

CROSS RIVER AS A MODEL FOR THE EVOLUTION OF
BENUE-CONGO NOMINAL CLASS/CONCORD SYSTEMS

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Cross River languages exhibit nominal class/concord systems which typify almost every possible stage of simplification of the proto-Benue-Congo system, from full retention in some Upper Cross and Bendi languages to near complete elimination in the Ogoni group. The synchronic facts from Cross River shed light on some of the psycholinguistic processes involved in class/concord systems acquisition and retention as well as some of the sociolinguistic processes involved in the modification or loss of such systems. Taken together, the nominal class/concord systems of the Cross River languages correspond to points along a continuum or implicational scale which may prove to be of value in establishing a typology of class/concord systems throughout the Benue-Congo subbranch.

1. Introduction

1.1. Cross River languages and the Benue-Congo east-west interface. In light of recent work by the members of the Benue-Congo Working Group, it has been convincingly shown that a strict east-west division corresponding to Greenberg's Kwa-Benue-Congo divide is no longer justifiable. The results of careful examination and analysis of the data fully support the inclusion of the former Eastern Kwa languages in the Benue-Congo subbranch. The significance of this great step forward in Niger-Congo studies, however, should not lead us to overlook certain very general tendencies (perhaps areal characteristics) which serve to

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distinguish many of the languages to the west of an arc formed roughly by the Niger Delta, the Cross River basin, and the Niger-Benue confluence from those to the east. This arc in fact defines the area where the languages of the Cross River group are spoken, and, in many ways, the Cross River² group represents the interface between the western and eastern Benue-Congo languages. In the area of phonology, while -CVCV³ roots predominate to the east and -CV roots predominate to the west, -CVC, -CVV, and -CVVC roots typify the Cross River languages. While many Bantu pitch systems are clearly accentual and often have only two levels of contrastive tone as opposed to western Benue-Congo systems, where accentual phenomena play a more limited role and where three-level tonal systems are quite common, many Cross River languages exhibit very interesting and complex pitch systems in which basically two-level tone systems interact with accent or stress systems to establish conditions favorable to the phonemicization of a third level of contrastive tone. In the area of morphology, the nominal class/concord systems of the Upper Cross languages once again represent a transition from the conservative systems of the east to the more innovative or simplified systems of western Benue-Congo. In fact, each subgroup of Cross River represents a macro-link in a very smooth chain of development from proto-Benue-Congo-type systems with CV- prefixes, full class/gender distinctions, and numerous concord points to prefixless systems with no class/gender distinctions and pronominal subject-verb concord only.

1.2. Cross River languages used in this work. Several languages from each subgroup of Cross River have been singled out as sub-links or micro-links in the

²The Cross River languages are spoken by some sixty language communities found primarily in the Cross River and Rivers States of southeastern Nigeria. The definition of Benue-Congo used in this work will be that developed by the Benue-Congo Working Group of the West African Linguistic Society (1984) which includes the former Eastern Kwa subbranches of Yoruboid, Edoid, Nupoid, Idomoid, and Igboïd, along with the "traditional" Benue-Congo subbranches, that is, Plateau, Jukunoid, Cross River, Bantoid, and Bantu.

³The following abbreviations are used in this work:

C	- consonant	PBC	- proto-Benue-Congo
E	- east	S	- singular
N	- syllabic nasal	V	- vowel
P	- plural	W	- west

above-described chain, typifying even finer increments along the continuum of class/concord systems evolution. Choice of language was in some cases dictated at least in part by availability of data. At least four languages were selected from each subgroup (except for Bendi) including the following:

