various strands of the invasion, the importance of the overlying Mande [Manding] influence must be recognized. All new soldiers who were enlisted were not only trained in the uses of Mane arms but were also inculcated with a new sense of loyalty. The recruits were chosen as young men, who, after training and indoctrination, were puffed up with pride at being among the Mane ranks. The arms and clothing were clearly Mande, and the language, too, showed pronounced Mande characteristics (Rodney 1967: 235; Rodney 1970: 56).

These descriptions, then, provide some sort of rough characterization of a dominant Manding culture that had pronounced linguistic effect on the peoples it conquered. Linguistically, "recruits" became immediately bilingual, and perhaps, as Bird 1970 has suggested, a pidginized form arose, making it more learnable for the next wave of recruits.

To return to the purely linguistic side of things, Bernd Heine recognized the typological distinctiveness of Mande early on and how it had spread, positing the Manding core as the "nucleus".

> In West Africa, there is a vast area of type B languages which stretches from the southern fringes of the Sahara in the north up to the Atlantic coast in the south and includes over one hundred languages. The northern languages of the MANDING type form the nucleus of this area. They have the largest number of recessive features of all West African languages. (Heine 1976b: 57–58)

What some of these features are can be seen in (144).

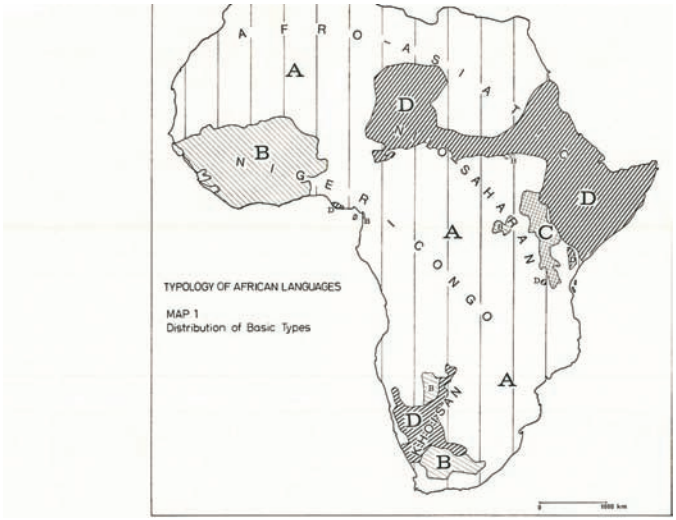
(144) Some "Type B" features (Heine 1976b: 41ff)

Nomen rectum (genitive) before the *nomen regens*, e.g., John's book
Postpositions rather than prepositions
The verb precedes the adverbial phrase
Possessive adjective usually precedes the noun
All of the following features are dominant:

- Nominal qualifiers, e.g., adjective and numeral, follow the noun
- Adjective usually precedes the demonstrative and numeral
- Adverb follows the adjective and the verb
- Subject pronoun precedes TMA markers, the verb, and the object pronoun

It is these features that have spread into neighboring languages, as is suggested by Map 11 and Map 12. The first map shows where the Type B features can be

found; the area of interest at this point is the large blob with northwest to southeast diagonals in West Africa.

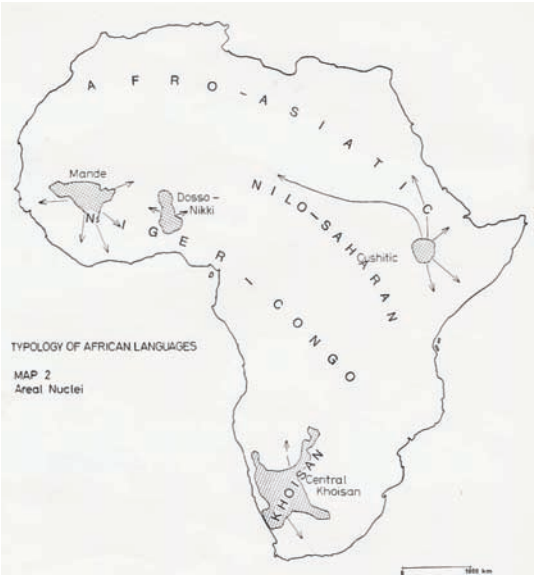


Map 11. Distribution of basic types (Map 1 of Heine 1976b)

Map 12 shows the source of these features, roughly isomorphic with the locus of the Mali Empire.

In several papers I have argued for the same type of Mande influence on the Atlantic languages, expanding the sphere of influence somewhat and discussing **how** it happened. Childs 1995c discusses the importance of language contact for understanding the distribution of tone and accent languages in the Atlantic Group, and Childs 1997b details the social circumstances in which the necessary contact for influence could have taken place. Childs 2002a looks at the extent of lexical borrowing into a single Atlantic language, Kisi, surrounded by a number of different Mande languages, which is what Map 13 shows.

To the north is Kuranko, a language closely related to Manding (Kastenholz 1988). Moving clockwise, Maninka is part of the Manding core as is Mania, which gradually gives way on the eastern side of the Kisi area to Toma/Loma, a South-West Mande language (see Figure 14). To the south are two other South-West Mande languages, Bandi and the closely related Mende. The next language is Kono, a language branching off just above the Manding cluster with Vai (Kastenholz 1991/92), and finally there is Lele, a branch off the Manding cluster with Kuranko and Mogofin (Vydrine 1999). Lele was first seen as an island



Map 12. Areal nuclei (Map 2 of Heine 1976b)

within the traditional Kisi area (Tressan 1953) but should more accurately be located on the northwest periphery. In sum, Mande languages have completely surrounded and isolated the Kisi. Couple this fact with the knowledge that the Manding invaders dominated those they conquered (Childs 2002a), and it is not surprising that the linguistic effects of the Mande languages on Kisi and other Atlantic languages were significant.

The Mande influences on other language groups are also considerable. Dombrowsky-Hahn 1999 looks at the contact between Minyanka, a Gur language belonging to the Senufo ensemble, where similar social asymmetries occur. Looking at borrowings, she finds borrowing has taken place in virtually the same semantic fields as in Kisi, e.g., implements, clothes, animals and plants, religious words, and words dealing with social control. Carlson 1994 writes that the Senufo languages have in general been greatly influenced by Mande and notes perspicaciously,

> They [the Senufo languages] are atypical, however, in having a word order like that of Mande languages … This order [S-DO-V-Other] is an areal phenomenon, being also shared by Songai to the north, and, to some extent, by the Kru languages to the south.
>
> The Senufo languages resemble the Mande languages in numerous other

Map 13. Kisi surrounded by Mande

> ways besides word order. …a long history of bilingualism in Bambara (or its diaspora Jula) among the Supyire. Many lexical items and quite a few grammatical ones have been borrowed from Bambara, and it is probable that several grammatical constructions are calques on the corresponding Bambara constructions (Carlson 1994: 2).

