

**Nominal licensing: the syntactic distribution and number
interpretation of bare nominals in Wolof**

by

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Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

September 2021

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Abstract

This thesis is a study of two levels of nominal licensing illustrated by bare nominals (BN) in Wolof: licensing of the BN itself and licensing at the level of its features. The former can be seen in the restrictions imposed on the syntactic positions a BN can occupy and the strategies employed to bypass them. The latter is reflected in the typologically unusual singular interpretation of BNs in this language, which stands in contrast with the number neutrality that BNs usually display in other languages.

Bare nominals in Wolof can occur in the object position and they must be adjacent to the transitive verb that subcategorizes for them. They are, furthermore, narrow scope indefinites. These are properties usually attributed to Pseudo Noun Incorporation. However, there are two circumstances under which the requirement to be adjacent to the verb can be obviated: when either a DP is introduced between the subject and the PNI-ed object or the latter is \bar{A} -moved. While the introduction of an additional argument and \bar{A} -movement are disparate phenomena, a dependent case analysis of nominal licensing (Branan, to appear) can account for why they both allow a PNI-ed object to not be adjacent to the verb in Wolof. Branan argues that all nominals must be licensed with case (Levin, 2015), with case assignment being calculated in terms of dependent case (Marantz, 1991). When assigning case to a nominal is impossible, a last resort licensing strategy is available, namely, surface adjacency with the verb. Under the proposal that Branan makes about domains of case assignment and the position of case competitors in the sentential spine, bare nominal objects in Wolof cannot be licensed with case, which is why they must be adjacent to the verb. However, the introduction of an additional argument provides a case competitor to a PNI-ed object, allowing it to do away with licensing via linear adjacency with the verb. Likewise, \bar{A} -moving a bare nominal object brings it close to the subject, which can transformationally act as a case competitor. I argue thus that a dependent case theory of PNI can provide a uniform analysis of the PNI distribution of bare nominals in Wolof. If correct, this analysis has two implications. Empirically, it provides further evidence that a strict adjacency condition cannot adequately characterize PNI crosslinguistically (Driemel, 2020). Theoretically, it motivates a reappraisal of the claim that dependent case and nominal licensing are necessarily incompatible with each other (Marantz, 1991).

This analysis, however, is not sufficient to account for another facet of BNs in Wolof, namely, its singular interpretation. Crosslinguistically, BNs are often number-neutral, i.e., their number interpretation does not imply any commitment to a singular or plural interpretation. In Wolof, however, BNs are singular when unmodified. This can be argued for based on, e.g. the impossibility of saturating a collective predicate, on the fact that they must be referred back to with a singular pronoun, and that they cannot be the antecedent of a plural anaphor. However, a plural interpretation becomes available when a nominal-internal plural feature is exponed in the form

of relative complementizer or possessum agreement. The generalization is that BNs in Wolof are singular, unless plural morphology is exponed within the nominal. I propose a version of Kalin's (2017; 2018; 2019) framework of nominal licensing whereby certain interpretable features require licensing by the operation Agree; they are "derivational time bombs" that must be "defused" by this operation. Specifically, I argue that the feature [+PLURAL] in Wolof nominals fall under this category. I assume that all nominals in Wolof, bare and full, can in principle be singular or plural. An obligatorily [+SINGULAR] interpretation arises in a BN when there is no probe to Agree with the [+PLURAL] version, causing the derivation to crash. Conversely, if the BN merges with structure that contains a number probe, [+PLURAL] can be defused, so that the corresponding construal can arise. This probe surfaces as relative complementizer or possessum agreement. The singular interpretation of BNs in Wolof arises as conspiracy between the need to license [+PLURAL] and the restrictions and resources available within the nominal a BN is embedded into. If correct, this analysis offers an analysis as to why BNs in Wolof do not follow the number neutrality tendency found in other BN languages. It also provides support for the view that the licensing of interpretable features may be a driving force in a derivation.

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“Please scream inside your heart.”
-2020

Acknowledgments

First and foremost, I would like to express my deepest gratitude to Lamine Touré and to Saliou Fall (*in memoriam*), who patiently and generously shared their Wolof knowledge and judgments with me. This thesis would not exist without them. I would also like to thank Patty Tang, Izabela Jordanoska, and Mouhamadou Deme for putting me in contact with them. Jërejëf!

我要感谢我的妈妈和爸爸，没有他们我不会在这里写出这篇毕业论文。事实上，从上巴西最好的大学之一到最终来到美国，我生命中的每一个机遇都可以追溯到他们。虽然我不知该如何表达，但我还是希望你们知道，对你们为了移民到一个并不总是欢迎你们的国家所做出的一切牺牲，我是多么感谢和感恩。没有你们，我不会成为今天的我。无论我走到哪里，都是因为你们成就了我。

Muito obrigado para a Liliana Fong, Juliana Fong, e Jorge Nader pelo apoio moral e financeiro durante não só o doutorado, mas durante boa parte do meu crescimento. Ser irmã caçula de vocês é uma sorte tremenda que eu nunca agradeci. Muito obrigado também para o Shake, a Princesa, e a Lailinha.

I want to thank (again) Jairo Nunes, who, in a fateful day in 2013, asked me whether I had considered pursuing my graduate studies abroad. This thesis is a culmination of this suggestion, which I secretly considered ludicrous and even funny at the time.

Thank you to Sabine Iatridou and Norvin Richards for advising me in this thesis. Sabine has in fact advised me throughout grad school in both my research and in my academic path, at MIT and beyond. I am thankful for her guidance. I have rarely left Norvin's office without being impressed by how many details of linguistic phenomena he knows. He also somehow makes you feel like you have good ideas (even when said ideas were proposed by him to begin with).

I would like to thank Adam Albright, who always has great advice. I also aspire to one day have Adam's calm and generosity. I thank Martin Hackl too, whose clear and explicit step-by-step reasoning has helped me sharpen my vague ideas and which I hope to emulate. I was incredibly fortunate to have Donca Steriade as my registration advisor. Donca is not only one of the sharpest linguists I know, but also one of the kindest and most caring people that I have been lucky to cross paths with.

Thank you to Aggie Fernandes, Chrissy Graham, Chris Naylor, Jen Purdy, Leo Rosenstein, Matt Sikorski, and Mary Grenham for their indispensable work. Thank you also to Mary for always having a kind word to me. Thank you to Kai von Fintel who has been the head of the linguistics section during an unprecedented period. I thank him and the department's staff for getting out of their ways to support my cohort during this pandemic. I am deeply grateful for being allowed to stay for a sixth year. In this regard, I thank MIT for sheltering me throughout the Covid pandemic. There are very few occasions where I am more concentrated and focused than when I have a barbell in my hands, so I would also like to thank MIT Recreation for making this possible throughout grad school and specially during 2020/21. In fact, getting into strength training helped me stay physically and mentally healthy during these last few years and helped me appreciate and take pride in the person I have become.

Finally, thank you to David Pesetsky. David has put up with me from the beginning of grad school. He has seen me at my best and my very worst and I sincerely thank him for being by my side on both occasions. Anyone who knows me will know that I don't dissociate research and intellectual achievement from teaching and mentoring. David is the perfect embodiment of both; he is, needless to say, an extraordinary linguist, but also a phenomenal instructor and mentor. When I think about the type of linguist and advisor I aspire to be, David is at the top of the list. I often find myself thinking 'I have seen this data/theory before'. Give me a few minutes and the follow-up thought is often 'Yes, because I learned this from David'.

Some of my favorite experiences in grad school were classes or reading groups where students would be doing as much talking as the faculty, if not more. There have been many occasions where I pleasantly realized that the person sitting next to me was quite brilliant. I thank my fellow grad students, who I learned quite a bit from. Some friends who deserve special mention are Ling-15 (Colin Davis, Itai Bassi, Justin Colley, Maša Močnik, Mitya Privoznov, Rafael Abramovitz, and Verena Hehl), Neil Banerjee, Isa Bayirli, Cater Chen,¹ Filipe Kobayashi, Daniel Margulis, Ezer Rasin, Abdul-Razak Sulemana, and Danfeng Wu.

As I am sure it happens with other people, I spent quite a bit of time mentally rehearsing these Acknowledgments, before I wrote even a single thesis page. I have debated for a long time whether I should write this or not. I decided to do so both because I have to learn how to express my difficulties and also because I want to acknowledge and honor them, rather than burying them somewhere in the back of my head. In six years, I spent countless hours going through imaginary checklists to qualify for any consideration. I would constantly worry that I wasn't good enough for this job. Going to conferences and having a paper published assuaged these thoughts, but only to have being in the job market for two years send me back in another spiral of self-doubt. Chances are, in a few years from now, when I open this thesis and skim through these paragraphs, I will be in a similar situation. I hope my future self knows that these are phases and that I once overcame them, even if momentarily.

Working on this thesis during a global pandemic only helped to aggravate this feeling, except that I was questioning whether I had chosen the wrong job not because I wasn't good enough for it, but because the job was perhaps not useful enough. In 2020, I spent too much time reading the news of hospitals getting overwhelmed, while I was quite literally sitting on my couch. But fortunately, I had the opportunity to TA during this period. When I am TA-ing, I am always trying to find ways to share the beauty of certain phenomena or the cleverness and elegance of some analysis. There is nothing quite like being in a classroom (or the Zoom equivalent of that) to remind me why I am doing what I am doing. TA-ing has been one of the most fulfilling parts of grad school and I am really grateful for all students who I worked with. My recitations are usually planned as a conversation, as an investigation to be carried out with other people. I thank all my students, who agreed to this partnership and who played an crucial role in it. A special thank-you goes to Rujul Gandhi, Derek Yen, and Jacob Kodner for their constant presence and for

¹Many thanks to Cater for kindly translating the paragraph above dedicated to my parents!

challenging me to become a better linguist and TA.

In the past six years, I learned a great deal about linguistic theory and phenomena. But I also learned a great deal about myself. I learned that I am far less resilient than I thought and far more vulnerable than I would like to be. But I am also learning that there is nothing inherently wrong or, most importantly, insurmountable about that.

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List of abbreviations and glosses

1, 2, 3	1st, 2nd, 3rd person
BN	bare nominal
CAUS	causative
CM	class marker
COMP	complementizer
DEF	definite
DEM	demonstrative
DIST	distal
<i>ec</i>	empty category
FN	full nominal
FOC.OBJ	focalization marker for focalized objects
FOC.SUBJ	focalization marker for focalized subjects
IMPF	imperfective
INDEF	indefinite
LNK	linker
NA	<i>na</i> , a sentential particle
NEG	negation
OBJ	object
PL	plural
POSS	possessive
PREP	preposition
PROG	progressive
PROX	proximal
RECIP	reciprocal
REFL	reflexive
SG	singular

Chapter 1

Overview

This thesis is an investigation into the distribution and interpretation of bare nominals in Wolof, a Niger-Congo language spoken in Senegal, the Gambia, and Mauritania. Specifically, under a minimalist view (Chomsky, 1995, 2000, 2001), it examines the number interpretation and syntactic distribution of nominals that lack the morphology otherwise found in the DPs of the language.

In (1a), we see an example of a full nominal. It is headed by the noun *sàcc* ‘thief’, which determines the occurrence of the class marker *b*. The latter is affixed to the indefinite determiner *a*. As we are going to see below, a class marker like *b* also encodes the number properties of a full nominal, in this case, singular. In (1b), the same noun occurs unaccompanied by this morphology. This nominal is thus dubbed ‘bare nominal’. It lacks both an overt determiner and a number-encoding class marker.

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

[Tamba *et al.* 2012, (32), adapted]

A number of languages allow for their nominals to occur in bare form. A pair of full nominal vs. bare nominal from Brazilian Portuguese (Müller, 2002; Munn & Schmitt, 2005; Pires de Oliveira & Rothstein, 2011, a.o.) can be found in (2).

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

As we can see in the translation of the BN example (2b), BNs in languages like Brazilian Portuguese are compatible with either a singular or a plural interpretation. This property, found across BN languages, is usually called ‘number neutrality’ or ‘general number’ (Corbett, 2000). That a plural interpretation is available despite the lack of the corresponding suffix (-s, in (2a)) can be witnessed by the fact that a number neutral BN can be used as the object of a collective predicate in Brazilian Portuguese.

(3) *Brazilian Portuguese*

A Rosa agrupou **cachorro** no parque.
 the Rosa grouped.together dog in.the park
 ‘Rosa grouped some dogs together in the park.’

By contrast, BNs in Wolof cannot saturate the same type of predicate (4).

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

Hence, it seems that BNs in Wolof are singular, rather than displaying the usual number neutrality. Nevertheless, this generalization only holds if the BN is unmodified, as in (4); it needs to be refined if the BN is combined with some other nominal morphology. In that case, the number interpretation of the modified BN correlates with the availability of a number morpheme in the modifier. More precisely, in relative clauses, a plural class marker (*y*) is prefixed to the relative complementizer *u*, as we can see in (5a). A plural interpretation is possible for the BN modified by this plural relative clause, as we can infer from the possibility of saturating a collective predicate. Conversely, if the nominal modifier does not have any number morphology, like the nationality expression *brezilien* in (5b), a singular interpretation is retained, as demonstrated by the ill-formedness of the BN merged with a predicate that requires a plural object.

- (5) a. Jàngalekat b-i dajeele-na **xale** [y-u Samba xam] ci
 teacher CM.SG-DEF gather-NA.3SG child [CM.PL-COMP Samba know] PREP
 bayaal b-i.
 park CM.SG-DEF
 ‘The teacher gathered some students who Samba knows in the park.’
- b. * Roxaya dajeele-na **fécckat** brezilien.
 Roxaya gather-NA.3SG dancer Brazilian
 Lit.: ‘Roxaya gathered Brazilian student.’

In order to account for the number interpretation of BNs in Wolof and its correlation with the occurrence of nominal-internal plural morphology, I propose a version of Kalin’s (2017; 2018; 2019) framework of nominal licensing, whereby certain interpretable features require licensing by the operation Agree; they are “derivational time bombs” that must be “defused” by this operation. Specifically, I argue that the feature [+PLURAL] in Wolof nominals fall under this category. In

an unmodified BN or in a BN combined with a number-less modifier, this interpretable feature cannot be licensed, which is why only a derivation with a singular BN can coverge. However, if the plural feature can be Agreed with, as revealed by the occurrence of a plural class marker in a relative clause, a BN derivation converges even with a plural interpretation.

The other aspect of the properties of BNs in Wolof that this thesis is concerned with is its syntactic distribution. They have the properties usually attributed to noun incorporation: they can occur in the object position, but they must be linearly adjacent to the verb (6b) and they cannot be the subject of a finite clause (6c). The need to be adjacent to the verb is not shared by full nominal objects (6a).

- (6) a. Jàngalekat b-i jàng-na { cikaw } taalif b-i { cikaw }.
 teacher CM.SG-DEF read-NA.3SG { loudly } poem CM.SG-DEF { loudly }
 ‘The teacher read the poem loudly.’
- b. Jàngalekat b-i jàng-na { *cikaw } **taalif** { cikaw }.
 teacher CM.SG-DEF read-NA.3SG { *loudly } poem { loudly }
 ‘The teacher read a poem loudly.’
- c. * **Sasfam** fatte-na tej palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his;her window.’

However, there are two circumstances under which the adjacency requirement can be obviated: either an intermediate argument is introduced between the BN object and the subject (7) or when the BN is \bar{A} -moved (8).

- (7) a. Awa netali-na **leep** xale y-i.
 Awa narrate-NA.3SG story child CM.PL-DEF
 ‘Awa narrated a story to the children.’
- b. Awa netali-na xale y-i **leep**.
 Awa narrate-NA.3SG child CM.PL-DEF story
 ‘Awa narrated a story to the children.’
- (8) **Taalif** la xale y-i binda ____.
 poem FOC.OBJ.3SG child CM.PL-DEF wrote
 ‘It is a poem that the children wrote.’

Ditransitive constructions and \bar{A} -movement are arguably unrelated phenomena, so why do they pattern together with respect to the adjacency condition that BNs in Wolof must otherwise obey? I will follow [Branan’s \(to appear\)](#) nominal licensing framework, according to which certain requirements must be fulfilled in order for nominals in general to be licensed, with adjacency with the verb emerging as a last resort licensing strategy. Under this view, ditransitive and \bar{A} -movement constructions form a natural class because they allow a BN to be licensed without the last resort strategy.

Taken together, the two main parts of this examination into BNs in Wolof shed some light into two different levels of nominal licensing. On the one hand, the conditions under which a

plural interpretation may indeed be borne by the otherwise singular BN could be informative about licensing at the featural level. On the other hand, the condition under which the BN can void the adjacency requirement could be informative of the licensing properties of the BN in the overall sentence.

In the next section, I spell out the proposals advanced in the two main chapters of the present thesis to account for the data outlined above.

1.1 Structure of this thesis

This thesis has two main parts, each dedicated to a typologically unexpected property of BNs in Wolof. First, we analyze the pseudo noun incorporation behavior of the nominals, focusing on the circumstances under which they do not have to be linearly adjacent to a verb, contrary to what happens in the other BN languages. We then turn to the features that compose BNs in Wolof, paying special attention to their number interpretation.

1.1.1 The syntactic distribution of bare nominals in Wolof

In chapter 2, we investigate the syntactic positions where BNs in Wolof can or cannot occur.

BNs in Wolof can occur in the object position, though not in the subject position of a finite verb. Furthermore, they must be adjacent to the transitive verb that subcategorizes for them. These are properties usually attributed to pseudo noun incorporation (PNI). However, there are two circumstances under which the requirement to be adjacent to the verb can be obviated: either another DP is introduced between the subject and the PNI-ed object or the latter is \bar{A} -moved. While the introduction of an additional argument and \bar{A} -movement are disparate phenomena, a dependent case analysis of nominal licensing (Branan, to appear) can account for why they both allow a PNI-ed object to not be adjacent to the verb in Wolof.

In an analysis of word order possibilities in the Kikuyu nominals, Branan argues, following Levin (2015), that all nominals must be licensed with case, with case assignment being calculated in terms of dependent case (Marantz, 1991). In the impossibility of assigning case to a nominal, a last resort licensing strategy arises, namely, linear adjacency with the verb:

(9) *Nominal licensing*

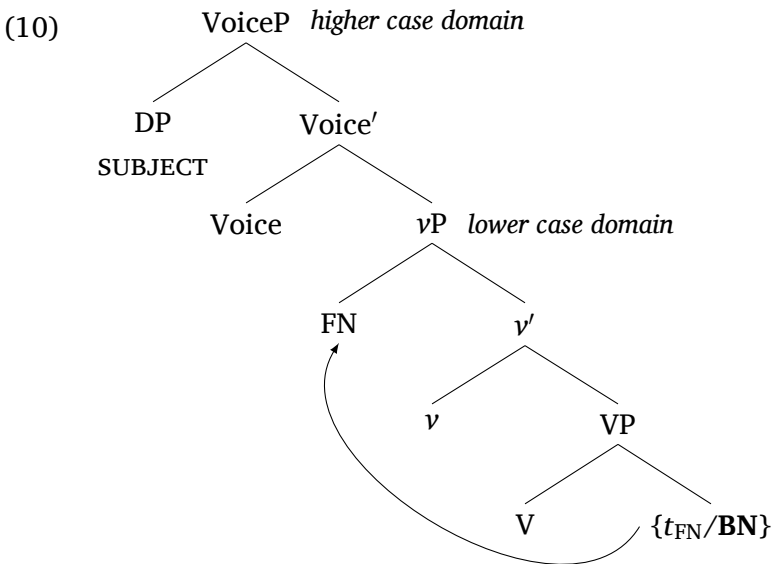
- a. A nominal must be [*case*]-licensed.
- b. A nominal is [*case*]-licensed iff it:
 - i. It has been assigned case or
 - ii. Its N^0 is strictly adjacent to V^0 .

[Branan to appear, following Levin 2015]

Besides the requirements on nominal licensing defined in (9), the other chief component in Branan's proposal is a definition of case assignment domains for the purposes of the calculus

of dependent case. More precisely, Branan proposes that subjects in Kikuyu are generated at a position that belongs to a different domain of case assignment than the one where objects belong. As a result, the former cannot act as a case competitor for the latter. Concretely, Branan contends that the subject in Kikuyu is base-generated at Spec-VoiceP, while the object, within a lower ν P. The latter counts as a case domain on its own.

I adopt the same proposal for Wolof and, based on scope differences, add that full nominal (FN) objects shift to the edge of ν P, while BNs remain low in this domain.



According to this proposal, BN objects in Wolof cannot be licensed with case within the ν P where they are generated, given the absence of another case competitor. They must then be adjacent to the verb in order to be licensed. Full nominals, on the other hand, move to the edge of the case assignment domain where they are base-generated, where the subject becomes visible to them and can thus assign them downwards dependent case. The availability of case prevents FN objects from having to rely on verb surface adjacency with the verb to be licensed.

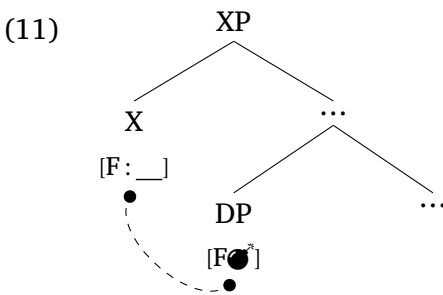
The licensing role played by the movement of full nominals is similar to what happens to the BN when it does not have to be adjacent to the verb. The introduction of another argument provides a case competitor to a PNI-ed object, allowing it to do away with licensing via linear adjacency with the verb. Likewise, \bar{A} -moving a bare nominal object brings it close to the subject, which can transformationally act as a case competitor. I argue thus that a dependent case theory of PNI can provide a uniform analysis of the distribution of bare nominals in Wolof.

1.1.2 The number interpretation of bare nominals in Wolof

Chapter 3 is dedicated to the fact that the BNs in Wolof are singular when unmodified, rather than number neutral, as is the tendency cross-linguistically.

Several languages allow for their nominals to occur in bare form, that is, without any functional morphology. Their number interpretation does not imply any commitment to a singular or plural interpretation. In Wolof, however, BNs are singular when unmodified. This can be argued for on the basis of, for instance, the impossibility of saturating a collective predicate, on the fact that they must be referred back to with a singular pronoun, and that they cannot be the antecedent of a plural anaphor. However, a plural interpretation becomes available when a nominal-internal plural feature is expounded in the form of complementizer or possessum agreement. The generalization is that BNs in Wolof are singular, unless plural morphology is expounded within the nominal.

I propose a version of Kalin’s (2017; 2018; 2019) framework of nominal licensing whereby certain interpretable features require licensing by the operation Agree; they are “derivational time bombs” that must be “defused” by this operation.



[based on Kalin 2019]

Specifically, I argue that the feature [+PLURAL] in Wolof nominals fall under this category. I assume that all nominals in Wolof, bare and full, can in principle be singular or plural. An obligatorily [+SINGULAR] interpretation arises in a BN when there is no probe to Agree with the [+PLURAL] version, causing the derivation to crash. Conversely, if the BN merges with structure that contains a number probe, [+PLURAL] can be defused, so that the corresponding construal can arise. This probe surfaces as relative complementizer or possessum agreement. The singular interpretation of BNs in Wolof arises as conspiracy between the need to license [+PLURAL] and the restrictions and resources available within the nominal a BN is embedded into.

1.1.3 Methodology

Unless otherwise stated, the Wolof data collected here are from in-person interviews conducted with a native speaker of the language in Cambridge (Massachusetts, USA). The speaker is a male from Kaolack in his late forties. He was asked to judge sentences in Wolof constructed by the author. He was also asked to translate English prompts. When the semantic properties of a particular sentence were at issue, a context was provided and the speaker was asked whether the given sentence was true or false in that scenario. Additional data was also provided by another consultant when the judgment of some sentences was unclear or when paradigms had to be completed. This consultant is a male in his mid-twenties from Dakar. I first established that the general prop-

erties of BNs accepted by the first consultant were accepted by him as well. The judgments of this consultant were collected via online questionnaires sent to him; the speaker was asked to judge sentences in Wolof constructed by the author.

Uncited data from Mandarin and Brazilian Portuguese were elicited from linguists who are native speakers of these languages. These speakers were asked to translate English prompts.

1.2 Basics of Wolof

Wolof is a Senegambian language of the Atlantic sub-branch of the Niger-Congo family (Eberhard *et al.*, 2021). It is mainly spoken in Senegal, the Gambia, and Mauritania. The consultants whose judgments inform these dissertation are from Senegal (see more information on the methodology section §1.1.3 above). According to Eberhard *et al.* (2021), there are around 12,200,000 speakers in Senegal and a total of 12,300,000 speakers globally.

Wolof is a head-initial language (for recent literature, see Torrence 2013a; Harris 2015; Martinović 2015, 2017, 2019; Jordanoska 2020 and references therein). For instance, verbs, prepositions, and complementizers precede their complements.

(12) a. *Verb precedes its complement*

Binta mungi **lekk** ceeb-u jën.
 Binta PROG.3SG eat rice-GEN fish
 ‘Binta is eating ceebu jen.’

b. *Preposition precedes its complement*

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

c. *Complementizer precedes its complement*

Defe-na-a **ne** macc-na-ñu màngo b-i.
 think-NA-1SG COMP suck-NA-3PL mango CM-DEF.SG
 ‘I think that they sucked the mango.’

[examples (a) and (c) from Torrence 2013a, p. 77]

Wolof is well-known for its rich system of sentential particles, i.e. morphemes, which encode, among other things, information structure (Robert 1991; 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. A sample of some of these sentential particles is in (13). In most sentences in this paper –, it is the morpheme for neutral sentences, *na*, which I leave unglossed.

(13) a. *Na clause (no subconstituent is focused)*

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. *Subject cleft*

Xale y-i (ñu) a lekk gato b-i.
child CM.PL-DEF (3PL) FOC.SUBJ eat cake CM.SG-DEF
'It's the children who ate the cake'

c. *Non-subject cleft*

Gato b-i la xale y-i lekk.
cake CM.SG-DEF OBJ.FOC.3SG child CM.PL-DEF eat
'It's the cake that the children ate.'

d. *Predicate focus cleft*

Xale y-i da-ñu lekk gato b-i.
child CM.PL-DEF do-3PL eat cake CM.SG-DEF
'The children did eat the cake/Eat the cake is what the children did.'

[Tamba *et al.* 2012, p. 893]

Wolof also has a negation affix, which is in complementary distribution with the neutral sentential particle *na*.

(14) *Sentential negation*

Xale y-i lekk-u-ñu gato b-i.
child CM.PL-DEF eat-NEG-3PL cake CM.PL-DEF
'The children did not eat the cake'

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.¹

(15) *Transitive predicate*

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

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

¹The use of the vague term 'cross-referencing' is intentional. While e.g. Tamba *et al.* (2012) assume that the person and number morphology suffixed to sentential particles like *na* is an instance of subject agreement, Martinović (2015) takes it to be an instance of clitic doubling (on clitic doubling, see, for instance, Kramer 2014; Harizanov 2014, a.o.).

(16) *Intransitive predicate*

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

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

(17)

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

[adapted from Zribi-Hertz & Diagne 2002, (29)]

As we are going to see in chapter 2, I am going to assume a dependent case view of case assignment (Marantz 1991). In a dependent case framework, case is assigned not by dedicated functional heads (Chomsky, 2000, 2001; Bobaljik & Wurmbrand, 2008; Pesetsky & Torrego, 2011). Rather, it is contingent on the relationship between two nominals in a given domain. More precisely, case is assigned according to an algorithm, which, to a first approximation (see more details in chapter 2), can be defined as follows:

- (18)
1. Assign lexical/idiosyncratic case.
 2. Given two nominals DP1 and DP2 in a given syntactic domain, if DP1 and DP2 have not been assigned case yet and if DP1 c-commands DP2, then assign dependent case (ergative or accusative case, depending on the language) to one of these nominals.
 3. Assign unmarked case to any remaining nominal that has not been assigned case so far.

