

## Toward gender (and number) in Krongo

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### 1 Introduction

+ Krongo is a member of the small Kadu family (of less than ten languages in the Nuba Mountains of the Sudan) and the only sufficiently described one due to Reh (1985)

+ we propose a detailed analysis of the available Krongo data on the basis of a novel, universally applicable framework for gender systems (Güldemann and Fiedler forth.)

### 2 Agreement, agreement classes, and apparent genders

+ various agreement targets: anaphoric pronouns, prepositions, demonstratives, verbal cross-reference (see (2) below)

> Table 1: four agreement classes defined by consistent agreement pattern across all targets (irrespective of the gender and number values of a given noun form)

AGR label		1. Pronoun (anaphoric)	2. Preposition suffix		3. Verb suffix		4. Verb prefix		5. Dem. prefix	Number value(s)
Here	Reh		(a)	(b)	(a)	(b)	(a)	(b)		
1	"M"	ì'ŋ	-ì'ŋ	-níŋ			∅	ŋ-	y-	SG, PL
2	"F"	àakù	-àakù	-nákù	-tíní	-ní	m-	m-	m-	SG, PL
3	"N"						n-	n-	n-	SG, PL
4	"PL"	àay	-àay	-náy	-táy	-táy	k-	nk-	y-	PL

Table 1: Agreement classes of Krongo

+ classes are labelled by Reh (1985) somewhat misleadingly as "M(asculine)", "F(eminine)", "N(euter)", and "PL(ural)", based on semantic correlation in morphologically simple nouns

> some classes are insensitive to number (AGR2 in (2)b. vs. c.) and ?gender (see below)

- (2)a. *músi*            *ŋ-òoróobó*  
 wizard            1~"M"-be.evil  
 an evil wizard (Reh 1985: 135)
- b. *mà-cò-mòtò*    *m-àdéelá*  
 F-AGT-work    2~"F"-be.good  
 a good (female) worker (Reh 1985: 135)
- c. *fólóttó*            *mú-sírí*  
 bean.pods      2~"F"-be.long  
 long bean pods (Reh 1985:130)

+ gender identification by mapping of agreement classes over number (cf. Corbett 1991)  
 > Reh's (1985) lexicon of 485 nouns allows this as it lists each item with:

- a) the unmarked noun form and its relevant AGR, followed by  
 b) the marked number form (by means of number affix or full noun form) and its AGR, e.g.:

- (3)a. *tisàanà*, N, pl. *ní-* 'word'  
 b. *mòtò*, F, pl. *ní-kòtò* 'work'

+ these data present a highly complex picture of eight apparent genders established by attested agreement class pairings over two canonically assumed number categories  
 > agreement classes appear to be weakly dedicated to gender and/or number values (similar to languages of the Kalahari Basin or the Caucasus, cf. Güldemann 2000: 28)

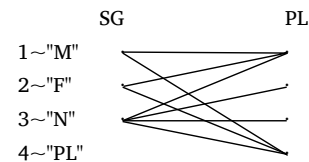


Figure 1: Apparent gender system of Krongo after Reh (1985)

## 3 Number, nominal morphology, and genders

### 3.1 The tripartite number system

+ above gender analysis hinges on the assumption of a simple bipartite number system  
 > but complex system with suspicious situation of nouns falling under the same agreement class pairing but exhibiting different unmarked number reference and form  
 > Kadu languages have in fact a complex, so-called tripartite number-marking pattern that is recurrent in the area in both Nilo-Saharan and Afroasiatic languages (Dimmendaal 2000)

Number-marking pattern	Example	Marked SG(V)	Unmarked < COLL/SG >	Marked PL
A	SG unmarked/ PL marked	'work' 'tin can'	2 <i>mòtò</i> 3 <i>càalèélí</i>	4 <i>ní-kòtò</i> 1 <i>∅-àalèélí</i>
B	COLL~PL unmarked/ SG(V) marked	'hair' 'skin'	3 <i>n-tín-áaw</i> 3 <i>tìn-tò</i>	1 <i>áaw</i> 1 <i>tò</i>
C	SG marked/ PL marked = "REPLACEMENT"	'lion' 'bed'	3 <i>tì-kàamù</i> 3 <i>tìn-kìryá</i>	1 <i>à-kàamù</i> 1 <i>ò-kìryá</i>