As observed in Creissels 1981, there are "both grammatical and lexical similarities between Songhay and Mande" attributable to contact (Williamson 1989b:9). Although its genetic affiliation has been debated (see display in (7)), Songhay represents yet another language (and perhaps another language group if we agree to put it in Nilo-Saharan) that has felt the imprint of the Mande boot. There are "both grammatical and lexical similarities between Songhay and Mande" that Creissels 1981 attributes to contact (Williamson 1989b: 9)

Heine also noticed the areal nature of word order in this part of Africa as well as its source:

> A number of neighboring Gur (Voltaic) languages, like Senufo or Bariba seem to have borrowed this structure [OV word order] from Mande. It would appear that the other Gur languages as well as the Togo Remnant and the

> western and Central Kwa languages received type B structure from Mande, too, but the evidence on this point is not sufficiently conclusive. Elsewhere in Niger-Congo, substantial changes in word order structure were rare and occurred only sporadically. (Heine 1976b: 62)

He has further noted that such structures are rare elsewhere, the same observation that led Gensler to use a form of the syntagm as basic to Niger-Congo (see 6.3.3).

The picture is similar with regard to Kru word order. Marchese 1989 notes that basic Kru word order is SVO in unmarked utterances. When an auxiliary is present, however, the word order changes to S-AUX-O-V.

(145) S-AUX-O-V in Kru

Wobe: **ɔ se gbu po**
he NEG house build
'He did not build a house.'

Alert readers will note that this is the exact same alternation that was found in Kisi. Putting this information together, we have dramatic Mande influence across a great number and variety of languages:

- Supyire and Senufo, a set of Gur languages;
- the Kru languages;
- Kisi and Ndut[79] in Atlantic; and
- Songhay, a Nilo-Saharan language.

The Mande legacy has been considerable and shows what effects an empire can have, even well after it has collapsed (see Mühlhäusler 1996, Phillipson 1992).

I think there are two reasons, one obvious and the other not, for the successful spread of the core Manding features. There is, first of all, the existence of an empire, a simple power play, but there must have been subtler, social-psychological forces at work, as suggested by Rodney's description of the new recruits being "puffed up" and Brooks's statement that the influence continues to this day. I think finally that a linguistic reason, a consequent of the social, may have guaranteed success. The fact that the variety was pidginized or at least simplified made it easy to learn, especially as it became a locally prestigious variety. The cumulative effect of a series of second language learners may

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79. Ndut allows pronouns in this slot before the lexical verb when there is an auxiliary (Morgan 1996). Thus Ndut has S-AUX-PRO-V-other. This alternation is not uncommon in Atlantic, e.g., Balanta (Fudeman 1999) and Sherbro (Rogers 1967), and thus may be at least partially genetic.

have even led to the same set of circumstances we find with Afrikaans in the following section. With this comment as lead-in, we can now consider some attested pidgin and creole varieties in Africa.

7.3 Pidgins and creoles

For many reasons Africa is particularly rich in "pidgins", extended and otherwise, but has relatively few "creoles" (Berry 1971, Mufwene 2001).[80] This may be related to the choice of multilingualism over language shift mentioned with reference to language loyalty in Cangin (cf. Bamgbose 2000a). The usefulness of the terms "pidgin" and "creole" has been questioned for some time (Jourdan 1991). Nonetheless, they will be used here, appropriately hedged, to differentiate a functionally limited variety spoken by no one natively — a pidgin — from a language with native speakers, a creole, which has typically some whiff of a pidgin history in its past.

This section begins by debunking the myth that Swahili is a pidgin, although conceding that pidginized forms of Swahili exist. It next turns to Fanagalo, undoubtedly a pidgin and a variety of some typological interest because of its unusual birth. Another South African variety, Afrikaans, is then considered because it has been accused of being many things, including a "semi-creole", e.g., Holm 2000b. We next turn to West Africa where a number of pidgins and maybe even creoles can be identified.

7.3.1 Swahili is not a pidgin but just another Bantu language

Is Swahili a pidgin? No, not historically and not in the mouths of native speakers. The pidginization of Swahili is a relatively recent phenomenon. There are two reasons why many people have considered Swahili to be a pidgin. The first is that it has so many borrowings, but the main reason is its widespread use as a lingua franca. A third may be that because it has stress-accent rather than tone, some have thought it is not really related to the languages spoken nearby. People may have only encountered it as a second language learned imperfectly, for it is widely spoken in Kenya, Tanzania, Uganda, and Zaire, and is also used

80. Heine 1975 and Heine 1979 are two important sources for information on African pidgins; Mufwene 2001 treats contact languages in the Bantu-speaking area.

in Burundi, Rwanda, Zambia, Malawi, and Mozambique. The Swahili occupy only a narrow coastal strip and a few islands along the coast of East Africa (see Map 14), so the odds of running into a native Swahili speaker somewhere in the general Swahili-speaking area are not good.

A more local misperception expressed to me several times by East Africans speaking other Bantu languages was that Swahili is a dialect of Arabic. This interpretation is no doubt due to the contact between the Swahili coastal areas and Arab traders based on the acculturation and conversion to Islam that has taken place over the ages (Wald 1987), as well as to the large number of borrowings from Arabic.

Swahili has a long history as a lingua franca and great success as a national language in Tanzania (Fasold 1984). By the mid nineteenth century Swahili was the dominant trade language from the coast inland all the way to eastern Zaire. The German colonists started a policy of using Swahili to communicate, which policy was continued by the British colonists (see the discussion of *Kisetla* p. 208).

Map 14. Swahili (from Nurse and Hinnebusch 1993)

In Tanzania there are 135 languages, and 94% of the 15 million population speak a Bantu language (Swahili is also a Bantu language). In 1976 it was estimated that 80–90% of the population spoke Swahili; by 1980 it was up to 95% (Polomé 1982). Even in Kenya where the ethnic groups were fewer and larger and where there was lackadaisical support from the government, Swahili is now widely spoken as a lingua franca among the working class in opposition to the English used by middle class (Parkin 1977). Thus, Swahili flourishes in these two major East African countries, as well as on into Zaire.

There are two striking facts about Swahili. One is that it has so many borrowings, particularly from Arabic, but also from other languages such as Hindi and English. The second is that it has an extremely regular prominence system of penultimate stress while around it are spoken many tone languages (the reader might want to listen again to Recording 6). For many years people felt that these striking features were related, as would seem plausible. The belief was that Swahili had stress because of its long contact with Arabic, an Afro-asiatic language but one without tone. Because of its widespread use as a lingua franca, the influences on Swahili have been extensive (Wald 1993).

It is easy enough to dismiss the claim that Swahili is a pidgin everywhere for there are native speakers and have been for as long as any other related Bantu language. Nurse & Spear 1985 document this history in some detail. There is even a long tradition of written Swahili, especially poetry, e.g., Biersteker & Shariff 1995.

The explanation for Swahili's stress system is also straightforward, although complicated, and is summarized below:

– Found in other Bantu languages: "Other languages in East Africa (e.g. Tumbuka and Nyakusa), spoken far from the coast and not known to have been lingua francas, have also replaced tone by stress."
– Borrowing route unclear: "The appearance of the penultimate stress system is unlikely to be directly borrowed, as neither Arabic nor most adjacent Bantu languages have it"
– Internal evolution: "High Tone Displacement and Doubling, attested in neighboring languages, led to prominence of the penultimate syllable and ultimately to penultimate stress" (Nurse 1996:279)[81]

81. More details of the internal process and similar stories for what happened in related languages can be found in Philippson 1993.

The basic process is the elimination of tonal contrasts by High Spreading, a common mechanism in Bantu and elsewhere (see 3.7.3).

In conclusion, while we have not denied the presence of pidginized forms of Swahili, we have claimed that there is a full-blown language Swahili, just as Bantu as any other Bantu language. The next section exemplifies some real pidgins in Liberia.

