

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, including determiners and number. They are dubbed ‘bare nominals’ (BNs). BNs are often number-neutral, i.e., there is no commitment to a singular or plural interpretation. In Wolof, however, BNs are singular. This can be argued based on, e.g. the impossibility of saturating a collective predicate, on the fact that they must be referred to by a singular pronoun and that they cannot be the antecedent of plural reflexives. However, a plural interpretation becomes available when a nominal-internal plural feature is expounded in the form of complementizer or possessum agreement. The generalization is that BNs in Wolof are singular, unless plural morphology is expounded. I propose an extension of Béjar & Rezac’s (2009) Person Licensing Condition to number: a marked number feature (i.e. plural) must be licensed by Agree. BNs in Wolof can in principle be singular or plural. 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 (2009) propose the following condition:

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

A π -feature [F] must be licensed by Agree of some segment in a feature structure of which [F] is a subset.

(Béjar & Rezac, 2009, (13))

Kalin (2017, 2019) finds several similarities between the PCC and DOM (Differential Object Marking). For instance, both phenomena involve two nominals, both target the lower of these nominals, and both

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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. (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.)

Given this view of nominal licensing, one may wonder whether number, another nominal feature, may be subject to a condition like (1). 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 (2).

(2) a. *BN in Amharic*

lidʒ-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 (2a)–(2e) 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 it is often taken to be a signature property of BNs crosslinguistically (see the references cited in (2)).

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

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.

- (3) a. Gis-na-a **nonggo 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.)

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

- c. Roxaya janga-na **xibaar**.
Roxaya read-NA.3SG newspaper
‘Roxaya read a newspaper.’

However, unlike what we witness in (2), 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. (4) 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’.

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

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

- (5) 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**(-men)
teacher at park-in gather-PERF student(-PL)
‘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 to be the object of a collective predicate (6).

- (6) Jangalekat 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 the syntax of a relative clause, as in (6), it still behaves as if it were singular (7).

- (7) *Roxaya dajeele-na féckkat brezilien.
 Roxaya gather-NA.3SG dancer Brazilian
 Lit.: ‘Roxaya gathered Brazilian student.’

One of the differences between (6) and (7) 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, the first part of this paper aims at addressing the following questions:

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

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

- (9) *Number-Licensing Condition (NLC)*

A marked number feature (i.e. plural) must be licensed by Agree.

A generalized need for certain features to be licensed has been proposed by Kalin (2017, 2019). The gist of the analysis is 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 (6), 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 (7), only a BN with a [SINGULAR] feature leads to a convergent derivation, as this unmarked feature does 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.

- (10) 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*

Jangalekat 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.’

(Torrence, 2013a, p. 77; glosses adapted for uniformity)

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.

- (11) 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 adapted for uniformity)

Determiners also 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 (11b) and (11c); 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:

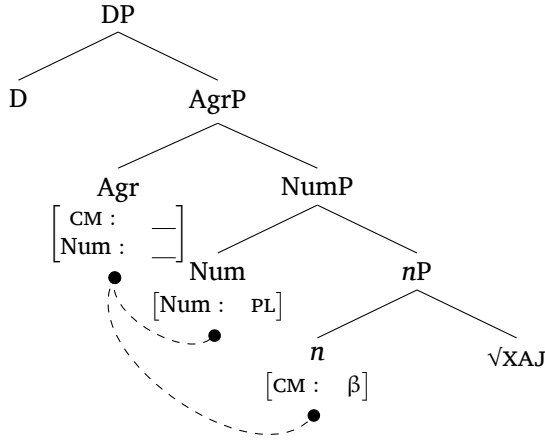
(12) *Class markers in Wolof*

	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 (12) 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 (12)). While this analysis is consistent with the facts, it misses the asymmetry in the amount of singular and plural class markers. In order to capture these facts, I propose that class marker is a feature which is a specification of *n* – I follow Acquaviva (2009) in assuming that gender and other root-specific morphology is encoded in the categorizer that merges with the root (see also Embick’s (2015) implementation of Oltra Massuet’s (1999) analysis of theme vowels in Romance languages like Catalan). 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 (12).

(13)



The Vocabulary Items that I assume for class markers (to reiterate, analyzed here as a single head that probes for a class marker feature, as well as number) are in (14). For concreteness, I represent the class marker feature with a Greek letter that corresponds to the singular class marker.

(14) *Vocabulary Items for Agr*

- a. [CM: β] ↔ /b/
- b. [CM: κ] ↔ /k/
- c. [CM: μ] ↔ /m/
- ...
- d. [PLURAL] ↔ /y/
- e. [CM: γ; PLURAL] ↔ /ñ/

Finally, 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 (15) – 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 (15b). This cross-referencing follows a nominative-accusative alignment: the subject of both transitive and intransitive verbs is cross-referenced.²

- (15) a. Jangakat b-i lekk-na ceeb-u jën.
student CM.SG-DEF eat-NA.3SG rice-GEN.SG fish
'The student ate rice and fish.'
- b. Jangakat 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.'
- (16) a. A-b paket agsi-na.
INDEF-CM.SG package arrive-NA.3SG
'A package arrived.'
- b. A-y paket agsina-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):

²This 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.).

(17)		Object clitics	Oblique pronouns	Subject markers
	1SG	ma	man	(m)a
	2SG	la	yaw	nga/ya
	3SG	ko	moom	Ø/(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.

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. BNs in Wolof seem to be narrow scope indefinites. In fact, this is a property shared by BNs in other languages (see references in (2)). They can be licensed in an existential construction, which displays definiteness effects. (18a) shows that a singular or plural indefinite full nominal can be used in an existential construction. This possibility contrasts with what is witnessed in (18b), where a definite full nominal cannot be used. Finally, (18c) shows that a BN can be used in the same structure where an indefinite nominal can be licensed.

- (18) 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.³

- (19) *Full nominal*: *again > ∃, √∃ > again

³When 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 (21) below, where the indefinite full nominal must take wide scope.

- 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).

(20) BN: ✓again > ∃, *∃ > again

- a. Mareem séy-aat-na ak fécckat.
Mareem marry-ITER-NA.3SG with dancer
'Mareem married a dancer 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).

