Feature licensing and the number interpretation of bare nominals in Wolof*

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1 Introduction

A. A common component of analyses of the PCC (Person-Case or me/lui Constraint): the Person Licensing Condition Béjar & Rezac (2003, 2009)

- Roughly, the PCC is a restriction on the person features of two arguments (generally, two objects) of the same predicate.
- In Catalan, for instance, it cannot be the case that the direct object of a ditransitive verb is a participant, while the indirect object is in the 3rd person.

(1) **PCC in Catalan**

a. **El director, me li ha recomanat la Mireia.**
   the director, 1sg 3sg.dat has recommended the Mireia
   ‘As for the director, Mireia has recommended me to him.’

b. **A l’director, me 1′=ha recomanat la Mireia.**
   to-the director 1sg 3sg.acc has recommended the Mireia
   Int.: ‘As for the director, Mireia has recommended him to me.’
   (Bonet 1991, cited by Kalin 2019, p. 16)

- In order to account for the PCC, Béjar & Rezac (2003, 2009) propose the Person Licensing Condition (PLC), a requirement that participant person features be licensed by the operation Agree.

(2) **Person-Licensing Condition (PLC)**

An interpretable 1st/2nd person feature must be licensed by entering into an Agree relation with a functional category.

(Béjar & Rezac, 2003, p. 53)

- Under this view, the reason why (1b) is ungrammatical is that the participant (specifically, 1st person) theme me ‘me’ cannot be licensed, in violation of the PLC (2).

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B. Generalized nominal licensing (Kalin, 2017, 2019)

- Importantly, the features that require licensing by way of Agree in (2) are interpretable.
- Kalin (2017, 2019) finds a few similarities between the PCC and DOM (Differential Object Marking) and proposes a theory of generalized nominal licensing that is also based on the need of certain interpretable features to be Agreed with.
  - E.g., [+SPECIFICITY], [+DEFINITENESS], [+ANIMACY], and other properties that regulate DOM.
- One may wonder whether [+NUMBER], another nominal feature, may be subject to a condition like the PLC.
  - I argue that this is indeed the case.
  - The argument will be based on the number interpretation of bare nominals in Wolof.

C. Several, often unrelated, languages allow for their nominals to occur in bare form.

- Bare form: without the functional morphology that usually appears in the nominals of a given language, including determiners and number morphology. These nominals are bare nominals (BNs)
- Correspondingly, full nominal: nominals that do contain that functional morphology.

  (3) **Brazilian Portuguese**
  
  a. Eu vi un-s cachorro-s no parque.
     I saw one-PL dog-PL in.the park
     'I saw some dogs in the park.'
     
  b. Eu vi cachorro no parque.
     I saw dog in.the park
     'I saw a dog/some dogs in the park.'

D. Number neutrality

- Crosslinguistically stable property of BNs: they are number neutral.

  (4) a. **Brazilian Portuguese** (Müller 2002, (51))
    Unicórnio tem chifre.
    unicorn has horn
    ‘Unicorns have (an unspecified number of) horns.’
  
  b. **Mandarin** (Rullmann & You 2006, (1))
    Zuotian wo mai le shu.
    yesterday I buy ASP book
    ‘Yesterday, I bought one or more books.’
  
  c. **Hindi** (Dayal, 2011, (7b); adapted)
    anu bacca sambhaaltii hai.
    Anu child look.after-IMP be-PRS
    ‘Anu looks after (one or more) child(ren).’

- **Number neutral**: lack of a commitment to a singular or plural interpretation. This property is also known as ‘general number’ (Corbett, 2000).
- It is often taken to be a signature property of BNs crosslinguistically (Dayal, 2011, and rereferences therein).
E. Not all BNs are number neutral.

- Dayal (2011) and Rinaldi (2018) cast doubt on this generalization, showing that BNs in some languages are not number neutral, but singular.
- This is also true of BNs in Wolof.

(5) Gis-na-a ndonggo darra senegalee.
    see-NA-1SG student Senegalese
    ‘I saw a Senegalese student.’

(Speaker commented that this sentence is false if I saw more than one Senegalese student.)

F. Teasing apart number neutrality vs. exclusively singular interpretation

- One way to distinguish between number neutrality and exclusively singular interpretation: saturation of collective predicates.
- Some languages where BNs are number neutral:

(6) Brazilian Portuguese
    A professora agrupou aluno no parque.
    the teacher grouped.together student in.the park
    ‘The teacher gathered students in the park.’

(7) Mandarin (F. Chen, p.c.)
    Laoshi zai gongyuan-li jihe-le xuesheng.
    teacher at park-in gather.PERF student
    ‘The teacher gathered the students in the park.’

- Compare with Wolof:

(8) * Jangalekat b-i dajeele-na xale ci bayaal b-i.
    teacher CM.SG-DEF gather-NA.3SG child PREP park CM.SG-DEF
    Lit.: ‘The teacher gathered child in the park.’

- Making sense of this contrast:
  - If the BN is number neutral (Brazilian Portuguese and Mandarin), a plural interpretation is available, hence why the BN can saturate a collective predicate.
  - This implies that BNs in Wolof are not number neutral, otherwise (8) would be grammatical.

G. Goals of this presentation

- Show that BNs in Wolof are singular and not number neutral.
- Show under which conditions this generalization must be relaxed.
- Propose an analysis that is based on the [+NUMBER] counterpart of the PLC (2).

1 Abbreviations: CAUS = causative, CM = class marker, COMP = complementizer, COP = copula, DEF = definite, GEN = genitive, IMPF = imperfective, ITER = iterative, NA = sentential particle for neutral sentences (na), NEG = negation, NON.FIN = nonfinite, OBJ = object, OBL = oblique, PL = plural, POSS = possessive, PREP = preposition, PROG = progressive, RECIP = reciprocal, REFL = reflexive, SG = singular.
1.1 The structure of full nominals in Wolof

A. In this section

- Some general properties of Wolof full nominals.
- A structure proposed for these nominals and their morphosyntax.
- Why: a common assumption in the BN literature (e.g. Massam 2001) is that BNs have a truncated structure, compared to full nominals.

