

**NIGER-CONGO NOUN CLASS AND AGREEMENT SYSTEMS
IN LANGUAGE ACQUISITION AND HISTORICAL CHANGE**

KATHERINE DEMUTH

Boston University

NICHOLAS FARACLAS

UC Berkeley

LYNELL MARCHESE

San Jose State University

This is an offprint from:

COLETTE CRAIG (ed.)

NOUN CLASSES AND CATEGORIZATION

Proceedings of a Symposium, Eugene, Ore., 1983

John Benjamins Publishing Co.

Amsterdam/Philadelphia

1986

(Published as Vol. 7 of the series

TYPOLOGICAL STUDIES IN LANGUAGE)

ISSN 0167-7373

ISBN 90 272 2873 6 (Eur.)/0-915027-34-8 (U.S.) (Pb.)

ISBN 90 272 2874 4 (Eur.)/0-915027-33-X (U.S.) (Hb.)

© Copyright 1986 – John Benjamins B. V.

No part of this book may be reproduced in any form, by print, photoprint, microfilm or any other means, without written permission from the publisher.

1.0. Introduction

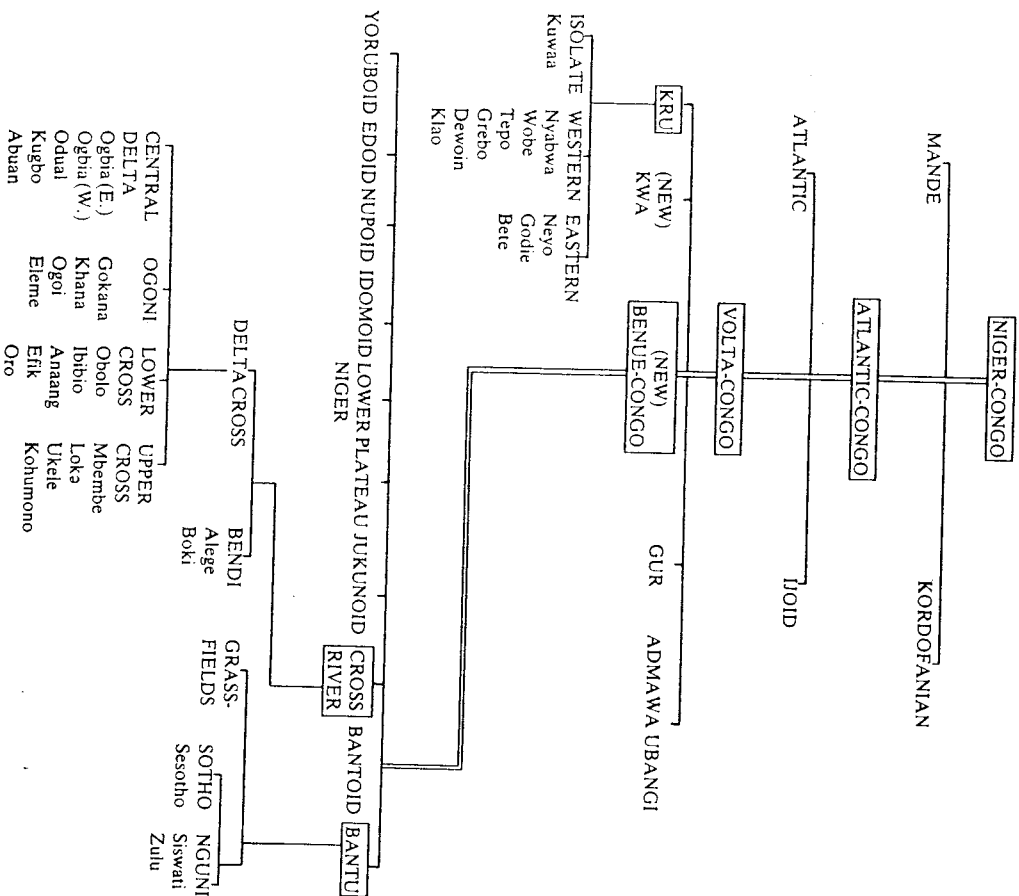
This paper investigates noun classes and concordial agreement systems in Niger-Congo languages. It examines comparative language data from Cross River and Kru languages,¹ noting overall characteristic of noun class and agreement systems in both families. It then focuses on problems which first language learners might face in the learning of a full class/agreement system, considering both spontaneous and experimental Bantu language acquisition data and Bantu languages in contact. It is found that historical changes which have resulted in the leveling of gender and agreement distinctions in Niger-Congo in many ways parallel the various stages of acquisition of the system in languages which still maintain these distinctions. Findings from these comparative data sets provide evidence for competing forces of linguistic change, as well as competing theories for how those changes might have taken place. Current findings suggest that the integration of data from historical, comparative, acquisition and language contact data is essential in developing a coherent understanding of dynamic linguistic processes.

