

BA(c)K to numbers

Some remarks and precisions on number and gender in a few Bak languages

Guillaume Segerer – Berlin, Nov. 30, 2018

1. How I have understood G&F's approach

- Traditional view of 'noun classes' involves:
 - noun morphology (for ex. prefixes)
 - concord ~ agreement (i.e. a set of forms triggered by the head noun)
 - pairings (singular / plural correspondances)
- G&F approach
 - renaming:
 - 'noun morphology' > 'noun form class'
 - 'agreement' > 'agreement class'
 - 'pairings' > 'declension' > 'deriflection'
 - **addition of 'gender', i.e. pairings of agreement patterns**
 - proposal to analyse those 4 'systems' separately

1. How I have understood G&F's approach

- A first problem (highlighting mine)
 - p.2: "Gender is **understood here in terms of Corbett (1991)**, namely as systems of noun classification (also called categorization) that are **reflected** by **agreement.**"
 - P.8: "[the present approach] **is opposed to Corbett's (1991) approach**, which [...] distinguishes on the one hand between 'controller gender' and 'target gender'"

Corbett's 'controller gender' = G&F's 'declension' ? > 'deriflection'

Corbett's 'target gender' = 'G&F's 'gender' ?

1. How I have understood G&F's approach

- A second problem (highlighting mine)

p.5 (footnote 4): “Typically, **transnumeral** nouns like infinitives, locatives and non-count nouns for masses, liquids, abstracts etc. **do not have different number forms**”

> **What about 3-number contrasts in Nyun (sg. / count pl. / unlimited pl.) or in Joola (sg. / pl. / collective)?**

> **What about other unusual number contrasts? (singulative / collective)**

> **What about variation in class assignment?**

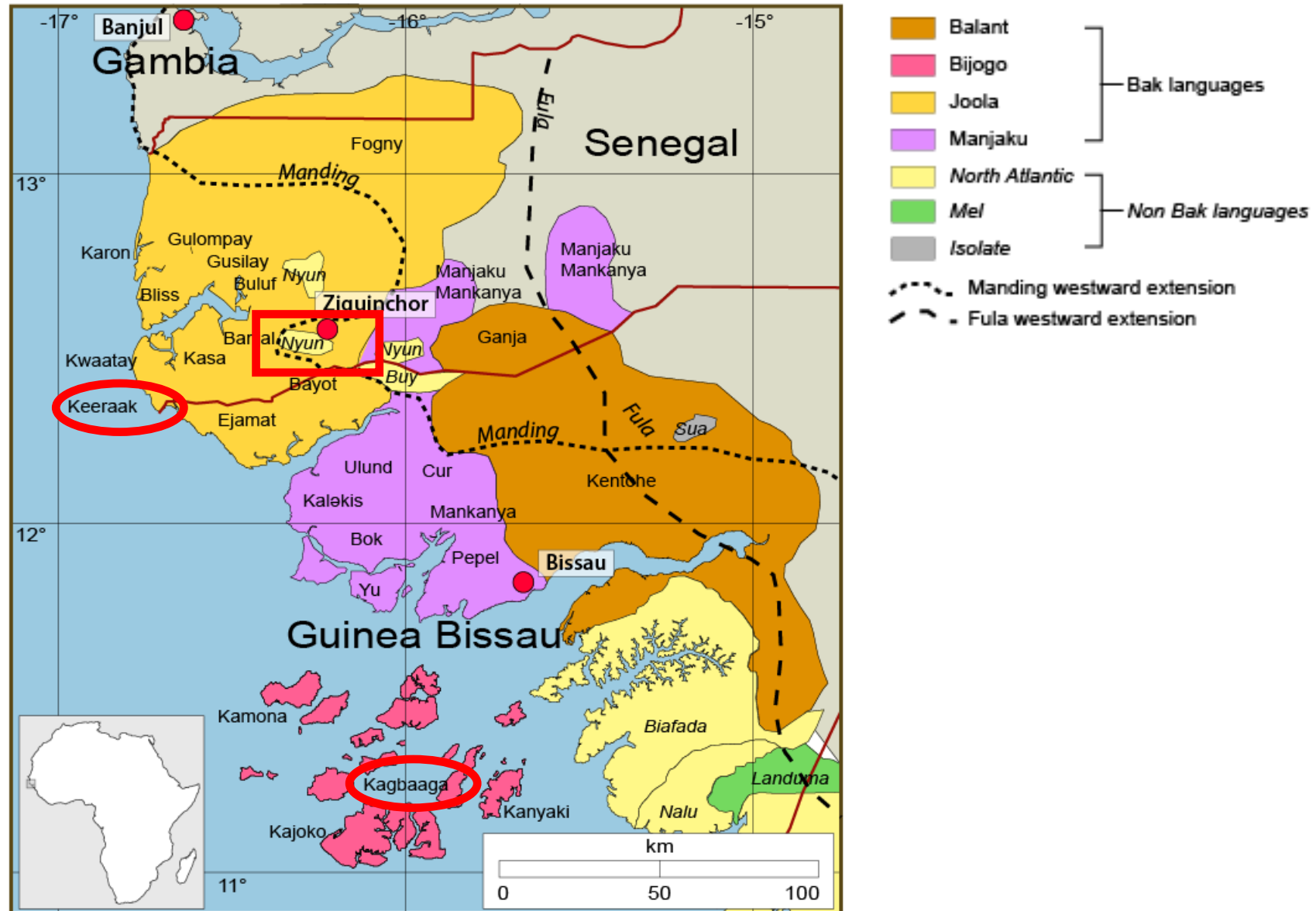
Aim of the talk

Overview of complex number features

Exemplified by Atlantic languages

With more details about Kagbaaga (Bijogo) and Keeraak (Joola), both belonging to the Bak branch.

The Bak languages: situation



1. Nyun (Gubëeher, data from Cobbinah 2012)

3-way number contrast in Nyun: singular / count plural / unlimited plural

| Singular | Count plural | Unlimited plural | Gloss |
|-------------|--------------|------------------|----------------------|
| bu-óóg | i-óóg | di-óóg | 'baobab fruit' |
| bu-limo | i-limo | di-limo | 'orange fruit' |
| bu-taata | i-taata | ba-taata | 'sweet potato' |
| bu-menten | i-menten | ba-menten | 'tomato' |
| bu-suulut | i-suulut | ja-suulut | 'snake' |
| bu-pan | i-pan | ja-pan | 'buzzard' |
| gu-goori | ha-goori | ba-goori | 'cowry' |
| gu-silo | ha-silo | ba-silo | 'earring' |
| gu-tingilen | ha-tingilen | ba-tingilen | 'cheek' |
| gu-lihan | ha-lihan | ja-lihan | 'stick/wood' |
| gu-fos | ha-fos | ja-fos | 'grass' |
| gu-er | ha-er | ja-er | 'fish scale' |
| rën-jëm | ñën-jëm | jë-jëm | 'frog' |
| rën-guux | ñën-guux | jë-guux | 'crab with one claw' |