B. Class markers

- Determiners contain a class marker (gloss: cm) affixed to them (Babou & Loporcaro, 2016).

(9) a. Xale y-i lekk-na-ñu gato b-i.
   child CM.PL-DEF eat-NA-3PL cake CM.SG-DEF
   ‘The children ate the cake.’

b. Xadi gis-na a-b sàcc.
   Xadi see-NA.3SG INDEF-CM.SG thief
   ‘Xadi saw a thief.’

c. Awa jäpp-na a-y sàcc.
   Awa catch-NA.3SG INDEF-CM.PL thief
   ‘Awa caught some thieves.’

(Tamba et al., 2012, (2a/32a/33b); glosses and spelling adapted for uniformity)

- Besides the class a noun belongs to, the class marker encodes number information (singular or plural).
- For instance, sàcc ‘thief’ remains constant in (9b) and (9c); whether the DP it heads is interpreted as singular or plural is correlated with the class marker used, b and y, respectively.
- The class markers in Wolof are listed below:

<table>
<thead>
<tr>
<th>Number</th>
<th>Noun</th>
<th>CM-DEF</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yàmbaa</td>
<td>j-i</td>
<td>‘marijuana CM.SG-DEF’</td>
</tr>
<tr>
<td>b.</td>
<td>nit</td>
<td>k-i</td>
<td>‘person CM.SG-DEF’</td>
</tr>
<tr>
<td>c.</td>
<td>xaj</td>
<td>b-i</td>
<td>‘dog CM.SG-DEF’</td>
</tr>
<tr>
<td>d.</td>
<td>nit</td>
<td>k-i</td>
<td>‘person CM.SG-DEF’</td>
</tr>
<tr>
<td>e.</td>
<td>mbagg</td>
<td>m-i</td>
<td>‘shoulder CM.SG-DEF’</td>
</tr>
<tr>
<td>f.</td>
<td>weñ</td>
<td>w-i</td>
<td>‘metal CM.SG-DEF’</td>
</tr>
<tr>
<td>g.</td>
<td>suuf</td>
<td>s-i</td>
<td>‘ground CM.SG-DEF’</td>
</tr>
<tr>
<td>h.</td>
<td>ndap</td>
<td>l-i</td>
<td>‘pot CM.SG-DEF’</td>
</tr>
<tr>
<td>i.</td>
<td>góór</td>
<td>g-i</td>
<td>‘man CM.SG-DEF’</td>
</tr>
<tr>
<td>j.</td>
<td>Plural</td>
<td>xaj</td>
<td>y-i</td>
</tr>
<tr>
<td>k.</td>
<td>góór</td>
<td>n-i</td>
<td>‘man CM.PL-DEF’</td>
</tr>
</tbody>
</table>

(Tamba et al., 2012, tab. 17.2; adapted)

C. A potential analysis of class markers and the morphosyntax of full nominals

- It is clear from (10) that there are more class markers for singular nouns than for plural ones.
- We could assume that there are as many Vocabulary Items as there are class markers.
- While this analysis is consistent with the facts, it misses the asymmetry in the amount of singular and plural class markers.

D. An alternative
• I follow Kihm (2005) and Acquaviva (2009) in assuming that gender and other root-specific morphology is encoded in the categorizer that merges with the root. I propose thus that class marker is a feature which is a specification of the categorizer \( n \).

• Furthermore, I postulate a single head (AgrP) that probes both for a class marker and a number feature.

• It is this single head (Agr) that is exponed as the class markers in (10).

\[
(11)
\begin{center}
\begin{tikzpicture}
  \node (DP) {DP};
  \node (AgrP) [below of=DP] {AgrP};
  \node (NumP) [below of=AgrP] {NumP};
  \node (Agr) [below of=NumP] {Agr};
  \node (Num) [below of=Agr] {Num};
  \node (nP) [below of=Num] {nP};
  \node (D) [left of=AgrP] {D};
  \node (n) [left of=nP] {n};
  \node (√xaj) [right of=n] {√xaj};
  \draw (DP) -- (AgrP);
  \draw (AgrP) -- (Agr);
  \draw (Agr) -- (Num);
  \draw (Num) -- (NumP);
  \draw (NumP) -- (nP);
  \draw (nP) -- (n);
  \draw (D) -- (AgrP);
\end{tikzpicture}
\end{center}
\]

• Preview of analysis: BNs lack a class marker, though they do have a particular number interpretation.

• I will propose that BNs are smaller than full nominals in lacking at least an AgrP.

E. The Vocabulary Items that I assume for class markers are in (12). (I represent the class marker feature with a Greek letter that corresponds to the singular class marker.)

\[
(12) \quad \textit{Vocabulary Items for Agr}
\]

a. \([\text{CM} : \beta] \leftrightarrow /b/
\]
b. \([\text{CM} : \kappa] \leftrightarrow /k/
\]
c. \([\text{CM} : \mu] \leftrightarrow /m/
\]
d. \([\text{PLURAL}] \leftrightarrow /y/
\]
e. \([\text{CM} : \gamma; \text{PLURAL}] \leftrightarrow /ñ/
\]

2 BNs in Wolof are singular (when unmodified)

A. In this section:

• Some diagnostics for number neutrality and how Wolof BNs behave with respect to these diagnostics.

  i. Saturation of collective predicate;
  ii. Pronoun used to refer back to BN;
  iii. BN as antecedent of plural reflexive;
  iv. BN followed up with ‘all of them’.
B. Saturation of collective predicate

(13) **Dajeele requires a plural object**


CM.SG-DEF

‘The teacher gathered *a child/some children in the park.’

(14) **BN in Wolof cannot be the object of dajeele**

* Jangalekat b-i dajeele-na xale ci bayaal b-i.
  teacher CM.SG-DEF gather-NA.3SG child PREP park CM.SG-DEF

Lit.: ‘The teacher gathered student in the park.’