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

- (21) 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.

(22) is another example of the same type.

- (22) Isaa fatte-na jënd fowekaay.
Isaa forget-NA.3SG buy toy
'Isaa forgot to 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 succeeded 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. In what follows, 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.

(23a) and (23b) show that the verbs *dajeele* 'gather' and *boole* 'put together' require a plural object. In other words, they are collective predicates.

(23) Dajeele and boole require a plural object

- a. Jangalekat 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.’

(24a) and (24b) show that a BN cannot be the object of these collective predicates, mimicking the behavior of singular full nominals.

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

- a. * Jangalekat b-i dajeele-na **xale** ci bayaal b-i.
 teacher CM.SG-DEF gather-NA.3SG child PREP park CM.SG-DEF
 Lit.: ‘The teacher gathered student in the park.’
 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 (25), *ak ab woykat* ‘with a singer’) is added.

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

- Faatu dajeele-na a-b féckkat 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 (26). In other words, again, a BN displays the same behavior as its singular full nominal counterpart.

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

- Faatu dajeele-na **féckkat** ak (a-b) woykat.
 Faatu gather-NA.3SG dancer with (INDEF-CM.SG) singer
 ‘Faatu gathered a dancer with a singer.’

Dayal (2011, p. 155) remarks that collective predicates like *gather* 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.

- (27) a. Jangalekat b-i mungi tëkaale nonggo darra y-i.
 teacher CM.SG-DEF PROG.3SG compare student CM.PL-DEF
 ‘The teachers was comparing the students.’
 b. * Jangalekat b-i mungi tëkaale nonggo darra b-i.
 teacher CM.SG-DEF PROG.3SG compare student CM.SG-DEF
 Lit.: ‘The teachers was comparing the student.’
 c. * Jangalekat b-i mungi tëkaale **nonggo darra**.
 teacher CM.SG-DEF PROG.3SG compare student
 Lit.: ‘The teachers was comparing student.’
 (28) 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.’

- 300 b. * Njiir b-i juboole-na **ligeeykat**.
 boss CM.SG-DEF unite-NA.SG worker
 Lit.: ‘The boss united the workers.’

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. (29a) shows that a singular nominal (*ab jangalekat* ‘a teacher’) must be referred back to with a singular pronoun – a plural pronoun cannot be used. Conversely, if the antecedent is plural (*ay jangalekat* ‘some teachers’), only a plural pronoun is possible.

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

- a. Gis-na-a a-b jangalekat. 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 jangalekat. 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. (30) 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.

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

- a. Gis-na-a **jangalekat**. 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 **jangalekat**. 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 formed with 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.

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

- a. Jangalekat b-i seet-na a-b nonggo darra, waay 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-who COP.3SG / *CM.PL-who COP.3SG
 ‘The teacher visited the student, but I do not know which.’
- b. Jangalekat b-i seet-na a-y nonggo darra, waay 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-who COP.3SG / CM.PL-who COP.3SG
 ‘The teacher visited the students, but I do not know which.’

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

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

- Jangalekat b-i seet-na **nonggo darra**, waay xa-w-ma k-an la /
 teacher CM.SG-DEF visit-NA.3SG student but know-NEG-1SG CM.SG-Q COP.3SG /
 *y-an la.
 *CM.PL-who COP.3SG
 ‘The teacher visited a student, but I do not know which.’

Turning now to binding, we will see that BNs cannot bind plural anaphors. (33a) shows that a plural full nominal like *ay nonggo darra* ‘some students’ can be used in a clause where a verb (*xam* ‘know’) has a reciprocal morpheme (*-ante*) affixed to it. (33b) in turn shows that a singular antecedent like *ab nonggo darra* ‘a student’ renders the sentence ungrammatical.⁴

(33) *Plural DP as antecedent of reciprocal*

- a. Jangalekat b-i wanale-na a-y nonggo 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. * Jangalekat b-i wanale-na a-b nonggo 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 (34) 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. 4).

(34) *BN in Wolof cannot be antecedent of reciprocal*

- a. * Jangalekat b-i wanale-na **nonggo darra** mu xam-ante.
 teacher CM.SG-DEF introduce-NA.3SG student 3SG know-RECIP
 Lit.: ‘The teacher introduced student to each other.’
- b. * Jangalekat b-i wanale-na **nonggo darra** ñu xam-ante.
 teacher CM.SG-DEF introduce-NA.3SG student 3PL know-RECIP
 Lit.: ‘The teacher introduced student to each other.’

(35) is another paradigm of the same type, but with a causativized reciprocalized verb. (35a) and (35b) show that the antecedent has to be plural and (36) shows that it cannot be a BN.

- (35) a. Jangalekat b-i desin-ante-loo-na nonggo 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. * Jangalekat b-i desin-ante-loo-na nonggo 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.’
- (36) * Jangalekat b-i desin-ante-loo-na **nonggo darra**.
 teacher CM.SG-DEF draw-RECIP-CAUS-NA.3SG student
 Lit.: ‘The teacher made student draw each other.’

We see the same behavior when we examine plural reflexives. (37) shows the expected behavior of singular and plural reflexives in Wolof. (37a) and (37b) show that a plural full nominal (*xale yi* ‘the children’) can be the antecedent of a plural reflexive, though not of a singular one. (37c) and (37d) show the reverse pattern with a singular full nominal antecedent (*xale bi* ‘the child’).

(37) *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.’

⁴The 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 (34) that the BN counterpart of these sentences is ungrammatical irrespective of the number of the pronoun used.

- 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, (38a) shows that a BN cannot be the antecedent of a plural reflexive. It can nevertheless be the antecedent of a singular reflexive (38b). This is once again the same behavior displayed by a singular full nominal.

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

- * Jangalekat b-i sang-oloo-na **nonggo 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*

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

(38b) 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 (34) and (38a) to a potential inability for binding.

(39) shows an additional pair of examples.

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

Finally, the exclusively singular interpretation of BNs in Wolof can be inferred by its behavior regarding the possibility of targeting it with the question 'how many'. (40) shows that a plural full nominal such as *ay neexal* 'some gifts' can be felicitously targeted by the question 'how many'. (41) shows that this is not the case when the full nominal is singular.