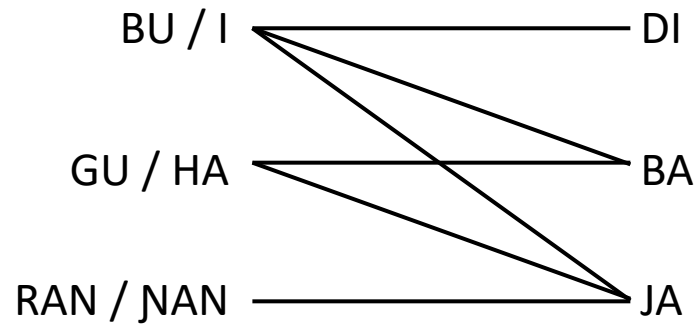
3-way number contrast in Nyun: singular / count plural / unlimited plural

| | Singular | Count plural | Unlimited plural | Gloss |
|-----|-------------|----------------|------------------|----------------------|
| | bu-óóg | i-óóg | DI di-óóg | 'baobab fruit' |
| | bu-limo | i-limo | DI di-limo | 'orange fruit' |
| BU | bu-taata | i-taata | ba-taata | 'sweet potato' |
| | bu-menten | I i-menten | BA ba-menten | 'tomato' |
| | bu-suulut | i-suulut | ja-suulut | 'snake' |
| | bu-pan | i-pan | JA ja-pan | 'buzzard' |
| | gu-goori | ha-goori | ba-goori | 'cowry' |
| | gu-silo | ha-silo | BA ba-silo | 'earring' |
| GU | gu-tingilen | HA ha-tingilen | ba-tingilen | 'cheek' |
| | gu-lihan | ha-lihan | ja-lihan | 'stick/wood' |
| | gu-fos | ha-fos | ja-fos | 'grass' |
| | gu-er | ha-er | JA ja-er | 'fish scale' |
| RAN | rën-jëm | ñën-jëm | jë-jëm | 'frog' |
| | rën-guux | NAN ñën-guux | jë-guux | 'crab with one claw' |

3-way number contrast in Nyun: singular / count plural / unlimited plural

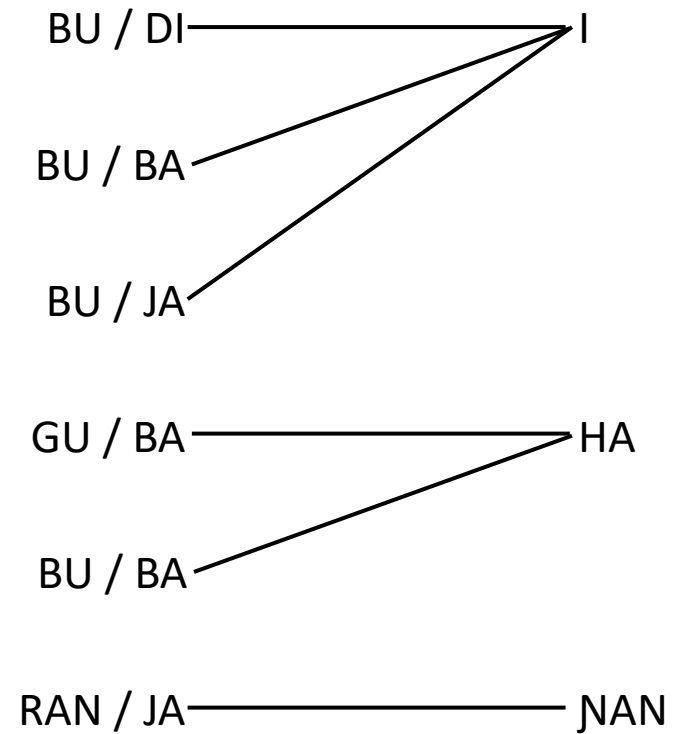
sg / count pl.

unlim. pl.



sg / unlim. pl.

count pl.

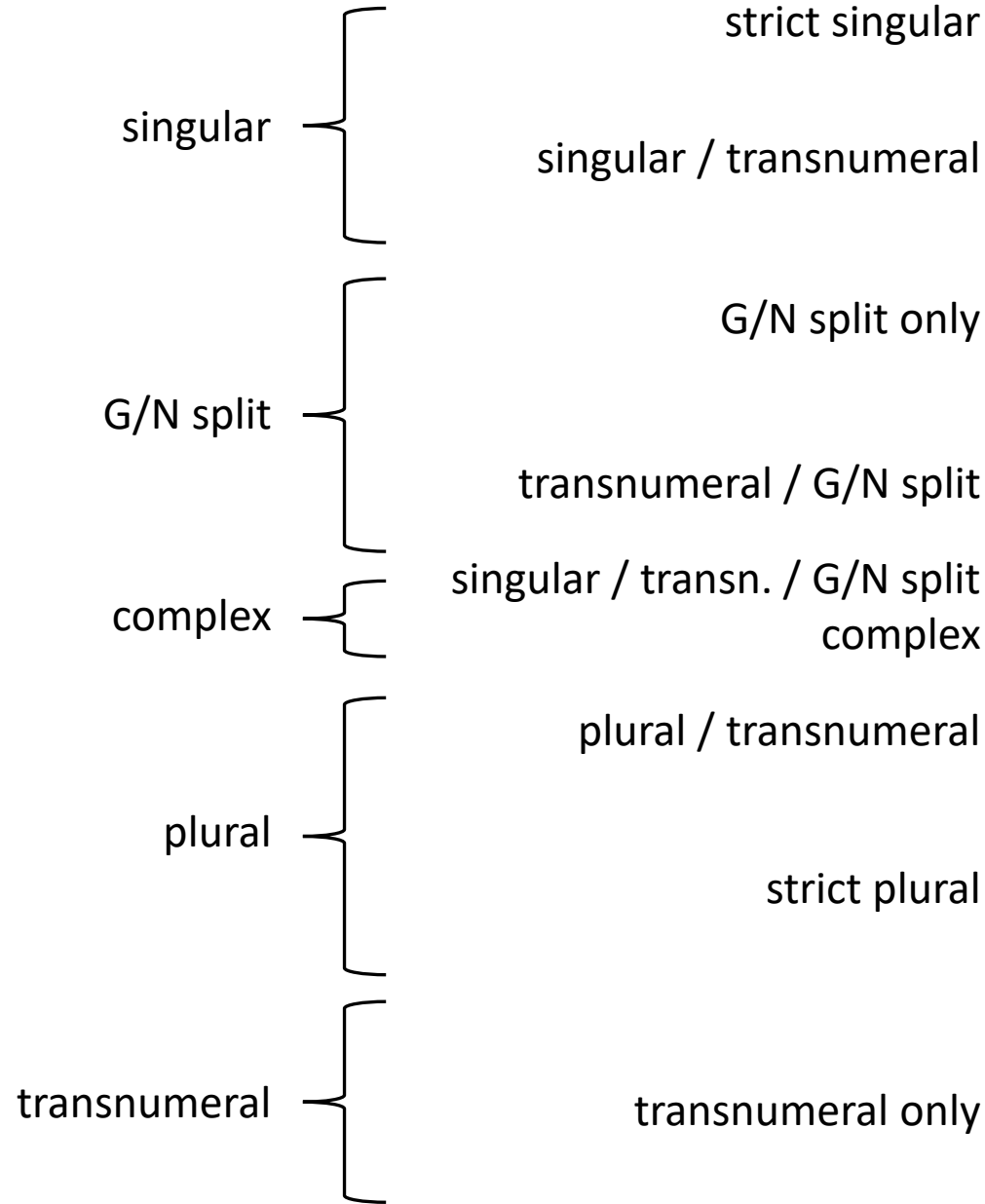


3-way number contrast in Nyun: singular / count plural / unlimited plural

| | | Singular | Plural | | Gloss |
|-----------------------------|------------------|------------|--------------|------------------|-----------------------|
| sg / count pl. RAN / NAN | unlim. pl. JA | rën-nób | ñën-nób | | 'bundle' |
| | | rëŋ-kébul | ñëŋ-kébul | | 'hip' |
| | | rën-dimb | ñën-dimb | | 'veranda' |
| | | raŋ-kot | ñañ-kot | | 'woven mat' |
| | | ram-basa | ñam-basa | | 'mat' |
| | | ran-daŋk | ñan-daŋk | | 'large palm tree' |
| sg / unlim. pl. RAN / JA | count pl. NAN | ran-no | ñan-no | | 'bad person' |
| | | raŋ-kulux | ñan-kulux | | 'rooster' |
| | | rë'-liim | ñë'-liim | | 'type water bird' |
| | | | | | |
| | | Singular | Count plural | Unlimited plural | Gloss |
| | | rën-jëm | ñën-jëm | jë-jëm | 'frog' |
| | | ram-maasix | ñam-maasix | ja-maasix | 'crab with two claws' |
| | | rëŋ-kókól | ñëŋ-kókól | jë-xókól | 'type crab' |
| | | rëŋ-guux | ñëŋ-guux | jë-guux | 'crab with one claw' |
| | | rë'-siŋ | ñë'-siŋ | jë-siŋ | 'type crab' |

