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

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Abstract

Several languages allow for their nominals to occur without any functional morphology. They are dubbed 'bare nominals' (BNs). BNs are often number-neutral, i.e., their number interpretation does not imply any commitment to a singular or plural interpretation. In Wolof, however, BNs are singular when unmodified. This can be argued based on, e.g. the impossibility of saturating a collective predicate, on the fact that they must be referred back to with a singular pronoun, and that they cannot be the antecedent of a plural anaphor. However, a plural interpretation becomes available when a nominal-internal plural feature is exponed in the form of complementizer or possessum agreement. The generalization is that BNs in Wolof are singular, unless plural morphology is exponed within the nominal. I propose an extension of Béjar & Rezac's (2003; 2009) Person Licensing Condition to number: a marked number feature (i.e. plural) must be licensed by Agree (as also assumed by Keine *et al.* 2019). I assume that BNs in Wolof can in principle be singular or plural, just like their non-bare counterparts. In the absence of a nominal-internal probe that Agrees with the plural feature of the BN, the Number Licensing Condition NLC is violated, causing the derivation to crash. Unmarked number, i.e., singular, is stipulated not to obey the NLC, so the derivation converges, yielding a singular BN. However, if there is a number probe, which is realized as complementizer or possessum agreement, the NLC is satisfied, allowing a derivation to converge where the BN is plural. If correct, this analysis accounts for the typologically unusual behavior of BNs in Wolof and provides empirical support for the view that valued features are responsible for nominal licensing (Kalin, 2017, 2019).

Keywords: Wolof; bare nominal; number neutrality; singular; feature licensing

1 Overview

In order to account for the PCC (Person Case Constraint), Béjar & Rezac (2003, 2009) propose the Person Licensing Condition (PLC), a requirement that interpretable 1st and 2nd person features be licensed by the operation Agree. 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 certainb interpretable features to be Agreed with. One may wonder whether number, another nominal feature, may be subject to a condition like the PLC. In this paper, I argue that this is indeed the case. The argument will be based on the number interpretation of bare nominals in Wolof.

Several, often unrelated, languages allow for their nominals to occur in bare form, that is, without the functional morphology that usually appears in the nominals of a given language, including determiners and number morphology. Following the relevant literature, I dub these nominals 'bare nominals' (BNs). Correspondingly, I use the term 'full nominal' to refer to DPs that do contain that functional morphology. Some of these BN languages are in (1).

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(1) a. *BN in Amharic*

ld-u   **mäs'haf** wässäd-ä.
child-DEF book   take.PF-3MS
'The child took one or more books.'

([Kramer 2017](#), (2); see also [Baker 2014](#))

b. *BN in Brazilian Portuguese*

Unicórnio tem **chifre**.
unicorn   has horn
'Unicorns have (an unspecified number of) horns.'

([Müller 2002](#), (51); see also [Schmitt & Munn 1999](#); [Pires de Oliveira & Rothstein 2011](#); a.o.)

c. *BN in Mandarin Chinese*

Zuotian   wo mai le   **shu**.
yesterday I   buy ASP book
'Yesterday, I bought one or more books.'

([Rullmann & You 2006](#), (1); see also [Jenks 2018](#) and references therein)

d. *BN in Hindi*

anu **bacca** sambhaaltii   hai.
Anu child   look.after-IMP be-PRS
'Anu looks after (one or more) child(ren).'

([Dayal](#), [2011](#), (7b); adapted)

e. *BN in Official Malagasy*

Manolotra **penina** izy.
AT.offer   pen   3(NOM)
'She offers a pen/pens.'

([Paul](#), [2016](#), (18a))

As can be gleaned from the translations, the BNs in (1a)–(1e) have a **number neutral** interpretation, that is, they lack a commitment to a singular or plural interpretation. This property is also known as 'general number' ([Corbett](#), [2000](#)) and is often taken to be a signature property of BNs crosslinguistically (see the references cited in (1)).

However, [Dayal](#) ([2011](#)) and [Rinaldi](#) ([2018](#)) cast doubt on this generalization, showing data from Hindi, Hungarian ([Dayal](#)), Spanish, Catalan, Greek, and Norwegian ([Rinaldi](#)) that the BNs in these languages are in fact singular. In this chapter, I will show that this is also true of BNs in Wolof.

Wolof (Niger-Congo; see its basic properties below) also allows for its nominals to occur in bare form.[1]

(2) a. 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.)

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[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.

b. Awa defar-na **oto**.
   Awa fix-NA.3SG car
   'Awa fixed a car.'

c. Roxaya jàng-na **xibaar**.
   Roxaya read-NA.3SG newspaper
   'Roxaya read a newspaper.'

However, unlike what we witness in (1), BNs in Wolof seem to be exclusively singular. As we are going to see in §2, this claim can be backed up by the behavior of BNs regarding, for instance, the saturation of collective predicates and the binding of plural anaphors and pronouns. (3) offers a preview of the data to be examined and it shows that BNs in Wolof cannot be the object of a collective predicate like *dajeele* 'gather'.

(3) * Jàngalekat 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.'

In contrast, number-neutral BNs in some of the BN languages mentioned above can saturate the same type of predicate.

(4) a. *BN can saturate a collective predicate in Brazilian Portuguese*

   A   professora agrupou   **aluno** no   parque.
   the teacher   grouped.together student in.the park
   'The teacher gathered students in the park.'

   (p.c. with native speaker)

b. *BN can saturate a collective predicate in Mandarin*

   Laoshi zai gongyuan-li jihe-le   **xuesheng**.
   teacher at park-in   gather-PERF student
   'The teacher gathered the students in the park.'

   (p.c. with native speaker)

c. *BN can saturate a collective predicate in Hindi*

   anu **botal** ikaTThaa kartii   hai.
   Anu bottle collect   do-IMP be-PRS
   'Any collects bottles.'

   (Dayal, 2011, (31))

Nonetheless, when a BN in Wolof is modified by a relative clause with plural morphology, it behaves as if it were a plural nominal. That the relative clause is plural can be inferred from the fact that it contains a plural class marker *y* (see more on this topic below). A BN thus modified is able to be the object of a collective predicate.

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

Not every nominal modifier, however, has the same effect in the number interpretation of a Wolof BN. In particular, if a BN is merged with a modifier that does not have any number morphology, it still behaves as if it were singular (6).

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(6) * Roxaya dajeele-na **fécckat** brezilien.
Roxaya gather-NA.3SG dancer Brazilian
Lit.: 'Roxaya gathered Brazilian student.'

One of the differences between (5) and (6) lies in whether there is plural morphology in the modifier or not. The same difference will be shown to arise in two types of possessive constructions, one that has number morphology and one which does not. In view of this distinction, this paper aims at addressing the following questions:

(7) i. How can we account for the exclusively singular interpretation (and not number neutral) interpretation of unmodified 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?

In order to answer these questions, I will propose an extension of Béjar & Rezac's (2003; 2009) *Person Licensing Condition* to number:

(8) *Number Licensing Condition (NLC)*

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

The gist of the analysis will be that BNs in Wolof can bear either a singular or a plural feature, since these are options that are independently available in the full nominals found in the language. However, because [+PLURAL] requires licensing by Agree, the equivalent construal only arises in the BN when there is a number probe inside the nominal that Agrees with the matching feature in the BN. This would be the case, for instance, of relative clauses (5), where number morphology appears in the class marker (CM) prefixed to the relative complementizer *u*. Conversely, in the absence of such a probe, as in (6), only a BN with a singular feature leads to a convergent derivation, as this unmarked feature is assumed not require licensing by Agree.

1.1 Basics of Wolof

Wolof is a head-initial language (for recent literature, see Torrence 2013a; Martinović 2015, 2017, 2019 and references therein). For instance, verbs, prepositions, and complementizers precede their complements.

(9) a. *Verb precedes its complement*
    Binta mungi **lekk** ceeb-u jën.
    Binta PROG.3SG eat rice-GEN fish
    'Binta is eating ceebu jen.'

   b. *Preposition precedes its complement*
    Jàngalekat b-i dajeele-na a-y xale **ci** bayaal b-i.
    teacher CM.SG-DEF gather-NA.3SG INDEF-CM.PL child PREP park CM.SG-DEF
    'The teacher gathered some students in the park.'

   c. *Complementizer precedes its complement*
    Defe-na-a **ne** macc-na-ñu màngo b-i.
    think-NA-1SG COMP suck-FIN-3PL mango CM-DEF.SG
    'I think that they sucked the mango.'

However, some determiners surface post-nominally; a case in point is the definite determiner *i*. Indefinite determiners, on the other hand, follow the head-initial pattern of the language.

(10) a. *Plural and singular definite determiners (post-nominal)*

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. *Singular indefinite determiner (pre-nominal)*

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

c. *Plural indefinite determiner (pre-nominal)*

Awa jàpp-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)

Determiners contain a class marker (CM) affixed to them (Babou & Loporcaro, 2016). Besides the class a noun belongs to, the class marker encodes number information (singular or plural). For instance, *sàcc* 'thief' remains constant in (10b) and (10c); 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:

(11)

	Number	Noun	CM-DEF	Gloss
a.	Singular	yàmbaa	j-i	'marijuana CM.SG-DEF'
b.		nit	k-i	'person CM.SG-DEF'
c.		xaj	b-i	'dog CM.SG-DEF'
d.		nit	k-i	'person CM.SG-DEF'
e.		mbagg	m-i	'shoulder CM.SG-DEF'
f.		weñ	w-i	'metal CM.SG-DEF'
g		suuf	s-i	'ground CM.SG-DEF'
h.		ndap	l-i	'pot CM.SG-DEF'
i.		góór	g-i	'man CM.SG-DEF'
j.	Plural	xaj	y-i	'dog CM.PL-DEF'
k.		góór	ñ-i	'man CM.PL-DEF'

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

It is clear from (11) 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 (i.e. eleven, in (11)). While this analysis is consistent with the facts, it misses the asymmetry in the amount of singular and plural class markers. 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.[2] As such, I propose that

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[2]See also Embick's (2015) implementation of Oltra Massuet's (1999) analysis of theme vowels in Romance languages like Catalan.

the Wolof class marker is a feature which is a specification of *n*, much like gender in Romance languages. Furthermore, I postulate a single head (AgrP; see more details in §4) that probes for a class marker and a number feature. It is this single head (Agr), I contend, that is exponed as the class marker morpheme in (11); this is a straightforward way to capture the fact that a single morpheme encodes both class and number information.

(12)
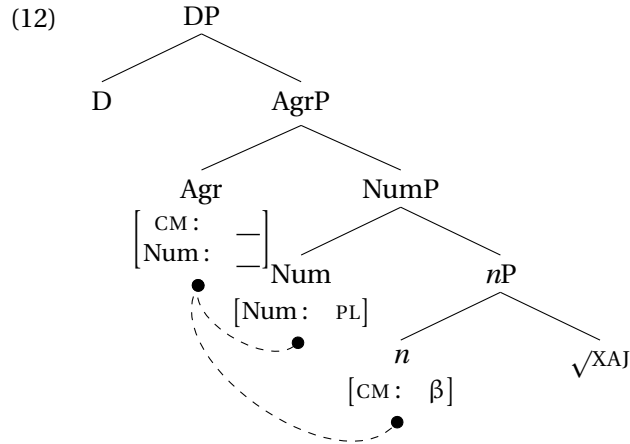
The Vocabulary Items that I propose for class markers (to reiterate, analyzed here as a single head that probes for a class marker feature, as well as number) are in (13). For concreteness, I represent the class marker feature with a Greek letter that corresponds to the singular class marker.

(13) *Vocabulary Items for Agr*

  a. [CM: β] ↔ /b/

  b. [CM: κ] ↔ /k/

  c. [CM: µ] ↔ /m/

   . . .

  d. [PLURAL] ↔ /y/

  e. [CM: γ; PLURAL] ↔ /ñ/

Wolof is well-known for its rich system of sentential particles, i.e., morphemes, which encode, among other things, information structure (Zribi-Hertz & Diagne 2002; Torrence 2013a; a.o.). Specifically, these are morphemes which are sensitive as to whether a constituent to its left is topical or focal, or if the whole sentence is new information, among other things. In (14) – and in most sentences in this paper –, it is the morpheme for neutral sentences, *na*. To the sentential particle is attached a morpheme that cross-references the φ-features of the subject, e.g. *-ñu* in (14b). This cross-referencing follows a nominative-accusative alignment: the subject of both transitive and intransitive verbs is cross-referenced.[3]

(14) a. Jàngakat b-i   lekk-na   ceeb-u   jën.
    student   CM.SG-DEF eat-NA.3SG rice-GEN.SG fish
    'The student ate rice and fish.'

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[3]This is a property that is only relevant for subjects. For the most part, BNs can only occur in object position, following the pattern found in other BN languages. For a description and analysis of the syntactic distribution of BNs in Wolof, see [redacted] (in prep.).

b. Jàngakat y-i   lekk-na-ñu ceeb-u   jën.
   student CM.PL-DEF eat-NA-3PL rice-GEN.SG fish
   'The students ate rice and fish.'

(15) a. A-b   paket   agsi-na.
        INDEF-CM.SG package arrive-NA.3SG
        'A package arrived.'

     b. A-y   paket   agsi-na-ñu.
        INDEF-CM.SG package arrive-NA-3PL
        'Some packages arrived.'

Additionally, while there is no case morphology in nominals, case can be argued to be reflected in the pronominal system (in a way that is reminiscent of what is found in Romance languages):

(16)

	Object clitics	**Oblique pronouns**	**Subject markers**
1SG	ma	man	(m)a
2SG	la	yaw	nga/ya
3SG	ko	moom	∅/(m)u
1PL	ñu	ñoom	ñu
2PL	leen	yeen	ngeen/yeen
3PL	leen	ñoom	ñu

(Adapted from Zribi-Hertz & Diagne 2002, (29))

In the next section, we move on to the main focus of this paper. We will see that BNs in Wolof are narrow scope indefinites that have an exclusively singular interpretation when unmodified.

2   BNs in Wolof are singular

As mentioned above, even though Wolof has determiners, it also allows for its nominals to occur in bare form.

(17) Awa defar-na   oto b-i   / oto y-i   / a-y   oto / **oto**.
     Awa fix-NA.3SG car CM.SG-DEF / car CM.PL-DEF / INDEF-CM.PL car / car
     'Awa fixed the car/the cars/some cars/a car.'

These BNs can also be used as predicates:

(18) a. Samba a-b   sasfam   la.
        Samba INDEF-CM.SG midwife COP.3SG
        'Samba is a nurse/midwife.'

     b. Samba **sasfam**   la.
        Samba midwife COP.3SG
        'Samba is a nurse/midwife.'

(19) Jàppe-na-a   Maymuna **nit**   k-u   baax.
     consider-NA-1SG Maymuna person CM.SG-COMP nice
     'I consider Maymuna a good/nice person.' (lit.: 'I consider Maymuna person who is nice')

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Furthermore, BNs in Wolof seem to be narrow scope indefinites. In fact, this is a property shared by BNs in other languages (see references in (1)). They can be licensed in an existential construction, which displays definiteness effects. (20a) shows that a singular or plural indefinite full nominal can be used in an existential construction. This possibility contrasts with what is witnessed in (20b), where a definite full nominal cannot be used. Finally, (20c) shows that a BN can be used in the same structure where an indefinite nominal can be licensed.

(20) a. Am-na   a-b   / a-y   xaj ci   biti.
          have-NA.3SG INDEF-CM.SG / INDEF-CM.PL dog PREP outside
          'There is/are a/some dog(s) outside.'

      b. * Am-na   xaj b-i   ci   biti.
          have-NA.3SG dog CM.SG-DEF PREP outside
          Lit.: 'There is the dog outside.'

      c. Am-na   **xaj** ci   tool   b-i.
          have-NA.3SG dog PREP garden CM.SG-DEF
          'There is a dog in the garden.'
          (Speaker commented that this sentence cannot mean 'There are dogs in the garden'.)

Furthermore, whenever there is another operator in the same sentence, the BN has to take scope under it.[4]

(21) *Full nominal: *again > ∃, √∃ > again*
      a. Mareem séy-aat-na   ak   a-b   fécckat.
          Mareem marry-ITER-NA.3SG with INDEF-CM.SG dancer
          'Mareem married a singer again.'
      b. i.   *# Mareem has a very specific preference and she has married several, different dancers.*
          ii. *√ Mareem married the same dancer several times (e.g. marriage, followed by divorce, followed by another marriage).*

(22) *BN: √ again > ∃, *∃ > again*
      a. Mareem séy-aat-na   ak   **fécckat**.
          Mareem marry-ITER-NA.3SG with dancer
          'Mareem married a dancer again.'