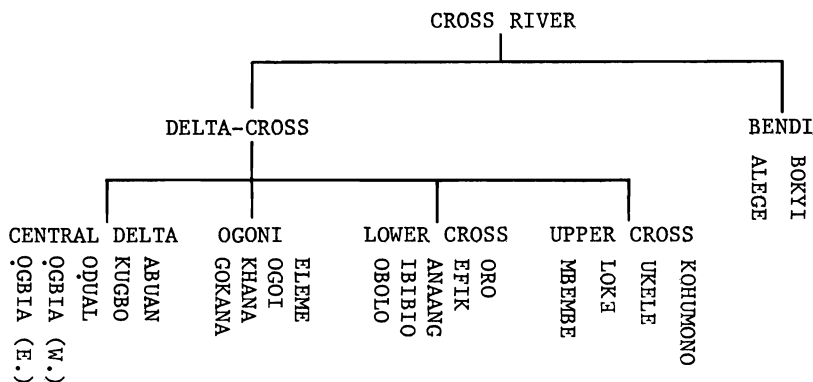


Table 1. Cross River languages used in this work

2. Morphophonology: Prefix Shape and Prefix Alternations

2.1. Upper Cross and Bendi: conservative systems. As shown in Table 2 on the following page, proto-Benue-Congo-type CV- prefixes have survived in Upper Cross languages, but to varying degrees, ranging from roughly 75% of the prefix inventory in Kohumono and Ukele to 55% in Lokə and only 13% in Mbembe. Kohumono seems to be the most conservative system, allowing only prefixes of the form V- beside CV- prefixes, while the other languages allow N- prefixes, especially in the plural, which, if we accept De Wolf's [1971] reconstructions, must be innovations. The Bendi languages seem to exhibit a similar range of CV- prefix retention as in Upper Cross (from roughly 80% of the prefix inventory in Bokyi to 10% in Alege). There are, however, key differences between the two groups as well. While Upper Cross makes widespread use of N- prefixation in the plural, the N- prefix is of relatively little importance in Bendi. In Bokyi (as well as in other Bendi languages?) there may be a tendency toward the incorporation of the reflexes of PBC *CV- prefixes into roots and subsequent pre-prefixation of a vowel to the collapsed [proto-prefix + root] form (see the form for 'twen-

	'egg'	'tooth'	'tree'	'twenty'
PROTO-BENUE-CONGO				
[De Wolf 1971]	S (Class 5) * i-	(5) * i-	(7) *ki-	(5) * i-
	P (Class 6) *à-	(6) *à-	(8) *b -	----
UPPER CROSS				
Kohumono	S r ^é -s ^è r ^ē	r ^è -t ^{án}	h ^è -s ^ē	r ^à -n ^ù β
	P r ^á -s ^è r ^ē	r ^à -t ^{án}	b ^è -s ^ē	----
Ukele	S ^ē -s: ^ē ^ē	^ē -t: ^à :	k ^è -s: ^è	^ō - ^ō p
	P ?	^ā -t: ^à :	b ^è -s: ^è	----
Lokə	S é-s ^é :ŋ ^é	l ^è -t ^á :	k ^è -t ^í	l ^è -j ^á w
	P ñ-s ^é :ŋ ^é	à-t ^á :	j ^è -t ^í	----
Mbembe	S é-ŋ [↑]	è-t ^á	è-t ^í í	è-r ^ó β
	P ñ-ŋ [↑]	à-t ^á	ñ-t ^í í	----
BENDI				
Bokyi	S d ^j í-c ^ě :	b ^ù -ŋ ^{án}	k ^ì -t ^í í	ì-r ^ì t ^í í
	P á-c ^ě :	à-ŋ ^{án}	?	?
Alege	S ε-c ^ī	ó-ŋ ^{ān}	ò-s ^í	l ^é -z ⁱ :
	P ?	é-ŋ ^{ān}	ì-s ^í	?

? = a gap in available data; ---- = no plural form

Table 2. Reflexes of proto-Benue-Congo CV- prefixes in the Upper Cross and Bendi subgroups

ty' in Table 2).

2.2. Central Delta: "incorporated" CV- prefixes and pre-prefixation. The above mentioned tendencies exhibited by the Bendi languages seem to be of even greater importance in the Central Delta languages, where the N- prefix is apparently non-existent and where the incorporation of the reflexes of PBC *CV- prefixes into roots and subsequent vocalic pre-prefixation is still in progress. Abuan, Kugbo, and Odual VCV- structures are in free variation with CV- structures noun-initially in some items. In most cases incorporated prefixes have /r/ or /ɖ/ as their initial consonant. Incorporated CV- prefixes most often

occur only in plural forms and are often the only phonological material differentiating the plural form from the singular, where nouns typically consist of the original root and a V- prefix. The pre-prefix is invariably /A-/ (realized as [a-] or [ə-] in harmony with the value for [±WIDE (PHARYNX)] of the vowel(s) of the root. /A-/ is also the most (the only?) productive nominal prefix, loan words being assigned only this prefix in Ogbia [Isukul 1982].