Table 2: Three basic types of Krongo nouns according to number marking pattern

+ before this background any simple gender system as in Figure 1 fails to give an adequate picture (e.g., all nouns but 'work' in Table 2 belong to a single structural gender (= agreement class pairing 3/1) but to three different number marking patterns)  
 > to ensure a more conclusive assessment of the gender system, agreement classes, noun form classes, and complex number marking patterns must be integrated in the analysis

### 3.2 Noun form classes

Noun form class	Function	Example	AGR
Elision of initial C: <i>b, f</i> and <i>c</i>	PL	PL $\emptyset$ - <i>ànbàŋ</i> vs. SG <i>fànbàŋ</i> 'drum'	1
cÀ-	SG of agent noun	SG <i>càa-màliŋ</i> vs. PL <i>kà-màliŋ</i> 'thief'	
À-	PL	PL <i>à-kirishà</i> vs. SG <i>tìn-kirishà</i> 'gazelle'	
mÀ-	F.SG of agent noun	SG <i>mà-càa-màliŋ</i> vs. SG <i>càa-màliŋ</i> 'thief'	2
mVtV-	SGV	SGV <i>mèté-kóofó</i> vs. PL <i>kóofó</i> 'cow dung'	
m-	SG of m-/k-	SG <i>m-ìsì</i> vs. PL <i>k-ìsì</i> 'stone'	
n-	SG of n-/k-	SG <i>n-íicì</i> vs. PL <i>k-íicì</i> 'adult'	3
b-	SG of b-/k-	SG <i>b-òtórò</i> vs. PL <i>k-òtórò</i> 'frog'	
t-	deverbal nominalization	<i>t-òyòdó</i> 'Kranksein' vs. <i>òyòdó</i> 'krank sein'	
(tV)(n)- (henceforth <i>tìn-</i> )	SGV; specification; individuation; diminutive	SG <i>tìn-ítò</i> vs. PL <i>ítò</i> 'horn'	4
nV-	PL	PL <i>ní-fàtá</i> vs. SG <i>fàtá</i> 'cave'	
nVkV-	PL	PL <i>nì-k-átì</i> vs. SG <i>àtì</i> 'stomach'	
k-	PL of b-/k-, n-/k- or m-/k-	PL <i>k-ìsì</i> vs. SG <i>m-ìsì</i> 'stone'	
kà-	PL of agent noun	PL <i>kà-màliŋ</i> vs. SG <i>càa-màliŋ</i> 'thief'	
kV-	PL	PL <i>kù-rúkùŋ</i> vs. SG <i>mùtù-rúkùŋ</i> 'bowels'	

Table 3: Noun form classes of Krongo (simplified)

+ Table 3: complex noun affix system, particularly for number but also for derivation  
 > noun form classes correlate considerably with agreement class (cf. rightmost column)  
 > indicates important role of formal assignment in terms of Corbett (1991)

### 3.3 Number inflection, agreement, and genders

+ unmarked nouns without number distinctions (aka transnumeral nouns) occur in all four agreement classes

+ marked noun form classes of Table 3 pattern over number according to close to ten abstract number inflection patterns, some of which are diverse regarding the eight attested agreement pairs (cf. Figure 1)