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[4]When the other operator is negation, a BN takes scope below it (i). However, negation in Wolof seems to take wide scope anyway, even when occurring in the same sentence as a full indefinite.

(i) *Context: Faatu loves dogs, but she could not have any because she had always lived in tiny apartments. She is finally moving to a much bigger place, so she can adopt many dogs now. She goes to a dog shelter and adopts several of the dogs available, except for one. An employee at the dog shelter is happy that Faatu is providing a forever home for so many dogs, but the employee is also sad that this one dog was not adopted.*

     Faatu adopte-ul **xaj**. # Tur=am   mo-y   Calki.
     Faatu adopt-NEG dog # name=POSS.3SG MO.3SG-IMPF Calki
     'Faatu did not adopt any dog at all. # The dog's name is Calki.'

(ii) Samba fatte-ul   tej   b-enn   palanteer.
     Samba forget-NEG close CM.SG-one window
     'Samba did not forget to close a window.'

     (True in a scenario where Samba closed all windows.)

(ii) must be compared with (23) below, where the indefinite full nominal must take wide scope.

b. i. ✓ *Mareem has a very specific preference and she has married several, different dancers.*

ii. # *Mareem married the same dancer several times (e.g. marriage, followed by divorce, followed by another marriage).*

(23) shows that an indefinite full nominal outscopes *fatte* 'forget'.

(23) Samba fatte-na   tej a-b   palanteer.
      Samba forget-NA.3SG close INDEF-CM.SG window
      'Samba forgot to close a window.'

i. ✓ *Samba lives in a big house, with a lot of windows. He likes to leave them open to let fresh air in. It starts raining, so he rushes to close the windows. There is window that Samba forgot to close, though he closed all the other ones.*

ii. # *Samba lives in a big house, with a lot of windows. He likes to leave them open to let fresh air in. It starts raining, but Samba does not close any window at all.*

(24) is an equivalent example of the same type, though now the nominal is a BN and it scopes below *fatte* 'forgetx'.

(24) Isaa fatte-na   jënd **fowekaay**.
      Isaa forget-NA.3SG buy toy
      'Isaa forgot to a buy a toy.'

a. # *Isaa is going to a store and I gave him a list of toys that I want him to buy for my dogs. He suceeded in buying all toys, except for one (i.e. there is one toy that Isaa did not buy).*

b. ✓ *Isaa is going to a store and I gave him a list of toys that I want him to buy for my dogs. He ended up not buying any toy at all.*

Narrow scope is a property that BNs in other languages share (though see Paul 2016, who shows that BNs in Malagasy may take wide scope), along with number neutrality (i.e. the lack of commitment to a singular or plural interpretation). However, BNs in Wolof lack the second property, since they seem to be exclusively singular. This can be demonstrated by looking at the following properties: *(i)* collective predicate; *(ii)* discourse anaphora; *(iii)* pronoun in sluicing context; *(iv)* reciprocal; *(v)* plural reflexive; *(vi)* 'how many' follow-up; *(vii)* 'all of them' follow-up. In the remainder of this section, we will investigate each of these properties by first looking at the behavior of full nominals. This will establish a baseline we can compare BNs with. We will see that BNs behave like their singular full nominal counterparts.

(25a) and (25b) show that the verbs *dajeele* 'gather' and *boole* 'put together' require a plural object. In other words, they are collective predicates.

(25) Dajeele *and* boole *require a plural object*

a. Jàngalekat b-i   dajeele-na   *a-b   xale / a-y   xale ci   bayaal
   teacher   CM.SG-DEF gather-NA.3SG *INDEF-CM.SG child / INDEF-CM.PL child PREP park
   b-i.
   CM.SG-DEF
   'The teacher gathered some students in the park.'

b. Roxaya boole-na   *a-b   butéel / a-y   butéel ci   waañ
   Roxaya put.together-NA.3SG *INDEF-CM.SG bottle / INDEF-CM.PL bottle PREP kitchen
   w-i.
   CM.SG-DEF
   'Roxaya collected some bottles in the kitchen.'

([26a](#)) and ([26b](#)) show that a BN cannot be the object of these collective predicates, mimicking the behavior of singular full nominals.

(26) *BN cannot be the object of* dajeele *or* boole

    a. * Jàngalekat 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.'

    b. * Roxaya boole-na   **butéel** ci   waañ   w-i.
         Roxaya put.together-NA.3SG bottle   PREP kitchen CM.SG-DEF
         Lit.: 'Roxaya collected bottle in the kitchen.'

A singular full nominal can only be the object of a collective predicate if an oblique argument (in ([27](#)), *ak ab woykat* 'with a singer') is added.

(27) *Singular nominal can be object of collective predicate if oblique argument is added*

     Faatu dajeele-na   a-b   fécckat ak   a-b   woykat.
     Faatu gather-NA.3SG INDEF-CM.PL dancer with INDEF-CM.SG singer
     'Faatu gathered a dancer with a singer.'

The same effect arises when the core argument of the collective predicate is a BN ([28](#)). In other words, again, a BN displays the same behavior as its singular full nominal counterpart.

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

     Faatu dajeele-na   **fécckat** ak   **woykat** / a-b   woykat.
     Faatu gather-NA.3SG dancer   with singer   / INDEF-CM.SG singer
     'Faatu gathered a dancer with a singer.'

[Dayal](#) ([2011](#), p. 155) remarks that collective predicates like *gather* or *collect* are different from collective predicates like *unite* and *compare*: the core process of the former does not have a plurality requirement (e.g. one can collect one bottle at a time), while the core process of the latter does (e.g. one cannot compare one student at a time). Collective predicates like *unite* and *compare* may thus provide a stronger case for a claim about the number interpretation of a nominal, given its more stringent restrictions. Relevantly, BNs in Wolof cannot saturate these predicates either. This holds of the predicate *tëkaale* 'compare'.

(29) Tëkaale *requires a plural object*

    a. Jàngalekat b-i   mungi   tëkaale   ndonggo darra y-i.
         teacher   CM.SG-DEF PROG.3SG compare student   CM.PL-DEF
         'The teachers was comparing the students.'

    b. * Jàngalekat b-i   mungi   tëkaale   ndonggo darra b-i.
         teacher   CM.SG-DEF PROG.3SG compare student   CM.SG-DEF
         Lit.: 'The teachers was comparing the student.'

(30) *BN cannot be the object of* tëkaale

     * Jàngalekat b-i   mungi   tëkaale   **ndonggo darra**.
      teacher   CM.SG-DEF PROG.3SG compare student
      Lit.: 'The teachers was comparing student.'

([31](#)) makes the same point with the verb *juboole* 'unite'.

(31) a. Njiir b-i   juboole-na   ligeeykat y-i.
          boss CM.SG-DEF unite-NA.SG worker   CM.PL-DEF
          'The boss united the workers.'

      b. * Njiir b-i   juboole-na   **ligeeykat**.
          boss CM.SG-DEF unite-NA.SG worker
          Lit.: 'The boss united worker.'

The same general profile can be seen in the behavior of nominals with respect to pronouns that are used to be referred back to them. (32a) shows that a singular nominal (*ab jàngalekat* 'a teacher') must be referred back to with a singular pronoun – a plural pronoun cannot be used. Conversely, if the antecedent is plural (*ay jàngalekat* 'some teachers'), only a plural pronoun is possible.

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

      a. Gis-na-a   a-b   jàngalekat. Maymuna bëgg-na   ko   / *leen.
          see-NA-1SG INDEF-CM.SG teacher   Maymuna like-NA.3SG OBJ.3SG / *OBJ.3PL
          'I saw a teacher yesterday. Maymuna admires her/*them.'

      b. Gis-na-a   a-y   jàngalekat. Maymuna bëgg-na   *ko   / leen.
          see-NA-1SG INDEF-CM.PL teacher   Maymuna like-NA.3SG *OBJ.3SG / OBJ.3PL
          'I saw some teachers yesterday. Maymuna admires *her/them.'

With this background in place, consider what happens when the antecedent is a BN. (33) shows that the pronoun that refers back to it can only be singular. Once again, this was also the behavior that a singular full nominal displayed.

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

      a. Gis-na-a   **jàngalekat**. Maymuna bëgg-na   ko.
          see-NA-1SG teacher   Maymuna like-NA.3SG OBJ.3SG
          'I saw a teacher yesterday. Maymuna admires her.'

      b. * Gis-na-a   **jàngalekat**. Maymuna bëgg-na   leen.
          see-NA-1SG teacher   Maymuna like-NA.3SG OBJ.3PL
          Lit.: 'I saw teacher. Maymuna admires them.'

This pattern can be reproduced with interrogative pronouns, which can be used, for instance, in sluicing. In Wolof, interrogative pronouns are prefixed by a class marker, which, as mentioned above, displays number features. Identically to the discourse anaphora data above, the antecedent and the interrogative pronoun have to match in number, which is encoded in the choice of a singular or a plural class marker.

(34) *Full nominal and pronoun in sluicing must match*

      a. Jàngalekat b-i   seet-na   a-b   ndonggo darra, waaye xa-w-ma
          teacher   CM.SG-DEF visit-NA.3SG INDEF-CM.SG student   but   know-NEG-1SG
          k-an   la   / *y-an   la.
          CM.SG-which COP.3SG / *CM.PL-which COP.3SG
          'The teacher visited the student, but I do not know which one/*which ones.'

      b. Jàngalekat b-i   seet-na   a-y   ndonggo darra, waaye xa-w-ma
          teacher   CM.SG-DEF visit-NA.3SG INDEF-CM.PL student   but   know-NEG-1SG
          *k-an   la   / y-an   la.
          *CM.SG-which COP.3SG / CM.PL-which COP.3SG
          'The teacher visited the students, but I do not know which ones/*which one.'

Following the pattern so far, BNs can only be matched with a singular interrogative pronoun.

(35) *BN can only be antecedent of singular pronoun*

Jàngalekat b-i   seet-na   **ndonggo darra**, waaye xa-w-ma   k-an
teacher   CM.SG-DEF visit-NA.3SG student   but   know-NEG-1SG CM.SG-which

la   / *y-an   la.
COP.3SG / *CM.PL-which COP.3SG

'The teacher visited a student, but I do not know which one/*which ones.'

Turning now to binding, we will see that BNs cannot bind plural anaphors. (36a) shows that a plural full nominal like *ay ndonggo darra* 'some students' can be used in a clause where a verb (*xam* 'know') has a reciprocal morpheme (*-ante*) affixed to it. (36b) in turn shows that a singular antecedent like *ab ndonggo darra* 'a student' renders the sentence ungrammatical.[5] '

(36) *Reciprocal must have a plural antecedent*

a. Jàngalekat b-i   wanale-na   a-y   ndonggo darra ñu xam-ante.
    teacher   CM.SG-DEF introduce-NA.3SG INDEF-CM.PL student   3PL know-RECIP
    'The teacher introduced some students to each other.'

b. * Jàngalekat b-i   wanale-na   a-b   ndonggo darra mu xam-ante.
    teacher   CM.SG-DEF introduce-NA.3SG INDEF-CM.SG student   3SG know-RECIP
    Lit.: 'The teacher introduced a student to each other.'

In (37) are the BN versions of these sentences. These data show that a BN can simply not be used in a sentence with a reciprocalizer morpheme, irrespective of its morphological specificities (see fn. 5).

(37) *BN cannot be antecedent of reciprocal*

a. * Jàngalekat b-i   wanale-na   **ndonggo darra** mu xam-ante.
    teacher   CM.SG-DEF introduce-NA.3SG student   3SG know-RECIP
    Lit.: 'The teacher introduced student to each other.'

b. * Jàngalekat b-i   wanale-na   **ndonggo darra** ñu xam-ante.
    teacher   CM.SG-DEF introduce-NA.3SG student   3PL know-RECIP
    Lit.: 'The teacher introduced student to each other.'

(38) is another paradigm of the same type, but with a causatizived reciprocalized verb. (38a) and (38b) show that the antecedent has to be plural and (38c) shows that it cannot be a BN.

(38) a. Jàngalekat b-i   desin-ante-loo-na   ndonggo darra y-i.
        teacher   CM.SG-DEF draw-RECIP-CAUS-NA.3SG student   CM.PL-DEF
        'The teacher made the students draw each other.'

    b. * Jàngalekat b-i   desin-ante-loo-na   ndonggo darra b-i.
        teacher   CM.SG-DEF draw-RECIP-CAUS-NA.3SG student   CM.SG-DEF
        Lit.: 'The teacher made the student draw each other.'

    c. * Jàngalekat b-i   desin-ante-loo-na   **ndonggo darra**.
        teacher   CM.SG-DEF draw-RECIP-CAUS-NA.3SG student
        Lit.: 'The teacher made student draw each other.'

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[5]The description of the data is intentionally vague, as I do not have an analysis of all morphemes that make up the sentence. For instance, I do not know the role played by *mu* and *ñu*, which Zribi-Hertz & Diagne (2002) argue to be a pronoun – rather than a person agreement affix. In any case, we will see in (37) that the BN counterpart of these sentences is ungrammatical irrespective of the number of the pronoun used.

We see the same behavior when we examine plural reflexives. (39) shows the expected behavior of singular and plural reflexives in Wolof. (39a) and (39b) show that a plural full nominal (*xale yi* 'the children') can be the antecedent of a plural reflexive, though not of a singular one. (39c) and (39d) show the reverse pattern with a singular full nominal antecedent (*xale bi* 'the child').

(39) *Plural DP can be antecedent of plural reflexive*

    a.   Kadeer sang-oloo-na   xale y-i   seen   bopp.
        Kadeer wash-CAUS-NA.3SG child CM.PL-DEF POSS.3PL head
        'Kadeer made the children wash themselves.'

    b. * Kadeer sang-oloo-na   xale y-i   bopp=am.
        Kadeer wash-CAUS-NA.3SG child CM.SG-DEF head=POSS.3SG
        Lit.: 'Kadeer made the children wash himself;herself.'

    c.   Kadeer sang-oloo-na   xale b-i   bopp=am.
        Kadeer wash-CAUS-NA.3SG child CM.SG-DEF head=POSS.3SG
        'Kadeer made the child wash himself;herself.'

    d. * Kadeer sang-oloo-na   xale b-i   seen   bopp.
        Kadeer wash-CAUS-NA.3SG child CM.SG-DEF POSS.3PL head
        Lit.: 'Kadeer made the child wash themselves.'

In accordance with the pattern we have seen so far, (40a) shows that a BN cannot be the antecedent of a plural reflexive. It can nevertheless be the antecedent of a singular reflexive (40b). This is once again the same behavior displayed by a singular full nominal.

(40)   a. *BN cannot be antecedent of plural reflexive*

        * Jàngalekat b-i   sang-oloo-na   **ndonggo darra** seen   bopp.
        teacher   CM.SG-DEF wash-CAUS-NA.3SG student   POSS.3PL head
        Lit.: 'The teacher made student wash themselves.'

   b. *BN can be antecedent of singular reflexive*

        Jàngalekat b-i   sang-oloo-na   **ndonggo darra** bopp=am.
        teacher   CM.SG-DEF wash-CAUS-NA.3SG student   head=POSS.3SG
        'The teacher made some student wash himself;herself.'

(40b) is also relevant in demonstrating that BNs in Wolof are able to be antecedents, which dismisses an alternative analysis which attributes the ill-formedness of the sentences in (37) and (40a) to a potential inability for binding.

    (41) shows an additional pair of examples.

(41)   a.   Faatu desine-loo-na   ndonggo darra y-i   seen   bopp.
        Faatu draw-CAUS-NA.3SG student   CM.PL-DEF POSS.3PL head
        'Faatu made the students draw themselves.'

   b. * Faatu desine-loo-na   **ndonggo darra** seen   bopp.
        Faatu draw-CAUS-NA.3SG student   POSS.3PL head
        Lit.: 'Faatu made student draw themselves.'

    The exclusively singular interpretation of BNs in Wolof can be likewise inferred by its behavior regarding the possibility of targeting it with the question 'how many'. (42) shows that a plural full nominal such as *ay neexal* 'some gifts' can be felicitously targeted by the question 'how many'. (43) shows that this is not the case when the full nominal is singular.