> Unlimited plural is an addition to an otherwise 'standard' sg/pl pairing > **collective**

Number values and Noun forms in Nyun (Gubëeher)



| NF | SINGULAR | | PLURAL | | | TN |
|------|----------|-----|--------|----|----|----|
| | sg | sgS | Cp | Up | pl | |
| ran | x | | | | | |
| u | x | | | | | |
| bu | x | | | | | x |
| gu | x | | | | | x |
| ko | x | | | | | x |
| si | x | | | | | x |
| sin | x | | | | | x |
| fa | | x | | | | |
| ho | | x | | | | |
| hu | | x | | | | |
| kan | | x | | | | |
| a | | x | | | | x |
| fun | | x | | | | x |
| ji | | x | | | | x |
| ta | | x | | | | x |
| bi | x | x | | | | x |
| ja | | x | | x | x | x |
| ba | | x | | x | | x |
| di | | | | x | | x |
| ñan | | | x | | x | x |
| mun | | | | | x | x |
| ha | | | x | | x | |
| i | | | x | | x | |
| in | | | | | x | |
| ñan | | | | | x | |
| ño | | | | | x | |
| da | | | | | | x |
| din | | | | | | x |
| hapi | | | | | | x |
| jan | | | | | | x |
| ti | | | | | | x |
| kun | | | | | | x |

Keeraak (NC, Atlantic, Bak, Joola) – personal data (2009-2019)

3-way number contrast in Keeraak: singular / plural / collective

NF inventory A **B** **BA** **E** **H** **HA** J JA **K** **KA** BUK **M** MA N S **U**

| | |
|-------------|---|
| KA / U / BA | ka-tɛt-ak / ʊ-tɛt-aw / ba-tɛt-ab 'shell sp.' |
| KA / U / B | ka-rɪŋ-ak / ʊ-rɪŋ-aw / bʊ-rɪŋ-ab 'thorn' |
| KA / U / E | ka-jahand-ak / ʊ-jahand-aw / ɛ-jahand-ay 'palm leaf' |
| J / M / BA | ʝɪ-lʊʊf-aj / mʊ-lʊʊf-am / ba-lʊʊf-ab 'small house' |
| H / K / E | hʊ-ɟɛɾɛta-ah / kʊ-ɟɛɾɛta-ak / ɛ-ɟɛɾɛta-ay 'peanut' |
| H / K / BA | hʊ-ɟt-ah / kʊ-ɟt-ak / ba-ɟt-ab 'star' |
| E / S / HA | ɛ-nɔɔl-ɛy / sɪ-nɔɔl-as / ha-nɔɔl-ah 'ant sp.' |
| E / S / B | ɛ-lɔl-ɛy / sɪ-lɔl-as / bʊ-lɔl-ab 'termite' |
| E / S / BA | ɛ-mɛɛra-ay / sɪ-mɛɛra-as / ba-mɛɛra-ab 'arrow' |
| B / U / E | bʊ-hɛndʊwa-ab / ʊ-hɛndʊwa-aw / ɛ-hɛndʊwa-ay 'plant sp.' |

3-way number contrast in Keeraak: singular / plural / collective

NF inventory A **B** **BA** **E** **H** **HA** J JA **K** **KA** BUK **M** MA N S **U**

sg / pl

collective

B / U

E

B / U / E

bʊ-hendʊwa-ab / ʊ-hendʊwa-aw / ε-hendʊwa-ay 'plant sp.'

KA / U

B

KA / U / BA

ka-tɛt-ak / ʊ-tɛt-aw / ba-tɛt-ab 'shell sp.'

H / K

BA

KA / U / B

ka-rɪŋ-ak / ʊ-rɪŋ-aw / bʊ-rɪŋ-ab 'thorn'

E / S

HA

KA / U / E

ka-jahand-ak / ʊ-jahand-aw / ε-jahand-ay 'palm leaf'

J / M

H / K / E

hʊ-gerɛta-ah / kʊ-gerɛta-ak / ε-gerɛta-ay 'peanut'

H / K / BA

hʊ-ɔt-ah / kʊ-ɔt-ak / ba-ɔt-ab 'star'

E / S / HA

ε-noɔl-ɛy / sɪ-noɔl-as / ha-noɔl-ah 'ant sp.'

E / S / B

ε-lɔl-ɛy / sɪ-lɔl-as / bʊ-lɔl-ab 'termite'

E / S / BA

ε-mɛɛra-ay / sɪ-mɛɛra-as / ba-mɛɛra-ab 'arrow'

J / M / BA

ʝɪ-lʊʃf-aj / mʊ-lʊʃf-am / ba-lʊʃf-ab 'small house'

> As in Nyun, the 3rd 'number value' is 'added' to an otherwise standard sg/pl pairing.

Other marginal number contrasts (singulative ~ collective ? ~ generic ?)

NF inventory **A** **B** BA E H HA J JA **K** **KA** BUK M **MA** **N** S **U**

KA / B ka-fɛɛs-ak / bɔ-fɛɛs-ab ‘rice chaff’

A / U a-yaaj-aw / ɔ-yaaj-aw ‘piece of wood ~ wood’

KA / K ka-lɔlɔbɔɔr-ak / kɔ-lɔlɔbɔɔr-ak ‘noise’

MA / U ma-tɛgɛn-am / ɔ-tɛgɛn-aw ‘truth’

M / U mɔ-kɔɔk-am / ɔ-kɔɔk-aw ‘brain’

N ~ U nɔ-kɔl-ɔn / ɔ-kɔl-aw ‘funeral dance’

Keeraak: variation in class assignment

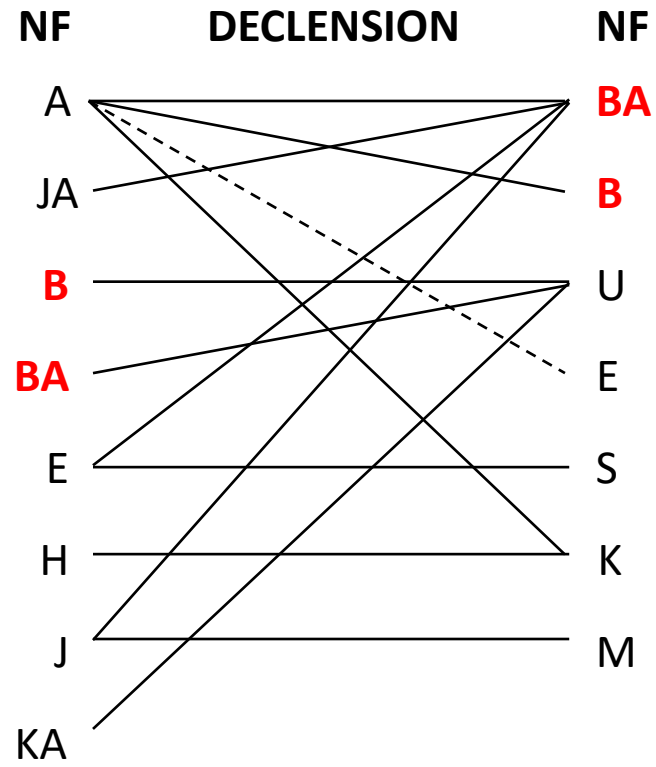
NF inventory **A** **B** BA **E** H HA **J** **JA** K **KA** BUK **M** MA N S U