2.3. Further developments in the Central Delta subgroup. As shown in Table 3 below, in Western Ogbia PBC *CV- prefixes are often replaced by the suffix

	'tooth (P)'	'twenty'
PBC	*à	* -
UPPER CROSS		
Kohumono	<u>rà</u> -táh	<u>rə</u> -núβ
CENTRAL DELTA		
Abuan	a- <u>ra</u> !a:l	dì-síβ
Kugbo	x	ə- <u>dú</u> súβ
Oduál	à- <u>ra</u> !a:l	ə- <u>dí</u> síβ ~ <u>dí</u> -síβ
Ogbia	(W) à-l:àŷ- <u>za</u>	(E) ə- <u>rù</u> sùβ

x = no cognate was found

Table 3. PBC *CV- prefix incorporation into roots and pre-prefixation in Central Delta

/-za/ in the plural rather than being incorporated into roots. In most of the rest of the Central Delta languages PBC *CV- prefixes are replaced by V- prefixes which exhibit only one generalized singular/plural alternation (V-/I-) and that only for some nouns, many V- prefixes showing no alternation between singular and plural forms.

The net result of the above outlined processes is a [V prefix + root] structure for most Central Delta nouns, but with recoverable reflexes of PBC *CV- prefixes incorporated into many roots, especially in the plural.

		'tree'	'egg'	'husband, man'
PBC	S	*ki-	*li-	*ù-
	P	*bì-	*à-	*bà-
UPPER CROSS				
Kohumono	S	hè-sē	ré-sèrē	ò-rōm
	P	bè-sē	rá-sèrē	jà-rōm
Ukele	S	kè-s:è	lē-s:ēlē	wanwo-lam
	P	bè-s:è	?	bambe-lan
BENDI				
Bokyi	S	kì-tfí	djí-cèé	x
	P	----	á-cèé	x
CENTRAL DELTA				
Abuan	S	ò-rén	è-γèlè	ò-lòm
	P	ì-rén	à-rèγèlè ~ rè-γèlè	ò-lòm
Kugbo	S	ò-rèrén	à-gá	ò-wòlòm
	P	ì-rèrén	rà-gá	ò-wòlòm
Oduál	S	ò-rén	ò-gá	ò-l:òm
	P	ì-rén	ì-gá	ə-bùrùlòm ~ bùrù-lòm
E. Ogbia	S	ò-rèrén	à-gá	ò-Ẁùnòm
	P	ì-rèrén	à-gá	ò-Ẁùnòm
W. Ogbia	S	ò-rén	à-gén	ò-Ẁùnòm
	P	ì-rén	à-gén-zà	ò-Ẁùnòm

Table 4. Gradual collapse of singular/plural distinctions in Central Delta

2.4. Lower Cross: proliferation of the N- prefix. Plural nouns are distinguished from singular nouns in Oro and Efik only among the Lower Cross languages, and then only in a minority of cases (mainly nouns referring to humans in Efik). While incorporated prefixes are sometimes used for this purpose in these languages, the N- prefix is much more commonly used. The occurrence of the N- prefix in Lower Cross is by no means restricted to plural forms

in Oro and Efik, however. 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. CV- prefixes are non-existent in Lower Cross.

2.5. Reduced vowel inventories in Lower Cross prefixes. Only nine of the ten phonemic vowels of Lókè (Upper Cross, see Runsewe [1982]) may occur in nominal class/concord prefixes, reflecting a general tendency among Benue-Congo languages which may play a significant part in the reduction of vowel inventories [Williamson 1982]. Via a process of merger and assimilation of prefix vowel quality to that of the following root, prefix vowel inventories have been significantly reduced in all Lower Cross languages. In Ibibio and Anaang, for example, roots containing -o or -ɔ may only be preceded by o- or ɔ- prefixes, respectively. Subject concord prefixes on verbs harmonize with root vowels in all Lower Cross languages except Obolo.