(42) *Plural DP can be followed up by 'how many'*

    A. Kadeer jot-na   a-y   neexal.
       Kadeer receive-NA.3SG INDEF-CM.PL gift
       'Kadeer received some gifts.'

    B. Ñaata   neexal la   Kadeer jot?
       how.many gift   COP.3SG Kadeer receive
       'How many gifts did Kadeer receive?'

(43) *Singular DP cannot be followed up by 'how many'*

    A.   Kadeer jot-na   b-enn   neexal.
       Kadeer receive-NA.3SG CM.SG-one gift
       'Kadeer received one gift.'

    B. # Ñaata   neexal la   Kadeer jot?
       how.many gift   COP.3SG Kadeer receive
       'How many gifts did Kadeer receive?'

(44) shows that this follow-up question is not felicitous either when it targets a BN. Once more, the BN behaves just like its singular full nominal counterpart.

(44) *BN cannot be followed up by 'how many'*

    A.   Kadeer jot-na   **neexal**.
       Kadeer receive-NA.3SG gift
       'Kadeer received a gift.'

    B. # Ñaata   neexal la   Kadeer jot?
       how.many gift   COP.3SG Kadeer receive
       'How many gifts did Kadeer receive?'

Finally and relatedly, BNs cannot be followed up by *all of them*.

(45) Gis-na-a   a-y   xaj ci bayaal b-i   démb. Y-ëpp   sokola-na-ñu.
     see-NA-1SG INDEF-CM.PL dog PREP field   CM.SG-DEF yesterday CM.PL-every brown-NA-3PL
     'I saw some dogs in the field yesterday. All of them were brown.'

(46) *BN cannot be followed up by 'all of them'*

    ?? Gis-na-a **xaj** ci bayaal b-i   démb.   Y-ëpp   sokola-na-ñu.
     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.'[6]

In brief, the generalization we arrive at from the data examined in this section is that BNs in Wolof are singular. These data are summarized in (47), which show in table form that BNs and singular full nominals in Wolof exhibit the same behavior.

(47)

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[6](46) was judged just degraded rather than completely infelicitous. I do not have an explanatio for this.

		Full nominal		Bare nominal
		Singular	Plural	
i.	Collective predicate	*	✓	*
ii.	Discourse anaphora	SG	PL	SG
iii.	Pronoun (sluicing)	SG	PL	SG
iv.	Reciprocal	*	✓	*
v.	Plural reflexive	*	✓	*
vi.	'How many' follow-up	#	✓	#
vii.	'All of them' follow-up	#	✓	??

With this generalization in mind, let us consider the behavior of BNs in Mandarin regarding roughly the same properties. Rullmann & You (2006), among others, remark that BNs in this language receive a number neutral interpretation. (48) shows that Mandarin has the opposite behavior of that showcased by Wolof regarding most properties considered above.

(48) *Mandarin*

   a. Laoshi zai gongyuan-li jihe-le   **xuesheng**.
      teacher at   park-in   gather-PERF student
      'The teacher gathered the students in the park.'   ✓*collective predicate*
      (p.c. with native speaker)

   b. Zuotian   wo mai le **shu**. Wo ba ta/tamen dai   hui jia   le.
      yesterday I   buy ASP book. I   BA it/them   bring back home ASP
      'Yesterday, I bought one or more books. I brought it/them home.'
                                                                        ✓*SG or PL discourse anaphora*

      (Rullmann & You, 2006)

   c. Wo rang **xuesheng** hua-le   ta-men ziji.
      I   let   student   draw-PERF 3-PL   SELF
      'I let student draw themselves.'   ✓*PL reflexive*
      (p.c. with native speaker)

   d. A. Zuotian,   wo zai xin   xuexiao li yujian-le   **lao tongxue**(*-men).
         Yesterday I   at new school   in meet-PERF old classmate
         'Yesterday, I met old classmate at the new school.'

      B. Ni yujian-le   ji-ge   lao tongxue?
         You meet-PERF how.many-CL old classmate
         'How many old classmate did you meet?'   ✓*'how many' follow-up*
         (p.c. with native speaker)

An exception however is the near impossibility a BN in Mandarin to license a reciprocal. I leave this divergence unaccounted for here.

(49) Wo jieshao-le   **xuesheng**[??](-men) gei bici.
      I   introduce-PERF student[??](-PL)   to each.other
      'I introduced student to each other.

      (p.c. with native speaker)

One may object that the comparison between BNs in Wolof and Mandarin is not adequate, given the differences between the two languages. For one, BNs in Mandarin can receive a definite interpretation, as this language lacks definite determiners (for a recent discussion and analysis, see Jenks 2018). At this point, we may turn to Brazilian Portuguese (BP), a language that has indefinite (and definite) determiners, but which also allows for nominals to occur in bare form, just like in Wolof. Relevantly for the comparison at hand, BNs in Brazilian Portuguese do not seem to have a definite interpretation. Nevertheless, BNs in Brazilian Portuguese are similar to those in Mandarin: both exhibit the opposite behavior regarding the properties discussed above that indicate that BNs in Wolof are exclusively singular.

(50) *Brazilian Portuguese*

    a. A Adriana juntou **criança** na   quadra.
        the Adriana gathered child   in.the court
        'Adriana gathered children in the playground.'   ✓*collective predicate*

    b. Tem **criança** na   sala. E   ela está / elas estão ouvindo.
        has child   in.the room and she is   / they are   listening
        'There is a child/some children in the room. And (s)he is/they are listening.'
                                             ✓*SG or PL discourse anaphora*

        (Schmitt & Munn, 1999, (31a); glosses and translation added)

    c. A   Ângela fica   me recomendando **livro**, mas eu nunca lembro   quais.
        the Ângela keeps me recommending book but I   never remember which.PL
        'Ângela keeps recommending books for me, but I never remember which ones.'
                                              ✓*PL interrogative pronoun*

    d. **Criança** aqui costuma se   juntar   na   rua   e   desafiar   uma a outra em
        child   here is.used.to SELF gather.INF in.the street and challenge.INF each.other   in
        várias competições bobas.
        several competitions silly
        'Children here are used to gathering in the street and challenging each other in several silly competitions.'
                                                  ✓*reciprocal*

    e. A   Soraia viu **criança** se   lavando no   riacho.
        the Soraia saw child   SELF washing in.the stream
        'Soraia saw a child/some children washing herself/themselves in the stream.'   *PL reflexive*

    f. A. A   Renata foi   comprar **caneca** ontem.
            the Renata went buy.INF mug   yesterday
            'Renata bought one or more mugs yesterday.'

        B. Quantas   (canecas ela comprou)?
            how.many (mugs   she bought)
            'How many (mugs did she buy)?'

In view of the data summarized in (47) and its comparison with BNs in two other languages, we may ask the following question:

(51) How can we account for the exclusively singular interpretation (and not number neutral) of BNs in Wolof?

I will propose in §4 that the singular interpretation of BNs in Wolof can be modeled as a consequence of a derivation that can only converge if Num is singular. Before that though we will expand the data set

by examining BNs that are modified by relative clauses and plain modifiers (i.e. nominal modifiers that lack number morphology). We will see that adding a relative clause with plural morphology renders a BN plural. However, we will also see that the plain modifier does not have the same effect, so that the BN retains its exclusively singular interpretation.

3 Adding a modifier: relative clauses vs. plain modifiers

3.1 Relative clause

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.

(52) a. Roxaya xam-na a-b jàngalekat [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 [y-u jang téere b-i].
　　　help-NA.1SG INDEF-CM.PL child [CM.PL-COMP read book CM.SG-DEF]
　　　'I helped some children who read the book.

Assuming a raising analysis of relative clauses (see overview in Bhatt 2002) for Wolof, Torrence (2013a) analyzes the occurrence of the class marker as an instance of complementizer agreement. More precisely, in a relative clause like that in (52a), *jàngalekat* 'teacher' is base-generated inside the relative clause CP. A probe at the CP level Agrees with this nominal and moves it to the edge of the relative clause. A determiner (in this case, *ab* 'some') merges with the resulting phrase. (See more details in §4.2.)

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

(53) 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.'

In that case, it receives an indefinite interpretation, as can be inferred by the fact that it can be licensed in an existential construction (cf. unmodified BN in (20c)):

(54) Am-na **xaj** [b-u sokola] ci tool b-i.
　　have-NA.3SG dog [CM.SG-COMP brown] PREP garden CL.SG-DEF
　　'There is a brown dog in the garden.'

Likewise, recall that BNs are narrow scope indefinites (§2). This characterization persists if the BN is modified by a relative clause. This claim is motivated by the comparison between a full indefinite modified a relative clause and its BN counterpart. In (55), where the indefinite determiner *ab* is used, the indefinite modified by a relative clause can scope above or below the intensional predicate *bëgg* 'want'.

(55) a. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba bind],
　　　POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba write]
　　　Une si longue lettre la tuddu.
　　　Une si longue lettre COP-3SG name
　　　'My child wants to read a book that Mariama Ba wrote. Its title is *So long a letter*.'

∃ > *want*

b. Sama   doom bëgg-na   jàng a-b   téere [b-u   Mariama Ba bind],
POSS.1SG child   want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba write]
waaye bu mu am   baax-na.
but   BU 3SG have good-NA.3SG
'My child wants to read a book that Mariama Ba wrote, but it does not matter which.'

want> ∃

Conversely, in (56), what the relative clause modifies is a BN. In that case, only a narrow scope reading is available (56b).

(56)   a. Roxaya bëgg-na   gisee **woykat** [b-u   dëkk Senegal]. # Wally Seck la
Roxaya want-NA.3SG meet singer   [CM.SG-COMP from Senegal]   # Wally Seck COP.3SG
tuddu.
name
'Roxaya wants to meet a singer who is from Senegal. # His name is Wally Seck.'

∃ >*want*

b. Mary bëgg-na   gisee **woykat** [b-u   dëkk Senegal], waaye bu mu   am
Mary want-NA.3SG meet singer   [CM.SG-COMP from Senegal] but   BU 3SG meet
baax-na.
good-NA.3SG
'Mary wants to meet a singer who is from Senegal, and any will be good.'

want> ∃

Something along these lines can also be said of the comparison between BNs and full indefinites headed by *benn* 'one'. In (57), the BN modified by a relative clause cannot scope above the intensional predicate *seet* 'look for'. In (58a), the indefinite determiner *benn* is used and now a wide scope interpretation is available. (58b) shows that a narrow scope reading is also available for *benn*. (Regrettably, the BN counterpart of (58b) is missing.)

(57)   Jàngalekat b-i   mungi   seet   **ndonggo darra** [b-u   njool]. # Xadi la
teacher   CM.SG-DEF PROG.3SG look.for student   [CM.PL-COMP tall   ] # Xadi COP.3SG
tuddu.
name
'The teacher is looking for a tall student. # Her name is Xadi.'

(58)   a. Jàngalekat b-i   mungi   seet   b-enn   ndonggo darra [b-u   njool].
teacher   CM.SG-DEF PROG.3SG look.for CM.SG-one student   [CM.PL-COMP tall   ]
Xadi la   tuddu.
Xadi COP.3SG name
'The teacher is looking for a tall student. Her name is Xadi.'

b. Jàngalekat b-i   mungi   seet   b-enn   ndonggo darra [b-u   njool],
teacher   CM.SG-DEF PROG.3SG look.for CM.SG-one student   [CM.PL-COMP tall   ]
waaye bu mu am   baax-na.
but   BU 3SG have good-NA.3SG
'The teacher is looking for a tall student and any will be good.'

(59) and (60) are more examples to the same effect.

(59)   a. Roxaya seet-na   b-enn   xaj [b-u   sokola]. Kumba la   tuddu.
Roxaya look.for-NA.3SG CM.SG-one dog [CM.SG-COMP brown] Kumba COP.3SG name
'Roxaya looked for a dog who is brown. Kumba is his name.'

b. Roxaya seet-na **xaj** [b-u sokola]. # Kumba la tuddu.
Roxaya look.for-NA.3SG dog [CM.SG-COMP brown] # Kumba COP.3SG name
'Roxaya looked for a dog who is brown. Kumba is his name.'

(60) a. Roxaya mingi wut b-enn xaj [b-u sokola], waaye bu mu am
Roxaya PROG.3SG look.for CM.SG-one dog [CM.SG-COMP brown] but BU 3SG have
baax-na.
good-NA.3SG
'Roxaya is looking for a dog who is brown, but she does not care which (all is good/anything goes).'

b. Roxaya mingi wut **xaj** [b-u sokola], waaye bu mu am baax-na.
Roxaya PROG.3SG look.for dog [CM.SG-COMP brown] but BU 3SG have good-NA.3SG
'Roxaya is looking for a dog who is brown, but she does not care which (all is good/anything goes).'

Having examined the scope properties of BNs modified by relative clauses, we can turn to their number interpretation, the focus of this section. Because Wolof relative clauses contain a class marker, which encodes number properties, we may wonder then if BNs modified by a plural relative clause may behave like plural full nominals. In this section, we will go back to the properties investigated above and conclude that the answer to this question is positive.

First, the previous section showed that a BN cannot be the object of a collective predicate like *dajeele* 'gather'. Adding a singular relative clause (i.e. a relative with a singular class marker like *b*) does not change this behavior (61a). On the other hand, if the relative clause has a plural class marker affixed to the complementizer (61b), a BN can now saturate a collective predicate.

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

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

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

Second, a singular relative clause does not change the singular behavior displayed by an unmodified BN regarding discourse anaphora: in both cases, the pronoun used to refer back to the nominal is singular (62a). Conversely, if the relative clause is plural (62a), discourse anaphora must now be plural.

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

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

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

The same pattern can be seen in the sluicing sentences in (63), where the interrogative pronoun tracks the number of the BN depending on whether it is modified by a singular or a plural relative clause.

(63) *BN modified by plural relative clause can be antecedent of plural interrogative pronoun*

a. Jàngalekat b-i seet-na **bindakat** [b-u Maymuna bëgg], waaye
teacher CM.SG-DEF visit-NA.3SG writer [CM.SG-COMP Maymuna like] but
xa-w-ma k-an la / *y-an la.
know-NEG-1SG CM.SG-which COP.3SG / *CM.PL-which COP.3SG
'The teacher visited a writer who Maymuna likes, but I do not know which one.'

b. Jàngalekat b-i seet-na **bindakat** [y-u Maymuna bëgg], waaye
teacher CM.SG-DEF visit-NA.3SG writer [CM.PL-COMP Maymuna like] but
xa-w-ma *k-an la / y-an la.
know-NEG-1SG *CM.SG-which COP.3SG / CM.PL-whch COP.3SG
'The teacher visited some writers who Maymuna likes, but I do not know which ones.'

Fourth, while a singular relative clause does not render a BN an appropriate binder for a reciprocal (64a), its plural counterpart does (64b).

(64) *BN modified by plural relative clause can be antecedent of reciprocal*

a. * Jàngalekat b-i wanale-na **ndonggo darra** [b-u Mareem xam]
teacher CM.SG-DEF introduce-NA.3SG student [CM.SG-COMP Mareem know]
ñu xam-ante.
3PL know-RECIP
Lit.: 'The teacher introduced student that Mareem knows to each other.'

b. Jàngalekat b-i wanale-na **ndonggo darra** [y-u Mareem xam]
teacher CM.SG-DEF introduce-NA.3SG student [CM.PL-COMP Mareem know]
ñu xam-ante.
3PL know-RECIP
'The teacher introduced some students that Mareem knows to each other.'

Likewise, a BN modified by a plural relative clause is now an apt antecedent for a plural reflexive:

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

a. * Jàngalekat b-i sang-oloo-na **ndonggo darra** [b-u njool] seen
teacher CM.SG-DEF wash-CAUS-NA.3SG student [CM.SG-COMP tall] POSS.3PL
bopp.
head
Lit.: 'The teacher made student who is tall wash themselves.'

b. Jàngalekat b-i sang-oloo-na **ndonggo darra** [y-u njool] seen
teacher CM.SG-DEF wash-CAUS-NA.3SG student [CM.PL-COMP tall] POSS.3PL
bopp.
head
'The teacher made some tall students wash themselves.'

The same conditions allow for a BN to be felicitously targeted by the question 'how many':

(66) *BN modified by relative clause targeted by 'how many'*

    A. Mareem jàng-na   **téere** [y-u   Mariama Ba bind].
        Mareem read-NA.3SG book [CM.PL-COMP Mariama Ba write]
        'Mareem read some books that Mariama Ba wrote.'