7.3.2 Liberian English: "The love of liberty brought us here."

Liberian English is the lone African pidgin that has an American English past to it, perhaps one of the most unusual varieties on the African continent. It is much like the other colonial pidgins linguistically and sociohistorically, but was never used in an official colonial situation, at least of the same sort that was found in all of its neighbors. It has a decidedly American ring to it, contrasting with Krio, the nearby English variety of Sierra Leone, despite the fact that both represent the varieties of repatriated Africans. In Sierra Leone the founders of their indigenous variety followed a British model, one already implanted on the shores of Africa and quite similar to the other West African varieties found in Ghana and Nigeria. See Liebenow 1987 for some fascinating comparisons between the two countries.

Liberia has a different history. The country was founded by the American Colonization Society, who, after buying land in Liberia, helped the first group of former American slaves "Settlers" to arrive in 1822. These people and their followers were the source of "Settler English", as characterized in (146), as well as the source of the former national motto given in the title of this section. The motto was viewed rather ironically by the indigenous peoples, to say the least. These settlers had learned English in America and brought their nineteenth century variety back with them (Singler 2003 (In preparation)).

But English was already spoken on the coast well before the Settlers arrived. Several Kru peoples (Klao, Bassa, and Grebo) had a well established history of serving as crew on passing ships as part of the slave trade. These "Krumen", as they were named, eventually returned to their villages but were the progenitors of the second English variety in Liberia, Kru Pidgin English.

The third variety arose on plantations such as the gargantuan Firestone Rubber Plantation in the interior, and within the Liberian Frontier Force or army, which was created to subdue the interior peoples. This variety came later and had as input both Settler English and Kru Pidgin English.

Despite this tripartite division, in fact there is no single variety Liberian English, just as in other countries where the superstrate (lexifier) retained little presence, e.g., the varieties of French in Guinea (Childs 1999). The varieties in (146) are all points on a continuum, a familiar situation in creole communities everywhere.

(146) The several varieties of Liberian English (Singler 1997)

1. Settler English, the creole spoken by descendants of settlers from the Mid-Atlantic states of the US (constituting just 3% of the total pop of 2.18 mil in 1984 but having overwhelming social and political importance before then), live in and around Monrovia and several other enclaves.
2. Kru Pidgin English, a pidgin closer to West African Pidgin English because of its distinct historical origins, used by the "Krumen" on ships.
3. Liberian (Pidgin) English, a set of second-language varieties used as a lingua franca throughout the country; heavily influenced by Mande languages; developed by those who joined the army and who worked on plantations.

What the examples in this section have shown is the wonderful wealth and variety that has arisen in contact situations, mostly at the cause of necessity. The complexity of Liberia's varieties is amazing, given its small area and relatively small population.

The next variety represents another typologically unusual variety but unusual in different ways. The view turns to the south as we review the several varieties of South Africa, where abhorrent social conditions produced a number of resilient and resistant varieties. The first, however, reeks of the stench of the apartheid system and its precursors, the language of the overseers.

7.3.3 Fanagalo: Do like this!

A somewhat self-consciously created and maintained pidgin is Fanagalo, found commonly in the mouths of South African supervisors. Fanagalo is perhaps unique in being lexicalized by one of its substrate languages (Zulu); the usual pattern is for the lexicon to come from the language of those in power, typically a European language, such as was the case with the various Englishes of Liberia. Because it has been used primarily from the top down, it still has much in

common with such hybrid varieties as *KiSetla*, the form of Swahili used by the white "Settlers" (Nurse 1996) and *Tok Masta*, the form of Tok Pisin used by European "Masters" (Mühlhäusler 1981). For many intellectuals in South Africa, Fanagalo is highly dispreferred because of its status and function, but for many workers it has real utilitarian value. It has parallels with other African "mine and construction pidgins" such as *Pidgin Ewondo*, a pidgin based on Ewondo and Bulu, which arose in the construction of a railway line to Yaoundé in the 1920s (Holm 1989: 561, as referenced in Sebba 1997: 30–31). This variety is not dissimilar in function to "Soldier French" first known as "*le français tirailleur*" (Delafosse 1904): a variety used by older individuals who had "joined" the French army during the colonial period (Childs 1999).

The history of Fanagalo is given in Mesthrie 1989, a paper written to disprove the belief that Fanagalo arose among the Indian workers on the plantations of the Eastern Cape (Cole 1953). Instead, he argues convincingly, it actually arose in the interactions between European settlers and Zulu speakers, being later codified in the mines, as will be seen below. To provide some idea of the orientation of its codifiers, I have included in (147) some definitions from a relatively recent dictionary.

(147) The mentality of the users and promoters of Fanagalo (Bold 1974)

as adv.	*Sa*	Unbelievable but true. Proves that the native mind works in the opposite direction to ours.
beat vb.	*chaiya*	'I will beat you.' *Mena chaiya wena.* If you are going to get any effect do it first and talk later.
lie vb.		It is extraordinary that there are so few words to describe this national pastime of the native Africans

There is more. The next quote comes from a Fanagalo manual for English speakers, some examples from which can be heard in Recording 8.

(148) *Customs and Thought Patterns of the Black* by E. Raymond Silberbauer

> The White man lives in a highly time-conscious world. Punctuality, to the minute, is a virtue. Time is money, and to save time is to build a reserve of capital potential. To the Black time is a spacious concept which marks the passage of seasons and the waxing and waning of moons. If a Black is journeying to keep an appointment with a friend he will not hesitate to exchange lengthy pleasantries with someone he meets

on the way. He may be hours late for his appointment, but no offense is taken and no apology given. (Erasmus & Baucom 1976: 16)

Fanagalo's name comes from one of the most common utterances: *Enza fanaga-lo*! 'Do like this!' Another name is *Isilolo*, given because of the practice of inserting an article before every noun, even proper names, and a pronoun before every verb.

(149) Fangalo syntax

lo foloman yena funa lo nyuzipepa na lo ti
the foreman he want the newspaper and the tea
lo wil ga lo motokali yena pontshiwe
the wheel of the motorcar he puncture

The debts of Fanagalo to other languages is immense. In one count the lexicon is 70% Zulu, 24% English, and 6% Afrikaans (Cole 1953). Its superficial similarity to Zulu, however, is belied by its syntax and phonology. Note how words are phonologically simplified in (150). Recall that the letters "*c*" and "*x*" represent the post-alveolar and lateral clicks.

(150) Phonological simplification of words from other languages

Zulu clicks are replaced by *k*:
cabanga > *kabanga* 'think'
amaxhos > *amakosa* 'Xhosa people'

English interdentals are changed:
this one > *diswan*
bath > *baf*

r changes to *l* often with epenthetic vowels to break up consonant clusters.
Afrikaans *broer* 'brother' > *blulu/bululu*

With regard to word order, it is unequivocally European, as was suggested by the example in (149). As another example, note how the question word appears initially, as in English and Afrikaans, as opposed to the in-situ placement in Zulu.

(151) Questions in Fanagalo

yinindaba wena hayikona shefile nambla
why you NEG shave today
'Why have you not shaved today?

ngaganani pezulu lo muti
how-big above the tree
'How tall is the tree?'