2.6. Lower Cross: limited prefix loss. Prefix-less nouns occur in all Lower Cross languages, except Oro. The proportion of nouns without a prefix is slightly higher in Obolo (from 5-10%) than in Efik, Anaang, or Ibibio (less than 5%) (see the plural form of 'woman' in Table 5 on the next page, for example). In Efik, some "prefix-less" nouns "regain" their prefixes when modified by (certain?) adjectives. Interestingly the quality of these "resurfacing" V- prefixes is not predictable and therefore must be included in the lexical specification of the noun.

EFIK [Cook and Ita 1967]:

[NOUN] _{NP}	[ADJECTIVE-NOUN] _{NP}
bjà 'yam'	á-kànì à-bjà 'old yam'
bùd 'shame'	à-kámà ó-bùd 'great shame'
bjàṅ 'hunger'	à-kámà ɔ-bjàṅ 'great hunger'

In the Okorete (Eastern dialect of Obolo as well as in the speech of children in that language, a syllabic nasal "prefix" bearing low tone occurs on nouns which are prefixless in the other dialects.

		INCORPORATED	V-/N-	ALTERNATION	NO ALTERNATION
		'woman'	'chief'	'road'	'thing'
PBC	S	*ù-nina	x	*ɪ-fan	x
	P	*ba-nina	x	*ɪ-fan	x
LOWER CROSS					
Oro	S	ε-ηwà	ó-fɔ̃η	à-fàη	ń-kpó
	P	Ñ-mà	Ñ-fɔ̃η	Ñ-fàη	----
Efik	S	(ń)-ηwân	ó-bɔ̃η	à-fàη	ń-kpó
	P	í-bân	N-bɔ̃η	----	----
Anaang	S	N-ηwân	ó-bɔ̃η	à-fàη	ń-kpó
	P	í-bân	----	----	----
Ibibio	S	Á-ηwâ:n	Á-bó:η	à-fàη	ń-kpó
	P	í-bâ:n	----	----	----
Obolo	S	ηwân	ú-bó:η	à-fòη	ń-kpó
	P	í-bâ:n	----	----	----

Table 5. Relics of singular/plural distinctions in Lower Cross

Examples:	OBOLO	'oil palm'	'children'
	Western and Northern Dialects	kô:k	bô:n
	Eastern Dialects	Ñkô:k	Ñbô:n
	children's speech	Ñkô:k ~ kô:k	Ñbô:n ~ bô:n

2.7. Ogoni: complete loss of prefixes. Among the Ogoni languages, Eleme stands out as the most conservative in terms of class/concord prefix retention. The Eleme system is in many ways similar to that of Obolo (Lower Cross) in terms of the proportion of prefixless nouns it contains and in terms of the predominance of V- and N- prefixes in the language. Some important differences exist between Eleme and Obolo, however, which indicate that Eleme has actually gone further than Obolo toward simplification of the PBC class/concord system. Eleme as well as the rest of Ogoni (except for some isolated

cases in Khana) differentiates itself from Obolo (and the rest of Cross River!) in that tone over prefixes is not contrastive (prefixes in the Ogoni languages either invariably bear low tone, as in Eleme and Ogoi or copy their tone from the initial syllable of the following root, as in most Khana forms). While both V- and N- prefixes occur in Eleme, the proportion of N- to V- prefixes is much higher in Eleme than in Obolo. Finally, only three contrastive vowel qualities (/a-/ , /E-/ and /O-/) are found in Eleme prefixes, showing an even greater tendency toward merger and harmonization than that noted above for Lower Cross (see section 2.5). In less conservative Ogoi, all V- prefixes are eliminated and only N- prefixes persist (usually on nouns which also take the N- prefix in Eleme as well). In Khana and Gokana class/concord prefixes are virtually non-existent. In all Ogoni languages (including Gokana), however, some independent pronouns bear an initial vowel (prefix) which in some persons agrees in quality with the corresponding dependent subject pronoun (subject concord prefix relic; see section 3.2).