    B. Ñaata   téere [y-u   Mariama Ba bind] la   Mareem jàng?
        how.many book [CM.PL-COMP Mariama Ba write] COP.3SG Mareem read
        'How many books that Mariama Ba wrote did Mareem read?'

Finally, a BN modified by a singular relative clause cannot be followed-up with *all of them*.

(67) a. Jënd-na-a **téere** [b-u   Mariama Ba bind-oon daal   ]. Jàng-na-a   y-ëpp.
        buy-NA-1SG book [CM.SG-COMP Mariama Ba write-PST last.year] read-NA-1SG all

      i.   'I bought a book that Mariama Ba wrote last year. I read all of it yesterday.'

      ii. # 'I bought a book that Mariama Ba wrote last year. I read all of them yesterday.'

  b. Jënd-na-a **téere** [y-u   Mariama Ba bind-oon daal   ]. Jàng-na-a   y-ëpp.
        buy-NA-1SG book [CM.PL-COMP Mariama Ba write-PST last.year] read-NA-1SG CM.PL-every

      i. # 'I bought some books that Mariama Ba wrote last year. I read all of it yesterday.'

      ii.   'I bought some books that Mariama Ba wrote last year. I read all of them yesterday.'

  c. Jënd-na-a **téere** [y-u   Mariama Ba bind]. Jàng-na-a   y-ëpp déemba.
        buy-NA-1SG book [CM.PL Mariama Ba write] read-NA-1SG all   yesterday.
        'I bought some books that Mariama Ba wrote. I read all of them yesterday.'

(68) a. # Gis-na-a   **xaj** [b-u   muus   ] ci   bayaal b-i   démb.   Y-ëpp
        see-NA-1SG dog [CM.SG-COMP intelligent] PREP field   CM.SG-DEF yesterday CM.PL-every
        sokola la-ñu.
        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.   Y-ëpp
        see-NA-1SG dog [CM.PL-COMP intelligent] PREP field   CM.SG-DEF yesterday CM.PL-every
        sokola la-ñu.
        brown COP-3PL
        'I saw some intelligent dogs in the field yesterday. All of them were brown.'

In §2, we had concluded that BNs in Wolof behave as if they were singular. The data examined in this section, however, lead us to conclude that this generalization has to be relativized to unmodified BNs only, since BNs modified by a plural relative clause behave as if they were plural. In the next section we will add to this data and see that nominal modifiers that do not have a plural morpheme like a relative clause do not have this "pluralizing" effect on the interpretation of BNs (i.e. they will retain an exclusively singular interpretation).

3.2 Plain (number-less) nominal modifier

In Wolof, nominal modifiers are usually relative clauses (see, for instance, *tall* in (65b), among many other examples). Nonetheless, expressions for nationality occur without the syntax of a relative clause. For convenience, I dub these expressions 'plain modifiers'.

(69) a. Mareem dajeele-na   a-y   woykat brezilien.
        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:

(70)
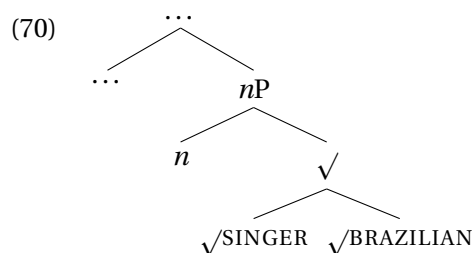
This analysis is suggested by the fact that plain modifiers have to be adjacent to the noun they modify: they cannot merge outside a relative clause.

(71) 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.'

    b. * Gis-na-a   **ndonggo darra** [RC b-u   Samba xam] brezilien.
        see-NA-1SG student   [CM.SG-COMP Samba know] Brazilian
        Int.: 'I saw a Brazilian student who Samba knows.'

Unlike what happens with plural relative clauses, plain modifiers do not have a "pluralizing" effect in the number interpretation of BN. A BN combined with a plain modifier still cannot be the object of a collective predicate (72), it must be referred back to with singular discourse anaphora (73) and a singular interrogative pronoun (74), it cannot be the antecedent of a reciprocal (75) or of a plural reflexive (76), and, finally, it cannot be followed up with 'all of them' (77). (Regrettably, the plain modifier counterpart of the 'how many' folow-up diagnostic is missing.)

(72) *BN modified by plain modifier cannot saturate collective predicate*

    a. * Roxaya dajeele-na   **fécckat** brezilien.
        Roxaya gather-NA.3SG dancer   Brazilian
        Lit.: 'Roxaya gathered Brazilian student.'

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

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

    Gis na-a   **woykat** 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.

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

22

Jàngalekat b-i   gis na **ndonggo darra** brezilien, waaye xa-w-ma
teacher   CM.SG-DEF see NA.3SG student   Brazilian but   know-NEG-1SG
ˀk-an   la   / *y-an   la.
ˀCM.SG-which COP.3SG / *CM.PL-which COP.3SG
'The teacher saw a student, but I do not know which.'

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

　* Jàngalekat 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.'

(76) *BN modified by plain modifier cannot be antecedent of plural reflexive*

　?? Jàngalekat b-i   nataal-oo-na   **ndonggo darra** angale seen   bopp.
　teacher   CM.SG-DEF draw-CAUS-NA.3SG student   English POSS.3PL head
　Lit.: 'The teacher made English student draw themselves.'

(77) *BN modified by plain modifier cannot be followed up with 'all of them'*

　?? Jënd-na-a **téere** angale démb.   Y-ëpp   baax-na-ñu.
　buy-NA-1SG book English yesterday CM.PL-every nice-NA-3PL
　Lit.: 'I bought English book yesterday. They are all nice.'

The data above suggest that there is a contrast between relative clause and plain modifiers. The former have number morphology, why the latter do not. A further property correlated with the presence or absence of a class marker is the number interpretation of the BN merged with these modifiers. A BN modified by a plural relative clause can receive a plural interpretation, while a BN combined with a plain modifier retains its exclusively singular interpretation.

In view of this contrast, in addition to (51), repeated below as (78i), we may also ask the question (78ii):

(78)　i.　How can we account for the exclusively singular interpretation (and not number neutral) in-terpretation 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?

The contrast between singular relative clauses in e.g. (61a) and plain modifiers (72a), on the one hand, and plural relative clauses in (61b), on the other, suggests that what is relevant is the occurrence of some morphology that expones a plural feature. Further support for this generalization is furnished by the contrast between two types of possessive constructions, which we turn to in the next section.

3.3　Number interpretation in two types of possessive nominals

In Wolof, there are at least two types of possessive nominals. In (79a), the possessive determiner *sama* 'my' is used. It precedes the possessum *xaj* 'dog'. A definite determiner *bi* 'the' can be part of the same nominal. In (79b), the genitive suffix *u* is used. It is affixed to the possessum *muus* 'cat', which precedes the possesor *Mareem*.

(79)　a.　*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 garden.'

b. *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.'

As we will see below, these constructions differ in whether or not they contain some number morphology. When a BN is used in these possessive constructions, its behavior resembles that of plural relative clauses and plain modifiers, depending on whether or not the possessive construction in question contains number morphology.

Starting with possessive determiners, the possessum can either be a full nominal (80) or a BN (81). Furthermore, the morphology affixed to the possessive determiner is sensitive to the number properties of the possessum that linearly follows it. In (81), *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. In (81a) and (81b), 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 (81b), where there is the addition of the affix *-y*.

(80) sama   jigéen y-i
    POSS.1SG woman CM.PL-DEF
    'the female friends of mine'

(81) a. sama   **nit**
       POSS.1SG person
       'my friend'

    b. sama-y   **nit**
       POSS.1SG-PL person
       'my friends'

The possessive determiners in Wolof are listed below:

(82)

Possessor	Singular possessum	Translation	Plural possessum	Translation
1SG	sama xarit	'my friend'	sama-y xarit	'my friends'
2SG	sa xarit	'your friend'	sa-y xarit	'your friends'
3SG	xarit=am	'his/her friend'	ay xarit=am	'his/her friends'
1PL	suñu xarit	'our friend'	suñu-y xarit	'our friends'
2PL	seen xarit	'your friend'	seen-i xarit	'your friends'
3PL	seen xarit	'their friend'	seen-i xarit	'their friends'

(reference to be added)

Additional data illustrating the behavior of the possessive determiner are below. (83a), (83b), and (83c) demonstrate that the number of the definite determiner (*bi*) and that of the possessive determiner must match. (83d) shows that the plural class marker for *nit* 'person' can be *y* or *ñ*. (83e) shows that the number suffix in the possessive determiner remains *y* nonetheless, suggesting that the class marker *y* and the possessive determiner *y* are different morphemes, albeit homophonous ones.[7]

(83) a. 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 garden.'

---

[7]In all the examples so far, the possessum happens to be a human entity. As we see in (91a) though, it can also be inanimate. Thank you to …for bringing up this issue.

b. * Gis-na-a sama-y xaj b-i ci baayal b-i.
   see-NA-1SG POSS.1SG-PL dog CM.SG-DEF PREP park CM.SG-DEF
   Int.: 'I saw the.SG dog of mine.PL in the garden.'

c. Gis-na-a sama-y xaj y-i ci baayal b-i.
   see-NA-1SG POSS.1SG-PL dog CM.PL-DEF PREP park CM.SG-DEF
   'I saw my dogs in the garden.'

d. Gis-na-a nit y-i / nit ñ-i ci Boston.
   see-NA-1SG person CM.PL-DEF / person CM.PL-DEF PREP Boston
   'I saw the people in Boston.'

e. Gis-na-a sama-y nit y-i / ñ-i ci Boston déemba.
   see-NA-1SG POSS.1SG-PL person CM.PL-DEF / CM.PL-DEF PREP Boston yesterday
   'I met the people in Boston yesterday.'

(84) shows that, if the possessum is a BN, it has an indefinite interpretation, hence why it can be used in an existential construction.

(84) Am-na sama **butéel** ci waañ w-i.
   have-NA.3SG POSS.3SG bottle PREP kitchen CM.SG-DEF
   'There is a bottle of mine in the kitchen.'

I assume that this type of possessive nominal has the structure in (85), which represents *sama-y xaj y-i* 'POSS.1SG-PL dog CM.PL-DEF (*my dogs*). In this possessive nominal, 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. If the possessum is singular, the exponent of Poss is phonologically null. If the possessum is plural, the head of PossP is exponed as *-y*.

(85)
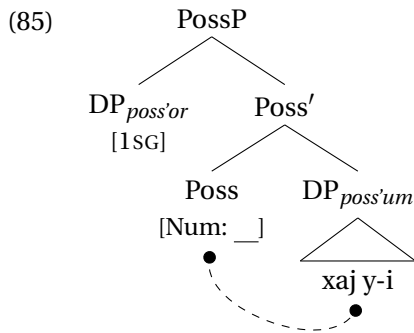
With this background in mind, consider the data to follow, which demonstrate that BNs inside this type of possessive nominal have a singular interpretation, unless the plural possessum-sensitive *-y* occurs. In the data to follow, the (a) examples display the behavior of possessive constructions where the determiner is suffixed with the possessum-sensitive *-y* morpheme, while the (b) examples display the behavior of possessives without *-y*.

(86) *Collective predicate*

a. Dajeele-na-a sama-y **muus** ci tool b-i.
   gather-NA-1SG POSS.1SG-PL cat PREP garden CM.SG-DEF
   'I gathered some cats of mine in the garden.'

b. * Dajeele-na-a sama **muus** ci tool b-i.
  gather-NA-1SG POSS.1SG cat PREP garden CM.SG-DEF
  Lit.: 'I gathered cat of mine in the garden.'

(87) *Discourse anaphora*

  a. Wën-na-a sama-y **xaj** Mareem. Bëgg-na-a *ko / leen.
    show-NA-1SG POSS.1SG-PL dog Mareem like-NA-1SG *OBJ.SG / OBJ.PL
    'I showed Mareem some dogs of mine. I like *him/them.'

  b. Wën-na-a sama **xaj** Mareem. Bëgg-na-a ko / *leen.
    show-NA-1SG POSS.1SG dog Mareem like-NA-1SG OBJ.SG / *OBJ.PL
    'I showed Mareem a dog of mine. She likes him/*them.'

(88) *Interrogative pronoun in sluicing*

  a. Mareem jàng-na sama-y **téere**, waaye xa-w-ma *b-an la /
    Mareem read-NA.3SG POSS.1SG-PL book but know-NEG-1SG *CM.SG-which COP.3SG /
    y-an la.
    CM.PL-which COP.3SG
    'Mareem read some books of mine, but I don't know which one/which ones.'

  b. Mareem jàng-na sama **téere**, waaye xa-w-ma b-an la /
    Mareem read-NA.3SG POSS.1SG book but know-NEG-1SG CM.SG-which COP.3SG /
    *y-an la.
    *CM.PL-which COP.3SG
    'Mareem read a book of mine, but I don't know which one/which ones.'

(89) *Reciprocal*

  a. Desin-ante-loo-na-a sama-y **doom** seen bopp.
    draw-RECIP-CAUS-NA-1SG POSS.1SG-PL child POSS.3PL head
    'I made some children of mine draw each other.'

  b. * Desin-ante-loo-na-a sama **doom** seen bopp.
    draw-RECIP-CAUS-NA-1SG POSS.1SG child POSS.3PL head
    Lit.: 'I made child of mine draw each other.'

  c. Wanale-na-a sama-y **ndonggo darra** ñu xam-ante.
    introduce-NA-1SG POSS.1SG-PL student 3PL know-RECIP
    'I introduced some students of mine to each other.'

  d. Wanale-na-a sama **ndonggo darra** ???(ak **ndonggo darra** Kadeer) ñu
    introduce-NA-1SG POSS.1SG student ???(with student Kadeer) 3PL
    xam-ante.
    know-RECIP
    'I introduced a student of mine and a student of Kadeer's to each other.'

(90) *Plural reflexive*

  a. Jàngalekat y-i sang-aloo-na-ñu seen-i **ndonggo darra** seen bopp.
    teacher CM.PL-DEF wash-CAUS-NA-3PL POSS.3PL student POSS.3PL head
    'The teachers made some students of theirs wash themselves.'

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

26

(91) *'How many' follow-up*

    a. Maymuna ak Mareem jënd-na-ñu sama-y   **téere**, waaye xa-w-ma   ñaata
        Maymuna with Mareem buy-NA-3PL POSS.1SG-PL book but   know-NEG-1SG how.many
        lën   jënd.
        COP.3PL buy
        'Maymuna and Mareem bought some books of mine, but I do not know how many.'

    b. * Maymuna ak   Mareem jënd-na-ñu sama   **téere**, waaye xa-w-ma   ñaata
        Maymuna with Mareem buy-NA-3PL POSS.1SG book but   know-NEG-1SG how.many
        lën   jënd.
        COP.3PL buy
        Lit.: 'Maymuna and Mareem bought a book of mine, but I do not know how many.'

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

    Sama   muus toj-na   sama   **ndap**. # Bëgg-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.'

    To sum up, BNs can occur in a construction that features a possessive determiner which is sensitive to the number of the possessum they combine with. If a plural suffix *-y* occurs, a BN possessum receives a plural interpretation. In the absence of that morphology, the BN retains its exclusively singular interpretation.

    We can now turn to the genitive possessive nominal, illustrated below.

(93) Gis-na-a   **doom**-u Roxaya.
     see-NA-1SG child-GEN Roxaya
     'I saw a child of Roxaya's.'

Again, I take the possessum in this construction to be a BN because it alternates with a full nominal, as we can see in the pairs in (94). In (94e), it is particularly clear that the definite determiner *b-i* combines with noun the genitive is suffixed to (*muus* 'cat'), since the preceding proper name (*Roxaya*) cannot merge with it, as evidenced by (94d). (94f) and (94g) show particularly clearly with the post-nominal definite determiners that determiners merge outside of genitive possessives.

(94) 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 Roxaya's cat.

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.'

g. Liggéeykat b-i   tabax-na   kër-u   Mareem **g-i**.
    worker   CM.SG-DEF build-BA.3SG house-GEN Mareem CM.SG-DEF
    'The worker built Mareem's house.'

When the possessum to which it is attached is a BN, it also receives an indefinite interpretation.