In Wolof, oblique case can be seen in pronouns that are the complement to a preposition like *puru* 'for'. This can be taken as an instance of lexical case. (19) shows additionally that an accusative form of the of pronoun is ruled out as the complement to *puru*.

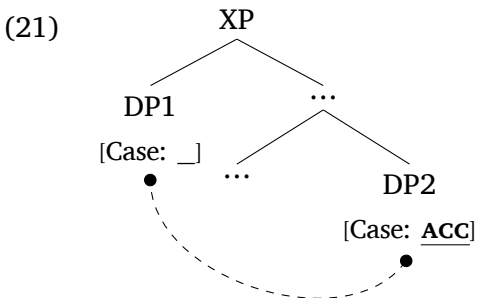
- (19) a. Kadeer togg-na a-y jën puru *ko / moom.
Kadeer cook-NA.3SG INDEF-CM.PL fish for *OBJ.3SG / OBL.3SG
'Kadeer cooked some fish for him/her.'

- b. Kadeer togg-na a-y jën puru *leen / ñoom.
 Kadeer cook-NA.3SG INDEF-CM.PL fish for *OBJ.3PL / OBL.3PL
 ‘Kadeer cooked some fish for them.’

The same can be said of the preposition *ak*:

- (20) Woykat b-i woy-na ak *ko / mon.
 singer CM.SG-DEF sing-NA.3SG with *OBJ.3SG / OBL.3SG
 ‘The singer sang with him/her.’

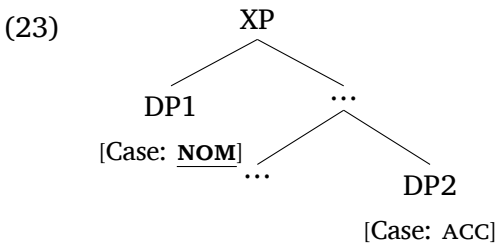
Next, the algorithm in (18) dictates that, in a given syntactic domain XP (again, see more details in chapter 2), if there are two DPs that have not been assigned case yet, dependent case is assigned to one of them. In a language that has nominative–accusative case alignment like Wolof, it is the c-commanded DP that is assigned dependent, accusative, case. Schematically:



Accusative case in the object of a transitive verb can be seen in the accusative form of the pronoun. (22), where an oblique pronoun is banned, can be contrasted with (20), where the opposite holds.

- (22) Woykat b-i gis-na ko / *mon.
 singer CM.SG-DEF see-NA.3SG OBJ.3SG / *OBL.3SG
 ‘The singer saw him/her.’

Finally, according to (18), any nominal left that has not been assigned lexical nor dependent case is assigned unmarked case. In the case of nominative–accusative case language like Wolof, unmarked case is nominative. In (22), the remaining DP is the transitive subject *woykat bi* ‘the singer’. As in many other languages, nominative case in Wolof is morphologically unmarked.



1.2.1 Basics of Wolof nominals

According to [Tamba et al. \(2012\)](#), the elements that can be found in the Wolof nominal is diagrammed in (24) and instantiated in (25):

(24) Numeral > AGR > noun > adjective > determiner

(25) juróóm-i xaj [y-u réy] y-ii
 five-LNK.PL dog [CM.PL-COMP big] CM.PL-DEM
 ‘these five big dogs’

[[Tamba et al. 2012](#), (3); adapted]

Determiners in Wolof can be classified in terms of definiteness and distality:

- | | | |
|------|--|---------------------------|
| (26) | a. xaj b-i
dog CM.SG-DEF.PROX
‘the dog (here)’ | <i>proximal definite</i> |
| | b. xaj b-a
dog CM.SG-DEF.DIST
‘the dog (there)’ | <i>distal definite</i> |
| | c. xaj b-ii
dog CM.SG-DEM
‘the dog (here)’ | <i>demonstrative</i> |
| | d. a-b xaj
INDEF-CM.SG dog
‘a dog’ | <i>indefinite</i> |
| | e. b-enn xaj
CM.SG-one dog
‘a/one dog’ | <i>indefinite/numeral</i> |

[[Tamba et al. 2012](#), p. 897ff; adapted]

(26a) and (26b) are examples of definite determiners, with *b-i* being proximal and *b-a*, distal.² (26c) is an example of a demonstrative determiner. Finally, (26d) and (26e) are examples of indefinite DPs. Determiners in Wolof carry the morphology of the nominal, including, as we are going to see momentarily, nominal class morphology. The subject matter of this thesis is interpretation and distribution of nominals that lack this morphology.

As mentioned, Wolof is a head-initial language. 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.

²In most examples of definite determiners in this thesis, I use the proximal *b-i*, so I refrain from glossing and translating distality.

- (27) 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)]

Determiners contain a class marker (CM) affixed to them (Babou & Loporcaro, 2016). Besides the class a noun belongs to, the class marker encodes number information (singular or plural). For instance, sàcc ‘thief’ remains constant in (27b) and (27c); whether the DP it heads is interpreted as singular or plural is correlated with the class marker used, *b* and *y*, respectively. Additional singular/plural pairs can be found below:

- | | |
|---|---|
| <p>(28) a. xaj b-i
 dog CM.SG-DEF
 ‘the dog’</p> <p>b. xaj y-i
 dog CM.PL-DEF
 ‘the dogs’</p> | <p>c. jigéén j-i
 woman CM.SG-DEF
 ‘the woman’</p> <p>d. jigéén ñ-i
 woman CM.PL-DEF
 ‘the women’</p> |
|---|---|

[Tamba *et al.* 2012, (15)]

The class markers in Wolof are listed below:

(29)	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]

Tamba *et al.* remark that different semantic, morphological, and phonological criteria may play a role in determining which class marker surfaces for a given nominal:

- (30)
- i. Phonological criterion: some nouns that begin with [w] are in the *w*-class (e.g. *waan* *w-i* ‘the kitchen’), some nouns that begin with [m] are in the *m*-class (e.g. *muus* *m-i* ‘the cat’).
 - ii. Semantic criterion: trees are in the *g*-class, while fruits are in the *b*-class (e.g. *tandarma* *g-i* ‘the date palm’ vs. *tandarma* *b-i* ‘the date (fruit)’).
 - iii. Morphological criterion: different derivational affixes may require different class, given the same root (e.g. *bëgg* ‘to want’ vs. *bëgg-in w-i* ‘the way of desiring’ vs. *mbëgg-éél g-i* ‘the desire’)

[Tamba *et al.* 2012, p. 895ff; adapted]

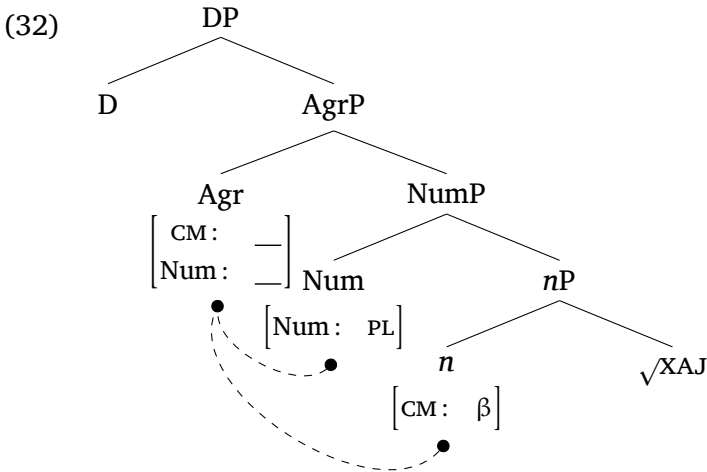
Class markers also occur in interrogative words:

- (31)
- a. k-an CM.SG-Q ‘who (SG)’
 - b. y-an CM.PL-Q ‘who (PL)’
 - c. b-an nen CM.SG-Q egg ‘which egg’
 - d. g-an satala CM.SG-Q kettle ‘which kettle’

[(b, c) from Babou & Loporcaro 2016, p. 13]

It is clear from (29) 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 (29)). While this analysis is consistent with the facts, it misses the asymmetry in the quantity of singular and plural class markers. I follow Kihm (2005) and Acquaviva (2009) in assuming that gender and other root-specific morphology is encoded in the categorizer that merges with the

root.³ As such, I propose that the Wolof class marker is a feature which is a specification of *n*, much like gender in Romance languages. Furthermore, I postulate a single head (AgrP; see more details in §3.4) that probes for a class marker and a number feature. It is this single head (Agr), I contend, that is expounded as the class marker morpheme in (29); this is a straightforward way to capture the fact that a single morpheme encodes both class and number information.



The Vocabulary Items that I propose for class markers (to reiterate, analyzed here as a single head that probes for a class marker feature, as well as number) are in (33). For concreteness, I represent the class marker feature with a Greek letter that corresponds to the singular class marker.

(33) *Vocabulary Items for Agr (i.e. the class marker)*

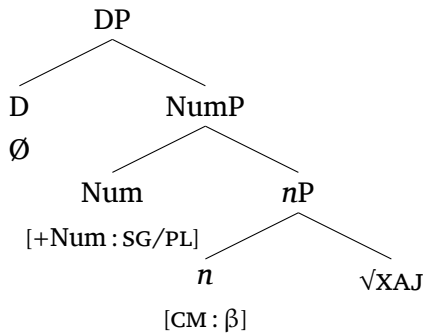
- a. [CM: β] ↔ /b/
- b. [CM: κ] ↔ /k/
- c. [CM: μ] ↔ /m/
- ...
- d. [PLURAL] ↔ /y/
- e. [CM: γ; PLURAL] ↔ /ñ/

Against this backdrop, we now turn a structure for their bare counterpart. 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. 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).⁴ Finally, I also assume that BNs in Wolof contain a null DP layer.

³See also Embick's (2015) implementation of Oltra Massuet's (1999) analysis of theme vowels in Romance languages like Catalan.

⁴Further arguments for keeping a NumP in BNs are provided in §3.4.

(34) *Structure of bare nominals in Wolof*



An indirect argument for the presence of a null D in Wolof BNs is provided by the fact that, while these nominals cannot be the subject of a finite clause, this is possible if a BN is encapsulated within a coordination:

- (35) a. * **Saasfaam** fàtte-na téj palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his/her window.’
- b. **Xale** ak **jàngalekat** woy-na-ñu ci daara j-i.
 child with teacher sing-NA-3PL PREP school CM.SG-DEF
 ‘A child and a teacher sang in the school.’
- c. **Xale** ak a-b jàngalekat woy-na-ñu ci daara j-i.
 child with INDEF-CM.SG teacher sing-NA-3PL PREP school CM.SG-DEF
 ‘A child and a teacher sang in the school.’

This pattern is reminiscent of what happens in other BN languages, including bare plurals in Italian:

(36) *Italian*

- a. * In questo ufficio **marocchini** telefonano sempre.
 in this office Moroccans call.up always
 ‘In this office Moroccans always call up.’
- b. In questo ufficio **marocchini** e **brasiliani** telefonano sempre.
 in this office Moroccans and Brazilians call.up always
 ‘In this office Moroccans and Brazilians always call up.’

[Landau 2007, (10); (b): S. Zompì, p.c.]

Landau (2007) argues that (36) can be explained if we assume that the EPP is a restriction on the phonological overtness of the head of the phrase that occupies Spec-TP, combined with the assumption that bare plurals in languages like Italian have a null D. A bare nominal has a null D, so it cannot satisfy this version of the EPP (36a). If BNs are embedded within a coordination phrase, whose head is overt, then this complex nominal is EPP-compliant (71c). If this analysis is correct, the Wolof contrast in (70) can also be explained if we assume that BNs in this language project a DP with a phonologically null head.

I propose further that the D's in full and bare nominals in Wolof make different c-selectional requirements. Full nominal D's merge with an AgrP, while BN D's merge directly with NumP. This postulation is grounded on the empirical fact that BNs do have a class marker, which I proposed earlier to be the exponent of Agr. This proposal will also be relevant in the analysis as to why BNs in Wolof are singular (and not number neutral) when unmodified (see §3.4).

In this section, we briefly looked at some general properties of Wolof, with an emphasis on the characteristics exhibited by its nominals. In the next section, we progress with this overview by looking into the structure of relative clauses in the language.

1.2.2 Relative clauses

The morphosyntax of relative clauses will play an important role in the two major parts of this thesis. Chapter 2 is concerned with the syntactic distribution of bare nominals, a hallmark of which is the need of this type of nominal to be linearly adjacent to the verb. However, this condition can be obviated if the bare nominal is again modified by a relative clause. In chapter 3, we turn to the number interpretation of bare nominals in Wolof. As we are going to see, these nominals can only have a singular interpretation. This contrasts with their counterparts in many other languages, where bare nominals are compatible with both a singular and a plural construal. Nevertheless, there are particular circumstances where a plural interpretation for the bare nominal indeed arises. One of them is the occurrence of a relative clause that contains plural morphology. In this introductory section, I summarize the relevant properties of relative clauses in Wolof and lay out Torrence's (2013a) raising analysis, which I adopt here.⁵

Torrence considers the following three types of relative clause in Wolof:⁶

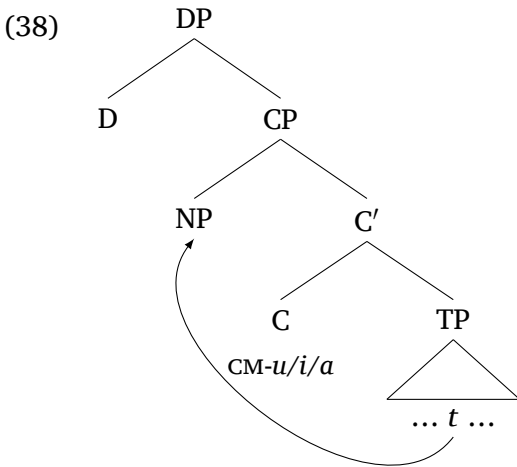
- (37) a. (u-j) yàmbaa j-u ñu tóx
 (NDEF-CL) marijuana CL-u 3PL smoke
 'some marijuana that they smoked'
- b. yàmbaa j-i ñu tóx (j-i)
 marijuana CL-i 3PL smoke (CL-DEF.PROX)
 'the marijuana here that they smoked'
- c. yàmbaa j-a ñu tóx (j-a)
 marijuana CL-a 3PL smoke (CL-DEF.DIST)
 'the marijuana there that they smoked'

[Torrence 2013a, p. 104; glosses from the original source]

The author contends that the Wolof relative clauses have the following underlying structure:

⁵See, however, Martinović (2017), in which a matching analysis of relative clauses is assumed. See also other preliminary comments on relative clauses on the appendix below.

⁶In the Wolof dialect spoken by my consultants, the indefinite determiner is *a* (rather than *u*).



[based on Torrence 2013a, p. 38, 39]

In (38), the head of the relative clause is generated inside the relative CP and subsequently moved to Spec-CP. The relative CP is subcategorized for by a determiner (see arguments adduced by Torrence 2013a, §4.5). The analysis I assume follows that advanced by Torrence and sketched above. I will introduce slight changes as needed. As for the claim that Wolof has three types of relative clauses in (37), some commentary will be added in the appendix.

Further basic examples of relative clauses in Wolof can be found in (39). The relative clause is headed by the complementizer *u*, to which is prefixed a class marker (*j*, *m*, *k*, and *b*, respectively). The class marker affix tracks the class of the head of the relative clause (*yàmbaa* ‘marijuana’, *póón* ‘tobacco’, *nit* ‘person’, and *jàngalekat* ‘teacher’, respectively). If a determiner is present, the same class marker is affixed to it.

- (39) a. u-j yàmbaa [RC j-u ñu tóx]
 INDEF-CM.SG marijuana [CM.SG-COMP 3PL smoke]
 ‘some marijuana that they smoked’
- b. u-m póón [RC m-u ñu tóx]
 INDEF-CM.SG tobacco [CM.SG-COMP 3PL smoke]
 ‘some tobacco that they smoked’
- c. Gis-na-a nit [RC k-u leen-fa Sàmba togg-al]
 see-NA-1SG person [CM.SG-COMP 3PL-LOC Samba cook-APPL]
 ‘I saw a person who Samba cooked them for there.’

[Torrence 2013a, p. 106ff]

- d. Roxaya xam-na a-b jàngalekat [RC b-u Maymuna bëgg].
 Roxaya know-NA.3SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna like]
 ‘Roxaya knows a teacher that Maymuna admires.’

Additionally, the matching between the class marker of the relative complementizer and that of the determiner is obligatory, at least as far as number matching is concerned:

- (40) 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.’

The fact that the morphology attached to the relative complementizer is sensitive to the idiosyncratic properties of the head of the relative suggests that, internally to the relative clause, this information has to be available.⁷ Torrence puts forth a raising analysis of relative clauses in Wolof. In this type of analysis, the fact that the class the head of the relative belongs to is visible to the complementizer is straightforward: the relative complementizer can access the properties of the head of the relative prior to its raising. In support for a raising analysis, Torrence looks into island and reconstruction effects, as well as Wolof-specific movement diagnostics.

Three types of analysis are prominent in the relative clause literature, head-external (41i), raising (41ii), and matching (41iii) analyses.

- (41) the book John likes
- i. [_{DP} the [_{NP} [_{NP} book] [_{CP} Op_k [_{C'} C_[+REL] John likes t_k]]]]
- ii. [_{DP} the [_{NP} [_{NP} book]_k] [_{CP} Op [_{C'} C_[+REL] John likes t_k]]]]
- iii. [_{DP} the [_{NP} [_{NP} book] [_{CP} book_k [_{C'} C_[+REL] John likes t_k]]]]

[based on Bhatt 2002, p. 44ff]

In the head-external analysis (41i), at no point in the derivation does the head of the relative clause occupy a position within the relative CP. This type of analysis is challenged by movement and reconstruction facts. In the head-internal analysis (41ii), the head of the relative is base-generated inside the relative CP. As such, it can account for the effects mentioned earlier. In a matching analysis (41iii), the head of the relative is not base-generated inside the relative CP, as in the head external analysis. However, there indeed is some phrase within the CP; this phrase is identical to the external head of the relative and deleted afterwards. As mentioned, Torrence argues for a raising analysis of Wolof relative clauses.

That relative clauses in Wolof involve movement can be demonstrated from the fact that is sensitive to adjunct and *Wh*-islands.

- (42) a. Gis-na-a Bintë [laata ñu jox tééré y-i xale b-i].
 see-NA-1SG Binta [before 3PL give book CM.PL-DEF child CM.SG-DEF]
 ‘I saw Binta before they gave the books to the child.’
- b. * tééré_k y-i ma gis Bintë [laata ñu jox t_k xale b-i]
 book CM.SG-DEF 1SG see Binta [before 3PL give child CM.SG-DEF]
 Lit.: ‘the books that I saw Binta before they gave the child’

⁷Thank you to Sabine Iatridou for this observation.

- c. Fàtte-na-a [k-an mu a sàcc tééré b-i].
 forget-NA-1SG [CM.SG-who 3SG COP steal book CM.PL-DEF]
 ‘I forgot who it is that stole the book.’
- d. * tééré_k b-i ma fàtte [k-an mu a sàcc t_k]
 book CM.SG-DEF 1SG forget [CM.SG-who 3SG COP steal]
 Lit.: ‘the book that I forgot who stole’

[Torrence 2013a, p. 111]

Movement in relative clauses can also be diagnosed with reconstruction effects. (43a) is an example of idiom in Wolof. (43b) shows that a nominal that is part of this idiom can be the head of a relative clause. In that case, the idiomatic construal is retained.

- (43) a. Def-na-a tééré Senegaal.
 make-NA-1SG amulet Senegal
 ‘I believe in Senegal.’ (Lit.: ‘I made Senegal an amulet.’)
- b. Tééré_k b-i më def t_k Senegaal mo-o-ma tax a dem.
 amulet CM.SG-DEF 1SG do Senegal 3SG-COP-1SG cause INF leave
 ‘It’s the dedication that I felt for Senegal that made me leave.’ (Lit.: ‘It’s the amulet that I made Senegal that caused me to leave.’)

[Torrence 2013a, p. 116]

As is well-known, the pieces that form an idiom must be close together in the structure. If part of that idiom is pronounced elsewhere (specifically, outside of the relative clause), it cannot have been base-generated there. A raising analysis of relative clauses, on the other hand, can aptly account for idiom reconstruction effects. Furthermore, Bhatt (2002, p. 48) remarks that idiom preservation furnishes an argument in favor of the raising analysis of relative clauses over the matching analysis.

Reconstruction effects in relative clauses in Wolof also arise in nominals like (44), where the head of the relative contains an anaphor (*nataal-u bopp=am* ‘picture of him;herself’) that is bound by a DP contained in the relative clause (*Isaa*).

- (44) nataal-u bopp=am_k b-i Isaa sàcc t_k
 picture-GEN head=POSS.3SG CM.SG-DEF Isaa steal
 ‘the picture of himself that Isaa stole’

[Torrence 2013a, p. 118]

Torrence contends that the compliance with Principle A in (44) can be accounted for if *nataal-u bopp=am* occupies a position inside the relative clause at some point of the derivation, allowing for binding to go through.

A Wolof-specific movement diagnostic is provided by the distribution of the applicative suffix *-al* and that of the preposition *ak* ‘with’. (45a) shows that the preposition *ak* is subcategorized for by the verb *daje* ‘meet’. (45b) and (45c) in turn show that, when the object of this verb is \bar{A} -moved,

what occurs – obligatorily – is the applied affix *-al*. Torrence shows further that the applicative suffix does not occur if the object of *daje* does not \bar{A} -move, irrespective, of the co-occurrence of the preposition *ak* (45d). (45d) also shows that the applicative suffix and *ak* cannot cooccur.⁸

- (45) a. Jàngalekat y-i daje-na-ñu *(ak) Isaa.
 teacher CM.PL-DEF meet-NA-3PL *(with) Isaa
 ‘The teachers met with Isaa.’
- b. K-an_k la jàngalekat y-i daje-*(el) t_k?
 CM.SG-who FOC.OBJ.3SG teacher CM.PL-DEF meet-*(APPL)
 ‘Who did the teachers meet with?’
- c. Isaa_k la jàngalekat y-i daje-*(el) t_k.
 Isaa FOC.OBJ.3SG teacher CM.PL-DEF meet-*(APPL)
 ‘It’s Isaa that the teachers met with.’
- d. * Jàngalekat y-i daje-el-na-ñu (ak) Isaa.
 teacher CM.PL-DEF meet-APPL-NA-3PL (with) Isaa
 Int.: ‘The teachers met with Isaa.’

[Torrence 2013a, p. 112; adapted]

Given these data, Torrence concludes the obligatory occurrence of the preposition *ak* is a diagnostic for the movement of the object of the verb *daje*. With this background in place, consider what happens in relative clauses.⁹

- (46) góór_k g-i Ayda wax-*(al) t_k
 man CM.SG-DEF Ayda speak-*(APPL)
 ‘the man that Ayda talked to’

[Torrence 2013a, p. 113]

In (46), the head of the relative is the complement of *wax* ‘speak’. The occurrence of the applicative suffix *-al* is obligatory. Following the analysis of (45b) and (45c) above, Torrence concludes that a relative clause like that in (46) involves the raising of *wax*’s complement outside of the relative clause.¹⁰

⁸From (ia) and (ib), respectively, we conclude that Wolof does not allow the pied-piping nor the stranding of *ak*.

- (i) a. * Ak Isaa la jàngalekat y-i daje t.
 with Isaa FOC.SUBJ teacher CM.PL-DEF meet
 Int.: ‘It’s with Isaa that the teachers met.’
- b. * Isaa_k la jàngalekat y-i daje ak t_k.
 Isaa FOC.SUBJ teacher CM.PL-DEF meet with
 Int.: ‘It’s Isaa that the teachers met with.’

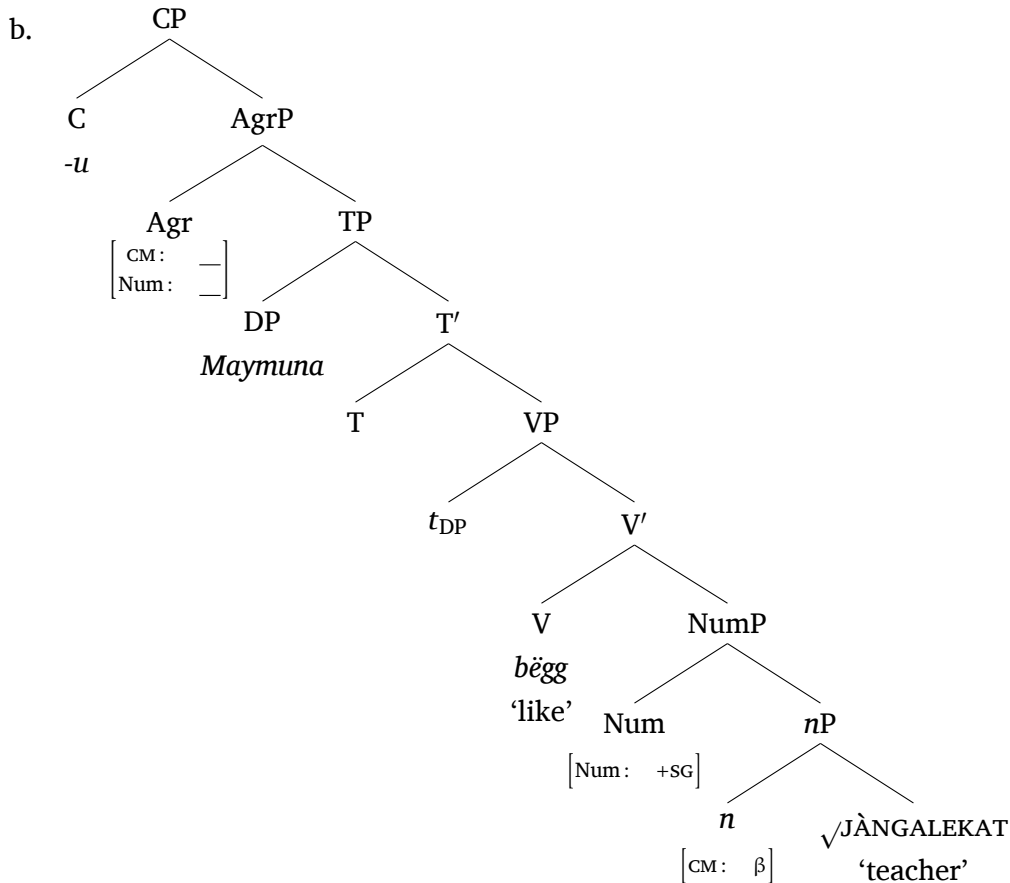
[Torrence 2013a, p. 112; adapted]

⁹For the data reported in Torrence (2013a), the relative clause and baseline data have different verbs.

¹⁰It seems to be the case, however, that (46) could also be accounted for in a matching analysis, where a matching noun to *góór* is base-generated inside the relative and \bar{A} -moved to the edge of that CP. Idiom-based are more well-suited to distinguish between raising and matching analyses.

In view of these data, Torrence proposes that a raising analysis is appropriate for relative clauses in Wolof. I follow this conclusion, but slightly adapt Torrence’s proposal to make it uniform with the analysis of BNs advanced in this thesis. A relative clause like that in (39d), repeated below, can be diagrammed as in (47b), a representation of a relative clause CP prior to raising. In keeping with the analysis of class markers assumed in (32), relative complementizer agreement is encoded in an AgrP below the relative CP.

- (47) a. Roxaya xam-na a-b jàngalekat [_{RC} b-u Maymuna bëgg].
 Roxaya know-NA.3SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna like]
 ‘Roxaya knows a teacher that Maymuna admires.’



This concludes our brief overview of the grammar of Wolof. This background information will be assumed in the upcoming chapters.