- KA ~ B ka-sanj-ak ~ bɔ̄-sanj-ab / ɔ̄-sanj-aw 'tree sp.'
- E ~ JA ε-mpal-ay ~ ja-mpal-aw / ba-mpal-ab 'bird sp. (dove)'
- N ~ J ni-səŋg-əŋ ~ ji-səŋg-əj 'ornament, decoration' (no plural)
- A ~ J jɫ-maŋ-aj ~ a-maŋ-aw / ba-maŋ-ab 'small piece of iron'
- J ~ JA ji-hiiriir-əj ~ jə-hiiriir-əw / bə-hiiriir-əb 'insect sp.'
- A ~ E a-kuw-aw ~ ε-kuw-ay / ba-kuw-ab 'chick'
- B ~ BA bɔ̄-jɛk-ab ~ ba-jɛk-ab 'charcoal'

Singular only ? (when in plural, it might be a case of plural / collective contrast)

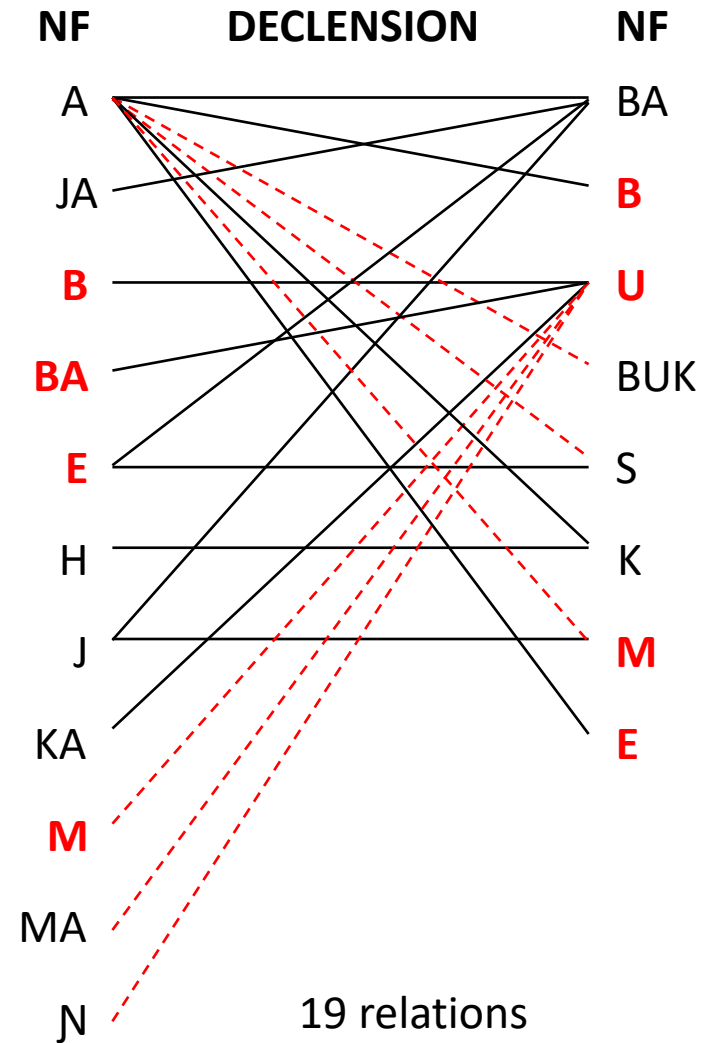
- M ~ BA ə-ruuk-əw / mu-ruuk-əm ~ bə-ruuk-əb 'bull (small)'