(95) Am-na   **muus**-u Kadeer ci   bayaal b-i.
      have-NA.3SG cat-GEN Kadeer PREP park   CM.SG-DEF
      'There is a cat of Kadeer's in the park.'

I assume the structure in (96) for genitive possessives, illustrated with *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 is realized by the genitive morpheme *-u*. Contrary to the possessive in (85) examined above, in the genitive (96), there is no probe for number.

(96)
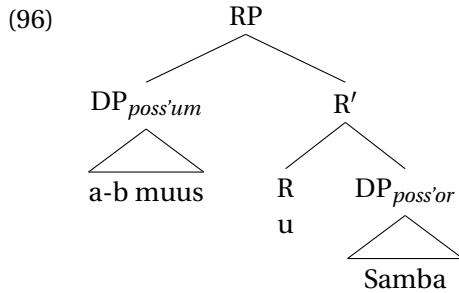
As just mentioned, in the genitive possessive construction, there is no morpheme sensitive to number. In that case, only a singular reading is available. This is demonstrated by the plural-sensitive diagnostics employed so far.

(97) *Collective predicate*

a. Roxaya boole-na   a-y   xaj-u   Kadeer.
    Roxaya put.together-NA.3SG INDEF-CM.PL dog-GEN Kadeer
    'Roxaya gathered some of Kadeer's dogs.'

b. Roxaya boole-na   **xaj**-u   Kadeer *(ak xaj-u   Kumba).
    Roxaya put.together-NA.3SG dog-GEN Kadeer *(with dog-GEN Kumba)
    'Roxaya put together Kadeer's dog *(with Kumba's dog).'

c. Isaa juboole-na   **muus**-u Kadeer ^{??}(ak **muus**-u Roxaya).
    Isaa unite-NA.3SG cat-GEN Kadeer ^{??}(with cat-GEN Roxaya)
    'Isaa united a cat of Kadeer's (with a cat of Roxaya's).'

(98) *Discourse anaphora*

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.'

(99) *Interrogative pronoun in sluicing*

a. Toogakat b-i   gis-na   a-y   muus-u Mareem, waaye xa-w-ma
   cook   CM.SG-DEF see-NA.3SG INDEF.CM.PL cat-GEN Mareem but   know-NEG-1SG
   *b-an   la   / y-an   la.
   *CM.SG-which COP.3SG / CM.PL-which COP.3SG
   'The cook saw some cats of Mareem's, but I don't know which.'

b. Toogakat b-i   gis-na   **muus**-u Mareem, waaye xa-w-ma   b-an
   cook   CM.SG-DEF see-NA.3SG cat-GEN Mareem but   know-NEG-1SG CM.SG-chich
   la   / *y-an   la.
   COP.3SG / *CM.PL-which COP.3SG
   'The cook saw some cats of Mareem's, but I don't know which.'

(100) *Reciprocal*

  * Roxaya wanale-na   **jàngalekat**-u Mareem ñu xam-ante.
    Roxaya introduce-NA.3SG teacher-GEN Mareem 3PL know-RECIP
    Lit.: 'Roxaya introduced a teacher of Mareem's to each other.'

(101) *Plural reflexive*

a. Isaa sang-oloo-na   a-y   xaj-u   Kadeer seen   bopp.
   Isaa wash-CAUS-NA.3SG INDEF-CM.SG dog-GEN Kadeer POSS.3PL head
   'Isaa made some dogs of Kadeer's wash themselves.'

b. 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.'

(102) *'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.'

These data indicate that, unlike the possessive determiner, which has number morphology, the genitive possessive is not compatible with a plural interpretation for a BN. Alternatively stated, combining a BN with the genitive -*u* does not have any effect on in the singular interpretation of the Wolof BN.

3.4 Interim summary

All the data surveyed so far is summarized in the table (103). The grey boxes indicate missing data.

(103) *Number interpretation of BN*

		Unmodified BN	Plural RC	Plain modifier	Possessum -*y*	Genitive -*u*
i.	Collective predicate	*	✓	*	✓	* / ??
ii.	Discourse anaphora	SG	PL	SG	PL	SG
iii.	Pronoun (sluicing)	SG	PL	?SG	PL	SG
iv.	Reciprocal	*	✓	*	✓	*
v.	Plural reflexive	*	✓	??	✓	*
vi.	'How many' follow-up	#	✓		✓	
vii.	'All of them' follow-up	#	✓	??	✓	#

Taking into account both the unmodified, modified, and different possessive BN constructions In Wolof, we arrive at the following generalization:

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

I will propose an analysis to account for this generalization in the next section. The proposal will be grounded on a condition that requires the licensing of a marked number feature via Agree. First, however, we will evaluate plausible alternative analyses.

4 Analysis

4.1 Alternative analyses

In this section, we will evaluate the applicability of the following analyses: *(i)* BNs as full nominals with a phonologically null determiner; *(ii)* a version of Martinović's (2017) obliteration analysis; *(iii)* BNs as mass nouns; *(iv)* noun incorporation and pseudo noun incorporation; *(v)* Dayal's (2011) semantic analysis of the singular interpretation of BNs in Hindi. We will see that, while these analyses are plausible, they may not be able to account for the data considered here.

4.1.1 A phonologically null determiner

It is plausible that BNs are in fact full nominals whose determiner happens to have null exponence. If this were the case, however, how could we explain the scope contrasts in §2 (some of which are repeated below)?

(21b) a. Mareem séy-aat-na   ak   a-b   fécckat.
           Mareem marry-ITER-NA.3SG with INDEF-CM.SG dancer
           'Mareem married a singer again.'
       b. i. ✓ *Mareem married the same dancer several times (e.g. marriage, followed by divorce, followed by another marriage).*
           ii. # *Mareem has a very specific preference and she has married several, different dancers.*

(22)   a. Mareem séy-aat-na   ak   **fécckat**.
           Mareem marry-ITER-NA.3SG with dancer
           'Mareem married a dancer again.'
       b. i. # *Mareem married the same dancer several times (e.g. marriage, followed by divorce, followed by another marriage).*
           ii. ✓ *Mareem has a very specific preference and she has married several, different dancers.*

In order to account for this semantic difference, one could propose that the null determiner is a indefinite determiner that can only have narrow scope and which is dedicated for BNs. In that regard, I remain agnostic as to whether or not there is a DP layer in the BNs investigated here.

4.1.2 Martinović's (2017) obliteration analysis

In §3.1, we investigated BNs modified by relative clauses. It is implied here that BNs are primitive elements available in the Wolof grammar. However, Martinović (2017) analyzes these structures as derivative: they are in fact full nominals to which a deletion operation (specifically, obliteration) has applied. In this section, I try to show that this analysis cannot be carried over to the Wolof dialect studied in this paper.

  Martinović's main goal is to provide an analysis for the alternation between the two types of *Wh*-questions in (105).

(105) a. [CP L-an   [C′ la   Maymuna lekk-oon déemba   ]]?
       [CM.SG-Q [COP Maymuna eat-PERF yesterday]]
       'What did Maymuna eat?'

   b. [CP [C′ L-u   Maymuna lekk-oon déemba?]]
       [[CM.SG-COMP Maymuna eat-PERF yesterday]]
       'What did Maymuna eat?'

       (modeled after examples from Torrence 2012 and Martinović 2017 and confirmed by a con-
       sultant of mine)

Arguing against Torrence's (2012) analysis based on silent *Wh*-phrases, Martinović proposes that both
sentences in (105) have the same underlying structure, but in each either the head of the CP (105a) or
the phrase in Spec-CP (105b) gets obliterated (i.e. a whole syntactic node is deleted; Arregi & Nevins
2007). Obliteration is triggered by the violation of an OCP (Obligatory Contour Principle) effect that
operates at the syntactic level and which bans nodes that have identical featural specifications to occur
close together (see details is Martinović 2017). Obliterating either offending node suffices to satisfy this
requirement. Obliteration is schematized below, where an obliterated node is between '<>'. (On how *la*
surfaces in (105a), see Martinović 2017; this detail is not relevant in the present discussion.)

(106) a. [CP L-an   [C′ **<l-u>**   Maymuna lekk-oon déemba   ]]?
       [CM.SG-Q [CM.SG-COMP Maymuna eat-PERF yesterday]]

   b. [CP **<L-an>** [C′ l-u   Maymuna lekk-oon déemba   ]]?
       [CM.SG-Q [CM.SG-COMP Maymuna eat-PERF yesterday]]

Martinović extends this analysis to relative clauses in Wolof. The author claims that, in relative
clauses, there is no optionality in what is obliterated (either Spec-CP or the head of the CP in (106)P.
Rather, the only possibility in the derivation of a relative clause is for Spec-CP to be obliterated. The
reason is that the relative complementizer in Wolof is claimed to encode definiteness and proximity fea-
tures. The complementizer that occurs in the data surveyed in §3.1 is *u*. Martinović's Vocabulary Item
for *u* is as follows:

(107) C[+*Wh*] → *u* / {φ, -*Def*}

       (Martinović, 2017, (78a))

Martinović's obliteration analysis for a nominal modified by a relative clause like (108a) can thus be dia-
gramed as (108b). Martinović assumes a matching analysis of relative clauses, with *XP* representing the
relative clause-internal nominal that moves to Spec-CP and which is obliterated.

(108) a. (*a-b)   xaj b-u   ma bëgg
       (*INDEF-CM.SG) dog CM.SG-COMP 1SG like
       'a dog that I like'

       (Martinović, 2017, (75a); glosses and spelling adapted for uniformity)

   b. *Step 1/2 of derivation of RC*

       a-b   xaj [CP **<XP>** [C′ b-u   ma bëgg]]
       INDEF-CM.SG dog [[CM.SG-COMP 1SG like]]

In the data investigated by Martinović, there cannot be an overt determiner in the nominal modi-
fied by a relative clause, as witnessed in (108a). Martinović then introduces the final ingredient of the
analysis, obliteration of the determiner. This is caused by the feature similarity between the determiner

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and complementizer: "In the dialect of Wolof that this paper is concerned with, D never occurs in relative clauses. The fact that the definiteness feature does not surface twice is reminiscent of a similar phenomenon in some Scandinavian languages. In Wolof, the two heads, D and C$_{Wh}$, agree in φ-features, definiteness and proximity. As a result, the determiner and the complementizer have identical feature specifications. I propose that in such a case only one of the two heads can be pronounced, and that in this configuration in Wolof, it is the lower one. The determiner is therefore deleted" (Martinović, 2017, p. 248).

This last step in the derivation is schematized below:

(109) *Step 2/2 of derivation of RC*

    \<a-b\>   xaj [$_{CP}$ \<XP\> [$_{C'}$ b-u   ma bëgg]]
    INDEF-CM.SG dog [[CM.SG-COMP 1SG like]]

The result of the derivation is what I have been referring to here as a BN modified by a relative clause. However, in Martinović's analysis, a nominal configuration like (108a) is not primitive, but rather the result of two instances of obliteration. I believe there are reasons not to extend this obliteration analysis to the Wolof dialect examined here.

First, a trivial point of difference may be simply dialectal. (108a) is in fact grammatical in this dialect (and those investigated by Torrence 2012, as mentioned by Martinović). Some instantiations of the co-occurrence of an indefinite determiner and a *u* relative complementizer found in my data set are below:

(110) a. Bindakat b-i   bind-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.'

     b. Mareem séy-aat-na   ak a-b   fécckat [b-u   Samba xam].
         Mareem marry-ITER-NA.3SG with INDEF-CM.SG dancer [CM.SG-COMP Samba know]
         'Mareem married again some dancer that Samba knows.'

     c. Samba déeg-na   a-b   woy [b-u   Faatu woy].
         Samba hear-NA.3SG INDEF-CM.SG song [CM.SG-COMP Faatu sing]
         'Samba heard a song that Faatu sang.'

     d. Gis-na-a   a-b   ndonggo darra [b-u   ko   bind].
         see-NA-1SG INDEF-CM.SG student   [CM.SG-COMP OBJ.3SG write]
         'I saw a student who was writing it.'

     e. Gis-na-a   a-b   jàngalekat [b-u   Maymuna jox chër   ]
         see-NA-1SG INDEF-CM.SG teacher   [CM.SG-COMP Maymuna give consideration]
         'I saw a teacher who Maymuna respects.'

There may be however less trivial differences. The relative complementizer *u* can be used by speakers consulted not only with indefinite nominals, but also with definite and demonstrative determiners:

(111) a. Awa defar-na   oto [b-u   Samba jënd] b-i.
         Awa fix-NA.3SG car [CM.SG-COMP Samba buy] CM.SG-DEF
         'Awa fixed the car that Samba bought.'

     b. Awa defar-na   oto [y-u   Samba jënd] y-i.
         Awa fix-NA.3SG car [CM.PL-COMP Samba buy] CM.PL-DEF
         'Awa fixed the cars that Samba bought.'

     c. Samba xam-na   ndonggo darra [b-u   njool] b-i.
         Samba know-NA.3SG student   [CM.SG-COMP tall   ] CM.SG-DEF
         'Samba knows the student who is tall.'

(112) Muus b-i   daxee-na   xaj [b-u   sokola] b-ee.
      cat   CM.SG-DEF chase-NA.3SG dog [CM.SG-COMP brown] CM.SG-DEM.DIST
      'The cat chased that brown dog (over there).'

Hence, the Vocabulary Item (107) does not seem adequate for the Wolof dialect reported in the present paper. Importantly, obliteration in Martinović's analysis is driven by an OCP-based principle that militates against the co-occurrence of nodes that have the same featural specification. Specifically, the determiner has definiteness and promiximity features that cannot be present the relative complementizer in (111) and (112) – otherwise, presumably, *u* could not be used in all these constructions without causing a feature clash (e.g. definite and indefinite and/or distal and proximal).

In fact, even if we grant that the Vocabulary Item (107) is applicable for the present data, we may ask why there is an asymmetry in which node is deleted in the relative clause. Recall that the *Wh*-sentences (105) were derived by obliterating either the Spec or the head of the CP. Would the same range of options carry over to relative clauses? Empirically, the answer is negative (regarding the Wolof dialect studied here), as (113b) shows that the complementizer (and the class marker prefixed to it) cannot be ommitted:

(113) a.   Roxaya xam-na   a-b   jàngalekat 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. * Roxaya xam-na   a-b   jàngalekat Maymuna bëgg.
           Roxaya know-NA.3SG INDEF-CM.SG teacher   Maymuna like
           Int.: 'Roxaya knows a teacher that Maymuna admires.'

To avoid overgenerating (113b), one might consider that the relative complementizer and the indefinite determiner do not exactly have the same features. The former presumably contains an Ā-probe (which triggers the movement of the relative operator or the matched head of the relative clause) that the former lacks. However, this amendment would also void the motivation to obliterate the determiner in Martinović's original proposal.

In order to bolster the applicability of the obliteration analysis to the data examined here, one could say that this operation is optional. In other words, it applies in the data in §3.1, but not in (110), (111), and (112). Again, in this version of Martinović's proposal, BNs modified by relative clauses are epiphenomenal, rather than primitive. However, if obliteration is responsible for the derivation of both *Wh*-sentences like (105) and relative clauses, why would it be optional only in the latter? (114) completes the paradigm in (105) and it shows that obliteration must apply in *Wh*-sentences, so that a *Wh*-phrase in Spec-CP and an interrogative complementizer cannot co-occur.

(114) * L-an   l-u   Maymuna lekk-oon déemba?
        CM.SG-Q CM.SG-COMP Maymuna eat-PERF yesterday
        Int.: 'What did Maymuna eat?'

        (modeled after examples from Torrence 2012 and Martinović 2017 and confirmed by a consultant of mine)

Moreover, there is a difference in the syntactic positions where a BN and a full nominal can occur when they are modified by a relative clause. While a full nominal can occur in the subject position of a finite clause, the same does not hold of a BN.[8]

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[8]As mentioned in fn. 3, this paper does not address the syntactic position where BNs in Wolof can or cannot occur. See [redacted] (in prep.).

(115) a. A-b   muus [b-u   Isaa bëgg] lekk-na   ginaar g-i.
           INDEF-CM.SG cat [CM.SG-COMP Isaa like   ] eat-NA.3SG chicken CM.SG-DEF
           'A cat that Isaa likes ate the chicken.'

       b. * **Muus** [b-u   Isaa bëgg] lekk-na   ginaar g-i.
           cat   [CM.SG-COMP Isaa like   ] eat-NA.3SG chicken CM.SG-DEF
           Int.: 'A cat that Isaa likes ate the chicken.'