(40) *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?'

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

- A. Kadeer jot-na b-enn neexal.
Kadeer receive-NA.3SG one-CM.SG gift
'Kadeer received one gift.'
- B. # Ñaata neexal la Kadeer jot?
how.many gift COP.3SG Kadeer receive
'How many gifts did Kadeer receive?'

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

(42) *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?’

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 (43), which show in table form that BNs and singular full nominals in Wolof exhibit the same profile.

(43)

		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	#	✓	#

With this generalization in mind, let us consider the behavior of BNs in Mandarin regarding roughly the same properties. Rullmann & You (2006), among others, have already remarked that BNs in this language receive a number neutral interpretation. (44) shows that Mandarin has the opposite behavior of that showcased by Wolof regarding most properties considered above.

(44) *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.

- (45) Wo jieshao-le **xuesheng**^{??}(-men) gei bici.
 I introduce-PERF student^{??}(-PL) to each.other
 ‘I introduced student to each other.’ ??reciprocal
 (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, BNs in Brazilian Portuguese do not seem to have a definite interpretation. (46a) shows that a BN in BP can be object of a collective predicate. (46b) shows that a BN can be referred back to with either a singular or a plural pronoun. (46c) shows that a plural interrogative pronoun can be used in a sluicing. (46d) and (46e) show that BNs in BP can be the antecedent of plural anaphors. Finally, (46f) shows that a ‘how many’ follow-up question can target a BN.

(46) *Brazilian Portuguese*

- a. A Adriana juntou **criança** na quadra.
 the Adriana gathered child in.the court
 ‘Adriana gathered children in the playground.’
 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.’
 (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.’
 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.’
 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.’
 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 (43) and its comparison with BNs in two other languages, we may ask the following question:

- (47) 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

do not have the morphosyntax of a relative clause). 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.

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.

- (48) a. Roxaya xam-na a-b jangalekat 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.

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

- (49) 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 can still receive an indefinite interpretation, as can be inferred by the fact that it can still be licensed in an existential construction:

- (50) 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.⁵ This claim is motivated by the comparison between a full indefinite modified a relative clause and its BN counterpart. In (51), where the indefinite determiner *ab* is used, the indefinite modified by a relative clause can scope above or below the intensional predicate *bëgg* ‘want’ (on intensional predicates, see e.g. [Larson et al. \(1996\)](#)).

- (51) a. Sama doom bëgg-na janga a-b téere [b-u Mariama Ba binda],
 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*.’
 b. Sama doom bëgg-na janga a-b téere [b-u Mariama Ba binda],
 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 be.good-NA.3SG
 ‘My child wants to read a book that Mariama Ba wrote, but it does not matter which.’

⁵Thank you to P. Elliot for drawing my attention to the importance of looking into the scope properties of BNs modified by a relative clause.

Conversely, in (52), what the relative clause modifies is a BN. In that case, only a narrow scope reading is available (52b).

- (52) a. Roxaya bëgg-na gisee **woykat** [b-u dëkk Senegal]. # Wally Seck la
 Roxaya want-NA.3SG meet singer [CM.SG-COMP be.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], waay bu mu am
 Mary want-NA.3SG meet singer [CM.SG-COMP be.from Senegal] but BU 3SG meet
 baax-na.
 be.good-NA.3SG
 ‘Mary wants to meet a singer who is from Senegal, and any will be good’

(These scope data will also be relevant in the comparison between the present analysis and that put forward by Martinović (2017), discussed in §4.1.)

Something along these lines can also be said of the comparison between BNs and full indefinites headed by *benn* ‘one’. In (53), the BN modified by a relative clause cannot scope above the intensional predicate *seet* ‘look for’. In (54a), the indefinite determiner *benn* is used and now a wide scope interpretation is available. (54b) shows that a narrow scope reading is also available for *benn*. (Regrettably, the BN counterpart of (54b) is missing.)

- (53) Jangalekat b-i mungi seet **nonggo 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.’
 (54) a. Jangalekat b-i mungi seet b-enn nonggo 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. Jangalekat b-i mungi seet b-enn nonggo darra [b-u njool],
 teacher CM.SG-DEF PROG.3SG look.for CM.SG-one student [CM.PL-COMP tall]
 waay bu mu am baax-na.
 but BU 3SG have be.good-NA.3SG
 ‘The teacher is looking for a tall student and any will be good.’

(55) and (56) are more examples to the same effect.

- (55) 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.’
 (56) 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.
 be.good-NA.3SG
 ‘Roxaya is looking for a dog who is brown, but she does not care which (all is good/anything goes).’

- 540 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 be.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
 545 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 six 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
 550 change this behavior (57a). On the other hand, if the relative clause has a plural class marker affixed to the complementizer (57b), a BN can now saturate a collective predicate.

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

- a. * Jangalekat 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
 555 Lit.: ‘The teacher gathered student who Samba knows in the park.’
 b. Jangalekat 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
 560 BN regarding discourse anaphora: in both cases, the pronoun used to refer back to the nominal is singular (58a). Conversely, if the relative clause is plural (58b), discourse anaphora must now be plural.

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

- a. Gis-na-a **jangalekat** [b-u Roxaya xam]. Maymuna bëgg-na ko /
 see-NA-1SG teacher [CM.SG-COMP Roxaya know] Maymuna like-NA.3SG OBJ.3SG /
 *leen.
 *OBJ.3PL
 565 ‘I saw a teacher who Roxaya knows. Maymuna admires her.’
 b. Gis-na-a **jangalekat** [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 witnessed in the sluicing sentences in (59), where the interrogative pro-
 570 noun tracks the number of the BN depending on whether it is modified by a singular or a plural relative clause.

(59) *BN modified by plural relative clause can be antecedent of plural sluicing pronoun*

- a. Jangalekat b-i seet-na **bindakat** [b-u Maymuna bëgg], waay
 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-Q COP.3SG / *CM.PL-who COP.3SG
 575 ‘The teacher visited a writer who Maymuna likes, but I do not know which.’

