INSTITUT FÜR ASIEN- UND AFRIKA-WISSENSCHAFTEN

Nominal gender marking in Northeastern Africa's tripartite number languages

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Contents

1 Introduction

1.1 Project

+ the contents of today‘s talk are extracted from my dissertation project “A typological study on tripartite number systems in the languages of Northeastern Africa” (working title)

+ the dissertation is associated with the research project “Noun classification in Africa between gender and nominal declension (deriflection)” (Principal investigator: Tom Güldemann)

+ my project‘s focus is on the typological description and analysis of the notion of “tripartite number” as a whole within selected languages of Northeastern Africa

> the data is based on a self-compiled 600 word list comprising various semantic domains

+ although only a part of the sampled languages contain full-fledged gender systems, the intertwining of gender and tripartite number can result in a typologically unique complexity

+ in order to cope with this potential complexity, specific approaches for the analysis of gender and tripartite number will be applied

1.2 Northeastern Africa

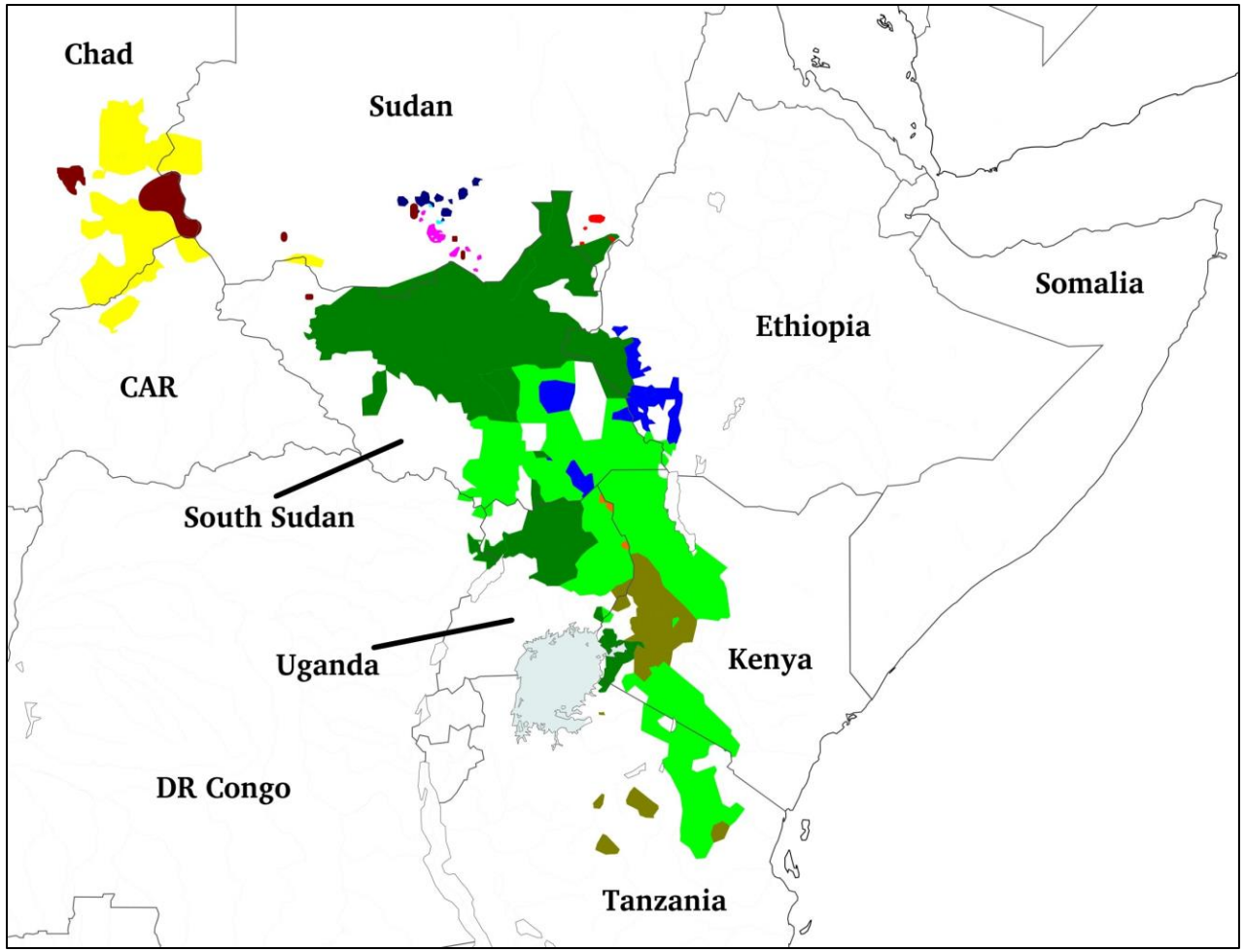

Figure 1: Geographical location of sampled languages

1. Kadu
2. Temeinic
3. Hill Nubian
4. Eastern Jebel
5. Kuliak
6. Dajuic
7. Maban
8. Surmic
9. Nilotic
    - Eastern
    - Western
    - Southern

1.3 Aims of the talk

+ overriding aim: to provide an introduction to nominal gender marking in tripartite number marking languages

+ central questions:

> which of the sampled language groups include nominal gender marking languages?

> how is gender realized in these languages?

> how does it interact with tripartite number marking?

+ in order to illustrate the most significant typological tendencies, the gender systems of selected individual languages will be presented at first, before a group internal as well as group external comparison will be presented

2 Theoretical background

2.1 Number

Four types of tripartiteness (Güldemann and Junglas, forthcoming):
> systemic, encoding, lexeme, lexicon

Lexicon type	**Encoding**	**Base + SGV**	**Unmarked base**	**Base + PLV**	**Example**
Bipartite	P pattern		*mine*	*min-**na***	'house'
	S pattern	*atar-**čo***	*atara*		'pea'
	R pattern	*kin-**čo***		*kin-**na***	'rock'
Tripartite	T pattern	*midaan-**čo***	*midaano*	*midaan-**na***	'clay bin'
Transnumeral	Various		ado		'milk'

Table 1: Four concepts of tripartiteness in Sidama (Cushitic) (Kawachi 2007)

2.1 Number

Important for this talk:
> systemic tripartiteness, encoding tripartiteness + transnumeral nouns

Lexicon type	**Encoding**	**Base + SGV**	**Unmarked base**	**Base + PLV**	**Example**
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Table 1: Four concepts of tripartiteness in Sidama (Cushitic) (Kawachi 2007)

2.2 Gender

+ the analysis of gender marking is based on the approach and terminology of Güldemann and Fiedler (2019: 97), where they differentiate between four concepts:

a. AGREEMENT CLASS (to be abbreviated as AGR and numbered by Arabic numbers)

> class of nominal forms with the same agreement behavior

b. GENDER (to be occasionally labeled semantically or numbered by Roman numbers)

> agreement-based class of noun lexemes abstracting from other potentially interfering agreement features (notably number)

c. NOMINAL FORM CLASS (to be abbreviated as NF and represented by the capitalized exponent)

> class of nominal forms of the same morpho(phono)logical type (irrespective of their gender and number values)

d. DERIFLECTION (to be represented by the relevant NF set)

> the morpho(phono)logical counterpart of GENDER

2.2 Gender

+ can be exemplified using an example from Swahili (Bantu) (Güldemann and Fiedler 2019: 97)

(1)	***m****-toto*	***yu****-le*	***m****-moja*	***a****-me-anguka*
	M(W)-child(**1**)	**1**-D.DEM	**1**-one	**1**-PERF-fall
	‘that one child has fallen’			

(2)	***wa****-toto*	***wa****-le*	***wa****-wili*	***wa****-me-anguka*
	W(A)-child(**2**)	**2**-D.DEM	**2**-two	**2**-PERF-fall
	‘those two children have fallen’			

> agreement class **1** pairing with agreement class **2** results in gender **I**

> nominal form class ***M(W)-*** pairing with nominal form class ***W(A)-*** results in deriflection class ***M(W)-/W(A)-***

2.2 Gender

+ the pairing of AGR into genders, and nominal form classes into deriflections induces three major types for the mapping of classes across number categories (Güldemann and Fiedler 2019: 106):

PARALLEL: singular and plural classes only show one-to-one mapping

CONVERGENT: at least two classes in one number converge to one class in the other number

CROSSED: class convergence exists in both directions

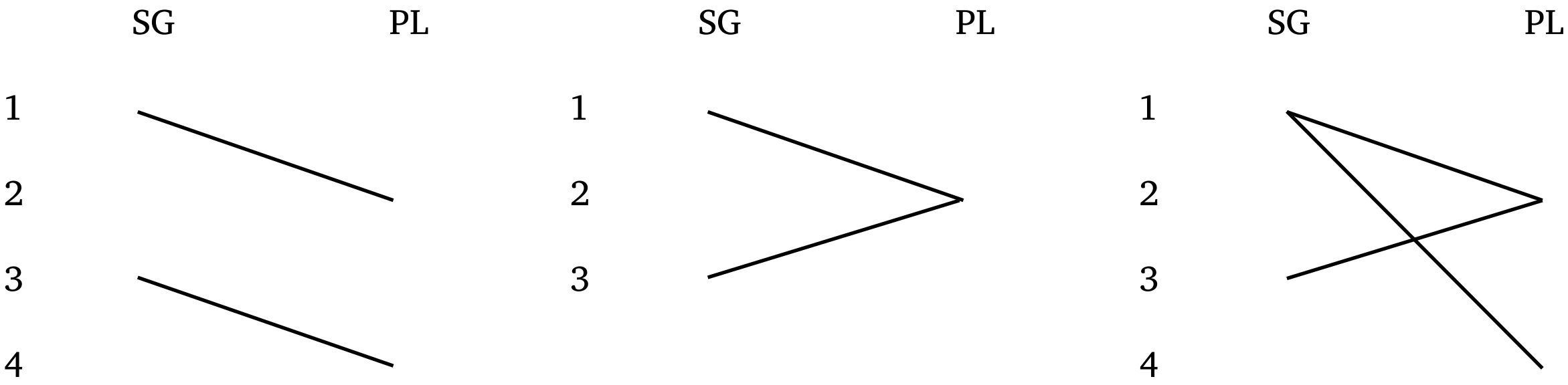

Figure 2: Comparison of different AGR mapping types

3 Nominal gender marking in tripartite number languages

3.1 Overview

+ although it has been estimated that about two-thirds of all African languages, including many Nilo-Saharan languages, have gender systems (Heine 1982: 190, as cited in Corbett 1991) (Randal 1995: 37), gender marking languages are a minority in my sample

+ in fact, gender is only marked in languages of two (out of nine) language groups
> Nilotic and Kadu

+ bearing in mind that not every member language of these two (and other) groups exhibits tripartite number marking, the overlap of both phenomena is even lower

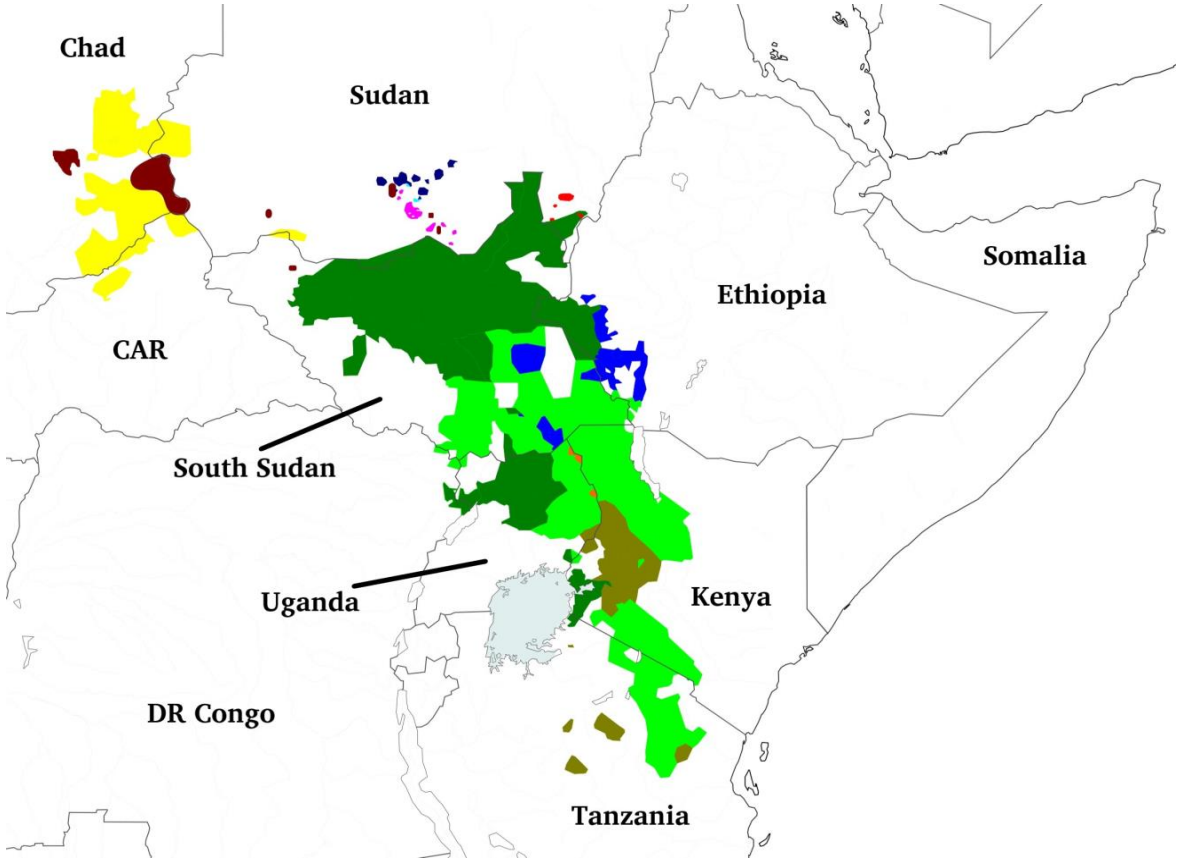

Figure 3: Geographical location of sampled languages

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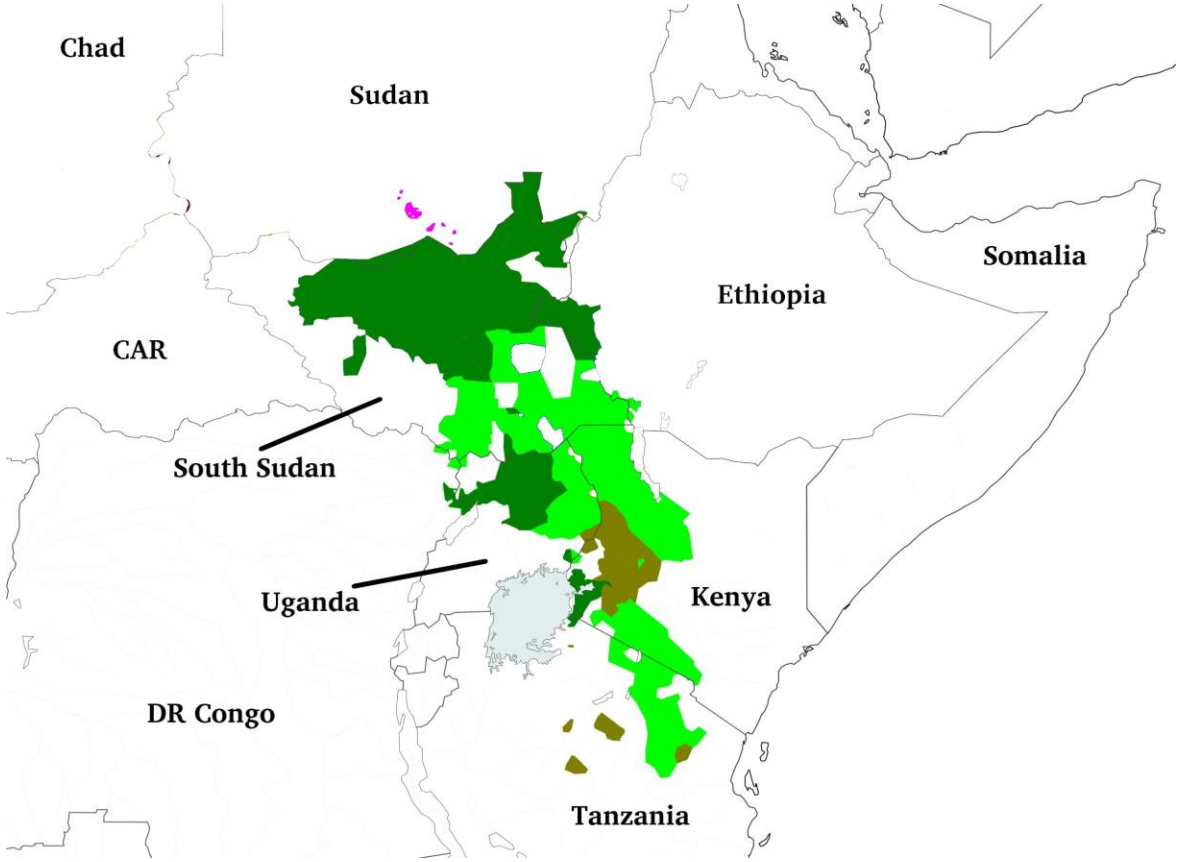

Figure 4: Geographical location of gender marking languages

3.2 Nilotic

+ the Nilotic language group is commonly divided into three subgroups
> Southern, Eastern, Western

+ with 16 (Southern), 18 (Eastern) and 22 (Western) member languages, each Nilotic subgroup exceeds the other sampled language groups by far

+ besides their genealogical structure, all three branches show significant geographical spreads stretching over various countries and regions

+ included in my sample are language from all three subgroups
> Mandari, Lopit, Maasai (Eastern), Markweeta (Southern), Anuak (Western)

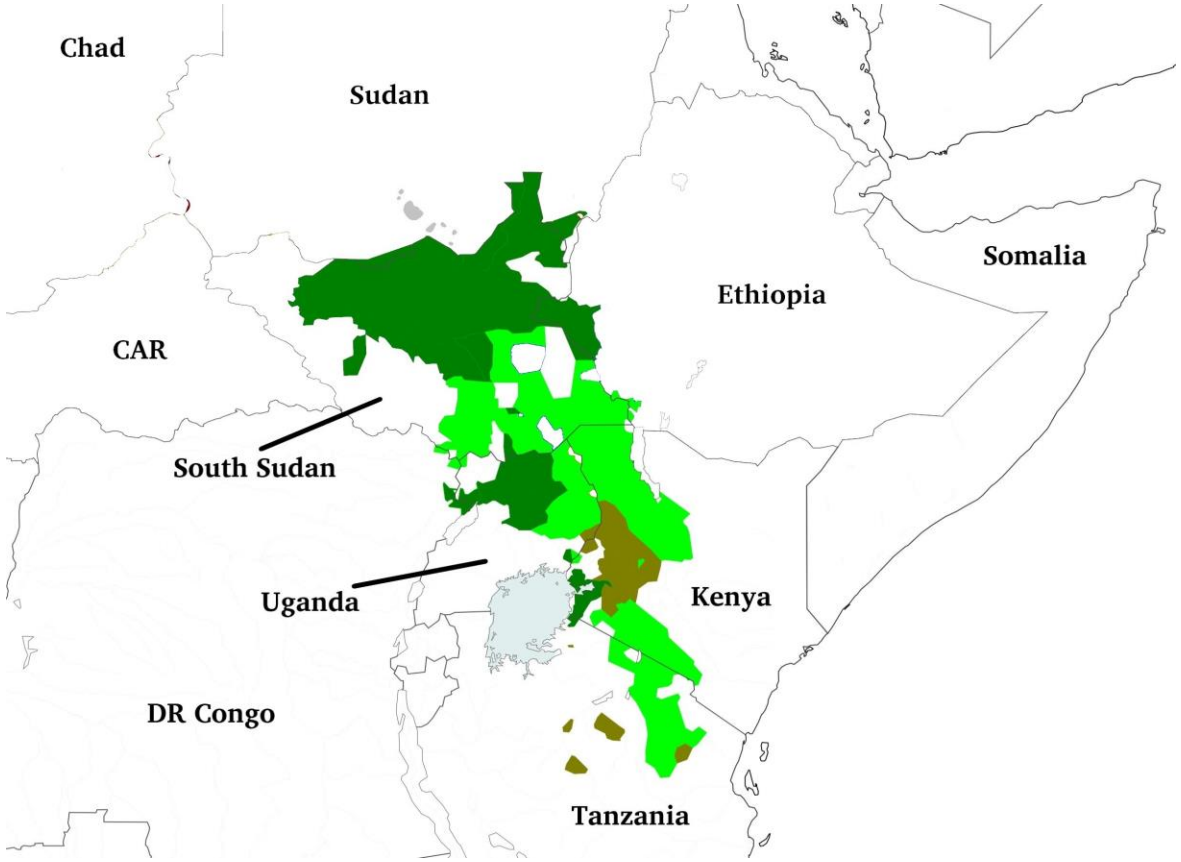

Figure 5: Geographical location of Nilotic languages

3.2 Nilotic

+ in contrast to the division into three genealogical subgroups, the Nilotic languages can be split into two typological groups regarding their gender marking properties