(116) a. Xadi xalaat-na   [ne   a-y   ndonggo darra [y-u   Samba xam   ]
           Xadi think-NA.3SG [COMP INDEF-CM.PL student   [CM.PL-COMP Samba know]
           daw-na-ñu ci   baayal b-i   ].
           run-NA-3PL PREP park   CM.SG-DEF]
           'Xadi thinks that some students who Samba knows run in the park.'

       b. * Isaa wax-na   [ne   **fécckat** [b-u   ma   xam   ] fécc-na   ci   xeel
           Isaa say-NA.3SG [COMP dancer   [CM.SG-COMP OBJ.1SG know] dance-NA.3SG PREP party
           b-i   ].
           CM.SG-DEF]
           Int.: 'Isaa said that a dancer that knows me danced in the party.'

Additional examples of the impossibility of BNs to occur in the subject position even when it is modified
by a relative clause are provided below.

(117) a. * **Xale** [b-u   Samba xam   __] jàng-na   a-b   taalif.
           child [CM.SG-COMP Samba know   ] write-NA.3SG INDEF-CM.SG poem
           Int.: 'A child who Samba knows wrote a poem.'

       b. * **Woykat** [y-u   Samba bëgg __] woy-në   ci   xeel b-i.
           singer   [CM.PL-COMP Samba like   ] sing-NA.3PL PREP party CM.SG-DEF
           Int.: 'A singer who Samba likes sang in the party.'[9]

If e.g. (115b) were derived from (115a) by obliteration, a post-syntactic operation, why could the BN
there not be licensed in the same position at the narrow syntax?

A more decisive argument is provided by the semantic properties of nominals modified by a relative
clause that also have an overt determiner and (what surfaces as a) BN combined with a relative clause. We
saw above that BNs are narrow scope indefinites. We also saw that the baseline indefinite full nominals
could take wide scope. If BNs are primitives in the Wolof grammar, we may expect that merging a relative
clause with them will not change its scope properties – it will remain as a narrow scope indefinite. On
the other hand, if BNs are in fact the byproduct of obliteration, an operation that applies at morphology,
we would expect their LF properties to remain intact – wide scope should therefore be a possibility.

As we have already seen in §3.1 (data repeated below for convenience) that *ab* full indefinites may
scope above or below an intensional predicate (55), while BNs can only take narrow scope (56). In both
cases, the nominal (full or bare) is modified by a relative clause.

(55) a. Sama   doom bëgg-na   jàng a-b   téere [b-u   Mariama Ba bind],
          POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba write]
          Une si longue lettre la   tuddu.
          Une si longue lettre COP-3SG name
          'A child of mine needs to read a book that Mariama Ba wrote. Its title is *So long a letter*.'

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[9]As far as I can tell, *na-ñu* and *në* just alternate with one another.

b. Sama   doom bëgg-na   jàng a-b   téere [b-u   Mariama Ba bind],
   POSS.1SG child   want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba write]
   waaye bu mu am   baax-na.
   but   BU 3SG have good-NA.3SG
   'A child of mine needs to read a book that Mariama Ba wrote, but it does not matter which.'

(56) a. Roxaya bëgg-na   gisee **woykat** [b-u   dëkk Senegal]. # Wally Seck la
        Roxaya want-NA.3SG meet singer   [CM.SG-COMP from Senegal] # Wally Seck COP.3SG
        tuddu.
        name
        'Roxaya wants to meet a singer who is from Senegal. # His name is Wally Seck.'

      b. Mary bëgg-na   gisee **woykat** [b-u   dëkk Senegal], waaye bu mu am
         Mary want-NA.3SG meet singer   [CM.SG-COMP from Senegal] but   BU 3SG meet
         baax-na.
         good-NA.3SG
         'Mary wants to meet a singer who is from Senegal, and any will be good'

In brief, applying a version of Martinović's analysis to the Wolof dialect studied here does not seem to be empirically tenable. The discussion leads towards the conclusion that BNs can be primitives in the Wolof grammar, rather than necessarily being epiphenomenal (i.e. the result of a morphological operation of deletion). Needless to say, what was discussed above does not bear on the dialect that Martinović has investigated, nor does it have any bearing on their analysis of interrogative sentences.

4.1.3   BNs in Wolof as mass nouns

Another plausible analysis is that BNs could occur in bare form because they are mass nouns – in fact, Pires de Oliveira & Rothstein (2011) make exactly this proposal for BNs in Brazilian Portuguese.[10] There may be reason, nevertheless, not to apply the same analysis to BNs in Wolof.

First, recall from (44) that *ñaata* 'how many' is not a felicitous follow-up to a sentence containing a BN. The same expression can be used with mass nouns (i.e. there is no morphological distinction between *how much* and *how many* in Wolof, at least as far as *ñaata* is concerned).

(118) A. Binta jënd-na   sukkar ci   luuma b-i   déemba.
         Binta buy-NA.3SG sugar   PREP market CM.SG-DEF yesterday
         'Binta bought sugar in the market yesterday.'

       B. Ñaata   sukkar la   Binta jënd?
         how.much sugar   COP.3SG Binta buy
         'How much sugar did Binta buy?'

(119) A. Binta naan-na   ndox déemba.
         Binta drink-NA.3SG water yesterday
         'Binta drank water yesterday.'

       B. Ñaata   ndox la   Binta naan?
         how.much water COP.3SG Binta drink
         'How much water did Binta drink?'

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[10]Thank you […] (p.c) and to […] (p.c.) for the suggestion.

Second, recall also that BNs can only be referred back to with a singular pronoun – a plural pronoun renders the sentence ungrammatical. However, if the antecedent of discourse anaphora is a mass noun, a plural pronoun is possible, albeit with a different corresponding interpretation for the mass noun.

(120) a. Binta lekk-na   sukkar / sukkar b-i   tey. Jënd-oon-na   ko   déemba.
          Binta eat-NA.3SG sugar / sugar CM.SG-DEF today buy-PERF-NA.3SG OBJ.3SG yesterday
          'Binta ate sugar/the sugar today. She had bought it yesterday.'

       b. Binta lekk-na   sukkar / a-y   sukkar tey. Jënd-oon-na   leen   déemba.
          Binta eat-NA.3SG sugar / INDEF-CM.PL sugar   today buy-PERF-NA.3SG OBJ.3PL yesterday
          'Binta ate sugar/some sugars today. She had bought them yesterday.'

          (Felicitous in a scenario where e.g. Binta bought a box with packets of sugar; leen *is judged to refer back to these packets.)*

I take these two arguments to be sufficient to show us that analyzing BNs in Wolof as mass nouns is not empirically tenable.

4.1.4   Noun incorporation and pseudo noun incorporation

BNs in Wolof display a signature property of incorporated nouns, namely, narrow scope. Could they be incorporated nouns (see Branigan & Wharram 2019 and references therein)? Noun incorporation is illustrated in (121).

(121)   *Noun incorporation in South Baffin Inuktitut*

       Akittiq   iqalung-mik taku-∅-nngit-tuq.
       Akittiq.ABS fish-MOD   see-AP-NEG-PART.[-TR].3SG.ABS
       'Akittiq didn't see any fish.'

       (Branigan & Wharram, 2019, (2))

A noun incorporation analysis does not seem to be appropriate for Wolof, since the BN is an object that is separated from the verb by other morphemes (see e.g. *na* and *a* in (2a), repeated below); the latter are functional morphemes that occupy presumably higher positions than the VP-internal object. Additionally, the BN can be modified by relative clauses and plain modifiers, as we saw in §3.1 and §3.2, respectively.

The possibility of nominal modification renders plausible an analysis of BNs in Wolof in terms of pseudo noun incorporation (PNI; Massam 2001; Dayal 2011; Baker 2014; Johnson 2015; see overview in Levin 2015). PNI can be loosely defined as a phenomenon that is similar to incorporation, except that it targets a nominal phrase, rather than just a head. Besides narrow scope, BNs in Wolof do display some of the telltale properties of PNI. For instance, there cannot be a low adverb intervening the verb and its affixes and the BN object.

(122) a. Jàngalekat b-i   jàng-na   { cikaw } taalif b-i   { cikaw }.
          teacher   CM.SG-DEF read-NA.3SG { loudly } poem CM.SG-DEF { loudly }
          'The teacher read the poem loudly.'

       b. Jàngalekat b-i   jàng-na   {*cikaw } **taalif** { cikaw }.
          teacher   CM.SG-DEF read-NA.3SG {*loudly } poem { loudly }
          'The teacher read a poem loudly.'

A PNI analysis could thus be applicable. However, syntactic PNI analyses often capitalize on the inability of the BN to move (Massam, 2001), their consequences to linearization (Baker, 2014), or their licensing

requirements (Levin 2015; see also Van Urk 2019; Branan To appear). While one or more of these analyses could be carried over to account for the *syntactic positions* where BNs in Wolof occur, this does not seem sufficient to account for their singular *interpretation*.

This brings us to Dayal's (2011) semantic analysis of PNI in Hindi. Dayal remarks that BNs in Hindi are not number-neutral, but rather singular and proposes that the plural interpretation arises as a byproduct of a pluractional operator that applies at the sentential level and which is introduced by aspect. The empirical basis for the proposal are data like the following:

(123)   *Hindi*

    a.   anu-ne   [tiin ghanTe meN] / [tiin ghanTe tak] **kitaab** paRhii.
         Anu-ERG [3   hours in   ] / [3   hours for] book read-PFV

       i. 'Anu read a book in three hours' (= exactly one book.)

       ii. 'Anu read a book for three hours' (= one or more books.)

    b.   anu-ne   [tiin ghanTe meN] / *[tiin ghanTe tak] **kitaab** paRh Daalii.
         Anu-ERG [3   hours in   ] / *[3   hours for] book read COMPL.PFV
         'Anu read a book in three hours' (= exactly one book)

    c. * anu-ne   [tiin ghanTe meN] **kitaab** ikaTTaa kar lii.
         Anu-ERG [3   hours in   ] book collect do COMPL.PFV
         Lit.: 'Anu got done collecting a book in three hours.'

    d.   anu-ne   [tiin ghanTe meN] kitaabeN ikaTTaa kar lii.
         Anu-ERG [3   hours in   ] books   collect do COMPL.PFV
         'Anu got done collecting books in three hours.'

         (Dayal, 2011, (32); adapted)

(123a) shows that the number interpretation of the BN *kitaab* 'book' depends on the telicity of the predicate. The temporal adverb *tiin ghanTe meN* 'in three hours' picks out the telic reading of the predicate. In that case, the BN has an exclusively singular interpretation. It is only when an atelic reading is singled out (in (123a), by using *tiin ghanTe tak* 'for three hours') that the number-neutral interpretation of the BN arises. To drive the point home, in (123b), the atelic reading is eliminated via the addition of the completive particle *Daalii*. As expected from the pattern observed in (123a), only a singular interpretation is available. Or, more relevantly for Dayal's claim, a number-neutral interpretation becomes impossible. Furthermore, in (123c), the verb is now a collective predicate and the telic reading is enforced by a completive particle; a BN is disallowed. Finally, if the BN is replaced with a bare plural, the result is well-formed again (123d).

In brief, the data in (123) demonstrate that the number interpretation of BNs in Hindi is correlated with the aspectual properties of the overall sentence where it is embedded. In order to account for this pattern, Dayal proposes that BNs in Hindi are singular, but aspect may introduce a pluractional operator that applies to the event the BN is a part of. The iterative interpretation of the event has a byproduct a number neutral interpretation of the otherwise singular object BN.

While I do not have exactly the same type of data as (123), existing Wolof data suggest that aspect does not play the same role as it does in Hindi. Apectual information remains constant across the data investigated here and yet the number interpretation is different. A sample of the data examined in the previous section is repeated here for convenience.

(26a)   * Jàngalekat 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.'

(61b) Jàngalekat b-i   dajeele-na   **xale** [y-u   Samba xam] ci   bayaal b-i.
      teacher   CM.SG-DEF gather-NA.3SG child [CM.PL-COMP Samba know] PREP park   CM.SG-DEF
      'The teacher gathered some students who Samba knows in the park.'

(72)   * Roxaya dajeele-na   **fécckat** brezilien.
         Roxaya gather-NA.3SG dancer   Brazilian
         Lit.: 'Roxaya gathered Brazilian student.'

(86b) * Dajeele-na-a   sama   **muus** ci   tool   b-i.
         gather-NA-1SG POSS.1SG cat   PREP garden CM.SG-DEF
         Lit.: 'I gathered cat of mine in the garden.'

(97b) Roxaya boole-na   **xaj**-u   Kadeer *(ak   xaj-u   Kumba).
       Roxaya put.together-NA.3SG dog-GEN Kadeer *(with dog-GEN Kumba)
       'Roxaya put together Kadeer's dog *(with Kumba's dog).'

What does vary in the data is the presence or absence of a plural morpheme. Based on this correlation, in the next section, I will propose an analysis where the number interpretation of the BN depends on nominal-internal components, rather than on sentential-level elements like aspect. Specifically, I propose a condition on the requirement of licensing a marked number feature (i.e. plural) within the nominal spine.

4.2   Feature licensing

In order to account for this generalization about the number interpretation of BNs in Wolof, I propose an extension of Béjar & Rezac's (2003; 2009) Person Licensing Condition:

(124) *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)

(124) is proposed to account for Person Case Constraint (PCC) effects. (125) illustrates the phenomenon with data from Catalan, where, in a combination of a weak direct object and a weak indirect object, the direct object cannot be a discourse participant if the indirect object is in the 3rd person.

(125) *PCC in Catalan*

       a. El director, **me l'**=ha   recomanat   la Mireia.
           the director 1SG 3SG.ACC=has recommended the Mireia
           'As for the director, Mireia has recommended him to me.'

       b. * A-l   director, **me li**   ha recomanat   la Mireia.
             to-the director 1SG 3SG.DAT has recommended the Mireia
             Int.: 'As for the director, Mireia has recommended me to him.'

           (Bonet 1991, cited by Kalin 2019, p. 16)

In a simple-minded definition, PCC effects consist in a constraint on the possible features of an object in a configuration that also includes an indirect object. Besides the PLC (124), Béjar & Rezac's (2003) analysis of the PCC has another main component, namely, the proposal that [PERSON] and [NUMBER] features probe separately, in that order. PCC effects arise when a higher indirect object prevents a [PERSON] probe from reaching a 1st or 2nd person direct object. Consequently, the direct object fails to satisfy the PLC.

There are however, ways to obviate the PCC. In Catalan, the offending 3rd person indirect object can be embedded inside a PP, as in (126).

(126) *Repair in the Catalan PCC*

M'ha recomanat   *(**a**) tu per a la   feina la   subdirectora.
1-has recommended *(P) 2   for P the job   the deputy.director
'The deputy director has recommended you to me for the job.'

([Kalin 2019](#), (6))

For constructions like (126) [Béjar & Rezac](#) assume that the preposition also has φ-features to be valued. Agree between the prepositional probe and the 2nd person pronoun in (126) allows the PLC to be satisfied.

[Kalin](#) ([2017](#), [2019](#)) proposes to extend the PLC to nominal interpretable features in general. [Kalin](#) remarks that a few properties that characterize the PCC can also be found in Differential Object Marking (DOM). For instance, both phenomena involve two nominals, both target the lower of these nominals, and both can be rescued by the addition of some morpheme (e.g. case marker of preposition). Motivated by these empirical similarities, [Kalin](#) contends that the PCC and DOM should be provided a uniform analysis. Specifically, [Kalin](#) proposes to extend [Béjar & Rezac](#)'s analysis of the PCC to DOM: both are induced by the need to license valued, interpretable features via Agree.[11] Further, under [Kalin](#)'s view, repair strategies like the one employed in Catalan (126) is the result of the activation of an additional probe as a last resort strategy to allow an interpretable nominal feature to be licensed by Agree.

In the spirit of [Kalin](#)'s generalized nominal licensing extension of [Béjar & Rezac](#)'s PLC, I proposed here to extend this type of condition to [+NUMBER]. To recall, full nominals in Wolof can be either singular or plural, as see in e.g. (10a), repeated below.

(10a) 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.