The Niger-Congo language family is one of the four language families found on the African continent. Table I below is the latest proposed approximation of the major groups within Niger-Congo. As can be seen here, Bantu and Cross River language groups are quite closely related, while the Kru group is more distant and structurally less similar. In our subsequent discussion of noun class and agreement systems we will mention Proto-Benne-Congo (PBC) and Proto-Bantu (PB). These terms refer to historically reconstructed forms within these language groups. Thus, it has been proposed that Proto-

TABLE I

GENETIC RELATIONSHIP OF NIGER-CONGO LANGUAGES

(Based on Benue-Congo Working Group of the West African Linguistic Society, 1983)



Benue-Congo languages had, at some initial stage, a full fledged noun class and agreement system. These noun class markers, or slight variants of them,

have also been reconstructed for Proto-Bantu. Classes 1/2, 3/4, 5/6, 7/8, 9/10 are usually singular/plural markers which are affixed to one consistent nominal stem.

Table II.

Noun Class Prefixes in Proto-Bantu (PB) and Proto-Benue-Congo (PBC)

(Hombert 1981)

PB (Meussen 1967)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	19	
	mù-	bà-	mù-	mì-	ì-	mà-	kì-	bì-	ñ-	h-	dù-	kà-	tù-	bù-	kù-	pì-	
PBC (de Wolf 1971)	ù-	bà-	ù-	í-	lì-	à-	kì-	bì-	ì-	í-	lù-	kà-	bù-	ku-	pì-	tì-	mà-

The language families which we consider here reflect variations of these reconstructed forms, indicating certain directions of historical change. The directors in which these changes appear to have taken place are explored in the following discussion.

Let us consider an example of a full noun class/concordial agreement system such as found in Sesotho — a typical Bantu language. In such a system each noun is prefixed with one of a pair of CV- noun class markers, one used for the singular form, the other for the plural:

Table III

Noun Class Prefixes in Sesotho

	sg		pl
'person'	1 mō-tho	2 ba-tho	
'aunt'	rakhāli	2a bo-rakhāli	
'dress'	3 mo-sé	4 me-sé	
'day/sun'	5 le-tsatsi	6 ma-tsatsi	
'spring/well'	7 se-liba	8 li-liba	
'dog'	9 Ø-ntjā	10 li-ntjā	
'bread'	14 bo-hābe	6 ma-hābe	
'to cook'	15 ho-phéha		

The more conservative Bantu languages typically have 5 or 6 productive singular/plural noun class or gender pairs, plus a few classes with no alterna-

tion. While productive semantic correspondences have been lost for most of these gender distinctions, classes 1/2 (*m/bo* above) and 2a (*bo* - the kinship class³) are generally known as the human classes. Classes 9/10, in the larger Niger-Congo context, have been called the 'large animal' classes. Most Bantu languages and many other languages in Niger-Congo also have a 'mass noun' or 'liquid' (14 *bo*) class which generally exhibits no singular/plural pairing.

Concordial agreement functions in two ways: 1) to show agreement between subject and verb (subject-concord/subject pronouns), and 2) to show agreement between noun and modifier. Both of these concordial agreement markers have a phonological shape which is nearly identical to the noun class marker. This system of concordial agreement is illustrated by the following Sesotho sentences:

Example 1:

mo-tho	é-mo-holo	ó-rata	Ø-ntjá	é-ntle	eá-hae
1	1	1	9	9	9 1
person	big	he/she-like	dog	beautiful	of-his/her
The old man/woman likes his/her beautiful dog.					
ba-tho	bá-ba-holo	ba-rata	li-ntjá	tsé-ntle	tsá-bona
2	2	2	10	10	10 2
people	big	they-like	dogs	beautiful	of-them
The old people like their beautiful dogs.					

Here the numbers refer to the concordial classes which agree with each of the nouns. Note that the concords are largely, though not completely, recoverable from the shape of the noun prefix (2 *ba/bo*, but 1 *m/le/o*, 9 *Ø/e*, 10 *li/tsc*).