- b. Jangalekat b-i seet-na **bindakat** [y-u Maymuna bëgg], waay
 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-Q COP.3SG / CM.PL-who COP.3SG
 ‘The teacher visited some writers who Maymuna likes, but I do not know which.’

Fourth, while a singular relative clause does not render a BN an appropriate binder for a reciprocal (60a), its plural counterpart does (60b).

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

- a. * Jangalekat b-i wanale-na **nonggo 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. Jangalekat b-i wanale-na **nonggo 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:

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

- a. Jangalekat b-i sang-oloo-na **nonggo 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.’
- b. * Jangalekat b-i sang-oloo-na **nonggo 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 a tall student wash themselves.’

The same conditions allow for a BN to be felicitously targetted by the question ‘how many’:

(62) *BN modified by relative clause targeted by ‘how many’*

- A. Mareem janga-na **téere** [y-u Mariama Ba binda].
 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 binda] la Mareem janga?
 how.many book [CM.PL-COMP Mariama Ba write] COP.3SG Mareem read
 ‘How many books that Mariama Ba wrote did Mareem read?’

Finally, an additional diagnostic is the impossibility of a BN modified by a singular relative clause to be followed-up with *all of them*.

- (63) a. Jënd-na-a **téere** [b-u Mariama Ba bind-oon daal]. Janga-na-a yëpp.
 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]. Janga-na-a yëpp.
 buy-NA-1SG book [CM.PL-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.’
 610 c. Jënd-na-a **téere** [y-u Mariama Ba binda]. Janga-na-a yëpp 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.’

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
 615 see that nominal modifiers that do not have a plural morpheme like a relative clause does do not have this effect on the number interpretation of BNs.

3.2 Plain (number-less) nominal modifier

In Wolof, nominal modifiers are usually relative clauses (e.g. *tall* in (61a)). Nonetheless, expressions for nationality occur without the syntax of a relative clause. For convenience, I dub these expressions ‘plain
 620 modifiers. Some examples are in (64a).⁶

- (64) 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.’

625 Unlike what happens with plural relative clauses, plain modifiers do not have a “pluralizing” effect in the number interpretation of BN, at least for the partial data set available. A BN combined with a plain modifier still cannot be the object of a collective predicate (65), it must be referred back to with singular discourse anaphora (66) and a singular interrogative pronoun (66), and, finally, it cannot be the antecedent of a reciprocal (68).

630 (65) *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. * Jangalekat b-i dajeele-na **nonggo 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.’

635 (66) *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 dancer Brazilian Maymuna like NA.3SG OBJ.3SG / *OBJ.3PL
 ‘I saw a Brazilian dancer. Maymuna admires her/*them.’

⁶Nouns modified by plain modifiers could reasonably be compound structures, as the latter needs to be close to the noun. This is suggested by the fact that they cannot merge outside a relative clause:

- (i) a. Gis-na-a **nonggo 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 **nonggo 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.’

What is relevant to the present paper is their number-less morphosyntax.

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

Jangalekat b-i gis na **nonggo darra** brezilien, waay xa-w-ma ?k-an
 teacher CM.SG-DEF see NA.3SG student Brazilian but know-NEG-1SG ?CM.SG-which
 la / *y-an la.
 COP.3SG / *CM.PL-which COP.3SG
 ‘The teacher saw a student, but I do not know which.’

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

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

As mentioned above, there are gaps in the data collected; specifically, the plural reflexive binding and ‘how many’ data are missing. The data from §3.1 and §3.2 can be summarized as follows:

		BN		
		∅	Plural RC	Plain modifier
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	#	✓	

In addition to (47), repeated below as (70i), we may also ask the question (70ii):

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

The contrast between singular relative clauses in e.g. (57a) and plain modifiers (65a), on the one hand, and plural relative clauses in (57b), 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 (71a), 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 (71b), the genitive suffix *u* is used. It is affixed to the possessum *muus* ‘cat’, which precedes the possessor *Mareem*.

(71) 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, their behavior resemble that of plural relative clauses and plain modifiers.

Starting with possessive determiners, in (72), *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 (72a) and (72b), 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 (72b), where there is the addition of the affix -y.

- (72) a. *sama nit*
 POSS.1SG person
 ‘my friend’
 b. *sama-y nit*
 POSS.1SG-PL person
 ‘my friends’

- (73) *sama jigéen y-i*
 POSS.1SG woman CM.PL-DEF
 ‘the female friends of mine’

Because a nominal can occur in this type of possessive construction without a determiner or a class marker affixed to it, I take the nominal to be exponed under these conditions to be a BN.

The possessive determiners in Wolof are listed below:

(74)	Possessor	Singular possessum	Translation	Plural possessum	Translation
	1SG	<i>sama xarit</i>	‘my friend’	<i>sama-y xarit</i>	‘my friends’
	2SG	<i>sa xarit</i>	‘your friend’	<i>sa-y xarit</i>	‘your friends’
	3SG	<i>xarit=am</i>	‘his/her friend’	<i>ay xarit=am</i>	‘his/her friends’
	1PL	<i>suñu xarit</i>	‘our friend’	<i>suñu-y xarit</i>	‘our friends’
	2PL	<i>seen xarit</i>	‘your friend’	<i>seen-i xarit</i>	‘your friends’
	3PL	<i>seen xarit</i>	‘their friend’	<i>seen-i xarit</i>	‘their friends’

(reference to be added)

Additional data illustrating the behavior of the determiner possessive are below. (75a), (75b), and (75c) demonstrate that the number of the definite determiner (*bi*) and that of the possessive determiner must match. (75d) shows that the plural class marker for *nit* ‘person’ can be *y* or *ñ*. (75e) 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

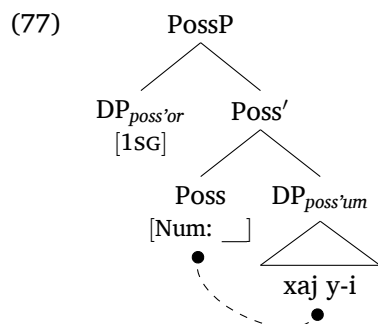
- (75) a. *Gis-na-a sama xaj b-i ci baayal b-i.*
 see-NA-1SG POSS.1SG dog CM.SG-DEF PREP park CM.SG-DEF
 ‘I saw my dog in the garden.’
 b. **Gis-na-a sama-y xaj b-i ci baayal b-i.*
 see-NA-1SG POSS.1SG-PL dog CM.SG-DEF PREP park CM.SG-DEF
 Int.: ‘I saw the.SG dog of mine.PL in the garden.’
 c. *Gis-na-a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

⁷In all the examples so far, the possessum happens to be a human entity. As we see in (83a) though, it can also be inanimate. Thank you to N. Richards for bringing up this issue.