However, only the derivation with a singular BN converges. The reason, I contend, is the failure to comply with the Number-Licensing Condition.[12]

(127) *Number Licensing Condition (NLC)*

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

Something along the lines of (127) is also independently assumed by [Keine *et al.*](#) ([2019](#)) in their account of hierarchy effects in assumed identity constructions in German. [Keine *et al.*](#) remark that this construction bears close resemblance to PCC effects (128), except that it additionally showcases number effects (129).

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

a. Ich   bin er.
I.NOM am he.NOM
'I am him.'   ✓*participant>3*

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[11] [Kalin](#) ([2019](#), fn. 6) remarks that valued features that require licensing are reminiscent of [Pesetsky & Torrego](#)'s ([2007](#)) feature typology, which allows for valued uninterpretable features.

[12] For a dissenting view, see [Preminger](#) ([2011](#)), who provides empirical reasons not to treat person and number features equally. For a theory of the PCC that argues against and does away with feature licensing, see [Coon & Keine](#) ([2019](#)).

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

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

     a.   Sie   sind er.
         they.NOM am he.NOM
         'They are him.'   ✓ *plural>singular*

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

A reasonable question to ask at this juncture is why the NLC is defined with respect to plural and not to singular. Two alternatives are available in the existing literature. On the one hand, we could assume with Nevins (2011) that number (unlike person) is a privative and not a bivalent feature. Specifically, singular is the absence of a number feature. That being the case, a condition like (127) could not be defined for singular. Alternatively, we could follow Keine *et al.* (2019) and assume instead that there is no ontological difference between number and person features, such that number is indeed a bivalent feature, but a licensing condition is imposed only on [+PLURAL] and not on [−PLURAL], i.e. singular. Both alternatives are consistent with the analysis here, so I remain agnostic regarding whether number is a bivalent or privative feature.

The first step of the analysis is to show that the plural morpheme in the relative clause in (61b) is indeed an instance of Agreement. Torrence (2013a) proposes that the class marker prefixed to the relative complementizer results from Agree. I propose to extend this analysis to the class markers that appear in determiners like those in (10). 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). Examples of multiple occurrences of class markers in the same nominal are repeated below:
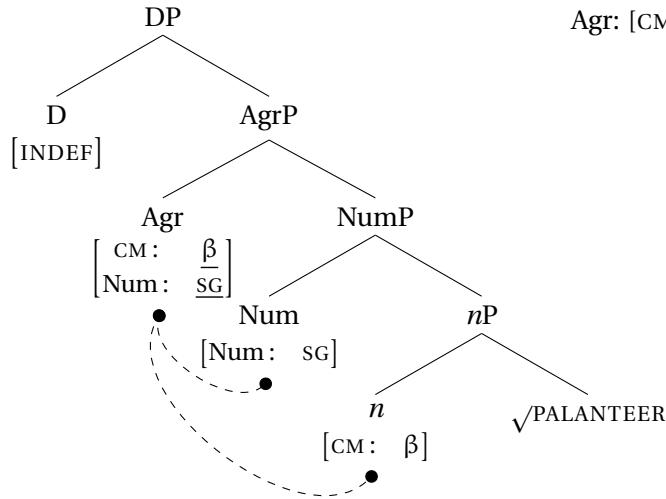
(110a) Bindakat b-i   bind-na   a-**b**   taalif [**b**-u   Samba bëgg].
       writer   CM.SG-DEF write-NA.3SG INDEF-CM.SG poem [CM.SG-COMP Samba like]
       'The writer wrote a poem that Samba likes.'

(111c) Samba xam-na   ndonggo darra [**b**-u   njool] **b**-i.
       Samba know-NA.3SG student   [CM.SG-COMP tall] CM.SG-DEF
       'Samba knows the student who is tall.'

Moreover, notice that the class markers in the determiner and in the relative complementizer must match (130). This is a property that can be attributed to multiple Agreement with the same goal.
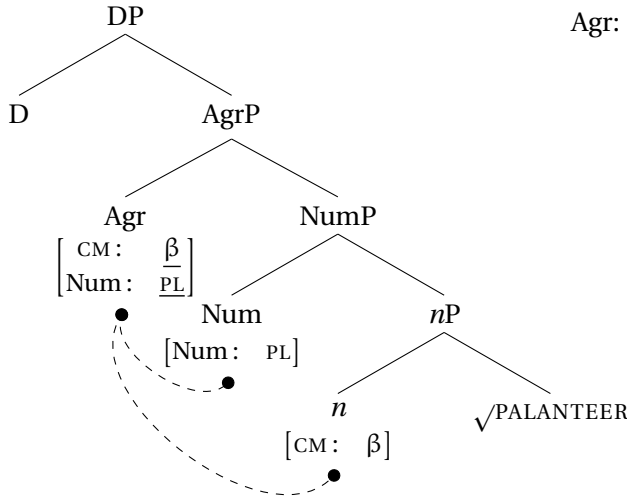
(130)   a. Samba tej-na   palanteer [b-u   tilim] b-i.   / *y-i
          Samba close-NA.3SG window [CM.SG-COMP dirty] CM.SG-DEF / *CM.PL-DEF
          'Samba closed the window that is dirty.'

     b. Samba tej-na   palanteer [y-u   tilim] y-i   / *b-i.
          Samba close-NA.3SG window [CM.PL-COMP dirty] CM.PL-DEF / *CM.SG-DEF
          'Samba closed the windows that are dirty.'

As diagrammed in (12) above, I assume the ordinary nominal spine in (131) (cf. Ritter 1991; Harbour 2011, a.m.o.), with the addition of an AgrP, which probes for Number and class marker, formalized here as a feature. Recall that I assume that root-specific information like class or gender is encoded at categorizers (Kihm, 2005; Acquaviva, 2009). The derivation of a full nominal in Wolof is as in (131), where Agr has its number feature valued by Num and its CM feature, by *n*. (See Vocabulary Items in (13).)

(131) a.

Agr: [CM: β; Num: SG] ↔ /b/

```
                DP
              /    \
            D        AgrP
         [INDEF]    /    \
                 Agr        NumP
            ┌ CM:   β ┐    /    \
            └ Num:  SG ┘  Num      nP
                 •    [Num: SG]   /   \
                                 n    √PALANTEER
                              [CM: β]
```

b.

Agr: [CM: β; Num: PL] ↔ /y/

```
                DP
              /    \
            D        AgrP
                   /    \
                 Agr        NumP
            ┌ CM:   β ┐    /    \
            └ Num:  PL ┘  Num      nP
                 •    [Num: PL]   /   \
                                 n    √PALANTEER
                              [CM: β]
```

In (131b), the NLC (127) is satisfied, as the number feature in Agr Agrees with the plural feature in Num. (131a) satisfies the NLC vacuously, as the feature in Num in unmarked (i.e. singular).

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, here, to reiterate, analyzed as the exponent of Agree. As mentioned, I am agnostic regarding the projection of a silent DP layer (for convenience, I omit a DP in the BN representations to follow). NumP is retained under the assumption that

this is the only locus of number interpretation ([Ritter 1991](), [1992](); [Harbour 2011](); see a brief overview in [Danon 2011]()).[13]

A potential suggestion that BNs may have number is provided by the fact that they can trigger plural morphology in the verb when conjoined in the subject position:[14]

(132)   a.   *A-b   xale ak   a-b   jàngalekat woy-na   ci   daara j-i.
                INDEF-CM.SG child with INDEF-CM.SG teacher   sing-NA.3SG PREP school CM.SG-DEF
                Int.: 'A child and a teacher sang in the school.'

       b.   A-b   xale ak   a-b   jàngalekat woy-na-ñu ci   daara j-i.
                INDEF-CM.SG child with INDEF-CM.SG teacher   sing-NA-3PL PREP school CM.SG-DEF
                'A child and a teacher sang in the school.'

       c.   ***Xale** ak **jàngalekat** woy-na   ci   daara j-i.
                child with teacher   sing-NA.3SG PREP school CM.SG-DEF
                Int.: 'A child and a teacher sang in the school.'

       d.   **Xale** ak **jàngalekat** woy-na-ñu ci   daara j-i.
                child with teacher   sing-NA-3PL PREP school CM.SG-DEF
                'A child and a teacher sang in the school.'

       e.   **Xale** ak a-b   jàngalekat woy-na-ñu ci   daara j-i.
                child with INDEF-CM.SG teacher   sing-NA-3PL PREP school CM.SG-DEF
                'A child and a teacher sang in the school.'

A brief comparison with previous literature on number neutral BNs may give the retention of NumP in Wolof BNs further traction. [Rullmann & You](2006), [Müller](2002), and [Kramer](2017) investigate BNs in Mandarin, Brazilian Portuguese, and Amharic, respectively. In these languages, as mentioned above (see (1c), (1b), and (1a)), BNs are number neutral. [Rullmann & You](), [Müller](), and [Kramer]() capture this semantic property by proposing that BNs in these languages lack NumP. ([Dayal 2011]() also considers this possibility, but eventually dismisses it in the analysis for pseudo-incorporation in Hindi.) They assume that entities of type *e* denote singleton sets (atoms) and all their sums. What number does is restrict that denotation to only singleton sets (singular) or pluralities (plural). Under this view, number neutrality in BNs emerges as a consequence of the absence of a restriction that picks out just atoms or pluralities, so that both possibilities are available. In other words, the NumP-less nominal ends up number-neutral.

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[13]An indirect argument in favor of the claim that BNs in Wolof have a truncated structure is furnished by the fact that they cannot be applied arguments (see [redacted] (in prep.)). [Adger & Harbour](2006) propose that this type of noncore argument must have a [+ANIMATE] feature in order to satisfy a selectional requirement dictated by ApplP (for a similar proposal, see [Pancheva & Zubizarreta 2018]()). Assuming that φ-features are encoded in functional projections, BNs would lack the projection that houses a [+ANIMATE] feature.

[14]For completeness, it is also possible that a determiner appear linearly before the first coordinated nominal (cf. (132e)):

(i)   A-b   xale ak   jàngalekat woy-na-ñu ci   daara j-i.
      INDEF-CM.SG child with teacher   sing-NA-3PL PREP school CM.SG-DEF
      'A child and a teacher sang in the school.'

However, this example is not telling, since (i) could involve not only the coordination of a full *a-b* indefinite nominal with a BN, but also coordination of NPs below the DP level.

(133) a. *Singular nominal*
　　　　　NumP *atoms*
　　　　／＼
　　Num　　NP *atoms and sums*
　　[**SG**]　　△
　　　　　unicórnio-∅

b. *Plural nominal*
　　　　NumP *sums*
　　　／＼
　Num　　NP *atoms and sums*
　[**PL**]　　△
　　　　unicórnio-s

c. *Bare nominal*
　　NP *atoms and sums*
　　△
　unicórnio

As I tried to argue above, this characterization does not fit Wolof BNs, which have a singular construal, exclusively. Hence, I keep NumP. The challenge is then to single out a singular interpretation and rule out a plural one.

The BN structure is thus as in (134). Unlike what happens in the full nominal (131), in a BN, there is nothing to Agree with a [+PLURAL] Num. As such, only a BN with a [+SINGULAR] (or [−PLURAL]) Num could converge. This would be why unmodified BNs in Wolof are exclusively singular.

(134) a. *NLC satisfied (vacuously)*
　　　　　　　NumP
　　　　　／＼
　　　Num　　　*n*P
　[Num：**SG**]　／＼
　　　　　　n　　√XAJ
　　　　[CM：β]

b. *NLC violated*
　　　　　　NumP
　　　　／＼
　　Num　　　*n*P
　[Num：**PL**]　／＼
　　　　　　n　　√XAJ
　　　　[CM：β]

With these tools in hand, we can move on to the derivation of relative clauses that modify BNs, as in (61b). (135) 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 (2013a). 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. In compliance with the analysis proposed here, 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 boldface). In this structure, even though the BN itself does not have a [+NUMBER] licenser (i.e. a matching probe that Agrees with it), there is an Agr at the CP level. The NLC (127) in this case can be complied with, hence why a BN can have a plural interpretation in this case. At the point of the derivation diagrammed in (135), the BN occupies its base generation position and is targetted for Agree by Agr. Afterwards, the BN raises out of the relative clause.[15]

(135) *Plural relative clause: NLC satisfied*
[CP C [AgrP Agr[CM:_, Num:_] [TP *subj* T [VP *t_subj* V [NumP Num[Num:PL] [nP *n*[CM:β] √]]]]]]]

We are now in the position to discuss yet another analysis for the data investigated here (to recall, other alternatives were reviewed in §4.1). A plausible way to examine the data would be to say that what is different about Wolof is that its nouns denote not atoms and all their possible sums, but rather atoms only. A plural interpretation would only arise if the nominal combines with a plural operator within the

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[15](134) is a simplified diagram, where *v*P and Ā-movement of the BN object to the phase edge are omitted for visual simplicity.

nominal. This operator would be exponed as plural morphology in the form of relative complementizer or possessum agreement.[16] While this analysis seems consistent with the behavior of BNs in Wolof, I believe it faces a technical issue. The number operator in a relative clause like that in (135) does not combine or merge directly with the BN. The putative number operator is indeed outside of the nominal. It is not clear to me how complementizer agreement could affect the number interpretation of the BN. It seems desirable to propose a unified analysis for the number interpretation of BNs in Wolof. As such, because the aforementioned alternative analysis may face a challenge in the account of BNs modified by a relative clause, I assume that it is less successful than the proposal put forward here, which, as I am trying to argue in this section, can cover all the data examined in the previous sections.

We can now go back to the derivation of remainder of the data. In plain modifiers, there is no probe that Agrees with the number feature in NumP, seeing that this type of modifier is assumed to be the member of a compound without any morphological number:

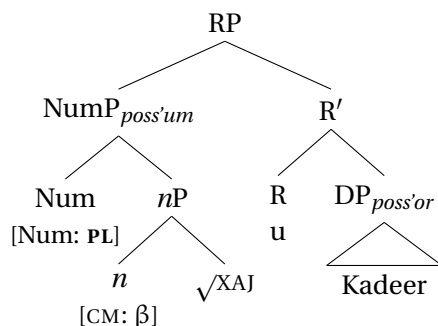(136) *BN modified by plain modifier: NLC violated*
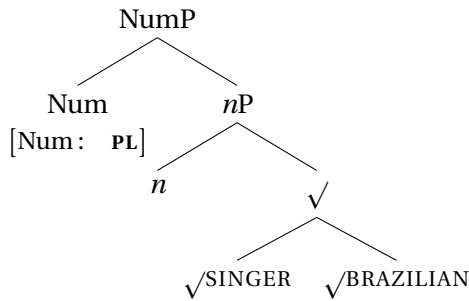
Licensing of a plural number feature by Agree is possible in the possessive construction (81b), if *y* is the exponent of Agree. The derivation of (81b) (*sama-y nit* 'POSS.1SG-PL person/friend') would be as in (137), where the head of PossP probes for a number feature in the possessum. If the BN there is plural, the NLC (127) can be satisfied, hence why a derivation converges where the BN has a plural construal.

(137)
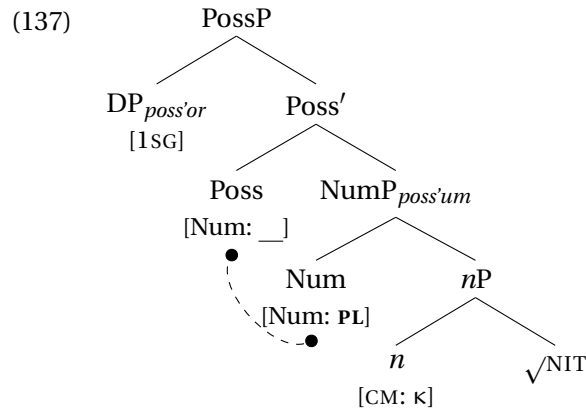
Finally, the number-less genitive possessive construction is in (138), which diagrams *xaj-u Kadeer* 'dog-GEN Kadeer' in (97b). There is no probe to Agree with the [+PLURAL] number of the BN, so, again, only a derivation with a singular NumP converges.

(138) *Genitive possessive: NLC violated*

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[16]For suggesting this analysis to me, I thank [redacted].