Appendix: Relative complementizers and determiners

As mentioned above, Torrence (2013a) identifies three types of relative clauses in Wolof, regarding the form of the relative complementizer:

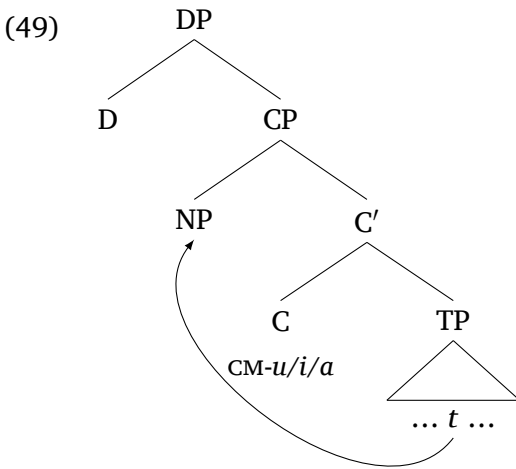
- (48) a. (u-j) yàmbaa j-u ñu tóx
 (NDEF-CL) marijuana CL-u 3PL smoke

‘some marijuana that they smoked’

- b. yàmbaa j-*i* ñu tóx (j-*i*)
marijuana CL-*i* 3PL smoke (CL-DEF.PROX)
‘the marijuana here that they smoked’
- c. yàmbaa j-*a* ñu tóx (j-*a*)
marijuana CL-*a* 3PL smoke (CL-DEF.DIST)
‘the marijuana there that they smoked’

[Torrence 2013a, p. 104; glosses from the original source]

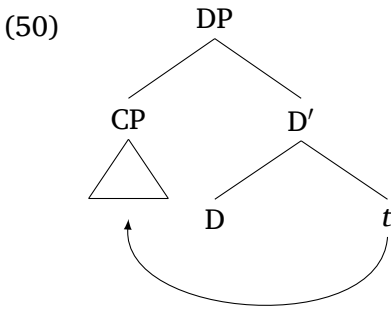
As briefly mentioned above, Torrence analyzes the the morphemes *i* (48b) and *a* (48b) attached to the class marker that linearly follows the head of the relative as instances of relative complementizers that happen to be homophonous to the italicized determiners that occur in the same nominals. This analysis is also captured in the diagram in (49), which represents Torrence’s analysis of Wolof relatives.



[based on Torrence 2013a, p. 138ff]

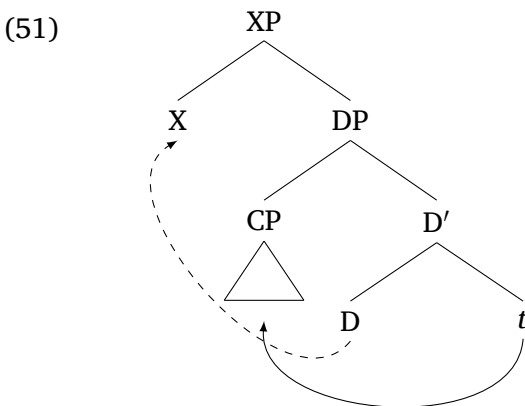
It is striking that the same determiners that are post-nominal seem to have a homophonous complementizer counterpart.

Torrence also tries to account for the fact that definite determiners in Wolof follow the nominal modified by a relative clause. To account for this order, the author proposes that the relative clause moves to the Spec position of a DP headed by a definite determiner:



[Torrence 2013a, p. 143]

However, because indefinite determiners like *a-b* ‘CM.SG-INDEF’ precede the noun, Torrence must assume that the indefinite determiner must subsequently also move, assuming that the CP movement depicted in (50) holds across different types of nominals modified by a relative clause, irrespective of the determiner that heads them.



[Torrence 2013a, p. 160, adapted]

I believe the account briefly summarized above raises a few questions. First, as mentioned, the form of the relative complementizer is taken to be accidentally homophonous with the determiners that are post-nominal. Pre-nominal indefinites do not have a homophonous complementizer counterpart. Second, one may wonder what happens to the order of nominals when there is no relative clause. In particular, does the head movement of the indefinite determiner in (51) also occur in the absence of a relative clause? While I do not have a fully fledged alternative analysis, I will mention some data that suggests that the form of the “complementizer” in definite and demonstrative DPs is not accidental. Rather, I tentatively suggest that the relative complementizer may be deleted due to a similarity of features, as in Martinović’s (2017) analysis. Furthermore, I assume that Wolof is a head-initial language across the board, so that derivations like that in (51) need not be stipulated.

As mentioned above, Wolof is a head-initial language (see data in (12)), but, nonetheless, some DPs are head-final, notably definite and demonstrative phrases.

- (52) a. *Definite DP: post-nominal*
 xale b-i
 child CM.SG-DEF
 ‘the child’
- b. *Demonstrative DP: post-nominal*
 xale b-ii
 child CM.SG-DEM
 ‘this child’

(53) *Indefinite DP: pre-nominal*

- a-b xale
 INDEF-CM.SG child
 ‘a child’

The difference in order is correlated with a difference in the possible forms a DP can surface with, when a relative clause is merged into it. First of all though, note that the *u* relative complementizer can co-occur with both definite and indefinite determiners, at least in the Wolof dialects considered in this thesis.

- (54) a. Samba tej-na palanteer [b-u tilim] b-i.
 Samba close-NA.3SG window [CM.SG-COMP dirty] CM.SG-DEF
 ‘Samba closed the window that is dirty.’
- b. Samba tej-na palanteer [y-u tilim] y-i.
 Samba close-NA.3SG window [CM.PL-COMP dirty] CM.PL-DEF
 ‘Samba closed the windows that are dirty.’
- (55) a. Bindakat b-i bind-na a-b taalif [b-u Samba bëgg].
 writer CM.SG-DEF write-NA.3SG INDEF-CM.SG poem [CM.SG-COMP Samba like]
 ‘The writer wrote a poem that Samba likes.’
- b. Mareem séy-aat-na ak a-b féckkat [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.’
- (56) Muus b-i daxee-na xaj [b-u sokola] b-ee.
 cat CM.SG-DEF chase-NA.3SG dog [CM.SG-COMP brown] CM.SG-DEM.DIST
 ‘The cat chased that brown dog (over there).’

However, definite DPs can surface without the relative complementizer *u*, a possibility that is unavailable for full and bare indefinites. (57) shows that this alternative structure is only available for definite DPs. It is not possible in neither indefinite DPs (57b) nor BNs (57c).

- (57) a. Jàng-na-a leetar b-i Roxaya binda.
 read-NA-1SG letter CM.SG-DEF Roxaya write
 ‘I read the letter that Roxaya wrote.’

- b. * Jàng-na-a a-b leetar Roxaya binda.
read-NA-1SG INDEF-CM.SG letter Roxaya write
Int.: ‘I read some letter that Roxaya wrote.’
- c. * Jàng-na-a **leetar** Roxaya binda.
read-NA-1SG letter Roxaya write
Int.: ‘I read some letter that Roxaya wrote.’

(58), (59a), and (59b) further illustrate this generalization.

- (58) Samba gis-na góor g-i Kadeer xam.
Samba see-NA.3SG man CM.SG-DEF Kadeer know
‘Saw saw the man Kadeer knows.’
- (59) a. * Xam-na-a a-b jàngalekat Maymuna gis.
know-NA-1SG INDEF-CM.SG teacher Maymuna see
Int.: ‘I know some teacher that Maymuna saw.’
- b. * Xam-na-a **jàngalekat** Maymuna gis.
know-NA-1SG teacher Maymuna see
Int.: ‘I know some teacher that Maymuna saw.’
- (60) a. Roxaya xam-na jàngalekat b-i Maymuna bëgg.
Roxaya know-NA.3SG teacher CM.SG-DEF Maymuna like
‘Roxaya knows the teacher that Maymuna admires.’
- b. * Roxaya xam-na a-b jàngalekat Maymuna bëgg.
Roxaya know-NA.3SG INDEF-CM.SG teacher Maymuna like
Int.: ‘Roxaya knows a teacher that Maymuna admires.’
- c. Roxaya xam-na a-b jàngalekat b-u Maymuna bëgg.
Roxaya know-NA.3SG INDEF-CM.SG teacher CM.SG-COMP Maymuna like
‘Roxaya knows a teacher that Maymuna admires.’
- d. * Roxaya xam-na **jàngalekat** Maymuna bëgg.
Roxaya know-NA.3SG teacher Maymuna like
Int.: ‘Roxaya knows a teacher that Maymuna admires.’
- e. Roxaya xam-na **jàngalekat** b-u Maymuna bëgg.
Roxaya know-NA.3SG teacher CM.SG-COMP Maymuna like
‘Roxaya knows a teacher that Maymuna admires.’

A potential way to distinguish between different types of relative clause modification in Wolof may be provided by pronominal allomorphy. Torrence makes the interesting observation that 2nd person pronouns in the subject position of relative clauses differ in each type of relative clause. When the morpheme that occurs after the head of the relative corresponds to a head-final determiner, as in (61a) and (61b), the 2nd person pronoun in the subject is taken from the subject marker paradigm in (17). In contrast, if the complementizer is *u* (61c), a 2nd person pronoun is taken from the object clitic paradigm.

- (61) a. jigéén j-i **ngéén** d-oon xool
 woman CL-*i* 2PL IMPERF-PAST look
 ‘the woman that you were looking at’
- b. jigéén j-a **nga** d-oon xool
 woman CL-*a* 2SG IMPERF-PAST look
 ‘the (distal) woman that you were looking at’
- c. jigéén j-u **a** d-oon xool
 woman CL-*u* 2SG IMPERF-PAST look
 ‘a/some woman that you were looking at’

[Torrence 2013b, p. 108ff]

I have found a similar behavior in the data I collected. In (62a), the DP is headed by the indefinite *b-enn* ‘CM.SG-one’ and the 2nd person subject is taken from the object clitic series; a subject marker pronoun renders the sentence ungrammatical.¹¹ In (62b), we see that the same pronoun can be used. However, the translation provided is that *la* ‘OBJ.2SG’ is truly interpreted as an object. If a 2nd person subject interpretation is intended, the subject marker *nga* ‘2SG’ must be used, as we see in (62c).

- (62) a. Roxaya xam-na b-enn jàngalekat b-u la / *nga bëgg.
 Roxaya know-NA.3SG CM.SG-one teacher CM.SG-COMP OBJ.2SG / *2SG like
 ‘Roxaya knows a teacher who you like.’
- b. Roxaya xam-na jàngalekat b-i la bëgg.
 Roxaya know-NA.3SG teacher CM.SG-DEF OBJ.2SG like
 ‘Roxaya knows the teacher who likes you.’
- c. Roxaya xam-na jàngalekat b-i nga bëgg.
 Roxaya know-NA.3SG teacher CM.SG-DEF 2SG like
 ‘Roxaya knows the teacher who you like.’

Interestingly, the same *la* vs. *nga* restriction can be found with another head-final determiner, the demonstrative *b-ii*. (63) shows that *b-ii*, like the definite determiner *b-i* can also co-occur with the relative complementizer *b-u* and is placed to the right of both of the head of the relative clause and the relative clause itself.

- (63) Sama xaj taana-na bal [b-u bulë] b-ii.
 POSS.3SG dog choose-NA.3SG ball [CM.SG-COMP blue] CM.SG-DEM.PROX
 ‘My dog chose this ball which is blue.’

The pair of sentences in (64) shows that, if the subject of the *b-ii* relative clause is in the 2nd person singular, the pronoun must be the subject marker *nga* and cannot be the object clitic *la*.

- (64) a. Sama xaj taana-na bal b-ii **nga** jënd.
 POSS.3SG dog choose-NA.3SG ball CM.SG-DEM.PROX=2SG buy
 ‘My dog chose this ball which you bought.’

¹¹One should ask whether (62a) is ambiguous between a subject and an object reading for *la* ‘OBJ.2SG’. I regrettably did not ask that question.

- b. * Sama xaj taana-na bal b-ii la jënd.
 POSS.3SG dog choose-NA.3SG ball CM.SG-DEM.PROX 2SG buy
 ‘My dog chose this ball which you bought.’

It seems thus that another head-final determiner (namely, the demonstrative *b-ii*) behaves like the definite determiner *b-i* commented on above, in that both display the same *nga* vs. *la* restriction and that both can occur as *bona fide* determiners, while also having a relative clause complementizer counterpart. In [Torrence](#)’s analysis, this similarity would be overlooked by the postulated homophony between head-final determiners and relative complementizers. While I do not have an explanation for the *nga/la* allomorphy (and why the object marker *la* occurs as the subject the relative clause in indefinite DPs), I believe it points to the need of an account that takes care of the similar behavior of head-final determiners and why, descriptively, they have a relative complementizer counterpart.

Before we move on to an alternative analysis, we can reject a potential alternative analysis for the status of the morpheme *b-i* that follows the head of the relative. It is possible that *b-i* in this case is a definite determiner (and not a relative complementizer) that occurs before a relative (and not after it, as one might expect from a head-final determiner) because of extraposition ([Fox & Nissenbaum, 1999](#); [Fox, 2002](#)), an English example of which can be found in (65).

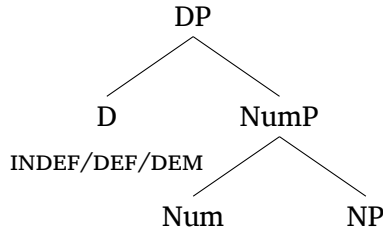
- (65) I read a book **yesterday** that I didn’t like.

The same type of data, however, cannot be reproduced in Wolof.

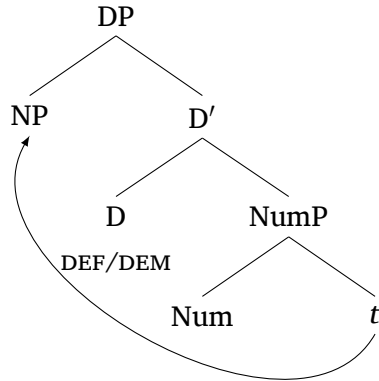
- (66) a. Samba jàng-na téere b-i Roxaya binda.
 Samba read-NA.3SG book CM.SG-DEF Roxaya write
 ‘Samba read the book that Roxaya wrote.’
 b. Samba jàng-na téere b-i { ***déemba** } Roxaya binda { ✓**déemba** }.
 Samba read-NA.3SG book CM.SG-DEF { *tomorrow } Roxaya write { ✓tomorrow }
 ‘Samba read the book that Roxaya wrote.’

Given the general head initial pattern found in Wolof, it seems to be reasonable to assume that DPs in the language are also head-initial, with the reverse being the result of some transformation. The basic structure of nominals in Wolof (with irrelevant details omitted) that I assume is in (67a). Further, in an analysis that resembles that advanced by [Torrence](#), I propose that the head-finality of definite and demonstrative DPs is caused by a feature that triggers the movement of NP to its Spec (67b). The same “edge feature” is stipulated not to present in indefinite DPs.

(67) a. *General structure for nominals in Wolof*



b. *Structure for definite and demonstrative nominals in Wolof*



Following common assumptions, a relative CP is adjoined to NP. I assume that either segment of the NP thus modified could satisfy the feature stipulated to trigger NP movement to the Spec of definite and demonstrative DPs. I propose that the occurrence of the *b-i* that occurs linearly following the head of the relative in a sentence like (68b) is the result of an obliteration rule that deletes the complementizer when it is linearly adjacent to a determiner that has the same class marker and number features.

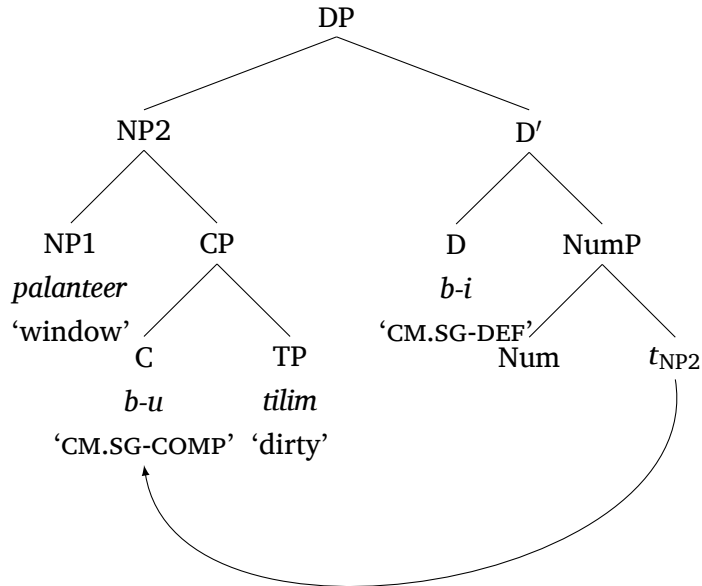
To recall, it is possible, at least in the Wolof dialect examined here, for the *u* relative complementizer to co-occur with the post-nominal definite determiner (68a). Likewise, it is possible for *b-i* (analyzed by Torrence as a relative complementizer) to linearly follow the head of the relative (68b). Regrettably, I do not have a minimal pair illustrating this alternation.

- (68) a. Samba tej-na palanteer [b-u tilim] b-i.
 Samba close-NA.3SG window [CM.SG-COMP dirty] CM.SG-DEF
 ‘Samba closed the window that is dirty.’
- b. Jàng-na-a leetar b-i Roxaya binda.
 read-NA-1SG letter CM.SG-DEF Roxaya write
 ‘I read the letter that Roxaya wrote.’

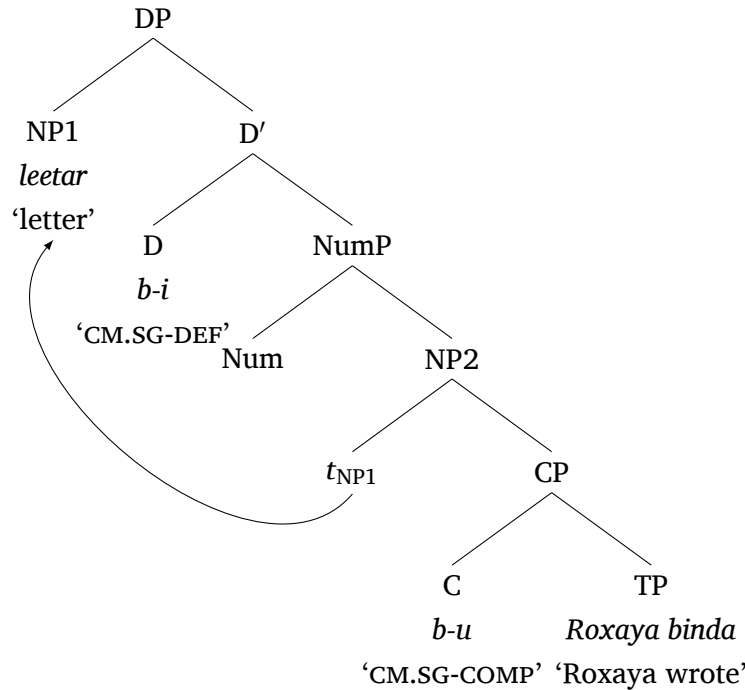
I analyze the co-occurrence of the relative complementizer and a definite determiner as the movement of the highest NP segment (NP2) to Spec-DP which includes the relative clause (69a). If the lower NP segment (NP1) moves, the result is that the definite determiner and the relative

complementizer end up linearly adjacent (69b). I stipulate that, in this case, the linear adjacency triggers the application of an obliteration rule that deletes the complementizer.

(69) a. NP2 pied-pipes relative clause (cf. (68a))



b. Head of relative NP1 moves by itself (cf. (68b))



The obliteration rule I assume is in (70). It is based on Martinović's (2017) analysis of the occurrence of *Wh*-elements in Wolof. According to Martinović, the language is characterized by a

ban on the occurrence of adjacent elements that are featurally identical. A post-syntactic obliteration operation (Arregi & Nevins, 2007) applies that resolves this co-occurrence. Inspired by Martinović’s original analysis, I stipulate that this deletes the complementizer and not the determiner because the latter contains unrecoverable information, namely, definiteness. This is unlike Martinović’s proposal in that the author proposes that the determiner can be deleted. Martinović follows Torrence in assuming that relative complementizers and determiners have an identical set of features. This cannot be the case for the Wolof dialect surveyed here because the relative complementizer *u* can occur with indefinite (55), definite (54), and demonstrative (48g) DPs.

(70) *Obliteration* (inspired by Martinović 2017)

[C, CM : α , Num : β] \rightarrow \emptyset / [D, CM : α , Num : β] ___

(where ‘C’ and ‘D’ are placeholders for the set of features that comprises relative complementizer and determiners, respectively)

The obliteration rule (70) applies in (69b) because the NP1’s trace and Num are phonologically null. However, the context for the application of this rule does not obtain when the whole NP moves to Spec-DP (69a), since the complementizer is not linearly adjacent to the determiner.

With this cursory proposal in place, we can go back to the distinction between head-initial and head-final determiners mentioned above:

- (71) a. Jàng-na-a leetar b-i Roxaya binda.
 read-NA-1SG letter CM.SG-DEF Roxaya write
 ‘I read the letter that Roxaya wrote.’
- b. * Jàng-na-a a-b leetar Roxaya binda.
 read-NA-1SG INDEF-CM.SG letter Roxaya write
 Int.: ‘I read some letter that Roxaya wrote.’
- c. * Jàng-na-a **leetar** Roxaya binda.
 read-NA-1SG letter Roxaya write
 Int.: ‘I read some letter that Roxaya wrote.’

To recall, (71) shows that occurring after the head of the relative clause is a possibility reserved for definite determiners (or, to use Torrence’s terms, for relative complementizers homophonous with head-final determiners). The word order seen in (71a) was addressed above in (69b). The ill-formedness of (71b), where a head-initial indefinite determiner is used, follows from the postulated absence of an edge feature that triggers the movement of NP to Spec-DP. Because NP movement does not occur, the indefinite determiner and the relative complementizer are not adjacent. As such, the context for the application of the obliteration rule (70) is not met. Something along these lines can also be said of the BN example (71c): the context for the application of obliteration is not met. Notice that (71b) would be interpreted in Torrence’s analysis as an accidental lack of homophony.

This obliteration analysis outline makes three predictions, which are borne out by the facts, although some of the data to be discussed are also consistent with Torrence’s proposal. First, if the

obliteration rule in (70) applies whenever the appropriate context arises, we expect the determiner *b-i* and the relative complementizer *b-u* cannot co-occur when adjacent. This is indeed what we find:

- (72) * Jënd-na-a téere b-i [b-u Mariama Ba jànga]
 buy-NA-1SG book CM.SG-DEF [CM.SG-COMP Mariama Ba write]
 Int.: ‘I bought the book that Mariama Ba wrote.’

It must be said, however, that (72) is also expected to be ungrammatical in Torrence’s analysis. In that case, (72) is simply not generable, as the CP movement diagrammed in (50) moves the head of the relative, its determiner, and the relative itself.

The reverse is also expected to be true in the present analysis: obliteration cannot occur if its context does not arise. As such, we do not expect a DP where the relative complementizer does not occur, while a definite determiner in head final position. This is in fact what we find:

- (73) * Jàng-na-a leetar Roxaya bind b-i.
 read-NA-1SG letter Roxaya write CM.SG-DEF
 ‘I read the letter that Roxaya wrote.’

Under the current proposal, (73) would be the result of pied-piping the relative clause when NP moves to Spec-DP (cf. the diagram in (69a)), combined with the obliteration of the complementizer. The latter, however, cannot occur because, if the relative clause is pied-piped, the complementizer does not end up adjacent to the determiner (as it does if the NP alone moves, leaving the relative clause behind (69b)). Under Torrence’s proposal, (73) is ungrammatical because relative complementizers are not optional.

Another prediction is that there should not be two occurrences of *b-i*, one a definite determiner and another as its homophonous complementizer counterpart. This prediction is also correct, as we can see in (74), where the class marker is *g* (rather than *b*). (75) provides yet another example.¹²

- (74) a. Lekk-na-ñu ginaar g-i Isaa togg déemba.
 eat-NA-1PL chicken CM.SG-DEF Isaa cook yesterday
 ‘We ate the chicken that Isaa cooked yesterday.’
 b. * Lekk-na-ñu ginaar g-i Isaa togg g-i déemba.
 eat-NA-1PL chicken CM.SG-DEF Isaa cook CM.SG-DEF yesterday
 Int.: ‘We ate the chicken that Isaa cooked yesterday.’

¹²In contrast, the Wolof dialects that Torrence investigates allows for the possibilities of two *b-i*’s:

- (i) xale y-i ma gis y-i
 child CL-*i* 1SG see CL.PL-DEF.PROX
 ‘the children that I saw’

[Torrence 2013a, p. 143]

I regrettably do not have an explanation for this possibility, though (i) is of course predictable from Torrence’s analysis: two *y-i*’s can co-occur because the leftmost instance is a complementizer and the other, a head-final determiner.

- (75) * Jënd-na-a téere b-i Mariama Ba jànga b-i.
 buy-NA-1SG book CM.SG-DEF Mariama Ba write CM.SG-DEF
 Int.: 'I bought the book that Mariama Ba wrote.'

According to the account advanced here, the reason why (74b) and (75) are ungrammatical is straightforward: *g-i* and *b-i* are exclusively definite determiners, so they are not expected to occur twice, specifically not in the slow where a relative complementizer is expected.

The analysis sketched here does not share the concerns leveled against Torrence's analysis. In the partial analysis sketched here, the *b-i* that occurs following the head of the relative in a sentence like (68b) is not a complementizer that is accidentally homophonous with a determiner. Rather, it is indeed a determiner that survives an obliteration rule. This analysis also captures why it is post-nominal determiners (i.e. definite and demonstrative determiners) that occur in a position that follows the head of a relative: these determiners are post-nominal because they trigger the movement of the NP to their Spec position. Indefinite determiners, conversely, lack this feature, preserving the head-initial pattern found in Wolof. As such, no extra movement of indefinite determiners is required, as in Torrence's analysis (50).

Chapter 2

Syntactic distribution

2.1 Introduction

‘Pseudo noun incorporation’ (PNI) is the name for a construction where an object usually appears linearly adjacent to the verb that subcategorizes for it.¹ Prima facie, PNI seems identical to noun incorporation. However, unlike what happens in the latter, in PNI, the object is not a nominal head, but rather an internally complex nominal phrase. This can be demonstrated, for instance, by the fact that a PNI-ed nominal can be modified by an adjective. On pseudo noun incorporation, see the collection of papers in [Borik & Gehrke \(2015\)](#); see also [Levin \(2015\)](#); [Driemel \(2020\)](#) and references therein.²

PNI can be illustrated by Niuean ([Massam, 2001](#)). (1a) is a baseline example, where the subject of the transitive verb is marked with ergative case and the object, absolutive case. In this sentence, the object carries not only case, but also number morphology. Furthermore, it is separated from the sentence-initial verb by the subject and by an adverb (*tūmau* ‘always’). (1b) is a PNI example. In this sentence, the object appears in bare form, lacking both case and number morphology. It is also adjacent to the verb. The agentive subject in turn is marked with absolutive case, which is otherwise reserved for objects or intransitive subjects. In the same example, the adverb *always* no longer intervenes between the verb and the bare object. Finally, (1c), where the case and linearization properties are the same as those in (1b), shows that the bare object that is adjacent to the verb can also be modified by an adjective, suggesting that the PNI-ed object is a complex phrase, rather than a simplex nominal head.

¹The word ‘usually’ is key here. [Driemel \(2020\)](#) argues in detail that an adjacency requirement is too strong to fully characterize PNI cross-linguistically. As we will see below, PNI in Wolof also does not always conform to this generalization.

²For useful comments on the content of this chapter, I thank D. Pesetsky, S. Iatridou, N. Richards, I. Jordanoska, various audiences at MIT and the audience of a talk given at UC Berkeley. Thank you also to anonymous *Glossa* and *Syntax* reviewers.

(1) *Pseudo noun incorporation in Niuean*

- a. Takafaga tūmau nī e ia e tau ika.
hunt always EMPH ERG he ABS PL fish
'He is always fishing.'
- b. Takafaga **ika** tūmau nī a ia.
hunt fish always EMPH ABS he
'He is always fishing.'
- c. Ne inu **kofe kono** a Mele.
PST drink coffee bitter ABS Mele
'Mary drank bitter coffee.'