As a final attestation to its European pidginizing and abandonment of its Zulu complexity, consider the personal pronouns presented in (152) and heard in the first of the recordings in Recording 8. "Fanagalo 1" presents the personal pronouns, which represent just one set (the "absolute") from the many sets of Zulu pronouns. Note how the forms are highly analytic, just as in any pidgin, using the word for 'all' *zonke*, to pluralize the singular pronouns in the second and third persons. "Fangalo 2" contains some lexical items and sentences, all of which are commands with some very specialized vocabulary from the mines.

Recording 8. Fanagalo (Erasmus & Baucom 1976)
Fanagalo 1 (1:09)

(152) Fanagalo pronouns

1SG	*mina*	1PL	*tina*
2SG	*wena*	2PL	*nina/wenazonke*
3SG	*yena*	3PL	*yenazonke*

Fanagalo 2 (1:43)

The survey of South African contact varieties continues with the nativized Dutch of South Africa, Afrikaans.

7.3.4 Afrikaans and Kaaps, Dutch to the core?

In this section I continue the discussion of South African language varieties by looking at the debate surrounding the origin and affiliation of Afrikaans. The linguistic debate centers on which forces most affected Cape Dutch (Kaaps); the socio-political dimension centers on how the linguistic facts should be interpreted. Does the restructuring that has taken place leave Afrikaans as another dialect of Dutch, or is it something different, a new African language? If the latter, is it on a par with the longer established languages? Before majority rule, Afrikaans received more per native-speaker-capita support than any language in South Africa and perhaps more per native-speaker-capita support than any language in the world (see Picture 1). In the "new South Africa" Afrikaans has lost much of the importance it once had under the apartheid government; undoubtedly its relevance will continue to decline. This chapter will deal primarily with the linguistic issues and touch on social-political ones where relevant.

Unfortunately there is no easy answer to the question of whether Afrikaans is a creole; much as was the case in Liberia, one can identify varieties, but they are only points on a continuum, given in (153). This continuum provides a heuristic for organizing the many varieties in South Africa. On the left is Dutch; as one moves rightward the varieties become increasingly less Dutch and increasingly more African until one reaches the rightmost variety, one with only a few Dutch items, all arriving through Afrikaans and perhaps through Tsotsitaal as well. Another dimension is political orientation, alienation and divergence: as one moves rightward, each variety's speakers are increasingly more disenchanted with the existing/former power structure and have increasingly less interest in converging to the elite's norms.

(153) South Africa: Dutch-Afrikaans-Kaaps-Tsotsitaal-Isicamtho

The step from Dutch to Afrikaans is probably the most straightforward. The Dutch East India Company established the first European settlement in 1652, and although the Dutch spoken by the Europeans underwent some changes, it was spoken continuously and so remained a dialect of Dutch. Certainly this was the opinion of many early Afrikaans speakers: "Afrikaans is no **bastard tongue** … It is a true **white man's language**, Dutch to the core" (van Rijn 1914: 57, 62, as cited in Holm 1989: 338). During the history of the variety to the present there was one point at which Afrikaans was "standardized" or "Dutchified" since it was becoming too different. An enclave variety in Argentina is much more divergent, thus suggesting that those efforts may not have been in vain (Hofmeyer 1995 p.c.). At other times it was maintained that it was an African language, hence the name Afrikaans. Thus it was politics, not linguistics, that determined its linguistic status. Nonetheless, the received opinion, both linguistic and nonlinguistic, seems to be that Afrikaans is "a creole or some kind of *intermundium* between creole and non-creole" (Roberge 1990: 147). Holm 1992 calls it a "semi-creole".

In the mouths of others, however, the Dutch of the Europeans underwent some serious restructuring, since it was their second language and they likely received imperfect input. It was primarily the resident Khoi (and their children by Europeans) but also the slaves that the Dutch brought to the Cape (and their children by Europeans) who created a new variety. It is this variety that eventually became Kaaps, the Afrikaans of the "Cape Coloureds", who constituted an ethnic mixture of Khoi, Cape Malay, Africans, and Europeans.

> The radical linguistic leveling towards social and cultural unity affected black Afrikaans speakers, too, who were, arguably the originators of the Dutch creole (Hofmeyer 1987:5, as cited in Brown 1992).

It was likely this variety that had some influence on the restructuring of Dutch, even in the mouths of the Europeans. Thus, the Khoi and the slaves were the really crucial "creolizing" influence. Within this restructuring group are the 127,000 Cape Malays, who are said to be a "small but linguistically significant core group, since it can be shown that the nonstandard characteristics that are viewed as typical of Cape Afrikaans are quantitatively strongest in the speech of this community" (Koetzé 1983:42, as cited by Holm 1989:349). In an excerpt from a BBC program, you can hear a few comments on the variety, which, according to the speaker, was mutually unintelligible with (Standard) Afrikaans (Recording 9).

Recording 9. "Malay Afrikaans" (courtesy of the BBC)
Kaaps (2:06) BBC recording of "Malay Afrikaans"

At this point there are now considerably more non-European speakers of Afrikaans than there are European ones, most of the former being known as "Coloureds". What is interesting about this group is that it has been claimed they are "attempting to generate an 'Alternative Afrikaans' rather than switch to English" (Cluver 1992:120; but see Kamwangamalu 2003). Although the sentiment goes largely unspoken, these speakers do not want to be identified with the Africans who have chosen English as their European language. It will be interesting to see if there is some "re-creolization" (Tate 1984) of Afrikaans to mark off the group as independent and different.

I now turn to varieties at the far end of the continuum in (153). Flaaitaal or Tsotsitaal, also derived from Afrikaans, is much like an extended pidgin. Isicamtho and other urban varieties that are now replacing Tsotsitaal should be seen as a sort of slang variety of their speakers' first languages. Both of these varieties are the product of the urban multilingualism of modern cities engendered by adverse economic conditions.

7.3.5 In the city: Tsotsitaal/Flaaitaal (and Isicamtho)

This section introduces the township varieties of South Africa, which seem to be typical of the urban varieties that have arisen elsewhere on the African continent. In some sense Tsotsitaal can be considered the African counterpart to Kaaps, the Afrikaans of the Cape Coloureds. The first variety is Tsotsitaal,

literally translated as the 'language of thugs or criminals'. The more politically correct "Flaaitaal" is used primarily by the intelligentsia. One informant told me that Tsotsitaal was the variety used by the hoodlums of Sophiatown and Flaaitaal the name used for the same variety used by the more respectable middle class residents of the Western Areas.

Tsotsitaal has long been associated with crime, as its name suggests, but then everything that Africans did in the apartheid system seemed to be criminal. The historical background of Tsotsitaal goes back to the 1886 gold rush in the Transvaal and the influx of mine workers speaking Southern Bantu languages. The input came in several forms from various sources:

– the pidginized Afrikaans from white farmers
– the creolized Afrikaans of mixed-race Griqua, who worked as foremen in the mines
– interaction with nonstandard Afrikaans-speaking "Coloureds"

By the 1930s Tsotsitaal had emerged as the primary language of many of its users. What is important, linguistically speaking, is that "the linguistic norms of white Afrikaners remained remote and unimportant … Fly Taal [Flaaitaal] apparently coalesced into its present form with the institutionalization of apartheid" (Holm 1989: 351). In fact the "coalescence" probably took place much earlier; the beginning of the end of Tsotsitaal probably took place with the razing of Sophiatown (1955) and the dispersal of a culturally vibrant speech community.