> 15 combinations of inflection classes and agreement pairs: Table 4 + Figure 2

No.	Number pattern and inflection	Examples	Marked SG(V)	Unmarked < COLL/SG >	Marked PL	AGR	
1	A $\emptyset$ /nV(kV)-	'stomach'		<i>àtì</i>	<i>nì-k-átì</i>	1/4	
2		'cave'		<i>fàtá</i>	<i>ní-fàtá</i>	2/4	
3		'stalk'		<i>tìbbá</i>	<i>ní-tìbbá</i>	3/4	
4	$\emptyset$ /C-elision	'drum'		<i>fànbàŋ</i>	$\emptyset$ - <i>ànbàŋ</i>	1/1	
5		'beard'		<i>bòròŋó</i>	$\emptyset$ - <i>òròŋó</i>	2/1	
6		'type of tree'		<i>còosúkù</i>	$\emptyset$ - <i>òsúkù</i>	3/1	
7	B <i>tìn-/∅</i>	'ants'	<i>n-tìn-àafúŋ</i>	<i>àafúŋ</i>		3/1	
8		'stars'	<i>tì-mùtíkí</i>	<i>mùtíkí</i>		3/2	
9		'bugs'	<i>tè-lèŋà</i>	<i>lèŋà</i>		3/3	
10		'horn'	<i>tìn-ítò</i>	<i>ítò</i>		3/4	
11	mVtV-/∅	'cow dung'	<i>mèté-kóofó</i>	<i>kóofó</i>		2/4	
12	C <i>cV-/kV-</i>	'friend'	<i>cò-díiyò</i>		<i>kò-díiyò</i>	1/4	
13		'frog'	<i>b-òtórò</i>		<i>k-òtórò</i>	2/4	
14		<i>tìn-/nV-</i>	'calabash'	<i>tìn-kòròdò</i>		<i>ní-kòròdò</i>	3/4
15		<i>tìn-/à-</i>	'gazelle'	<i>tìn-kirishà</i>		<i>à-kirishà</i>	3/1

Table 4: 15 combinations of number inflection and agreement pairs in Krongo

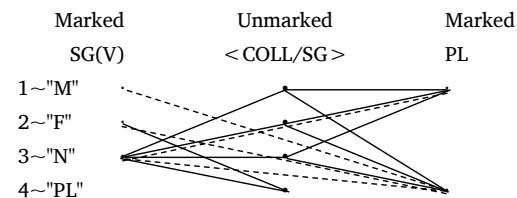


Figure 2: 15 combinations of number inflection and agreement pairs in Krongo

+ 4 "replacement" patterns in C of Table 4 (dashed lines in Figure 2) differ from marked-PL patterns in A of Table 4 only by morphology but not semantics: typically count nouns  
 > merged in Table 5 and Figure 3 with type-A nouns displaying the same agreement

No.	Number infl.	Examples	Marked SG(V)	Unmarked	Marked PL	Tokens
1	∅/nV(kV)- Replacement	'stomach' 'friend'	1 <i>cò-díyò</i>	1 <i>àati</i>	4 <i>ní-k-átì</i> <i>kò-díyò</i>	143 127 + 16
2	∅/nV(kV)- Replacement	'cave' 'frog'	2 <i>b-òtórò</i>	2 <i>fàtâ</i>	4 <i>ní-fàtâ</i> <i>k-òtórò</i>	71 49 + 22
3	∅/nV(kV)- Replacement	'stalk' 'calabash '	3 <i>tìn-kòròdò</i>	3 <i>tìbbá</i>	4 <i>ní-tìbbá</i> <i>ní-kòròdò</i>	65 46 + 19
4	∅/C-elision	'drum'		1 <i>fānbàŋ</i>	1 <i>∅-ànbàŋ</i>	16
5		'beard'		2 <i>bòròŋó</i>	1 <i>∅-òròŋó</i>	5
6	∅/C-elision Replacement	'type of tree' 'gazelle'	3 <i>tìn-kirishà</i>	3 <i>còosúkù</i>	1 <i>∅-òsúkù</i> <i>à-kirishà</i>	11 4 + 7
7	tìn-/∅	'ants'	3 <i>n-tìn-àafún</i>	1 <i>àafún</i>		9
8		'stars'	3 <i>tì-mìtìkí</i>	2 <i>mìtìkí</i>		16
9		'bugs'	3 <i>tè-lèŋà</i>	3 <i>lèŋà</i>		7
10		'horn'	3 <i>tìn-ítò</i>	4 <i>ítò</i>		10
11	mVtV-/∅	'cow dung'	2 <i>mèté-kóofó</i>	4 <i>kóofó</i>		11

Table 5: 11 combinations of number inflection and agreement pairs in Krongo

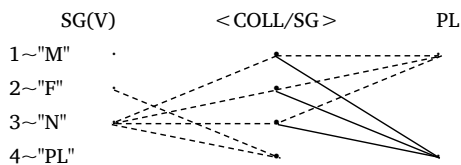


Figure 3: 11 combinations of number inflection and agreement pairs in Krongo

+ eight of 11 inflection-agreement pair combinations (rows 4-11 of Table 5) can be viewed as "inquate" following Corbett (1991: 170-175):