2.0 Cross River Languages

In Proto-Benue-Congo (PBC) (cf. de Wolf 1971, Voothoové & de Wolf 1969), nouns typically consisted of a root of the form CVC or CV/CV (Williams & Shimizu 1968) and a class prefix of the form CV- or, more rarely, V-. The Cross River languages, which are fairly closely related to Bantu within Niger-Congo, show varying degrees of conservatism of PBC prefix forms ranging from the retention of all prefix types to the complete loss of all prefixes.

Cross River languages fall into 5 major groups, referred to below as

Upper Cross, Bendi, Central Delta, Lower Cross and Ogoni (cf. Faraclasses 1984). These groups demonstrate a gradation in the extent of phonological, morphological and morphosemantic (number of gender classes) characteristics they exhibit today. The language groups which are conservative in preserving full CV- prefixes are also those which maintain the most distinctions in both concordial marking and in the number of gender distinctions made. Thus, at the two extremes we find that Upper Cross languages are the most conservative in preserving a fully productive noun class and agreement system, while Ogoni languages have lost productive prefixation, and have little or no concordial agreement or class genders.

2.1 Phonological shape of noun class markers in Cross River languages

Retention rates of prefixes in Upper Cross range from 75% in some languages to only 13% in others. Furthermore, the phonological shape of the prefixes which have been retained varies within one language. The most conservative system allows only prefixes of the form V- beside the CV- prefixes, while the other languages allow N- prefixes, especially in the plural. Bendi languages seem to exhibit a similar range of CV- prefix retention as in Upper Cross. Bendi and Central Delta languages also exhibit a tendency for incorporation of CV- prefixes into roots with subsequent pre-prefixation of a vowel to the collapsed prefix-root form, as seen in the different language examples below:

Example 2.	'child'		'woman'	
	sg	pl	sg	pl
Loka	w-ɛŋ	b-ɛŋ	j-àñɛ̀n	b-àñé
Boki	w-án	bw-án	ò-ŋìŋì	
Alege	ò-ŋwá	è-bùŋŋ	ò-ŋŋŋŋè	e-ŋŋŋŋè

In some languages coalescence of the noun class marker with the nominal stem results in only the plural marking remaining productive. A similar shift has been observed in some Bantu languages where the noun class system is moving from singular/plural markings on nouns to Ø/plural markings (Stucky 1978).

Prefix loss has affected nouns in most Lower Cross languages, and is even more rampant in Ogoni languages. In all Lower Cross languages, the N- prefix occurs quite frequently on nouns which do not vary in form from

the singular to the plural. Likewise, in most Lower Cross languages prefixing is achieved only with vowels which harmonize to the vowel of the nominal root. In all Ogoni languages, however, independent pronouns bear an initial vowel which agrees in some persons with the vowel quality of the corresponding dependent subject pronoun — an obvious remnant of a fuller concordial system. Thus, gender marking on pronouns is maximally conserved, a tendency also observed in Kru languages.

2.2 Morphophonological variation in Cross River languages

In Upper Cross, Bendi and Central Delta, many languages have complete concordial systems including pronominal, subject-verb, adjectival, determiner-demonstrative, and numeral concord. Numeral concord is, however, most often a relic. In Lower Cross and Ogoni only a few relics of concord have survived, including a few adjectival concords. The following example of Lower Cross Efik illustrates the curious lack of concord, but resurfacing of the nominal prefix when used in conjunction with an adjective:

Example 3. (Cook & Ita 1967)

noun		adjective + noun	
bjà	'yam'	ákámì	à-bjà 'old yam'
bùd	'shame'	ákámhá	ó-bùd 'great shame'
bjìj	'hunger'	ákámhá	ó-bjìj 'great hunger'

2.3 Morphosemantic variation in Cross River languages

The distinctions between the major classes/genders of PBC are maintained in most Upper Cross languages, although non-human genders *9/10 and and *7/8 seem to be merging. One of the Bendi languages preserves PBC class/gender divisions, while another shows a tendency to merge non-human classes to one singular/plural class pair. Central Delta retains BC class/gender distinctions for human genders 1/2 and non-human 5/6 in the cases of CV- prefix coalescence. All non-human plural classes also merge. In contrast, Lower Cross and Ogoni languages show only relics of gender systems. In section 3. below we shall see that Kru languages also exhibit distinctions between human and non-human classes, and that, in some Kru languages, all non-human plurals have also been merged. Data from Bantu languages in contact and experimental language acquisition data demonstrate changes in these same directions.