The function of Tsotsitaal is clear: speakers try to mark themselves off as "cool" or urban, "slick, city-wise, sophisticated" (Lanham 1978). It is primarily Afrikaans in vocabulary with loans from local Bantu languages and English, and has been claimed to be used by hundreds of thousands (Gilbert & Makhudu 1984: 1), although the numbers now seem quite high, the variety being increasingly replaced by Isicamtho and other urban varieties (Childs 1994c). It is only the older generation that lived through the heyday of Sophiatown that actually control the variety.

I now give some details of its linguistics. Its lexicon draws on Bantu languages and English, particularly for slang, as shown in (154).

(154) The lexicon of Tsotsitaal (Makhudu 1980)

buz	'liquor'	< English *booze*
bich	'a loose woman'	< English *bitch*
gwinya	'food'	< Zulu *ukugwinya* or Sotho *ho kwenya*

Its linguistic structure is basically pidginized Afrikaans, as shown in (12).

(155) The pidginization of Afrikaans

Gender distinctions neutralized: standard *hy* 'he' is also used for 'she'.
Hy is vol 'She is pregnant.' (Gilbert & Makhudu 1984: 4)

But it is clearly a variety used by Bantu speakers as its phonology is Bantu and even a few of its grammatical morphemes.

(156) Bantu features of Tsotsitaal (Makhudu 1984: 34–35)

Phonology: Lacks standard schwa and front rounded vowels, diphthongs have been monophthongized.
ma- Class 3 (inanimate) plural (augmentative) prefix used for human nouns, e.g., *ma-gents* 'gentlemen'

A BBC program on Tsotsitaal by a South-African-born then SOAS professor provides some information on its function (and considerable sexism). Note how he uses the term "Flaaitaal" for the variety. Good afternoons?

Recording 10. Ndlandla Maake on Tsotsitaal (courtesy of the BBC)
Tsotsitaal (1:46)

Tsotsitaal is thus a pidginized Afrikaans, which became the main variety for the speech community of Sophiatown. Isicamtho and other urban varieties are what arose after the Sharpville Massacre when complete alienation and fierce opposition to the Afrikaans-speaking apartheid government set in. (To better parallel the prefixed forms for language names, e.g. *Isizulu*, I have adopted the spelling 'Isicamtho', rather than 'Iscamtho' (often pronounced [ìsːlâːmtʰò]) used in Ntshangase 1991.)

For most speakers, Isicamtho is not a first language but rather **the** language of socialization, and it is only in this sense that it can be considered a first language. In Africa many urban vernaculars have evolved from pidgins and thus represent a functional amalgamation of a pidgin, a slang, and maybe a criminal argot. Urbanization has led to the emergence of new language varieties throughout Africa spoken often only or primarily by the young who have been socialized in the cities. I give examples of other such varieties in (157).

(157) African urban vernaculars

Lingala and especially its convergence with Swahili in Zaire (Gilman 1979)
Sango in the Central African Republic (Samarin 1971a)
Nairobi *Sheng* (Myers-Scotton 1988, Mazrui 1995)

Indoubil in Zairean cities (Goyvaerts 1988)
(Town) *Bemba* in Zambia (Epstein 1981)
Juba Arabic (Miller 1984: 72)

Due to the expanded functions of life in the city, urban and rural varieties are inherently vastly different (Manessy 1990). These age-graded varieties often blend several languages. Sheng, for example, is a mixture of at least English and Swahili. Typically, however, the grammar is demonstrably substratal, derived from the first languages of its speakers. The phonology, morphology, and syntax replicate the grammars of the languages used by the people in the street, for these language varieties are typically eschewed by the elite (Kroch 1978). Sheng, for example, has a Swahili rather than an English substrate.

These urban varieties symbolize the high life of the city, the cool, the hip, and the sophisticated, "life in the fast lane", e.g. Lanham 1978. "Somehow to talk *tsotsi*[*-taal*] with a pal, even a top-rung pal, means injecting a little extra feeling of camaraderie into the association" (Becker 1974: 200, referenced in Makhudu 1980: 7).

Another association is with criminality. Many vernaculars originate in or at least receive input from gangs, criminals, or prison life. For example, Indoubil was originally a thieves' argot (Goyvaerts 1988). African urban vernaculars are also used primarily by males. The typical acquisition pattern, being learned from one's peers outside the home, may prevent African women from ever learning the variety. In summary, some typical features of such varieties are:

– Linguistic (a): Mixed or hybrid, often pidginized or originating as a pidgin; highly variable.
– Linguistic (b): Grammar from the substrate rather than from the superstrate, but many superstrate borrowings.
– Historical: Receives input from, if not originates in, a criminal argot.
– Social (a), Age: Spoken by the young, typically age-graded; may evolve into language change and even language shift.
– Social (b), Sex: decidedly male oriented.
– Acquisition: Learned from one's peers. [Note: In some cases African urban vernaculars have become first languages, e.g. Sango (Samarin & Walker 1992). As will be seen below, Isicamtho may be a first language for the children of Isicamtho-speaking parents.]
– Sociosymbolic value: Sophisticated city life (Childs 1997c)

Isicamtho, then, is the last variety on the continuum presented in (153). Although there are claims Isicamtho is a creole (Mfenyana 1977), Isicamtho

does not qualify as a creole, having no discernible pidgin history and having few native speakers. It is rather a Zulu slang, as demonstrated by Mfusi 1990 and confirmed in Childs 1997c. Virtually all urban speakers of Zulu and even rural speakers can understand it, female as well as male. Many choose not to because of its associations. It is unlikely it will survive the prolonged adolescence and irresponsibility of its speakers despite its affirmation of the swagger of young, male urbanites.

As the apartheid government destroyed Tsotsitaal and created Isicamtho, so have colonial governments left their legacy. Other urban vernaculars have arisen that range from the slang of Isicamtho, based on an indigenous African language, up to an African-accented European language, which takes all of its cues from an external norm and is likely controlled only by the elite. These last will survive only as long as the elites that control them [ambiguity intended] remain in power.

From a purely linguistic perspective, because so many languages are dying, there may be some compensation in these new varieties being created in African cities. Perhaps they will expand their functions and domains, and eventually become broadly inclusive rather than exclusive.

Appendices

Appendix 1: Brief characterizations of cited languages

Classification and location information comes, for the most part, from Grimes 1999. See Appendix 2 for alternative names to track back to the reference name used here.

Abbreviations: BC = Benue-Congo, AU = Adamawa-Ubangi; NC = Niger-Congo, AA = Afroasiatic; NS = Nilo-Saharan; country names have been abbreviated by an acronym or the first three letters of the country's name.