[Massam 2001, p. 157ff]

Another property that usually characterizes PNI is the impossibility of the PNI-ed nominal to be a subject (though see Öztürk 2009, who argues that subjects can indeed be incorporated in Turkish). This can be illustrated in Tamil (Baker, 2014b). (2a) is a baseline example where the object is a full nominal that contains a determiner and also case morphology. In (2b), the theme does not contain this nominal morphology. (2c) indicates that, under these conditions, the object must be adjacent to the verb, even though full nominals can be separated from the same verb by a locative argument (2a). (2d) shows that they PNI-ed nominal can be internally complex, including not only number morphology, but also an adjective. (2e) illustrates the obligatory narrow scope reading of a PNI-ed nominal. Finally, (2f) shows that a subject cannot receive this interpretation – in fact, it must take wide scope with respect to the same operator as that used in (2e) (*again and again*). Scope is relevant in this case due to the fact that subjects in Tamil do not have overt case morphology to begin with.

(2) *Pseudo noun incorporation in Tamil*

- a. Naan oru pustagatt-e anda pombale-kittē kuḍu-tt-een.
I a book-ACC the woman-LOC give-PAST-1SS
'I gave a book to the woman.'
- b. Naan anda pombale-kittē **pustagam** kuḍu-tt-een.
I the woman-LOC book give-PAST-1SS
'I gave a book to the woman.'
- c. *Naan **pustagam** anda pombale-kittē kuḍu-tt-een.
I book the woman-LOC give-PAST-1SS
Int.: 'I gave a book to the woman.'
- d. Baala **pazeya pustaga-nga** vi-tt-aan.
Bala old book-PL sell-PAST-3MS
'Bala sold old books.'
- e. Naan tirumba tirumba **pustagam** vang-an-een.
I again again book buy-PAST-1SS
'I bought book(s) again and again.' (a different book each time)

- f. # Bala-ve tirumba tirumba **naaji** keqi-cc-icci.
 Bala-ACC again again dog bite-PAST-3NS
 ‘A dog bit Bala again and again.’ (only the same dog bit him over and over)

[Baker 2014b, p. 8ff; 18; 23]

In Wolof, bare nominals display some of the properties found in PNI. (3a) is a baseline example, where the object is a full nominal with a determiner and the class marker characteristic of Wolof. (3b) is a bare nominal (BN) version of that. We see in (3c) that a BN object cannot be separated from the verb with a low adverb, though, as we are going to see, this is possible for a full nominal in the same position. (3d) shows that a BN object must take narrow scope. Finally, (3e) shows that a BN cannot be the subject of a transitive verb in a finite clause.

- (3) a. Xale y-i jënd-na-ñu a-b téere.
 child CM.PL-DEF buy-NA-3PL INDEF-CM.SG book
 ‘The children bought a book.’
- b. Xale y-i jënd-na-ñu **téere**.
 child CM.PL-DEF buy-NA-3PL book
 ‘The children bought a book.’
- c. Jàngalekat b-i jàng-na { *cikaw } **taalif** { cikaw }.
 teacher CM.SG-DEF read-NA.3SG { *loudly } poem { loudly }
 ‘The teacher read a poem loudly.’
- d. Isaa fàtte-na jënd **fowekaay**.
 Isaa forget-NA.3SG buy toy
 ‘Isaa forgot to buy a toy.’
- i. # *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).*
- ii. ✓ *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.*
- e. * **Sasfam** fàtte-na tej palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his;her window.’

Massam’s analysis of pseudo noun incorporation has one main component, which has consequences for both the internal and external properties of bare nominals in Niuean. Massam proposes that bare nominals in this language have a defective structure; specifically, they do not contain a DP layer, projecting just an NP, unlike their full nominal counterparts. As a consequence, bare nominals in Niuean lack case and determiner morphology, with the lack of case also having consequences for the case marking of a higher co-argument: (1b) above shows that a PNI sentence displays intransitive case and agreement properties, even though the verb (*takafaga* ‘hunt’) is transitive. Specifically, the subject (*ia*) appears with absolute (and not ergative) case. Nonetheless,

the bare nominal is still a complex phrase, capturing why it can be modified (1c). Besides capturing the internal properties of a PNI-ed nominal in Niuean, this analysis also captures a signature property of PNI, namely the adjacency between the bare object and the verb: according to [Massam](#), the lack of a DP layer in Niuean bare nominals is also the reason why they cannot move to a position that is otherwise occupied by full nominal objects in the language. More precisely, objects in Niuean evacuate the verb phrase, so that they escape the predicate fronting that results in the verb-initial order that is characteristic of the language. However, because bare nominals cannot move, they remain inside the fronted VP, so that they end up adjacent to the verb even after predicate fronting. In this analysis of PNI phenomena, the adjacency requirement follows from the inability of a bare nominal object to move from the its base-generation position.

[Baker \(2014b\)](#), on the other hand, proposes that there indeed is some type of movement involved in PNI. More precisely, PNI is the result of the head of an NP theme head-moving to V, forming a complex predicate at LF. [Baker](#) assumes that movement is a non-primitive operation that involves copying, such that copies must be deleted in order to avoid contradictory linearization statements (see, for instance, [Nunes 2004](#)). Because the proposed PNI head movement is not triggered by features nor is it driven by affixal properties of some node, there is no simple criterion that could determine which copy to pronounce and which to delete. As such, [Baker](#) contends that the only way to move the PNI-ed nominal and avoid linearization ill-formedness is for the moving N^0 to move vacuously. Specifically, [Baker](#), (p. 27) claims that “in this particular situation [*i.e.*, in PNI construction, analyzed as head movement] a single pronunciation of [*a PNI-ed NP*] can count as a realization of both copies of the N movement chain”. If some element comes between the PNI-ed NP and the verb, a linearization contradiction will indeed arise. Hence, in [Baker’s](#) analysis, the adjacency requirement follows from a conspiracy between how PNI arises (head movement of N^0 from NP to V^0) and how the resulting derivation can avoid linearization ill-formedness.

[Massam’s](#) and [Baker’s](#) approaches thus differ in how each author derives the linear adjacency requirement. According to [Massam](#), the need of the bare nominal object to be adjacency to the verb is the byproduct of the nominal’s inability to move away from its base-generation position. In [Baker’s](#) account, however, the adjacency requirement is not caused by a property of the PNI-ed nominal. Rather, it follows from a conspiracy between how PNI is derived and how a derivation should proceed in order for linearization statements not to be contradictory. As such, [Baker’s](#) analysis does make room for the adjacency requirement to be side-stepped, as long as no linearization issue arises. Nonetheless, despite this higher degree of flexibility, the type of PNI found in Wolof poses a challenge to a linearization-based theory like [Baker’s](#). In particular, while PNI in Wolof also obeys the adjacency requirement (3c), there are circumstances where it can be bypassed, as in (4b), where the causee *Roxaya* intervenes between the verb and the theme bare nominal.

- (4) a. Jënd-oloo-na-a **téere** Roxaya.
 buy-CAUS-NA-1SG book Roxaya
 ‘I made Roxaya buy a book.’

- b. Jënd-oloo-na-a Roxaya **téere**.
buy-CAUS-NA-1SG Roxaya book
'I made Roxaya buy a book.'

The correlation that holds in the Wolof data to be surveyed is that which holds between the introduction of an additional DP in the sentence (the causee in (4b)) and the loosening of the adjacency requirement. This can be captured instead by a theory of nominal licensing that is based on dependent case (Marantz, 1991; Baker & Vinokurova, 2010; Baker, 2012, 2014a, 2015; Levin & Preminger, 2015; Poole, 2015, 2020, a.o.), as that put forth by Branán (to appear).³ Branán proposes that nominals must be licensed with case, with surface adjacency with the verb arising as a last resort licensing option if case assignment is not possible. Under a configurational view of case assignment, whether or not a nominal is assigned case is a function of the presence of other nominals in a given syntactic domain that can act as case competitors. As we are going to see, the adjacency requirement holds in Wolof PNI, unless another nominal is made present in the same sentence, as in (4b). This correlation can be accounted for straightforwardly in a dependent case analysis of PNI.

This chapter is structured as follows. In §2.2, I describe the properties of pseudo noun incorporation in Wolof. We shall see that, while Wolof obeys the adjacency requirement, there are two ways to avoid it: either the BN is \bar{A} -moved or an intermediate nominal is introduced between the subject and the BN theme in the form of e.g. an applied or causee argument. A question that these data motivate is what common property of these two independent phenomena permit the adjacency requirement to be obviated. In §2.3, I summarize the main relevant properties of Branán's (to appear) theory of nominal licensing, where nominals must be assigned case, with adjacency with the verb arising as a last resort option when case assignment is not possible. Because Branán's theory builds on a dependent case framework, a unified analysis can be provided to the question above: what \bar{A} -movement and three-argument constructions have in common is that they both provide a case competitor that allows a BN theme to be assigned case, which does away with verb adjacency. In §2.4, I apply Branán's (to appear) nominal licensing to Wolof. In §2.4.4, I add an independently motivated definition of the EPP that accounts for why BNs in Wolof cannot occur in the subject position. This addition, in combination with the dependent case view of the PNI endorsed here will be shown to give rise to correct predictions about BN subjects that are subsequently \bar{A} -moved. §2.5 is a summary of the analysis to be put forward in the present chapter to account for the distribution of PNI in Wolof. In the same section, I briefly discuss its empirical and theoretical implications.

³For a series of empirical challenges to dependent case, see Bány & Sheehan (to appear).

2.2 The distribution of BNs in Wolof

2.2.1 Pseudo Noun Incorporation in Wolof

A BN in the direct object position must be adjacent to the verb. (5a) illustrates the fact that a low adverb can intervene between the verbal complex and a full nominal object. (5b) in turn shows that the same adverb cannot be placed between the verbal complex and a BN object.

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

(6) is another paradigm showcasing the same restriction, though the ungrammaticality is not as marked.⁴

- (6) a. Roxaya { *bugaaw } jàng-na { bugaaw } xibaar b-i { bugaaw }.
 Roxaya { *quickly } read-NA.3SG { quickly } newspaper CM.SG-DEF { quickly }
 ‘Roxaya read the newspaper quickly.’
- b. Roxaya { *bugaaw } jàng-na { ?bugaaw } **xibaar** { bugaaw }
 Roxaya { *quickly } read-NA.3SG { ?quickly } newspaper { quickly }
 ‘Roxaya a newspaper quickly.’

However, this requirement can be sidestepped in two ways: (i) addition of another argument, which is lower than the (agentive) subject, but higher than the direct object; (ii) \bar{A} -movement of the BN direct object. The latter is achieved by relativizing or clefting a BN.

When another intermediate argument is added to the clause, it can optionally intervene between the verb and the BN direct object. This description obtains in ditransitive (7), applicative (8), and causative (9) constructions. In the data to follow, the (a) and (b) are baseline examples

⁴A *Glossa* reviewer and I. Jordanoska observe that *bugaaw* could be parsed as *b-u gaaw* ‘CM.SG-COMP be.quick’, that is, as a relative clause. However, if this were the case in (5a), in the option where *bugaaw* follows *the newspaper*, we would have a sequence *b-i b-u*, that is, a head-final definite determiner followed by the relative complementizer, which is ungrammatical:

- (i) * Jënd-na-a téere b-i [b-u Mariama Ba jànga]
 buy-NA-1SG book CM.SG-DEF [CM.SG-COMP Mariama Ba write]
 Int.: ‘I bought the book that Mariama Ba wrote.’

Alternatively, this option could be derived by extraposing *b-u gaaw* ‘CM.SG-COMP be.quick’. Extraposition, as we have already seen, is likewise ungrammatical:

- (ii) Samba jàng-na téere b-i { *déemba } Roxaya binda { ✓déemba }.
 Samba read-NA.3SG book CM.SG-DEF { *tomorrow } Roxaya write { ✓tomorrow }
 ‘Samba read the book that Roxaya wrote.’

where the theme is a full nominal. This theme can either precede or follow the intermediate argument (a goal, an applied argument, or a causee, respectively). (c) and (d) are the BN counterparts of these examples, where the same range of possible word orders is available.

- (7) a. Awa nettali-na b-enn léeb xale y-i.
Awa narrate-NA.3SG CM.SG-one story child CM.PL-DEF
'Awa narrated a story to the children.' *FN; theme >> goal*
- b. Awa nettali-na xale y-i b-enn léeb.
Awa narrate-NA.3SG child CM.PL-DEF CM.SG-one story
'Awa narrated a story to the children.' *FN; goal >> theme*
- c. Awa nettali-na **léeb** xale y-i.
Awa narrate-NA.3SG story child CM.PL-DEF
'Awa narrated a story to the children.' *BN; theme >> goal*
- d. Awa nettali-na xale y-i **léeb**.
Awa narrate-NA.3SG child CM.PL-DEF story
'Awa narrated a story to the children.' *BN; goal >> theme*
- (8) a. Awa tabax-al-na kër g-i Faatu.
Awa build-APPL-NA.3SG house CM.SG-DEF Faatu
'Awa built Faatu the house.' *FN; theme >> APPL*
- b. Awa tabax-al-na Faatu kër g-i.
Awa build-APPL-NA.3SG Faatu house CM.SG-DEF
'Awa built Faatu the house.' *FN; APPL >> theme*
- c. Janga-al-na-a **taalif** sama doom.
read-APPL-NA-1SG poem POSS.1SG child
'I read my child a poem.' *BN; theme >> APPL*
- d. Janga-al-na-a sama doom **taalif**.
read-APPL-NA-1SG POSS.1SG child poem
'I read my child a poem.' *BN; APPL >> theme*
- (9) a. Bindo-loo-na-a a-b leetar xale y-i.
write-CAUS-NA-1SG INDEF-CM.SG letter child CM.PL-DEG
'I made the children write a letter.' *FN; theme >> causee*
- b. Bindo-loo-na-a xale y-i a-b leetar.
write-CAUS-NA-1SG child CM.PL-DEF INDEF-CM.SG letter
'I made the children write a letter.' *FN; causee >> theme*
- c. Jënd-oloo-na-a **téere** Roxaya.
buy-CAUS-NA-1SG book Roxaya
'I made Roxaya buy a book.' *BN; theme >> causee*
- d. Jënd-oloo-na-a Roxaya **téere**.
buy-CAUS-NA-1SG Roxaya book
'I made Roxaya buy a book.' *BN; causee >> theme*

(10) shows additionally that a BN can be separated from a causativized verb not only by the causee argument, but also by an adverb.

- (10) Bindo-loo-na-a xale y-i ndànk ndànk **bataaxal**.
 write-CAUS-NA-1SG child CM.PL-DEF slowly slowly letter
 ‘I patiently (lit.: slowly) made the children write a letter.’

Wolof is not alone in allowing a BN object not to be adjacent to the verb in ditransitive sentences. [Johnson \(2015\)](#) shows that this is possible in Hocq̄k, where a goal argument can be bare and, at the same time, not be adjacent to the verb:⁵

- (11) *Hocq̄k*
 Meredith-ga **njikjək** šuq̄k-hižə Ø-hok’u Ø-roogu.
 Meredith-PROP child dog-INDEF 3S-give 3S-want
 ‘Meredith wants to give a dog to children.’

[[Johnson 2015](#), (44b)]

Likewise, [Driemel \(2020\)](#) shows that, in Turkish, a PNI-ed theme can be separated from the verb by a goal:

- (12) *Turkish*
 Öğretmen { **ödev** } öğrenci-ler-e { **ödev** } ver-di-Ø.
 teacher.NOM { homework } student-PL-DAT { homework } give-PFV-3
 ‘The teacher gave homework to the students.’

[[Driemel 2020](#), (21)]

Another way to void the adjacency requirement is by \bar{A} -movement of the theme BN. One type of \bar{A} -movement that brings about this effect is clefting (on clefting in Wolof, see [Torrence 2013b](#); [Martinović 2017](#)).

- (13) a. Isaa binda-na **taalif** déemba.
 Isaa write-NA.3SG poem yesterday
 ‘Isaa wrote a poem yesterday.’
 b. **Taalif** la xale y-i binda ____.
 poem FOC.OBJ.3SG child CM.PL-DEF wrote
 ‘It is a poem that the children wrote.’

This is reminiscent of what happens in German NPI, where a PNI-ed object can be topicalized ([Frey, 2015](#); [Driemel, 2020](#)):

- (14) *German*
 a. Max wird heute **Karten** spielen.
 Max will today cards play
 ‘Max will play cards today.’

⁵[Johnson \(2015\)](#) is, to the best of knowledge, the first to make a case against a linearization-based analysis of PNI ([Baker, 2014b](#)). I comment on the adequateness of this proposal to the Wolof data in the [appendix](#) on p. 77.

- b. **Karten** wird Max heute spielen.
 cards will Max today play
 ‘Max will play cards today.’

[Frey 2015, p. 228

Likewise, relativizing a BN allows it not to be adjacent to the verb. In (15a), we see that adding a relative clause to a full nominal does not change the possibility of an adverb intervening between it and the verb (cf. (5a)). However, the addition of a relative clause does increase the possible linear order available to a BN. (15b) demonstrates that a BN under these conditions can be separated from the verb by an adverb (cf. (5b)).

- (15) a. Jàngalekat b-i jàng-na { cikaw } a-b taalif [b-u
 teacher CM.SG-DEF read-NA.3SG { loudly } INDEF-CM.SG poem [CM.SG-COMP
 Kadeer bind] { cikaw }.
 Kadeer write] { loudly }
 ‘The teacher read loudly a poem that Kadeer wrote.’
- b. Jàngalekat b-i jàng-na { cikaw } **taalif** [b-u Kadeer bind] {
 teacher CM.SG-DEF read-NA.3SG { loudly } poem [CM.SG-COMP Kadeer write] {
 cikaw }.
 loudly }
 ‘The teacher read loudly a poem that Kadeer wrote.’

Finally, Tamba *et al.* (2012, p. 906) observe that BNs in Wolof cannot be the highest argument, namely, the subject.

- (16) a. A-b / B-enn xale jàng-na téére b-i.
 INDEF-CM.SG / CM.SG-one child steal-NA.3SG book CM.SG-DEF
 ‘A child read the book.’
- b. * **Xale** jàng-na téére b-i.
 child steal-NA.3SG book CM.SG-DEF
 Int.: ‘A child read the book.’

[Tamba *et al.* 2012, (36)

I have found the same restriction in the data examined in this thesis. That a BN in Wolof cannot be the subject is a restriction that holds of root (124) and of finite embedded clauses (124c).

- (17) a. * **Sasfam** fàtte-na tej palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his;her window.’
 (A consultant commented that the sentence would only be grammatical if ‘Sasfam’ were a proper name.)
- b. * **Ndonggo.darra** lekk-na maafe.
 student eat-NA.3SG maafe
 Lit.: ‘Student ate maafe.’

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

Having examined these data, the questions we can ask regarding the distribution of PNI in Wolof are therefore as follows:

- (19) i. Why do BNs have to obey the adjacency requirement, while full nominals do not?
 ii. Why does adding an argument between the subject and the BN theme (in the form of an applied argument or causee) allow the latter to bypass the adjacency requirement?
 iii. Why does \bar{A} -moving a BN theme also allow it to bypass the adjacency requirement?
 iv. What is there in common between three-argument constructions and \bar{A} -movement such that they both allow a BN theme in Wolof to escape the adjacency requirement?

As mentioned in the introduction, existing PNI analyses can straightforwardly account for the adjacency requirement (19i). However, they may not readily carry over to the cases where this condition is sidestepped (19ii/19iii). I will argue that a dependent case view of nominal licensing (Branan, to appear) is able to explain these cases and, furthermore, what they have in common (19iv). As we will see, in a dependent case system (Marantz, 1991), case assignment is calculated based on the c-command relationship between two nominals within a given domain. What (19ii) and (19iii) have in common is that a case competitor is provided to the BN in object position, allowing it to be licensed.

In the next section, I will summarize Branan’s theory of nominal licensing.

2.3 Nominal licensing in Branan (to appear)

The effect that the addition of another intermediate argument has to the behavior of the BN in ditransitive, causative, and applicative structures is strikingly similar to a pattern in Kikuyu that Branan (to appear) analyzes. Nominals in Kikuyu that are in subject position (more generally, in non-direct object position) can come in the order *demonstrative–noun* and *noun–demonstrative*.

- (20) *Kikuyu: DEM-N and N-DEM possible in non-direct object*

- a. **mũndũ ũyũ** nĩ-a-rũg-ir-e.
 1.man 1.DEM FOC-1S-jump-ASP
 ‘This man jumped.’
- b. **ũyũ mũndũ** nĩ-a-rũg-ir-e.
 1.DEM 1.man FOC-1S-jump-ASP
 ‘This man jumped.’

[Branan to appear, (2a/b)]

However, this order alternation is no longer available when the nominal is the object of a transitive verb:

(21) *Kikuyu: only N-DEM is possible in direct object*

- a. Mwangi nĩ-a-on-ire **mũndũ ũyũ.**
Mwangi FOC-1S-see-ASP 1.man 1.DEM
'Mwangi saw this man.'
- b. * Mwangi nĩ-a-on-ire **ũyũ mũndũ.**
Mwangi FOC-1S-see-ASP 1.DEM 1.man
Int.: 'Mwangi saw this man.'

[Branan to appear, (1)]

An obvious question raised by these data is, what explains the ordering restriction in direct objects in Kikuyu? Branan's answer to this question has two main components: the proposal that nominals must be licensed (Levin, 2015) and a particular proposal about case domains in the Kikuyu VP.

Following Levin (2015), Branan assumes that nominals must be licensed; nominal licensing is achieved either by case assignment or via string adjacency with the verb (Baker, 1985).

(22) *Nominal licensing*

- a. A nominal must be [*case*]-licensed.
- b. A nominal is [*case*]-licensed iff it:
 - i. It has been assigned case or
 - ii. Its N^0 is strictly adjacent to V^0 [*in the resulting surface structure*].

[Branan to appear, (4, 5)]

See also Imanishi (2017) and Van Urk (2019), who apply the same analysis to case dropping in Japanese and Differential Object Marking in Fijian, respectively. For an overview of how verb adjacency can be employed as a last resort licensing strategy in Austronesian voice system languages, see Erlewine *et al.* (2020).

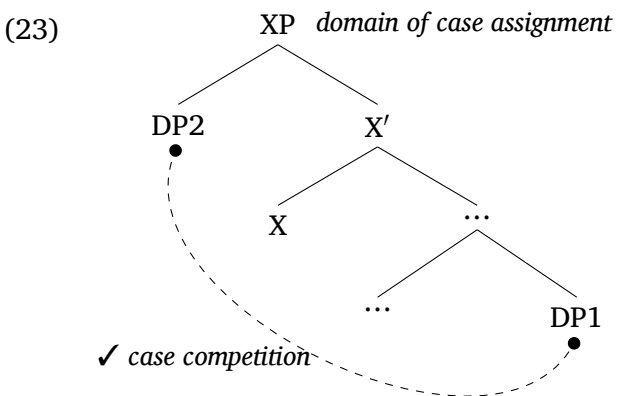
Importantly, Levin (2015) assumes that the last resort, verb adjacency licensing strategy can be applied late in the derivation, at the morphological component, where post-syntactic operations like Local Dislocation (Embick & Noyer, 2001) can help achieve the desired adjacency. This is going to be relevant when we discuss how adjacency can be obtained in a language with verbal head movement like Wolof.

The subject of a finite clause is a position where it can be assigned case, dispensing with the need of its head N^0 to be adjacent to the verb. However, the object of a transitive verb would not be able to receive case in Kikuyu, which is why adjacency between its head N^0 and the verb now becomes necessary. In order to comply with (22), the head N^0 of the object must be adjacent with the verb. As such, the order *demonstrative-noun* becomes unavailable.

At this point, one must ask why it would not be possible for a direct object to be assigned case in Kikuyu. Branan assumes a dependent case framework (Marantz 1991, a.o.), where case is not assigned by particular functional heads (e.g. finite T and transitive v), but rather calculated

based on the c-command relationship between two nominals within a given syntactic domain. In (23), DP1 and DP2 belong to the same domain of case assignment XP. In this chapter, I assume that domains of case assignment are phases (Baker, 2014a).⁶ Within XP, DP2 asymmetrically c-commands DP1. Assume that neither DP has been assigned idiosyncratic lexical case. In a language with ergative case alignment, DP2 is assigned dependent ergative case. In a language with nominal case alignment, DP1 is assigned dependent accusative case. Any remaining DP that has not been assigned lexical nor dependent case is assigned unmarked case (absolutive case in ergative languages or nominative case in accusative case languages).

The dependent case calculus can be diagrammed as in (23).

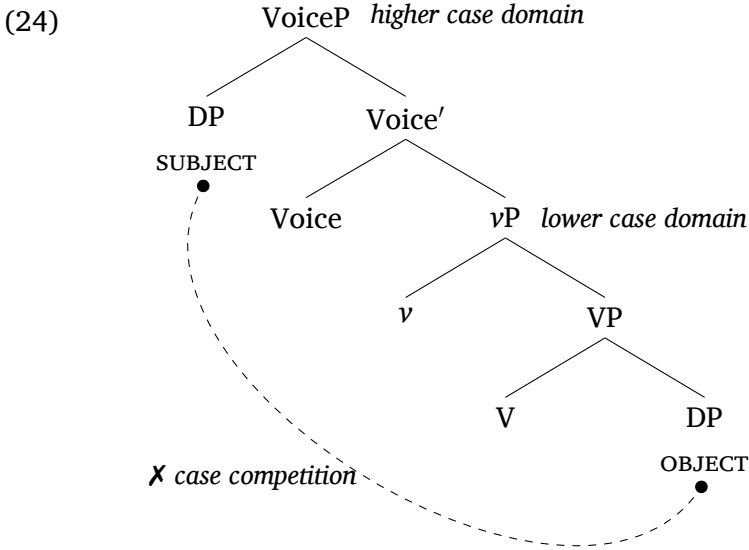


If DP2 and DP1 did not belong to the same domain of case assignment (e.g. if each belonged to a different phase), dependent case could not have been assigned.

Branan contends that, in Kikuyu, the subject and the object of a transitive verb belong to different case assignment domains. Specifically, Branan assumes that the subject of a transitive verb is generated at VoiceP, while the object is embedded inside a ν P:⁷

⁶See however Keine & Zeijlstra (2021) for empirical arguments that ν P is not a phase.

⁷This proposal is reminiscent of Richards's (2010) Distinctness-based approach to Differential Case Marking.



[based on [Branan to appear](#)]

The subject cannot act as a case competitor for the object, which remains case-less. In order to satisfy (22), the direct object is licensed by having its head adjacent to the verb.⁸

Two predictions emerge from this proposal: (i) If another nominal is introduced in the lower case domain, the object should be able to be assigned case due to the introduction of a case competitor in the same case domain, and (ii) if the object is displaced to a position where the subject is accessible to it, the latter can allow the former to receive case, even though this was not possible in the base-generation configuration.

First, a strategy to introduce an intermediate argument that is nevertheless above the object is via an applicative construction (see other constructions in [Branan to appear](#)). In this configuration, the object is free to display a *determiner–noun* order.