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

- (76) 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 (77), 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.



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.

(78) *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 a cat of mine in the garden.’

(79) *Discourse anaphora*

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

(80) *Reciprocal I*

- 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.’

(81) *Reciprocal II*

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

- b. Wanale-na-a sama **nonggo darra** ^{???}(ak **nonggo 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.'

(82) *Plural reflexive*

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

(83) 'How many' follow-up

- a. Maymuna ak Mareem jënd-na-ñu sama-y **téere**, waay 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**, waay 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 some books of mine, but I do not know how many.'

(84) 'All of them'

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
 Int.: 'My cat broke a plate of mine. I liked all of them.'

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

- (85) 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 (86). In (86e), 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 (86d).

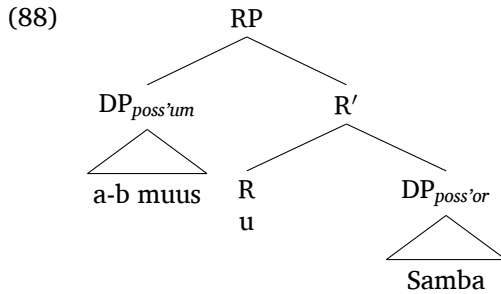
- (86) a. A-b muus-u Samba lekk-na céeb.
 INDEF-CM.SG cat-GEN Samba eat-NA.3SG rice
 'A cat of Samba's ate rice.'
- b. A-y muus-u Samba lekk na-ñu céeb.
 INDEF-CM.PL cat-GEN Samba eat NA-3PL rice
 'Some cats of Samba's ate rice.'
- c. Gis-na-a a-y doom-u Roxaya.
 see-NA-1SG INDEF-CM.PL child-GEN Roxaya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

- e. Bëgg-na-ñu muus-u Roxaya b-i.
like-NA-1PL cat-GEN Roxaya CM.SG-DEF
'We like the cat of Roxaya's.'
- f. Muus-u Samba y-i lekk na-ñu céeb.
cat-GEN Samba CM.SG-DEF eat NA-3PL rice
'Samba's cats ate rice.'

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

- (87) 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.'

775 I assume the structure in (88) 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 (77) examined above, in the genitive (88), there is no probe for number.



780 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.

- (89) Isaa jubooole-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).'

(90) *Collective predicate*

- 785 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 *(CONJ dog-GEN Kumba)
'Roxaya put together Kadeer's dog *(with Kumba's dog).'
- c. Isaa jubooole-na **muus-u** Kadeer ??(ak **muus-u** Roxaya).
Isaa unite-NA.3SG cat-GEN Kadeer ??(with cat-GEN Roxaya)
790 'Isaa united a cat of Kadeer's (with a cat of Roxaya's).'

(91) *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.'

(92) *Interrogative pronoun in sluicing*

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- a. Toogakat b-i gis-na a-y muus-u Mareem, waay 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. Roxaya janga-na taalif-u Kadeer, waay xa-w-ma *b-an la /
 Roxaya read-NA.3SG poem-GEN Kadeer but know-NEG-1SG *CM.SG-which COP.3SG /
 y-an la.
 CM.PL-which COP.3SG
 ‘Roxaya read a poem of Kadeer’s, but I don’t know which.’
- c. Toogakat b-i gis-na muus-u Mareem, waay 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.’

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(93) *Reciprocal*

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- * Roxaya wanale-na jangalekat-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.’

(94) *Plural reflexive*

Isaa sang-oloo-na xaj-u Kadeer bopp=am / *seen bopp.
 Isaa wash-CAUS-NA.3SG dog-GEN Kadeer head=POSS.3SG / *POSS.3PL head
 ‘Isaa made a dog of Kadeer’s wash himself/themselves.’⁸

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(95) *‘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.’

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

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(96) 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. Before that, I will see a brief summary of the discussion so far which utilizes a control structure and its number properties to diagnose the number interpretation of BNs in Wolof.

3.4 By way of summary: BNs in object control

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In this section, we will see in a 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.

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Examples of object control sentences with the verb *dimbala* ‘help’ are in (97).

- (97) a. Dimbala-na-a a-b xale mu janga téere b-i.
 help-NA-1SG INDEF-CM.SG child 3SG read book CM.SG-DEF
 ‘I helped some child read the book.’

⁸Seen bopp would be a good option if a-y xaj-u Kadeer.

- b. Dimbala-na-a a-y xale ñu janga 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 (97) 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 (97). First, the sequence that follows the verb *dimbala* cannot be pseudo-clefted, which suggests that it is not a constituent.

- (98) 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 jangalekat 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 (99).

- (99) 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.

- (100) Dimbala-na-a sa jaan mu wàcc.
 help-NA-1SG POSS.2SG snake 3SG descend
 i. ✓ Literal: ‘I 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 (97a) as in (101), where *a-b xale* ‘INDEF-CM.SG child’ is the object of *dimbala* and XP is a clausal complement of this verb.

- (101) Dimbala-na-a a-b xale [XP mu janga 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 (97) are. Zribi-Hertz & Diagne (2002) and Martinović (2015) classify these items as 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).

- (102) 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.’

(102a) shows that if *mu* ‘3SG’ is the subject of the embedded clause, it cannot be coindexed with the matrix subject (*Roxaya*). (102b) shows that this meaning is conveyed by a sentence where the embedded subject is a null category. (102c) in turn shows that an object pronoun cannot be in the same position that *mu* occupies. Lastly, (102d) shows that the matrix subject belongs to the same binding domain as the embedded clause.