2.4 Discussion

While the foregoing discussion of Cross River languages is synchronic and comparative in nature, it provides evidence for various stages of historical development with regard to the general reduction of productive gender and agreement systems. Two generalizations can be made from these observations: 1) Within a particular language, a comparative synchronic description may capture a system which indicates a partial loss of gender shape or the reduction in the number of gender distinctions or extent of agreement, with evidence that there was once a fuller system and will probably be further reduction. The loss of such a system is gradual, certain classes appearing to be more resilient than others. 2) Diachronically one can project a number of possible stages whereby a full noun class and agreement system might be lost. From the comparative synchronic data on Cross River languages we find a small range of consistent patterns by which this process appears to be taking place. It is not just *any* genders which persist, but rather the human 1/2 and the non-human 9/10 classes which are the last to be lost. CV-prefixes are not simply omitted, but rather incorporated into the stem with new prefixes occasionally added. The number of plural classes tends to collapse, becoming distinguished by one overgeneralized marker. Concord appears to be lost first in numerals and adjectives, while it is maintained longest with subject pronouns. These tendencies for loss and preservation will be reiterated as we examine Kru languages, language acquisition and language contact data.

One might speculate as to what influences have caused some branches of Cross River to be more conservative with regard to retaining gender and agreement systems than others. It appears that the typical shape of nominal prefixes for each group of Cross River languages today corresponds in most cases to the typical shape of prefixes in surrounding non-Cross River languages.

Table IV

Prefix Shape	Cross River	Surrounding Languages
CV- }	Upper Cross	Eastern Benue Congo
V- }	Bendi	(Bantu)
V- }	Lower Cross	Western Benue Congo
N- }	Central Delta	(Lower Niger, Edoïd)
V- }		
Ø	Ogoni	Ijoid

This evidence suggests that prefix shape corresponds to a template which specifies the 'prototypical' shape of prefix + noun forms in these languages. Languages which exhibit very reduced gender systems may have sustained more immediate contact with geographically adjacent languages which reflect no such distinctions today, even to the effect of showing no plural marking on nouns (i. e. Igbo). Speakers of Cross River languages who come into close contact with such languages may be more inclined to revise their conceptions of the canonical form of language and simplify the proliferation of morphological agreement marking which is characteristic of their own languages. This influence of 'template' types may in part account for the areal clustering of those languages which have lost these systems as opposed to those which have preserved them.

3.0 Phonological shape of nominal marking in Kru languages

Like Cross River languages, Kru languages represent a reduced version of a wider proto-system. While Kru languages are almost exclusively suffixing, noun class suffixes have all but disappeared through loss or coalescence with the noun stem. Again, we find more and less conservative Kru languages, Eastern Kru showing more preservation of the old system, and Western Kru showing more loss. The result of coalescence in Kru languages is that noun systems are becoming more regularized,² with singulars being perceived as unmarked and plurals marked, a tendency observed both in Bantu (Stucky 1978) and in Lower Cross (section 2.1). In the Eastern Kru language Godié, the word for 'water' *niú* represents a reduction of stem *ni* + suffix *u* used for liquids. The following Godié singular/plural pairs demonstrate the coalesced nature of gender suffixing in Kru.

Example 4:

sg	pl	
su	si	'tree'
nyoku	nyokwi	'leaf'
cu	ci	'moon, month'

Despite this phonological coalescence and seeming 'loss' of noun class suffixes, concord is extensive in Kru. In Eastern Kru languages, concordial agreement occurs on subject, object, possessive, interrogative and relative pronouns, as well as on adjectives, demonstratives and definite markers, as

seen in the Godié examples below:

Example 5: *niúkpɔ kʌdɔ nɔ mlʌ niú watu*
 man big this drank water cold
 This big man drank cold water.

Example 6: *ɔ mlʌ u*
 He drank it.

With one exception, all Kru languages maintain a distinction in the singular between human *ɔ* and non-human *ɛ*. Most languages also distinguish these two classes in the plural. As far as the number of classes are concerned, the most conservative Eastern Kru languages maintain up to three gender distinctions in the singular non-human. It appears that the most predominant Kru pronouns correspond to PBC human classes *1/2a and non-human (large animal) classes *9/10.³

3.1 Morphosemantic variation in Kru languages

The gender distinction in pronominal systems is maintained longer than any of the other manifestations of concord in Kru. With one exception, all languages still maintain a singular human/non-human distinction throughout the pronoun set.