(25) *Kikuyu*: DEM-N possible in direct object applicative

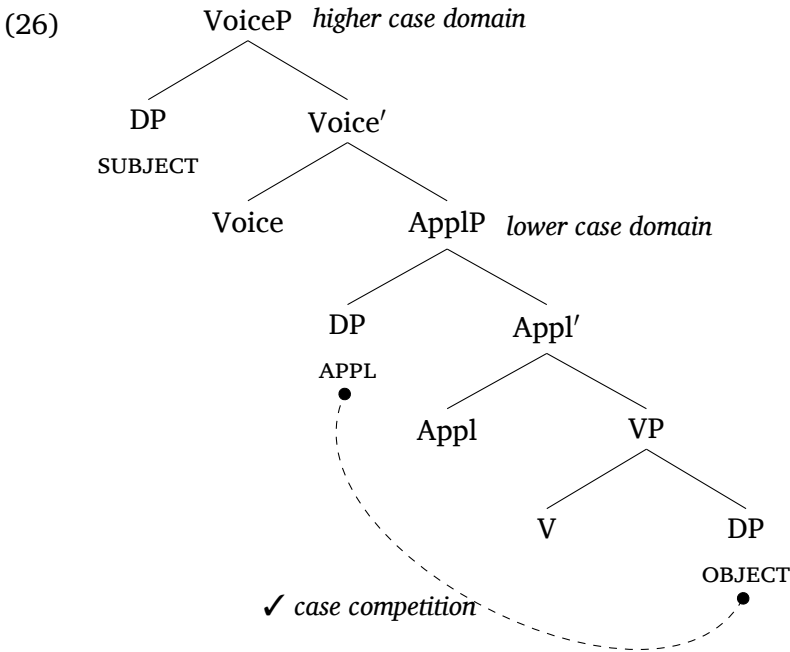
Njine nĩ-a-ra-rĩ-ĩra **ici** **irio** ngaragu.
 Njine FOC-1S-T-eat-APPL 10.DEM 10.food 9.hunger
 ‘Njine is eating this food because of hunger.’

[[Branan to appear](#), (12a)]

The lower object (*ici irio* ‘this food’ in (25)) is assigned case via competition with the newly introduced applied argument (*ngaragu* ‘hunger’). The latter argument in turn is at the edge of the lower case domain. [Branan](#) contends that this suffices for this argument to be visible to the higher

⁸One must assume that unmarked case is unavailable in the lower case domain, otherwise both full and bare nominal objects could be licensed by this type of case. (See also [Branan to appear](#), fn. 12.) I thank S. Iatridou, E. Newman, and anonymous *Syntax* reviewers for bringing up this issue.

subject, even if they belong to different case domains.⁹ The case assignment in applicative constructions under Branan’s analysis represented as follows:



[adapted from Branan to appear, (6)]

Second, a direct object may be assigned case if a transformation allows this argument to become part of the case assignment where there is a case competitor. A case in point is *Wh*-moving the direct object. Branan shows that Kikuyu allows its *Wh*-phrases to surface in situ. In that case, a *Wh*-object behaves just like its non-interrogative counterpart (21): the head N^0 of the nominal must be adjacent to the verb (27).

(27) *Kikuyu: in-situ Wh-phrase requires adjacency*

- a. Abdul a-thom-ire [**ivuku rĩĩku**].
Abdul 1S-read-ASP [5.book 5.which]
'Which book did Abdul read?'
- b. * Abdul a-thom-ire [**ĩĩku ivuku**].
Abdul 1S-read-ASP [5.which 5.book]
Int.: 'Which book did Abdul read?'

[Branan to appear, (41)]

However, if the *Wh*-object is overtly moved, this requirement can be obviated:

⁹Indeed, the applied argument can also appear in the order *determiner–noun*. See Branan (to appear, (12c)).

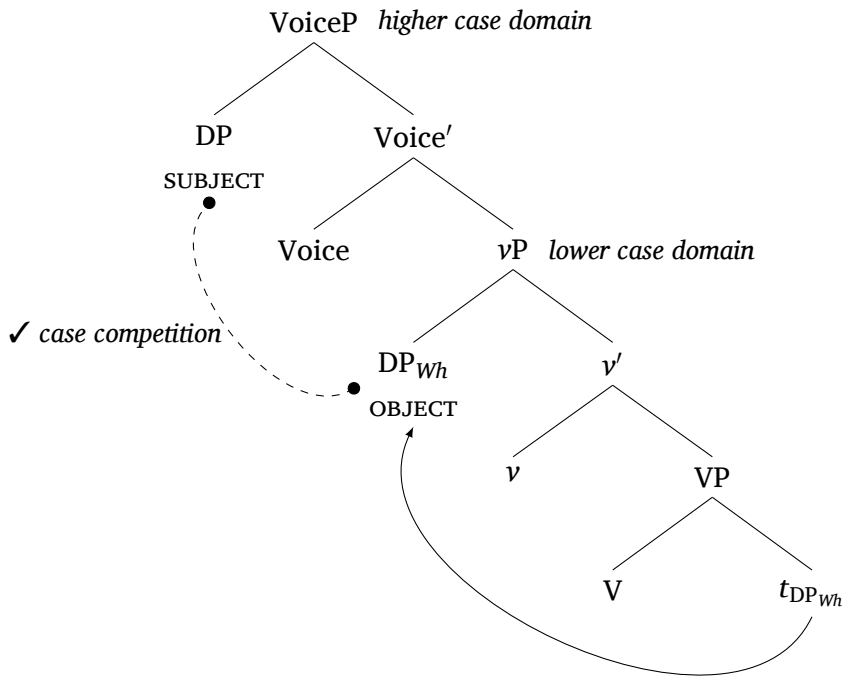
(28) *Kikuyu*: fronted *Wh*-phrase may have either order of demonstrative

- a. [Nĩ **ivuku rĩrĩku**] Abdul a-thom-ire ____.
 [FOC 5.book 5.which] Abdul 1S-read-ASP
 ‘Which book did Abdul read?’
- b. [Nĩ **ĩrĩrĩku ivuku**] Abdul a-thom-ire ____.
 [FOC 5.which 5.book] Abdul 1S-read-ASP
 ‘Which book did Abdul read?’

[Branan to appear, (42)]

Building on much previous work, Branan proposes that *Wh*-fronting requires a stopover step at the *vP* edge. This allows a moving object to transformationally become part of the higher case domain. This is where the subject is base-generated and it can act as a case competitor for the *Wh*-object.

(29)



[adapted from Branan to appear, (39)]

As mentioned above, the linear order possibilities in three-argument constructions and \bar{A} -movement in Wolof (see §2.2) are quite similar to what Branan describes and examines in Kikuyu. As such, it seems appropriate to extend this analysis to Wolof PNI. This is the task in the next section; auxiliary assumptions will be introduced and justified as needed.

2.4 Applying **Branan (to appear)** to Wolof PNI

2.4.1 Adjacency with the verb

Recall that one of our goals is to explain why a BN object in Wolof must be adjacent to the verb, as shown in (30b), repeated from above.

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

We can interpret the adjacency requirement as a BN’s response to satisfy the Nominal licensing requirement (22). Specifically, a direct object BN must be assigned case, but, as in Kikuyu, the subject belongs to a different, higher case domain. As a result, the only way for a direct object BN to be licensed is via adjacency with the verb. As briefly mentioned above, I follow [Levin \(2015\)](#) in assuming that verb adjacency can be assessed late in derivation, as late as the morphological component. As such, if BNs stay in situ, at the narrow syntax, the adjacency requirement would not be complied with. If, conversely, this requirement can be verified post-syntactically, BNs can be appropriately licensed, even if the Wolof verb moves up.

However, in Kikuyu, there is only one realizational possibility in the object position, namely, the determiner of a nominal in that position must follow a head-final pattern, even though a head-initial pattern is also available. To recall, [Branan’s](#) proposal to account for this restriction is that it is caused by the need of a nominal to be licensed, which, in the object position, can only be achieved if the head of the nominal is adjacent to the verbal complex. In Wolof, in contrast, more than one possibility is available for a nominal in the object position: it can be either a bare or a full nominal. The analysis sketched above only accounts for the distribution of BNs. All things equal, however, full nominals in the object position should not be able to be assigned case either. As such, the prediction from the analysis as it stands so far is that a full nominal in the object position should cause the derivation to crash due to a violation of (22). (30a), where the head of the full nominal object is not adjacent to the verb, shows that this prediction is not borne out.

In order to extend [Branan’s](#) analysis to Wolof, I propose the following object shift stipulations that concern the position of objects with respect to their interpretive properties ([Diesing, 1992](#)):

- (31) a. Full nominals in the object position must exit the ν P (the lower case domain).
b. BNs are unable to move to the same position.

A suggestion that full nominal and bare nominal objects occupy different positions is provided by scope facts. (18) shows that a full indefinite headed by *a-b* can scope above a verb like *fàtte*

‘forget’.¹⁰

(32) Samba fàtte-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 a 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.*

(57a) shows that a different indefinite determiner (*b-enn*) can also be interpreted above a scope-taking verb like *seet* ‘look for’.

(33) Roxaya seet-na b-enn xaj [b-u sokola]. Kumba la tudd.
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.’

(34) in turn shows that a BN in the same position takes narrow scope, obligatorily. That PNI-ed nominals have a narrow scope indefinite reading has already been observed by, [Dayal \(2011\)](#), [Baker \(2014b\)](#), among many others.

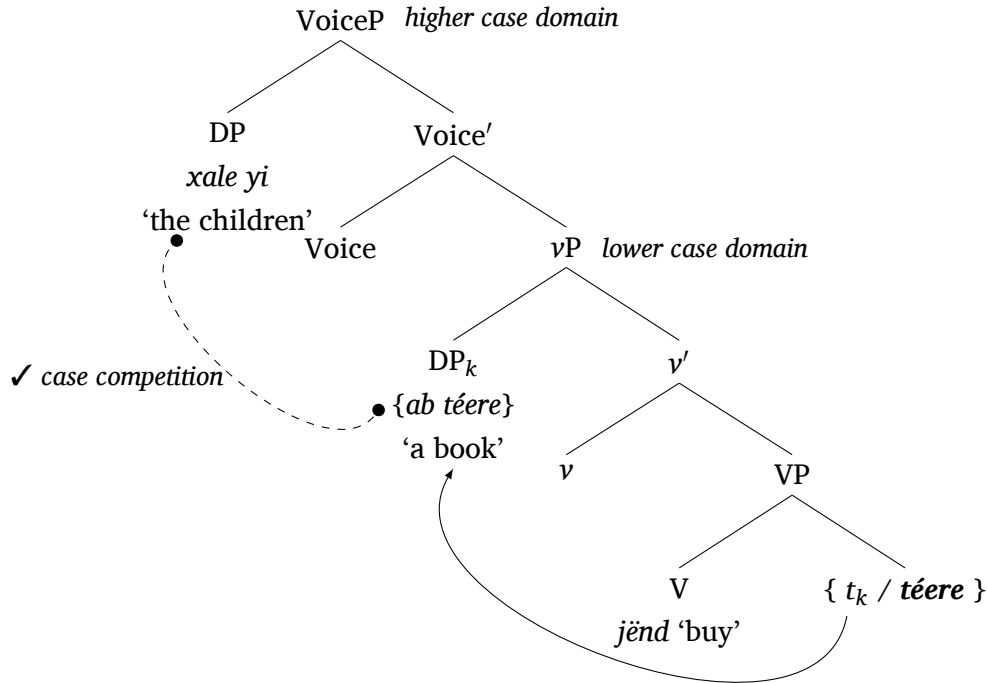
(34) Isaa fàtte-na jënd fowekaay.
Isaa forget-NA.3SG buy toy
‘Isaa forgot to buy a toy.’

- 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.*

In order to capture the differences among indefinites nominals in Wolof, I propose the following structure and derivation, where full nominal (FN) objects move the edge of the lower case domain, vP, while BNs must stay low. Combined, these proposals and stipulations can model the facts mentioned above. Because a full nominal headed by *a-b* or *b-enn* shifts above the verb, it can scope over it. While FN objects move, they stay inside the vP.

¹⁰It is remarkable that only a wide scope reading seems to be available in (18). I regrettably do not have an explanation for this. An option one could pursue is that the availability of a BN with an obligatorily narrow scope reading renders the equivalent reading for a full nominal dispreferred. For more on Wolof quantifiers, see [Tamba et al. \(2012\)](#).

(35)



This account of the positions occupied by FN and BN objects, afforded by their different scope properties, allows us to solve the analysis-internal issue mentioned above. To recall, while the distribution of BN objects resemble the Kikuyu facts analyzed by [Branan](#), an unmodified version of this analysis cannot be fully extended to Wolof, since, in Kikuyu, unlike what happens in the data examined here, there is only one possible object configuration (i.e., a nominal with a head-final determiner, where the latter does not break up the adjacency between the head of the nominal and the verb). This proposal does not completely carry over to Wolof because this language also allows FNs in the object position, which do not have to be adjacent to the verb, unlike their BN counterpart. However, as we can see in (35), these nominals are proposed to occupy different positions and, importantly, only FNs occupy a position where the subject is visible for dependent case purposes. Specifically, the FN occupies the edge of the lower case domain (vP), so that the subject can act as a case competitor, allowing the FN object to be assigned downwards dependent case. A BN object, on the other hand, remains inside the lower case domain. As such, in the impossibility of licensing by case, it must resort to the next best licensing strategy. The adjacency requirement emerges as a consequence of a way to satisfy the need of a nominal to be licensed.

More precisely, following [Levin \(2015\)](#), I assume that nominals can be licensed as a last resort via surface, linear adjacency with the verbal complex. As mentioned in Chapter 1, Wolof is well-known for its rich system of sentential particles, morphemes that encode information structure. These morphemes 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. As also mentioned, in most sentences in this chapter, the sentential particle employed is the morpheme for neutral sentences, *na*. By

assumption, in *na* clauses, because the lexical verb precedes this affix, it must move away from the verb phrase and into a higher functional projection. This higher functional projection must be at least TP.¹¹ In that same position, the verb acquires the morphology that cross-references the subject of the sentence. Even though the verb may occupy a higher functional projection (to recall, at least TP, though possibly higher), a BN can be linearly adjacent to it, as long as nothing intervenes between them. A case in point would adverbs, as in (30b) above.

In this section, we applied Branan’s theory to the adjacency requirement that BNs in object position must obey in Wolof. However, this analysis could not be extended to Wolof without qualification, given that the language also allows for FNs to occur in the object position, but without imposing an adjacency requirement on them. In order to solve this issue, I proposed that BNs and FNs occupy different positions in the syntactic structure. I tried to provide empirical support to this proposal based on scope and predicate focus facts. In the next section, we apply Branan’s theory to applicative, ditransitive, and causative constructions. First, their general properties are surveyed.

2.4.2 Addition of an intermediate argument

Branan’s analysis of nominal licensing in Kikuyu can be readily extended to account for the effect that an additional low argument has in the licensing of BNs. To recall, if a causee, goal, or applied argument is present in the sentence, a BN direct object does not have to be adjacent to the verb. This is schematized in (36), where ‘APPL’ stands for the intermediate argument that is introduced between the subject and the BN object.

- (36) i. SUBJECT – VERB – **THEME_{BN}** – APPL
 ii. SUBJECT – VERB – APPL – **THEME_{BN}**

(36i) is the expected linear order, taking the adjacency condition into consideration, as the BN theme is indeed adjacent to the verb. However, (36ii) is also an attested word order, where the BN is separated from the verb by the additional argument. Data like (36ii) thus diverges from the requirement that the a BN theme be the immediately next to the verb.

If the flexible word order possibilities in (36) are the result of movement, then we would be hard-pressed to apply Massam’s (2001) analysis to Wolof, since, in this analysis, the adjacency requirement is the result of the BN’s inability to move. I will argue below that the two word orders available in (36) are the result of scrambling. Indeed, Harris (2015) shows that, at least in Wolof applicatives, (36ii) is the underlying order, with (36i) resulting from displacing the object (which,

¹¹Torrence (2013a) and Martinović (2015), among others, analyze morphemes like *na* as left periphery heads, since they encode information structure properties; the subject is, correspondingly, in a higher left periphery position. It suffices for the present purposes that *na* occupies a higher functional head. The minimum projection above the VP that fulfills this requirement is TP, though what I say here can be restated to a higher head. This translatability is made possible by the fact that the adjacency that acts as last resort option to license is nominal is **linear** adjacency. As such, whether the verb moves to the left periphery or not is immaterial to the present analysis if nothing intervenes between the position where a BN object is pronounced and the position where the verbal complex is pronounced, T-to-C movement usually being string-vacuous in the circumstances mentioned.

incidentally, ends up adjacent to the verb). Conversely, a dependent case theory like [Branan's](#) is well-equipped to deal with data like those schematized in (36), since the newly introduced argument can act as a case competitor for the BN theme, freeing it from having to resort to verb adjacency to be licensed.

Before we apply this analysis though, we must look into the properties of these three-argument constructions. Specifically, because c-command is relevant in the computing of case marking (under a dependent case theory), we must determine the hierarchical relationships among the arguments in the constructions just mentioned. [Harris \(2015, ch. 3\)](#) provides a detailed description of the structural properties of applicatives and ditransitives in Wolof. [Harris's](#) c-command arguments are based on variable and reflexive binding, as well as on weak crossover effects. For convenience, I reproduce some of the relevant data here.

The first c-command test employed by [Harris](#) is variable binding. (37) shows the basics of variable binding in Wolof. The (a) examples in (38) and (39), respectively, show that goals and applied arguments can bind a variable contained in the theme if the former precedes the latter. The (b) examples in turn show that no variable binding obtains if the theme precedes the intermediate argument. The examples (40) and (41) show that the theme can bind the intermediate argument only if it precedes it.¹²

(37) *Variable binding baseline*

- a. Góor g-u nekk_i nob-na jabar=am_i.
 man CM.SG-COMP exist love-NA.3SG wife=POSS.3SG
 'Every man_i loves his_i wife.'
- b. * Jëkkër=am_i nob-na jabar b-u nekk_i.
 husband=POSS.3SG love-NA.3SG wife CM.SG-COMP exist
 Int.: 'Her_i husband loves every wife_i.'

[[Harris 2015](#), p. 86]

(38) *Variable binding in ditransitive*

- a. Yóonee-na-a góor g-u nekk_i xaalis=am_i.
 send-NA-1SG man CM.SG-COMP exist money=POSS.3SG
 'I sent every man_i his_i money.'
- b. Yóonee-na-a xaalis=am_{*i/j} góor g-u nekk_i.
 send-NA-1SG money=POSS.3SG man CM.SG-COMP exist
 'I sent his_{j/*i} money to every man_i.'

[[Harris 2015](#), p. 88ff]

(39) *Variable binding in applicative construction*

- a. Bind-al-na-a góor g-u nekk_i bataaxal=am_i.
 write-APPL-NA-1SG man CM.SG-COMP exist letter=POSS.3SG
 'I wrote his_i letter on behalf of every author_i.'

¹²Some of the data regrettably reproduce some gender stereotypes.

- b. Bind-al-na-a bataaxal=am_{*i/j} góor g-u nekk_i.
 write-APPL-NA-1SG letter=POSS.3SG man CM.SG-COMP exist
 ‘I wrote his_j/_{*i} letter on behalf of every author_i.’

[Harris 2015, p. 88]

(40) *Variable binding in ditransitive*

- a. Yoonee-na-a téere b-u nekk_i bindekat=am_i.
 send-NA-1SG book CM.SG-COMP exist writer=POSS.3SG
 ‘I sent every book_i to its_i author.’
- b. Yoonee-na-a bindekat=am_{*i/j} téere b-u nekk_i.
 send-NA-1SG writer=POSS.3SG book CM.SG-COMP exist
 ‘I sent every book_i to its_{*i/j} author.’

[Harris 2015, p. 89]

(41) *Variable binding in applicative*

- a. Bind-al-na-a téere b-u nekk_i bindekat=am_i.
 write-APPL-NA-1SG book CM.SG-COMP exist author=POSS.3SG
 ‘I wrote every book_i for its_i author.’
- b. Bind-al-na-a bindekat=am_{*i/j} téere b-u nekk_i.
 write-APPL-NA-1SG author=POSS.3SG book CM.SG-COMP exist
 ‘I wrote every book_i for its_{*i/j} author.’

[Harris 2015, p. 89]

The second c-command diagnostic employed by Harris is reflexive binding. (42) and (43) show that the intermediate argument can be an antecedent binding the theme argument in applicative and ditransitive sentences, respectively. These data also show that, if the reflexive theme precedes the intermediate argument, binding does not go through.

(42) *Reflexive binding in ditransitive*

- a. Wan-na-a Boris_i bopp=am_i.
 show-NA-1SG Boris head=POSS.3SG
 ‘I showed Boris_i himself_i.’
- b. * Wan-na-a bopp=am_{*i/j} Boris_i.
 show-NA-1SG head=POSS.3SG Boris
 Lit.: ‘I showed himself_i to Boris_i.’

[Harris 2015, p. 92; adapted]

(43) *Reflexive binding in applicative*

- a. Sang-al-nga Boris_i bopp=am_i.
 wash-APPL-NA.2SG Boris head=POSS.3SG
 ‘You washed himself_i for Boris_i.’

- b. * Sang-al-nga bopp=am_{*i/j} Boris_i.
 wash-APPL-NA.2SG head=POSS.3SG Boris
 Lit.: ‘You washed himself_{*i/j} for Boris_i.’

[Harris 2015, p. 92; adapted]

Due to the word order alternations available in Wolof (see schema in (36)), these data do not in fact allow us to tell unequivocally whether the intermediate argument (goal or applied argument) c-commands the theme argument. It could be the case, for instance, that, in a pair of sentences like (38) the theme (*his money*) is underlyingly c-commanded by the goal (*every man*), so that, if the former scrambles over the latter, the c-command relationship required for binding is disrupted. Alternatively, it could also be the case that the theme underlyingly c-commands the goal, so that binding simply cannot go through.

That is where Harris’s third diagnostic becomes relevant, namely, weak crossover. (44) shows the basics of weak crossover in Wolof. In the (a) examples of (45) and (46), we see that the intermediate argument can be *Wh*-moved and be coindexed with a pronoun contained in the theme without causing a weak crossover violation. This fact can be accounted for straightforwardly if the intermediate argument asymmetrically c-commands the theme, so that the former does not cross the latter on its way to Spec-CP. Corroborating evidence for this analysis is provided by the (b) examples in the same sentences, where the *Wh*-phrase is now the theme and pronoun is contained within the intermediate argument. A weak crossover violation is induced in these sentences. Again, this state of affairs can be straightforwardly accounted for if the intermediate argument c-commands the theme, so that, if the latter *Wh*-moves, a weak crossover violation is incurred.

(44) *Weak crossover baseline*

- a. B-an yaay_i moo t nob doom=am_i?
 which mother FOC.3SG love child=POSS.3SG
 ‘Which mother_i loves her_i child?’
- b. B-an doom_i yaay=am_{*i/j} moo nob t_i?
 which child mother=POSS.3SG FOC.3SG love
 ‘Which child_i does his_{*i/j} mother love?’

[Harris 2015, p. 95ff]

(45) *Weak crossover in ditransitive*

- a. G-an góor_i nga yónnee t_i bataaxal=am_i?
 which man 2SG send letter=POSS.3SG
 ‘To which man_i did you send his_i letter?’
- b. Bataaxal-u k-an_i nga yónnee bindekat=am_{*i/j} t_i?
 letter-GEN CM.SG-who 2SG send author=POSS.3SG
 ‘Whose_i letter did you send to its_{*i/j} author?’

[Harris 2015, p. 97]

(46) *Weak crossover in applicative construction*

- a. B-an jigéen_i nga rey-al t_i xar=am_i?
which woman 2SG.OFOC kill-APPL sheep=POSS.3SG
'For which woman_i did you kill her_i sheep?'
- b. Xar-u k-an_i nga rey-al borom=am*_i t?
sheep-GEN who 2SG kill-APPL owner=POSS.3SG
'Whose sheep_i did you kill for his/her*_{i/j} owner?'

[Harris 2015, p. 98]

We are now in the position to tease apart the potential analyses for the binding data above. We have concluded from the weak crossover data just examined that the intermediate argument c-commands the theme. If this is the underlying structure, we can explain the impossibility of the theme binding the intermediate argument not as a matter of base-generation, but as a consequence of A-scrambling and the subsequent impossibility of A-reconstruction for Condition A.

Some of these c-command diagnostics can be applied to causative constructions as well. (47) shows that the causee argument can be a quantifier that binds a pronoun in the lower theme, though this is not possible if the order of these intermediate arguments is reversed. (48) shows the same, but with reflexive binding. Regrettably, I was not able to reproduce reliably the weak crossover data. By assumption, however, the thematic relations are more appropriately accounted for if the causee is base-generated above the theme.

(47) *Variable binding in causative*

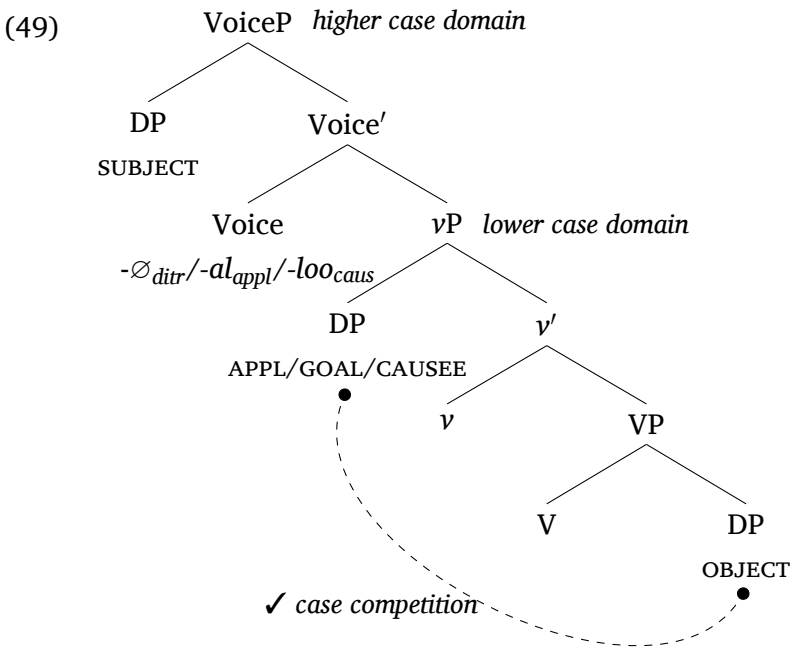
- a. Jàngalekat y-i nataal-loo-na-ñu xale b-u nekk xaj-am.
teacher CM.PL-DEF draw-CAUS-NA.3SG child CM.SG-COMP exist dog=POSS.3SG
'Awa made every student draw their dog.'
- b. * Jàngalekat y-i nataal-loo-na-ñu xaj=am xale b-u
teacher CM.PL-DEF draw-CAUS-NA.3SG dog=POSS.3SG child CM.SG-COMP
nekk.
exist
Int.: 'Awa made every student draw their dog.'

(48) *Reflexive binding in causative*

- a. Awa nataal-loo-na xale y-i seen bopp.
Awa draw-CAUS-NA.3SG child CM.PL-DEF POSS.3PL head
'Awa made the students draw themselves.'
- b. * Awa nataal-loo-na seen bopp xale y-i.
Awa draw-CAUS-NA.3SG POSS.3PL head child CM.PL-DEF
Int.: 'Awa made the students draw themselves.'

The c-command diagnostics surveyed above suggest that ditransitive goals, applied arguments, and causees c-command the theme argument. This structural relationship can be diagrammed as in (49) (cf. Branan's proposal, reproduced in (26)). This structure is basically identical to what

Harris (2015) proposes to applicatives and ditransitives in Wolof. Given the similarities between applicatives and ditransitives, on the one hand, and causatives, on the other, in Wolof, I assume that all these constructions have a similar structure. This implies that causatives in this language have a fairly reduced structure, a possibility argued for, for instance, by Folli & Harley (2007). Needless to say, further investigation may uncover differences amongst ditransitive, applicative, and causative constructions in Wolof; what is relevant for the present purposes is the hierarchy displayed by their arguments.



Following Branan's analysis, the newly introduced argument in the lower case domain (the goal, applied, or causee argument) allows the BN theme to be assigned downwards dependent case, freeing it from the adjacency requirement. This would be why it is possible not only for a theme BN can surface immediately following the verb (and it is then followed by the other intermediate argument), but also for the other argument to intervene between the verb and the BN theme.