- 3 groups of unmarked nouns with diverse AGR converge in one PL form of AGR1
- 4 groups of unmarked nouns with diverse AGR converge in one SGV form of AGR3
- 1 group of AGR4 has a SGV counterpart of AGR2

+ **only transnumeral nouns and the first three of 11 inflection-agreement pair combinations are frequent and/or productive** (see rightmost column of Table 5)

> comprise 4 groups of unmarked nouns with diverse AGR, of which three primarily contain count nouns that all converge in a PL forms of AGR4

+ final picture confirms the decisive gender-specifying role of **unmarked nouns** as reflected in Reh's (1985) semantically driven labels for agreement classes (quite similar to mainstream European gender systems)

> however, not simply a tripartite gender system of M vs. F vs. N (as per Corbett 1991: 190) but rather a quadripartite one comprising an additional, if minor, gender for some transnumeral nouns

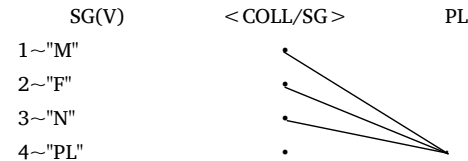


Figure 4: Gender system in Krongo

+ preliminary token count in Reh's (1985) noun list strongly confirms genders involving count nouns but less so the transnumeral gender, which we consider necessary for structural reasons (statistically so far no difference to cases analyzed above as inquate)

Gender	Transnumeral nouns	Count nouns	Total
Masculine	22	161	183
Feminine	13	96	109
Neuter	38	84	122
(Transnumeral)	11	-	11
Total	84	341	425

Table 6: Preliminary frequencies of the four genders in Krongo

## 4 Gender assignment

+ typologically expected assignment hierarchy (Corbett 1991):

semantic criteria > morphological criteria > phonological criteria

### 4.1 Semantic assignment

+ semantic criteria indeed take precedence over formal noun features

- natural sex is primary feature, most human terms with 'double gender' (Corbett 1991: 181)

- (4)a. *káaw*                      *m-úsò*  
 person.M/F.S              AGR2-IPFV.run  
 die laufende Frau (Reh 1985: 186)
- b. *káaw*                      *ŋ-úsò*  
 person.M/F.S              AGR1-IPFV.run  
 der laufende Mann (Reh 1985: 186)

- certain terms denoting persons or pets exhibit distinctive forms for males as well as females (either as suppletive forms or marked by the derivational prefixes *cÁ-* for male nouns and *mÁ-cÁ-* for female nouns)

- large animals are often associated with M, whereas small animals are associated with F

- possible signs of so-called "associative" gender assignment

### 4.2 Formal assignment and noun form classes

+ in the absence of semantic criteria, agreement is often assigned according to a noun form

> agreement of nouns correlates quite strongly with morphological form, notably noun form class prefixes > Table 3

+ in the absence of morphology, agreement can be assigned according to phonological form

> initial noun segment of affixless nouns recurrently correlates with central exponent of some agreement classes (see Table 1, cf. also form of typical affixes in Table 3):

- AGR2 (verbal) agreement exponent *m-*      vs. *m*-initial nouns  
 AGR3 (verbal) agreement exponent *n-*      vs. *n*-initial nouns  
 AGR4 verbal agreement exponent *k-*        vs. *k*-initial nouns

## 5 General conclusions

+ agreement class and gender should be treated as separate analytical categories

+ agreement classes interact with tripartite number system and need to be disentangled

> agreement classes not fully dedicated to a single gender and number value due to existence of a considerable number of inquirate nouns with exceptional agreement

+ resulting gender system is similar to:

a) European cases with central gender specification in unmarked number form, but also

b) nearby Cushitic cases with an additional agreement class that crucially involves number

> **necessary analysis of a fuller lexicon of Krongo as well as of other Kadu languages in order to substantiate the viability of above synchronic analysis and determine the historical circumstances of the emergence of such a system**

## Abbreviations

AGR Agreement class, AGT Agent, COLL Collective, DEM Demonstrative, F Feminine, IPFV Imperfective, M Masculine, N Neuter, PL Plural, SG Singular, SGV Singulative

## References

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