- A singular full nominal can be the object of a collective predicate, if an oblique argument is added.

(15) Faatu dajeele-na a-b féckat ak a-b woykat.

Faatu gather-NA.3SG INDEF-CM.PL dancer CONJ INDEF-CM.SG singer

‘Faatu gathered a dancer with a singer.’

- If an oblique argument is added, a BN behaves like a singular full nominal:

(16) **BN can be object of collective predicate if oblique argument is added**

Faatu dajeele-na féckat ak woykat / a-b woykat.

Faatu gather-NA.3SG INDEF-CM.PL dancer INDEF-CM.SG singer

‘Faatu gathered a dancer with a singer.’

C. Discourse anaphora

(17) **Discourse anaphora must match number of antecedent**

  see-NA.1SG INDEF-CM.SG teacher Maymuna like-NA.3SG OBJ.3SG / *OBJ.3PL
  ‘I saw a teacher yesterday. Maymuna admires her/*them.’

  see-NA.1SG INDEF-CM.PL teacher Maymuna like-NA.3SG *OBJ.3SG / OBJ.3PL
  ‘I saw some teachers yesterday. Maymuna admires *her/them.’

(18) **BN cannot be antecedent of plural discourse anaphora**

Gis-na-a jangalekat. Maymuna bëgg-na ko / *leen.

see-NA.1SG teacher Maymuna like-NA.3SG OBJ.3SG / *OBJ.3PL

‘I saw a teacher yesterday. Maymuna admires her/*them.’

D. Plural reflexive

(19) **Plural DP can be antecedent of reflexive**

  Kadeer wash-CAUS-NA.3SG student CM.PL-DEF POSS.3PL head
  ‘Kadeer made the children wash themselves.’

b. Kadeer sang-aloo-na xale b-i bopp=am.
  Kadeer wash-CAUS-NA.3SG student CM.SG-DEF head=POSS.3SG
  ‘Kadeer made the child wash himself/herself.’

---

2The same type of data can be reproduced with reciprocals, not included here for time constraints.
   Kadeer wash-CAUS-NA.3SG student CM.SG-DEF POSS.3PL head
   Lit.: ‘Kadeer made the child wash themselves.’

(20) BN cannot be antecedent of plural reflexive
* Jangalekat b-i sang-aloo-na nonggo darra seen bopp.
   teacher CM.SG-DEF wash-CAUS-NA.3SG student POSS.3PL head
   Lit.: ‘The teacher made student wash themselves.’

• The BN can be the antecedent of a singular reflexive. As such, (20)’s ill-formedness cannot be caused by the BN’s inability to be an antecedent.

(21) BN can be antecedent of singular reflexive
Jangalekat b-i sang-aloo-na nonggo darra bopp=am.
   teacher CM.SG-DEF wash-CAUS-NA.3SG student head=POSS.3SG
   ‘The teacher made some student wash himself/herself.’

E. ‘All of them’ follow-up

(22) ‘All of them’ requires a plural antecedent
a. *? Gis-na-a a-b xaj ci bayaal b-i démb. Y-ëpp
   see-NA-1SG INDEF-CM.SG dog PREP field CM.SG-DEF yesterday CM.PL-every
   sokola-na-ñu.
   brown-NA-3PL
   Lit.: ‘I saw a dog in the field yesterday. All of them were brown.’
b. Gis-na-a a-y xaj ci bayaal b-i démb. Y-ëpp
   see-NA-1SG INDEF-CM.PL dog PREP field CM.SG-DEF yesterday CM.PL-every
   sokola-na-ñu.
   brown-NA-3PL
   ‘I saw some dogs in the field yesterday. All of them were brown.’

(23) BN cannot be followed up by ‘all of them’
   see-NA-1SG dog PREP field CM.SG-DEF yesterday CM.PL-every brown-NA-3PL
   Lit.: ‘I saw dog in the field yesterday. All of them were brown.’

2.1 Interim summary

A. Summary and discussion

• The data discussed so far is summarized in the table below:

(24)                      Full nominal               Bare nominal
                       Singular      Plural      Singular       Plural
i. Collective predicate  *            ✓         ✓             *
ii. Discourse anaphora   SG          PL         SG
iii. Plural reflexive    *            ✓         ✓             *
iv. ‘All of them’ follow-up  *?          ✓         ?            ?

• Noteworthy: the behavior of BNs has basically the same profile as that of a singular full nominal.

3(23) was judged just degraded rather than completely infelicitous. I do not have an explanation for this.
This contrasts with the number-neutral interpretation that is usually taken to be a cross-linguistically stable property of BNs.

B. Next sections

• Refinement of this generalization: we will look at the effect (or lack thereof) of the addition of a modifier.
  ◦ There will be a contrast correlated with the absence or presence of number morphology in the modifier and the number interpretation of the BN.
  ◦ Yes plural morphology \(\leftrightarrow\) BN interpreted in the plural.
  ◦ No plural morphology \(\leftrightarrow\) BN interpreted in the singular (it retains the singular interpretation, summarized in (24)).
• The same correlation will be seen in the contrast between two types of possessive nominals in Wolof.

3 Addition of modifier to BN in Wolof

3.1 Relative clause

A. Morphosyntax of relative clauses

• Relative clauses in Wolof contain a class marker prefixed to the relative complementizer \(u\).
• The class marker cross-references the class and number of the head of the relative.

(25) a. Roxaya xam-na a-b jangalekat [\(RC\) b-u Maymuna bëgg].
Roxaya know-NA.3SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna like ]
‘Roxaya knows a teacher that Maymuna admires.’

b. Dimbala-na-a a-y xale [\(RC\) y-u jàng téere b-i].
‘I helped some children who read the book.

• That matching is obligatory:

(26) a. Samba tej-na palanteer [ b-u tilim ] b-i. / *b-i.
Samba close-NA.3SG window [CM.SG-COMP dirty ] CM.SG-DEF / *CM.PL-DEF
‘Samba closed the window that is dirty.’

b. Samba tej-na palanteer [ y-u tilim ] y-i / *b-i.
‘Samba closed the windows that are dirty.’