This proposal makes two predictions, both of which can be tested in Wolof. First, in (49), as Branan emphasizes, the higher object is case-licensed by virtue of occupying an edge position at the lower case domain, so that it is accessible to the subject, even though the latter belongs to a different case domain. A prediction that emerges from this proposal is that the subject should be accessible to the goal, applied, and causee argument for other processes. This can be seen in both reflexive binding (50) and variable binding (51) structures, where the subject binds a goal, applicative, or causee argument.

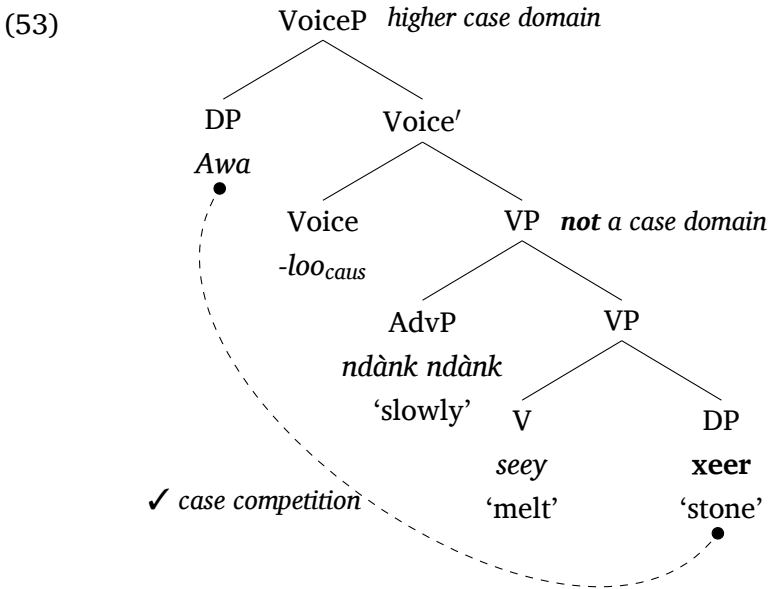
- (50) a. *Ditransitive*
 Mareem jox-na bopp=am a-b oto b-u bees.
 Mareem give-NA.3SG head=POSS.3SG CM.SG-INDEF car CM.SG-COMP new
 ‘Mareem gave herself a new car.’
- b. *Applicative*
 Xale y-i jàngal-na-ñu seen bopp a-b taalif.
 child CM.PL-DEF read-APPL-NA-3PL POSS.3PL head INDEF-CM.SG poem
 ‘The children read themselves a poem.’
- c. *Causative*
 Faatu nataa-loo-na bopp=am a-k garab.
 Faatu draw-CAUS-NA.3SG head=POSS.3SG INDEF-CM.SG tree
 ‘Faatu made herself draw a tree.’
- (51) a. *Ditransitive*
 Bindakat b-u nekk wan-na taalif=am Roxaya.
 writer CM.SG-COMP exist show-NA.3SG poem=POSS.3SG Roxaya
 ‘Every writer_k showed their_k poem to Roxaya.’
- b. *Applicative*
 Jàngalekat b-u nekk jàngal-na taalif=am Roxaya.
 teacher CM.SG-COMP exist read-APPL-NA.3SG poem=POSS.3SG Roxaya
 ‘Every teacher_k read their_k poem to Roxaya.’
- c. *Causative*
 Yaay j-u nekk nataa-loo-na doom=am Kadeer.
 mother CM.SG-COMP exist draw-CAUS-NA.3SG child=POSS.3SG Kadeer
 ‘Every mother_k made Kadeer draw her_k child.’

Second, [Branan](#)’s analysis also implies that a theme in a three-argument structure is not itself incompatible with case licensing via dependent case assignment. Rather, the issue is that there is no case competitor in the case assignment domain the theme belongs to. As a result, if a BN that is interpreted as the theme occupies a position where the subject is accessible, the result should be grammatical even if the adjacency requirement is not obeyed. The reason is that the subject can act as a case competitor to license the theme, freeing it from having to be adjacent to the verb. This prediction can be tested in causativized unaccusatives. (52a) shows that the adverb *ndànk ndànk* ‘slowly’ can occur between the causativized version of a presumably unaccusative verb (*seey* ‘melt’) and a full nominal theme (*xeer yi* ‘the stones’). (52b) in turn shows that the same arrangement is also possible when the theme argument is a BN.

- (52) a. Awa seey-loo-na ndànk ndànk xeer y-i.
 Awa melt-CAUS-NA.3SG slowly slowly stone CM.PL-DEF
 ‘Awa slowly melted the stones.’
- b. Awa seey-loo-na ndànk ndànk xeer.
 Awa melt-CAUS-NA.3SG slowly slowly stone

‘Awa slowly melted a stone.’

In order to account for the lack of adjacency effects in (52b), we can assume the structure in (53), where the causative *-loo* (modeled here as the head of VoiceP) merges with an unaccusative VP. This VP is presumably not a phase nor a domain of case assignment, so the subject (the causer in Spec-VoiceP) can assign dependent case to the theme. The BN theme can thus be licensed, regardless of the intervention of *ndànk ndànk*. Here, I assume that an unaccusative VP is not a phase (though see Legate 2003). If we equate domains of case assignment with phases (Baker, 2014a), this VP is not going to be a domain of case assignment.



In this section, we took a closer look at some three-argument constructions in Wolof (specifically, ditransitive, applicatives, and causatives) and extended Branan’s case licensing analysis based on Kikuyu to Wolof BNs. This analysis provided an explanation as to why BN themes do not have to comply with the adjacency requirement once a goal, applied, or causee argument is added into the sentence.

2.4.2.1 BNs as the intermediate argument

In the ditransitive, applicative, and causative data just examined in §2.4.2, the BN was the theme argument. Another aspect of the distribution of BNs in Wolof is that they cannot be the higher of the two internal arguments; this description obtains irrespective of word order. These data should be contrasted with the baseline examples in (7)–(9), where the internal arguments are full nominals that can appear in either order.

- (54) a. * Jox-na-a **xaj** bal b-i.
 give-NA-1SG dog ball CM.SG-DEF
 Int.: ‘I gave a dog the ball.’
- b. * Jox-na-a bal b-i **xaj**.
 give-NA-1SG ball CM.SG-DEF dog
 Int.: ‘I gave a dog the ball.’
- (55) a. * Ndonggo.darra y-i desin-al-na-ñu **jàngalekat** flër b-i.
 student CM.PL-DEF draw-NA-3PL teacher flower CM.SG-DEF
 Int.: ‘The students drew a teacher the flower.’
- b. * Ndonggo.darra y-i desin-al-na-ñu flër b-i **jàngalekat**.
 student CM.PL-DEF draw-NA-3PL flower CM.SG-DEF teacher
 Int.: ‘The students drew a teacher the flower.’
- (56) a. * Jàngalekat b-i janga-loo-na **ndonggo.darra** taalif b-i.
 teacher CM.SG-DEF read-CAUS-NA.3SG student poem CM.SG-DEF
 ‘The teacher made a student read the poem.’
- b. ?? Jàngalekat b-i janga-loo-na taalif b-i **ndonggo.darra**.
 teacher CM.SG-DEF read-CAUS-NA.3SG poem CM.SG-DEF student
 ‘The teacher made a student read the poem.’

Additionally, it cannot be the case that both objects are BNs, at least in applicative constructions. Regrettably, I do not have equivalent ditransitive and causative data.¹³

- (57) a. * Góór g-i jox-ně **muus xale**.
 man CM.SG-DEF give-NA.3SG cat child
 Int.: ‘The man gave a child to a cat.’
- b. * Góór g-i jox-ně **xale muus**.
 man CM.SG-DEF give-NA.3SG child cat
 Int.: ‘The man gave a cat to a child.’

[Harris 2015, p. 118]

Because BNs can be themes, it seems reasonable to hypothesize that the ungrammaticality of (57) reduces to the ungrammaticality of (54b), (56), and (55), where only the higher of the two internal arguments is a BN.

Following the logic of Branan’s nominal licensing framework, the ill-formedness of these sentences thus cannot be caused by case, as the intermediate argument, being at the edge of a case assignment domain, can not only act as a case competitor for the BN theme, but it is also visible to the subject to be case licensed by that c-command relationship (see diagram in (49)).

While I will not be able to provide a fully fledged analysis for these data, I suggest that the impossibility of a BN to be the intermediate argument has to do with the independent nature of that position, at least as far as applicative and ditransitive constructions are concerned. Specifically, I

¹³Thank you to D. Wu for bringing my attention to this logical possibility.

adopt Adger & Harbour’s (2007) proposal that an applied argument must have a [PARTICIPANT] feature:

(58) The specifier of Appl must be instantiated with the [PARTICIPANT: __] feature.

[Adger & Harbour 2007, p. 21]

The empirical motivation for this restriction imposed on the applied arguments is ill-formed sentences like (59), where the ill-formedness is correlated with the fact that the applied argument (*conference*) is not [+HUMAN].

(59) ? We sent the conference the abstract.

[Adger & Harbour 2007, (62)]

The reason sentences like (54) and (55) are ungrammatical would be that the BN cannot satisfy the requirement stated akin to that in (59). In order to account for why a BN cannot be a causee (56), we would have to extend the [PERSON] condition in (58) to causative sentences in Wolof, though it is not clear to me why this should be the case.

2.4.3 \bar{A} -movement

Another way for a BN to be freed from the adjacency requirement is for it to be \bar{A} -moved. \bar{A} -movement, furthermore, can be achieved in two ways: clefting or relativization. We start with clefting, an example of which is repeated below.

(60) **Taalif** la xale y-i binda ____.
 poem FOC.OBJ.3SG child CM.PL-DEF wrote
 ‘It is a poem that the children wrote.’

That clefting is derived by movement is indicated on the basis of its island-sensitivity. (61) and (62) show, respectively, that a phrase cannot be clefted out of a relative or *Wh*-island.

(61) *Relative clause island*

- a. Gis-na-a a-b téere [b-u Roxaya jox xale y-i].
 see-NA-1SG INDEF-CM.SG book [CM.SG-COMP Roxaya give child CM.PL-DEF]
 ‘I saw a book that Roxaya gave the children.’
- b. * Xale y-i la gis a-b téere [b-u Roxaya jox
 child CM.PL-DEF OBJ.FOC.3SG see INDEF-CM.SG book [CM.SG-COMP Roxaya give
 ____].
]
 Lit.: ‘It was the children who I saw a book that Roxaya gave.’

(62) *Wh-island*

- a. Mangi xalat [k-an moo jox Kadeer téere b-i].
 PROGR.1SG think [CM.SG-WH MOO give Kadeer book CM.SG-DEF]
 ‘I wonder who gave Kadeer this book.’

- b. * Téere b-i la mangi xalat [k-an moo jox Kadeer
 book CM.SG-DEF OBJ.FOC.3SG PROGR.1SG think [CM.SG-WH MOO give Kadeer
 __].
]
 Lit.: ‘It is the book that I wonder who gave Kadeer.’

Once again, we can readily extend Branana’s analysis of Kikuyu to Wolof. Under conservative assumptions, clefting is a type of \bar{A} -movement that requires a stop-over position at phase edges like Spec-vP. This intermediate position allows the subject in Spec-Voice to act as a case competitor for the BN at Spec-vP. The BN can thus be licensed by case assignment, dispensing with adjacency with the verb.

In the same vein, if a BN subcategorized by a transitive verb is modified by a relative clause, then there can be an adverb intervening between the BN and the verb, as we have already seen:

- (63) Jàngalekat b-i jàng-na { cikaw } taalif [b-u Kadeer bind __] {
 teacher CM.SG-DEF read-NA.3SG { loudly } poem [CM.SG-COMP Kadeer write __] {
 cikaw }.
 loudly }
 ‘The teacher read loudly a poem that Kadeer wrote.’

It is important to note that, when a BN is modified by a relative clause, it retains its narrow scope indefinite interpretation. In (64), the full nominal indefinite modified by a relative clause can scope above or below the intensional predicate *bëgg* ‘want’.

- (64) a. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.3SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind __], *Une si longue lettre* la tudd.
 write __] *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*.’
 $\exists > \text{want}$
- b. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind __], waaye bu mu am baax-na.
 write __] but BU 3SG have good-NA.3SG
 ‘My child wants to read a book that Mariama Ba wrote, but it does not matter which.’
want > \exists

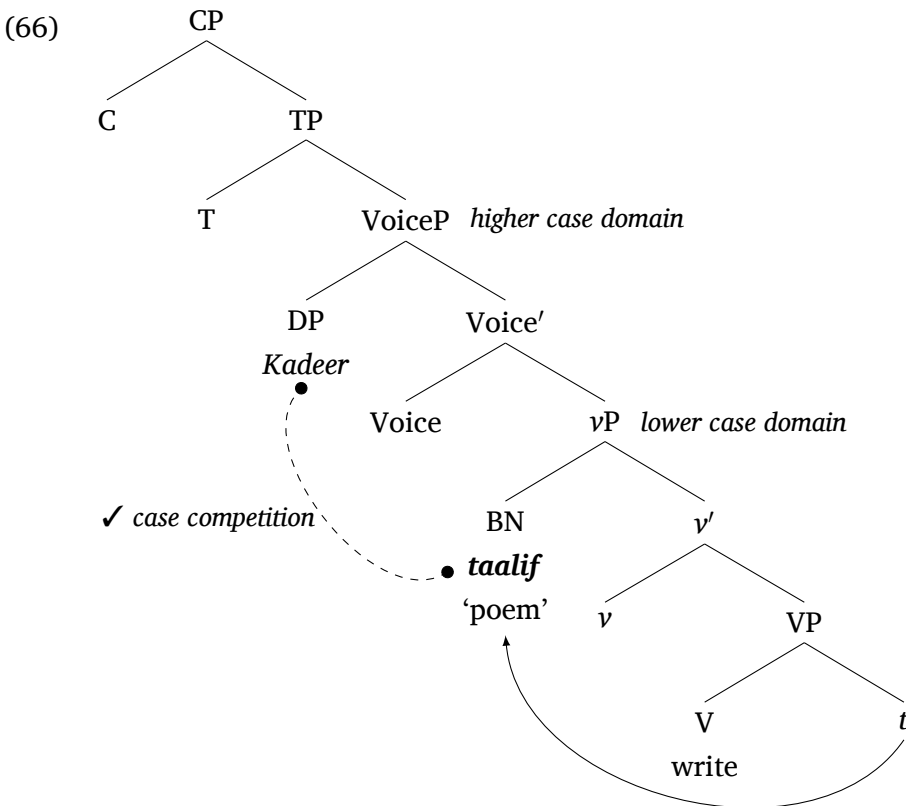
Conversely, in (54), what the relative clause modifies is a BN. In that case, only a narrow scope reading is available (54b).

- (65) a. Roxaya bëgg-na gisee woikat [b-u __ dëkk Senegal]. # Wally
 Roxaya want-NA.3SG meet singer [CM.SG-COMP be.from Senegal] # Wally
 Seck la tudd.
 Seck COP.3SG name
 ‘Roxaya wants to meet a singer who is from Senegal. # His name is Wally Seck.’
 $\exists > \text{want}$

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

want > ∃

As mentioned earlier, I assume Torrence’s (2013a) raising analysis of relative clauses in Wolof (see overview of a raising analysis of relative clauses in Bhatt 2002). Torrence bases his claim on reconstruction effects and Wolof-specific diagnostics. Before the raising of the head of the relative, the relative clause CP in a sentence like (63) looks as follows:



In order to raise out of the relative clause, the BN must first move through the edge of the phase that contains, Spec-vP. According to Branagan’s proposal, this suffices to bring the direct object close enough for the subject to case-license it. As such, a BN modified by a relative clause does not have to obey the adjacency condition because it is assigned case inside the relative clause before moving out of it.

2.4.4 BNs in the subject position

Recall that BNs in Wolof cannot be the subject of a finite clause:

- (67) a. * **Sasfam** fàtte-na tej palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his;her window.’
- b. * Kumba wax-na [ne **muus** lekk-na a-b janax].
 Kumba say-NA.3SG [COMP cat eat-NA.3SG INDEF-CM.SG mouse]
 Int.: ‘Kumba said that a cat ate a mouse.’

In a case-licensing analysis, the prediction is that these sentences should be grammatical, since the highest nominal in a given domain of case assignment can be assigned unmarked case (in Wolof, nominative case). This should suffice to allow the BN to be licensed with case. Why then are the sentences in (67) ungrammatical?

While it does not provide us with a particular analysis of (67)’s ill-formedness, the logic of a dependent case theory of PNI does allow us to identify what *cannot* be the culprit. More precisely, case assignment cannot be the problem, since, as just mentioned, the subject of a finite clause is indeed a position where a nominal can be assigned unmarked case. In §2.4.3 above, I argued that relativization was one of the strategies a BN could employ to be assigned case, allowing it to do away with the adjacency requirement. The prediction that falls out from this analysis is thus that the addition of a relative clause will still not allow a BN to be a subject if its licensing does not have anything to do with case. This prediction is correct.

(136) shows that a FN modified by a relative clause can be the subject of a finite clause, while (137) shows that this is not possible for a BN under the same conditions.¹⁴

- (68) a. A-b muus [_{RC} 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. Xadi xalaat-na [ne a-y ndonggo.darra [_{RC} y-u Samba
 Xadi think-NA.3SG [COMP INDEF-CM.PL student [CM.PL-COMP Samba
 xam] daw-na-ñu ci baayal b-i].
 know] run-NA-3PL PREP park CM.SG-DEF]
 ‘Xadi thinks that some students who Samba knows run in the park.’
- (69) a. * **Muus** [_{RC} 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.’

¹⁴However, it must be noted that [Tamba et al. \(2012, p. 907\)](#) show that this type of example is in fact grammatical in the Wolof dialects they investigate:

- (i) A-b xale / B-enn xale / **Xale** [b-u njool] dem-na.
 INDEF-CM.SG child / CM.SG-one child / child [CM.SG-COMP tall] leave-NA.3SG
 ‘A tall child left.’

[[Tamba et al. 2012, \(38\)](#)]

It could be the case that, for these dialects, case licensing does suffice to license the BN. These cases are also reminiscent of what [Dayal \(2004\)](#) dubs ‘licensing by modification’.

- b. * Isaa wax-na [ne **fecckat** [_{RC} b-u ma xam] fecc-na
 Isaa say-NA.3SG [COMP dancer [CM.SG-COMP OBJ.1SG know] dance-NA.3SG
 ci xewum b-i].
 PREP party CM.SG-DEF]
 Int.: ‘Isaa said that a dancer that knows me danced in the party.’

Nonetheless, as already mentioned earlier, a BN in Wolof can indeed occur in the subject position if it is embedded within coordination:

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

This pattern resembles what Landau (2007) observes in the distribution of BNs in Romance languages like Italian:¹⁵

(71) *Italian*

- a. * In questo ufficio **marocchini** telefonano sempre.
 in this office Moroccans call.up always
 ‘In this office Moroccans always call up.’
 b. In questo ufficio dei marocchini telefonano sempre.
 in this office of.the Moroccans call.up always
 ‘In this office some Moroccans always call up.’
 c. In questo ufficio **marocchini** e **brasiliani** telefonano sempre.
 in this office Moroccans and Brazilians call.up always
 ‘In this office Moroccans and Brazilians always call up.’

[Landau 2007, (10); (c): S. Zompì, p.c.]

The author’s solution is based on a particular view of the EPP, which requires that the head of the phrase that satisfies this feature be phonologically overt:

(72) *EPP*

In [_{HP} ZP [_{H'} H_{EPP} ...]], Z must be pronounced.

[Landau 2007, (6)]

Under this view, what coordination does is provide a head with this property (*ak* in (70) and *e* in (71c)). This analysis of the EPP is also compatible with the fact that adding a relative clause to the BN in subject position does not yield rescuing effect: presumably, the relative clause does not change the phonological status of the head of the BN.

¹⁵Landau’s original coordination example was replaced with a sentence that differed more minimally from the other sentences in the paradigm.

Consistent with the dependent case analysis pursued in this chapter, in combination of this view of the EPP, is the fact that BNs can be the subject in relative clauses and in clefts. To recall, the reason proposed for why BNs in Wolof cannot be subjects is that, even though they can receive case (i.e. unmarked nominative), they violate the EPP requirement that the head that of the phrase that occupies Spec-TP be overt (72). A prediction that follows from this analysis is that, if the EPP violation can be removed, the resulting sentence with a BN in the subject position will be grammatical. The prediction can be shown to be borne out in clefts and relative clauses where the gap is in the subject position.

As we can see in (63)/(64) and (54), respectively, the gap inside the relative clause the pivot of which is a BN can be in the object or in the subject position. The lack of contrast between these syntactic positions diverges from what happens to unmodified BNs. As we saw earlier, BNs can be objects, though not subjects. Examples are repeated below

- (73) Jàngalekat b-i jàng-na { cikaw } **taalif** [b-u Kadeer bind ___] {
 teacher CM.SG-DEF read-NA.3SG { loudly } poem [CM.SG-COMP Kadeer write ___] {
 cikaw }.
 loudly }
 ‘The teacher read loudly a poem that Kadeer wrote.’

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

Additionally, if a BN is clefted, the gap can also be in the subject position, even though, as we have discussed in this section, BNs cannot occur in the subject position.

- (75) a. **Jàngalekat** a ___ lekk ginaar g-i.
 teacher FOC.SUBJ eat chicken CM.SG-DEF
 ‘It was a teacher who ate the chicken.’
 b. **Woykat** a ___ ñëw.
 singer FOC.SUBJ arrive
 ‘It is a teacher who arrived.’
 c. **Woykat** a ___ féey.
 singer FOC.SUBJ swim
 ‘It is a teacher who swam.’

These facts are consistent with the definition of the EPP assumed here. The EPP (72) requires that the head of that occupies this position be pronounced. However, this requirement is presumably vacuously satisfied if Spec-TP is not a final landing site, that is, if this position is left empty because of a subsequent step of movement. What the relative clause (74) and cleft (75) data have in common is exactly that the BN that occupies the subject position further \bar{A} -moves, leaving this position unpronounced. The EPP is thus vacuously satisfied. Furthermore, even though the BN

subject does not end the derivation at Spec-TP, it presumably passes through this position before \bar{A} -moving to its final landing site. At that point of the derivation, it will be in the appropriate configuration to be assigned nominative case. Thus, the sentences in (74) and (75) do not violate either the EPP nor the need for nominals to be licensed with case and are correctly predicted to be grammatical.

2.5 Concluding remarks

This chapter aimed at answering the questions in (19), repeated below.

- (76) i. Why do BNs have to obey the adjacency requirement, while full nominals do not?
- ii. Why does adding an argument between the subject and the BN theme (in the form of an applied argument or causee) allow the latter to bypass the adjacency requirement?
- iii. Why does \bar{A} -moving a BN theme also allow it to bypass the adjacency requirement?
- iv. What is there in common between three-argument constructions and \bar{A} -movement such that they both allow a BN theme in Wolof to escape the adjacency requirement?

According to the analysis proposed here, PNI-ed nominals in Wolof have to obey the adjacency requirement when they are the object of a transitive verb because there is no other way for it to be case licensed. Following [Branan \(to appear\)](#), I assume that objects and subjects belong to different case domains, so that, in the absence of another DP to act as a case competitor, a BN object has to be licensed via surface adjacency with the verb. Full nominal objects, on the other hand, move to the edge of the lower case domain, where the subject is visible and thus can act as a case competitor. The adjacency requirement in this case is absent

The adjacency requirement can also be sidestepped by BN objects themselves, as long as another intermediate argument is introduced in the sentence. This is the case of ditransitive, applicative, and causative constructions. This is exactly what is expected in [Branan's](#) analysis, as the newly introduced argument acts as a case competitor for the BN theme. This analysis is also helpful in explaining why \bar{A} -movement, as effected by relativization and clefting, is helpful in licensing a BN object in spite of the adjacency requirement. The reason is that \bar{A} -movement is, by common assumptions, successive-cyclic. Assuming that domains of case assignment are also phases ([Baker, 2014a](#)), there is an intermediate step in the \bar{A} -movement the PNI-ed object is undergoing that brings it to the same domain of case assignment as the subject, thereby allowing it to be licensed by case.

Most importantly, the view of nominal assumed here is also successful in explaining not only the individual effects of the introduction of an intermediate argument and of \bar{A} -movement, but also why these two independent phenomena pattern together in allowing a BN to escape the adjacency requirement. [Branan's](#) nominal licensing framework based on dependent case, provides a unified answer: both operations furnish a case competitor to the PNI theme, either by the introduction of a new nominal in the lower case domain or by the successive cyclic movement of the PNI theme

itself to the higher case domain, where the subject resides. Consequently, this nominal can be licensed with case, instead of having to resort to adjacency with the verb.

If correct, the data investigated here expands the empirical basis of [Driemel's \(2020\)](#) observation that the adjacency requirement is not entirely correct to characterize PNI crosslinguistically. [Driemel](#) lists a few cases of PNI-ed nominals can move, but remarks that this is possible only under particular circumstances. Specifically, the author observes that the PNI languages that allow for movement are those where VP movement is also independently attested. Crucially, VP and PNI movement in these language observe the same restrictions regarding where they can move to. Likewise, if a PNI language does not allow for VP movement, a PNI-ed nominal is expected not to move either, in which case it will obey the adjacency requirement more closely. It can be said that the present chapter is a continuation of this trend: the adjacency requirement is not always observed in Wolof PNI. What I proposed here is that it is restricted by rules that govern nominal licensing. It must be said however that it is also possible that Wolof allows for its VP to be moved ([Torrence, 2013a](#)). I leave it for future research to determine whether the limitations of VP movement in Wolof also govern PNI movement, as expected from [Driemel's](#) analysis.

Finally, a few questions remain open regarding the framework assumed. In its original form ([Marantz, 1991](#)), a dependent case theory eschews case assignment as a means of nominal licensing. A notable example is the occurrence of nominative objects in Icelandic, which are possible, in the presence of a subject bearing lexical case, even in ECM sentences, where no finite T is available to assign nominative case.¹⁶ [Branan's](#) proposal turns this assumption about the dissociation between dependent case and nominal licensing on its head and argues that dependent case can indeed be the reason why a nominal is legitimate in a given derivation. If on the right track, the present analysis of PNI in Wolof provides additional empirical support to a return of [Vergnaud's \(2008\)](#) Case Filter, albeit under a configurational case assignment reformulation.

Appendix: A linearization-based analysis of PNI

As briefly mentioned earlier, the main proposal in [Massam's \(2001\)](#) analysis of PNI in Niuean is that the BN theme has a truncated structure and, as a result, it cannot move out of the VP. The BN theme thus remains adjacent to the verb and is pied-piped in predicate fronting.

Could this analysis tailored to account for Niuean facts be applied to Wolof? The three-argument constructions examined above suggest that it cannot. To recall, [Harris \(2015\)](#) argues, based on weak crossover data (77), that the theme argument is base-generated below the applied argument.

- (77) a. G-an góor_i nga yónnee t_i bataaxal=am_i?
 which man 2SG send letter=POSS.3SG
 ‘Which man_i did you send his_iletter?’

¹⁶See however [Pesetsky \(2021\)](#) for an alternative analysis where there indeed is a point of the derivation where a finite T can assign nominative case to the said object. In nonfinite clauses like those found in ECM constructions, a subsequent operation gets rid of clausal layers, including a finite TP.

- b. Bataaxal-u k-an_i nga yónnee bindekat=am_{*i/j} t_i?
 letter-GEN CM.SG-who 2SG send author=POSS.3SG
 ‘Whose_i letter did you send to its_{*i/j} author?’

[Harris 2015, p. 97]

Hence, I assume that, in applicative sentences where the theme precedes the applied argument, the former scrambles over the former, as schematized in (78b).

- (78) a. Awa nettali-na xale y-i leep.
 Awa narrate-NA.3SG child CM.PL-DEF story
 ‘Awa narrated a story to the children.’
- b. Awa nettali-na leep_k xale y-i t_k.
 Awa narrate-NA.3SG story child CM.PL-DEF
 ‘Awa narrated a story to the children.’