1. non-gender languages

2. gender languages

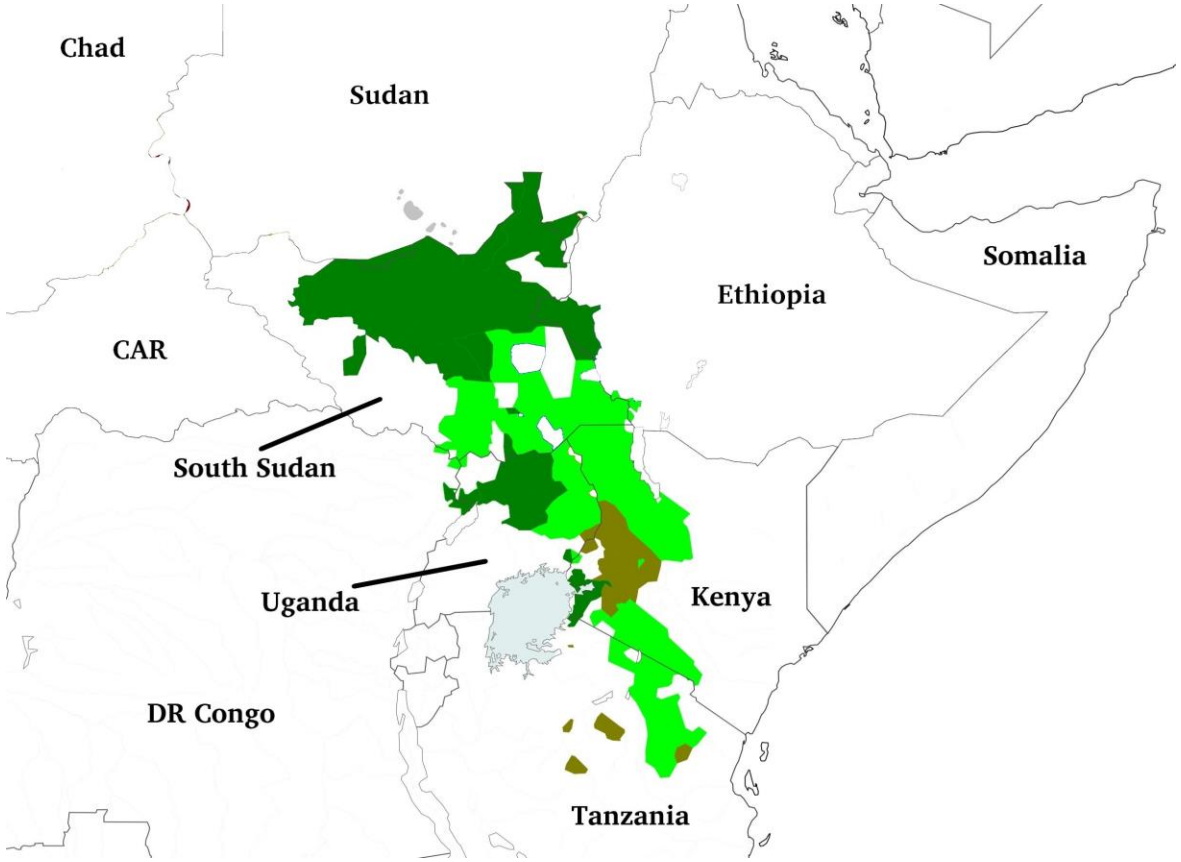

Figure 5: Geographical location of Nilotic languages

3.2 Nilotic

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1. non-gender languages
> Western Nilotic (for more information, see e.g. Storch 2005: 98; Storch 2011: 39, Storch 2014: 83)

2. gender languages

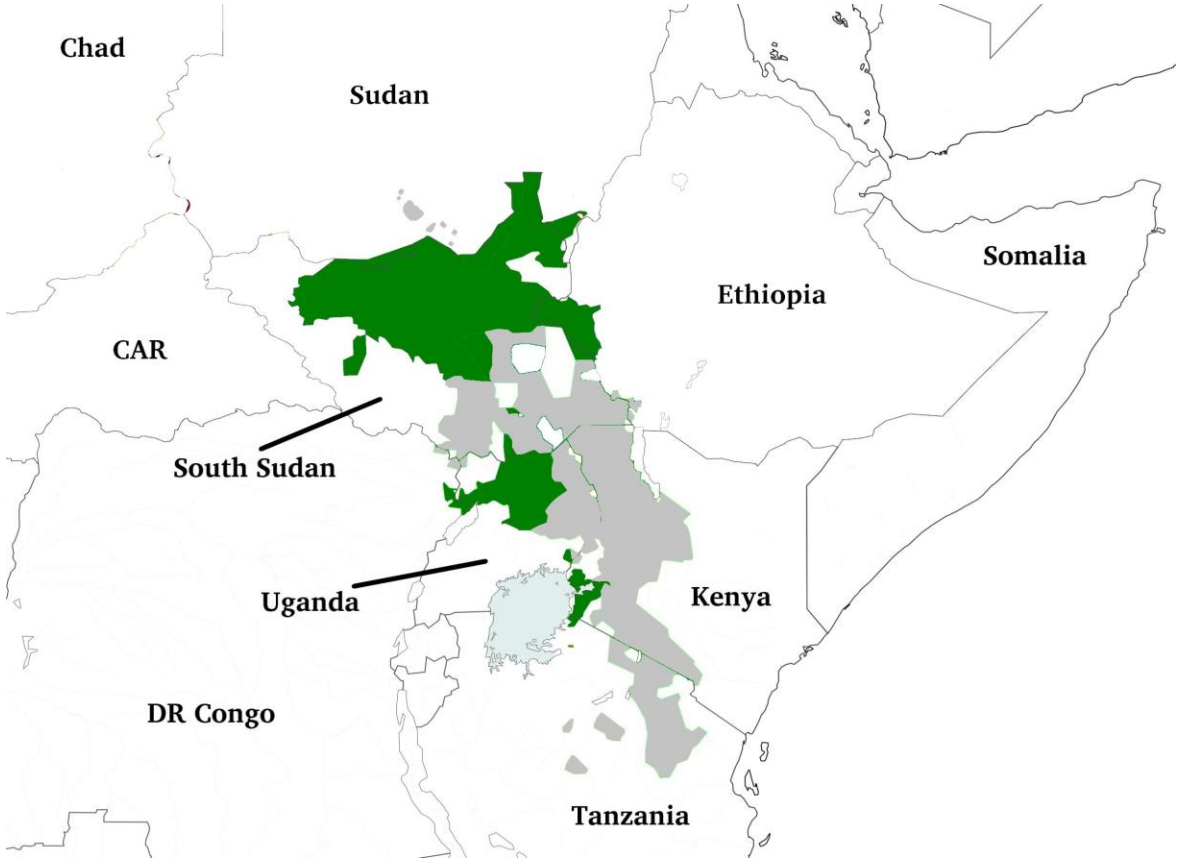


Figure 6: Geographical location of Western Nilotic

3.2 Nilotic

+ in contrast to the division into three genealogical subgroups, the Nilotic languages can be split into two typological groups regarding their gender marking properties

1. non-gender languages
> Western Nilotic (for more information, see e.g. Storch 2005: 98; Storch 2011: 39, Storch 2014: 83)
> Southern Nilotic (for more information, see e.g. Mietzner 2016: 154; Baroja et al. 1989:17; Micheli 2018: 15; Heine et al. 2014: 67)

2. gender languages

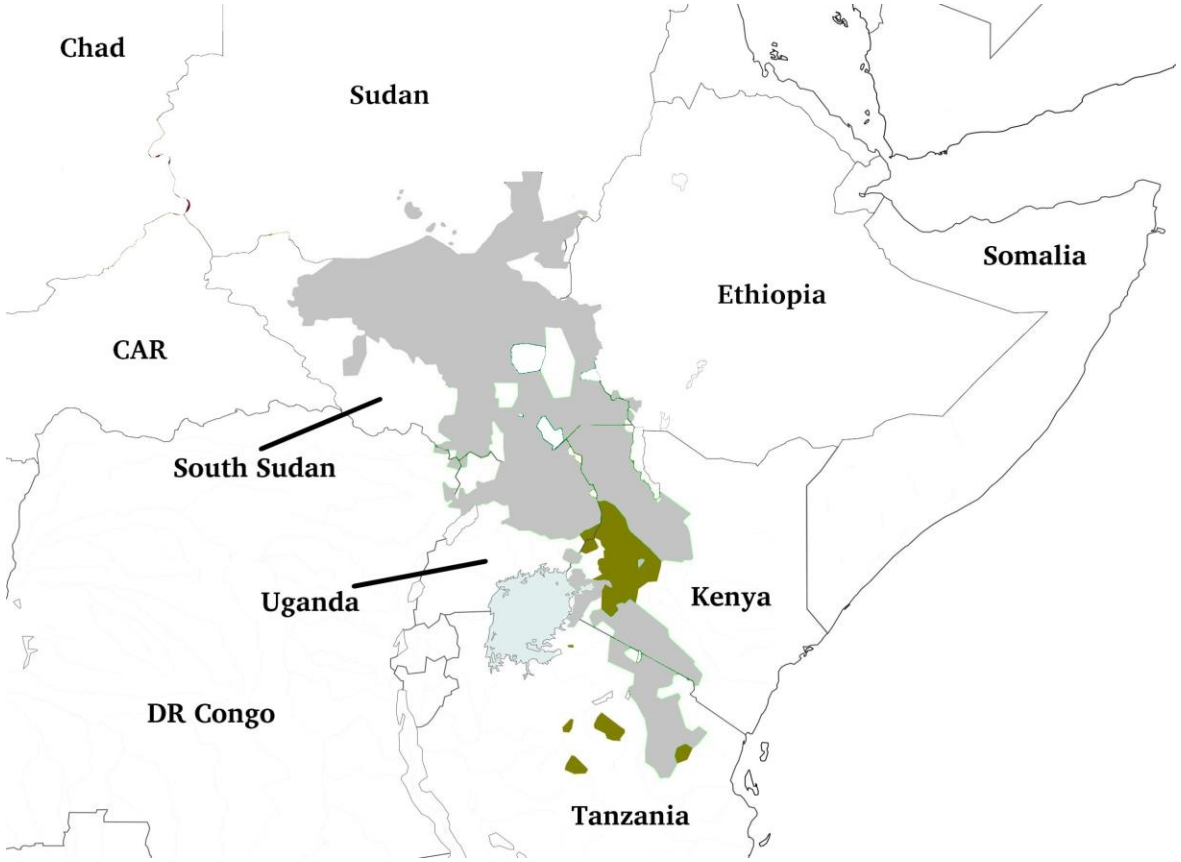


Figure 7: Geographical location of Southern Nilotic

3.2 Nilotic

+ in contrast to the division into three genealogical subgroups, the Nilotic languages can be split into two typological groups regarding their gender marking properties

1. non-gender languages
> Western Nilotic (for more information, see e.g. Storch 2005: 98; Storch 2011: 39, Storch 2014: 83)
> Southern Nilotic (for more information, see e.g. Mietzner 2016: 154; Baroja et al. 1989:17; Micheli 2018: 15; Heine et al. 2014: 67)

2. gender languages
> Eastern Nilotic

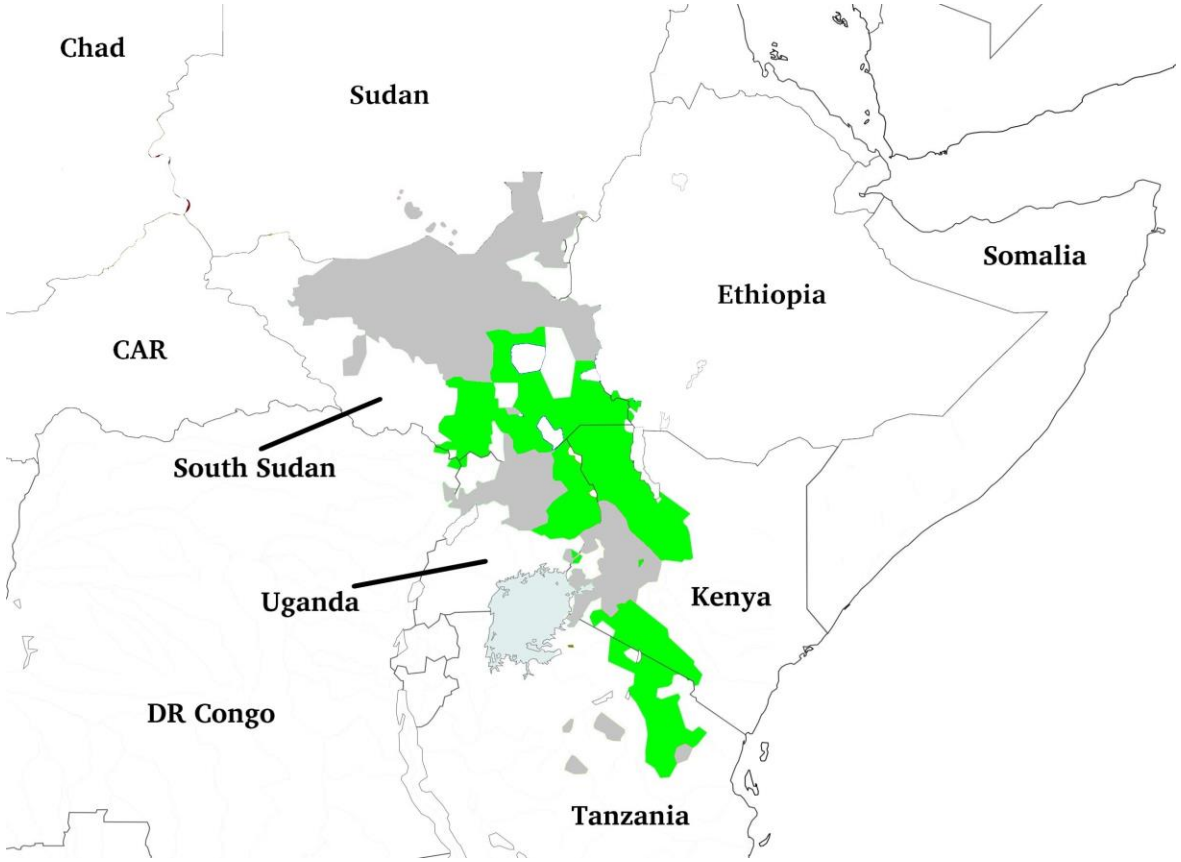


Figure 8: Geographical location of Eastern Nilotic

3.2 Nilotic: Eastern

+ split into the branches Barian and Teso-Lotuxo-Maa

+ the latter is further subdivided into Lotuxo-Maa and Teso-Turkana languages

+ information found on 11 out of 18 languages

+ productive gender systems can be found in all of them

+ however, only seven languages combine gender with tripartite number marking

+ gender systems contain either two or three genders

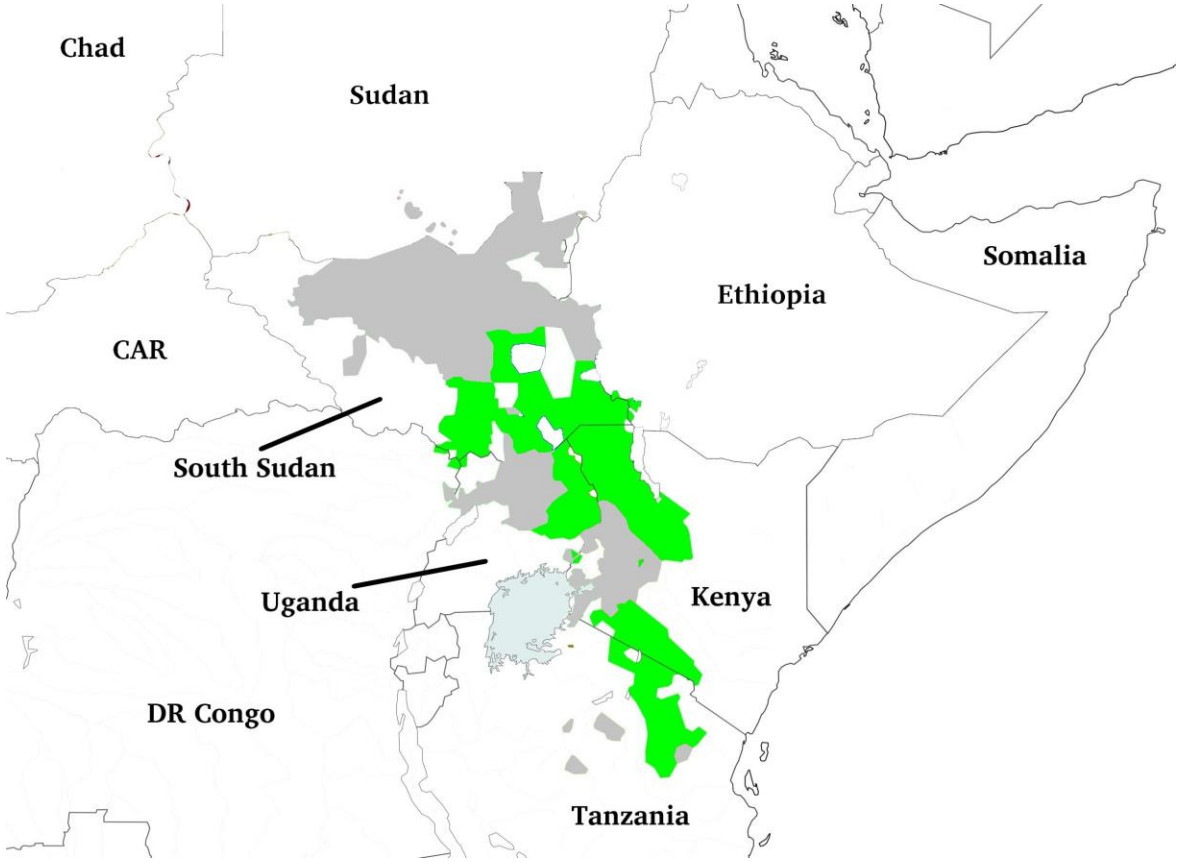


Figure 8: Geographical location of Eastern Nilotic

3.2 Nilotic

green = gender, tripartite number
red = gender, no tripartite number
black = no info on gender

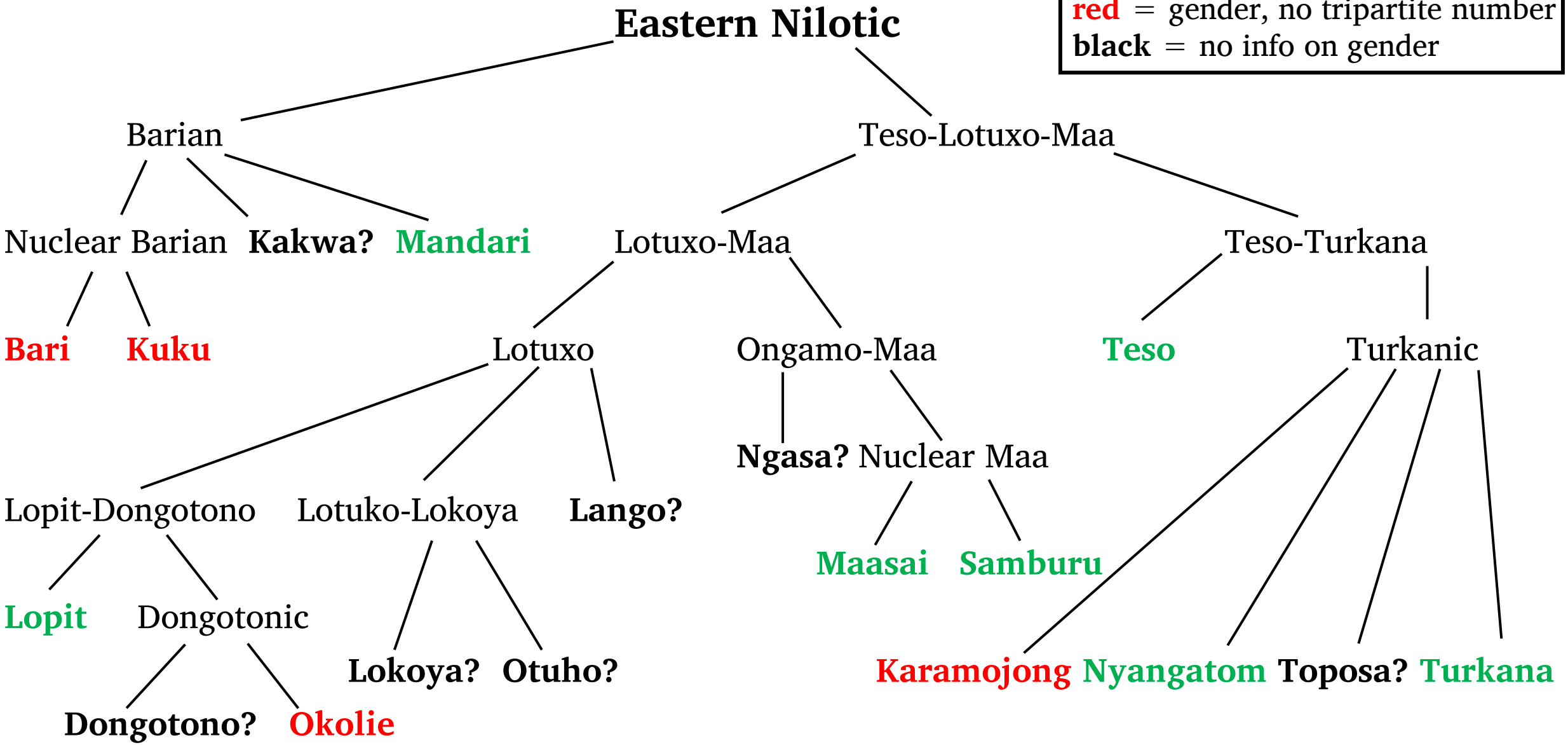


Figure 9: The Eastern Nilotic languages (Hammarström et al. 2024)

3.2 Nilotic: Mandari

Mandari

+ ca. 70.000 speakers in Terakeka County in South Sudan (Stirtz 2014: 1)