• Assuming a raising analysis of relative clauses (see overview in Bhatt 2002) for Wolof, Torrence (2013) analyzes the occurrence of the class marker as an instance of complementizer agreement.
  ◦ Under this view, the mismatch in (66) is the result of the impossibility of mismatch to result from Agree with the same goal.

B. BN and relative clauses

• BNs can be modified by either a relative clause with either a singular or a plural class marker.

(27) a. Samba tej-na palanteer [ b-u tilim ].
Samba close-NA.3SG window [CM.SG-COMP dirty ]
‘Samba closed some window that is dirty.’
b. Samba tej-na palanteer [ y-u tilim ].
   Samba close-NA.3SG window [ CM.PL-COMP dirty ]
   ‘Samba closed some windows that are dirty.’

- We saw in the previous section that BNs in Wolof have the same number interpretation as singular full nominals. Why then can they be modified by a plural relative clause (27b) too?

C. Number interpretation of BN modified by relative clause

- Singular relative clause: singular interpretation.
- Plural relative clause: plural interpretation.

(28) **BN modified by plural relative clause can be object of collective predicate**

a. * Jangalekat b-i dajeele-na xale [ y-u Samba xam ] ci
   teacher CM.SG-DEF gather-NA.3SG child [ CM.SG-COMP Samba know ] PREP
   bayaal b-i.
   park CM.SG-DEF
   Lit.: ‘The teacher gathered student who Samba knows in the park.’

b. Jangalekat b-i dajeele-na xale [ y-u Samba xam ] ci
   teacher CM.SG-DEF gather-NA.3SG child [ CM.PL-COMP Samba know ] PREP
   bayaal b-i.
   park CM.SG-DEF
   ‘The teacher gathered some students who Samba knows in the park.’

(29) **BN modified by plural relative clause can be antecedent of plural discourse anaphora**

a. Gis-na-a jangalekat [ b-u Roxaya xam ] . Maymuna bëgg-na
   see-NA.1SG teacher [ CM.SG-COMP Roxaya know ] Maymuna like-NA.3SG
   ko / *leen.
   OBJ.3SG / *OBJ.3PL
   ‘I saw a teacher who Roxaya knows. Maymuna admires her.’

b. Gis-na-a jangalekat [ y-u Roxaya xam ] . Maymuna bëgg-na
   see-NA.1SG teacher [ CM.PL-COMP Roxaya know ] Maymuna like-NA.3SG
   *ko / leen.
   *OBJ.3SG / OBJ.3PL
   ‘I saw some teachers who Roxaya knows. Maymuna admires them.’

(30) **BN modified by plural relative clause can be antecedent of plural reflexive**

a. Jangalekat b-i sang-oolloo-na nonggo darra [ y-u njool ]
   teacher CM.SG-DEF wash-CAUS-NA.3SG student [ CM.PL-COMP tall ]
   seen bopp.
   POSS.3PL head
   ‘The teacher made some tall students wash themselves.’

b. * Jangalekat b-i sang-oolloo-na nonggo darra [ b-u njool ]
   teacher CM.SG-DEF wash-CAUS-NA.3SG student [ CM.SG-COMP tall ]
   seen bopp.
   POSS.3PL head
   Lit.: ‘The teacher made a tall student wash themselves.’

(31) ‘All of them’ follow-up

a. # Gis-na-a xaj [ b-u muus ] ci bayaal b-i démb.
   see-NA.1SG dog [ CM.SG-COMP intelligent ] PREP field CM.SG-DEF yesterday
   Y-ëpp sokola la-ñu.
   CM.PL-every brown COP-3PL
   Lit.: ‘I saw dog that is intelligent in the field yesterday. All of them were brown.’
b. Gis-na-a xaj [ y-u muus ] ci bayaal b-i démb.
see-NA-1SG dog [ CM.PL-COMP intelligent ] PREP field CM.SG-DEF yesterday
Y-ëpp sokola la-ňu.
CM.PL-every brown COP-3PL
‘I saw some intelligent dogs in the field yesterday. All of them were brown.’

D. Summary

- While unmodified BNs are singular, BNs modified by a relative clause that contains a plural class marker (y) have a plural construal.
- Next section: contrast between relative clauses and modifiers that contain any number morphology.

3.2 Plain modifier

A. Morphosyntax of plain modifiers

- In Wolof, nominal modifiers are usually relative clauses (e.g. tall in (30a)).
- Nonetheless, expressions for nationality may occur without the syntax of a relative clause. I dub these expressions ‘plain modifiers’.

Mareem gather-NA.3SG INDEF-CM.PL singer Brazilian
‘Mareem gathered some Brazilian singers.’

b. Samba bëgg-na tew/ataaya angale.
Samba like-NA.3SG tea/tea English
‘Samba likes English tea.’

- I assume that plain modifiers are compounded with the nominal they modify:

(33)

\[ \ldots \]

\[ nP \]

\[ n \]

\[ \sqrt{SINGER} \]

\[ \sqrt{BRAZILIAN} \]

- A fact consistent with this analysis is the fact that plain modifiers must be below relative clauses (analyzed here as nP modifiers).

(34) a. Gis-na-a ndonggo darra brezilien [RC b-u Samba xam ].
see-NA-1SG student Brazilian [ CM.SG-COMP Samba know ]
‘I saw a Brazilian student who Samba knows.’

see-NA-1SG student [ CM.SG-COMP Samba know ] Brazilian
Int.: ‘I saw a Brazilian student who Samba knows.’

B. The number interpretation of BN modified by plain modifier

- Recall: plural relative clauses allow a BN to be plural.
- Plain modifiers do not have a “pluralizing” effect in the number interpretation of BN.