		'tooth'	'tree'	'ashes'
PBC		* i-/a- (5/6)	*ki-/bi- (7/8)	*-twaŋ
UPPER CROSS				
Kohumono	S	rè-táñ	hè-sē	----
	P	rà-táñ	bè-sē	ì-tòtótù (P only)
LOWER CROSS				
Efik	S,P	é-dèt	è-tó	ń-tóŋ
OGONI				
Eleme	S,P	à-dá̃	è-té	ń-tǔ
Ogoi		dá̃	té	ń-tǔ
Khana		dá̃	té	tǔ
Gokana		dá̃	té	(-rù)

Table 6. Class/concord prefix loss in Ogoni

3. Concordial Agreement

3.1. Upper Cross, Bendi, and Central Delta: conservative systems. In the Upper Cross, Bendi, and Central Delta languages, many languages (if not most) have retained most of the loci of concordial agreement which are traceable to proto-Benue-Congo, including pronominal, subject-verb, adjectival, determiner, demonstrative, and numeral concord points. Numeral concord is often a relic, usually holding only in the case of a few of the lowest numerals.

3.2. Lower Cross and Ogoni: relics of concord only. In the Lower Cross and the Ogoni languages, only a few relics of concordial agreement systems survive. In most of Lower Cross and Ogoni the only type of concord exhibited is limited to the agreement in some persons between the initial vowel (prefix) of the independent subject pronoun and the dependent verbal subject prefix.

OBOLO

ò-mô	ó -	nù	'he/she came'
he/she	3rd S dep. PN	come	
è-mâ	é	nù	'they came'
they	3rd P dep. PN		

In Oro and in Efik, however, noun-adjective concord occurs sporadically. In Oro, adjectives in some cases show singular/plural distinctions not normally marked on the nouns which they modify (this may be due to the fact that such adjectives are derived from verbs and their prefixes alternate according to patterns typical of dependent subject pronouns, as in the Obolo example just given).

EFIK [Cook and Ita 1967]

à-kánf	á-bjà-ìbòk	'old doctor'
old	doctor	
Ñ-kánf	Ñ-bjà-ìbòk	'old doctors'

ORO [Kuperus 1978]

è-fjé	á-bà	'white dog'
white	dog	
ì-fjé	á-bà	'white dogs'

4. Class/Gender Membership

4.1. Upper Cross, Bendi, and Central Delta: retention of PBC class/gender distinctions. As shown in Tables 2-4, the distinctions between the major classes and genders of proto-Benue-Congo are maintained in such Upper Cross and Bendi languages as Kohumono and Bokyi, but in languages such as Mbembe and Alege as well as in the Central Delta languages, there is a tendency toward the merger of singular classes into a single class marked by /O-/ and the merger of plural classes into a single class marked by /ɪ-/ , /e-/ , or /N-/ (see sections 2.4 and 2.5 above).

4.2. Lower Cross and Ogoni: complete loss of gender distinctions, partial loss of class distinctions. As shown in Tables 5 and 6, relics of plural prefixes /ɪ-/ or /N-/ occur sporadically in Lower Cross, while no plural prefixes at all are retained in Ogoni (except for one or two isolated cases in Eleme).⁴ Only in the case of some of the reflexes of nouns belonging to the "human" (*1/2) gender of proto-Benue-Congo are singular/plural distinctions maintained throughout Lower Cross, via the incorporation of PBC prefixes into roots and subsequent pre-prefixation (see 'woman' in Table 5). Despite the high degree of class merger, the widespread loss of singular/plural distinctions (and the concomitant proliferation of the N- prefix across all classes) as well as the extensive reharmonization of prefix vowels to stem vowels which typify many Cross River (especially Lower Cross and Ogoni) languages, a few prefixes can still be associated (albeit rather loosely) throughout the subbranch with the semantic categories corresponding to one or another of the noun classes of PBC. A case in point is the "large animal" gender (PBC 9/10 *ɪ-/ *ɪ-) whose reflexes still show regular patterning throughout Cross River. (see Table 7 on the following page).

⁴My thanks to Kay Williamson for bringing this to my attention.