44

```
                        RP
            ┌───────────┴───────────┐
        NumP_poss'um                R'
        ┌────┴────┐            ┌─────┴─────┐
      Num         nP          R         DP_poss'or
   [Num: PL]   ┌───┴───┐      u          ┌──┴──┐
               n    √XAJ                 Kadeer
            [CM: β]
```

It may be worth noting that there is a similarity between the Wolof data examined here and the PCC facts, illustrated with Catalan data in (125) and (126). To recall, in Wolof BNs, a plural interpretation only arises in the presence of a nominal-internal plural exponent. Alternatively said, the plural interpretation of the BN correlates with the occurrence of plural morphology elsewhere inside the nominal. This state-of-affairs is somewhat reminiscent of the PCC repair employed by Catalan, as illustrated in (126), where the occurrence of a preposition outside the participant pronoun allows it to be licensed. The similarity resides in the appearance of some additional morphology (a preposition in the Catalan PCC and number morphology in the Wolof BN) correlating with the occurrence of a feature that could not be otherwise licensed ([+PARTICIPANT] and [+PLURAL], respectively).

In brief, I attempted 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 (127). This is a condition that imposes that the marked number feature [+PLURAL] be licensed via Agree, an extension of Béjar & Rezac's condition on [+PARTICIPANT] features and Kalin's generalized nominal licensing.

4.2.1 Pluralia tantum nouns

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 [+PLURAL], in compliance with the NLC (127). In the absence of such a probe, only a derivation with a singular BN converges, as the NLC is stipulated not to apply to [+SINGULAR] (or [−PLURAL]). 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.[17]
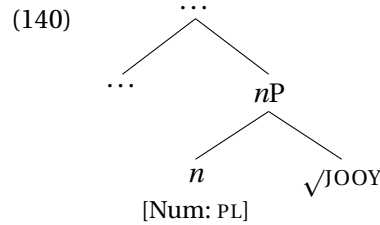
Babou & Loporcaro (2016) observe that *jooy* 'weeping' is an instance of such a noun in Wolof. This also holds for a consultant of mine: (139) shows that *jooy* can only combine with a plural class marker (*y*), both in the subject and in object position. (139a) and (139b) (originally from Babou & Loporcaro 2016 and confirmed by the aforementioned consultant) further demonstrate the plural requirement imposed by *jooy* with verbal morphology that cross-references the subject.

(139) a. Jooy   y-i   metti-na-ñu lool.
           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.'

---

[17] A few people brought up the relevance of pluralia tantum nouns to me, including [redacted].
```

    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.'

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

(140)



Recall that I assume that root-specific properties are encoded at the categorizer level. Under the assumption that whether or not a noun is a pluralia tantum noun is also an idiosyncratic property, (140) is aligned with this assumption.

If (140) is the correct representation for *jooy*, the prediction, as mentioned, 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 pluralility encoded in at the *n* level. As shown in (141), the prediction is borne out by facts, as *jooy* cannot occur in bare form:

(141)    * Gis-na-a  **jooy**.
        see-NA-1SG weeping
        Lit.: 'I saw weeping.'

(141)'s ungrammaticality is consistent the analysis put forward here: there is no probe that can license the [+PLURAL] feature that is assumed to be inherent in pluralia tantum nouns.

It must be said however that (141) would not adjudicate between the present proposal and the alternative analysis where BNs in Wolof denote only atoms and a plural interpretation only arises in the presence of a plural operator.

### 4.2.2 BNs in subject position

A further prediction that the analysis makes is that a nominal-external number probe could also allow a BN to comply with the NLC. A case in point could be the subject position, which as hinted at before is cross-referenced by morphology in the verb. There is discussion about what this morphology could be (genuine agreement or subject clitic doubling, the latter view being advocated for by Martinović 2015).

Beyond this debate, this potential prediction cannot be tested here, as BNs in Wolof cannot occur in the subject position. This holds of both root and finite embedded clauses.

(142)    a.  * **Sasfam** fatte-na    tej    palanteer=am.
            nurse    forget-NA.3SG close window=POSS.3SG
            Int.: 'A nurse forgot to close his;her window.'

            *(Speaker commented that the sentence would only be grammatical if* Sasfam *were a proper name.)*

b. * **Nonggo darra** lekk-na     maafe.
   student          eat-NA.3SG maafe
   Lit.: 'Student ate maafe.'

c. * Kumba wax-na       [ ne  **muus** lekk-na     a-b           janax  ].
   Kumba say-NA.3SG [ COMP cat    eat-NA.3SG INDEF-CM.SG mouse ]
   Int.: 'Kumba said that a cat ate a mouse.'

The impossibility of BNs to occur in the subject position is not uncommon in pseudo noun incorporation (see more on §4.1.4). What is relevant in this section is that a prediction that the analysis proposed here cannot be tested, for independent reasons.

## 5   Summary and open issues

In this paper, 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:

(104)   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).

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

(143)   *Partial typology of BN languages*

  i. Not a BN language (e.g. English; or the full nominals in a BN language): there is a a number probe that Agrees with a [Plural] NumP, satisfying the NLC.

  ii. BN language where BNs are number-neutral: NumP lacking altogether. The NLC is therefore vacuously satsified.

  iii. BN language where BNs are singular (e.g. Amharic, Brazilian Portuguese, Mandarin):

    a. Hindi (Dayal, 2011): nominals are singular as a lexical specification. A plural interpretation arises due to a sentential level pluralizing operator.

    b. Wolof: the NLC cannot be satisfied, unless there is a number morphology that expones the probe that Agrees with a [Plural] NumP.

A question that arises at this point is why exclusively singular BNs are less common than number neutral ones. The analysis I proposed here does not offer any answer to this question.

A concern engendered by the analysis is the fact that it has been argued by Nevins (2011) and Preminger (2011) 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.

Nevertheless, as mentioned above, something along the lines of the NLC is assumed by Keine *et al.* (2019) in their analysis of German. In order to block the Number Case Constraint, the authors emphasize the role of clitic doubling (which is absent in German) in PCC phenomena. Analogous to this proviso is

the projection of a NumP in the structure of the BN. As mentioned in §4.2, a common assumption in the analyses of number neutral BNs is that they lack a NumP. In that case, a condition like the NLC is vacuously satisfied. It could be the case thus that the NLC is an existing condition in the grammar, but other factors conspire to neutralize its effects.

## A   BNs in object control

In this appendix, we will see in condensed form the behavior of BNs with or without modification and embedded in different types of possessive nominals in one single object control sentence. The relevance of this type of construction for the present investigation is that it displays a pronoun whose number feature must track that of the controller. If a BN occurs as that controller, its number properties can be diagnosed by the pronoun.

Examples of object control sentences with the verb *dimbala* 'help' are in (144).

(144)  a.  Dimbala-na-a a-b         xale  mu jàng téere b-i.
           help-NA-1SG   INDEF-CM.SG child 3SG read book CM.SG-DEF
           'I helped some child read the book.'

       b.  Dimbala-na-a a-y         xale  ñu jàng téere b-i.
           help-NA-1SG   INDEF-CM.PL child 3PL read book CM.SG-DEF
           'I helped some children read the book.

Two obvious questions to ask at this point are what the arguments are to characterize (144) as object control sentences and what the status is of the morphemes *mu* and *ñu*.

There are two straightforward diagnostics for object control that can be applied to *dimbala* sentences like those in (144). First, the sequence that follows the verb *dimbala* cannot be pseudo-clefted, which suggests that it is not a constituent.

(145)  a.  Binta dimbala-na  Samba mu defar oto b-i.
           Binta help-NA.3SG Samba 3SG fix    car CM.SG-DEF
           'Binta helped Samba fix the car.'

       b.  *L-ima       dimbala moy jàngalekat b-i       mu tabax kër    g-i.
           CM.SG-what help    1SG teacher    CM.SG-DEF 3SG build house CM.SG-DEF
           Int.: 'What I did was help the teacher build the house.'

Second, *dimbala* sentences do not allow for a subject–verb idiom. An example of this type of idiom is in (146).

(146)  Sa      jaan  wàcc-na.
       POSS.2SG snake descend-NA.3SG

       i.  ✓ Literal: 'Your snake has descended.'

       ii. ✓ Idiomatic: 'You have finished your work.'

       (Torrence, 2013b, (16a); adapted)

If we use the subject of this idiom as the nominal that linearly follows *dimbala*, only a literal meaning is allowed.

(147)  Dimbala-na-a sa      jaan  mu wàcc.
       help-NA-1SG   POSS.2SG snake 3SG descend

    i.   ✓ Literal: 'I (a veterinarian) helped your snake descend.'

    ii.   * Idiomatic: 'I helped you finish your work.'

The pseudo-clefting and idiom diagnostics argue in favor of a control structure for a sentence like (144a) as in (148), where *a-b xale* 'INDEF-CM.SG child' is the object of *dimbala* and XP is a clausal complement of this verb.

(148)   Dimbala-na-a a-b       xale  [XP mu jàng téere b-i       ].
         help-NA-1SG   INDEF-CM.SG child [   3SG read book CM.SG-DEF ]

The second question to ask is what the morphemes *mu* '3SG' and *ñu* '3PL' in (144) are. Zribi-Hertz & Diagne (2002) and Martinović (2015) classify these items are pronouns, even though they could also in principle be agreement affixes, as assumed by Torrence (2013a). Evidence in favor of the claim that they are pronouns comes from the fact that they participate in binding, as is well known that pronouns, but not agreement affixes should be able to participate in binding (cf. Kramer 2014 and references therein).

(149)   a.   Roxaya$_i$ bëgg-na     mu$_{*i/k}$ fécc.
               Roxaya want-NA.3SG 3SG   dance
               'Roxaya wants him;her to dance.'

       b.   Roxaya bëgg-na     fécc.
               Roxaya want-NA.3SG dance
               'Roxaya wants to dance.'

       c.   * Roxaya bëgg-na     ko     fécc.
               Roxaya want-NA.3SG OBJ.3SG dance
               Int.: 'Roxaya wants him;her to dance.'

       d.   Roxaya$_i$ bëgg-na     gis ko$_{*i/k}$   / bopp=am$_i$.
               Roxaya want-NA.3SG see OBJ.3SG / head=POSS.3SG
               'Roxaya wants to see him;her/herself.'

(149a) shows that if *mu* '3SG' is the subject of the embedded clause, it cannot be coindexed with the matrix subject (*Roxaya*). (149b) shows that this meaning is conveyed by a sentence where the embedded subject is a null category (or completely absent). (149c) in turn shows that an object pronoun cannot be in the same position that *mu* occupies. Lastly, (149d) shows that the matrix subject belongs to the same binding domain as the embedded clause if the embedded subject is descriptively null.

In order to account for the data in (149), one may hypothesize that the complement of *bëgg* 'want' is a restructured clause (Wurmbrand 1998; et seq.) when the embedded subject is null. Because of the truncated structure of the embedded clause, its subject belongs to the same binding domain as the matrix subject, hence the Condition B violations witnessed in (149a) and (149d). Conversely, the XP in *dimbala* sentences, diagrammed in (148), would be a binding domain (or phase, Bošković 2014), so that matrix arguments like the object controller belong to a different binding domain from that of embedded pronouns like *mu* and *ñu*.

Having established the relevant properties of *dimbala* sentences, we can turn to the behavior of BNs when they are the object controllers of these constructions. The number encoded in the embedded pronoun of these sentences will track the equivalent property in the BN. By way of a summary of the data seen in the main portion of this paper, we will see the effects of adding plural morphology to the BN reflected in the pronoun of *dimbala* sentences.

First off, the number of the controller and that of the pronoun must match (compare (150) with (144) above).

(150)  a.  * Dimbala-na-a a-b　　　　xale  ñu  jàng téere b-i.
　　　　　help-NA-1SG  INDEF-CM.SG child 3PL read book CM.SG-DEF
　　　　　Int.: 'I helped some child read the book.'

　　　 b.  * Dimbala-na-a a-y　　　　xale  mu  jàng téere b-i.
　　　　　help-NA-1SG  INDEF-CM.PL child 3SG read book CM.SG-DEF
　　　　　Int.: 'I helped some children read the book.'

Against this backdrop, consider what happens when the controller is a BN: in that case, only the singular pronoun *mu* can be used. This is expected, given the discussion above, where we concluded that unmodified BNs are exclusively singular.

(151)  a.  Dimbala-na-a **xale**  mu jàng téere b-i.
　　　　　help-NA-1SG   child 3SG read book CM.SG-DEF
　　　　　'I helped some child read the book.'

　　　 b.  * Dimbala-na-a **xale**  ñu  jàng téere b-i.
　　　　　help-NA-1SG   child 3PL read book CM.SG-DEF
　　　　　Int.: 'I helped some children read the book.'

The 'all of them' diagnostic employed above also fails:

(152)  a.  # Dimbala-naa a-b　　　　xale  mu jàng téere b-i.　　Ñ-ëpp　　　baax-na-ñu.
　　　　　help-NA-1SG INDEF-CM.SG child 3SG read book CM.SG-DEF CM.PL-every nice-NA-3PL
　　　　　Lit.: 'I helped some child read the book. All of them are nice'

　　　 b.  Dimbala-naa ay　　　　xale  ñu jàng téere b-i.　　Ñ-ëpp　　　baax-na-ñu.
　　　　　help-NA-1SG INDEF-CM.PL child 3PL read book CM.SG-DEF CM.PL-every nice-NA-3PL
　　　　　'I helped some children read the book. All of them are nice'

　　　 c.  # Dimbala-naa **xale**  mu jàng téere b-i.　　Ñ-ëpp　　　baax-na-ñu.
　　　　　help-NA-1SG   child 3SG read book CM.SG-DEF CM.PL-every nice-NA-3PL
　　　　　Lit.: 'I helped child read the book. All of them are nice'

Moreover, as is also expected, if we add a nominal modifier that has plural number morphology, the plural pronoun *ñu* is used in the *dimbala* complement.

(153)  a.  Dimbala-na-a **xale**  [ b-u　　　　njool ] mu jàng téere b-i.
　　　　　help-NA-1SG   child [ CM.SG-COMP tall　　] 3SG read book CM.SG-DEF
　　　　　'I helped some tall child read the book.'

　　　 b.  Dimbala-na-a **xale**  [ y-u　　　　njool ] ñu  jàng téere b-i.
　　　　　help-NA-1SG   child [ CM.PL-COMP tall　　] 3PL read book CM.SG-DEF
　　　　　'I helped some tall children read the book.'

However, a BN modified by a plain modifier can only be referred back to with a singular plural. This result is similarly expected, given that the absence of a plural exponent correlates with an exclusively singular interpretation for the BN.

(154)  a.  Dimbala-na-a xale  brezilien b-i　　　　mu jàng téere b-i.
　　　　　help-NA-1SG   child Brazilian CM.SG-DEF 3SG read book CM.SG-DEF
　　　　　'I helped the Brazilian child read the book.'

　　　 b.  Dimbala-na-a **xale**  brezilien mu jàng téere b-i.
　　　　　help-NA-1SG   child Brazilian 3SG read book CM.SG-DEF
　　　　　'I helped a Brazilian child read the book.'

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    c.    Dimbala-na-a **xale** brezilien y-i      ñu jàng téere b-i.
          help-NA-1SG child Brazilian CM.PL-DEF 3PL read book CM.SG-DEF
          'I helped the Brazilian children read the book.'

    d.   * Dimbala-na-a **xale** brezilien ñu jàng téere b-i.
          help-NA-1SG child Brazilian 3PL read book CM.SG-DEF
          Lit.: 'I helped Brazilian child read the book.'

The same contrast can be seen between the two types of possessives investigated above. BNs embedded inside a possessive with a determiner can be cross-referenced by a plural pronoun *ñu* only if the posessive nominal contains a plural possessum-sensitive *y* plural affix.

(155)  a.  Dimbala-na-a sama    **doom**    mu / *ñu jàng téere b-i.
          help-NA-1SG POSS.1SG offspring 3SG / *3PL read book CM.DEF
          'I helped a child of mine read the book.'

      b.  Dimbala-na-a sama-y    **doom**    *mu / ñu jàng téere b-i.
          help-NA-1SG POSS.1SG-PL offspring *3SG / 3PL read book CM.DEF
          'I helped some children of mine read the book.'

Genitives in turn lack any plural morphology. As such, only a singular pronoun can be used in a *dimbala* sentence.

(156)  Awa dimbala-na **xaj**-u    Roxaya mu / *ñu lekk mango.
        Awa help-NA.3SG dog-GEN Roxaya 3SG / *3PL eat mango
        'Awa helped Roxaya's dog eat mango.'

In sum, in this appendix, we can see the distribution of BNs summarized by the behavior of pronouns in *dimbala* sentences. These data further illustrated the generalization previously arrived at:

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

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