Keeraak – declension system



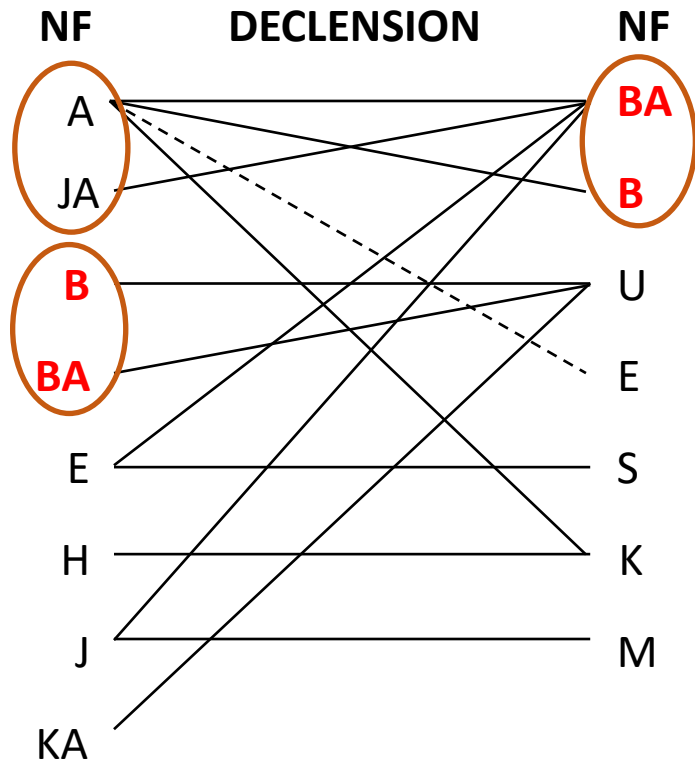
13 relations

> 10 cases

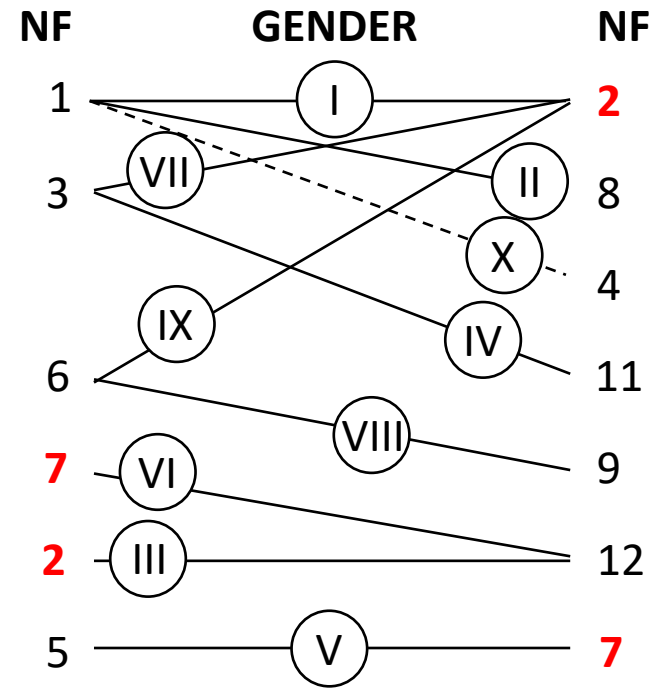


19 relations

Keeraak – declension vs gender



13 relations

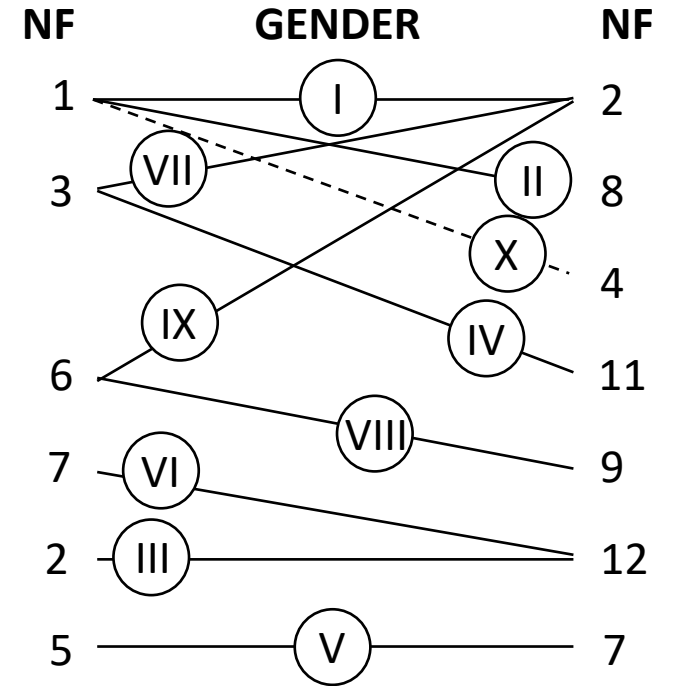
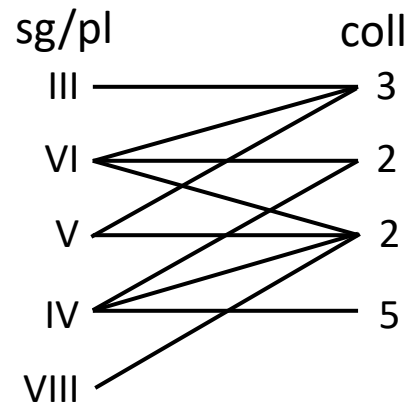
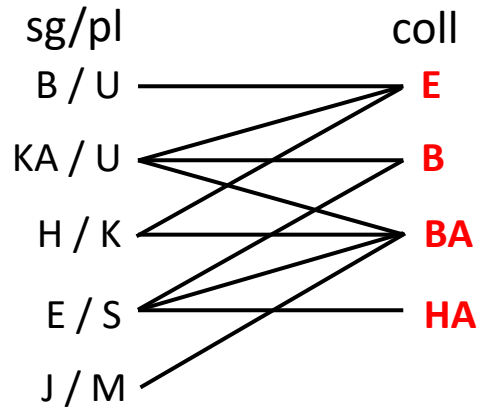
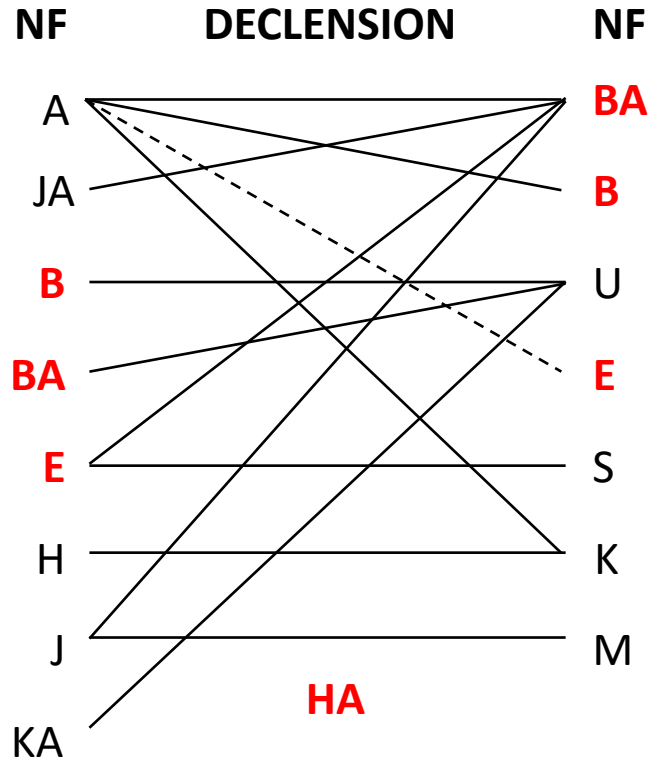


10 relations

> 10 cases

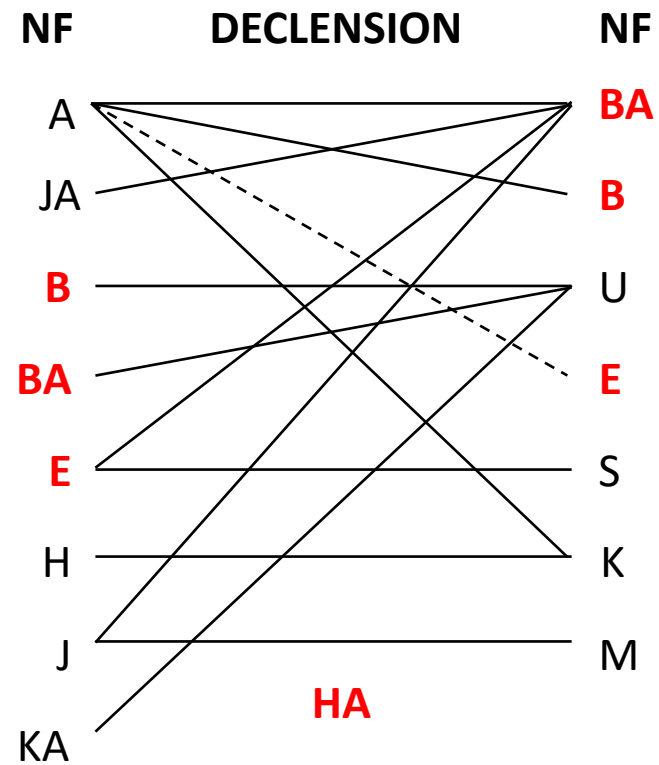
| AGR | WF |
|-----|--------|
| 1 | A, JA |
| 2 | B, BA |
| 3 | E |
| 4 | E/K |
| 5 | H, HA |
| 6 | J, JA |
| 7 | K, KA |
| 8 | BUK, K |
| 9 | M, MA |
| 10 | N |
| 11 | S |
| 12 | U |
| 13 | D |
| 14 | T |

Keeraak – declension vs gender (including collective)

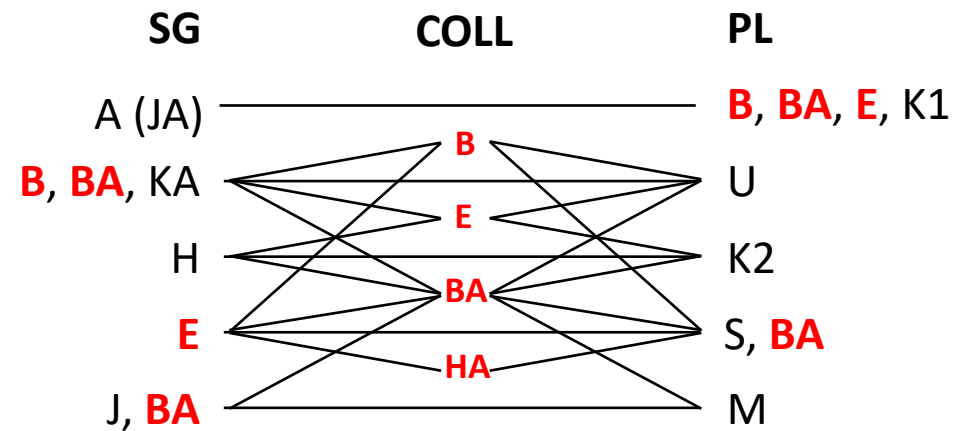


Keeraak – declension revisited

BEFORE



AFTER



Keeraak (NC, Atlantic, Bak, Joola) – personal data (~2000 nouns)

