DOCUMENT RESUME

ED 357 615 FL 021 163

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TITLE Notes on African Linguistics.
PUB DATE 80
NOTE 29p.; In: Daly, John P. and Daly, Margaret H., Eds. Work Papers of the Summer Institute of Linguistics, University of North Dakota Session, Volume 24; see FL 021 158.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adjectives; *African Languages; Foreign Countries; *Grammar; *Phonology; *Structural Analysis (Linguistics); *Syntax; Uncommonly Taught Languages; Verbs; Vowels
IDENTIFIERS *Africa

ABSTRACT

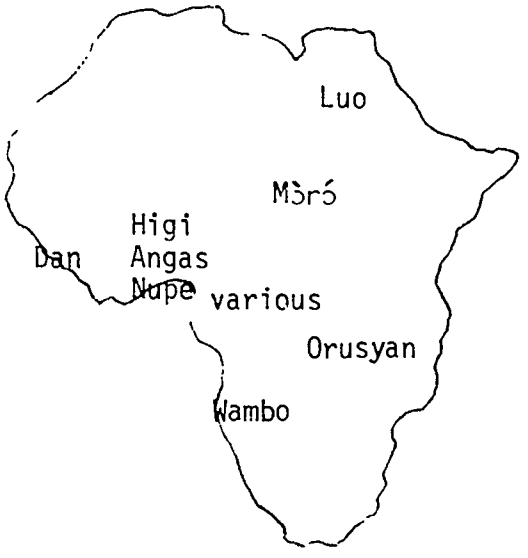
This report is an overview of some of the common features of African languages. It is difficult to present a concise and comprehensive summary of the features that are likely to be found in a group of languages as large and as totally unrelated as are the one to two thousand languages found on the continent of Africa. Therefore, representative languages from around the continent have been chosen for discussion and a brief description. The discussion focuses on phonological features including vowel harmony and elision as well as tone and on grammatical features including adjectives and multiple verb constructions. A map is provided to show the approximate locations of the languages discussed, and a diagram of the different language families is appended. (VWL)

NOTES ON AFRICAN LINGUISTICS

Terri Scruggs

0. Introduction

This report is an overview of some of the common features of African languages.[1] It is difficult to present a concise and comprehensive summary of the features that are likely to be found in a group of languages as large and totally unrelated as are the (probably) one to two thousand found on the continent of Africa. Therefore I have chosen representative languages or language families from around the continent and will give a brief description of these. The map will show their approximate locations. Appendix 1 gives a diagram of the different language families.



1. Consonants

In African languages there are phonemes from all the basic types of consonants that can be found -- plosives, affricates, fricatives, nasals, laterals, vibrants, and semivowels. In addition, the distinctive "clicks" of South Africa are quite interesting.

Dan (Bearth and Zemp, 1967 (B&Z)) is a language of the western part of Ivory Coast spreading over the border into Liberia. Interesting aspects of the consonant-phonology include the following points: in addition to regular plosives, there are implosives ɓ and ɗ as well as labiovelars kp and gb. In situations of nasal context, the following changes occur: Nɓ → m̩ or m' (syllabic or glottalized m), Nɗ → n̩, kpṼ → kmṼ, gbṼ → gmṼ. Labiodental fricatives are formed by friction of the upper teeth on the back of the protruded lower lip. The lateral /l/ has two flapped allophones, an alveolar [ň] and an alveolar vibrant [ř]. The archiphoneme N can occur presyllabically as NCVC or as a syllable coda CVN. In neither position is it analyzed as the same as /n/ or /m/, both of which are phonemes in the language, although it may be pronounced similarly to either of these. Sequences of the form Cw and Cy occur and have both been analyzed as a modification of the consonant, rather than as consonant clusters. The sequence C_1C_2 does occur in which C_2 is /l/. In certain environments "an optional non-phonemic transition vowel with the quality of the following main vowel occurs between the onset and a prenuclear /l/..." (B&Z 1967:15)

Moving on into Nigeria, three different languages were looked at. In Higi of northeast Nigeria (Mohrlang 1972), there are three imploded consonants - ɓ, ɗ, and ɠ, and no labiovelars. Lateral fricatives exist and can be voiced or voiceless; the fricative has a plosive offglide in palatalized syllables).

(1) /^{y}ɬ̣á/ [ɬ^{dy}á] "jealousy"

Vibrants have flapped and trilled variants. Palatalization, labialization, and prenasalization all occur as well. Voiced and voiceless affricates also occur.

Angas is found in the central part of Nigeria (Burquest 1971). The plosives are aspirated or unexploded according to the position in the syllable. There is a voiced but no voiceless velar fricative. Nasals have voiceless allophones. Laterals and vibrants have voiced and voiceless variants. Labialization, palatalization, and prenasalization all occur separately and in various combinations, yielding such sequences as ^{n}r̃^{w}. The three implosives ɓ, ɗ, and ɠ are manifested as well.

Nupe (Smith 1967), in contrast to the other languages cited from Nigeria, has no implosives, but there are labiovelars. There are affricates and syllabic nasals. /y/ has an allophone [ɲ] before nasal vowels. Nupe is located near Bida.

While implosives and labiovelars are common in African languages there are those which have neither, in spite of their proximity to those which have one or the other or both. One such language is Longuda (Westermann and Bryan 1952 (W&B)) found in Nigeria in the provinces of Adamawa and Bauchi.

The following summary of data from Cameroon is based on Westermann and Bryan and their linguisitc notes on class and nonclass languages and Chadic languages. Some languages have labiovelars, implosives, and imploded labiovelars. Glottal stop is often a phoneme as well (Bamileke). Syllabic nasals occur in two different positions NCV(C) and CVN. Consonant clusters of the form Cr occur but are rare. Semivowels w and y as well as ɥ occur. Palatalization, labialization, and prenasalization and various combinations of all three are manifested by the semivowels. There are some instances of syllabic w (Mbembe). The Chadic languages typically have lateral fricatives, q and G, and no labiovelars.

In southwestern Africa the Wambo group of languages are found (Baucom 1972); they are Bantu. There are no labiovelars, the affricates only have voiceless representation, and nasals may be voiced or voiceless. Prenasalization and palatalization are found but both are limited in their distribution.

The Khoisan languages of the Bushmen and Hottentots in South Africa have an unusual set of consonants - the clicks (Welmers 1973:50). Clicks may occur with four different points of articulation - bilabial, dental, palatal, and lateral. Each of these may be voiced, voiceless, or nasalized and have an aspirated, unaspirated, or glottalized release.

On the east side of Africa, the Orusyan language is found in eastern Uganda (Huntingford 1965). The sequence bg is noted but it is unclear if this is a normal labiovelar (gb) or merely a sequence with a syllable break in between. Other consonant clusters do occur, notably rmw, rny, and nyw. For these last it is again not clear if the cluster is all within one syllable. Prenasalization and labialization both occur; and they co-occur with /k/ and /s/. There are four nasal contrasts /m,n,ɲ,ŋ/.