Name	Classification	Location
!Ora	Khoisan	RSA
!Xóõ	Khoisan	Botswana
!Xũ	Khoisan	Namibia
ǂHua	Khoisan	Botswana
ǂKhomani	Khoisan	RSA
ǁXegwi	Khoisan	Extinct
Afar	Cushitic, AA	Ethiopia
Afrikaans	Dutch	RSA
Aghem	Bantoid, NC	Cameroon
Aka	Sudanic, NS	Sudan
Akan	Kwa, NC	Ghana
Akasele	Gur, NC	Togo
Amharic	Semitic, AA	Ethiopia
Anywa	Nilotic, NS	Sudan-Ethiopia
Arabic	Semitic, AA	Northern Africa
Aten	Plateau, NC	Nigeria
Babole	Bantu, NC	Republic of Congo
Bafanji	Benue-C, NC	Cameroon
Baka	Sudanic, NC	Sudan
Bakwiri	Bantu, NC	Cameroon
Balanta	Atlantic, NC	Guinea-Bissau
Bambara	Mande, NC	Mali
Banda-Linda	Ubangi, NC	CAR
Basari	Atlantic, NC	Guinea-Senegal
Bassa	Kru, NC	Liberia
Bayso	Chadic; AA	Ethiopia
Bedik	Atlantic, NC	Senegal
Bemba	Bantu	Zambia
Berta	NS	Ethiopia
Biafada	Atlantic, NC	Guinea-Bissau
Bijagó	Atlantic, NC	Guinea-Bissau
Bondei	Bantu	Tanzania
Bulu	Bantu, NC	Cameroon
Chaga	Bantu, NC	Tanzania
ChiTumbuka	Bantu	Malawi
Coptic	Afroasiatic	Extinct
Dagaare	Gur, NC	Ghana
Dahalo	Cushitic, AA	Kenya
Dewoin	Kru, NC	Liberia
Dinka	Nilotic, NS	Sudan
Diola	Atlantic, NC	Senegal
Dogon	NC	Mali, Burkina Faso
Dschang	Bantu, NC	Cameroon
Dyula	Mande, NC	Côte d'Ivoire, BF
Édó	Kwa	Nigeria
Efe	Sudanic, NS	Zaire
Efik	Cross River, NC	Nigeria
Ega	Kwa	Côte d'Ivoire
Ewe	Kwa, NC	Ghana, Togo

Ewondo	Bantu, NC	Cameroon
Fanagalo	Pidgin	RSA
Fante	Kwa, NC	Ghana
Fon	Kwa, NC	Benin
Fula	Atlantic, NC	Senegal to Sudan
Fur	NS	Sudan, Chad
Gbadi	Kru, NC	Côte d'Ivoire
Gbeya	AU, NC	CAR
Gokana	BC, NC	Nigeria
Gola	Atlantic, NC	Liberia
Grebo	Kru, NC	Liberia
Gumuz	NS	Ethiopia
Gurma	Gur, NC	West Africa
Hadza	Khoisan	Tanzania
Hai?om	Khoisan	Namibia
Hausa	Chadic, AA	Nigeria, Niger, Sud
Hdi	Chadic, AA	Cameroon
Herero	Bantu, NC	Namibia, Botswana
Hyam	Plateau, NC	Nigeria
Ibibio	Cross River, NC	Nigeria
Idoma	BC, NC	Nigeria
Igbo	BC, NC	Nigeria
Igede	BC, NC	Nigeria
Iraqw	Cushitic, AA	Tanzania
Izi	BC, NC	Nigeria
Ịjọ	BC, NC	Nigeria
Jul'hoan	Khoisan	Botswana
Jula	Mande	West Africa
Kaaps	Pidgin	RSA
Kabyle	Berber, AA	Algeria
Kado	Kordof, NC	Sudan
Kalenjin	Nilotic, NS	Kenya
Kana	BC, NC	Nigeria
Kanuri	Cushitic, AA	Niger
Kikuyu	Bantu, NC	Kenya
Kinyamwezi	Bantu, NC	Tanzania
Kinyarwanda	Bantu, NC	Rwanda
Kisi	Atlantic, NC	Guinea
Kituba	Creole	Zaire
Klao	Kru, NC	Liberia
Kongo	Bantu, NC	Zaire
Kono	Mande, NC	SL, Guinea
Konyagi	Atlantic, NC	Senegal, Guinea
Krio	Pidgin	Sierra Leone
Kunama	NS	Eritrea
Kung	Khoisan	Botswana
Kuranko	Mande, NC	Guinea
Kwadi	Khoisan	Angola
Kxoe	Khoisan	Namibia
Lamang	Chadic, AA	Nigeria
Lamba	Bantu	Zambia
Legbo	BC, NC	Nigeria
Lehar	Atlantic, NC	Senegal
Lese	C. Sudanic, NS	Zaire
Lingala	Bantu, NC	Zaire
Loma	Mande, NC	Liberia, Guinea
Luo	Nilotic, NS	Kenya
Ma'a	Hybrid	Tanzania
Ma'di	C. Sudanic, NS	Sudan
Ma'di	Sudanic, NS	Sudan
Maasai	Nilotic, NS	Tanzania, Kenya
Mabaan	Nilotic, NS	Sudan
Makhuwa	Bantu, NC	Moz, Tanzania
Mandinka	Mande, NC	Gambia, etc.
Manjaku	Atlantic, NC	Guinea-Bissau
Mansoanka	Atlantic, NC	Guinea
Manya	Mande, NC	Liberia
Mau	Mande, NC	Côte d'Ivoire
Mende	Mnde, NC	Liberia, SL
Mijikenda	Bantu, NC	Kenya
Miya	Chadic, AA	Nigeria
Moba	Gur, NC	Togo
Mooré	Gur, NC	BF
Mupun	Chadic, AA	Cameroon
Mura	Chadic, AA	Cameroon
Nabaan	Western Nilotic	Sudan
Nama	Khoisan	Namibia
Ndebele	Bantu, NC	Zimbabwe
Ndut	Atlantic, NC	Senegal
Ngangan	Gur, NC	Togo
Ngizim	Chadic, AA	Nigeria
Non	Atlantic, NC	Senegal
Ntcham	Gur, NC	Ghana, Togo
Nuer	Nilotic, NS	Chad
Nupe	Bantu, NC	Cameroon
Nweh	Bantu, NC	Cameroon
Nyakusa	Bantu, NC	Tanzania, Malawi
Nyanja	Bantu, NC	Malawi, Zam, Moz
Oromo	Cushitic, AA	Ethiopia
Palor	Atlantic, NC	Senegal
Pare	Bantu, NC	Tanzania
Ruciga	Bantu, NC	Uganda
Runyambo	Bantu, NC	Tanzania
Runyambo	Bantu	Tanzania

Runyoro	Bantu, NC	Uganda
Safen	Atlantic, NC	Senegal
Sandawe	Khoisan	Tanzania
Sango	Pidgin	CAR
Serer	Atlantic, NC	Senegal
Shabo	NS	Ethiopia
Shambaa	Bantu, NC	Tanzania
Shilluk	Nilotic, NS	Sudan
So	E Sudanic, NS	Uganda
Somali	Cushitic	Somalia, Ethiopia
Songhay	NS	Mali, Niger, BF
Soninke	Mande, NC	Mali
Sotho	Bantu, NC	RSA, Lesotho
Supyire	Senufo, Gur, NC	Mali
Susu	Mande, NC	Guinea
Suwa	Bantu, NC	Uganda
Swahili	Bantu, NC	Kenya, Tanz
Swati	Bantu, NC	Swaziland, RSA
Taa	Khoisan	Namibia
Tachelhit	Berber, AA	Morocco, Algeria
Tamasheq	Berber, AA	Mali, BF
Tamazight	Berber, AA	Algeria
Tamezret	Berber, AA	Tunisia
Temne	Atlantic, NC	Sierra Leone
Tera	Chadic, AA	Nigeria
Tigré	Semitic, AA	Eritrea
Tigrinya	Semitic, AA	Eritrea, Ethiopia
Tsonga	Bantu, NC	Mozambique, RSA
Tsotsitaal	Pidgin (Dutch)	RSA
Tswana	Bantu, NC	Botswana, RSA
Turkana	Nilotic	Kenya
Umbundu	Bantu, NC	Angola
Vagala	Gur, NC	Ghana
Vai	Mande, NC	Liberia, SL
Vata	Kru, NC	Cote d'Ivoire
Venda	Bantu, NC	RSA, Zimbabwe
Wolof	Atlantic, NC	Senegal, Gambia
Xhosa	Bantu, NC	RSA
Xiri	Khoisan	Nearly extinct
Yag Dii	Ad-Ub, NC	Cameroon
Yao	Bantu, NC	Mal, Tanz, Moz
Yoombi	Bantu, NC	Gabon
Yoruba	BC, NC	Nigeria, Benin
Zande	AU, NC	Sudan, Zaire, CAR
Zenaga	Berber, AA	Mauritania
Zulu	Bantu, NC	RSA