In order to account for the data in (102), one may hypothesize that the complement of *bëgg* ‘want’ is a restructured clause (Wurmbrand 1998; et seq.). 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 (102a) and (102d). Conversely, the XP in *dimbala* sentences, diagrammed in (101), 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 so far, 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 (103) with (97) above).

- (103) a. * Dimbala-na-a a-b xale ñu janga 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 janga 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.

- (104) a. Dimbala-na-a **xale** mu janga 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 janga téere b-i.
 help-NA-1SG child 3PL read book CM.SG-DEF
 Int.: ‘I helped some children read the book.’

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.

- (105) a. Dimbala-na-a **xale** [b-u njool] mu janga 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 janga 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.

- (106) a. Dimbala-na-a xale breزيلien b-i mu janga 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** breزيلien mu janga téere b-i.
 help-NA-1SG child Brazilian 3SG read book CM.SG-DEF
 ‘I helped a Brazilian child read the book.’
- c. Dimbala-na-a **xale** breزيلien y-i ñu janga 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** breزيلien ñu janga 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 crossreferenced by a plural pronoun *ñu* only if the possessive nominal contains a plural possessum-sensitive *y* plural affix.

- (107) a. Dimbala-na-a sama **doom** mu / *ñu janga 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 janga 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.

- (108) 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 section, 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:

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

In the next section, we turn to the analysis of that generalization. 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: feature licensing

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

Underlying the term ‘bare nominal’ is the assumption that the nominals thus designated do not contain a determiner. It is plausible though 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)?

- (19b) a. Mareem séy-aat-na ak a-b féckkat.
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.*
- (20) a. Mareem séy-aat-na ak féckkat.
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.*

Nonetheless, a further question I do not have an answer for is whether one could hypothesize that the potential phonologically null determiner also happens to require narrow scope (unlike the overt counterparts discussed 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 (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 (109).

- (109) 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 consultant of mine)

Arguing against [Torrence’s \(2012\)](#) analysis based on silent *Wh*-phrases, [Martinović](#) proposes that both sentences in (109) have the same underlying structure, but in each either the head of the CP (109a) or the phrase in Spec-CP (109b) 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 in [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 (109a), see [Martinović 2017](#); this detail is not relevant in the present discussion.)

- (110) 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. They claim that, in relative clauses, there is no optionality in what is obliterated (either Spec-CP or the head of the CP in (110). 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 features. The complementizer that occurs in the data surveyed in §3.1 is *u*. [Martinović](#)'s Vocabulary Item for *u* is as follows:

- (111) C[+Wh] → *u* / {φ, -Def}
 ([Martinović](#), 2017, (78a))

[Martinović](#)'s obliteration analysis for a nominal modified by a relative clause like (112a) can thus be diagrammed as (112b). [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.

- (112) 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 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 modified by a relative clause, as witnessed in (112a). [Martinović](#) then introduces the final ingredient of their analysis, obliteration of the determiner. This is caused by the feature similarity between the determiner 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:

- (113) *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 (112a) 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. (112a) 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:

- (114) a. Bindakat b-i binda-na a-b taalif [b-u Samba bëgg].
 writer CM.SG-DEF write-NA.3SG INDEF-CM.SG poem [CM.SG-COMP Samba like]
 'The writer wrote a poem that Samba likes.'
 b. Mareem séy-aat-na ak a-b fecckat [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.'

- 1015 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 nonggo darra [b-u ko binda].
 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 jangalekat [b-u Maymuna jox chër]
 see-NA-1SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna give consideration]
 1020 ‘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:

- (115) 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.’
- 1025 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.’
- (116) Samba xam-na nonggo 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.’
- (117) 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
 1030 ‘The cat chased that brown dog (over there).’

Hence, the Vocabulary Item (111) does not seem adequate for the Wolof dialect reported in the present analysis. 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 (115) and (117) – otherwise, presumably, *u* could not be used in all three constructions without causing a feature clash (e.g. definite and indefinite).

In fact, even if we grant that the Vocabulary Item (111) 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 (109) 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 (118b) shows that the complementizer (and the class marker prefixed to it) cannot be omitted:

- (118) a. Roxaya xam-na a-b jangalekat 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 jangalekat Maymuna bëgg.
 Roxaya know-NA.3SG INDEF-CM.SG teacher Maymuna like
 1045 Int.: ‘Roxaya knows a teacher that Maymuna admires.’

To avoid overgenerating (118b), one might consider that the relative complementizer and the indefinite determiner do not exactly have the same features. The former presumably contains an \bar{A} -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 operation is optional. In other words, it applies in the data in §3.1, but not in (114), (115), and (117). 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 (109) and relative clauses, why would it be optional only in the latter? (119) completes the paradigm in (109) 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.

- (119) * 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. In (??), we see that, while a full nominal can occur in the subject position of a finite clause, the same does not hold of a BN.⁹

- (120) 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.’
- (121) a. Xadi xalaat-na [ne a-y nonggo 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.’

If e.g. (120b) were derived from (120a) 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 (51), while BNs can only take narrow scope (52). In both cases, the nominal (full or bare) is modified by a relative clause.

- (51) a. Sama doom bëgg-na janga a-b téere [b-u Mariama Ba binda],
 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*.’

⁹As mentioned in fn. 2, this paper does not address the syntactic position where BNs in Wolof can or cannot occur.

- 1090 b. Sama doom bëgg-na janga a-b téere [b-u Mariama Ba binda],
 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 be.good-NA.3SG
 ‘A child of mine needs to read a book that Mariama Ba wrote, but it does not matter which.’
- (52) a. Roxaya bëgg-na gisee **woykat** [b-u dëkk Senegal]. # Wally Seck la
 Roxaya want-NA.3SG meet singer [CM.SG-COMP be.from Senegal] # Wally Seck COP.3SG
 tuddu.
 name
 1095 ‘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], waay bu mu am
 Mary want-NA.3SG meet singer [CM.SG-COMP be.from Senegal] but BU 3SG meet
 baax-na.
 be.good-NA.3SG
 ‘Mary wants to meet a singer who is from Senegal, and any will be good’

1100 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

1105 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.