Mòró, a language of the Nilo-Saharan family, is spoken in the southern part of Sudan (Cowan 1965). It has labiovelars as well as imploded ɓ and ɗ. A voiceless alveopalatal is the only affricate mentioned. Four contrastive nasals are found before vowels, /m,n,ɲ,ŋ/. Prenasalization, labialization, and a combination of the two occur. The sequence Cr also occurs.

In the northeast section of the continent, it is said that nasal-stop clusters (prenasalized stops) do not occur in Nilotic languages. This feature, which is so common to African languages as a whole has been found though in at least one language, Luo (Gregersen 1972). There are examples cited of alternations between m and mb, n and nd, ɲ and ɲj, and ŋ and ŋg. Luo also has l and nd alternations.

2. Vowels

Westermann and Ward claim that all African languages have an i sound, a u sound, and one or more a sounds and generally there is a parallelism between front and back vowels. Central and centralized vowels are generally "obscure and difficult to distinguish" and usually few in number. They further claim that back unrounded vowels had not been found. Since then, however, they have been attested; a few examples include Nsaw-Kom, Widekum, and Bamum - all of which occur within a small geographical area in the western part of Cameroon (W&B 1952:124ff). Rounded front vowels, central vowels, and back spread vowels are quite rare but they do exist. Front rounded vowels have been noted in, for example, Mambila in Nigeria (W&B 1952:143).

2.1 Inventories

According to Welmers (1973:20), the vowel systems of most Bantu languages are symmetrical, with either an even or odd number of phonemes. (In the "odd" inventories, the odd number is almost always a central vowel.) From reading articles on various non-Bantu languages as well, this seems to also be true for them.

Despite the fact that symmetry is claimed to be characteristic of Bantu, languages have been found in which there is some assymmetry. It seems that for Niger-Congo languages, there is however, "evidence of at least an underlying symmetry" (Welmers 1973:21). In languages where these exceptions appear, it seems that the assymmetrical phone only contrasts in certain situations; otherwise it is an allophone of a phoneme that fits the symmetry (for example, Efik).

For Mòŕó (Cowan 1965), symmetry of the following system is achieved by assigning the a to the "back" column. This however is not the way the language actually works phonetically, according to the analyst.

(2)

i	ə	u
e		
ɛ		ɔ
	a	

Following are some examples of types of symmetry:

smallest inventory found (5)	i	u	Wambo - Baucom 1972
	ɛ	ɔ	
	a		
largest inventory found (12)	i ɨ	u	Dan - B&Z 1967
	e ɵ	o	
	ɛ ə	ɔ	
	æ a	ɒ	
common example - odd number (7)	i	u	Efik - W&B 1952:134
	e	o	
	ɛ	ɔ	
	a		

common example - even number (6)

i		u
e		o
a		ɔ

Ewe - Welmers 1973:21

nonsymmetrical

i		u
ɪ		
e		o
ɛ		ɔ
	a	

(some class languages of N. Nigeria)
Irigwe - W&B 1952:108
(some also have ə, ʌ, and ʊ)

symmetrical

i	ə	u
e	ä	o
a		ɔ

Tiv[2] - W&B 1962:116

symmetrical

i		u	ĩ	ũ
e		o		
	aa	a		ã

(symmetry here is in three groups- i e ĩ, u o ũ, and a aa ã)
Nupe - Smith 1967

Examples of languages with more than one central vowel include Dan, Tiv, Mòrɔ́, Mambila, and Bamileke.

One language that has a very peculiar system is Higi of Nigeria. Mohrlang gives this summary statement:

> "The vowel system of Higi exhibits a potential 4-way contrast in word-final position and a 3-way contrast in word-medial position. (These contrasts are i, e, ɛ, a and ɨ, e, a respectively.) This already minimal number of contrasts is further reduced by (1) neutralization of contrast medially in the pause group; (2) the effect of prosodies; (3) grammatical conditioning; and (4) infrequent occurrence of one of the vowels. As a result, much of the communication load in the language is carried by a simple 2-way contrast." (p. 24)

The four word-final contrasts /i e ɛ a/ are fairly static and obviously always front vowels. Mohrlang does not attempt any explanation of this. The three word-medial contrasts are fairly changeable:

(3) /ɨ/ - [i ɪ ɨ ʊ u]
/e/ - [e o]
/a/ - [ɛ ʌ a ɔ]

depending on the presence or absence of the prosodies of labialization and palatalization. (Mohrlang uses the Firthian approach to prosodies.)

2.2 Conditioning Factors

The main factors conditioning the pronunciation of the vowel phonemes seem to be the following:

(a) placement in an open versus a closed syllable (that is, the presence or absence of a syllable-final consonant)

(b) the preceding consonants or a combination of the syllable-initial and syllable-final consonant

(4) Angas (Burquest 1971) /ɛ/ [$ɛ^{ə}$] / ___ velars

/ɪ/ [$ɪ^{ɪ>}$] / palatal ___ r, velars

/ai/ [$ə^{ɪ}$] / in open syllables

(c) by the presence of labialization or palatalization (prosodies)

(5) Higi (Mohrlang 1972) /ʸmɨ/ [mʸi]

/ʷwe/ [wo]

(d) in Kpelle (Welmers 1973:23), a following vowel conditions a previous one, with certain conditions on contiguous vowel sequences, presence of certain consonants, and the features of the vowels in question.

(6) /ɔra/ [ɔara]

(e) tone rarely is a conditioning factor in vowel quality (Welmers 1973:23).

2.3 Length

Long vowels and diphthongs are another typical characteristic of African languages, the former being much more prevalent usually than the latter. Welmers says that "phonemically long vocal segments can, in every known case, be readily interpreted as double vowels" (p.24) and if long vowels occur, clusters of heterogeneous vowels also are common (p.29). Welmers basically uses tonal evidence to support this claim. Most analysts agree with this kind of analysis but in Dan, Bearth and Zemp have analyzed length as a phoneme, a feature of the syllable. Hence, in his analysis length is not written as VV or V:.

In some languages, all the short phonemes have long counterparts; in others only a few members of the inventory occur lengthened. In many cases a vowel that appears long, V_iV_i, is not basically V_i: but rather is a form derived from two different vowels assimilating one to the other.

Languages with diphthongs usually have them begin and end on a phone which is a member of the short vowel inventory and usually one of the cluster is i or u. Occasional examples of oa have been found. No examples occur in the literature of vowel clusters beginning or ending on a central vowel other than a. However, in Yamba (Cameroon) the following sequences do occur: ʉi, əe, and əa.

2.4 Nasalization

Nasalization is also a common phenomenon. Frequently it is predictable by its proximity to a nasal consonant but often it is not predictable at all. It is also often the case that only a limited number of the vowel inventory will occur nasalized.

Within vowel clusters, the distribution of nasality may be the same, that is, CVV or CṼṼ or it may be different, that is, CVṼ or CṼV. These latter types are fairly rare.

2.5 Epenthetic Vowels

Vowels, mostly due to their sonorant qualities, seem to be generated often to fill in as a transition element. From the examples seen, the vowel quality is either a duplicate of the main vowel of the stem or a mid central phone ə.