PBC 9/10 (*ì-/í-)	'animal, meat' (S/P)	'leopard' (S/P)	'goat' (S/P)
UPPER CROSS			
Kohumono	è-zèn/ì-zèn	è-kpè/ì-kpè	x
Ukele	ē-sē:n/T-sē:n	N-bɛ	x
Lokə	è-tɛ́n/Ñ-tɛ́n	è-kpè/Ñ-kpè	è-bú/Ñ-bú
Mbembe	è-tèn/Ñ-tèn	è-tfè/Ñ-tfè	-vú
BENDI			
Bokyi	è-ɲàm	----	x
Alege	í-njǎ	ɪ-kpòŋ	x
CENTRAL DELTA			
Abuan	ɛ-nam/ɪ-nam	x	x
Kugbo	è-nàm/ì-nàm	x	è-wèl/ì-wèl
Oɖual	è-nàm/ì-nàm	x	è-vèl/ì-vèl
E. Ọgbia	è-n:àm	(à-bí rì)	è-wèl
W. Ọgbia	è-nàm/è-nàm-zà	(à-bí rì)	è-wèl/ì-wèl
LOWER CROSS			
Oro	ú-nà	----	ó-fú
Efik	ú-nàm	é-kpè	é-bót
Anaang	ú-nàm	é-kpè	é-bót
Ibibio	ú-nám	é-kpè	é-bót
Obolo	á-nám	é-gbè	é-bót
OGONI			
Eleme	Ñ-nā̄	Ñ-kpê:	Ñ-bó
Ogoi	x	----	Ñ-bó:
Khana	nām	kúè	----
Gokana	nōm	kpě	ból

Table 7. Reflexes of PBC "large animal" gender (9/10) in Cross River

5. An Implicational Scale for Class/Concord Systems Simplification in Benue-Congo?

Table 8 on the following page represents a summary of the developments outlined in the preceding sections of this work. At least four patterns exhibited by the data deserve further mention here because of their possible significance for the study of the evolution of class/concord systems throughout Benue-Congo (and perhaps Niger-Congo as well; see Demuth et al. [forthcoming]).

5.1. Class/gender distinctions: patterns of simplification. The Cross River data suggests the following, all other factors being equal:

- (1) Class/gender distinctions are lost for [-animate] nouns before [+animate] nouns (see Table 7).
- (2) Class/gender distinctions are lost for [-human] nouns before [+human] nouns.
- (3) Gender distinctions are lost before class distinctions.

5.2. Concord points: hierarchy of persistence. All other factors being equal, the evidence from Cross River indicates the following hierarchy of persistence can be set up with agreement patterns least likely to be lost at the top and those most likely to be lost at the bottom:

PERSISTENCE HIERARCHY

- 1) Strongest: subject-verb concord
- 2) Strong: adjective-noun concord
- 3) Weak: other concord points, especially numeral-noun concord

5.3. Prefix shape: template-type processing and areal phenomena. The patterns of simplification of prefix shape outlined above for the Cross River languages suggest that prefix shape could be influenced to a large extent by areally-determined templates. In other words, the canonical form of class/concord affixes for each subgroup reflects a generalized areal pattern of prototypical prefix shapes. CV- prefixes are not only typical of many Upper Cross and Bendi languages, but also of the neighboring Bantu languages. N- prefixes are found throughout Western Benue-Congo as well as in some Western Bantu languages and, therefore, their widespread occurrence in the subgroups of Cross River which border on areas where these languages are spoken may not