If this analysis is on the right track, it cannot be the case that the adjacency requirement follows from the BN’s inability to move – otherwise, the linear order observed in (78b) would incorrectly be predicted to be impossible. As I tried to argue above, a dependent case-based analysis, as that put forth by Branan (to appear), is able to account for the correlation between the bypassing of the adjacency requirement and the addition of an argument between the subject and the PNI-ed theme. But would there be another PNI theory that could also account for this correlation? Baker’s (2014b) analysis emerges as an appropriate contender, since this theory does make room for a more relaxed adjacency requirement. However, in this case, it is correlated not with the introduction of a case competitor, but with the occurrence of V-to-T movement in a PNI language.

The main ingredients in Baker’s (2014b) PNI theory are (i) the proposal that PNI is derived via head movement from the N⁰ of the PNI-ed NP to the V⁰ that subcategorizes to it and (ii) independently necessary rules of linearization. The adjacency requirement arises as the byproduct of the combination between these components: the only way the head movement mentioned earlier can occur without giving rise to a contradictory linearization statement is if it is string-vacuous.

Baker assumes the following linearization rules:

- (79) a. If a chain consists of more than one link, then at PF:
- i. Delete the copy that has more features as a result of feature checking, if any (Nunes, 2004).
 - ii. If one copy is part of a complex morphological object, delete the other copy (compare the so-called Stray Affix Filter).
 - iii. Otherwise, all the ordering statements relevant to both copies must be respected, while still uttering the lexical item only once. (Consequence: the movement must be, in effect, string vacuous.)
- b. ‘A complex expression X does not follow a complex expression Y’ means that the last element dominated by X does not follow the first element dominated by Y.

To flesh out the proposal, consider how Baker analyzes a PNI example like (80), from Sakha.

(80) *PNI in Sakha*

Min **saharxaj sibekki** ürgee-ti-m.
 I yellow flower pick-PAST-1SS
 ‘I picked (a) yellow flower(s).’

[Baker 2014b, (5a)]

- (81) a. I [_{VP} [_{NP} yellow flower] pick] *noun incorporation* I [_{VP} [_{NP} yellow flower] flower + pick]
- b. Ordering at PF: [*where ‘≤’ means ‘does not follow’* (Baker, 2014b, p. 25)]
- i. flower ≤ pick in V
 - ii. yellow ≤ flower in NP
 - iii. NP ≤ V in VP → flower ≤ flower

[Baker 2014b, (31)]

(81a) depicts the operation which, according to Baker, is derived by N⁰-to-V⁰ head movement. (81b) represents the linearization statements needed in order to arrive at the surface realization of (80). The linearization statements in (81b-i) and (81b-ii) are determined by language-specific rules (see more details in Baker 2014b). The combined result of these statements is in (81b-iii), where the PNI-ed NP *flower* does not follow itself. Critically, Baker assumes that linearization is stated in terms of ‘not-following’, instead of in terms of precedence. This would be why *flower* ≤ *flower*, which results from the head movement that underlies PNI, is not contradictory.

Consider now a derivation of a PNI sentence where the adjacency requirement is not complied with, as in (82).

(82) *PNI in Sakha*

* Misha (serenen) **kumaaqy** xoruopka-qa uk-ta.
 Misha (carefully) paper case-DAT put-PAST.3SS
 ‘Misha put a paper/papers in the case (carefully).’

- (83) a. Misha [_{VP} [_{NP} paper] [_{V'} [_{PP} case-DAT] put]] *noun incorporation* Misha [_{VP} [_{NP} paper] [_{V'} [_{PP} in case] paper + put]]
- b. Ordering at PF:
- i. paper ≤ put in V
 - ii. case-DAT ≤ V in V'
 - iii. NP ≤ V' in VP
 - iv. paper ≤ case-DAT ≤ paper ≤ put

[Baker 2014b, (32); adapted]

We see in (83b-iv) that the two copies of PNI-ed nominal *paper* are not adjacent. Rather, they are separated by the dative phrase. As such, a linearization contradiction does arise, since *paper* both precedes and follows the dative phrase. According to this analysis, the PNI example (82) is ungrammatical due to a linearization contradiction. Alternatively put, the adjacency requirement in Baker's PNI theory is the result of the impossibility of linearizing a derivation where the copies of the PNI-ed nominal are not adjacent to each other – the only case where no contradiction arises.

The same explanation carries over to adjacency requirement violations caused by the adverb intervention:

(84) *The adjacency requirement in Sakha PNI*

Masha { *türgennik* } **salamaat** { **türgennik* } sie-te.
Masha { *quickly* } porridge { **quickly* } eat-PAST.3SS
'Masha ate porridge quickly.'

[Baker 2014b, (3b/4a)]

By assumption, the order **porridge* ≤ *quickly* is derived by scrambling the nominal over the adverb. The derivation and linearization of (84) would thus be as follows:

- (85) a. Masha [_{NP} porridge] [_{VP} quickly [_{VP} porridge [_V porridge + eat]]]
b. porridge ≤ quickly ≤ ~~porridge~~ ≤ porridge ≤ eat

[Baker 2014b, (34)]

Even if the base-generation copy of *porridge* can be deleted (as is generally the case in movement chains), the copy that is head-adjoined to the verb survives deletion. Because the higher copy of the nominal which is created by scrambling, also survives deletion, a linearization contradiction arises. Once again, an adjacency requirement violation like that in (84) is explained not in terms of the impossibility of the PNI-ed nominal to move (as in Massam 2001), but in terms of independent linearization requirements.

Nonetheless, Baker remarks that, in some languages, the PNI-ed nominal can indeed be separated from the verb. This is the case, for instance, in Hindi, as observed by Dayal (2011):

(86) *PNI in Hindi*

- a. [_F **kitaab**] anu becegi, [_F akhbaar] nahiiN
[book] Anu see-FUT [newspaper] not
'Anu will sell books, not newspapers.'
b. **kitaab** anu zaroor becegi
book Anu definitely see-FUT
'Anu will definitely sell books.'

[Dayal 2011, (29)]

[Baker](#) correlates this possibility with the availability of V-to-T movement in a PNI language. Another necessary ingredient in the analysis to account for PNI scrambling is, as we are going to see momentarily, a certain assumption about what counts as the higher copy of a verb that has been the target of the head movement.

That Hindi displays V-to-T movement is argued for on the basis of the fact that the verb is placed after negation:

(87) *Position of negation in Hindi*

anu bacca nahiiN sambhaalegi
 Anu child not look-after-FUT
 ‘Anu will not look after children.’

[[Dayal 2011](#), (8a)]

[Baker](#) contends that this linear order can be accounted for if the verb moves to T, past negation.

According to [Baker’s](#) linearization-based PNI theory, a sentence like (86b) would be derived as follows:

- (88) i. [TP Anu [VP definitely [VP book sell]] Tense + AGR] *noun incorporation*
 ii. [TP Anu [VP definitely [VP book book + sell]] Tense + AGR] *V-to-T*
 iii. [TP Anu [VP definitely [VP book book + sell]] sell + Tense + AGR] *scrambling*
 iv. [TP book Anu [VP definitely [VP book book + sell]] sell + Tense + AGR]

[[Baker 2014b](#), (55)]

The base-generation copy of *book* is deleted, under the assumption that it deletes like other lower copies of movement chains. As seen above in (84), in languages like Sakha, scrambling gives rise to a linearization contradiction because the copy adjoined to the verb survives deletion. What would be different in V-to-T languages like Hindi, where this copy must not survive in order to explain the well-formedness of sentences like (86b)? [Baker](#) proposes that, in Hindi, what can count as the lower copy of the verb is the whole complex formed by the verb and the N⁰ head-adjoined to it. As such, the intermediate copy of *book* in (88iv) can also be deleted, as a byproduct of the linearization of the verb, which moves to T. Consequently, the linearization of the scrambled PNI-ed nominal *book* is trivial, as only the highest copy remains undeleted and no linearization contradiction occurs.

Hence, the crucial difference between a language like Sakha, where a PNI-ed nominal cannot scramble away from the verb (84) and Hindi, where this is possible (86b), is the availability of V-to-T movement: this movement is possible in Hindi and its effect on PNI is that it deletes a lower copy of the PNI-ed nominal, under the assumption that the complex head formed by the verb and the moved N⁰ can count as a single unit that is deleted in the linearization of the chain created by V-to-T movement. (See discussion in [Baker 2014b](#) that languages like Sakha do not exhibit this type of verb movement.)

With this background in place, we can see how a linearization-based theory of PNI would fare in an account of the Wolof data examined here. Wolof is similar to Hindi in also displaying head movement of the verb. Following the reasoning in Baker (2014b), we can detect this type of movement by inspecting the position of the verb with respect to negation. As we saw above, negation in Wolof is suffixal. The linear order in (89) can be accounted for if the verb moves at least as high as where negation sits. For more on verb movement in Wolof, see Martinović (2015) and references therein.

- (89) 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.’

Following Baker’s analysis, the derivation of a sentence like (89) would be at least as follows (for convenience, I am omitting further steps of head movement):

- (90) i. Faatu [_{NegP} -ul [_{VP} adopt [_{NP} dog]]] *noun incorporation*
 ii. Faatu [_{NegP} -ul [_{VP} adopt + dog [_{NP} dog]]] *V-to-Neg*
 iii. Faatu [_{NegP} adopt + -ul [_{VP} adopt + dog [_{NP} dog]]]

Let us assume that Wolof can also rely on the possibility of deleting the whole verbal complex formed by the lower copy of the verb, as assumed for Hindi above. In (90iii) thus, the only copy left of the PNI-ed nominal *dog* would be the one in the base-generation position, leading to no contradictory linearization statements.

Because Wolof is a PNI language with verb movement, the prediction is that it should pattern like Hindi and allow for the PNI-ed nominal to scramble away from the verb, across an adverb. However, as we saw above, this is not the case, as the adjacency requirement must be obeyed under these circumstances, much like Sakha (84). Baker’s linearization analysis of PNI therefore cannot account for the Wolof data investigated here. Furthermore, this type of PNI theory falls short of accounting for the cases where this requirement can optionally be sidestepped, namely, in three-argument sentences and when the PNI-ed nominal is \bar{A} -moved. The correlation in this case is not with the availability of V-to-T movement in a PNI language, both of these properties being present in Wolof, but with the co-occurrence of a the PNI-ed nominal and another nominal in the same relevant syntactic domain.

Appendix: Perceptual complements

Preliminary data suggests that, while the intermediate argument in causative, ditransitive, and applicative constructions allows a BN theme to be licensed, the intermediate argument itself cannot (see §2.4.2.1). This impossibility is intriguing from the point of view of the analysis advanced here, since the intermediate argument, by virtue of sitting at the edge of the lower domain of case assignment, is visible to the higher subject. Even though the latter sits in a separate, higher

case domain, the edge position of the intermediate allows it to be assigned downwards dependent case by the subject. In this appendix, I lay out some preliminary data that suggests that one type of perceptual complement in Wolof has the same profile of the aforementioned three-argument constructions: a BN can be the “intermediate argument” in perceptual clausal complements. A comparison between these two types of constructions could be informative of the restrictions found in causative, ditransitive, and applicative sentences.

Much like English and Romance languages (see [Felser 1998](#); [Pires 2006](#), a.o.; see also [Moulton & Grillo 2015](#)), Wolof allows for the verb that follows perceptual verbs like *gis* ‘see’ and *déeg* ‘hear’ to occur in bare form (i.e. without any inflectional morphology). The DP that is interpreted as the subject of the bare embedded verb can be a BN (91b).

- (91) a. *Gis-na-a Kumba ak Roxaya woy déemba.*
 see-NA-1SG Kumba with Roxaya sing yesterday
 ‘I saw Kumba and Roxaya sing yesterday.’
- b. *Déeg-na-a xale woy sama woy.*
 hear-NA-1SG child sing POSS.1SG song
 ‘I heard a child sing my song.’

But what is the structure of (91)? There are two possibilities: the perceptual verb *gis* ‘see’ or *déeg* ‘hear’ takes a clausal complement and the subsequent DP (*Kumba ak Roxaya* ‘Kumba and Roxaya and *xale* ‘child’, respectively) is the subject of that clause (92ii). Alternatively, the just mentioned DPs are in fact objects of the perceptual verb and the remainder of the sentence is a clausal adverbs of sorts whose subject is null, but coindexed with the perceptual verb object (92i).

- (92) *Two analyses for (91), illustrated with (91b)*
- i. *Déeg-na-a [xale woy sama woy].*
 hear-NA-1SG [child sing POSS.1SG song]
- ii. *Déeg-na-a xale_k [ec_k woy sama woy].*
 hear-NA-1SG child [sing POSS.1SG song]

There are two arguments in favor of the claim that this DP is the subject of a perceptual clausal complement, as diagrammed in (92i). The first argument is provided by island sensitivity and the second, by a constituency test. However, more arguments must be produced for a stronger, more convincing claim to be made.

First, the string following the perceptual verb allows for *Wh*-extraction. This would not be possible if this string were a clausal modifier, which is presumably an adjunct.

- (93) *B-an jën la Isaa gis a-y xale lekk ___?*
 CM.SG-what fish FOC.OBJ.3SG Isaa see INDEF-CM.PL child eat
 ‘Which fish did Isaa see some children eat?’

Second, the whole string following the perceptual verb can be pseudo-clefted, which demonstrates that it forms a constituent. If the BN were not part of the embedded clause, but a direct object of

the perceptual verb, this constituency would be unexpected. (94) establishes pseudo-clefting and (95) is its bare perceptual complement counterpart.

(94) *Pseudo-clefting finite embedded complement*

- a. Awa wax-na [ne xaj b-i lekk-na ceeb].
Awa say-NA.3SG [COMP dog CM.SG-DEF eat-NA.3SG rice]
'Awa said that the dog ate rice.'
- b. Awa l-imu wax mo-y [xaj lekk-na ceeb].
Awa CM.SG-what say 3SG-IMPF [dog eat-NA.3SG rice]
'What Awa said is that the dog ate rice.'

(95) *Pseudo-clefting in bare perceptual complement*

- a. Roxaya déeg-na [**xale** woy sama woy].
Roxaya hear-NA.3SG [child sing POSS.1SG song]
'Roxaya heard a child sing my song.'
- b. Roxaya l-imu déeg mo-y [**xale** woy sama woy].
Roxaya CM.SG-what hear 3SG-IMPF [child sing POSS.1SG song]
'What Roxaya heard was a child sing my song.'

The island and pseudo-cleft data suggest thus that the bracketing in (91b) is on the right track and that the BN there (*xale*) can be the subject of the clausal complement to the perceptual verb. In what follows, I call these structures 'bare perceptual complements', in view of the lack of morphology in the embedded verb.

In the context of this thesis, a question that arises is, why can the subject of a bare perceptual complement be a BN, while it is not possible for the same type of nominal to be an intermediate argument in ditransitive, causative, and applicative constructions? I tentatively hypothesized above that the latter restriction has to do with some featural restriction imposed on the intermediate argument, a restriction that a BN cannot fulfill due to its assumed defectiveness. Following this logic, a perceptual clausal complement would lack this requirement, freeing a BN to be its subject. Furthermore, this lack could be modeled in terms of the truncated structure that is often attributed to nonfinite constructions (Wurmbrand 1998 et seq.). At this juncture, it may also be useful to recall that BNs cannot be the subject of *finite* clauses (§2.4.4). Nonfinite clauses sub-categorized for by perceptual predicates would lack a functional projection where the purported featural requirement mentioned above would be located.

A potential argument in favor of the claim that perceptual clausal complement is truncated is provided by clitic placement. Zribi-Hertz & Diagne (2002) argue that clitics in Wolof attach to the highest functional projection of a given clause (see also Martinović 2015 and references therein):

(96) *The Target of Wolof OLCs [Object and Locative Clitics]: The Syntax-Phonology Interface*

Attach OLCs to the prosodic word which contains the topmost head of their extended-V domain.

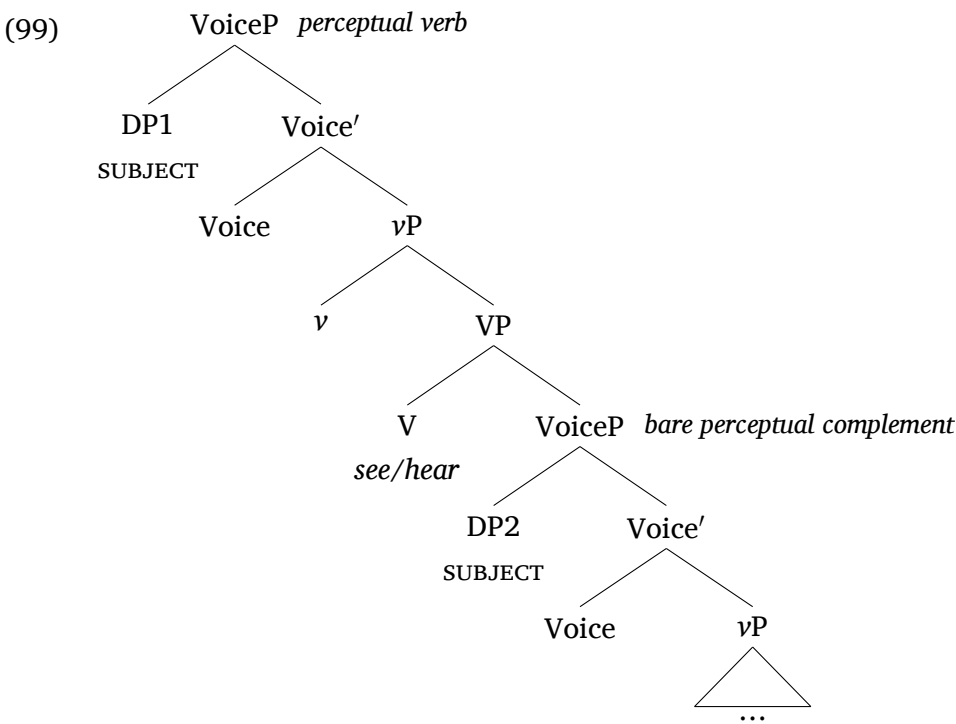
A case in point is (97), where the object clitic has to follow the verbal complex; it cannot follow a goal argument, even though this is a possibility available for non-clitic arguments.

- (97) Jox-na-a { ko } xale y-i { *ko }
 give-NA-1SG { OBJ.3SG } child CM.PL-DEF { *OBJ.3SG }
 'I gave it (i.e. the toy) to the child.'

In contrast, in bare perceptual clausal complements, an object clitic must be in the same position where a non-clitic object would be realized (i.e. post-verbally).

- (98) Isaa gis-na { *leen } xale b-i { *leen } binda { leen }.
 Isaa see-NA.3SG { *OBJ.3PL } child CM.SG-DEF { *OBJ.3PL } read { OBJ.3PL }
 'Isaa saw the child writing them.'

I suggest that bare perceptual complements do not contain any functional structure, besides the layers where arguments are base-generated.



Tentatively, the perceptual clausal complement in (99) is truncated enough so as to not provide the functional layer a Wolof pronoun is trying to cliticize to.

Additionally, if the structure (99) is on the right track, if a BN occupies the subject position (DP2), it can be licensed by either adjacency with the verb or by being assigned dependent case by the perceptual subject (DP1). Data that must be adduced here include adverb intervention sentences akin to English examples like *I believe Aniket with all my heart to be the best candidate for the job.*

However, a puzzle must be mentioned regarding the form of pronominal subjects in perceptual clausal complements. When a pronoun occupies the subject position of a perceptual clausal complement, an accusative (object) clitic cannot be used (100). Instead, a subject marker must be used (101). (See the paradigm of Wolof pronominal clitics on p. 19.)

(100) *Object clitic cannot be subject of perceptual complement*

- a. * Isaa gis-na **ko** binda a-y taalif.
Isaa see-NA.3SG OBJ.3SG read INDEF-CM.PL poem
Int.: ‘Isaa saw him/her writing some poems.’
- b. * Gis-na-a **leen** woy déemba.
see-NA-1SG OBJ.3PL sing yesterday
Int.: ‘I saw them sing yesterday.’

(101) *Subject marker can be subject of perceptual complement*

- a. Gis-na-a **mu** fecc déemba.
see-NA-1SG 3SG dance yesterday
‘I saw him/her dance yesterday.’
- b. Gis-na-a **ñu** woy déemba.
see-NA-1SG 3PL sing yesterday
‘I saw them sing yesterday.’

The same point is illustrated by (102), where a 2nd person pronoun is the subject of the embedded perceptual clause.¹⁷

- (102) Roxaya gis-na *la / nga tabax a-b kër.
Roxaya see-NA.3SG *OBJ.2SG / 2SG build INDEF- CM.SG house
‘Roxaya saw you build a house.’

Notice that perceptual verb like *gis* ‘see’ is not itself incompatible with an accusative pronoun, so that the ill-formedness found in (100) cannot be attributed to this impossibility.

- (103) Woykat b-i gis-na ko.
singer CM.SG-DEF see-NA.3SG OBJ.3SG
‘The singer saw him/her.’

In sum, in this appendix, we considered another property of the syntactic distribution of BNs in Wolof, namely, the fact that it seems to be able to occur as the subject of perceptual clausal complements. This possibility stands in contrast with two other properties of the licensing of BNs: to recall, they cannot be the intermediate argument in three-argument constructions, nor can they be the subject of finite clauses. While I do not have the full range of data necessary to develop a theory of perceptual clausal complements in Wolof, I nevertheless tried to build a case for the relevance of this type of complement to the investigation of the syntactic distribution of BNs in Wolof. The project to be undertaken should also account for the type of clitic that occurs as the subject of perceptual clauses.

¹⁷(102) is reminiscent of the pronominal restriction found in relative clauses, as discussed on an [appendix](#) on p. 31.

Chapter 3

Number interpretation

3.1 Introduction

Since [Chomsky \(2000, 2001\)](#), we conventionally understand Agree as an operation whereby an unvalued feature in a Probe receives a value from a matching Goal. More recently, [Béjar & Rezac \(2009\)](#) and [Kalin \(2017, 2018, 2019\)](#) have argued that Agree also plays a role in licensing valued, interpretable features. In this chapter, I propose an extension of [Kalin’s](#) nominal licensing system to the nominal domain and I argue that number features must also be licensed by Agree. This proposal is empirically motivated by the number interpretation of bare nominals in Wolof.¹

Several languages allow for their nominals to occur in bare form, that is, without the functional morphology that otherwise characterizes the nominals of a given language, including determiners and number morphology. Following the relevant literature, I have called these nominals ‘**bare nominals**’ (BNs). Correspondingly, I use the term ‘full nominal’ to refer to DPs that do contain that functional morphology. In Wolof specifically, as we are going to see, full nominals occur with a determiner and a class marker affixed to it. BNs, correspondingly, do not occur with either an overt determiner nor with a class marker. Some BN languages are illustrated in (1).

- (1) 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 2014b](#)]

¹This chapter has majorly improved thanks to the attention given it by many people, who I gratefully acknowledge: thank you to D. Fox, M. Hackl, S. Iatridou, R. Kramer, I. Jordanoska, M. Martinović, R. Pancheva, D. Pesetsky, N. Richards, R. Schwartzchild, G. Thoms, to the participants of the class Workshop in Linguistics (24.991/sp18), of ECO-5 2019 (Feb/2019; UMD), and of presentations given at various presentations at MIT, Hungry Wugs (Apr/2019; MIT), Tardes de Lingüística na USP (Jun/2019; USP), AlphaUG (Jul/2019; British Academy), LAGB 2019, SinFonIJA 2019, LSA 2020, MIT Ling-Lunch (Apr/2020), CALL 2020, ConSOLE 2021 (Jan/21; Leiden), and ACAL 2021. Thank you also to three anonymous *Natural Language and Linguistic Theory* reviewers, whose detailed comments led to major improvements in the analysis reported here.

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; Munn & Schmitt 2005; Pires de Oliveira & Rothstein 2011; a.o.]

c. *BN in Mandarin Chinese*

Zuotian wo mai le **shu**.

yesterday I buy ASP book

‘Yesterday, I bought one or more books.’

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

d. *BN in Hindi*

Anu **bacca** sambhaaltii hai.

Anu child look.after-IMP be-PRS

‘Anu looks after (one or more) child(ren).’

[Dayal 2011, (7b); adapted]

e. *BN in Official Malagasy*

Manolotra **penina** izy.

AT.offer pen 3(NOM)

‘She offers a pen/pens.’

[Paul 2016, (18a)]

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

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

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. (2a) 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 (2a), by using *tiin ghanTe tak* ‘for three hours’) that the number-neutral interpretation of the BN arises. To drive the point home, in (2b), the atelic reading is eliminated via the addition of the completive particle *Daalii*. As expected from the pattern observed in (2a), only a singular interpretation is available. Furthermore, in (2c), 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 (2d).

(2) *Hindi*

- a. anu-ne [tiin ghanTe meN] / [tiin ghanTe tak] **kitaab** paRhii.
 Anu-ERG [3 hours in] / [3 hours for] book read-PFV
 i. ‘Anu read a book in three hours’ (= exactly one book.)
 ii. ‘Anu read a book for three hours’ (= one or more books.)
- b. anu-ne [tiin ghanTe meN] / *[tiin ghanTe tak] **kitaab** paRh Daalii.
 Anu-ERG [3 hours in] / *[3 hours for] book read COMPL.PFV
 ‘Anu read a book in three hours’ (= exactly one book)
- c. * anu-ne [tiin ghanTe meN] **kitaab** ikaTTaa kar lii.
 Anu-ERG [3 hours in] book collect do COMPL.PFV
 Lit.: ‘Anu got done collecting a book in three hours.’
- d. anu-ne [tiin ghanTe meN] **kitaabeN** ikaTTaa kar lii.
 Anu-ERG [3 hours in] books collect do COMPL.PFV
 ‘Anu got done collecting books in three hours.’

[Dayal 2011, (32); adapted]

The data in (2) demonstrate thus 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 as a byproduct a number neutral interpretation of the otherwise singular object BN.

In this chapter, I will show that, while BNs in Wolof are also singular instead of number neutral, the mechanisms by which they can have a plural construal differ from those available in Hindi. Aspectual information remains constant across the data to be investigated here and yet the number interpretation is different. What will vary in the data is the presence or absence of a plural morpheme. Based on this correlation, 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 will propose a condition on the requirement of licensing an interpretable number feature within the nominal spine.

In (3), we can see some instances of BNs in Wolof.²

- (3) a. Gis-na-a **ndongo.dara** senegalee.
 see-NA-1SG student Senegalese
 ‘I saw a Senegalese student.’

²Regarding (3a) in particular, a 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 jàng-na **xibaar**.
Roxaya read-NA.3SG newspaper
'Roxaya read a newspaper.'

Similarly to Hindi an unlike what we witness in (1), BNs in Wolof seem to be exclusively singular. As we are going to see in §3.2, 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. (4) offers a preview of the data to be examined. It shows that BNs in Wolof cannot be the object of a collective predicate like *dajale* 'gather'.

- (4) * Jàngalekat b-i dajale-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.'

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

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

[F. Chen, p.c.]

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

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

[Dayal 2011, (31)]

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

- (6) Jàngalekat b-i dajale-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 children who Samba knows in the park.'

Not every nominal modifier, however, has the same effect in the number interpretation of a Wolof BN. In particular, if a BN is merged with a modifier that does not have any number morphology, it still behaves as if it were singular. This is previewed in (7), where a BN combined with a plain modified cannot be the object of a collective predicate.