(7) Dan bl^{3} "viper" [bl^{3}] or [b^{i}l^{3}] (B&Z p.15)

Bulu CVC#CVC (where # is a word boundary) is often pronounced as CVCəCVC. There is still much discussion about the true nature of this ə. (Alexandre p.243)

2.6 Vowel Harmony

Vowel harmony is another phenomenon that occurs frequently. Niger-Congo and Nilo-Saharan languages often have it, and non-Niger-Congo languages often have a large vowel inventory which may have a partial division according to some vowel harmony rules.

Vowel harmony is frequently analyzed as a feature (prosody) of the syllable. Occasionally, however, it is predictable and therefore not phonemic.

It typically occurs within a polysyllabic word or with pronominal subjects harmonizing with the verb. It generally does not cross phrase boundaries. In Yoruba (Bambgose 1967:268), there are also other elements called "verbal items" which will harmonize with the following vowel. In Twi (Boadi 1963) the two sets of vowels are i u and ɪ ʊ
e o ɛ ɔ
a a
that is, a raised set and a lowered set. a is common to both sets. Within a word, the main vowel is usually the second one so the first is determined by it. In words with a as the main vowel, a factor of palatality is relevant to choosing the vowel set. If the consonant preceding the a is palatalized, the vowel of the first syllable (or prefix) automatically has the corresponding vowel from the raised set.

The languages of the Wambo groups (Baucom 1972) are an example of a system in which there is partial vowel harmony operating.

2.7 Elision

Languages which have nouns that begin with a vowel often demonstrate extensive elision. The fact of a vowel at the front of a noun usually reflects the existence of a noun class system (which may or may not be functional) and this sets the stage for elision particulary in two different kinds of constructions: verb + object, noun-noun associative phrases. Elision can be merely an optional fast speech phenomenon or it can be an obligatory process. Frequently it causes audible tone perturbations. And it frequently co-occurs with consonant elision and causes segmental changes as well as tonal ones. (The two environments mentioned are not the only ones in which elision can occur but are merely exemplary.)

2.8 Miscellaneous

Westermann and Ward note that there is often an interchange between front and back vowels within a language or between related ones. For example, i might occur in one and u in the cognate in the other, or e and o, or ɛ and ɔ. In Kpelle (Welmers 1962), there are no contrasts between /ɔ/ and /wɛ/ or between /o/ and /we/. In fact, Welmers feels that the derounding and fronting diphthongs fit the pattern of the language better if analyzed as /ɔ/ and /o/.

Breathy vowels have been noted in several Nilotic languages.

In Beembe of the Congo (Jacquot 1962), the vowel inventory is as follows:

i	u	ɪ̈	ʊ̈	i:	u:	ɪ̈:	ʊ̈:
e	o	ɛ̃	ɔ̃	e:	o:	ɛ̃:	ɔ̃:
a		ã		a:		ã:	

To eliminate some of the possible contrasts this can create, there are rules of neutralization between a) oral and nasal vowels (both long and short) if the vowel is high, b) oral and nasal vowels before a non-nasal consonant, the oral is the representative, and c) long and short vowels between consonants when a stem has more than four more.

3. Tone

Until the last ten to fifteen years, it seems that tone was not considered important or very relevant to the study of African languages. For example "tone has been noted in languages of Northern Nigera", a comment in Westermann and Bryan, p. 109. Those who did recognize tone as pertinent, only understood it as far as it distinguished lexical items or grammatical functions, such as singular from plural on nouns.

The majority of tones noted are level - that is, spoken on one pitch level, for example, high, mid, low, although contour tones, rising and falling, are not uncommon. Most languages though are considered to be "level" languages as opposed to "contour" languages. Within the designation of "level", languages labelled "discrete" have a fairly absolute pitch on which the different tones are uttered. "Terraced" level languages function on a basis of relative pitch, each pitch relative to the ones surrounding it.

Within both types of languages, discrete and terraced, languages have been found with two, three, or four contrastive tones. Dan (B&Z) has been analyzed as having five phonemic pitch levels, although this is very uncommon in Africa and not accepted as a possibility by some analysts. Some languages have a combination such as three level and two contour tones, contours being tones of more than one pitch on one vowel without additional length.

The terms high, mid, and low, are sometimes discarded in order that a high may be called high even when it is not on the same absolute pitch as a previous high. One phenomenon that can cause this change in absolute pitch is called downdrift. For most languages it is purely phonetic, the lowering of a nonlow by a preceding low. (This is typical of Bantu languages.) Lows stay relatively static even in terraced languages while it is the nonlows that really show the drifting or downstepping.

Downstep is another process whereby tones get lowered. This accounts for a nonlow being lower than a preceding nonlow. (This definition describes a two-contrast system but downstep can occur in languages with more contrasts than just low and nonlow.) Welmers defines downstep as "a phoneme conditioning a lowering of the pitch of a high tone; it applies to a sequence of syllables in one utterance." (p.89) A low tone can be lowered by the feature downstep as well as a high. Downstep is generally felt to be caused by a latent or lost tone between the two nonlows. Most analysts feel this tone would have been low but Welmers feels it sometimes also may have been a nonlow (p.87). The reason this tone has been lost could be due to segmental contraction or allomorphy in which certain vowels are silent or Ø. A phenomenon of tone raising in which a tone can be raised above its normal pitch due to some conditioning factor can also be a source of downstepping, the downstep showing up on the nonlow following the raised tone. An apparent downstep may be conditioned by certain consonants, but this can be explained better by phonological conditioning.

An opposite phenomenon of upstepping could be possible where a nonlow is higher than a previous nonlow which cannot be explained some other way. This has not been too well documented.

Tone does not have to be thought of as a definite pitch that is assigned to each and every vowel in a tonal language. It sometimes appears as if the tone of certain vowels extends over more than one vowel of a word or morpheme even when the vowels are not juxtaposed (as in a diphthong). Other times more than one tone can have dominion over one vowel. Spears calls this the domain of a toneme. For example, a tonal unit may be high and its domain one or more adjacent vowels. The same applies for a tonal unit which is low. This may imply that some syllables are toneless or neutral with relation to tone. If the tonal effects spread across morphemes, this is now tonal extension. The domain of the last tonal unit spreads to include the first (or only) vowel of the next morpheme. Verb reduplications also may exhibit tonal extension. Bell used the term "prosody" to label the morphemes in which a given tone covers more than one vowel. Should these morphemes be compounded, he has found that the tones of the first element of the compound are completely nullified.

There is also a phenomenon in which one tone affects the following tone according to what follows that second tone. The middle tone of the sequence is "polarized", that is, it becomes high before a low and low before a high or silence. This special effect is conditioned by the presence of a polarizing tone, which is the first in the sequence. For examples and further discussion, see Spears 1967 and 1968. A polarizing tone may come from a polarized one if the operation has repeated application in a long sequence.

As stated previously, there are two main functions of tone - grammatical and lexical. For conditioning of both these types there is a variety of factors involved:

(a) Phonological Conditions

One particular condition mentioned (Welmers 1973:94) is called depressor onset. The features of the consonant or consonant sequence beginning the syllable depress the tone and cause what looks like downstep. In Ewe, voiced stops and fricatives condition low tone on noun stems. Phonological conditioning should be the first possibility tried when formulating tone rules.