(35) BN modified by plain modifier cannot saturate collective predicate
   Roxaya gather-NA.3SG dancer Brazilian
   Lit.: ‘Roxaya gathered Brazilian student.’

b. * Jangalekat b-i dajeele-na ndonggo darra angale ci bayaal
   teacher CM.SG-DEF gather-NA.3SG student English PREP park
   Lit.: ‘The teacher gathered English student in the park.’

(36) **BN modified by plain modifier is referred back to with singular pronoun**

   Gis na-a woykaxt brezilien. Maymuna bëgg na ko / *leen.
   see NA-1SG singer Brazilian Maymuna like NA.3SG OBJ.3SG / *OBJ.3PL
   ‘I saw a Brazilian singer. Maymuna admires her/*them.

(37) **BN modified by plain modifier cannot be antecedent of reciprocal**

   * Jangalekat b-i desin-ante-loo-na ndonggo darra brezilien.
   teacher CM.SG-DEF draw-RECIP-CAUS-NA.3SG student Brazilian
   Lit.: ‘The teacher made student draw each other.’

(38) **BN modified by plain modifier cannot be followed up with ‘all of them’**

   buy-NA-1SG book English yesterday CM.PL-every nice-NA-3PL
   Lit.: ‘I bought English book yesterday. They are all nice.’

### 3.3 Interim generalization and looking forward

A. Questions raised by the data:

   (39) i. How can we account for the exclusively singular interpretation (and not number neutral) interpretation of BNs in Wolof?
   ii. Why does a BN without any plural morphology behave as if it were singular, while a BN merged that does contain plural morphology behaves as if it were plural?

B. Next section

   • The distinction between relative clauses (yes number morphology) and plain modifiers (no number morphology) is reproduced in the distinction between two types of possessive nominals.

### 4 Two types of possessive nominals

A. In Wolof, there are at least two types of possessive nominals.

   • In (40), the possessive determiner sama ‘my’ is used. It precedes the possessum xaj ‘dog’.
   • In (41), the genitive suffix u is used. It is affixed to the possessum muus ‘cat’, which precedes the possessor Mareem.

(40) **Possessive determiner**

   Gis-na-a sama xaj b-i ci baayal b-i.
   see-NA-1SG poss.1SG dog CM.SG-DEF PREP park CM.SG-DEF
   ‘I saw my dog in the park.’

(41) **Genitive suffix**

   Toogakat b-i gis-na a-y muus-u Mareem.
   cook CM.SG-DEF see-NA.3SG INDEF.CM.PL cat-GEN Mareem
   ‘The cook saw some cats of Mareem’s.’
4.1 Possessive with possessum-sensitive suffix

A. Basics of possessive determiners

- *Sama* is a 1st person possessive determiner that is linearly followed by a possessum.
- The possessive determiner is sensitive to the number of the possessum.

<table>
<thead>
<tr>
<th>Poss’or</th>
<th>SG poss’um</th>
<th>Translation</th>
<th>PL poss’um</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>sama xarit</td>
<td>‘my friend’</td>
<td>sama-y xarit</td>
<td>‘my friends’</td>
</tr>
<tr>
<td>2SG</td>
<td>sa xarit</td>
<td>‘your friend’</td>
<td>sa-y xarit</td>
<td>‘your friends’</td>
</tr>
<tr>
<td>3SG</td>
<td>xarit-am</td>
<td>‘his/her friend’</td>
<td>ay xarit-am</td>
<td>‘his/her friends’</td>
</tr>
<tr>
<td>1PL</td>
<td>suñu xarit</td>
<td>‘our friend’</td>
<td>suñu-y xarit</td>
<td>‘our friends’</td>
</tr>
<tr>
<td>2PL</td>
<td>seen xarit</td>
<td>‘your friend’</td>
<td>seen-i xarit</td>
<td>‘your friends’</td>
</tr>
<tr>
<td>3PL</td>
<td>seen xarit</td>
<td>‘their friend’</td>
<td>seen-i xarit</td>
<td>‘their friends’</td>
</tr>
</tbody>
</table>

○ In (42a) and (42b), the form of the possessive determiner remains the same (*sama ‘my’) and so does the possessum *nit ‘person’.

○ However, a plural interpretation for the possessum arises in (42b), where there is the addition of the affix -y.

- The possessive determiners in Wolof are listed below:

B. If the possessum is a full nominal, the determiner and the possessum-sensitive morphology must match in number.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>44 a</td>
<td>Gis-na-a sama xaj b-i ci baayal b-i.</td>
<td>see-NA-1SG POSS.1SG dog CM.SG-DEF PREP park CM.SG-DEF</td>
<td>‘I saw my dog in the garden.’</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>* Gis-na-a sama-y xaj b-i ci baayal b-i.</td>
<td>see-NA-1SG POSS.1SG-PL dog CM.SG-DEF PREP park CM.SG-DEF</td>
<td>Int.: ‘I saw the SG dog of mine. PL in the garden.’</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Gis-na-a sama-y xaj y-i ci baayal b-i.</td>
<td>see-NA-1SG POSS.1SG-PL dog CM.SG-DEF PREP park CM.SG-DEF</td>
<td>‘I saw my dogs in the garden.’</td>
<td></td>
</tr>
</tbody>
</table>

C. Homophony between possessum -y and plural class marker

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45 a</td>
<td>Kis-na-a nit y-i / nit ñ-i ci Boston.</td>
<td>see-NA-1SG person CM.PL-DEF / person CM.PL-DEF PREP Boston</td>
<td>‘I saw the people in Boston.’</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Kis-na-a sama-y nit y-i / ñ-i ci Boston déemba.</td>
<td>see-NA-1SG POSS.1SG-PL person CM.PL-DEF / CM.PL-DEF PREP Boston yesterday</td>
<td>‘I met the people in Boston yesterday.’</td>
<td></td>
</tr>
</tbody>
</table>

D. Structure assumed

- (46) represents *sama-y xaj y-i ‘POSS.1SG-PL dog CM.PL-DEF (my dogs)*.
- The head of PossP is proposed to probe for a number feature. This feature is valued by the possessum, which is in its c-command domain.
E. Number interpretation: BNs inside this type of possessive nominal have a singular interpretation, unless
the plural possessum-sensitive -y occurs.