1110 First, recall from (42) 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).

- (122) 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?’
- 1115 (123) 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?’

1120 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.

- (124) 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.’

¹⁰Thank you J. Colley (p.c) and to O. Preminger (p.c.) for the suggestion.

- 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 said 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 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 (125).

(125) *Noun incorporation in South Baffin Inuktitut*

Akittiq iqalung-mik taku-Ø-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 (3a), 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.

- (126) a. Jangalekat b-i janga-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. Jangalekat b-i janga-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; Branigan 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:

- (127) 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)

(127a) 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 (127a), by using *tiin ghanTe tak* ‘for three hours’) that the number-neutral interpretation of the BN arises. To drive the point home, in (127b), the atelic reading is eliminated via the addition of the completive particle *Daalii*. As expected from the pattern observed in (127a), only a singular interpretation is available. Or, more relevantly for Dayal’s claim, a number-neutral interpretation becomes impossible. Furthermore, in (127c), 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 (127d).

In brief, the data in (127) 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 (127), existing Wolof data suggest that aspect does not play the same role as it does in Hindi. Aspectual information remains constant across the data investigated here and yet the number interpretation is different. This is showcased by the paradigm formed by (4), (57b), and (65), repeated below.

- (24a) * Jangalekat b-i dajeele-na **xale** ci bayaal b-i.
 teacher CM.SG-DEF gather-NA.3SG child PREP park CM.SG-DEF
 Lit.: ‘The teacher gathered child in the park.’

- (57b) Jangalekat 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.’

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

- (78b) * Dajeele-na-a sama **muus** ci tool b-i.
 gather-NA-1SG POSS.1SG cat PREP garden CM.SG-DEF
 Lit.: ‘I gathered my cat in the garden.’

- (90b) Roxaya boole-na **xaj-u** Kadeer *(ak xaj-u Kumba).
 Roxaya put.together-NA.3SG dog-GEN Kadeer *(CONJ dog-GEN Kumba)
 ‘Roxaya put together Kadeer’s dog *(with Kumba’s dog).’

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

Full nominals in Wolof can be either singular or plural, as seen in e.g. (11a), repeated below

- 1205 (11a) 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.

1210 However, only the derivation with a singular BN converges. The reason, I contend, is the failure to comply with the Number-Licensing Condition (128). (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).)

(128) *Number-Licensing Condition (NLC)*

A marked number feature (i.e. plural) must be licensed by Agree.

1215 A reasonable question to ask at this juncture is why the NLC is defined with respect to plural and not to singular. I follow Nevins (2011) in assuming that ‘singular’ is the absence of a number specification, which could be why a condition like (128) cannot be formulated based on [SINGULAR].

1220 The first step of the analysis is to show that the plural morphemes in the relative clause in (57b) and the possessive (72) are indeed instances of Agreement. We start with relative clauses. 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 (11). 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). An example of multiple occurrences of class markers in the same nominal is repeated below:

- 1225 (114a) Bindakat b-i binda-na a-b taalif [b-u Samba bëgg].
 writer CM.SG-DEF write-NA.3SG INDEF-CM.SG poem [CM.SG-COMP Samba like]
 ‘The writer wrote a poem that Samba likes.’

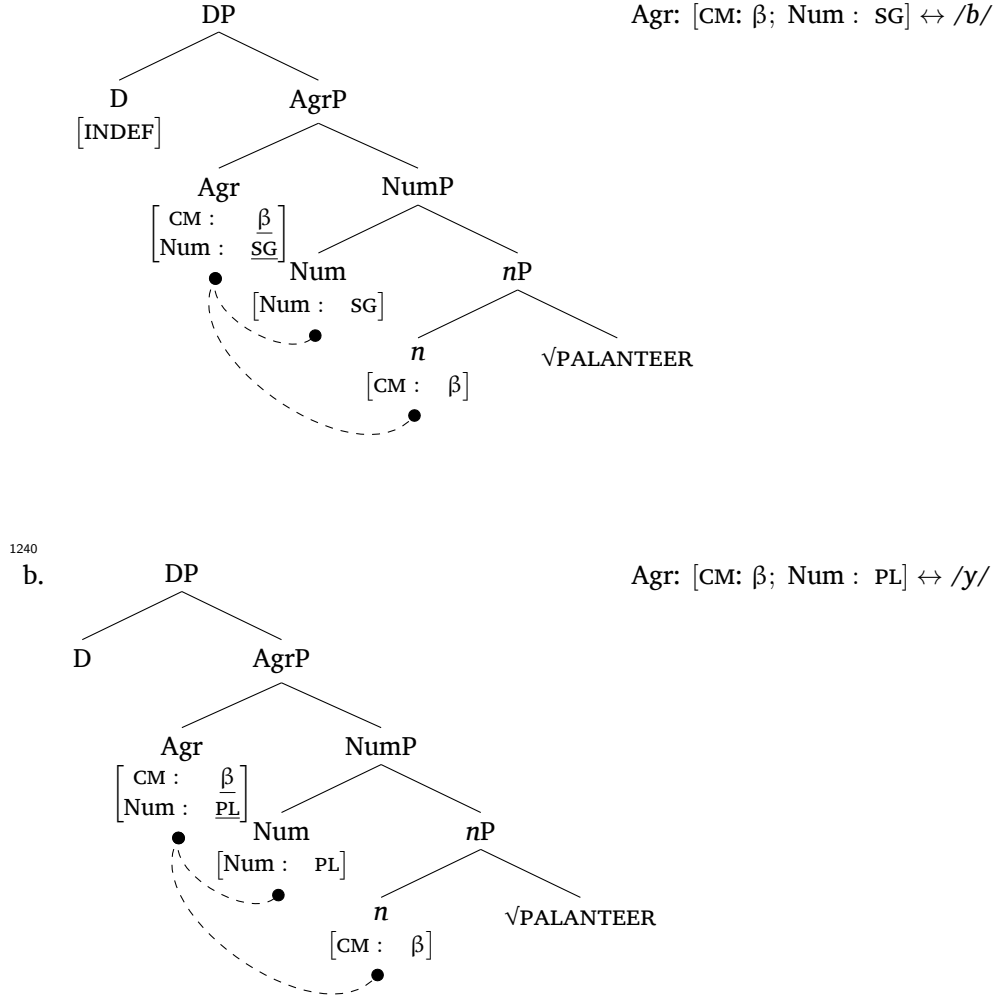
Moreover, notice that the class markers in the determiner and in the relative complementizer must match (129). This is a property that can be attributed to multiple Agreement with the same goal.¹¹

- 1230 (129) 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.’