(b) Lexical Conditions

In many languages a given string of segments may have different meanings dependent entirely on tone. It is common that there will not be a complete range of all possible contrasts, however, for even one given segmental string. Minimal tone contrasts are not necessary to call a language tonal. The distribution of tones on nouns and verbs is often different within a language.

(c) Morphological Conditions

There are morphemes whose only realization is a tone, called a "floating tone". Because it does not have any segments to attach to, it is absorbed in the preceding or following tone and very often causes some tonal changes in that neighboring tone. One very common instance of this is associative noun phrases, in which there is a tone between the elements of the phrase, usually reflective of some concord between them. This tone is often very difficult to discover. There are also affixes which consist of a tone that goes with the stem consonants and vowels instead of the regular lexical tone of that stem. There are also affixes which in addition to their own segments and tonal representations, have a special tone for the stem segments.

(d) Syntactic Conditions

The grammatical relation that a word or morpheme bears in a sentence may determine its tone. Examples of this include the following constructions: certain relative clauses, imperative, negative imperative, locative phrases, verb tenses, various noun-noun constructions, or the relation a given noun bears to the verb of a clause.

Tonal contrasts in any of these contexts or affected by any conditioning factor need not be maintained in their entirety. That is, in one situation, the language may exhibit a three-way contrast but in another only a two-way contrast; two of the contrasts will have been neutralized. (The tones manifested will be two of the three original contrasts usually.)

Although early works on African linguistics make such comments as "stress may be significant" or "in most Bantu languages stress is on the penultimate syllable" (Westermann and Ward, p.114,115) or "stress is of secondary importance" (W&B p.134) Welmers maintains that "no (African) language has been reliably reported to have both tone and stress in the phonemic system" (p.113). However, he does admit to a system of intonation covering a tonal system, but only a very limited set of intonation patterns have been found to so exist (for example, in Hausa).

4. Noun Classes

4.1 Traditional System for Bantu

The expression "noun class systems" is traditionally used to describe a system of affixes which appear in a language to classify nouns into different categories or classes. All nouns in one particular construction, for example, a possessive phrase, will not have the same affix. The affix on the noun stem may be different, the affix on the possessor may be different, and they may all be different again depending on whether the noun phrase is subject or object of the sentence or whether it is singular or plural. Further differences may be phonological or morphophonemic due to underlying forms of the root or stem of the nominal. Bantu languages are typically associated with such a system and much study has gone into the reconstruction of the proto-Bantu system of noun class markers.

This system differs from the typical Indo-European system of genders in several ways: there are many more classes than the typical two or three genders, certain semantic distinctions are relevant but generally sex is not one of them, and number and gender have no correlation.

The classification into classes has nothing to do with anything inherent in the phonological shape of the stem but is entirely dependent on the affixes the stem takes. Each noun belongs to a pair of classes - the singular being one, the plural the other. Not all nouns that have, for example, class 1 affixes in the singular, take class 2 in the plural. Some may take class 10 or another class. Likewise, nouns that take, for example class 10 affixes in the plural, will not all take class 1 affixes in the singular. This system has been set up and used by scholars for many decades now and the labels (numbers 1 through 23) are coreferential between languages even though the languages may not be related at all. The numbering system is not merely a random assignment of a number to the list of prefixes, one number for each prefix.

Following is a brief summary of the classes of proto-Bantu according to semantic similarities:

1, 2a, 2b - kinship, personification, proper names, some animates, rarely inanimates
3, 4 - trees, plants, inanimates
5, 6 - miscellaneous - augmentatives
6a - liquid masses (no plural)
7, 8 - miscellaneous - diminutives
9, 10 - animals, some inanimates
(in the above 10 classes, the odd numbers are singulars, the even plurals)
11 - long, thin objects, abstracts
12, 13 - diminutives
14 - abstracts, fermented beverages from grain or seeds
15 - verb infinitives
16, 17, 18 - locatives: near, explicit; remote, general; inside (respectively)
19 - diminutives
20 - augmentatives
21 - augmentatives (pejorative)
22 - only found in one language so far, LuGanda
23 - locative
(classes 20 - 23 are all rare)
Occasionally a noun will have affixes of more than one class. The stem may take the prefix of the class to which it belongs, as well as the prefix of, for example, class 21, which adds a pejorative overtone to the meaning.

In a few languages, class 5 has morphophonemic alternations in the stem (b l j have alternants ts and c, and r g h have alternants s and sh (Welmers 1973:168)). However, more general alternation occurs in prefixes conditioned by the stem-initial vowel.

Not only are there affixes which appear on the nouns, there are also elements of "concord" which show agreement between words in a construction. For example, the concord system will relate a nominal to a demonstrative, a possessive (personal pronoun may be distinguished from nominal), an attributive, a numeral, an interrogative, a relative pronoun, as well as concord for subject or object, and other categories as well. It is sometimes the case that the noun class system is so complex that the concord system is used to define the classes. This is true for some languages in the Republic of Benin, for example. This reduces the number of classes that a language will have.

4.2 Vestigial Systems

The Bantu system as described above is quite distinctive. The rest of the Niger-Kordofanian family (see Appendix 1) with the possible exception of Mande acts somewhat differently with respect to noun classes.

Kordofanian languages mark classes with prefixes which are consonantal for the most part. They show similarities with Bantu classes 3, 4, 5, and 6a. According to Greenberg's listing[3] there are 25 classes. There is also a system of concord.

These similarities between Bantu and Kordofanian suggest that there

must have been some sort of class system in proto-Niger-Kordofanian. The other branches of Niger-Congo give some clues as to what this system may have been.

Probably because these languages are non-Bantu, most analysts look on the class systems of the following languages as embryonic; Welmers takes the view that they are vestigial.

The Kwa Branch - singular-plural distinctions are marked by a prefix which is a vowel or syllabic nasal. There are few traces of concord.

> "These languages (Yoruba, Igbo, Efik, Akan cited as examples) have no affixal pluralization of nouns, no concord, and very little else immediately reminiscent of functional noun class systems. There are significant features in the structure of these languages, however which are by all odds best explained in terms of vestigial noun class systems." (Welmers 1973:189)

Verb roots are typically monosyllabic: CV or CVC. And nouns are generally of the shape VCV or VCVC. Welmers feels that the basic difference between the shapes of these two groups of morphemes suggests that the initial vowel of the nouns is a prefix. This is supported by the fact that in related languages there often is a functioning system of prefixes on nouns. Even within a language, there are forms which suggest strongly that this is the case.

(8) Yoruba /ewé/ "leaf" /ìwé/ "paper"

The Gur Branch - there is a functional noun class system, singular and plural distinctions, some concord, but basically the system is suffixal rather than prefixal. Generally there is no attributive concord. Suppire, however, appears to have several types of concord, forms for identifiers, subject and object, possessive, remote demonstratives, demonstrative copulatives, attributive interrogatives, and independent or nominal interrogatives. Gourma, another Gur language, has both prefixes and suffixes, either identical or very similar to each other; the beginning and ending of a nominal would thus be clearly defined.

Adamawa-Eastern - according to Greenberg there are suffixes to distinguish pairs of singular/plural noun classes. He feels that there are many parallels between Bantu class prefixes in form and semantic correlates and these suffixes. There is some concord, but not with plurals.