As class distinctions decrease, there appears to be a corresponding (though not exactly predictable) decrease in concordial agreement. Though most languages do not retain adjective gender agreement, singular/plural distinctions are maintained on some adjectives. Numbers and definite markers seem to be affected first (a fact also observed in Cross River (1.2)), with demonstratives and adjectives slowly giving way to loss of concord. Adjectives first lose gender agreement, preserving only the singular/plural distinction, as seen in the Western Kru example of Klao below:

Example 7:

sg	pl
nye plu	nye pli
'man white'	'men white'

Even this concord may be lost eventually, as in languages where number agreement is made only on the lexical item 'big' (R. Thompson, p.c.). Pronominal concord, on the other hand, is the most conservative, being retained the longest. What is striking, however, is that some form of *concord* is main-

tained in most languages even though noun class suffixes are no longer transparent and in many cases are nonfunctional. In section 4, we will see that these findings correlate closely with data from processes of language acquisition.

3.2 Discussion

Kru languages thus represent a case where remnants of gender classes are preserved as coalesced nominal suffixes. While the productivity of nominal classification is minimal, the distinctions which are made correspond to the human classes 1/2a and non-human classes 9/10 - similar to the most dominant class retentions in Cross River languages. Though the gender system is minimally functional, the agreement system is still productive, indicating a primacy of concord over nominal marking.

4.0 Noun class and agreement systems in Bantu languages

Bantu languages have generally been characterized by having a number of CV- noun class prefix pairs plus some non-paired classes for mass nouns, liquids and locatives. While Bantu languages seem to have preserved more of the Proto-Benue-Congo noun class system, Grassfields languages (cf. Hyman et. al. 1980) appear to be in the process of losing many gender distinctions and collapsing plurals. This process is also found in language contact areas with languages such as Spoken and Kinshasa Lingala (Bokamba 1983) where the generalized plural is the class 2a 'relative' marker. Concord is also being lost in these systems and adjectives are now marked with a fixed marker which does not change with the class of the noun. Although gender marking is thought to have been semantically productive at one time, the system is synchronically non-productive with the exception of the human classes. In addition most languages have a class where most loan words are assimilated. Unless the initial part of the noun is similar in phonological shape to an already existing noun class marker, the noun is generally used in a 'catch-all' class, class 9/10 for Sesotho. Thus, we find examples such as the following:

Example 8:

Dutch < stoel 'chair' 7se-tuIs 8 li-tuIs
 Dutch < tafel 'table' 9Ø-taföle 10li-taföle

While noun class assignment is still a productive process, there are signs of

potential loss of nominal prefixes, though concord appears to be intact. In Sesotho, noun class markers are frequently omitted when used with a nominal modifier which has the concord agreement marker with it (cf. example 11.). This process has been lexicalized in the case of some locative nouns, where the prefix never surfaces:

Example 9:

le-saká 'coral' sak-éng 'at/to/from/by the coral'
 le-lapá 'home' lap-éng 'at/to/from/by home'

Thus, though the system is fully productive, in some Bantu languages there are grammatical and sociolinguistic contexts in which gender marking on nouns is omitted.

4.1 Bantu language acquisition data

The language acquisition data from Bantu languages stems from two major sources. The first is from a longitudinal study of spontaneous and natural speech from 4 Sesotho speaking children between the ages of 2 and 4 1/2 years old (Demuth 1983), supported by data from younger Sesotho speaking children (M. Connelly, 1984). The second is from Siswati and includes a spontaneous/naturalistic study of 2 children between the ages of 18 months and 36 months, and an experimental study of 3 children 4 1/2 to 6 years of age (Kunene 1979). We await data from Zulu (Suzman, p.c.) which may show that noun class markers are used productively at an earlier age than that reported for Siswati.⁴

4.2 Predicted acquisition patterns⁵

It has been proposed that there are numerous strategies which a child systematically employs during the language learning process, regardless of the language being acquired. These strategies have been formalized as 'operating principles' (Slobin 1977, 1984) and have been based on and continue to be refined by acquisition data from a variety of languages from different language families. From our current cross-linguistic knowledge of strategies that children employ when learning a language, we have made several predictions about the kinds of phenomena we would expect to find in the acquisition of the Sesotho noun class system: 1) As children tend to acquire word-final morphology easier than word-initial morphology, the learning of noun class prefixes might prove problematic, especially as these markers carry little semantic content, are usually found in unlightened (and