(47) **Collective predicate**

   gather-NA-1SG POSS.1SG-PL PREP garden CM.SG-DEF
   'I gathered some cats of mine in the garden.'

   gather-NA-1SG POSS.1SG cat PREP garden CM.SG-DEF
   Lit.: 'I gathered a cat of mine in the garden.'

(48) **Discourse anaphora**

   show-NA-1SG POSS.1SG-PL dog Mareem liken-1SG *OBJ.SG / OBJ.PL
   'I showed Mareem some dogs of mine. I like *him/them.'

   show-NA-1SG POSS.1SG-PL dog Mareem liken-1SG OBJ.SG / *OBJ.PL
   'I showed Mareem a dog of mine. She likes him/*them.'

(49) **Plural reflexive**

   teacher CM.PL-DEF wash-CAUS-NA-3PL POSS.3PL student POSS.3PL head
   'The teachers made some students of theirs wash themselves.'

b. * Jangalekat y-i sang-aloo-na-nu seen ndonggo darra seen bopp.
   teacher CM.PL-DEF wash-CAUS-NA-3PL POSS.3PL student POSS.3PL head
   Lit.: 'The teachers student of theirs wash themselves.'

(50) **'All of them' follow-up**

   POSS.1SG cat break-NA.3SG POSS.1SG-PL plate like-NA-1SG CM.PL-every
   'My cat broke some plates of mine. I liked all of them.'

b. Sama muus toj-na sama ndap. # Bègg-na-a y-ëpp.
   POSS.1SG cat break-NA.3SG POSS.1SG plate # like-NA-1SG CM.PL-every
   Lit.: 'My cat broke a plate of mine. I liked all of them.'

### 4.2 Genitive possessive

A. We can now turn to the genitive possessive nominal.
(51) Gis-na-a **doom**-u Roxaya.
    see-NA-1SG child-GEN Roxaya
    ‘I saw a child of Roxaya’s.’

B. Possessum can be full nominal (52) or BN (51).

(52) a. A-b **muus**-u Samba lekk-na céeb.
    INDEF-CM.SG cat-GEN Samba eat-NA.3SG rice
    ‘A cat of Samba’s ate rice.’
b. A-y **muus**-u Samba lekk na-ñu céeb.
    INDEF-CM.PL cat-GEN Samba eat NA-3PL rice
    ‘Some cats of Samba’s ate rice.’
c. Gis-na-a a-y **doom**-u Roxaya.
    see-NA-1SG INDEF-CM-PL child-GEN Roxaya
    ‘I saw some children of Roxaya’s.’
d. Bëgg-na-ñu Roxaya / *Roxaya b-i.
    like-NA-1PL Roxaya / *Roxaya CM.SG-DEF
    ‘We like Roxaya.’
e. Bëgg-na-ñu **muus**-u Roxaya b-i.
    like-NA-1PL cat-GEN Roxaya CM.SG-DEF
    ‘We like the cat of Roxaya’s.’
f. Muus-u Samba y-i lekk na-ñu céeb.
    cat-GEN Samba CM.SG-DEF eat NA-3PL rice
    ‘Samba’s cats ate rice.’

C. Structure assumed

- (53) represents a-b **muus**-u Samba ‘INDEF-CM.SG cat-GEN Samba (a cat of Samba’s).
- For concreteness, I assume Den Dikken’s (2006) Relator Phrase, whose head here is realized by
  the genitive morpheme -u.
- Contrary to the possessive in (46) examined above, in the genitive (53), there is no probe for
  number.

(53)

\[
\begin{array}{c}
\text{RP} \\
\text{DP}_{\text{pass}^\text{um}} \\
\text{a-b muus} \\
\text{R} \\
\text{u} \\
\text{DP}_{\text{pass}^\text{or}} \\
\text{Samba}
\end{array}
\]

D. Number interpretation: in the genitive possessive construction, there is no morpheme sensitive to num-
ber. In that case, only a singular reading is available.

(54) **Collective predicate**
    Roxaya boole-na **xaj**-u Kadeer *( ak xaj-u Kumba ).
    Roxaya put.together-NA.3SG dog-GEN Kadeer *( CONJ dog-GEN Kumba )
    ‘Roxaya put together Kadeer’s dog *(with Kumba’s dog).’

(55) **Discourse anaphora**

14/23
Gis-na-a muus-u Kadeer ci tool b-i. Bëgg-na-a ko / *leen. see-NA-1SG cat-GEN Kadeer PREP garden CM.SG-DEF like-NA-1SG OBJ.3SG / *OBJ.3PL 'I saw a cat of Kadeer’s in the garden. I like him/her/*them.’

(56) Plural reflexive
Isaa sang-oloo-na xaj-u Kadeer bopp=am / *seen bopp. Isaa wash-CAUS-NA.3SG dog-GEN Kadeer head=POSS.3SG / *POSS.3PL head ‘Isaa made a dog of Kadeer’s wash himself/themselves.’

(57) ‘All of them’
Sama muus toj-na ndap-u Kadeer. # Bëgg-na-a y-ëpp. POSS.1SG cat break-NA.3SG plate-GEN Kadeer # like-NA-1SG CM.PL-every Int.: ‘My cat broke my plate. I liked all of them.’

E. Summary

- Possessive determiners are sensitive to the number of the possessum; agreement with a plural possessum is exponed by the prefix -y.
- The genitive affix, on the other hand, does not display any number morphology. Correspondingly, no plural interpretation is possible.
- Combined, the modifier and possessive data show a correlation between the occurrence of plural morphology within the nominal and the availability of a plural interpretation in a BN.

<table>
<thead>
<tr>
<th>(58)</th>
<th>Plural exponent available</th>
<th>Plural interpretation possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plural relative clause</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Plain modifier</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Possessive determiner</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Genitive</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

5 A feature licensing analysis of BNs in Wolof

A. Possible values for [+NUMBER] in Wolof

- Full nominals in Wolof can be either singular or plural.