West-Atlantic Branch (Fula) - there may be up to 25 classes, marked with suffixes. The choice of allomorphy of the suffixes is lexically conditioned. But there is also initial consonant alternation. It will be a plosive if singular and a fricative if plural in certain classes. This alternation of the initial consonants is very possibly the remnant of a set of prefixes. Also, the initial consonant of a verb may be determined by the class of a noun subject - either a fricative or a nasal. There is a full system of other concords as well.

Tiv is a non-Bantu language of the Niger-Congo branch. There are 11 classes: 1 has no affix, 5 have prefixes only, 2 have suffixes only, and 3 have both prefixes and suffixes. To identify each class, a concordial morpheme is used rather than the nominal affix.

On the basis of the evidence that suffixes seem to play an important role in noun-class systems, as well as do prefixes, Welmers comes to the conclusion that at some stage of pre-Bantu, nouns in all classes had both prefixes and suffixes. Over time, some languages have been left with only prefixes, others with only suffixes, and others with both which gradually lost some of one or the other at different times in their development. He makes this comment:

> "It appears that prefixes alone, suffixes alone, or both prefixes and suffixes are no strangers to Niger-Kordofanian noun-class systems. Although systems with prefixes only or with suffixes only are the most common, there is evidence of both prefixes and suffixes in every branch of Niger-Congo which has noun classes at all." (p.204)

4.3 Other Systems

Mande has a distinction in nouns between "relational" and "free": free being those whose stem can constitute a whole noun phrase, relational being those that need an explicit possessor. A possessed free noun will have special markings. There is also a secondary distinction - personal versus nonpersonal. A distinction between singular and plural is not as relevant as one between generic/general and individual/specific. The distinction of individual nonpersonal nouns and general personal nouns is reflected in other branches of Niger-Congo as well.

Afro-Asiatic languages have another different system. They have two genders, reflected in the forms of nouns and pronouns. Masculine nouns are male persons and animals and various inanimates; feminine nouns are female persons and animals and other miscellaneous. In the Berber branch there are gender and pluralization differences. In addition, kinship terms act differently from all others.

Cushitic languages also generally have a two gender system. In Saho, masculine nouns have stress and feminine nouns are those without stress. Intersecting with these two genders there are three categories: 1 - mass nouns, 2 - generic nouns (unspecified quantity), 3 - nouns with singular and plural.

In many languages, in addition to having gender and number distinctions, for any noun there are two forms which are called the "absolute"and and "construct". The construct form is used when a noun is used in a particular grammatical construction, for example, the second noun of a noun-noun phrase, after numerals, after prepositions, or for noun subject when it follows the verb (the normal position). The absolute will be

used elsewhere. The rules governing the choice will be language-specific.

In Nilo-Saharan languages, the most complex and irregular group of nominal variations is found, particularly involving plural formations.

This part of the summary (section 4) is based mainly on chapters 6 - 8 of Welmers, African Language Structures.

5. Adjectives

5.1 Traditional Approach

In many languages it seems that the postulation of a class called "adjectives" is based on a semantic relationship that one word holds to another, comparable to a similar relationship in Indo-European languages which is traditionally called "adjectival". That is, if an utterance is translated, for example "the good boy", there must be a word within the phrase which means "good" and bears an adjectival relationship to the noun "boy". The following are given as examples of adjectival constructions. (Data from Westermann and Bryan)

(9)	Tiv	ùbó mbá ugly genitive	ùkásév female	"ugly women"	(p.118)
	Songhai	bolo bi bolo-bi-ai		"black man" "black men"	(p.47)
	Mande	pɛlɛ kwele pɛlɛ kwelɛŋa bɛlɛ kwelai bɛlɛ kwelɛŋai		"white house" "white houses" "the white house" "the white houses"	(p.45)

This then could be considered as a word class approach to the analysis of adjectives, in which the definition of an adjective is dependent on its semantic function of qualifying/modifying a noun.

5.2 Example from Xhosa

The Nguni languages of South Africa (Jordan 1967) have traditionally been analyzed this way.

(10) um-ntwana omhle "beautiful child"
class prefix-child beautiful

omhle is analyzed as a- "qualificative formative"
-um- "noun class prefix"
-hle "beautiful"

When the formative and noun prefix are juxtaposed, certain predictable vowel changes occur. a + um = om

Jordan has found however that, while this analysis appears tenable in the affirmative, in the negative there are problems. In the first place he notes that only predicates can be negated in these languages. Xhosa then should not allow that adjectives can be negated. Furthermore the negative morpheme -nge- splits the coalesced form of "formative + noun class prefix" and he feels that this nullifies that analysis of om.

(11) um-ntwana o-nge-mhle "a not-beautiful child"

Other morphemes can also be placed in this position.

(12) um-ntwana o-se-mhle "a still-beautiful child"

If then omhle is actually a predicate, because it can be negated, and not an adjective modifying a noun, because the obligatory prefixes can be split, a different analysis for the om of omhle must be found. What Jordan proposes is that omhle is actually a relative clause.

(13) um-ntwana o mhle "a child who is beautiful"

The o becomes the relative marker and m is the noun prefix. (The u of um- is omitted as Jordan regards it as a definitive article, not as part of the prefix.) Note the following examples.

(14) um-ntwana o li-layo "the child who is crying"

um-thi o khu-layo "the tree that is growing"

And note the following pair:

(15) um-ntwana o mhle "the child who is beautiful" in Xhosa
um-ntʃwana lo mhle "the child who is beautiful" in Bhaca

(lo is analyzed as a relative clause marker for Bhaca.)

(16) um-ntwana o ngemhle "the child who is not beautiful"
um-ntwana o semhle "the child who is still beautiful"

Jordan is saying that there is not a class of words called "adjectives" but rather that the concept of qualifying a noun is expressed by the use of a type of relative clause.

5.3 Welmers' Non-Criteria

For the purpose of trying to resolve the problem of how to define an adjective, Welmers tries to set up criteria on which to analyze the concept of modifiers. He devotes a chapter to the notion of "adjectives" especially as they relate to Niger-Congo languages. The following criteria are discussed as being inadequate bases for the establishment of a class called adjectives.

a) Semantics - having a qualificative or attributive meaning is not sufficient evidence in itself. A phrase, noun +adjective as attributive, may not be what it seems. Consider the following data.

(17) Suppire (p.263)

kɛ́rɛ́-gɛ́	:	kɛ́rɛ́ bó'-á	"farm	: big farm"
kàkɔ̀-Ø	:	kàkɔ́ bó'-á	"lizard	: big lizard"

The first noun belongs to one class and the second to a different one, as shown by the fact that they have different class markers as suffixes in isolation. However, when the concept of "big" is added to the noun, the marker of the second element of the phrase remains the same, showing that the relevance of the class of the first element has been negated or eliminated. The class marker is determined by the qualificative rather than the nominal. Welmers feels that the data suggests that the modifiers are also nominals and that they combine with the head noun to form a type of compound noun. This may partially explain why the first noun is not marked for its own class. If this analysis is correct, there is no class of "adjectives" in Suppire despite the semantics of qualification. To distinguish between noun +adjective phrases and noun +noun phrases, there would have to be significant differences especially with regard to tone.

b) Being a quantitative, numeral, or demonstrative - these categories also are rejected as adjectives as there are often distributional considerations which set them apart from other qualificatives. For example, in Igbo there is a limited set of adjectives from which numerals and words such as "some" and "any" are excluded because they function as nouns in places similar to the phrases analyzed as noun-noun for Suppire (above).

c) Verbal morphology - a situation of a verb acting as an adjective or an adjective as a verb is not acceptable analysis: a verb is a verb.