+ part of the Barian branch of Eastern Nilotic

+ included in my language sample with a total of 263 lexemes

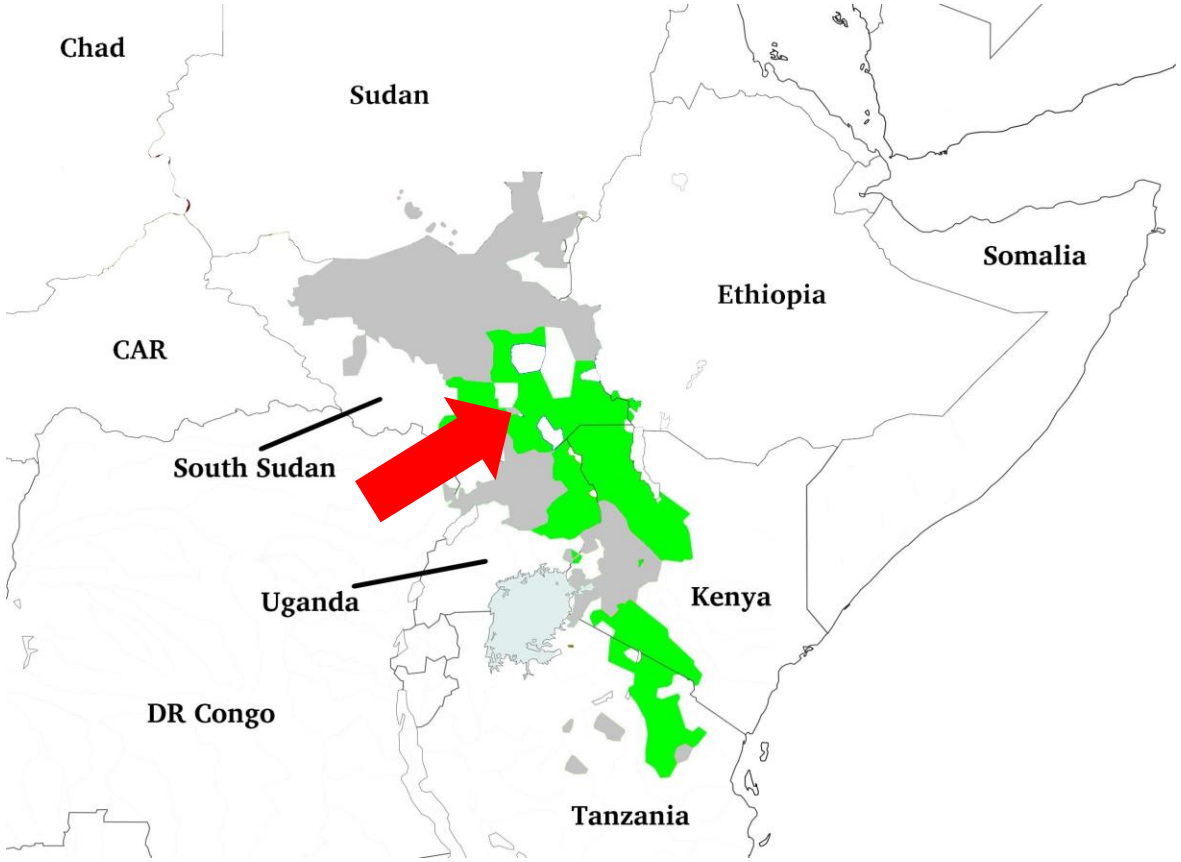
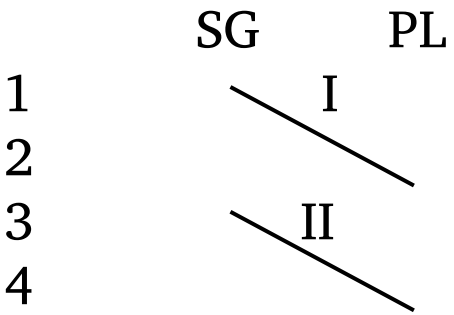


Figure 10: Geographical location of Mandari

3.2 Nilotic: Mandari

+ Mandari nouns can be assigned to four distinct AGR classes patterning over two number values (singular and plural) resulting in two genders (I and II)



+ the affiliation of a noun to a gender or AGR is never recognizable on a noun itself

+ taking a look at the agreement targets, a contrast between /l/ and /n/ can be observed

AGR	relative connector	demonstrative			inter-rogative
		near speaker	near listener	far	
1	*lolo*	*lo*	*ilo*	*lu*	*ŋalu* *lonlu*
2	*kulolo*	*kulo*	*kilo*	*kulu*	*kuŋakulo* *kulonkulu*
3	*nana*	*na*	*ina*	*nu*	*ŋanu* *nannu*
4	*kunene*	*kune*	*kine*	*kunu*	*kuŋakune* *kunenkunu*

Table 2: Agreement targets in Mandari (Stirtz 2014)

3.2 Nilotic: Mandari

+ many animate nouns can appear in both genders (Lutwori et al. 2013: 25)

> gender I induces a biologically masculine interpretation, gender II a biologically feminine one

(3) *ŋer - ŋer-ik* (I) '(masculine) sibling' -> 'brother'

(4) *ŋer - ŋer-ik* (II) '(feminine) sibling' -> 'sister'

+ for this reason, gender I is frequently referred to as masculine gender while gender II is referred to as feminine gender

+ animate nouns with inherent biological gender follow the same assignment mechanisms

(5) *lalet - lian* (I) 'husband'

(6) *küändiä - waria* (II) 'wife'

3.2 Nilotic: Mandari

+inanimate nouns on the other hand either belong only to gender I (or masculine) or gender II (or feminine) (Lutwori et al. 2013: 26)

(7) *kapiria-so - kapiria* (I) ‘skirt’

(8) *seran-so - seran* (II) ‘star’

+ transnumeral nouns can appear in all four agreement classes

(9) *mogor* (1) ‘hunger’

(10) *m̈ik* (2) ‘sorghum’

(11) *kimaŋ* (3) ‘fire’

(12) *rima* (4) ‘blood’

3.2 Nilotic: Lopit

Lopit

+ ca. 50.000 speakers in the Lopit mountains of South Sudan (Moodie 2020: 2)

+ one of the six Lotuxo languages from the Lotuxo-Maa branch

+ included in my language sample with a total of 204 lexemes

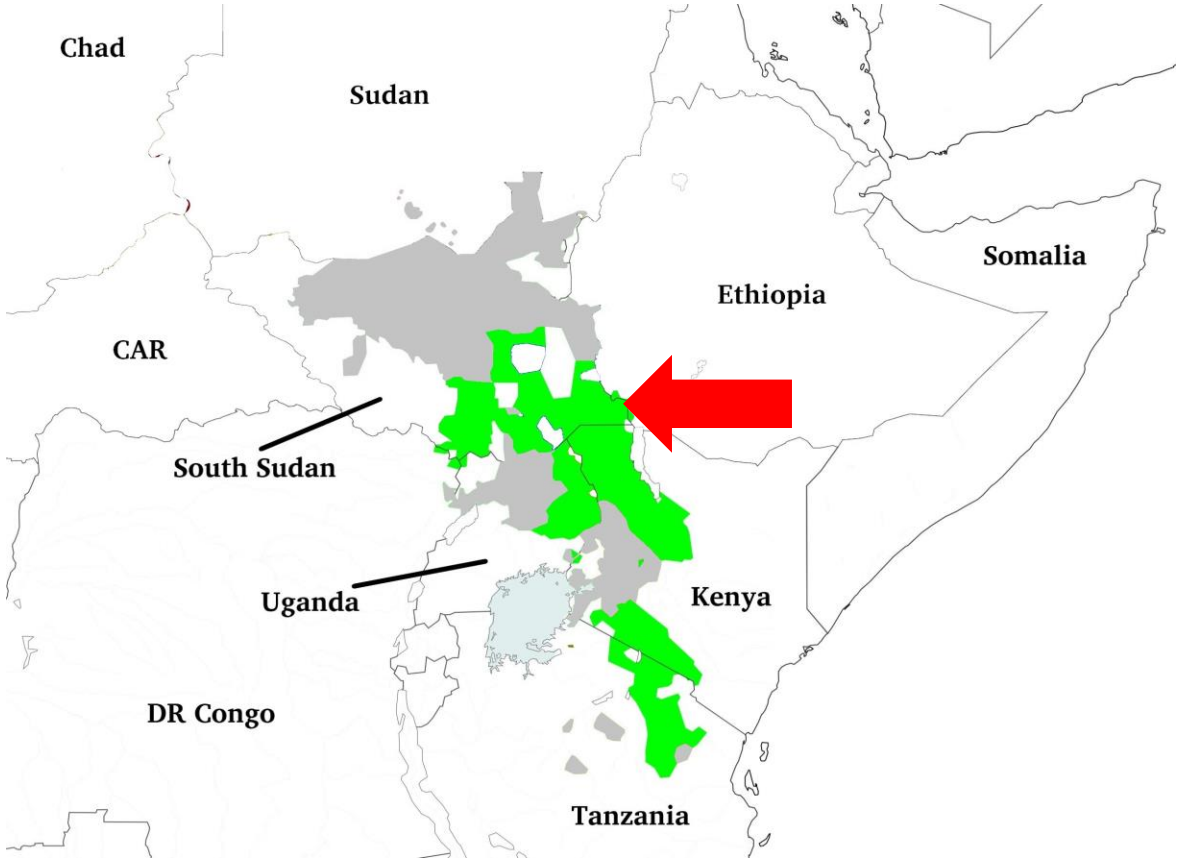


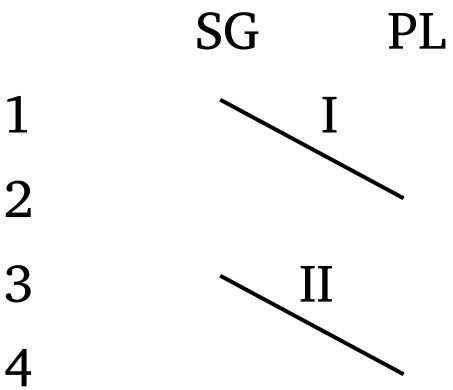
Figure 11: Geographical location of Lopit

3.2 Nilotic: Lopit

+ according to Moodie (2020: 114), all Lopit nouns are “classified as either masculine or feminine”

+ the majority of nouns do not bear any classificatory morphology

+ instead, they trigger agreement yielding a total of four distinct AGR patterning over two number values (singular and plural) resulting indeed in two genders (I and II)



3.2 Nilotic: Lopit

+ in addition to this, gender affiliation is marked morphologically on certain nouns with a prefix

> I: *lɔ-*

> II: *ɪ-* or *na-* (*ɪ-* being more common according to Moodie 2020: 114)

+ semantically, the majority of these nouns can be allocated to one of the following two groups

> kinship terms: *lɔ-ɲau/ ɪ-ɲau* ‘first born child’

> agentive nouns: *lo-hoho/i-hoho - hoho-lak* ‘thief’

+ however, only a small number of kinship terms and agentive nouns show these prefixes

> not productive anymore?

+ except for one entry (*illa* ‘friend, companion’; which can appear in all four AGR classes), transnumeral nouns are exclusively found in gender II (AGR classes 3 and 4, with class 3 covering the large majority)

> *iho* (3) ‘dew’ vs. *ree* (4) ‘milk’

3.2 Nilotic: Lopit

+ taking a look at the agreement targets, the same distinctive contrast as in Mandari between /l/ (as in the prefix *lɔ*-) and /n/ (as in the prefix *na*-) can be observed

+ connection to binary biological gender distinction led to the classification of genders I and II as masculine and feminine (see e.g. Moodie 2020, Stirtz 2014)

AGR	relative + possessive	demonstrative			quantifier
		near speaker	near listener	far	
1	*lɛ̀*	*íl꞉ɛ̀ŋ*	*laíà*	*léliò*	*lɔ̀bɔ́*
2	*xʊ̀lɛ́*	*xʊ̀lɔ́*	*lálà*	*lʊ́xà*	*xʊ̀lák*
3	*nà*	*ín꞉àŋ*	*naíà*	*néniò*	*nàbɔ́*
4	*xʊ̀ná*	*xʊ̀ná*	*nánà*	*nʊ́xà*	*xʊ̀rê*

Table 3: Agreement targets in Lopit (Moodie 2020)

3.2 Nilotic: Samburu

Samburu

+ ca. 240.000 speakers in northern Kenya (Eberhard et al. 2024)

+ belongs to the Nuclear Maa subgroup of the Ongoma-Maa branch

+ not included in my language sample

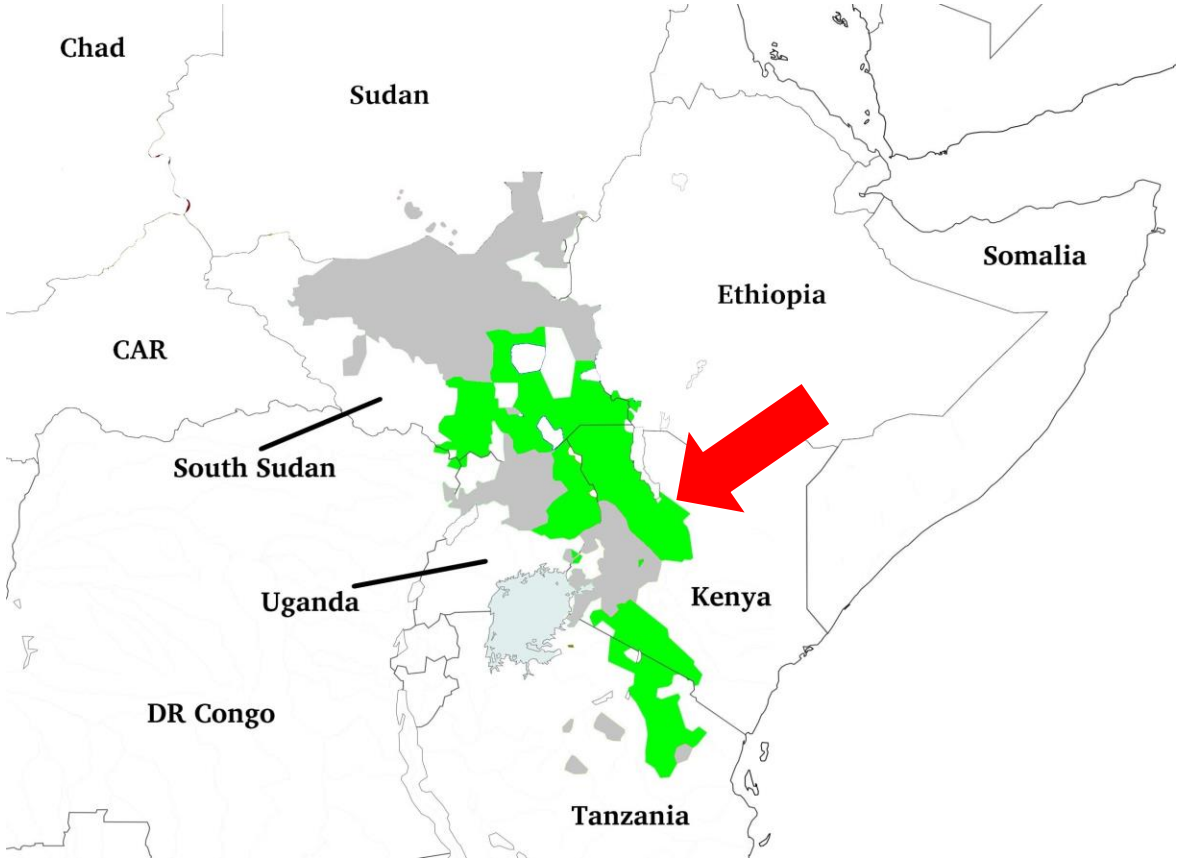


Figure 12: Geographical location of Samburu

3.2 Nilotic: Samburu

+ Samburu nouns can be assigned to four distinct agreement classes patterning over two number values (singular and plural) resulting in two genders (I and II)

	SG	PL
1	I	
2		
3	II	
4		

+ taking a look at the agreement targets, the same distinctive contrast as in Lopit and Mandari between /l/ and /n/ can be observed

3.2 Nilotic: Samburu

+ the only targets exhibiting the full spectrum of agreement classes are demonstratives with four different sets

+ while the deixis of the first two sets (speaker) relates to place only, the other two sets can also relate to time (Heine 1980: 112)
> near past, far from past

AGR	demonstrative			
	near speaker	far from speaker	near listener	far from listener
1	*alé*	*aldé*	*ilo*	*ildo*
2	*kuló*	*kuldó*	*leló*	*lekwa*
3	*aná*	*andá*	*inia*	*idia*
4	*kuná*	*kundá*	*nenéá*	*nekwa*

Table 4: Agreement targets in Samburu (Heine 1980)

3.2 Nilotic: Samburu

+ there are only two distinct nominal form class exponents in Samburu

> *l-* : singular and plural forms of gender I

> *n-* : singular and plural forms of of gender II

+ for this reason, the number suffixes are crucial for the disambiguation of a noun's number value following the principles of encoding tripartiteness

(13)		*n-kumé*	*n-kume-cín*	'nose'
(14)	*l-babák-i*	*l-babák*		'rib'
(15)	*n-kantâ-n*		*n-kantá-k*	'sister-in-law' (Heine 1980: 107)

3.2 Nilotic: Maasai

Maasai

+ ca. 1.5 million speakers in Southern Kenya and northern Tanzania (Eberhard et al. 2024)

+ belongs to the Nuclear Maa subgroup of the Ongoma-Maa branch

+ included in my language sample with a total of 466 lexemes

+ closely related to and mutually intelligible with Samburu (Sim 1980, Lentete 2016)

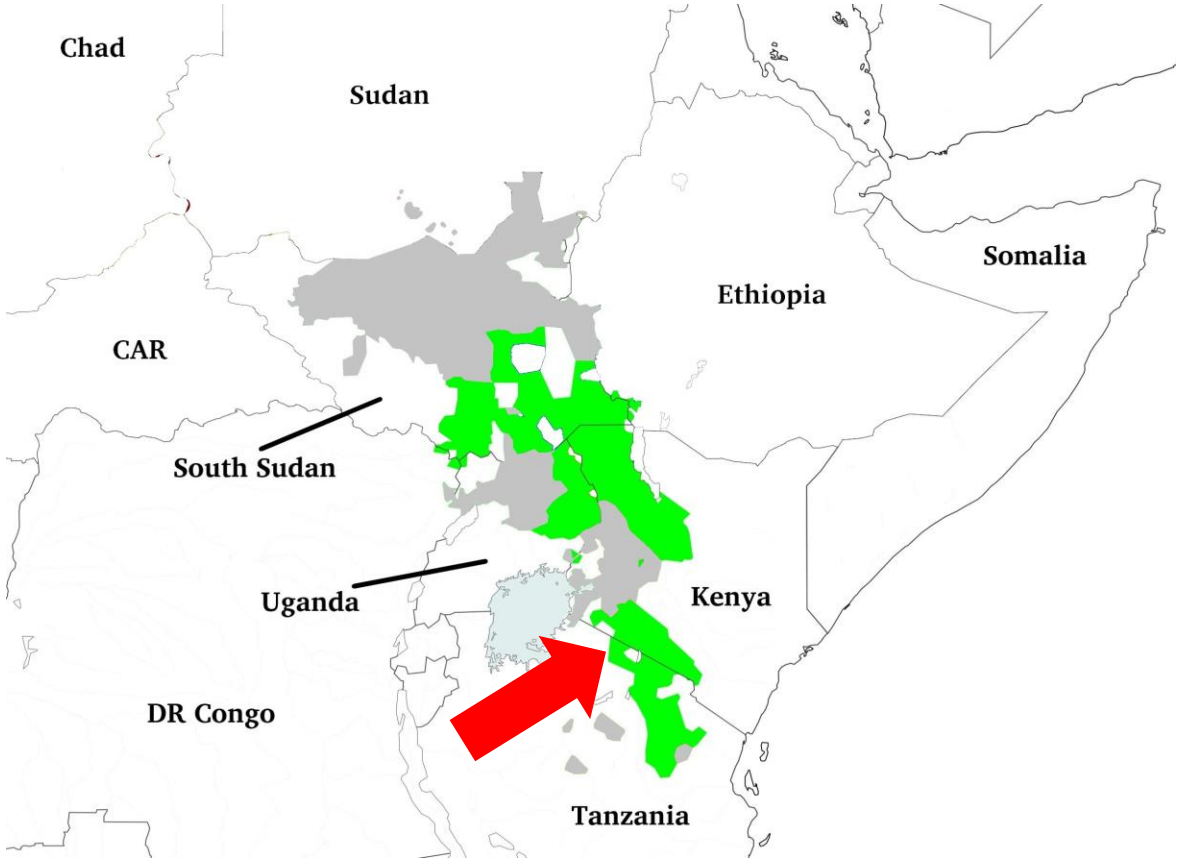
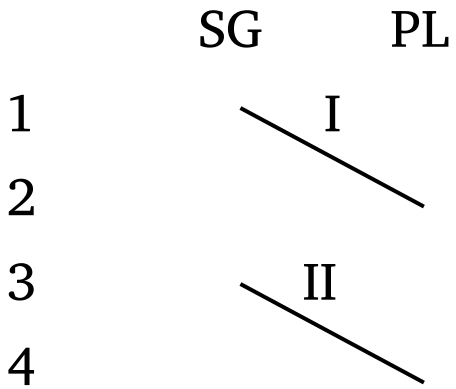


Figure 13: Geographical location of Maasai

3.2 Nilotic: Maasai

+ Tucker and Mpaayei (1955) idientified four distinct agreement classes in Maasai patterning over two number values (singular and plural) resulting in two genders (I and II)



+ a potential third gender had already been discovered by Hollis (1905: 9) and was subsequently also incorporated in Tucker and Mpaayei's (1955: 15) analysis

+ as it was established on the basis of one single noun (*e-wueji* 'place') only (Tucker and Mpaayei 1955: 15), it can just as well be seen as a deviant member of gender II (for a comprehensive discussion, see Heine 1980: 105)

3.2 Nilotic: Maasai

+ agreement targets can be bound or unbound

+ while the first two demonstratives serve typical deictic functions, the predicative ones are rather exclamatory

+ same contrast between /l/ and /n/ as in Lopit, Mandari and Samburu

AGR	demonstrative				relative prefix
	near speaker	far from speaker	predica-tive 1	predica-tive 2	
1	*ilo*	*lido*	*nele*	*neilo*	*o-*
2	*lelo*	*lekua*	*noolo*	*nelelo*	*oo-*
3	*ina*	*idia*	*nena*	*neina*	*na-*
4	*nena*	*nekua*	*noona*	*nenena*	*naa-*

Table 5: Agreement targets in Maasai (Tucker and Mpaayei 1955)

3.2 Nilotic: Maasai

+ in addition, Maasai contains a deriflection system which is structured parallel to its gender system

AGR	SG	PL	NF SG	NF PL
1	*ilo*		*OL-*	
2		*lelo*		*IL-*
3	*ina*		*EN-*	
4		*nena*		*IN-*

Figure 14: Maasai gender (represented by near demonstratives) and deriflection system

+ historically, the gender/deriflection pairs have been classified as “masculine” and “feminine” due to the assignment of biologically male animates to gender I and biologically female animates to gender II

(16) *en-deroni* ‘(female) rat’ vs. *ol-deroni* ‘(male rat’) (Tucker and Mpaayei 1955: 3)

(17) *en-kíne* ‘goat’ vs. *ɔl-ɔ́rɔ̂* ‘he-goat’ (Payne and Kotikash 2008)

3.2 Nilotic: Teso

Teso

+ ca. 1.9 million speakers in northwestern Kenya and northeastern Uganda (Barasa 2017: 8)