(59) Xale y-i lekk-na-ñu gato b-i. child CM.PL-DEF eat-NA-3PL cake CM.SG-DEF ‘The children ate the cake.’

- All things equal, the same values for the number feature should be available for BNs as well.
- Desideratum: only the derivation with a singular BN converges.
- Proposal: this happens because of the failure to comply with the Number Licensing Condition (60).

Number Licensing Condition (NLC)

(60) An interpretable number feature must be licensed by entering into an Agree relation with a functional category.

- Something along the lines of (60) is also independently assumed by Keine et al. (2019) in their account of hierarchy effects in assumed identity constructions in German.

---

4Because of time constraints, I will not discuss alternative analyses, but feel free to ask!
Keine et al. remark that this construction bears close resemblance to PCC effects (61), except that it additionally showcases number effects (62).

(61) **German assumed identity constructions: person hierarchy**

a. Ich bin er.  
   I.NOM am he.NOM  
   'I am him.'  

   he.NOM is I.NOM  
   Int.: 'He is me.'  
   *3 > participant  
   (Keine et al. 2019, (5); translation added)

(62) **German assumed identity constructions: number hierarchy**

a. Sie sind er.  
   they.NOM am he.NOM  
   'They are him.'  

b. * Er ist sie.  
   he.NOM is they.NOM  
   Int.: 'He is them.'  
   *singular > plural  
   (Keine et al. 2019, (6); translation added)

Why would the NLC restricted to plural?

- Nevins (2011): 'singular' is the absence of a number specification.
- This could be why a condition like (60) cannot be formulated based on [+SINGULAR].

B. How full nominals comply with the NLC (60)

- Proposal from before: AgrP, which probes for Number and class marker, formalized as a feature.
- Recall: I assume that root-specific information like class or gender is encoded at categorizers (Kihm, 2005; Acquaviva, 2009).
In (63b), the NLC (60) is satisfied: the number feature in Agr Agrees with the plural feature in Num.
(63a) satisfies the NLC vacuously, as the feature in Num in unmarked (i.e. singular).

C. The structure of bare nominals and its number interpretation

- Following Massam (2001), a.o., I assume that BNs have a truncated structure.
- Specifically, I propose that BNs in Wolof lack an AgrP layer, since they lack a class marker.
- NumP is retained under the assumption that this is the only locus of number interpretation (Ritter 1991, 1992; Harbour 2011).\(^5\)

(64) a. NLC satisfied (vacuously)

\[^5\text{I am so far agnostic regarding the projection of a silent DP layer (for convenience, I omit a DP in the BN representations to follow).}\]
b.  * NLC violated
   \[
   \begin{array}{c}
   \text{NumP} \\
   \text{Num} \\
   [\text{Num : } +\text{PL}] \\
   nP \\
   [\text{CM : } \beta] \\
   \end{array}
   \]

- Unlike what happens in the full nominal (63), in a BN, there is nothing to Agree with a [PLURAL] Num. As such, only a BN with a [SINGULAR] Num could converge.
- This would be why unmodified BNs in Wolof are exclusively singular.

D. The plural morpheme in the relative clause as an instance of Agree.

- Torrence (2013): the class marker prefixed to the relative complementizer results from Agree.
- I propose to extend this analysis to the class markers that appear affixed to determiners.
- That class markers are the exponent of Agree is further suggested by the fact that more than one class marker can occur in the same nominal (cf. Kramer’s (2009) analysis of multiple determiners in Amharic in terms of Agree).

(65) Bindakat b-i binda-na a-b taalif [b-u Samba bëgg].

writer CM.SG-DEF write-NA.3SG INDEF-CM.SG poem [CM.SG-COMP Samba like ]

‘The writer wrote a poem that Samba likes.’

- The class markers in the determiner and in the relative complementizer must match (66). This is a property that can be attributed to multiple Agreement with the same goal.

(66) a. Samba tej-na palanteer [b-u tilim ] b-i. / *y-i
    Samba close-NA.3SG window [CM.SG-COMP dirty ] CM.SG-DEF / *CM.PL-DEF
    ‘Samba closed the window that is dirty.’

b. Samba tej-na palanteer [y-u tilim ] y-i / *b-i.
    ‘Samba closed the windows that are dirty.’

E. BN modified by relative and the NLC

- (67) is a partial derivation where the BN is still inside the CP – recall that I am assuming a raising analysis for relative clauses in Wolof, following Torrence (2013).
  - Likewise, I follow Torrence in assuming that the class marker that appears affixed to the relative complementizer is the result of Agree with the head of the relative clause.
  - The class marker is represented as an Agr head that probes for both number and class.
- The Agr below CP probes down to value its [NUMBER] and [CM] features.
It encounters the matching features in the BN.
In this structure, even though the BN itself does not have a [+NUMBER] licenser (i.e. a matching probe that Agrees with it), the Agr at the relative CP level does the job.
The NLC (60) in this case can be complied with, hence why a BN can have a plural interpretation in this case.  

F. BN modified by plain modifier and the NLC

- Recall: plain modifiers are assumed to be the member of a compound without any morphological number.
- As such, there is no probe that Agrees with the number feature in NumP.

\[(68) \quad BN \text{ modified by plain modifier: NLC violated} \]

G. Possessive nominals and the NLC

\( (64) \) is a simplified diagram, where vP and A-movement of the BN object to the phase edge are omitted for visual simplicity.
• Licensing of a plural number feature by Agree is possible in the possessive construction, if the plural possessum-sensitive \( y \) is the exponent of Agree.

• The derivation of \( \text{sama-}y \ nit \) ‘POSS.1SG-PL person/friend’ would be as in (68), where the head of PossP probes for a number feature in the possessum.