5.4 Structural Criteria

Welmers seems to indicate that the definition of an adjective must be structural, that is, based on distinctive morphological or distributional characteristics. There are several ways these changes can be marked.

a) Segmental changes - a prefix or a suffix can be added to distinguish adjectives from verbs or nouns. Verb roots may undergo a process of reduplication or affixation.

(18)

Root	Adjective		Reference[4]	
sɛ̂ lɛŋ	sɛ̂ lɛŋ-ɔ	"hang"/"hanging"	Kpelle	W:251
jẹ	jí-jẹ	"eat"/"eating"	Yoruba	W:257
qa	qa-to	"illness"/"ill"	Malinka	W&B:43

b) Tonal changes - a verb stem plus a tone which is not the regular verb stem tone is another type of distinctive morphological change. Reduplicated forms also may have distinctive tone patterns which mark them as adjectives.

(19)	Root	Adjectives		Reference	
	waa	wâa	"wash"/"clean"	Kpelle	W:251
	hwa	hó-hwa	"carve"/"pointed"	Jukun	W:254
	wom	wõwom	"be dry"/"dry"	Jukun	W:254

c) Distributional restrictions - in Fante an adjective can be followed by an adverb but a nominal cannot.

d) Welmers also discusses a fourth way of expressing qualificative concepts for some languages - by using ideophones. Although (or perhaps because) the definition of "ideophone" varies considerably among linguists Welmers defines some reduplicated forms as ideophones even though some of them may have root forms with similar meanings. The reduplicated forms function attributively following nouns. Discussion of this is not extensive (see section 15.7 in Welmers 1973).

For many languages a variety of these criteria together decide whether a word can be termed an adjective or not. In Igbo there is a limited set of adjectives (with eight members) from which numerals are excluded on the basis of semantics and other (typically adjectival) words are excluded on the basis of tone changes. Of the 8 that are accepted as adjectives, tonal behavior is the criterion for 3 while the other 5 would probably be excluded on the basis of tone alone as there are no changes. These other 5 are adjectives based on semantics - an adjective makes a noun become a member of a category of things which the adjective describes, for example, "new" or "large", whereas a simple attributive would be handled by a relative clause with the nonadjectival form of the attributive in question.

(20) (p.259) ùwé ójí¹ĺ "dark clothing" for a particular function eg. a uniform

ùwé ¹dį́ ójí "dark clothing" in general

(į́¹dį́ is the verb "be described as")

ónyé ¹úwé ójí¹ĺ "person with dark clothing, eg. a policeman"

Some languages have no distinct class of qualificative adjectives at all. Others have a limited set. Igbo as mentioned previously has a clear set of 8. Swahili has a list of 50, distinguished from noun stems in that they are not restricted in class membership as are nouns and they take the concord of the noun referred to.

Bariba (Welmers 1973:268) has 3 types: invariable, class-bound, and class-inflected. The first 2 types may possibly be types of nouns as the concord of the modified noun does not affect the "adjective" but the third type is definitely adjectival as inflections and concord are directly related to the class of the noun.

In Gbeya (Samarin p.80) there are reportedly 3 types also: preposed class A, preposed class B, and postposed. The postposed class is comprised of only 2 members which both act as a kind of demonstrative which probably would not be accepted as adjectives under Welmers' conditions. The preposed class A group has only 4 members which also have restricted environments and rules of operation. These also may not be actual adjectives according to Welmers. But the preposed class B group seems to fit, as the forms have derivational affixes and do differ from noun-noun associative constructions in some respects.

Returning finally to the examples given in data (9) from Tiv, Songhai, and Mande, Songhai and Mande show that a plural marker or a definitive marker are added to the "adjective" of the noun-adjective phrase instead of to the "noun". (Hyphens in the data were given.) From the structural point of view this may indicate an analysis similar to that proposed by Welmers for Suppire (section 5.3). The nominal + adjective is actually a compound noun.

Tiv is slightly different. The "genitive marker" in the following examples is a type of concord from the noun class system. Westermann and Bryan posit that there are 3 types of adjectives: those that maintain all class affixes, those that maintain only the suffix, and those that drop all affixes. Examples of each type are given below.

(21) (a)

ù - bó	m̀bá	ù - kásé - v
class 11 - ugly	class 11	class 11 - female - class 11
prefix	genitive	prefix suffix

ùbó m̀bá ùkásév "ugly women" (lit. "ugly ones of female")

(b)

kásé - v	m̀bà	bó - v
women - class 11	class 11	bad - class 11
suffix	genitive	suffix

kásév m̀bà bóv "bad women"

(c)

kwásə̀	ù	bó
woman	class 1 genitive	bad

kwásə̀ ù bó "bad woman"

Because both "bad/ugly" and "women" have identical shapes in their "nominal" and "adjectival" forms (including the tone) (compare the (a) and (b) examples, nominal forms always precede, adjectives follow), Welmers

would insist that they should not be distinguished and that these are all actually noun-noun constructions.

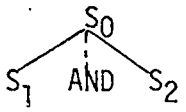
There are "real" adjectives in African languages but until this area is understood more fully the use of that term will always open the door for much debate.

6. Multiple Verb Constructions

In many West African languages, a sentence may consist of several verbs strung together. It is generally felt that these strings function differently than the classic coordinate or subordinate relationships in other languages. There are two types of structures in which these strings occur: a consecutivized structure and a serialized structure.

The key question in the analysis of these verbs is: where do they come from? What is the underlying structure? Hyman suggests that they probably come from a structure that looks like the following:

(22)



Many authors have proposed various analyses but no one has yet been able to prove his theory better than all the others.

6.1 Consecutivized Structures

According to Hyman (1971:31), a "consecutive structure" contains (at least) two verbs of a sentential conjunction, the second verb of which represents an action subsequent in time to the first verb and is done for the purpose of the first verb. Mainly with reference to Fe'Fe' (Bamileke) he lists 4 different types. The first type he calls coordinate and subordinate conjunction.

(23) (a) coordinate (i) á ká sá? nzā wú zā
he PAST come &eat food
"he came and ate"

(ii) á ká sá? ò zā wúzā
he PAST come you eat food
"he came and you ate"

(b) subordinate - marking purpose or intent

(i) á ká sá? (á) zā wúzā
he PAST come CONJ eat food
"he came to eat"

(ii) á ká sá? á ò zā wúzā
he PAST come CONJ you eat food
"he came in order for you to eat"

In (23aii) there are no overt markings while in (23ai) there is deletion of the second subject because it is coreferential with the first and also N-insertion, a marking of consecutivization on the second verb. In the subordinate relationships expressed in (23b), there are no verb markings but there is a relative clause marker inserted (optionally if the second subject is deleted).