+ belongs to the Teso-Turkana subgroup of the Teso-Lotuxo-Maa branch

+ not included in my language sample

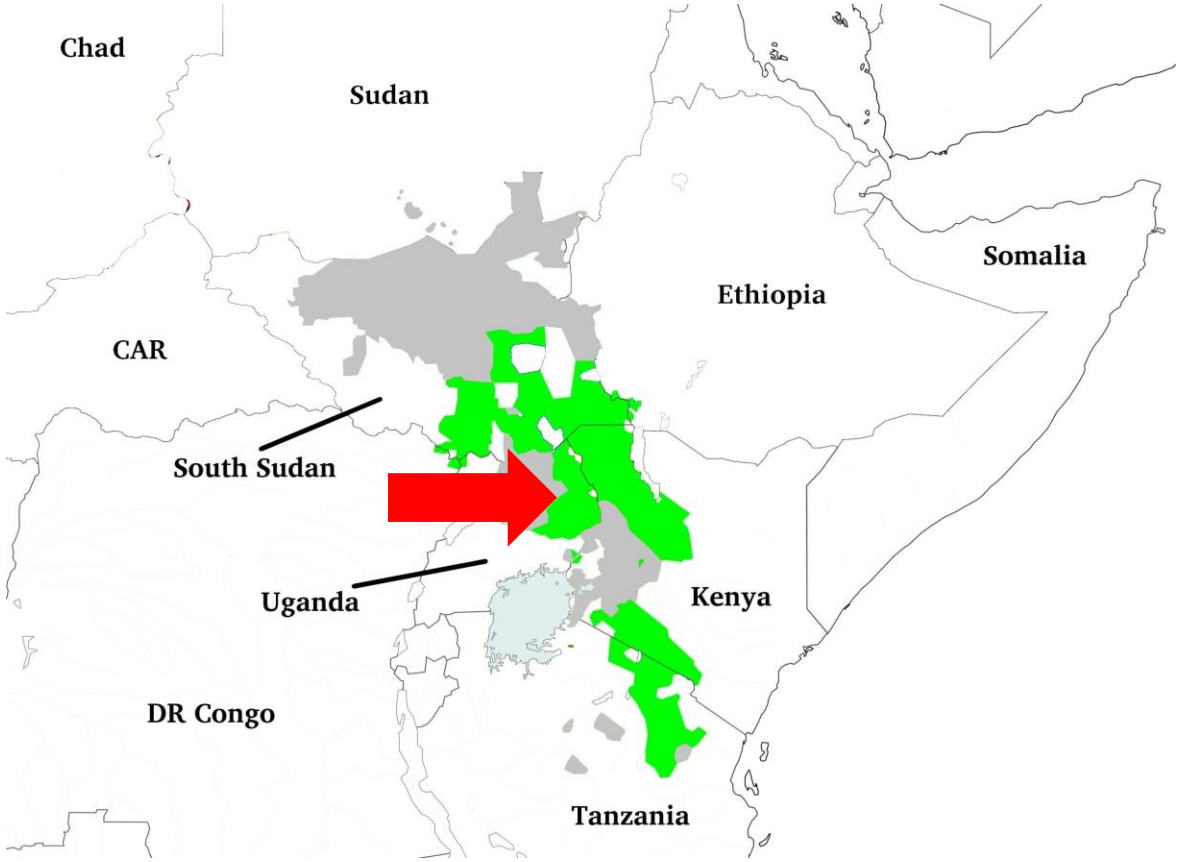


Figure 15: Geographical location of Teso

3.2 Nilotic: Teso

+ in contrast to the previously described Eastern Nilotic languages, Teso has a total of five agreement classes yielding three distinct genders

+Teso exhibits a gender system of the convergent type with agreement classes 1, 2, 3 and 5 being exclusive to a single gender while class 4 is part of two genders (II paired with 3, III paired with 5)
> uncommon among Eastern Nilotic languages, but typical for the Teso-Turkana subgroup

AGR	demonstrative		
	near speaker and listener	near listener, far from speaker	far from speaker and listener
1	*na*	*ŋin*	*ja*
2	*nu*	*ŋun*	*kwi*
3	*lo*	*ŋol*	*je*
4	*lu*	*ŋul*	*kwi*
5	*lo*	*ŋul*	*ŋil*

Table 6: Agreement targets in Teso (Barasa 2017: 96)

3.2 Nilotic: Teso

+ the only targets exhibiting the full spectrum of agreement classes are demonstratives with three different sets

+ the approximate distances of both speaker and listener are equally relevant for the composition of these classes (Barasa 2017: 96)

+ interestingly, the structure of the Teso deriflection system deviates from the structure of its gender system (unlike e.g. Maasai, where both systems are structured identically)
> convergent gender system with three classes vs. crossed deriflection system with seven classes

AGR	demonstrative		
	near speaker and listener	near listener, far from speaker	far from speaker and listener
1	*na*	*ŋin*	*ja*
2	*nu*	*ŋun*	*kwi*
3	*lo*	*ŋol*	*je*
4	*lu*	*ŋul*	*kwi*
5	*lo*	*ŋul*	*ŋil*

Table 6: Agreement targets in Teso (Barasa 2017: 96)

3.2 Nilotic: Teso

AGR	SG	PL
1	ŋjin	
2		*ŋun*
3	*ŋol*	
4		*ŋul*
5	*ŋul*	

NF SG	NF PL
A-	*A-*
E-	*E-*
I-	*I-*
NA-	*NU-*
LO-	*LU-*

Figure 16: Teso gender (represented by demonstratives) and deriflection system (Barasa 2017: 75, 96)

3.2 Nilotic: Teso

+ in addition to the prefixing nominal form class markers, Teso nouns contain number marking suffixes in three patterns (P-, S and R-pattern) yielding encoding tripartiteness

(18)		*è-cóm*	*ì-cóm-ìn*	‘baboon’
(19)	*è-kúr-ùt*	*ì-kúr*		‘caterpillar’
(20)	*è-músàó-t*		*ì-músàó-k*	‘midwife’ (Barasa 2017)

+ while the upper five deriflection classes contain animate and inanimate, as well as concrete and abstract nouns, the lower two (*NA-/NU-, LO-/LU-*) exclusively mark animates (Barasa 2017: 75, 82)

> mostly agent nouns derived from verbs (see 21), but also underived ones (see 22)

(21)	lò-kà-gìr-ìt		lù-kà-gìr-àk	‘author’
(22)		lò-dótè	lù-dótè-k	‘healer’ (Barasa 2017)

+ here, the distinctive contrast of /l/ and /n/ emerges, which could already be observed in Lopit, Mandari and Maasai (on nominal form AND agreement markers)

3.2 Nilotic: Nyangatom

Nyangatom

+ ca. 50.000 speakers in the east of South Sudan and in southwestern Ethiopia (Schröder and Kadanya 2011: 1)

+ belongs to the Turkanic subgroup of the Teso-Turkana branch

+ not included in my language sample

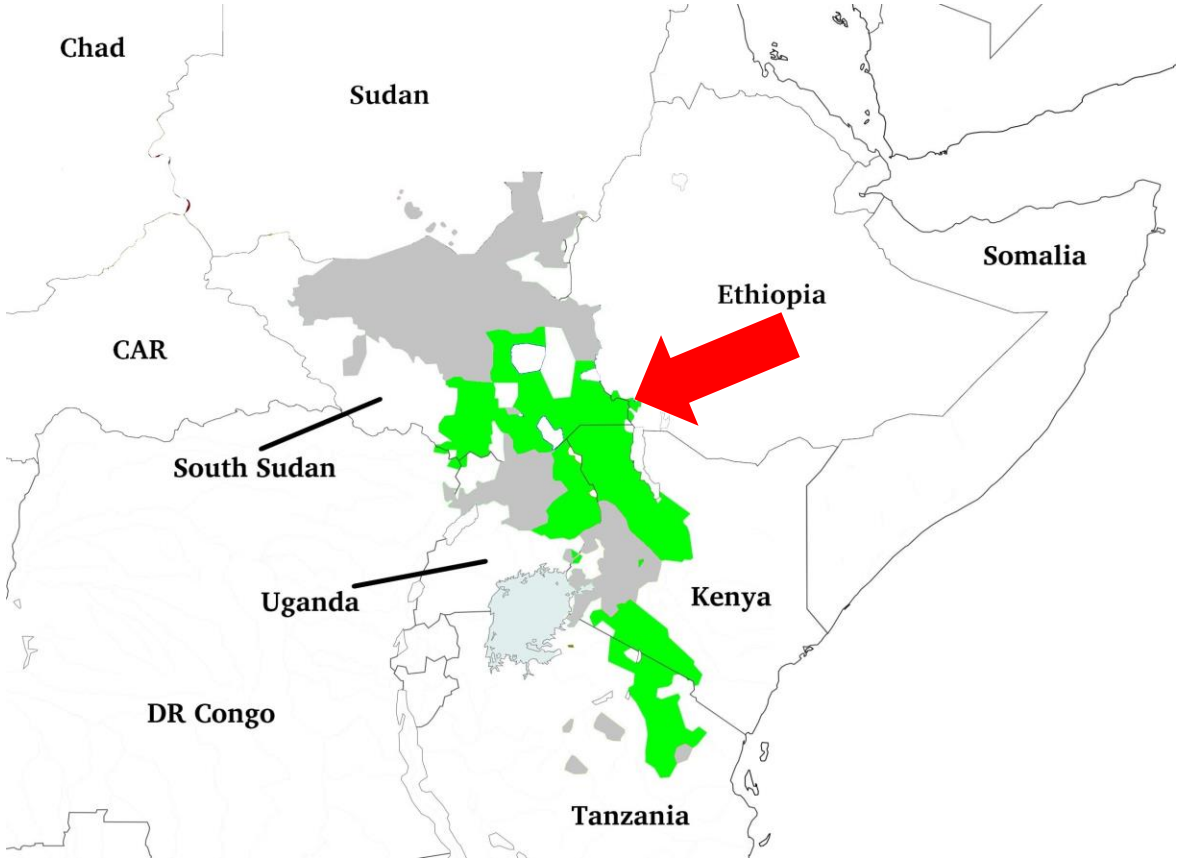


Figure 17: Geographical location of Nyangatom

3.2 Nilotic: Nyangatom

+ Nyangatom has a total of five agreement classes yielding three distinct genders with an identical structure as Teso

+ the structure of the Nyangatom deriflection system is of the same type as its gender system, but differs in terms of complexity
> both convergent with three genders opposed to six deriflection classes

AGR	demonstrative		
	near	**far**	**very far**
1	*na(ga)*	*ngina/-i*	*yea(ga)*
2	*nu(gu)*	*nguna/-u*	*(ko)kwa*
3	*lo(go)*	*ngolo*	*ye(ge)*
4	*lu(gu)*	*ngulu*	*(ku)kwi*
5	*(yeg)eni*	*ngini*	*yi(gi)*

Table 7: Agreement targets in Nyangatom (Schröder and Kadanya 2011: 14)

3.2 Nilotic: Nyangatom

+ like in Teso, agreement classes can best be illustrated with demonstratives (in three different sets distinguishing between three distances)

+ the majority of demonstratives has a long and a short form

+ in case of two forms, the long one augments the definiteness of the referent (Schröder and Kadanya 2011: 14)

AGR	demonstrative		
	near	far	very far
1	*na(ga)*	*ngina/-i*	*yea(ga)*
2	*nu(gu)*	*nguna/-u*	*(ko)kwa*
3	*lo(go)*	*ngolo*	*ye(ge)*
4	*lu(gu)*	*ngulu*	*(ku)kwi*
5	*(yeg)eni*	*ngini*	*yi(gi)*

Table 7: Agreement targets in Nyangatom (Schröder and Kadanya 2011: 14)

3.2 Nilotic: Nyangatom

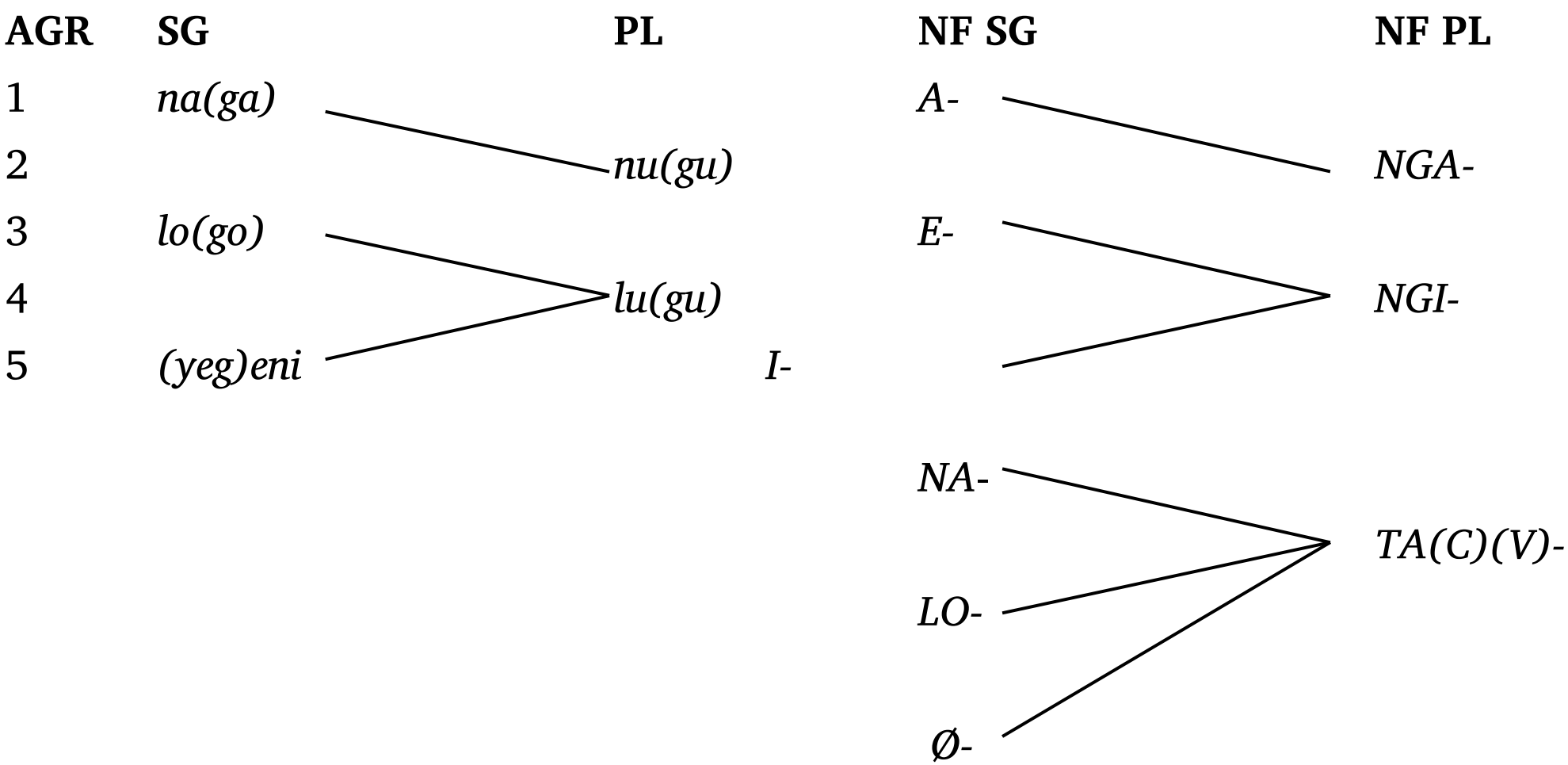


Figure 18: Turkana gender (represented by demonstratives) and deriflection system (Schröder and Kadanya 2011: 6, 14)

3.2 Nilotic: Nyangatom

+ in addition to the prefixing nominal form class markers, Nyangatom nouns contain number marking suffixes in three patterns (P-, S and R-pattern) yielding encoding tripartiteness

(23)		*e-kori*	*ngu-kori-o*	‘giraffe’
(24)	*e-mare-ti*	*ngi-mare*		‘bean’
(25)	*a-ter-ani*		*nga-ter-aka*	‘bride’

+ just like in Teso, the SG nominal form markers *NA-* and *LO-* can also be found in Nyangatom

> however, here they are both paired with the PL marker *TA(C)(V)-*

(26)	*lo-kutu*	*ta-lo-kutu*	‘hornbill’
(27)	*na-pupu*	*ta-na-pupu*	‘hedgehog’ (Schröder and Kadanya 2011)

+ these classes form an exception, as they appear without any additional number suffixes

> number is exclusively marked by nominal form class prefixes => no encoding patterning

3.2 Nilotic: Turkana

Turkana

+ ca. 390.000 speakers in northwestern Kenya and southwestern Ethiopia, north, west and south of Lake Turkana (Dimmendaal 2010: 1003)

+ belongs to the Turkanic subgroup of the Teso-Turkana branch

+ closely related to and mutually intelligible with Nyangatom (Schröder and Kadanya 2011: 1; Dimmendaal 1983: 2)

+ not included in my language sample

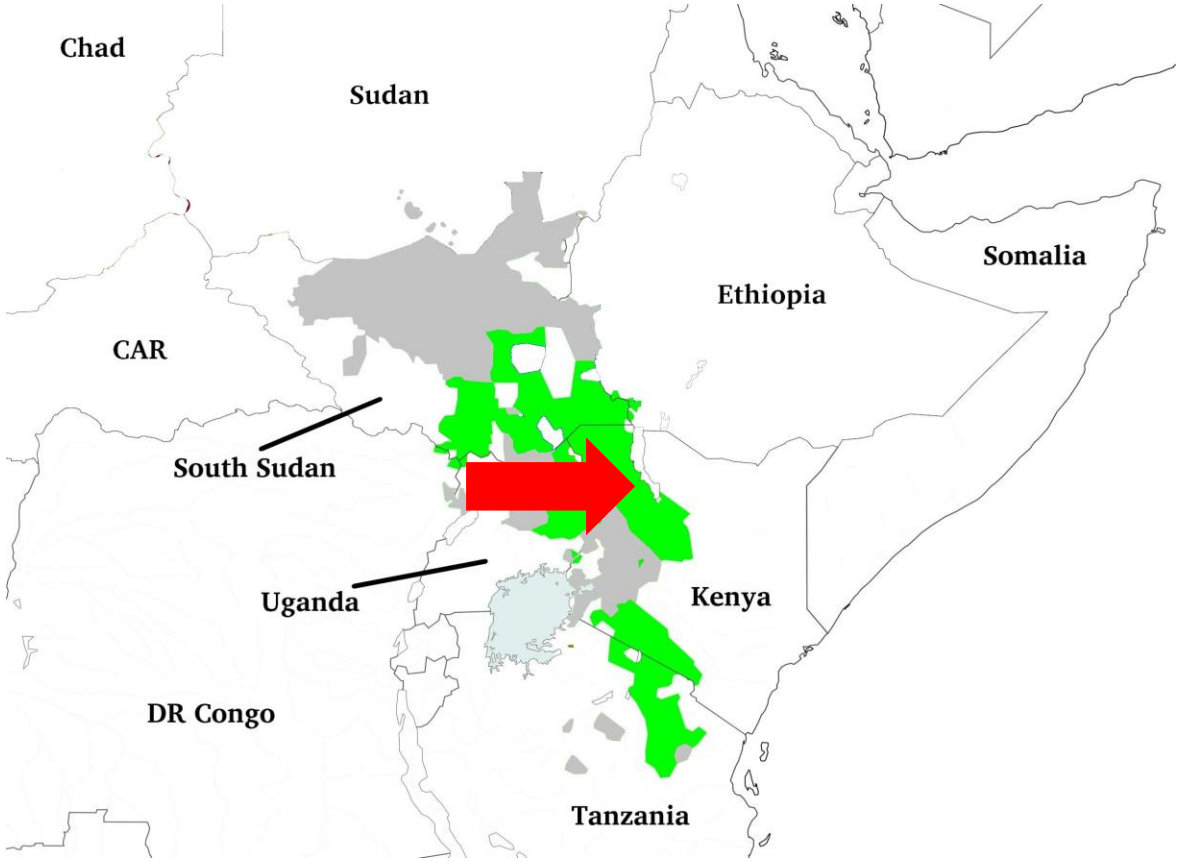


Figure 19: Geographical location of Turkana

3.2 Nilotic: Turkana

+ Turkana has a total of five agreement classes yielding three distinct genders with the identical structure as Teso and Nyangatom

+ the only targets exhibiting the full spectrum of AGR classes are demonstratives with three different sets

+ demonstratives are either referential or non-referential (Dimmendaal 1983: 306)
> the latter can further be divided into two sets depending on proximity to speaker and listener
> occurence of long or shortened forms seems to be in free variation

AGR	demonstrative		
	non-referential, near	non-referential, far	referential
1	*na(ga)*	*ya(ga)*	*ŋm(a)*
2	*nu(gu)*	*ku(kwa)*	*ŋun(a)*
3	*lo(go)*	*ye(ge)*	*ŋol(o)*
4	*lu(gu)*	*ku(kwi)*	*ŋul(u)*
5	*e(g)enì*	*yi(gi)*	*ŋin(i)*

Table 8: Agreement targets in Turkana (Dimmendaal 1983: 306)

3.2 Nilotic: Turkana

+ the structure of the Turkana deriflection system deviates widely in type and complexity from the structure of its gender system
> convergent gender system with three classes vs. crossed deriflection system with nine classes

AGR	demonstrative		
	non-referential, near	non-referential, far	referential
1	*na(ga)*	*ya(ga)*	*ŋm(a)*
2	*nu(gu)*	*ku(kwa)*	*ŋun(a)*
3	*lo(go)*	*ye(ge)*	*ŋol(o)*
4	*lu(gu)*	*ku(kwi)*	*ŋul(u)*
5	*e(g)enì*	*yi(gi)*	*ŋin(i)*

Table 8: Agreement targets in Turkana (Dimmendaal 1983: 306)