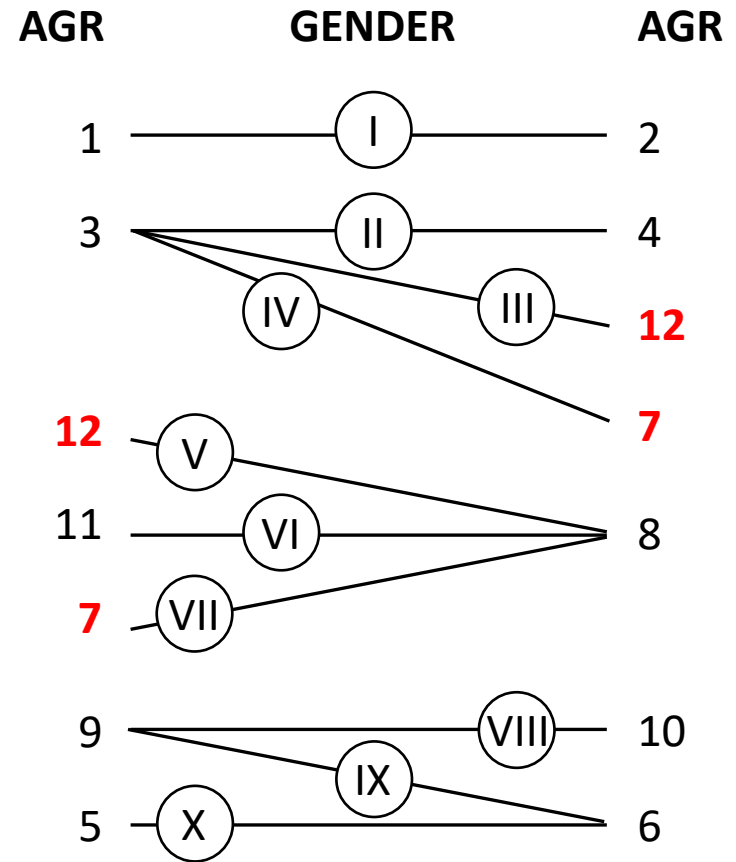
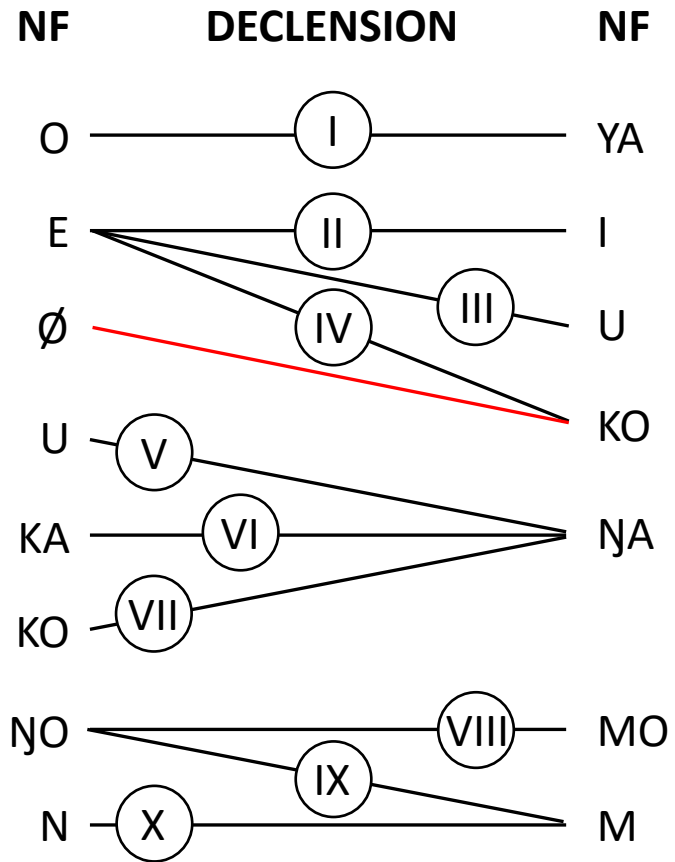
| | | WF | SG | TN | CO | PL | AGR | AGR | |
|--------------|-------------------|----------|-----|-----|----|-----|-----|------|---|
| non plural | strict singular | JA | 63 | | | | A | 1 | |
| | | A | 169 | | | | A | 1 | |
| | extended singular | JA | 70 | 1 | | | J | 6 | |
| | | N | 1 | 9 | | | N | 10 | |
| | | J | 39 | 11 | | | J | 6 | |
| | | H | 396 | 43 | | | H | 5 | |
| | | MA | 1 | 73 | | | M | 9 | |
| | | KA | 255 | 127 | | | K | 7 | |
| | E | 349 | 88 | 8 | | E | 3 | | |
| | complex | | M | 2 | 38 | | 19 | M | 9 |
| | | BA | 12 | 71 | 62 | 137 | B | 2 | |
| | | B | 100 | 79 | 19 | 48 | B | 2 | |
| non singular | mainly plural | U | | 3 | | 366 | U | 12 | |
| | | K | | 1 | | 393 | K | 7 | |
| | | S | | 8 | | 325 | S | 11 | |
| | locative | D' | | 1 | | | D | 13 | |
| | | T | | 1 | | | T | 14 | |
| | strict collective | HA | | | 15 | | H | 5 | |
| | strict plural | E | | | | 24 | | E/K | 4 |
| | | BUK | | | | | 1 | BK/K | 8 |
| | | K | | | | | 59 | BK/K | 8 |

Kagbaaga (NC, Atlantic, Bak, Bijogo) – personal data (1996-1999)

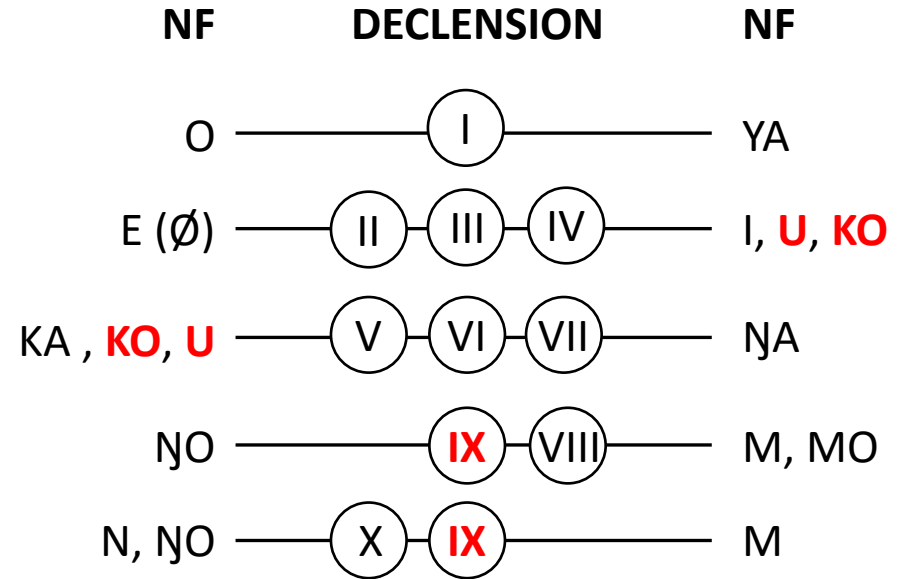
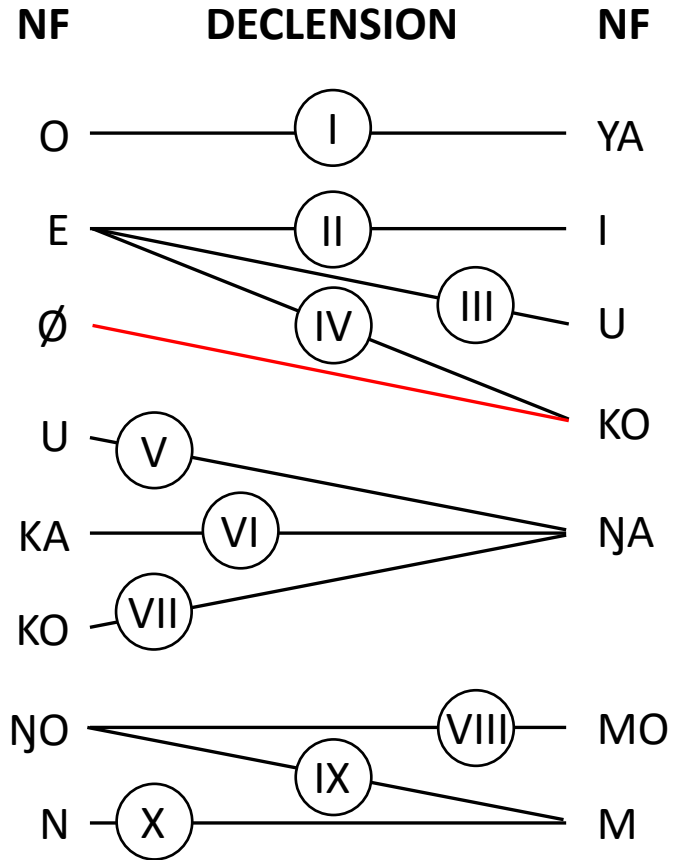
Kagbaaga agreement