In addition bā "to be" can be inserted between the two verbs meaning "continually or simultaneously". (bā becomes mbā becomes mā.)

(24) á kǎ sá? mā nzā wùzā
he PAST come &be &eat food
"he came eating"

á kǎ sá? (á) bā zā wúzā
he PAST come CONJ be eat food
"he came (only) in order to be eating"

The second type Hyman discusses is consecutives with the verb "to take" láh. This verb in many languages has come to mean "accompaniment", "instrument", or even "manner". Givón's article discusses verbs with similar meaning and he sets forth these questions: (a) are they synchronically verbs or prepositions? (b) if verbs, are they synchronically coordinate or subordinate structures? (c) diachronically, does serialization (or consecutivization) arise from conjunction or subordination? He does not attempt to arrive at any indisputable answers, but tries to show that for cases of serialization, what has happened is that one verb in a string of multiple verbs has become "grammaticalized". By that he means there have been three types of changes: (a) semantic - depletion of meaning from the grammaticalized form, (b) morphological - loss of ability to take verb affixes (agreement, etc.), and (c) syntactic - maintains position of verb but acts like a conjunction. These shifts occur gradually and various stages of each type of change can be seen in languages that are grammaticalizing some of their verbs.

In Hyman 1971, he presents both mā (from bā "to be") and náh (from láh "to take") as grammaticalized forms (he calls them grammatical morphemes). In their "grammatical" form they occur as the second in a consecutive series.

(25) á kǎ sá? mǎ cǎk
he PAST come &be pot
"he came with the pot"

á kǎ thí pɪ̀ɛ náh ncwēe mbáa
he PAST forge knife &take &cut meat
"he forged a knife and cut the meat with it"

"Take", the verb, can also be consecutivized with "take", the grammatical form, and another verb.

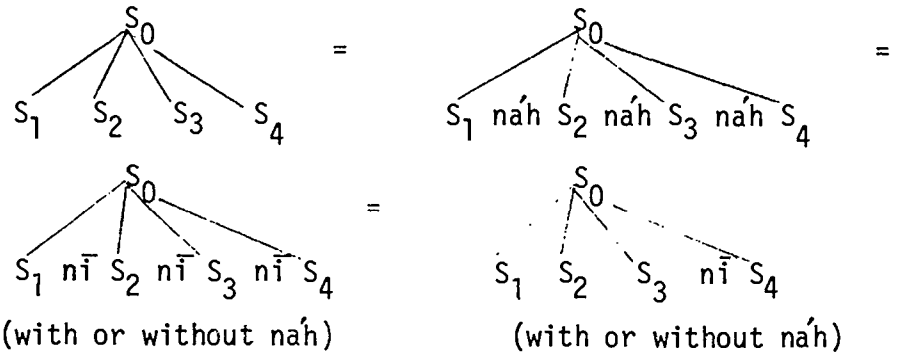
(26) á kà láh càk náh nsà?
he PAST take pot &take &come
"he took the pot and brought it"

á kà láh càk (á) lǎh sà?
he PAST take pot CONJ take come
"he took the pot in order to bring it"

Perhaps this type would better be called grammaticalized consecutives and should probably include the last data in the discussion of the first type as well.

The third type of consecutivization that Hyman discusses is multiple consecutives, when there are more than two (main) verbs . Whether or not a linker (like náh) occurs, you can have an infinite number of consecutives each subsequent to the one before. This is also true if the conjunction nī "and then" occurs between each clause or only between the last two clauses. That is, the following four diagrams are all equivalant.

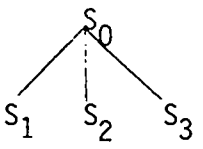
(27)



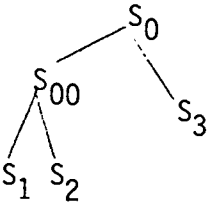
(with or without náh) (with or without náh)

However a conjunction, like nī, between any two other than the last two changes the meaning.

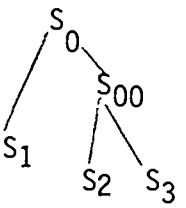
(28) S_1 S_2 ni S_3 can be



or



but S_1 ni S_2 S_3 can only be



More explicitly, the sentence below can have three structures:

"He forged a knife$_k$, carved a spoon$_s$ with it$_k$, and ate with it$_k$."

S_1, naȟ S_2, naȟ S_3.

S_1, náȟ S_2, nī naȟ S_3.

S_1, nī náȟ S_2, nī náȟ S_3.

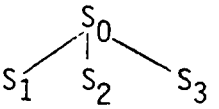
But S_1, nī náȟ S_2, náȟ S_3 can only mean one thing: "he forged a knife$_k$, carved a spoon$_s$ with it$_k$, and ate with it$_s$." The nī seems to disassociate clauses.

The sentence "he went to market, bought ams" implies that he bought yams at the market. However, "he went to market nī bought yams" does not imply either that he bought them when he went to market or that he bought them there at the market.

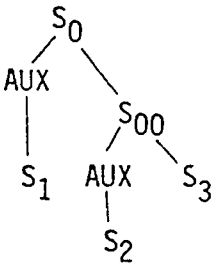
The fourth type of consecutive mentioned in Hyman is consecutives within auxiliaries. These act somewhat similarly to grammatical forms but are not well understood. Examples of such auxiliaries from Fe'Fe' include the following: yàt "to stay behind", pàt "to answer", vāh "to pass the day", tá?sí "to embrace", kwèe(nsì) "to join". One thing though is fairly certain: the following sentence is not to be taken literally.

(29) pō kǎ pát ntā?sī mfá?
they PAST answer &embrace &work

It does not have the structure



but rather it means "they worked again together again" and can be diagrammed



Welmers has a little broader definition of "consecutive". He says that the definition depends to some extent on the language. Hyman seems to say that consecutivization occurs before serialization synchronically, the latter being derived from the former, and that at a given point in time, a language will have one or the other. But Welmers says that there may be

languages in which no distinction is made at all between the two types or those for which the "consecutive" refers to the verb in a sentence, not a relationship to time, or languages which have both consecutives and serialized forms, being differentiated by syntactic structures. He sets out a definition though of a "construction used to refer to actions after the first in a sequence" (p.364).

As examples he includes the following language-specific information. In Kpelle the consecutive is used for showing purpose or for simultaneous action; two different constructions handle this. Swahili has a definite marker for a consecutive construction and both of these languages necessarily repeat the subject pronoun with each verb. In Efik, consecutives may express simultaneity but the verb semantics are not as closely linked as they are with serializations.

6.2 Serialization

Hyman defines this as "cases where two verbs occur within one sentence but do not enter into (that is, are not marked for) any of the coordinate or subordinate relationships defined elsewhere in the language" (1971:30). As mentioned above, serialization evolves from consecutivization. And in one language (Nupe) there are examples of three structures which all mean the same thing.