Appendix 2: Alternative names for languages cited in this book

In the first column appear the alternate names and spellings, and in the second column appears the name and spelling used here. Unless specified the terms in the left-hand column refer to both the people and their language. For further naming conventions, readers might want to consult the *Ethnologue* at the SIL web site (sil.org), Mann & Dalby 1987, Fivaz & Scott 1977, or some of the more locally oriented listings, e.g., Voeltz 1996, Dumestre 1970, Ingemann 1978, Kropp Dakubu 1977, Bailey 1995, Crozier & Blench 1992.

Alternate terms found in text	Text-preferred term
Abidjan Jula	Dyula
Afrasian	Afroasiatic
Baga Mboteni	Pukur
Baga Sobané	Baga Tchitem
Bassari	Basari
Bijogo	Bijago
Bushman	San
Chagga	Chaga
Damara	Nama
Dyola	Diola
For	Fur
Fɔn	Fon
Fulani	Fula
Fulfulbe	Fula (people)
Fulfulde	Fula (language)
Gangan	Ngangan
Gbeya	Gbaya
Guerzé	Kpelle
Hottentot	Khoi
Iscamtho	Isicamtho
IsiXhosa	Xhosa
Isqamtho	Isicamtho
Ituri	Mbuti
Jadi	Badyara
Jieng	Dinka
Ju	Ju'hoan
Kadu	Kado
Kadugli-Krongo	Kado
Khoekhoe	Nama
Khoesan	Khoisan
Kibondei	Bondei
Kichaga	Chaga
Kinyakusa	Nyakusa
Kissi	Kisi
KiVunjo Chaga	Chaga
Kobiana	Buy
Kogoli	Landuma
Korana	!Ora
Koranko	Kuranko
Krongo	Kadu
Laadi	Kongo
Logbara	Ma'di
Looma	Loma
Lorma	Loma
LuVenda	Venda
M'buti	Mbuti
Malinké (language)	Maninka
Mandekan	Manding
Mandingo (language)	Maninka
Masai	Maasai
Massai	Maasai
Mbugu	Ma'a
Mbuti	Lese
Minyanka	Manya
Naadh	Nuer
Ndebele	dialect of Zulu
Nembe	dialect of Ijo
Niger-Kordofanian	Niger-Congo
Odienné Jula	Jula
Pajade	Badyara
Peul	Fula
Runyoro-Rutooro	Runyoro
Seereer	Serer
Senoufo	Senufo
Sereer	Serer
SeSotho	Sotho
Setswana	Tswana
Songai	Songhay
Songhai	Songhay
Soso	Susu
Sousou	Susu
Tanda	Tenda

Tepes	So
Tepeth	So
Tobote-Basari	Ntcham
Toma	Loma
Toureg	Tamasheq
Voltaic	Gur
Wamei	Konyagi
West Atlantic	Atlantic
Xegwi (Bushman)	ǁXegwi
Xitsonga	Tsonga
ǁXegwi Bushman	ǁXegwi

Appendix 3: Symbols, IPA equivalences to local orthographies

C, c	the dental click [ǀ]
Eh, eh	Open "e", the low mid front unrounded vowel [ɛ]
È, è	Open "e", the low mid front unrounded vowel [ɛ]
Ê, ê	Open "e", the low mid front unrounded vowel [ɛ]
G, g	[+voice] (when used before a click)
N, n	Nasality/nasalization
Ò, ò	Open "o", the low back rounded vowel [ɔ]
Ø, ø	Open "o", the low back rounded vowel [ɔ]
Or, or	Open "o", the low back rounded vowel [ɔ]
Q, q	the alveolar click [ǃ]
X, x	th e lateral click [ǁ]

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Index

!Kung 22, 24
!Ora 2, 4
!Xóõ 22, 57, 58, 74, 137
!Xũ 60, 61, 190

A
Afar 29
Afrikaans 1, 4, 180, 181, 192, 203, 209, 210, 211-214
Aghem 148
Akan 9, 70, 71, 80, 135, 137, 140, 159
Akasele 157
Amharic 22, 24, 29
Arabic x, 22, 29, 97, 98, 204, 205, 215
Aten 74
Atlantic 33, 65, 157
  Atlantic and Bantu see Bantu, Bantu and Atlantic 50
  classification 40, 50, 195
  Fula within Atlantic 35
  languages 199
  morphology 111, 112
  phonology see consonant alternation 73
  Proto-Atlantic 32
  speakers 196

B
Babole 71
Bafanji 63
Baka 160
Bakwiri 78, 79
Balanta 49, 125
Bambara xvii, 22, 94, 132, 196, 201
Banda-Linda 131, 150
Bantu
  Bantu and Atlantic 50, 112
  Bantu Expansion 167, 189
  Bantu languages 24, 26
  Bantu peoples 2
  clicks 60
  languages 172, 177, 204, 213
  lexicon 194
  macrostem xvii, 106
  morphology 103, 113, 117, 193
  peoples 166, 172, 195
  phonology see tone 214
  Proto-Bantu 83, 102, 166, 178
  Proto-Bantu see reconstruction 178
  Southern Bantu 60, 122, 180, 184, 192
  syntax 128, 129, 142, 194
  tone 79, 87, 89
  uniformity 26
Basari 49, 157
Bassa 160, 206
Bedik 49
Bemba 215
Berta 30
Biafada xix, 49, 74, 75, 74, 75
Bijago 49-51, 80, 114
borrowings x, 32, 42, 60, 142, 166, 175, 178, 180, 181, 183, 186, 190, 192
borrowings see Mande Expansion 195
borrowings see Swahili 206
Bulu 208

C
Chaga 115, 123, 125-127
ChiTumbuka 123
clicks 30, 61
  classifying Khoisan 31, 32, 47, 53
  in Fanagalo 209
  in Hlonipha 180
  in ideophones 119
Comparative Bantu On-Line Dictionary (CBOLD) 153
comparative method 32, 38, 39
consonant alternation 76
contact 151, 159, 161, 163, 216
  confounding classification 47
  confounding glottochronology 42
  tone 85
contact phenomena see borrowings 142
contact see clicks 60
Coptic 29