| NF | NB | noun prefixes | SUBJ | CONN | PRON. | DEM1 | DEM2 | DEM3 | DEM4 |
|----|---------|-----------------|----------|------------|-------|-------|------|--------|-------|
| E | sg, co | ∅, e, ε | i-, ε- | ε-, m- | εg | εnε | εnu | εgan | εnna |
| I | pl, tn | i | i- | i-, m- | ig | ine | inu | igan | inna |
| O | sg | ∅, o, ɔ | u-, ɔ- | ɔ-, ∅ | ɔg | ɔnɔ | ɔnu | ɔgan | ɔnna |
| U | sg, pl | ∅, u | u- | u-, b-, m- | ug | une | unu | ugan | unna |
| YA | pl | ya | ya- | ɣ(a)-, ∅ | yag | yaanε | yanu | yagan | yanna |
| BA | tn | ba | ba- | ? | ? | ? | ? | ? | banna |
| KA | sg | ka | ka- | k(a)- | kag | εnka | kanu | kan | kanna |
| KO | sg, pl | ko, kɔ, ku, kpa | ku-, kɔ- | k(u)- | kɔg | εnka | kunu | kan | kunna |
| M | tn, pl | M, nV | M-, m- | m- | ink | nne | nnu | ngan | nna |
| MO | tn, pl | mo, mɔ, mu | mu-, mɔ- | m(u)- | mɔg | emma | munu | man | munna |
| NV | sg | nV, ni | nV-, ni- | n(a)- | nεg | enna | nunu | nan | ninna |
| ŊA | pl (sg) | ŋa | ŋa- | ŋ(a)- | ŋag | εŋŋa | ŋanu | ŋan | ŋanna |
| ŊO | sg | ŋo, ŋɔ, ŋu | ŋu-, ŋɔ- | ŋ(u)- | ŋɔg | εŋŋa | ŋunu | ŋan | ŋunna |
| WO | tn | ∅ | wu-, wɔ- | - | wɔg | wɔɔnε | ? | wɔngan | wɔnna |

Kagbaaga – declension vs gender



Kagbaaga – declension revisited



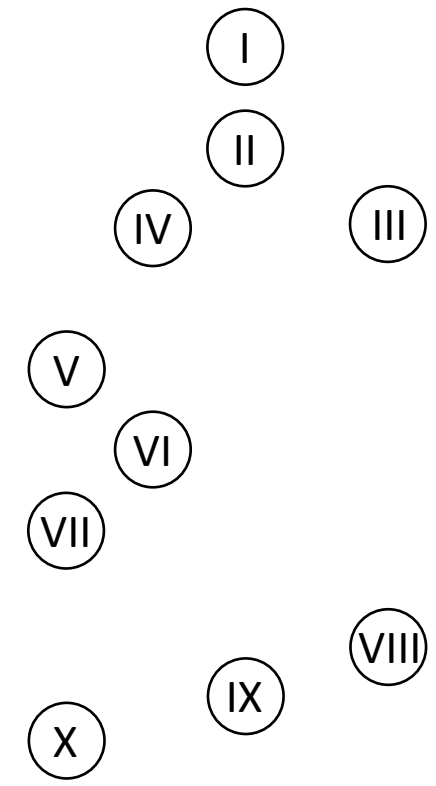
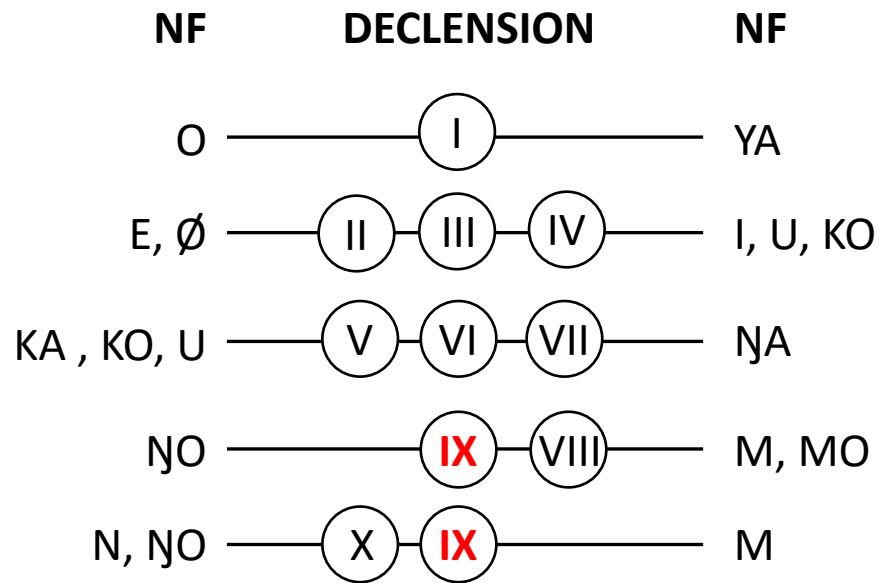
Kagbaaga (NC, Atlantic, Bak, Bijogo) – personal data (~1000 nouns)

| | | WF | SG | TN | CO | PL | AGR |
|--------------|------------------------|----|-----|-----------|----|-----|-----|
| non plural | strict singular | O | 59 | | | | 1 |
| | | ∅ | 62 | | | | 3 |
| | extended singular | N | 108 | 16 | | | 5 |
| | | Ŋ | 64 | 68 (+inf) | | | 9 |
| | | KA | 172 | 48 | | | 11 |
| E | 156 | 21 | 8 | | 3 | | |
| complex | | KO | 102 | 26 | | 179 | 7 |
| | | ŊA | 1 | 10 | | 297 | 8 |
| | | U | 24 | 7 | | 10 | 12 |
| non singular | mainly plural | I | | 2 | | 28 | 4 |
| | | M | | 19 | | 120 | 6 |
| | | MO | | 5 | | 58 | 10 |
| | strict plural | YA | | | | 59 | 2 |
| | pejorative locative | BA | | der | | | 13 |
| W | | | 1 | | | 14 | |

MERCI !

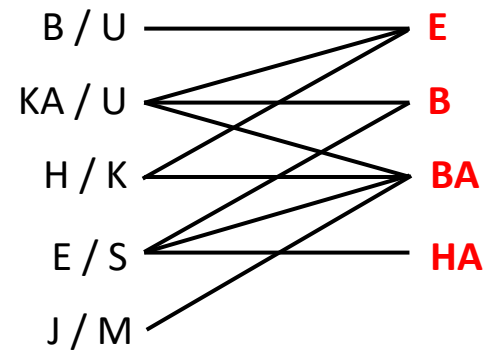
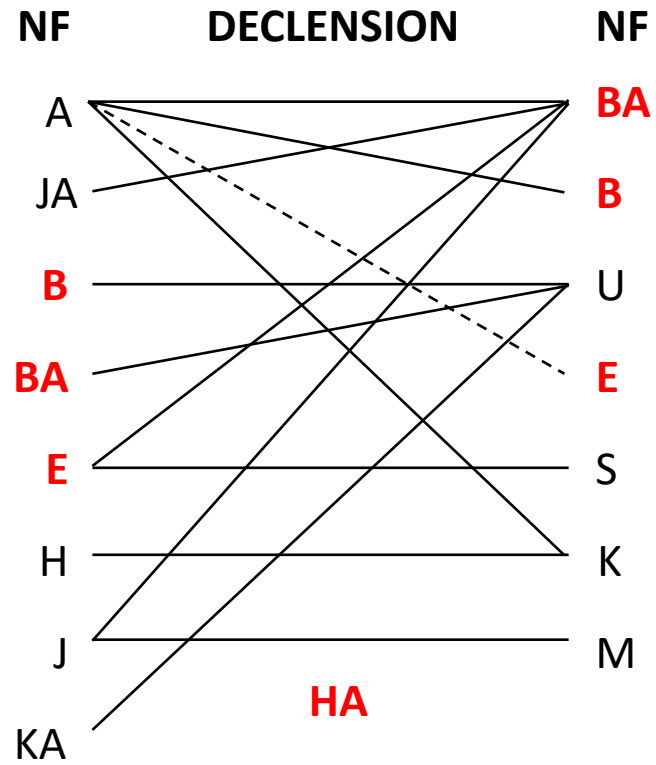
References

Cobbinah, Alexander Yao (2012). Nominal classification and verbal nouns in Bainounk Gubëeher. London : SOAS (PhD thesis).