1235 As diagrammed in (13) above, I assume the ordinary nominal spine in (130) (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 (Acquaviva, 2009). The derivation of a full nominal in Wolof is as in (130), where Agr has its number feature valued by Num and its CM feature, by *n*. (See Vocabulary Items in (14).)

(130) a.

¹¹P. Elliot (p.c.) and C-R. Little (p.c.) suggest an alternative analysis of the singular interpretation of unmodified BNs where nominals in Wolof in general are inherently singular/atomic, but a plural interpretation can be “superimposed” via the addition of plural operators. The latter are realized e.g. as plural class markers. This analysis seems to cover all the data examined in this paper. nevertheless, if it is correct that class markers are the realization of Agreement, and if Agreement morphemes are not interpretable, this renders the aforementioned perhaps less plausible.



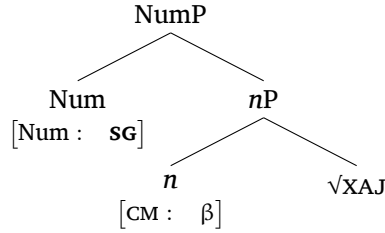
In (130b), the NLC (128) is satisfied, as the number feature in Agr Agrees with the plural feature in Num. (130a) satisfies the NLC vacuously, as the feature in Num is unmarked (i.e. singular).

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. I am so far agnostic regarding the projection of a silent DP layer (for convenience, I omit a DP in the BN representations to follow). 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).

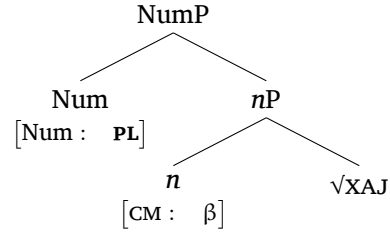
A brief comparison with previous literature with number-neutral BNs may give the retention of NumP in Wolof BNs further traction. Rullmann & You (2006), Müller (2002), and Kramer (2017) investigate BNs in Mandarin, Brazilian Portuguese, and Amharic, respectively. In these languages, as mentioned above (see (2c), (2b), and (2a)), 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. 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 (131). Unlike what happens in the full nominal (130), in a BN, there is nothing to Agree with a [PLURAL] Num. As such, only a BN with a [SINGULAR] Num could converge. This would be why unmodified BNs in Wolof are exclusively singular.

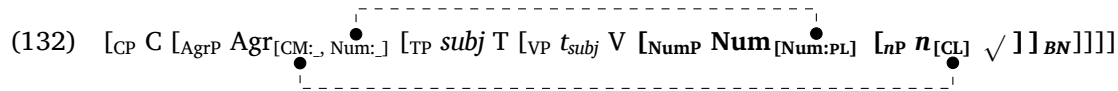
(131) a. *NLC satisfied (vacuously)*



b. *NLC violated*

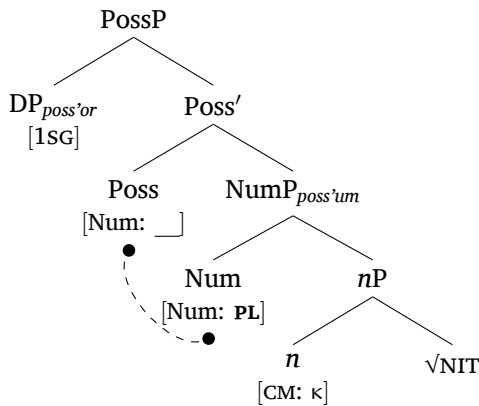


With these tools in hand, we can move on to the derivation of relative clauses that modify BNs, as in (57b). (132) is a partial derivation where the BN is still inside the CP – recall that I am assuming a raising analysis for relative clauses in Wolof, following Torrence (2013a). Likewise, I follow Torrence 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), the Agr at the CP level. The NLC (128) in this case can be complied with, hence why a BN can have a plural interpretation in this case.¹²



Licensing of a plural number feature by Agree is also possible in the possessive construction (72b), if y is the exponent of Agree. The derivation of (72b) (*sama-y nit* ‘POSS.1SG-PL person/friend’) would be as in (133), where the head of PossP probes for a number feature in the possessum. If the BN there is plural, the NLC (128) can be satisfied, hence why a derivation converges where the BN has a plural construal.

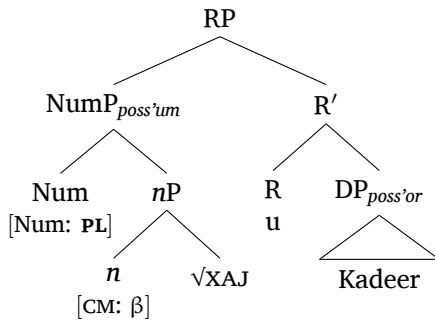
(133)



Finally, the number-less genitive possessive construction is in (134), which diagrams *xaj-u Kadeer* ‘dog-GEN Kadeer’ in (90b). There is no probe to Agree with the [PLURAL] number of the BN, so, again, only a derivation with a singular NumP converges.

(134)

¹²(131) is a simplified diagram, where vP and \bar{A} -movement of the BN object to the phase edge are omitted for visual simplicity.



In brief, the analysis proposed to account for the exclusively singular (as opposed to the more commonly attested number neutral) interpretation of BNs in Wolof by proposing that it obeys the NLC (9). 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.

5 Concluding remarks

In this paper, we investigated BNs in Wolof, which are exclusively singular, unlike their number neutral counterparts in other languages. I proposed an analysis that extended Béjar & Rezac's (2009) PLC to number. If correct, this analysis provides further empirical support for the proposal that interpretable features play a role in licensing a nominal (Kalin, 2017, 2019).

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