• If the BN there is plural, the NLC (60) can be satisfied, hence why a derivation converges where the BN has a plural construal.

\[(69)\] Possessive determiner: NLC satisfied

\[
\begin{array}{c}
\text{PossP} \\
\text{DP}_{\text{pos}'\text{or}} \\
\text{Poss'} \\
\text{Poss} \\
\text{NumP}_{\text{pos}'\text{um}} \\
\text{Num} \\
\text{nP} \\
\text{[cm: k]} \\
\text{\sqrt{NIT}}
\end{array}
\]

H. Genitive possessives and the NLC

\[(70)\] * Genitive possessive: NLC violated

\[
\begin{array}{c}
\text{RP} \\
\text{NumP}_{\text{pos}'\text{um}} \\
\text{R'} \\
\text{Num} \\
\text{nP} \\
\text{R} \\
\text{u} \\
\text{DP}_{\text{pos}'\text{or}} \\
\text{n} \\
\text{[cm: \beta]} \\
\text{\sqrt{XAJ}} \\
\text{Kadeer}
\end{array}
\]

• There is no probe to Agree with the [\(+\text{PLURAL}\)] number of the BN, so, again, only a derivation with a singular NumP converges.

I. Summary

• The analysis proposed to account for the exclusively singular (as opposed to the more commonly attested number neutral) interpretation of BNs in Wolof by proposing that it obeys the NLC.

• This is a condition that imposes that the marked number feature [\(+\text{PLURAL}\)] be licensed via Agree, an extension of Béjar & Rezac’s condition on [\(+\text{PARTICIPANT}\)] features.

J. Prediction

• According to the analysis put forward here, BNs can in principle combine with a singular or a plural NumP.

• However, the latter option only leads to a convergent derivation where some nominal-internal number probe Agrees with [\text{PLURAL}], in compliance with the NLC (60).
• In the absence of such a probe, only a derivation with a singular BN converges, as the NLC does is stipulated not to apply to [SINGULAR].

• A prediction that emerges from this analysis is that a sentence containing a BN may be completely ungrammatical, lacking even a singular interpretation.

• This would be the case for nouns that are themselves plural, above and beyond the specification of NumP. A case in point would be pluralia tantum nouns.  

• Babou & Loporcaro (2016) observe that jooy ‘weeping’ (71) and teggin ‘respect’ (not shown) are instances of such a noun in Wolof.

weeping CM.PL-DEF hard-NA-3PL much
‘The weeping is so hard.’

b. *Jooy b-i metti-na lool.  
weeping CM.SG-DEF hard-NA.3SG much
Int.: ‘The weeping is so hard.’

c. Gis-na-a jooy y-i.  
see-NA-1SG weeping CM.PL-DEF
‘I saw the weepings.’

d. *Gis-na-a jooy b-i.  
see-NA-1SG weeping CM.SG-DEF  
Int.: ‘I saw the weeping.’ ‘I saw the weepings’.

• Inspired by Harbour (2011), I encode the plurality requirement of pluralia tantum nouns at the categorizer n:

(72)

\[ \ldots \ldots \]

\[ nP \]

\[ \]

\[ n \]

\[ Jooy \]

\[ \sqrt{\text{JOOY}} \]

\[ [\text{NUM: + PL}] \]

○ Recall: I assume that root-specific properties are encoded at the categorizer level.

○ Under the assumption that whether or not a noun is pluralia tantum noun is also an idiosyncratic property, (72) is aligned with this assumption.

• If (72) is the correct representation for jooy and teggin, the prediction is that a BN pluralia tantum is going to be ungrammatical, since there is no nominal-internal probe to Agree with [PLURAL].

• The BN cannot “fall back” to a singular interpretation due to the plurality encoded in at the n level.

• The prediction is borne out by facts:

(73) *Gis-na-a jooy.  
see-NA-1SG weeping
Lit.: ‘I saw weeping.’

6 Summary and open issues

A. Summary

\[ \text{7A few people brought up the relevance of pluralia tantum nouns to me, including D. Pesetsky, O. Preminger, and S. Zompi.} \]
We investigated BNs in Wolof, which, when unmodified, are exclusively singular, unlike their number neutral counterparts in other languages.

More precisely, I tried to provide an analysis to the following generalization:

(74) BNs in Wolof are singular, unless there is some nominal-internal plural morphology.

I proposed an analysis that extended Béjar & Rezac’s (2003; 2009) PLC to [+PLURAL].

Unmodified BNs are singular because this is the only possible convergent derivation.

If the nominal has a number probe, the NLC can be satisfied, allowing the BN to receive a plural construal.

○ This number probe is exponed as relative complementizer or possessum agreement.

If correct, this analysis provides further empirical support for the proposal that interpretable features play a role in licensing a nominal (Kalin, 2017, 2019).

B. A possible implication

This analysis and the literature commented on here gives rise to the following partial typology of BN languages:

(75)  

\[
\begin{align*}
\text{i.} & \quad \text{Not a BN language (e.g. English) or the full nominals in a BN language: there is a number probe that Agrees with a [+PLURAL] NumP, satisfying the NLC.} \\
\text{ii.} & \quad \text{BN language where BNs are number-neutral: NumP lacking altogether. The NLC is therefore vacuously satisfied.} \\
\text{iii.} & \quad \text{BN language where BNs are singular (e.g. Amharic, Brazilian Portuguese, Mandarin):} \\
& \quad \text{a. Hindi (Dayal, 2011): nominals are singular as a lexical specification. A plural interpretation arises due to a sentential level pluralizing operator.} \\
& \quad \text{b. Wolof: the NLC cannot be satisfied, unless there is a number morphology that expones the probe that Agrees with a [+PLURAL] NumP.}
\end{align*}
\]

C. No Number Case Constraint

A concern engendered by the analysis is the fact that it has been argued by Nevins (2011) and Preminger (2011, 2014) number and person features have different behavior.

Nevins (see also Nevins & Savescu 2010) remarks that there is no number equivalent of the PCC (i.e. a Number Case Constraint), while Preminger demonstrates that number and person feature have different effects in the Agent-Focus constructions found in Kichean languages. These observations cast doubt on the NLC.

References