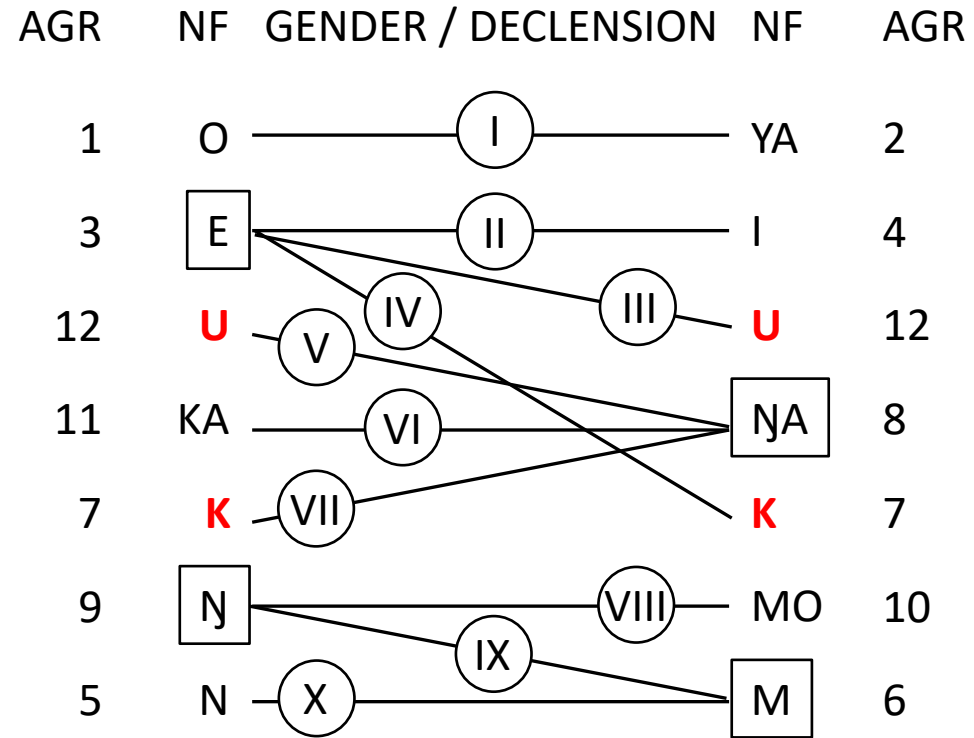


G&F's definitions

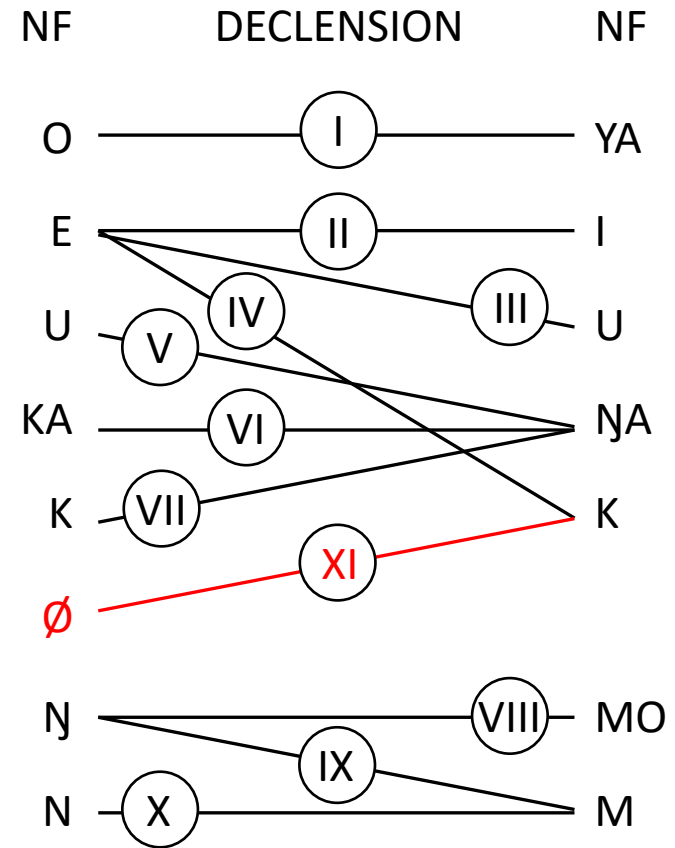
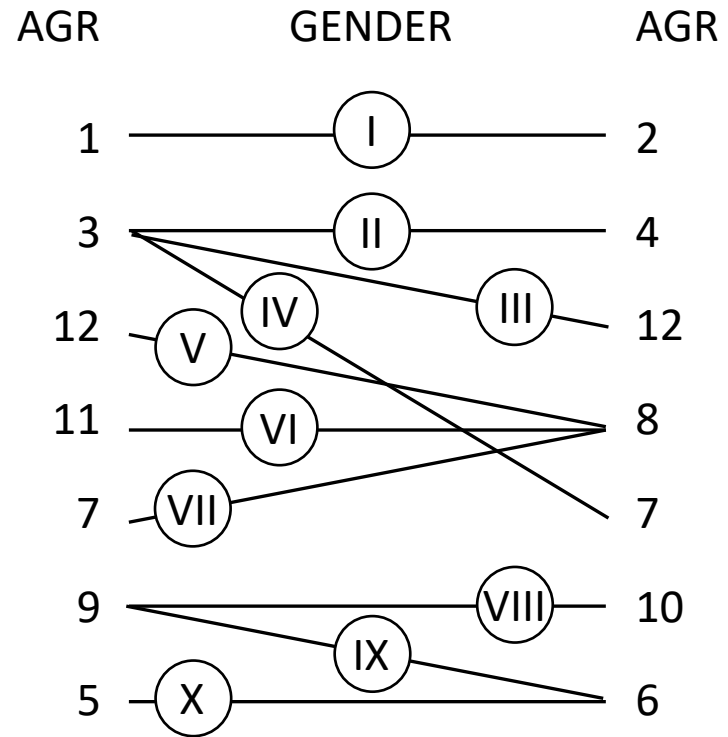
- p.4: “a gender is instantiated by a particular **pairing** of the respective agreement classes”
- p.5: “Normally, genders as the ultimate goal of analysis here are thus **classes of nouns in the abstract lexicon**”



Kagbaaga (NC, Atlantic, Bak, Bijogo)



Kagbaaga (NC, Atlantic, Bak, Bijogo)



1. How I have understood G&F's approach

(this might be superseded by a more recent and thorough understanding by the time I give this talk...)

- A word form class may trigger multiple agreement patterns (not only 'class agreement' vs 'semantic agreement')
 - Keeraak JA
 - *ja-lɛh-a-w* (JA-bird-DEF-AGR.I) 'bird'
 - *ja-bɔɔm-a-j* (JA-to dance-DEF-AGR.VI) 'to dance (INFINITIVE)'
 - Different word form classes may trigger the same agreement pattern
 - Keeraak B & BA, H & HA, J & JA, K & KA, M & MA
- > **word form classes have to be distinguished from agreement patterns**