3.2 Nilotic: Turkana

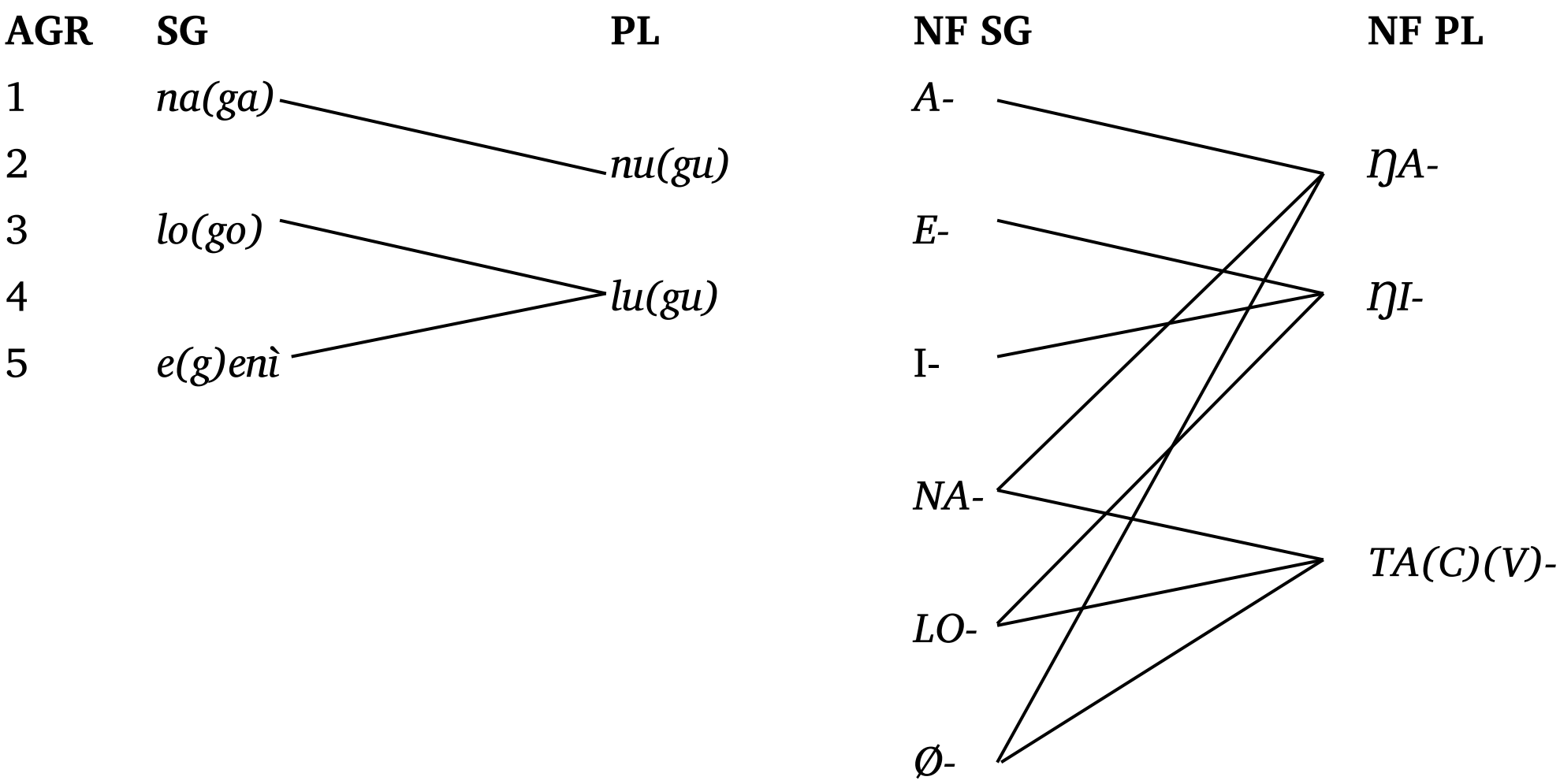


Figure 20: Turkana gender (represented by demonstratives) and deriflection system (Dimmendaal 1983: 210-215, 306)

3.2 Nilotic: Turkana

+ in addition to the prefixing nominal form class markers, Turkana nouns contain number marking suffixes in three patterns (P-, S and R-pattern) yielding encoding tripartiteness

(28)		*ɛ-kàal*	*ŋɪ-kààl-a*	‘camel’
(29)	*ɛ-ɲa-ìt*	*ŋɪ-ɲa*		‘grass’
(30)	*e-kùk-ut*		*ŋɪ-kuku-i*	‘chicken’

+ just like in Nyangatom, the SG nominal form markers *NA-* and *LO-* pair with the PL exponent *TA(C)(V)-,* deviating from the other nominal form classes as they appear without any additional number morphology

(31)	*nà-kɔɔ̀*	*ta-nà-kɔɔ̀*	‘daughter’
(32)	*nà-tolè*	*ta-nà-tolè*	‘bat’ (Dimmendaal 1983)

3.3 Nilotic: Summary

+ even though tripartite number marking can be observed in all three Nilotic subgroups, Western Nilotic languages are the only ones marking gender

+ in fact, Eastern Nilotic appears to be the only language (sub)group included in my sample with consistent gender marking

> however, not all Eastern Nilotic languages were included in this study as some do not contain tripartite number systems

+ internally, Eastern Nilotic can be divided into two typological groups

A. non-Teso-Turkana languages

B. Teso-Turkana languages

3.3 Nilotic: Summary

A. non-Teso-Turkana languages

+ exhibit gender systems with four distinct AGR classes patterning in a parallel way over two number values (singular and plural) resulting in two genders (I and II)

+ in all analyzed languages, the same distinctive phonological contrast can be observed on all agreement targets linking /l/ with gender I and /n/ with gender II

+ semantically, gender I can be associated with biological femininity and gender II with biological masculinity

> as many animate nouns can appear in both genders, gender I induces a biologically masculine referent in these cases, gender II a biologically feminine one

+ concerning deriflection, these languages can further be divided into two groups

A1. non-Ongamo-Maa languages

A2. Ongamo-Maa languages

3.3 Nilotic: Summary

A1. non-Ongamo-Maa languages

+ nouns are not deriflectionally marked at all (like in Mandari) or just very infrequently (like in Lopit)

+ if they are marked, they follow certain semantic tendencies (kinship terms and agentive nouns)

+ there appears to be only one nominal form class marker for both agreement classes (singular and plural) of each respective gender displaying the characteristic contrast between /l/ and /n/

> I: *lɔ-*

> II: *ɪ-* or *na-*

3.3 Nilotic: Summary

A2. Ongamo-Maa languages

+ in both Samburu and Maasai all nouns contain obligatory nominal form class markers

+ while Samburu resembles Lopit with its two nominal form classes, Maasai exhibits a four-class system which is structured parallel to its gender system

> each AGR class has a corresponding nominal form class

> both genders have corresponding deriflection classes

+ the characteristic contrast between /l/ and /n/ can also be observed in these systems

3.3 Nilotic: Summary

b. Teso-Turkana languages

+ in contrast to the non-Teso-Turkana languages, the three presented Teso-Turkana languages exhibit a total of five agreement classes each yielding three distinct genders

+ while agreement classes 1-4 are structured equally to the non-Teso-Turkana languages, AGR5 forms a third gender with AGR4 resulting in a partially convergent gender system

+ the contrast of /l/ and /n/ can also be found in agreement classes 1-4 of these systems with AGR5 adding a new element that contains either /l/ (in Teso) or /n/ (in Nyangatom and Turkana)

+ in contrast to the structural similarity of the gender systems, all three languages show significant differences in their deriflection systems despite cognate nominal form classes

> Nyangatom: similar to the convergent structure of its gender system

> Teso and Turkana: complex crossed structure with multiple deriflection classes

3.3 Kadu

+ the Kadu languages are situated in the southwestern parts of the Nuba Mountains of Sudan

+ the language group consists of six individual languages (some with several varieties)

+ three types of gender marking can be observed:
> no gender system
> gender system based on three AGR classes
> gender system based in four AGR classes

+in order to showcase the full spectrum of nominal gender marking in the Kadu language group, examples of each type will be presented

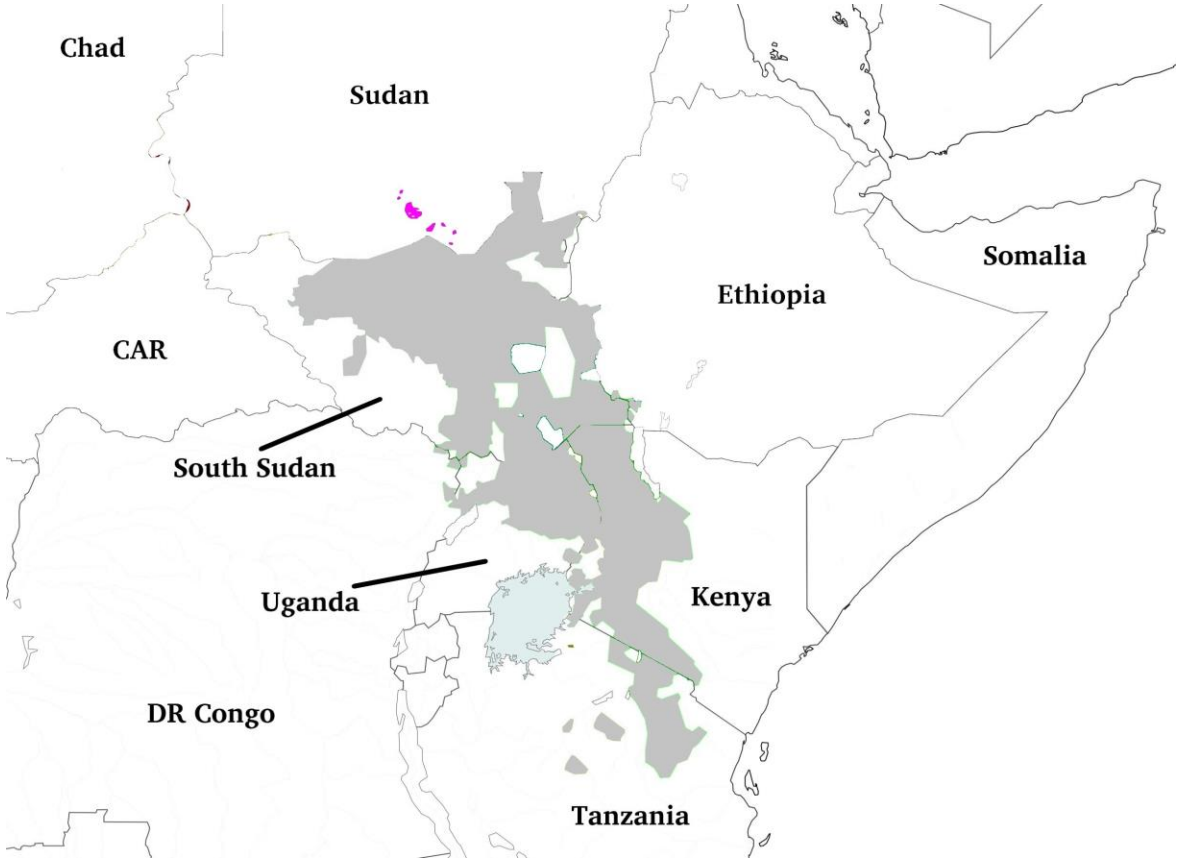


Figure 21: Geographical location of Kadu

3.3 Kadu

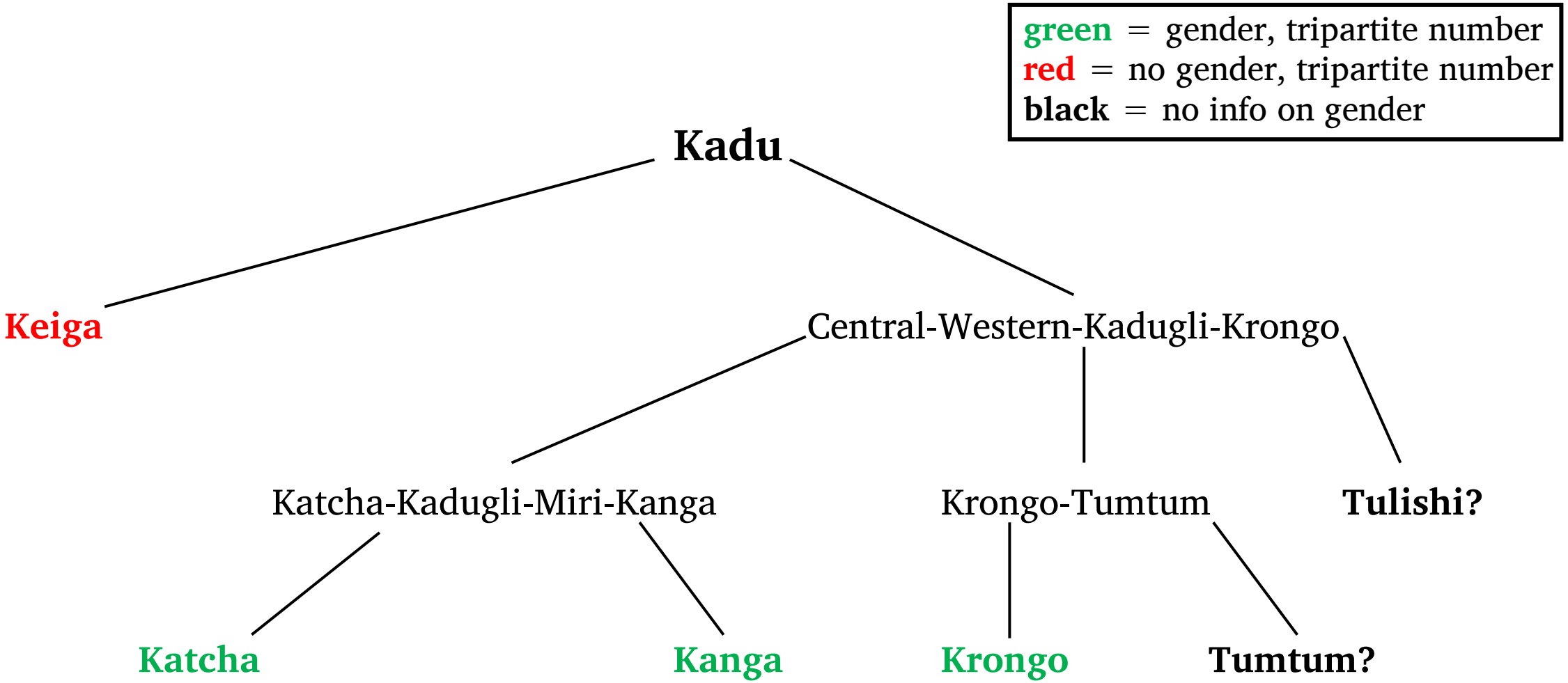


Figure 22: The Kadu languages (Hammarström et al. 2024)

3.3 Kadu: Keiga

Keiga

+ ca. 7.500 speakers (Reh 1994: 197) in the central Nuba Mountains of Sudan neighboring the Central-Western Kadu language Kanga and the Temeinic language Tese

+ constitutes an own subbranch of the Kadu language group

+ not included in my language sample

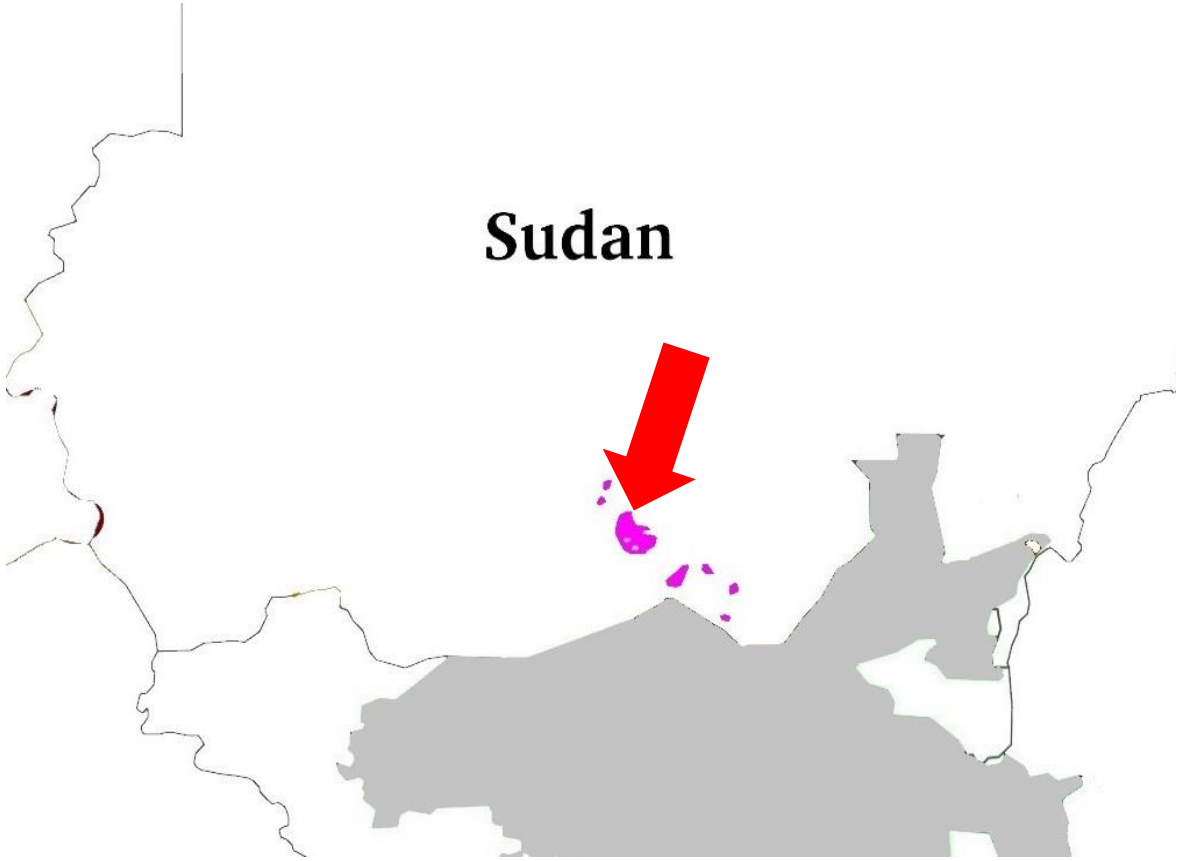


Figure 23: Geographical location of Keiga

3.3 Kadu: Keiga

+ Keiga is the only Kadu language without a gender system (Reh 1994: 198)

+ number is realized in the same way as in the other Kadu languages
> systemic and encoding tripartiteness
> number agreement marked on various targets (e.g. demonstratives)

(33)		*ɓáálá*	*nu-ɓáálá*	‘spear’
(34)	*tʊ-súlɛ*	*tsúlɛ*		‘egg’
(35)	*mi-síník*		*gu-síník*	‘stone’ (Reh 1994)

3.3 Kadu: Katcha

Katcha

+ forms a dialect cluster with its varieties Kadugli and Miri

+ ca. 30.000 speakers (Turner 2016: 12) in the central Nuba Mountains of Sudan surrounded by the Dajuic languages Shatt and Logorik, as well as the closely related Kadu language Kanga

+ belongs to the Central-Western branch of the Kadu language group

+ not included in my language sample

Figure 24: Geographical location of Katcha

3.3 Kadu: Katcha

+ in Katcha, agreement is marked on pronouns (possessive, relative, demonstrative), (attributive) adjectives and verbs (Turner 2018: 137)

> three agreement classes

+ unlike in all previously presented languages, agreement is NOT number-sensitive in Katcha

> all three AGR classes can be triggered by both singular and plural forms

+ besides that, there are no explicit (and exclusive) nominal gender markers in Katcha

+ instead, a close interplay of number and gender marking can be observed

AGR	**pronouns**			**adj.**	**verb**
	dem.	**rel.**	**poss.**		
1	*já*	*já*	*já*	*j-*	*Ø*
2	*mɔ́*	*má*	*má*	*m-*	*m-*
3	*nɔ́*	*ná*	*ná*	*n-*	*k-*

Table 9: Agreement targets in Katcha (Turner 2016: 65 ff.; Turner 2018: 137)

3.3 Kadu: Katcha

+ in Katcha, agreement is marked on pronouns (possessive, relative, demonstrative), (attributive) adjectives and verbs (Turner 2018: 137)

> three agreement classes

+ unlike in all previously presented languages, agreement is NOT number-sensitive in Katcha

> all three AGR classes can be triggered by both singular and plural forms

+ besides that, there are no explicit (and exclusive) nominal gender markers in Katcha

+ instead, a close interplay of number and gender marking can be observed

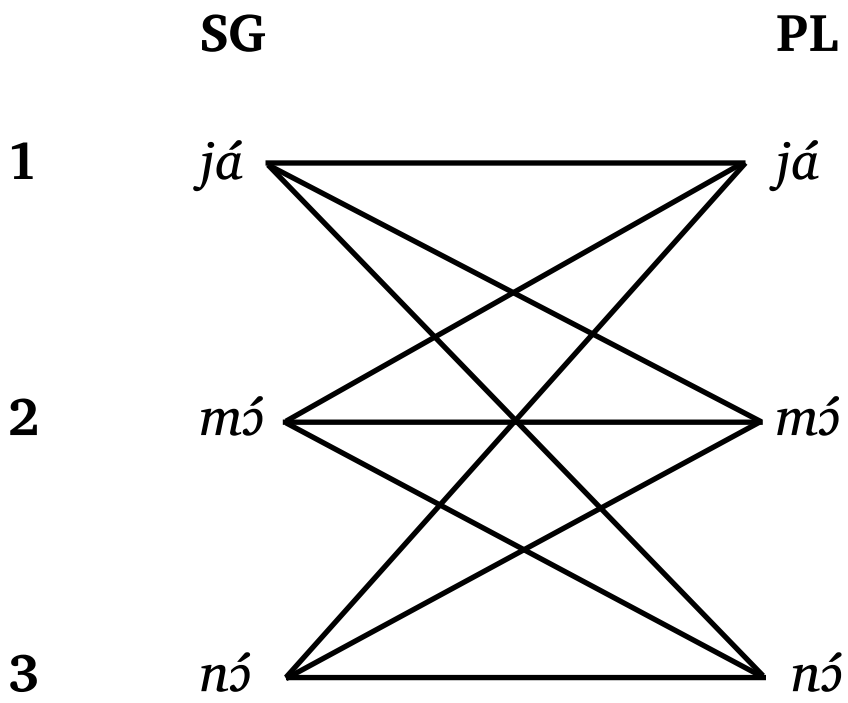


Figure 25: Katcha gender system (Turner 2018)