(30) "he brought the pot"

ū	lá	dùkŭ	ū	cī	bé	
he	take	pot	he	and	come	
ū	lá	dùkŭ		cī	bé	
he	take	pot		and	come	
ū	lá	dùkŭ			bě	
he	take	pot			come	

(serialized form)

Givón's article mainly discusses the further evolution of serialization to grammaticalization and how this has affected word order in languages. He states that grammaticalization comes from a specific type of verb serialization. Hence you would have verb strings (→ consecutivized forms) → serialization → grammaticalization. This seems to contradict Hyman's view of grammaticalized verbs as a type of consecutivization and shows how much disagreement there is in this area of verb analysis. In fact Hyman feels that Givón says that serialization means that two verbs are one event or action, that is, that one verb is usually grammaticalized.

Welmers' definition of "serialization" is based largely on the fact that new information cannot be introduced in the second or "sequential" verb but the verbal semantics must be quite closely related. For example, the two ideas "he is going to market" and "he is carrying a heavy load" have to be associated in time and person if they are to be used in a serialized construction. In Efik it appears that both serialization and consecutivization may occur but in different situations.

As can be seen there are inconsistencies in the definitions and environments in which these two types of verbal strings occur according to the person who is analyzing the data at hand. It is fairly certain that this structure has its distinctive features, and is a good topic for more in depth research.

FOOTNOTES

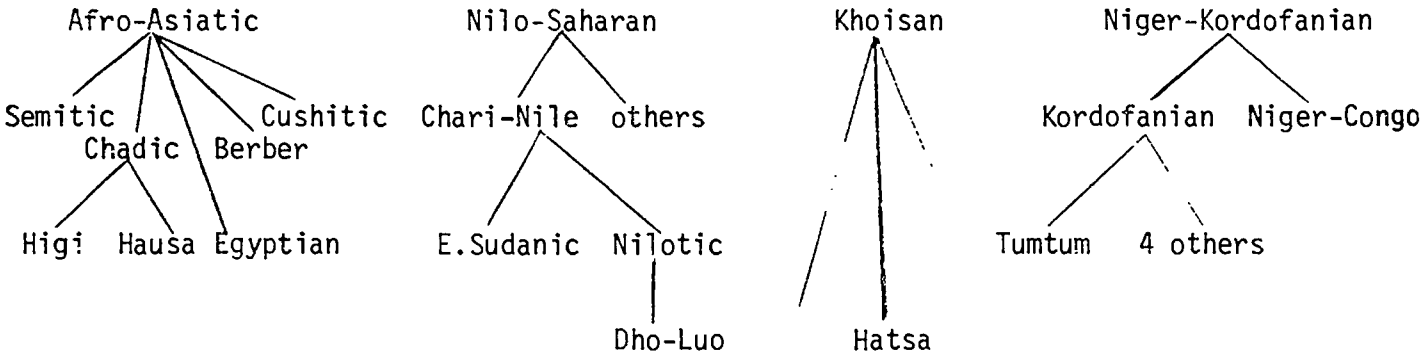
1 This report was written for a reading course in African linguistics at SIL, North Dakota, 1979, based on materials available in the SIL-UND library.

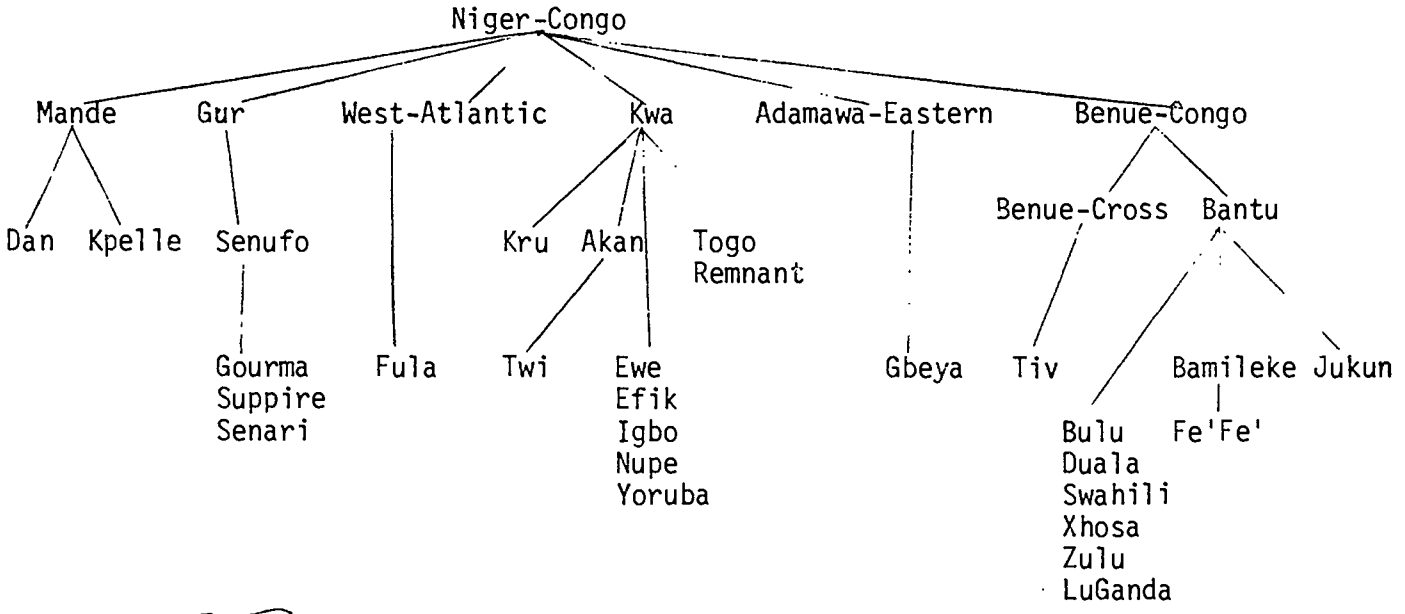
2 Welmers 1973:21 cites Tiv as having the same system as Ewe listed above. It is not known if the difference is a change of analysis or merely different dialects.

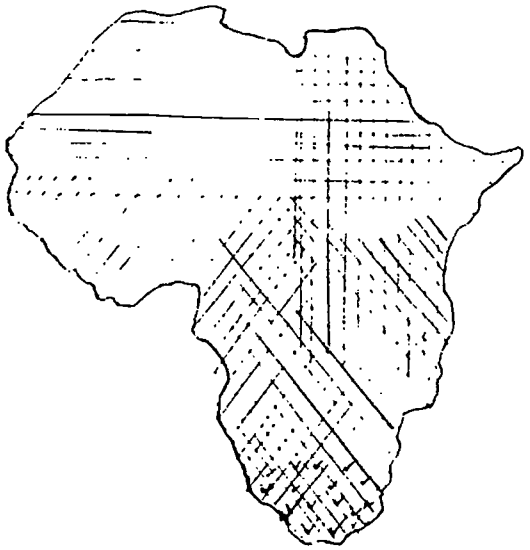
3 All references to Greenberg's work in this report come from Welmers' African Language Structures.

4 W is Welmers 1973 and W&B is Westermann and Bryan 1952.

APPENDIX 1







Approximate Locations of Certain Groups

- Afro-Asiatic
- Nilo-Saharan
- Khoisan
- Niger-Kordofanian
- Bantu

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