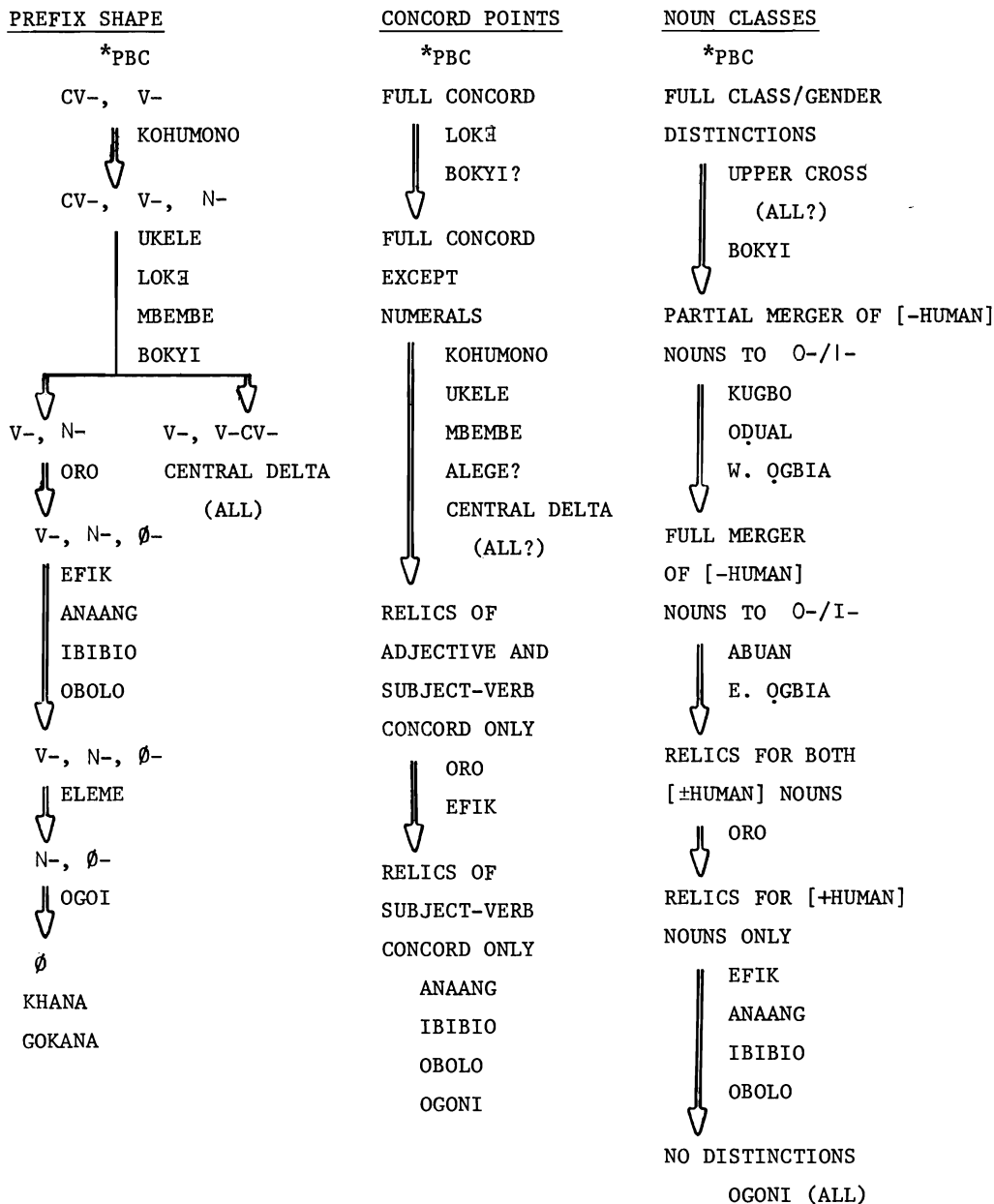


Table 8. Reflexes of the proto-Benue-Congo nominal class/concord system in Cross River

be as surprising as it would seem at first glance. The fact that the Ogoni and Lower Cross languages are spoken in close proximity to the prefixless Ijò languages may in part explain the occurrence of prefixless nouns in their inventories. The suffixation patterns found in W. Ọgbia may also correspond to a generalized tendency toward suffixation in neighboring Ijò languages. It should be stressed here that, due to the high frequency of intermarriage between speakers of different but geographically contiguous languages, many children of speech communities where Cross River languages predominate are actually raised by a parent who is not a native speaker of a Cross River language.

5.4. Primacy of concord over class: an argument for prosodic processing. As indicated in Table 8, morphological concord systems persist after both phonological marking of prefixes and morphosemantic class/gender distinctions are virtually reduced to zero in Gokana. This surprising fact would seem to indicate that class/concord systems are processed primarily as prosodies over entire phrases rather than as nomino-centric prefix copying systems. This argument is given further support by the "resurfacing" prefixes described for Efik in section 2.7 as well as by experimental language acquisition data for some Bantu languages [Demuth et al, forthcoming].

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