3.3 Kadu: Katcha

+ it has to be differentiated between nouns with and without number morphology

> systemically tripartite number marking systems contain by definition both morphologically marked and unmarked noun forms

1. unmarked nouns (in P and S pattern or as transnumerals)

+ follow certain semantic tendencies (e.g. biological gender), but are most often allocated arbitrarily to agreement classes

> AGR allocation as property of the stem

+ all three agreement classes possible

(36)		*kɔlɔ (1)*	*nǒ:-kɔ́lɔ̂ (3)*	‘eagle’
(37)	*te-mereké (3)*	*mereké (2)*		‘sesame’
(38)		*ɓî:ti (1)*		‘water’ (Turner 2018)

3.3 Kadu: Katcha

2. marked nouns (SGV or PLV in P, S or R pattern)

+ irrespective of the unmarked counterpart's agreement class (if there is one), the allocation of a marked noun form to agreement class is controlled by its number marking morphology

> AGR allocation as property of the affix

+ all three agreement classes possible

(39)		*kɔlɔ (1)*	*nǒː-kɔ́lɔ̂ (3)*	'eagle'
(40)	*te-mereké (3)*	*mereké (2)*		'sesame'
(41)	*s-ɔːrɔ (1)*		*aɲ-ɔːrɔ (1)*	'grain basket' (Turner 2018)

3.3 Kadu: Katcha

+ depending on their marking pattern affiliation, Katcha nouns combine either an unmarked noun form (Ø-) with a marked one (SGV or PLV), or two marked forms with each other (SGV with PLV)

+ certain nominal form classes are more frequent than other

> NF SG: *t-, n-*

> NF PL: *nV-, kV-*

+ most are found in different marking patterns (P or S **plus** R), while some appear in one pattern only

> *s-, m-, aɲ-* exclusive to R pattern

+ influence of nominal form class markers on gender system can best be illustrated in a systemically tripartite structure

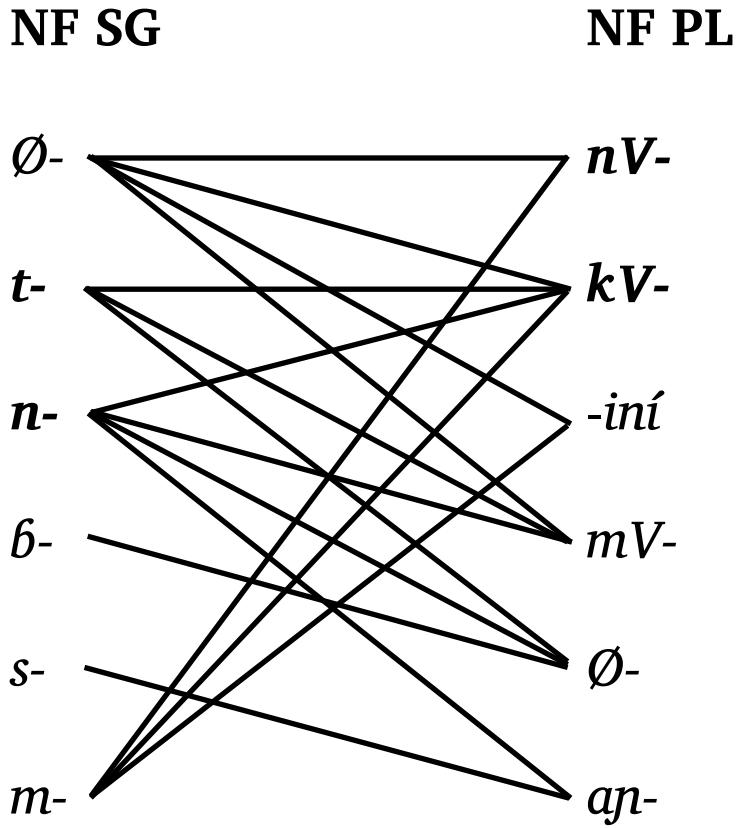


Figure 26: Katcha deriflection system (Turner 2018)

3.3 Kadu: Katcha

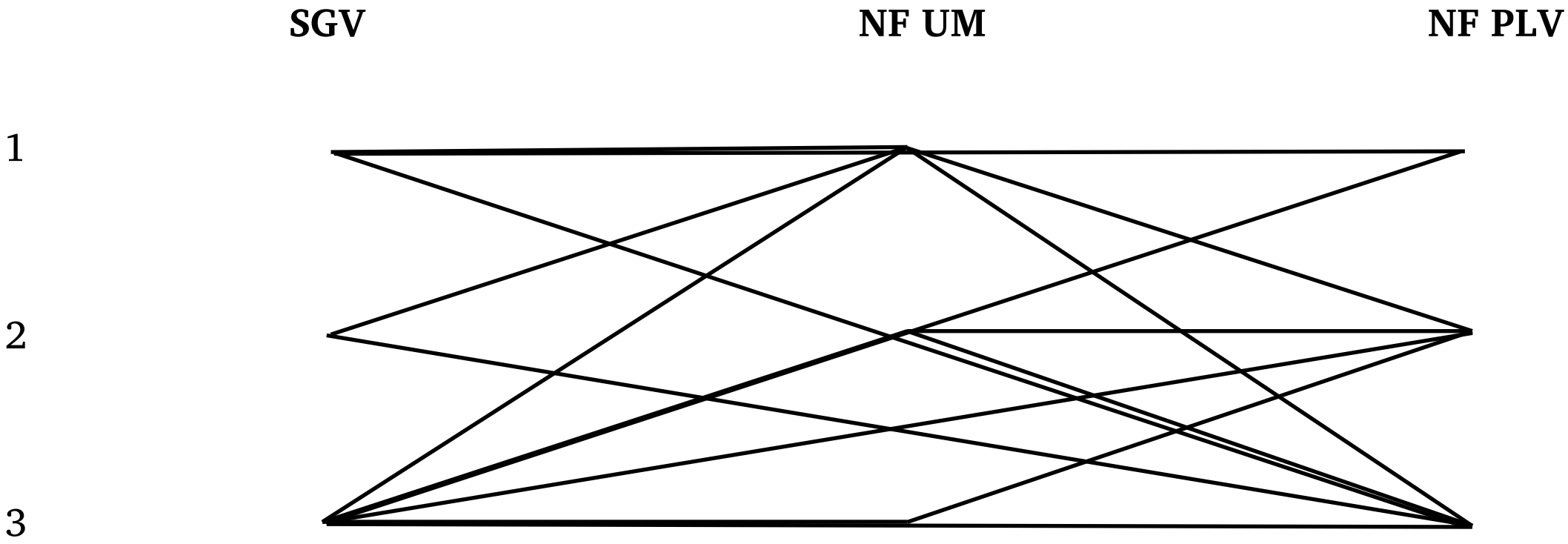


Figure 27: Tripartite representation of Katcha gender system (Turner 2018)

\+ rather confusing to incorporate all agreement classes into one structure

\> division into unmarked/marked (P and S pattern) and marked/marked (R pattern)

3.3 Kadu: Katcha

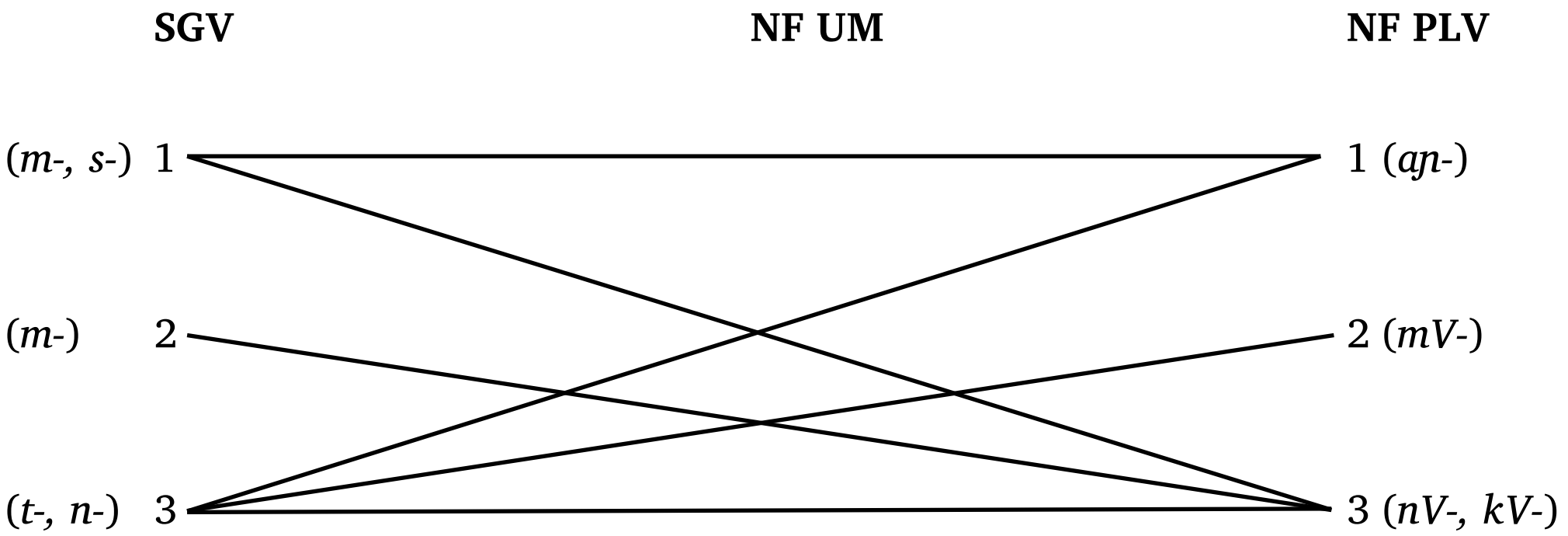


Figure 28: Tripartite representation of Katcha gender system (R pattern only) (Turner 2018)

\+ nominal form class markers with identical gender assignment properties

\> however, no significant frequency differences (rather a large variety of combinations)

3.3 Kadu: Katcha

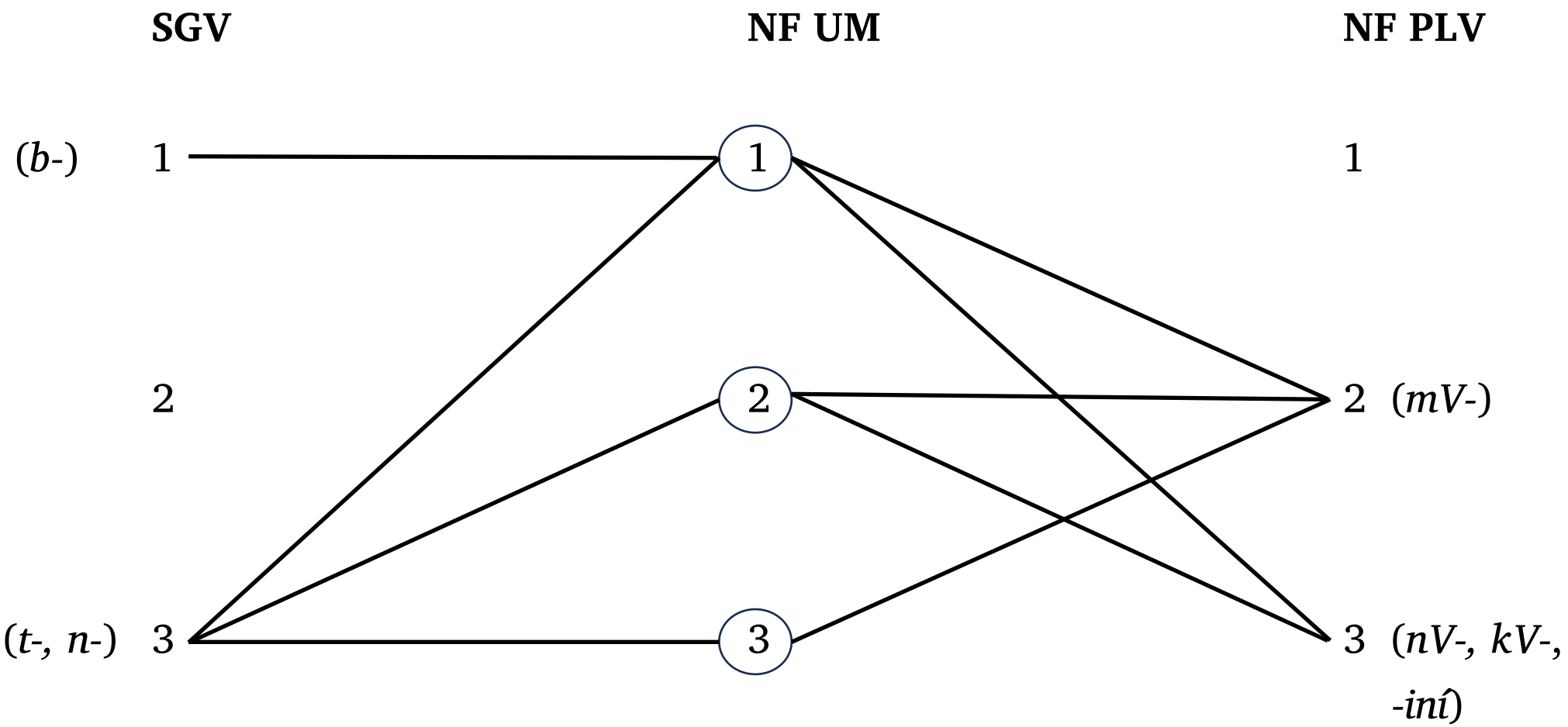


Figure 29: Tripartite representation of Katcha gender system (Transnumerals, P and S pattern) (Turner 2018)

3.3 Kadu: Katcha

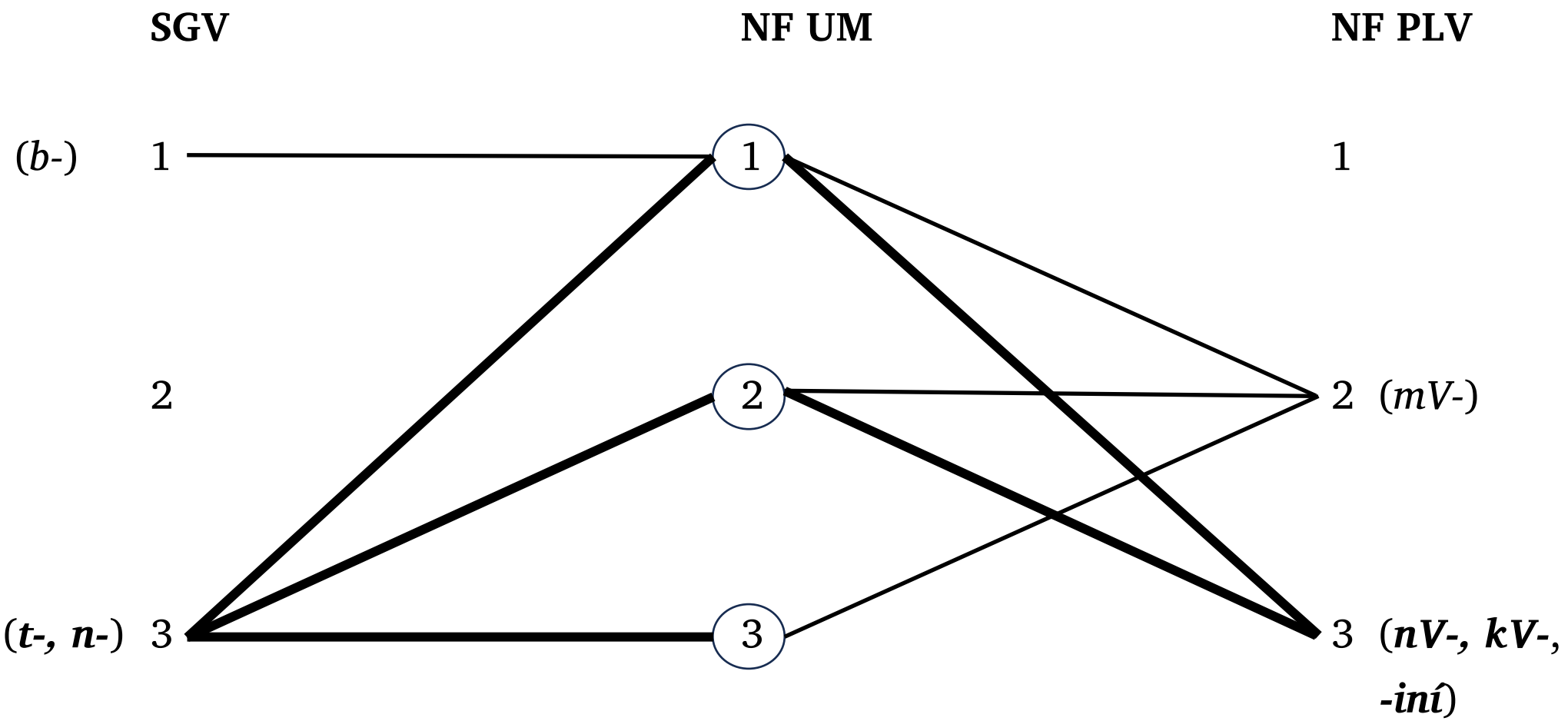


Figure 29: Tripartite representation of Katcha gender system (Transnumerals, P and S pattern) (Turner 2018)

3.3 Kadu: Katcha

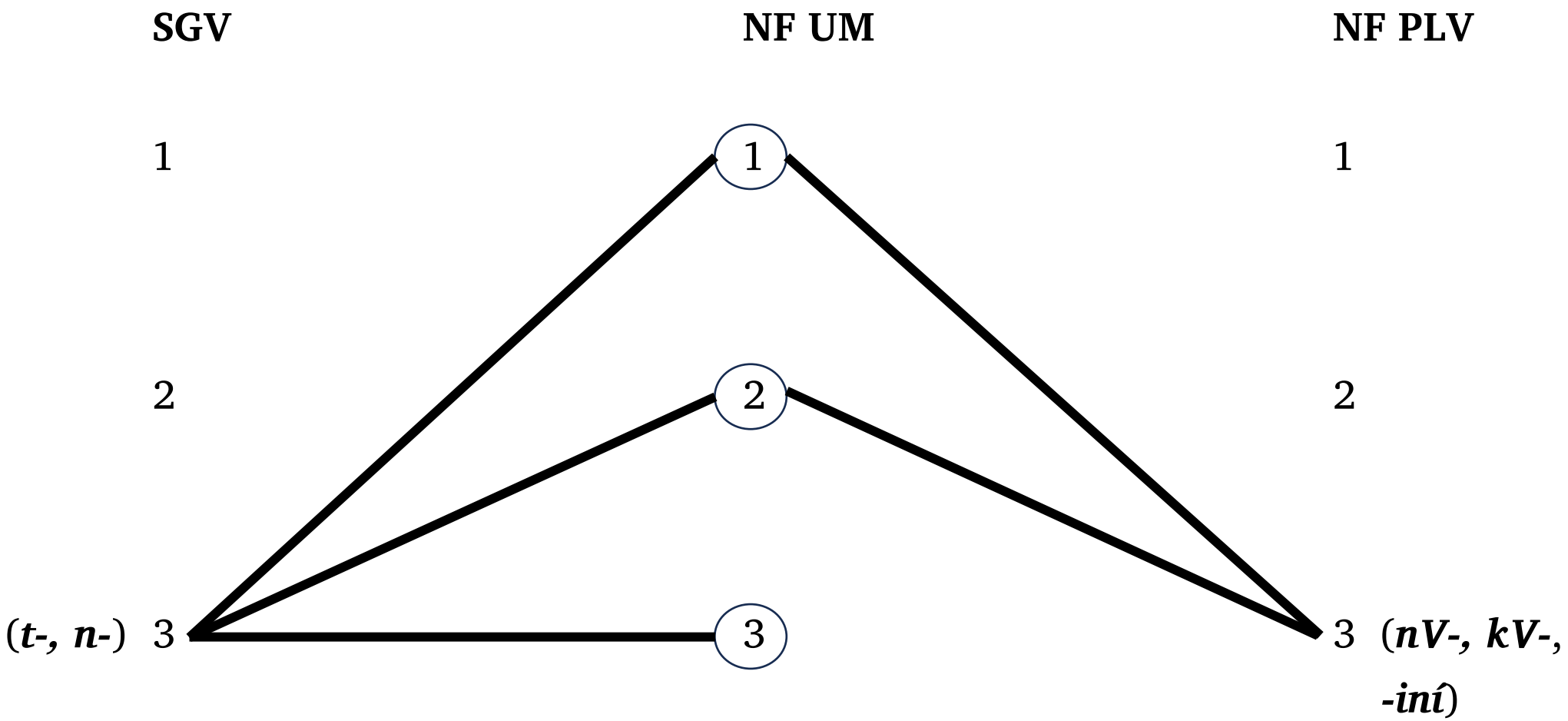


Figure 29: Tripartite representation of Katcha gender system (Transnumerals, P and S pattern) (Turner 2018)

3.3 Kadu: Kanga

Kanga

+ ca. 17.000 speakers (Eberhard et al. 2024) in the central Nuba Mountains of Sudan neighbored by the Dajuic language Shatt and the (only non-gender marking) Kadu language Keiga

+ constitutes the Katcha-Kadugli-Miri-Kanga subbranch of Central-Western-Kadugli-Krongo together with Katcha