D
Dagaare 89, 90, 92
Dahalo 29
Dewoin 131
Dinka 22
Diola 40, 48, 49
Dogon 24, 148
downdrift see intonation, downdrift 90
downstep see tone, downstep 90
Dschang 78, 91
Dyula 196
Édó 83

E
Efe 34
Efik 140
Ega 153
English see Liberian English, Krio, Tsotsitaal, Isicamtho xi
Ewe 137, 140, 150
Ewondo 208

F
Fanagalo 137, 203, 207-210
Fante 67, 71
Fon 137
Fragmentation Belt 165, 174
français populaire d'Abidjan x
French 9
  Guinea 207
  Soldier French, le français tirailleur 208
French see français populaire d'Abidjan x
Fulfulde 22-24, 35, 40, 48, 49, 125
Fɔn 135

G
Gbadi 135
Gbeya 178
Gokana 150
Gola 49
grammaticalization 155, 164, 169
  downstep 91
  serial verbs 140
Grebo 80, 107-110, 114, 123, 160, 206
Gumuz 30
Gurma 157, 156

H
Hadza 30, 31, 50-52
Hausa 22-24, 29, 90, 110, 111, 122, 123
Hdi 111
Hyam 74

I
Ibibio 123
ideophones 9, 98, 124, 133, 186, 192
Idoma 137
Igbo xix, 22, 24, 71, 72, 71, 72, 87, 121, 123, 125, 139, 140
Igede 139
Ijo 24, 40
Iraqw 29
Izi 139

J
Jula 64, 65, 201
Jul'hoan 137

K
Kaaps 210-212
Kabyle 29
Kado 44
Kalenjin 160
Kana 102
Kanuri 22, 23, 92, 103, 122, 123
Khoisan 30, 42, 68, 180
  classification see clicks, classifying Khoisan 31
  consonant alternation 74
  ideophones 102
  language death 4
  peoples 190
  serial verbs 137
  tone 76
Khoisan see clicks 56
Kikuyu 101, 127, 128
Kinyamwezi 157
Kinyarwanda 87, 115
Kisi xv, xvii, 35, 37, 49, 63, 67, 77, 79, 92, 93, 110, 115, 130, 132, 133, 135, 136, 142, 158, 159, 186, 188, 199, 201, 200, 202
Kituba 104
Klao 206
Kongo 43, 83, 102, 172
Kono 196, 199
Konyagi 49
Krio 137, 206
Kunama 30
Kung see !Kung
Kuranko 196, 199
Kxoe 120

L
Lamang 126
language contact see contact 188
language death 2, 6, 34, 190, 216
language death see Khoisan 4
language restoration 9
language shift 23, 34, 173, 175, 203, 215
Legbo 131
Lehar 49
Lese 34
Liberian English xi, 159, 207
Lingala 214
Loma 196, 199
Luo 22

M
Ma'a 22, 189, 193-195
Ma'di 132
Maasai 35, 36, 101, 194
Mabaan 150
Mande 63, 109, 159, 207
  classification xvii, 33, 47, 196
  consonant alternation 74
  Manding 109, 175, 196
  noun classes 102
  peoples see Mande Expansion 47
Mande Expansion 47, 173, 203
Mande see Mande Expansion 196
Mandinka xix, 65, 92, 94, 109, 159, 162, 169, 175, 196
  N'ko writing system 1
Manjaku xvii, xix, 49, 112, 113, 112
Mansoanka 49, 50
Mau 64, 65
Mende 188, 196, 199
Mijikenda 89
Miya 29, 98, 111, 132
Moba 157, 156
Mooré 22
morphology
  noun classes 32, 74, 83, 103, 104, 112, 141, 156, 157, 177, 193
  verb extensions 70, 104, 115, 117, 128
morphology see Prosodic Morphology 98
Mupun 149
Mura 60

N
Nama 22, 35, 36, 120, 123, 190
nasalization 56, 59, 60, 65
  syllabic nasals 68
Ndebele 179, 182, 220
Ndut 49, 202
Ngizim 29

Nilo-Saharan 21, 22, 68, 170, 201
classification 30
merging with Niger-Congo 44, 172
outliers 46
vowel harmony 71
Non 27, 35, 49, 87, 97, 157
Nuer 22
Nupe 137, 139-141
Nweh 132
Nyakusa 205
Nyanja 178

O
onomastics see toponymic research 168
Oromo 22, 29

P
Palor 49
Pare 193-195
phonetics
bilabial trills 66
phonetic analyses 55
phonetics see clicks 66
phonology
Autosegmental Phonology 55
phonology see Prosodic Morphology 98
phonology see vowel harmony 73
Prosodic Morphology 98

R
reconstruction 39, 50, 102, 154, 155, 161, 164, 166, 169
reconstructions 167
Ruciga 87, 88
Runyambo 126, 128
Runyoro 129

S
Safen 49
Sandawe 22, 30, 31, 50-52
Sango 137, 214, 215
secret languages 79, 188
Serer 49, 73, 102
Shabo 44
Shambaa 89, 193-195
slang 34, 142, 186, 188, 212-214, 216
So xv, 6, 44, 45, 145, 147
Somali 22, 29, 35, 145
Songhay 31, 44, 46, 201, 202
Soninke 20, 196
Sotho 4, 60, 123, 179, 181, 190, 213
Southern Sotho 123
substratal influence 121, 137, 159, 202, 207, 215
Bantu 50
Supyire 137, 145, 146, 201, 202
Susu 167, 196
Suwa 23
Swahili xv, 22, 24, 23, 61, 62, 69, 70, 97, 100, 101, 103-105, 119, 122, 123, 124, 129, 130, 141, 143, 159, 194, 203, 204, 203-206, 208, 214, 215
Swati 4, 179-182
syllable structure 76, 78, 85, 98, 119, 175, 186, 205
syllable structure see nasalization, syllabic nasals 68
syllable structure see Prosodic Morphology 76
syntax 110, 151, 187, 215
Fanagalo 209
predicate clefting 136
roles 83
tone interactions 87
transformational 117
syntax see Bantu, syntax 194
syntax see noun classes 102
syntax see typology 154
syntax see verb extensions 110

T
Taa 102
Tachelhit 22, 29
Tamasheq 29
Tamazight 29
Tamezret 29
Temne 20, 40, 48, 49, 135
Tera 122
Tigré 29
Tigrinya 29

tone
lexical 83
falling 90
floating 77, 83, 91
grammatical 19, 77, 85
tonogenesis 86
toponymic research 169
Tsonga 88, 192
Tsotsitaal 211-214, 216
Tswana 4, 190
Turkana 83, 132

U
Umbundu 65
urbanization 9, 34, 121, 185

V
Vagala 139, 140
Vai 168, 196, 199
Vata 135
Venda 55, 87, 182-184
vowel harmony 73, 75, 106, 111

W
Wolof 21, 49, 110, 114, 118, 123, 159, 175, 177
wolofisation 175

X
Xhosa 4, 9, 56, 89, 179-181, 185, 190, 209

Y
Yag Dii 123
Yao 178
Yoombi xix, 84
Yoruba 22, 24, 80, 98, 99, 135, 137, 139, 140, 141

Z
Zande 130, 144
Zenaga 29
Zulu xix, 4, 22, 34, 57, 60, 68-70, 86, 97, 119, 120, 119, 123, 142, 178, 179, 180-184, 190, 192, 207-210, 213, 216