+ not included in my language sample

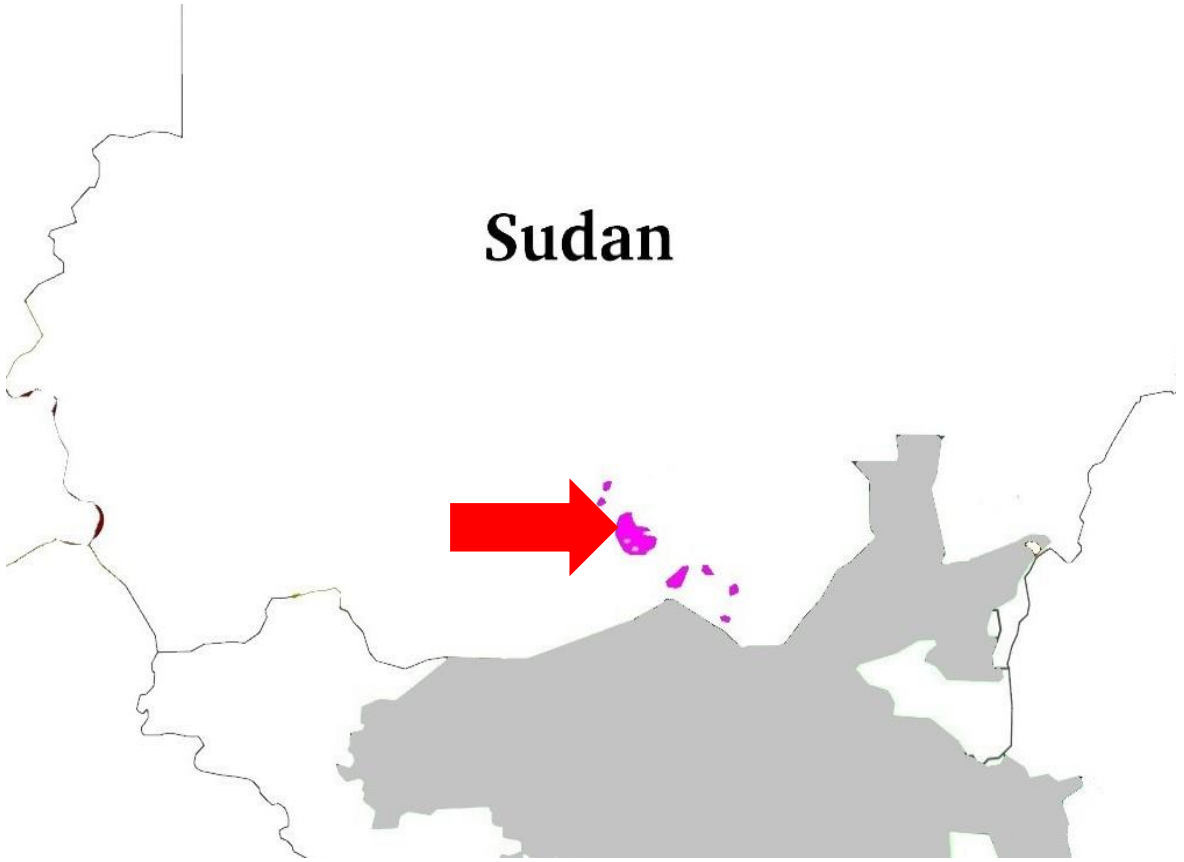


Figure 30: Geographical location of Kanga

3.3 Kadu: Kanga

+ in contrast to Katcha, Kanga contains a gender system with four agreement classes

+ although agreement is marked on various targets (see Table 10) the verb-subject marker is the only one exhibiting the full spectrum of agreement classes

+ just like in Katcha, agreement is NOT number-sensitive in Kanga

> all four agreement classes can be triggered by both singular and plural forms

+ likewise, there are no explicit (and exclusive) nominal gender markers in Kanga

AGR	verb-subject	relati-vizer	demon-strative	token suffix
1	*ma-*	*onggó*	*mínní/ úkkó*	*-ummo*
2	*a-*	*inggé*	*ínní/ íkké*	*-ixye*
3	*na-*			*-unno*
4	*ka-*			

Table 10: Agreement targets in Kanga (Mullan 2022: 141)

3.3 Kadu: Kanga

+ in contrast to Katcha, Kanga contains a gender system with four agreement classes

+ although agreement is marked on various targets (see Table 10) the verb-subject marker is the only one exhibiting the full spectrum of agreement classes

+ just like in Katcha, agreement is NOT number-sensitive in Kanga

> all four agreement classes can be triggered by both singular and plural forms

+ likewise, there are no explicit (and exclusive) nominal gender markers in Kanga

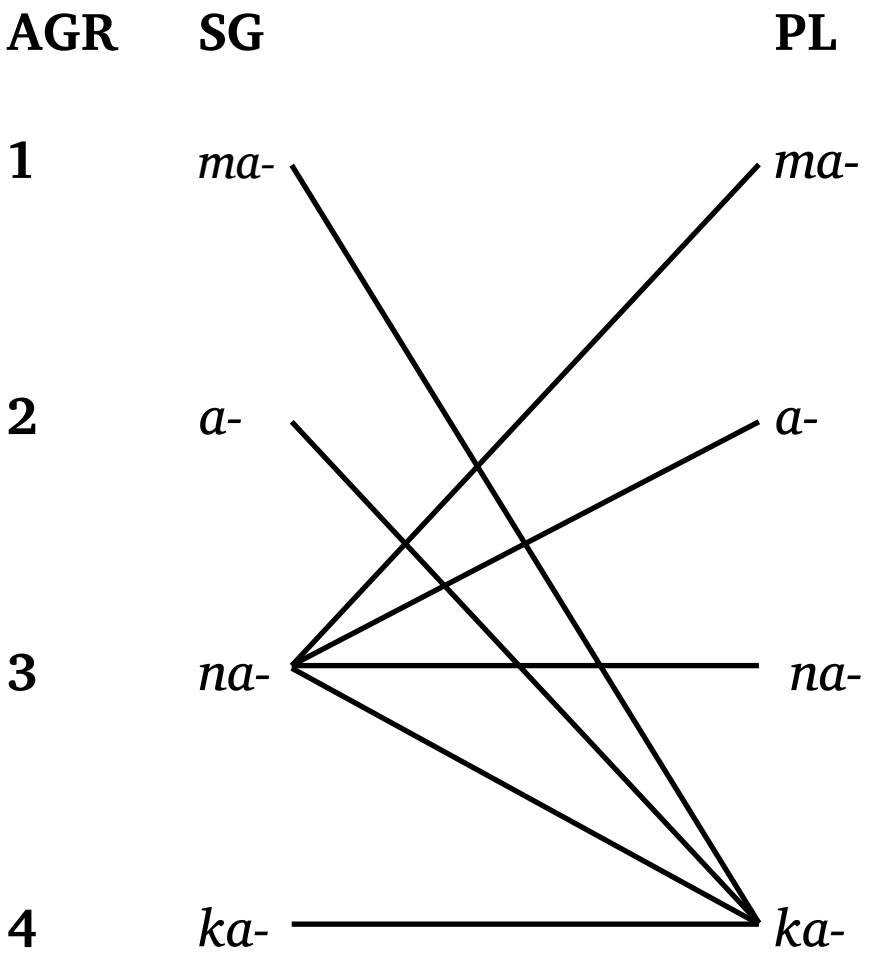


Figure 31: Kanga gender system (represented by verb-subject prefix) (Mullan 2022: 129)

3.3 Kadu: Kanga

+ like in Katcha, it has to be differentiated between nouns with and without number morphology

1. unmarked nouns (in P and S pattern or as transnumerals)

+ AGR allocation as property of the stem (following certain semantic tendencies, but are most often allocated arbitrarily to agreement classes)

+ all four agreement classes possible

(42)			*la (1)*	*naa-la (4)*	‘room’
(43)	*t-éndi*	*(3)*	*endi (2)*		‘clothes’
(44)			*koolá (2)*		‘fever’ (Mullan 2022)

3.3 Kadu: Kanga

2. marked nouns (SGV or PLV in P, S or R pattern)

+ AGR allocation as property of the affix

+ according to Mullan (2022: 130), singulatives always trigger AGR3 and pluratives AGR4

> R pattern as exception (see 47) with plurative in AGR4 while singulatives can vary between agreement classes 1, 2 and 4 (Mullan 2022: 188 f.)

(45)		*la (1)*	*naa-la (4)*	‘room’
(46)	*t-éndi (3)*	*endi (2)*		‘clothes’
(47)	m-ixshix *(2)*		k-ixshix (4)	‘rock’ (Mullan 2022)

+ despite its additional fourth agreement class, the gender system of Kranga appears to be less complex than the Katcha system due to its fixed generalizing assignment of affix types to agreement classes

3.3 Kadu: Kanga

+ leads to a core system with eight genders
> unmarked nominal forms from agreement classes 1, 2, 3 and 4 converging in AGR3 for S pattern and AGR4 for P pattern

+ unmarked transnumeral nouns can appear in agreement classes 1, 2 or 3

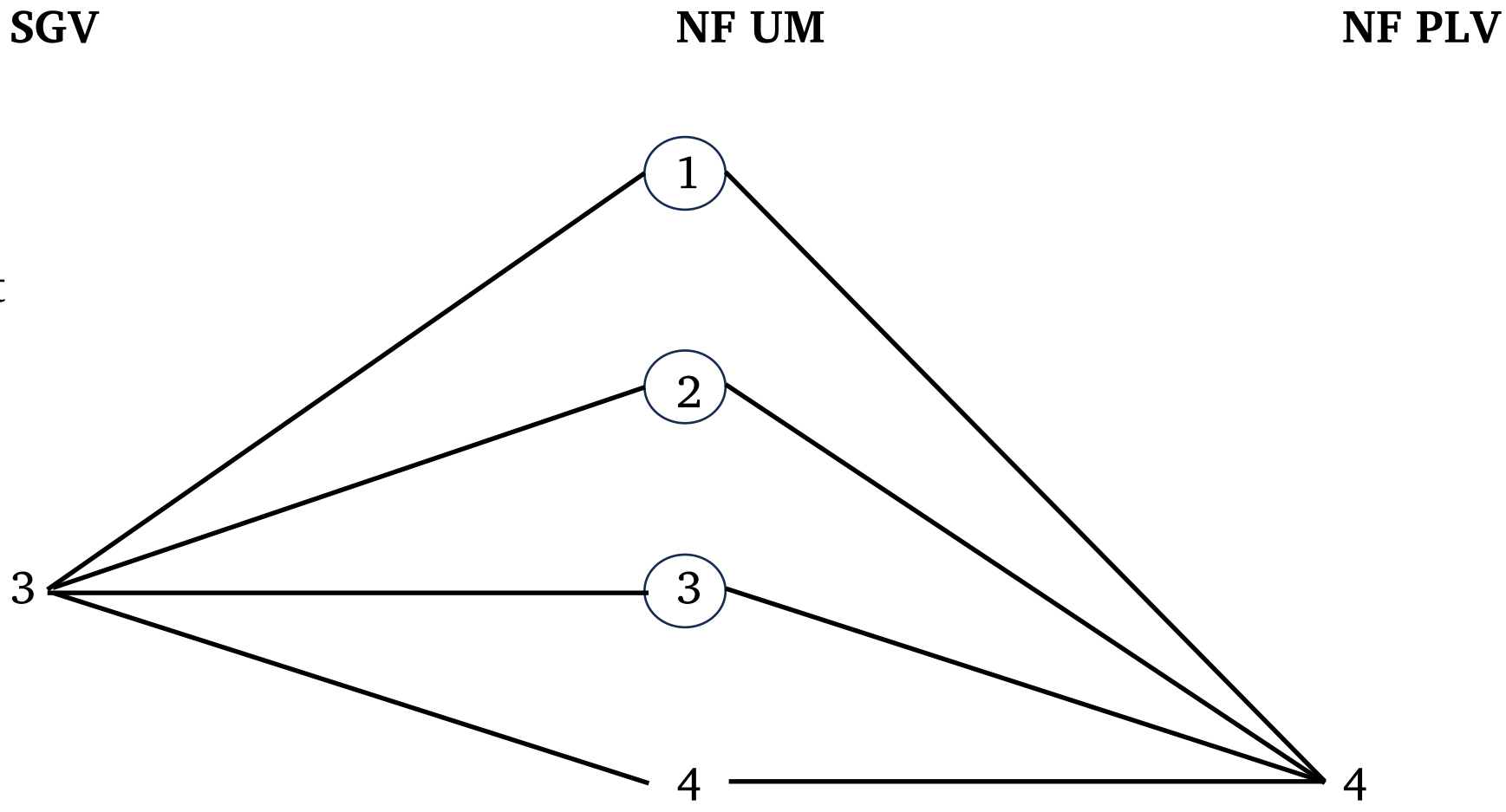


Figure 32: The gender system of Kanga (Mullan 2022: 129)

3.3 Kadu: Krongo

Krongo

+ ca. 14.000 speakers (Reh 1985: 1) in the southern Nuba Mountains neighboring the Dajuic language Shatt and the Talodi language Dagik

+ belongs to the Krongo-Tumtum branch of the Kadu language group

+ by far the best documented Kadu language with an extensive grammar and a lengthy word list (Reh 1985)

+ included in my language sample with a total of 318 lexemes

Figure 33: Geographical location of Krongo

3.3 Kadu: Krongo

+ in contrast to Katcha's three class system, Krongo contains four agreement classes

+ just like in Katcha, agreement is NOT number-sensitive in Krongo

> all three agreement classes can be triggered by both singular and plural forms

+ in Krongo, agreement is marked on freestanding pronouns, prepositional objects, verbs and demonstratives (Reh 1985)

+ besides that, there are no explicit (and exclusive) nominal gender markers in Krongo

+ close interaction of number and gender

AGR	pronoun	prepositional object		verb prefix		dem.
		(a)	(b)	(a)	(b)	
1	*ì'ìŋ*	*-ì'ìŋ*	*-níŋ*	*Ø*	*ŋ-*	*y-*
2	*àakù*	*-àakù*	*-náakù~ -nó*	*m-*	*m-*	*m-*
3	*àay*	*-àay*	*-náày*	*n-*	*n-*	*n-*
4	*àay*	*-àay*	*-náày*	*k-*	*nk-*	*y-*

Table 11: Agreement targets in Krongo (Reh 1985)

3.3 Kadu: Krongo

+ in contrast to Katcha's three class system, Krongo contains four agreement classes

+ just like in Katcha, agreement is NOT number-sensitive in Krongo

> all three agreement classes can be triggered by both singular and plural forms

+ in Krongo, agreement is marked on freestanding pronouns, prepositional objects, verbs and demonstratives (Reh 1985)

+ besides that, there are no explicit (and exclusive) nominal gender markers in Krongo

+ close interaction of number and gender

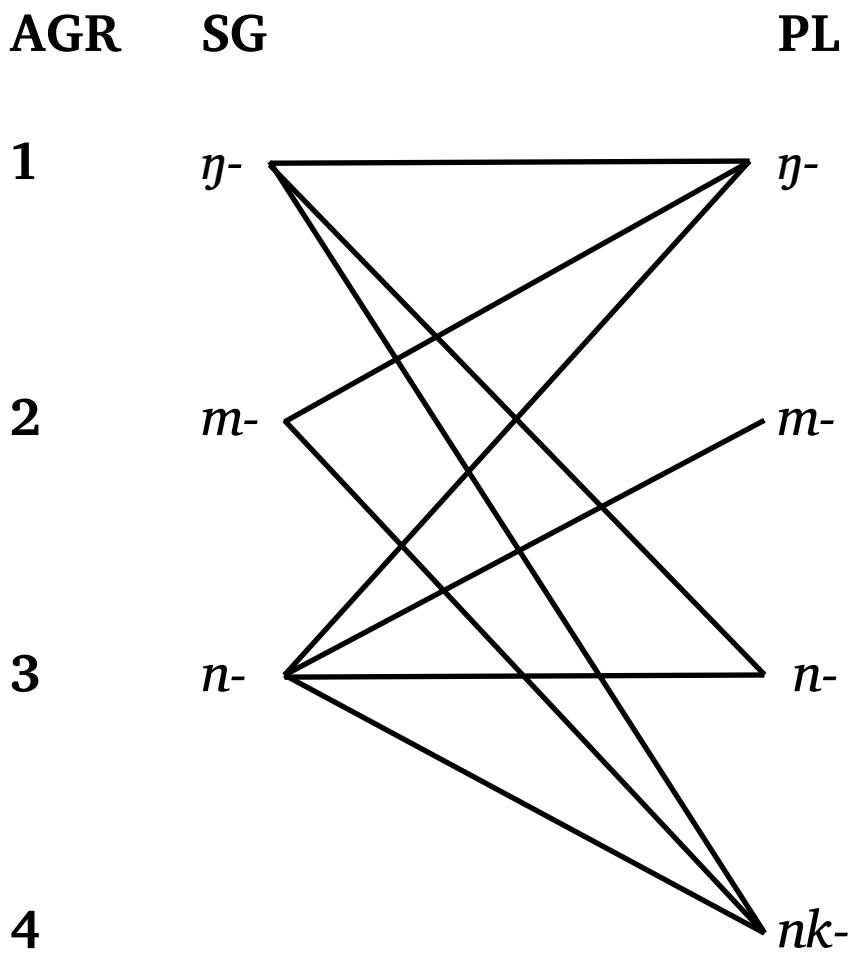


Figure 34: Krongo gender system (represented by second verbal prefix) (Reh 1985)

3.3 Kadu: Krongo

+ just like in Katcha and Kanga, it has to be differentiated between nouns with and without number morphology

1. unmarked nouns (in P and S pattern or as transnumerals)

+ AGR allocation as property of the stem (following certain semantic tendencies, but are most often allocated arbitrarily to agreement classes)

+ all four agreement classes possible

(48)		*còorì (1)*	*nóo-còorì (4)*	‘house’
(49)	*tì-mìtìkî (3)*	*mìtìkí (2)*		‘star’
(50)		*músò (2)*		‘flour’ (Reh 1985)

3.3 Kadu: Krongo

2. marked nouns (SGV or PLV in P, S or R pattern)

+ AGR allocation as property of the affix

> in contrast to Katcha and Kanga, small inconsistencies can be found with a few exceptions for certain affixes (marked with an asterisk from here on) (result of larger sample?)

+ all four agreement classes possible, but only three for each SGV (1, 2, 3) and PLV (1, 2, 4)

(51)		*còorì (1)*	*nóo-còorì (4)*	'house'
(52)	*tì-mìtìkî (3)*	*mìtìkí (2)*		'star'
(53)	*tì-díkwá (3)*		*nì-díkwá*	'spear' (Reh 1985)

+ due to its additional fourth agreement class, the gender system of Krongo is even more complex than the one of Katcha

> can be simplified in several steps

3.3 Kadu: Krongo

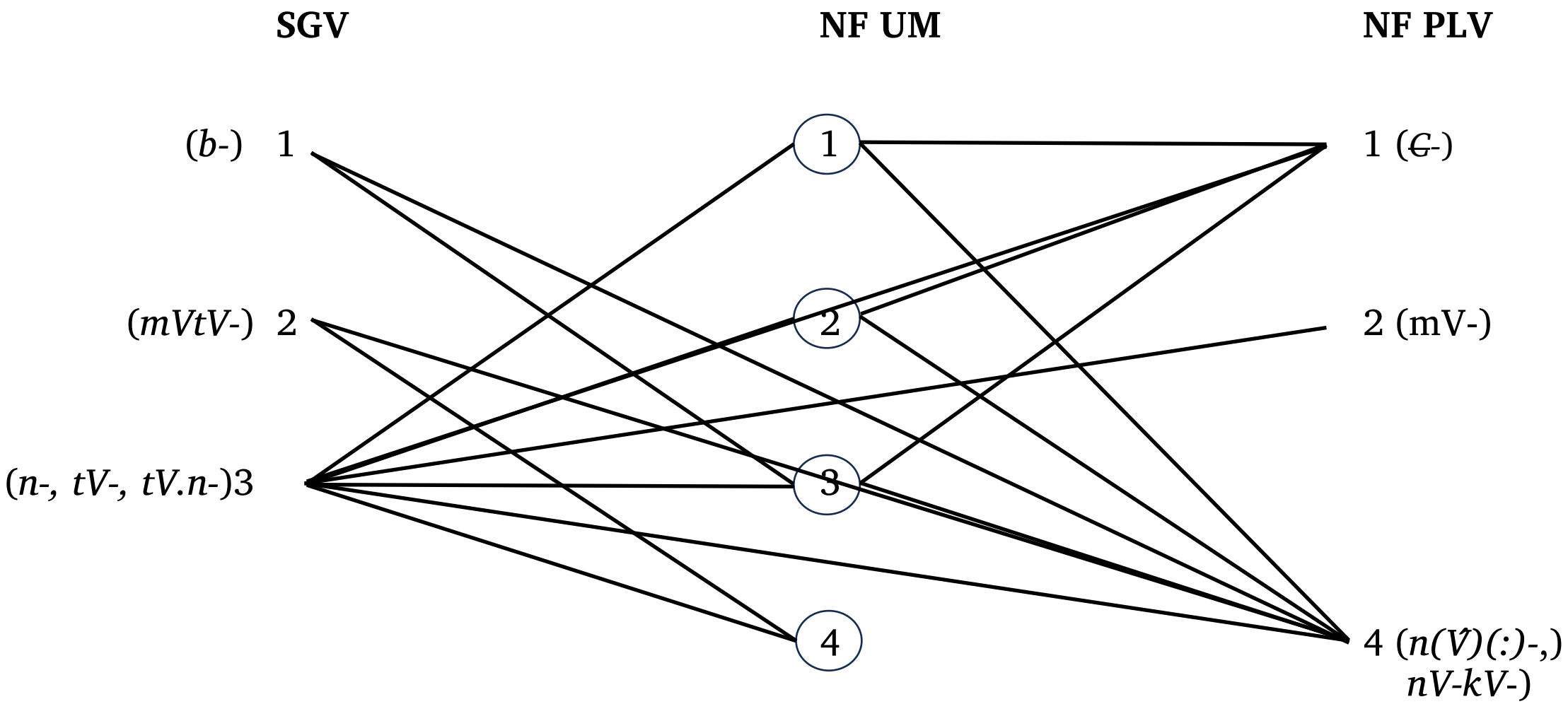


Figure 35: Full tripartite representation of Krongo gender system with deriflection markers (Reh 1985)

3.3 Kadu: Krongo

+ as in Katcha, detaching the R pattern provides a clearer picture of the system

+ even though five deriflection classes can be observed in the R pattern (1/4, 2/4, 3/4, 3/1, 3/2), the majority of classes contains either AGR3 for SGV or AGR4 for PLV (or both)

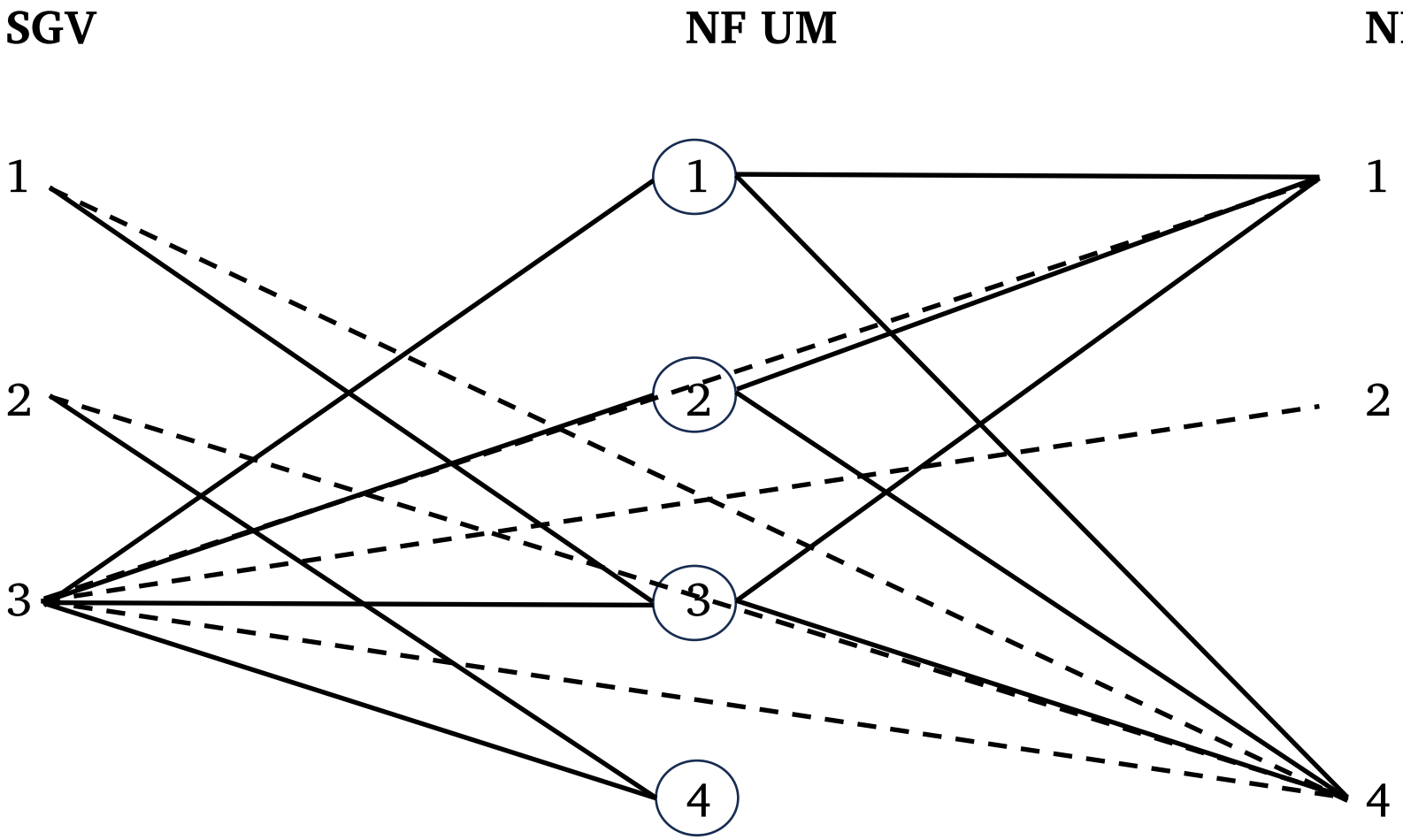


Figure 36: Full tripartite representation of Krongo gender system (Reh 1985)

3.3 Kadu: Krongo

+ as in Katcha, detaching the R pattern provides a clearer picture of the system

+ even though five deriflection classes can be observed in the R pattern (1/4, 2/4, 3/4, 3/1, 3/2), the majority of classes contains either AGR3 for SGV or AGR4 for PLV (or both)

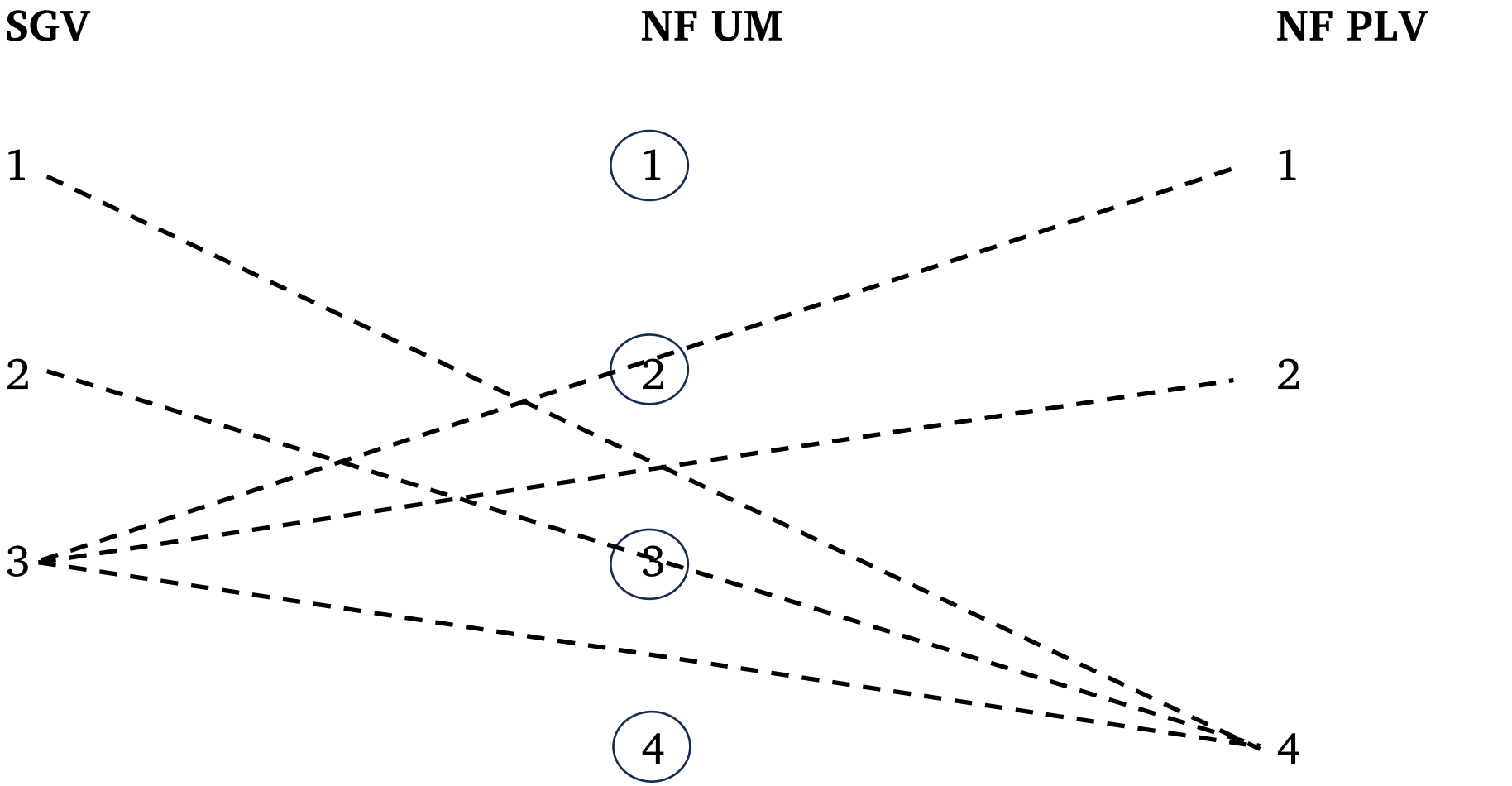


Figure 36: Full tripartite representation of Krongo gender system (Reh 1985)

3.3 Kadu: Krongo

+ through further mostly frequency induced reductions, the gender system can becomes even more simplified

+ a detailed description of the the applied reduction processes can be found in Güldemann and Junglas‘ article on gender in Krongo (forthcoming)

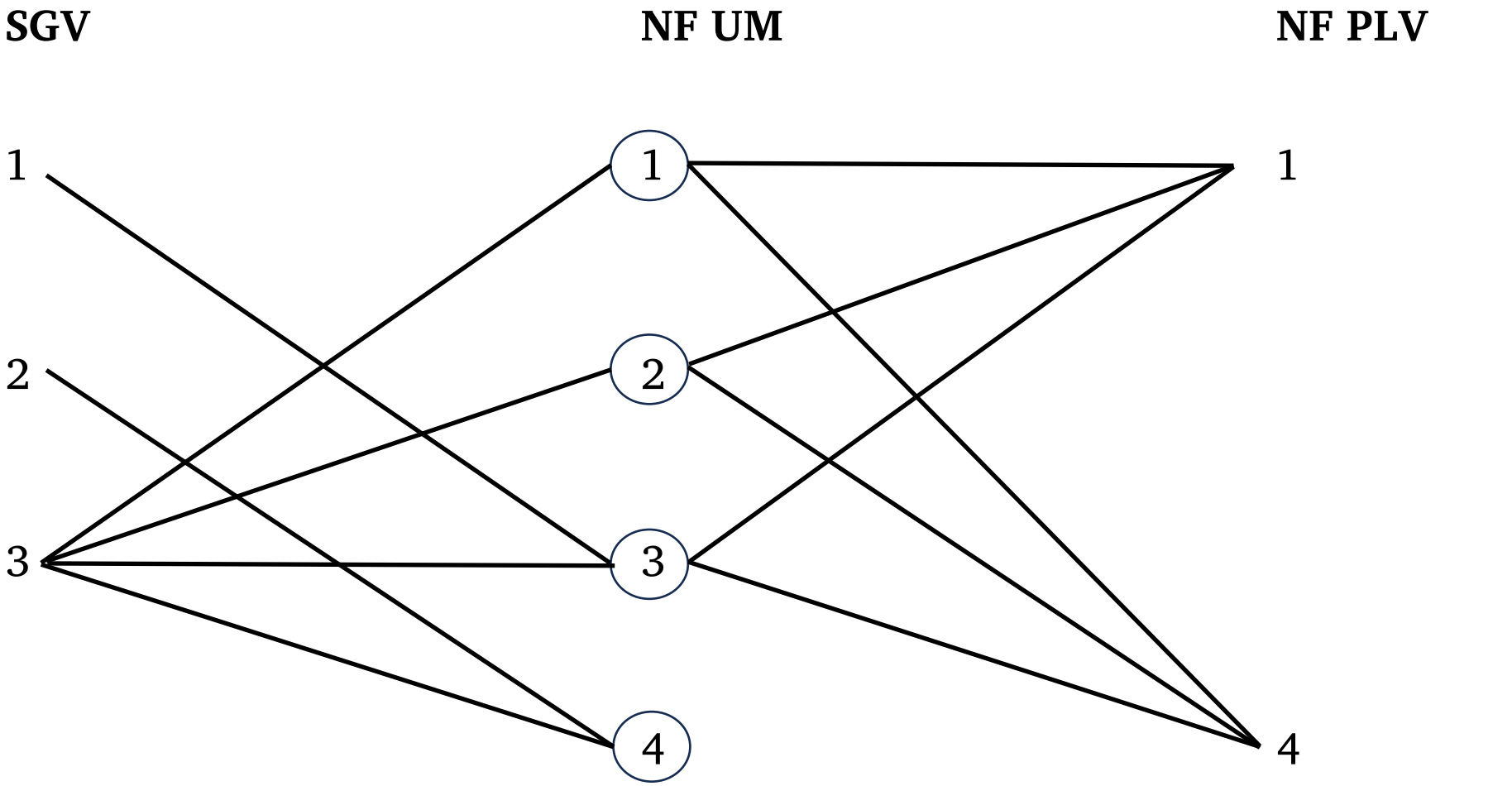


Figure 36: Full tripartite representation of Krongo gender system (without R pattern) (Reh 1985)

3.3 Kadu: Krongo

+ through further mostly frequency induced reductions, the gender system can becomes even more simplified

+ a detailed description of the the applied reduction processes can be found in Güldemann and Junglas‘ article on gender in Krongo (forthcoming)

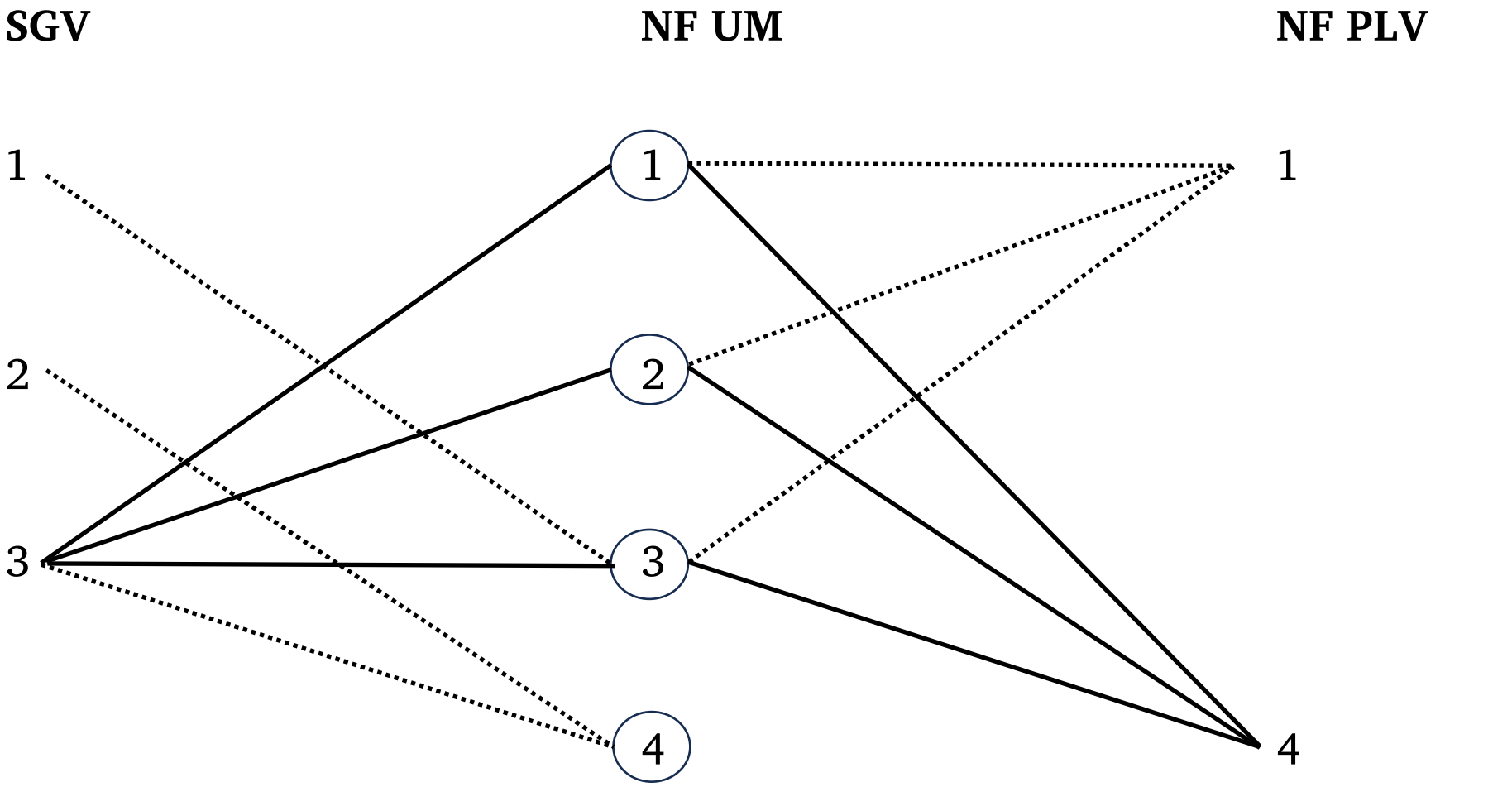


Figure 36: Full tripartite representation of Krongo gender system (without R pattern) (Reh 1985)

3.3 Kadu: Krongo

+ leads to a core system with six genders
> unmarked nominal forms from agreement classes 1, 2 and 3 converging in AGR3 for S pattern and AGR4 for P pattern

+ unmarked transnumeral nouns appear in all four agreement classes

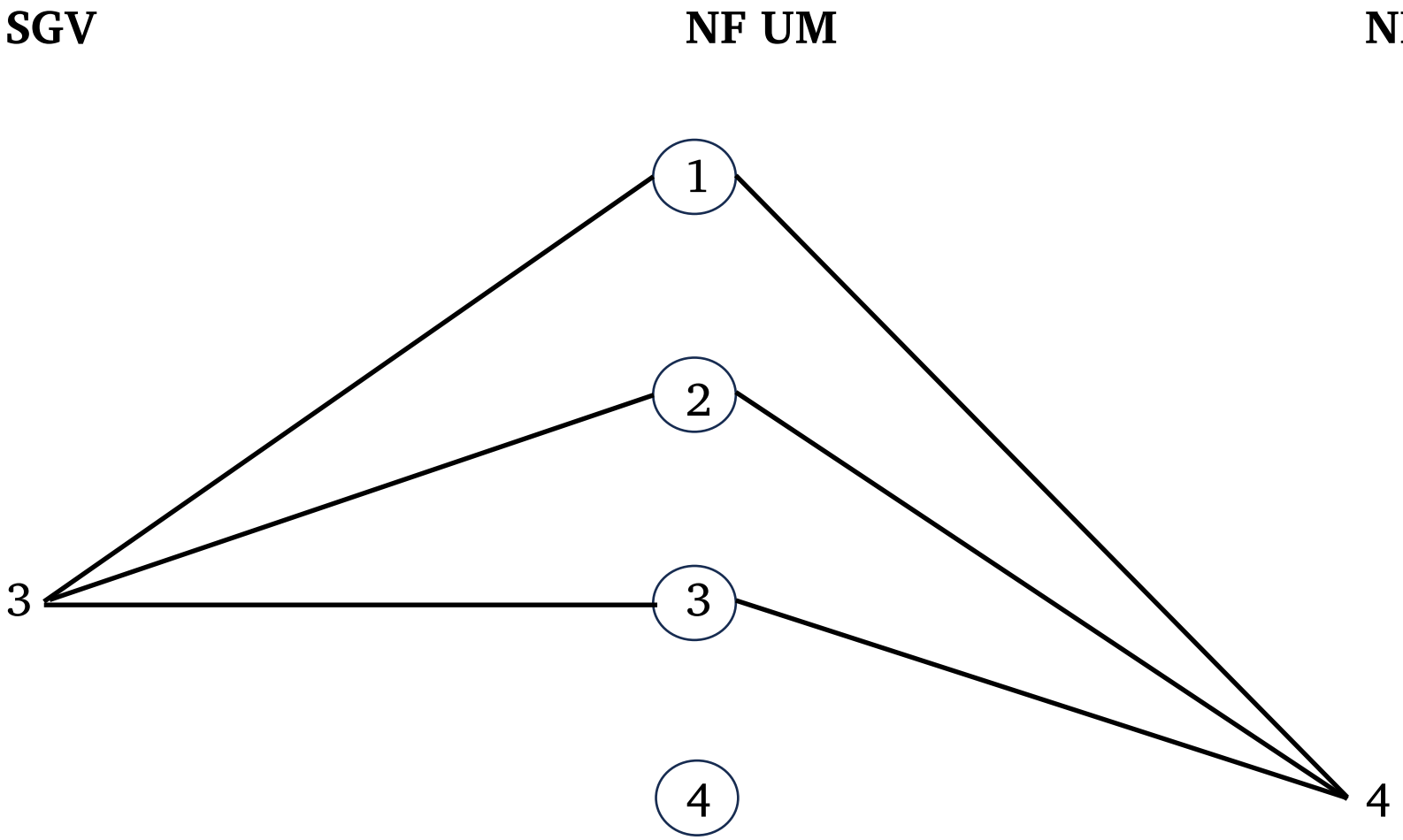


Figure 37: The gender system of Krongo (Reh 1985)

3.3 Kadu: Summary

+ out of the six Kadu languages, Keiga is the only one without gender marking

> reflects in the language group's structure with Keiga constituting its own branch (as opposed to the Central-Western-Kadugli-Krongo branch comprising the other five languages)

+ the other Kadu languages contain gender systems comprised of either three (e.g. Katcha) or four agreement classes (e.g. Kanga, Krongo)

+ for an analysis of gender marking in Kadu, it has to be differentiated between morphologically unmarked and marked noun forms

1. unmarked nouns (in P and S pattern or as transnumerals)

> the agreement classes of unmarked noun forms are mostly assigned arbitrarily

> certain semantic motivations can apply (e.g. biological sex of animate referents)

3.3 Kadu: Summary

2. marked nouns (SGV or PLV in P, S or R pattern)

> the agreement classes of marked noun forms are assigned by the number marking affix

> seems to be least complex in Kanga (where the form of the affix does not have any influence on the agreement class assignment) and most complex in Krongo (where different affixes assign nouns to different agreement classes)

\+ as a result, the basic gender systems of all three presented languages are bidirectionally convergent with one predominant agreement class for SGV and PLV respectively

> AGR3 as predominant SGV class in all languages

> AGR4 as predominant PLV class in languages with four agreement classes (e.g. Kanga, Krongo) and AGR3 for languages with three agreement classes (e.g. Katcha)

\+ while agreement is assigned largely transparently to nouns in encoding patterns P and S, R pattern marking is prone to irregularities

4 Conclusion

4 Conclusion

+of a total of nine sampled language groups, only two contain languages with productive gender marking systems: Nilotic and Kadu

1. distribution

+ in the (by far) larger Nilotic language group, gender marking can be found only in one of the three established subgroups: Eastern Nilotic

+ in the (way smaller) Kadu language group, all languages mark gender except for Keiga

2. system complexity

+ in Eastern Nilotic languages gender is realized mostly straightforward in parallel systems (with a few exceptions of partial convergence)

+ Kadu systems are more complex combining unmarked and marked genders in a bidirectionally convergent way

4 Conclusion

3. interaction with tripartite number

+ all Kadu languages (even Keiga) exhibit systemic as well as encoding tripartiteness

+ there is no additional pure inflectional marking in Kadu

> nouns are marked for number (or left unmarked) depending on their pattern affiliation

+ even though all Eastern Nilotic languages mark gender, tripartite number can only be found in certain languages

+ most of these languages exhibit additional deriflectional prefix marking of different types (partially/complete, optional/obligatory)

> number sensitive in a bipartite (SG or PL) way

> encoding tripartiteness is realized through SGV and PLV markers

+ while some deriflectional systems correspond structurally to the languages gender systems (e.g. Maasai), others deviate clearly (e.g. Turkana)

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