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

One of the differences between (6) and (7) lies in whether there is plural morphology in the modifier or not. Notice that aspectual properties nevertheless remain the same in all sentences, unlike what happens in Hindi (2). The same difference regarding the presence or absence of a plural exponent will be shown to arise in two types of possessive constructions, one that has number morphology and one which does not. In view of this distinction, this chapter aims at addressing the following questions:

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

In order to answer these questions, I propose that the interpretable number feature [+PLURAL] needs to be licensed by the operation Agree. This is only possible when the nominal spine has enough structure to house a number probe. The occurrence of such a feature can be diagnosed by the occurrence of morphemes that express number agreement morphology, including relative complementizer agreement in relative clauses (*y-* in (6)) and possessum agreement. In the absence of a number probe in the nominal structure, only a [+SINGULAR] BN can allow the derivation to converge, as this feature would not need licensing.

3.2 BNs in Wolof are singular

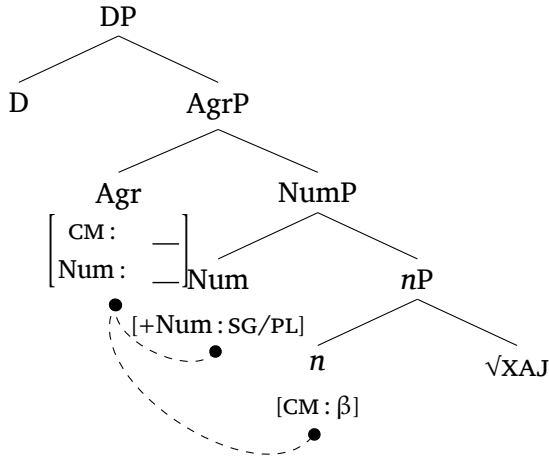
As mentioned earlier (cf. §1.2.1), even though Wolof has determiners, it also allows for its nominals to occur in bare form (represented in bold), that is, lacking a determiner and the class marker affixed to it. This chapter is concerned with the number interpretation of such nominals.

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

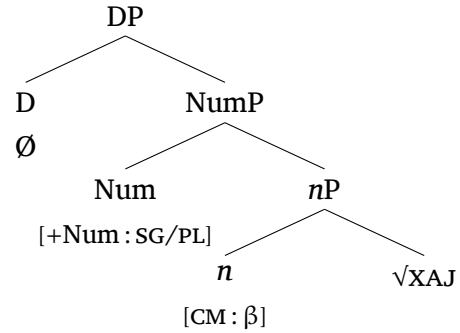
- (10) Xale y-i jënd-na-ñu a-b téere / **téere**.
 child CM.PL-DEF buy-NA-3PL INDEF-CM.SG book / book
 ‘The children bought a book.’

To recall, I proposed the following structures for full and bare nominals in Wolof:

(11) Structure of full nominals in Wolof



(12) Structure of bare nominals in Wolof



These BNs can also be used as predicates:

- (13) a. Samba a-b saasfaam la.
 Samba INDEF-CM.SG midwife COP.3SG
 ‘Samba is a nurse/midwife.’
 b. Samba **saasfaam** la.
 Samba midwife COP.3SG
 ‘Samba is a nurse/midwife.’

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

Furthermore, BNs in Wolof seem to be narrow scope indefinites. In fact, this is a property shared by BNs in other languages (see references in (1)). They can be licensed in an existential construction, which displays definiteness effects.³ (15a) shows that a singular or plural indefinite full nominal can be used in an existential construction. This possibility contrasts with what is observed in (15b), where a definite full nominal cannot be used. Finally, (15c) shows that a BN can be used in the same structure where an indefinite nominal can be licensed.⁴

- (15) 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.’

³For more on Wolof existential constructions and how they can be used as a diagnostic for indefiniteness, see [Tamba et al. \(2012, §17.10\)](#). However, there is a difference in the Wolof variants examined here and those investigated by [Tamba et al.](#), in that BNs cannot occur within the aforementioned existential constructions ([Tamba et al., 2012, \(129\)](#)), unless they are modified by a relative clause ([Tamba et al., 2012, fn. 31](#)). I do not have an explanation for this contrast, since sentences like (15c) were systematically judged grammatical for the consultants whose judgment is reported in the present paper.

⁴A consultant commented that (15c) cannot mean ‘There are dogs in the garden’.

- 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.’

Whenever there is another operator in the same sentence, the BN has to take scope under it.⁵

(16) *Full nominal*: *again > ∃, √∃ > again

- a. Mareem séy-aat-na ak a-b fecckat.
Mareem marry-ITER-NA.3SG with INDEF-CM.SG 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).*

(17) *BN*: √again > ∃, *∃ > again

- a. Mareem séy-aat-na ak fecckat.
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).*

(18) shows that an indefinite full nominal outscopes *fätte* ‘forget’.

(18) Samba fätte-na téj 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 a 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.*

(19) is an example of the same type, though now the nominal is a BN and it scopes below *fätte* ‘forget’.

(19) Isaa fätte-na jënd fowekaay.
Isaa forget-NA.3SG buy toy
‘Isaa forgot to buy a toy.’

⁵In the sentences below, the # symbol is used to indicate that the sentence is not felicitous in the context given.

- 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:

- Saturation of collective predicate;
- Number of pronoun in discourse anaphora;
- Number of pronoun in sluicing;
- Licensing of a reciprocal;
- Licensing of a plural reflexive;
- The ability of a nominal to be followed up with ‘how many’;
- The ability of a nominal to be followed up with ‘all of them’.

In the remainder of this section, we will investigate each of these properties by first looking at the behavior of full nominals. This will establish a baseline we can compare BNs with. We will see that BNs behave like their singular full nominal counterparts.

(20a) and (20b) show that the verbs *dajale* ‘gather’ and *boole* ‘put together’ require a plural object. In other words, they are collective predicates.

- (20) a. Jàngalekat b-i dajale-na *a-b xale / a-y xale ci
 teacher CM.SG-DEF gather-NA.3SG *INDEF-CM.SG child / INDEF-CM.PL child PREP
 bayaan b-i.
 park CM.SG-DEF
 ‘The teacher gathered some students in the park.’
- b. Roxaya boole-na *a-b butéel / a-y butéel ci
 Roxaya put.together-NA.3SG *INDEF-CM.SG bottle / INDEF-CM.PL bottle PREP
 waañ w-i.
 kitchen CM.SG-DEF
 ‘Roxaya collected some bottles in the kitchen.’

(21a) and (21b) show that a BN cannot be the object of these collective predicates, mimicking the behavior of singular full nominals.

- (21) a. * Jàngalekat b-i dajale-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 (22), *ak ab woykat* ‘with a singer’) is added.

- (22) Faatu dajale-na a-b fecckat 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 (23). In other words, again, a BN displays the same behavior as its singular full nominal counterpart.

- (23) Faatu dajale-na **fecckat** ak **woykat** / a-b woykat.
 Faatu gather-NA.3SG dancer with singer / INDEF-CM.SG singer
 ‘Faatu gathered a dancer with a singer.’

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

- (24) a. Jàngalekat b-i mungi tëkkale ndongo.dara y-i.
 teacher CM.SG-DEF PROG.3SG compare student CM.PL-DEF
 ‘The teacher was comparing the students.’
- b. * Jàngalekat b-i mungi tëkkale ndongo.dara b-i.
 teacher CM.SG-DEF PROG.3SG compare student CM.SG-DEF
 Lit.: ‘The teacher was comparing the student.’
- (25) * Jàngalekat b-i mungi tëkkale **ndongo.dara**.
 teacher CM.SG-DEF PROG.3SG compare student
 Lit.: ‘The teachers was comparing student.’

(26) makes the same point with the verb *juboole* ‘unite’.

- (26) a. Njiir b-i juboole-na liggéeykat y-i.
 boss CM.SG-DEF unite-NA.SG worker CM.PL-DEF
 ‘The boss united the workers.’

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

The same general profile can be seen in the behavior of nominals with respect to pronouns that are used to refer back to such nominals. (27a) shows that a singular nominal (*ab jàngalekat* ‘a teacher’) must be referred back to with a singular pronoun – a plural pronoun cannot be used. Conversely, if the antecedent is plural (*ay jàngalekat* ‘some teachers’), only a plural pronoun is possible.⁶

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

With this background in place, consider what happens when the antecedent is a BN. (28) 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.

- (28) a. Gis-na-a **jàngalekat**. Maymuna bëgg-na ko.
 see-NA-1SG teacher Maymuna like-NA.3SG OBJ.3SG
 ‘I saw a teacher yesterday. Maymuna admires her.’
- b. * Gis-na-a **jàngalekat**. Maymuna bëgg-na leen.
 see-NA-1SG teacher Maymuna like-NA.3SG OBJ.3PL
 Lit.: ‘I saw teacher. Maymuna admires them.’

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

- (29) a. Jàngalekat b-i seet-na a-b ndongo dara, waaye
 teacher CM.SG-DEF visit-NA.3SG INDEF-CM.SG student but
 xa-w-ma k-an la / *y-an la.
 know-NEG-1SG CM.SG-which COP.3SG / *CM.PL-which COP.3SG
 ‘The teacher visited a student, but I do not know which one/*which ones.’
- b. Jàngalekat b-i seet-na a-y ndongo dara, waaye
 teacher CM.SG-DEF visit-NA.3SG INDEF-CM.PL student but
 xa-w-ma *k-an la / y-an la.
 know-NEG-1SG *CM.SG-which COP.3SG / CM.PL-which COP.3SG

⁶A similar argument can be provided by a pronoun that appears in an object control-like structures, where said pronoun tracks the properties of a controller. The latter can be a BN, in which case the pronoun must be singular. The data can be found in the [appendix](#) on p. 143.

‘The teacher visited some students, but I do not know which ones/*which one.’

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

- (30) Jàngalekat b-i seet-na ndongo dara, waaye xa-w-ma k-an
 teacher CM.SG-DEF visit-NA.3SG student but know-NEG-1SG CM.SG-which
 la / *y-an la.
 COP.3SG / *CM.PL-which COP.3SG
 ‘The teacher visited a student, but I do not know which one/*which ones.’

Turning now to binding, we will see that BNs cannot bind plural anaphors. (31a) shows that a plural full nominal like *ay ndongo dara* ‘some students’ can be used in a clause where a verb (*xam* ‘know’) has a reciprocal morpheme (*-ante*) affixed to it. (31b) in turn shows that a singular antecedent like *ab ndongo dara* ‘a student’ renders the sentence ungrammatical.⁷

- (31) a. Jàngalekat b-i wonale-na a-y ndongo dara ñu
 teacher CM.SG-DEF introduce-NA.3SG INDEF-CM.PL student 3PL
 xam-ante.
 know-RECIP
 ‘The teacher introduced some students to each other.’
 b. * Jàngalekat b-i wonale-na a-b ndongo dara mu
 teacher CM.SG-DEF introduce-NA.3SG INDEF-CM.SG student 3SG
 xam-ante.
 know-RECIP
 Lit.: ‘The teacher introduced a student to each other.’

In (32) 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.

- (32) a. * Jàngalekat b-i wonale-na ndongo dara mu xam-ante.
 teacher CM.SG-DEF introduce-NA.3SG student 3SG know-RECIP
 Lit.: ‘The teacher introduced student to each other.’
 b. * Jàngalekat b-i wonale-na ndongo dara ñu xam-ante.
 teacher CM.SG-DEF introduce-NA.3SG student 3PL know-RECIP
 Lit.: ‘The teacher introduced student to each other.’

(33) is another paradigm of the same type, but with a causativized reciprocalized verb. (33a) and (33b) show that the antecedent has to be plural and (33c) shows that it cannot be a BN.

- (33) a. Jàngalekat b-i desin-ante-loo-na ndongo.dara y-i.
 teacher CM.SG-DEF draw-RECIP-CAUS-NA.3SG student CM.PL-DEF
 ‘The teacher made the students draw each other.’

⁷The 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 (32) that the BN counterpart of these sentences is ungrammatical irrespective of the number of the pronoun used.

- b. * Jàngalekat b-i desin-ante-loo-na ndongo.dara b-i.
 teacher CM.SG-DEF draw-RECIP-CAUS-NA.3SG student CM.SG-DEF
 Lit.: ‘The teacher made the student draw each other.’
- c. * Jàngalekat b-i desin-ante-loo-na **ndongo.dara.**
 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. (34) shows the expected behavior of singular and plural reflexives in Wolof. (34a) and (34b) show that a plural full nominal (*xale yi* ‘the children’) can be the antecedent of a plural reflexive, though not of a singular one. (34c) and (34d) show the reverse pattern with a singular full nominal antecedent (*xale bi* ‘the child’).

- (34) 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.PL-DEF head=POSS.3SG
 Lit.: ‘Kadeer made the children wash himself;herself.’
- c. Kadeer sang-oloo-na xale b-i bopp=am.
 Kadeer wash-CAUS-NA.3SG child CM.SG-DEF head=POSS.3SG
 ‘Kadeer made the child wash himself;herself.’
- d. * Kadeer sang-oloo-na xale b-i seen bopp.
 Kadeer wash-CAUS-NA.3SG child CM.SG-DEF POSS.3PL head
 Lit.: ‘Kadeer made the child wash themselves.’

In accordance with the pattern we have seen so far, (35a) shows that a BN cannot be the antecedent of a plural reflexive. It can nevertheless be the antecedent of a singular reflexive (35b). This is once again the same behavior displayed by a singular full nominal.

- (35) a. * Jàngalekat b-i sang-oloo-na **ndongo dara** seen bopp.
 teacher CM.SG-DEF wash-CAUS-NA.3SG student POSS.3PL head
 Lit.: ‘The teacher made student wash themselves.’
- b. Jàngalekat b-i sang-oloo-na **ndongo dara** bopp=am.
 teacher CM.SG-DEF wash-CAUS-NA.3SG student head=POSS.3SG
 ‘The teacher made some student wash himself;herself.’

(35b) is also relevant in evincing that BNs in Wolof are able to be antecedents, which dismisses an alternative analysis which attributes the ill-formedness of the sentences in (32) and (35a) to a potential inability for binding.

(36) shows an additional pair of examples.

- (36) a. Faatu desine-loo-na ndongo.dara 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 **ndongo.dara** seen bopp.
 Faatu draw-CAUS-NA.3SG student POSS.3PL head
 Lit.: ‘Faatu made student draw themselves.’

The exclusively singular interpretation of BNs in Wolof can be likewise inferred by its behavior regarding the possibility of targeting it with the question ‘how many’. (37) shows that a plural full nominal such as *ay neexal* ‘some gifts’ can be felicitously targeted by the question ‘how many’. (38) shows that this is not the case when the full nominal is singular.

- (37) 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?’

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

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

- (39) A. Kadeer jot-na **neexal**.
 Kadeer receive-NA.3SG gift
 ‘Kadeer received a gift.’
 B. # Ñaata neexal la Kadeer jot?
 how.many gift COP.3SG Kadeer receive
 ‘How many gifts did Kadeer receive?’

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

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

- (41) ?? Gis-na-a **xaj** ci bayaal b-i démb. Y-ëpp sokola-na-ñu.
 see-NA-1SG dog PREP field CM.SG-DEF yesterday CM.PL-every brown-NA-3PL
 Lit.: ‘I saw dog in the field yesterday. All of them were brown.’⁸

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

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

With this generalization in mind, let us consider the behavior of BNs in Mandarin regarding roughly the same properties. [Rullmann & You \(2006\)](#), among others, remark that BNs in this language receive a number neutral interpretation. (43) shows that Mandarin has the opposite behavior of that showcased by Wolof regarding most properties considered above.

(43) *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
[F. Chen, p.c.]
- 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
[F. Chen, p.c.]
- 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.’

⁸(41) was judged just degraded rather than completely infelicitous. I do not have an explanation for this contrast.

B. Ni yujian-le ji-ge lao tongxue?
 You meet-PERF how.many-CL old classmate
 ‘How many old classmates did you meet?’

✓‘how many’ follow-up

[F. Chen, p.c.]

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

(44) Wo jieshao-le **xuesheng**^{??}(-men) gei bici.
 I introduce-PERF student^{??}(-PL) to each.other
 ‘I introduced student to each other.’

[F. Chen, p.c.]

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

(45) *Brazilian Portuguese*

a. A Adriana juntou **criança** na quadra.
 the Adriana gathered child in.the court
 ‘Adriana gathered children in the playground.’

✓collective predicate

b. Tem **criança** na sala. E ela está / elas estão ouvindo.
 has child in.the room and she is / they are listening
 ‘There is a child/some children in the room. And (s)he is/they are listening.’

✓SG or PL discourse anaphora

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

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

✓PL interrogative pronoun

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

✓reciprocal

- e. A Soraia viu **criança** se lavando no riacho.
 the Soraia saw child SELF washing in.the stream
 ‘Soraia saw a child/some children washing herself/themselves in the stream.’ *PL*
reflexive
- f. A. A Renata foi comprar **caneca** ontem.
 the Renata went buy.INF mug yesterday
 ‘Renata bought one or more mugs yesterday.’
- B. Quantas (canecas ela comprou)?
 how.many (mugs she bought)
 ‘How many (mugs did she buy)?’

In view of the data summarized in (42) and its comparison with BNs in two other languages, we may ask the following question:

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

I will propose in §3.4 that the singular interpretation of BNs in Wolof can be modeled as a consequence of a derivation that can only converge if NumP is singular. However, before we get to an answer to (46), we must look at additional data to arrive at a complete picture of the number interpretation of BNs in Wolof. In the data that we have investigated so far, the BN is unmodified. It turns out that, when the BN combines with modifiers, it can either retain a singular interpretation (as that seen in the present section) or have a plural construal. We turn to modifier data in the next section.

3.3 Adding a modifier: relative clauses vs. plain modifiers

In this section, we return to the number interpretation diagnostics employed earlier, but this time focusing on BNs accompanied by relative clauses and adjectives. The generalization we arrived at in the previous section is that BNs in Wolof are singular and not number neutral, as BNs in other languages. However, this generalization only holds only if the BN is unmodified. In this section, we add relative clauses and adjectives to the BN. The former differ from the latter in that only relative clauses contain a class marker, which is prefixed to the relative complementizer. Importantly, as we saw earlier, class markers in Wolof encode number properties. Adjectives, on the other hand, do not contain a class marker. In fact, they cannot expone number features at all, which is why I call them ‘plain modifiers’. The broader generalization that we will arrive at is that, BNs in Wolof are exclusively singular, unless they are modified by a nominal element that is able to expone number morphology. In that case, it can have a plural interpretation.

3.3.1 Relative clause

As mentioned earlier, 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 (*palanteer* ‘window’ in (47)).

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

Relative clauses are a widely utilized type of nominal modifier. Predicates like *tilim* ‘dirty’ occur inside relative clauses in the same position as verbs do – examples of the latter can be found below. For more on nominal modification on Wolof, see [McLaughlin \(2004\)](#). The only type of nominal modifier that does not have the syntax of a relative clause found in my data set are plain modifiers, discussed below.

According to [Torrence \(2013a\)](#), a.o., the complementizer in relative clauses in Wolof can encode the meaning otherwise encoded by determiners, for instance, definiteness and proximity. While this type of relative clause indeed occurs in my consultants’ dialects, the relative clauses I investigate in this chapter uniformly contain the complementizer *-u*. This complementizer does not encode definiteness or proximity, as it can occur with definite, indefinite, and demonstrative DPs, irrespective of proximity. The choice is motivated by the fact that *-u* is the complementizer that occurs with BNs.

- (48) a. Awa defar-na oto [b-u Samba jënd] b-i.
 Awa fix-NA.3SG car [CM.SG-COMP Samba buy] CM.SG-DEF
 ‘Awa fixed the car that Samba bought.’
- b. Awa defar-na oto [y-u Samba jënd] y-i.
 Awa fix-NA.3SG car [CM.PL-COMP Samba buy] CM.PL-DEF
 ‘Awa fixed the cars that Samba bought.’
- c. Samba xam-na ndongo.dara [b-u njool] b-i.
 Samba know-NA.3SG student [CM.SG-COMP tall] CM.SG-DEF
 ‘Samba knows the student who is tall.’
- d. Xam-na-a a-b jàngalekat [b-u binda téere b-i].
 know-NA-1SG INDEF-CM.SG teacher [CM.SG-COMP write book CM.SG-DEF]
 ‘I know a teacher who wrote the book.’
- (M. Deme, p.c.)
- e. Roxaya xam-na a-b jàngalekat [b-u Maymuna bëgg].
 Roxaya know-NA.3SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna like]
 ‘Roxaya knows a teacher that Maymuna admires.’

- f. Dimbala-na-a a-y xale [y-u j'ang 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.'
- g. Muus b-i daxee-na xaj [b-u sokola] b-ee.
 cat CM.SG-DEF chase-NA.3SG dog [CM.SG-COMP brown] CM.SG-DEM.DIST
 'The cat chased that brown dog (over there).'

As also mentioned earlier, assuming a raising analysis of relative clauses for Wolof, [Torrence \(2013a\)](#) analyzes the occurrence of the class marker prefixed to the relative complementizer as an instance of complementizer agreement. More precisely, in a relative clause like that in (48e), *jàngalekat* 'teacher' is base-generated inside the relative clause CP. That class markers are the exponent of Agree is further suggested by the fact that more than one class marker can occur in the same nominal (cf. [Kramer's 2009](#) analysis of multiple determiners in Amharic in terms of Agree). Examples of multiple occurrences of class markers in the same nominal can be found in (47) and (48) above, where the relative complementizer agrees in class with the head of the relative, and so does the determiner outside of it. Moreover, notice that the class markers in the determiner and in the relative complementizer must match (49). This is a property that can be attributed to multiple Agreement with the same goal.

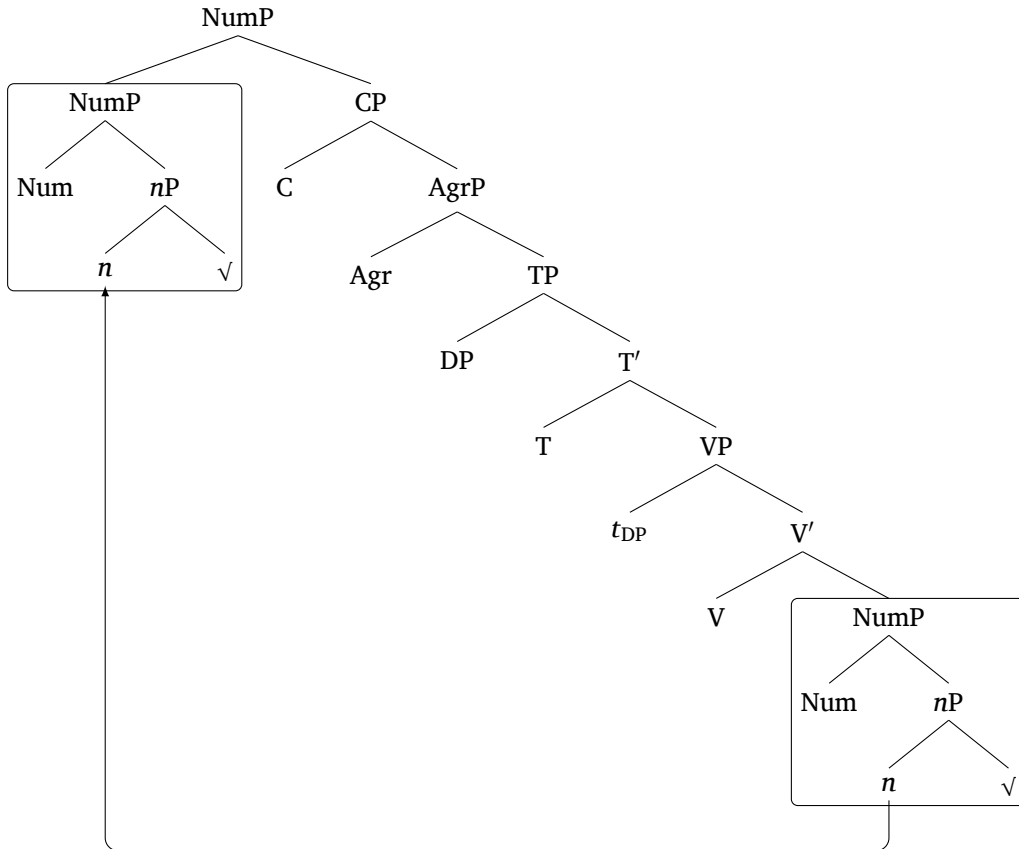
- (49) a. Samba tej-na palanteer [b-u tilim] b-i. / *y-i
 Samba close-NA.3SG window [CM.SG-COMP dirty] CM.SG-DEF / *CM.PL-DEF
 'Samba closed the window that is dirty.'
- b. Samba tej-na palanteer [y-u tilim] y-i / *b-i.
 Samba close-NA.3SG window [CM.PL-COMP dirty] CM.PL-DEF / *CM.SG-DEF
 'Samba closed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

As just mentioned, 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 prior to raising. 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 head of the relative, the object in the diagram in (50).⁹ I assume that the head of the relative, prior to movement, projects at least an *nP* and a NumP, since their heads contain the number and class features that eventually appear in the relative complementizer (as a consequence of Agree with Agr, which is then affixed to the complementizer). NumP then raises and remerges with the CP and projects. Subsequently, the complex NumP represented in (50) merges with another AgrP and a DP, the former of which also Agrees with the head of the relative (now raised outside the CP) and whose head is exponed as a class marker affixed to the determiner.¹⁰

⁹For concreteness, one can assume that the relative C bears an \bar{A} -feature that probes in unison ([Coon & Bale, 2014](#)) with the features in Agr. The result is that any intervening DPs that could in principle be Agreed with by Agr will be skipped over if they do not have an \bar{A} -feature. This is a technical issue that the present analysis faces, but which is absent in [Torrence \(2013a\)](#), where the only relevant head is C.

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

(50)



Against this backdrop, consider what happens to BNs. BNs can be modified by a relative clause with either a singular (51a) or a with plural (51b) class marker.

- (51) 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.'

If the BN is modified by a relative clause with plural morphology, it receives an indefinite interpretation, as can be inferred by the fact that it can be licensed in an existential construction (cf. unmodified BN in (15c)):

- (52) 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.'

By the same token, recall that BNs are narrow scope indefinites (§3.2). This characterization persists if the BN is modified by a relative clause. This claim is motivated by the comparison between a full indefinite modified a relative clause and its BN counterpart. In (53), where the indefinite determiner *ab* is used, the indefinite modified by a relative clause can scope above or below the intensional predicate *bëgg* 'want'.

- (53) a. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind], *Une si longue lettre* la tuddu.
 write] *Une si longue lettre* COP-3SG name
 ‘My child wants to read a book that Mariama Ba wrote. Its title is *So long a letter*.’
 ∃ > want
- b. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind], waaye bu mu am baax-na.
 write] but BU 3SG have good-NA.3SG
 ‘My child wants to read a book that Mariama Ba wrote, but it does not matter which.’
 want > ∃

Conversely, in (54), what the relative clause modifies is a BN. In that case, only a narrow scope reading is available.

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

Something along these lines can also be said of the comparison between BNs and full indefinites headed by *benn* ‘one’. In (55), the BN modified by a relative clause cannot scope above the intensional predicate *seet* ‘look for’. In (56a), the indefinite determiner *benn* is used and now a wide scope interpretation is available. (56b) shows that a narrow scope reading is also available for *benn*. Regrettably, the BN counterpart of (56b) is missing, due to an oversight on my part.

- (55) Jàngalekat b-i mungi seet **ndongo.dara** [b-u njool]. # Xadi
 teacher CM.SG-DEF PROG.3SG look.for student [CM.SG-COMP tall] # Xadi
 la tuddu.
 COP.3SG name
 ‘The teacher is looking for a tall student. # Her name is Xadi.’
- (56) a. Jàngalekat b-i mungi seet b-enn ndongo.dara [b-u
 teacher CM.SG-DEF PROG.3SG look.for CM.SG-one student [CM.SG-COMP
 njool]. Xadi la tuddu.
 tall] Xadi COP.3SG name
 ‘The teacher is looking for a tall student. Her name is Xadi.’

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

(57) and (58) are more examples to the same effect.

- (57) a. Roxaya seet-na b-enn xaj [b-u sokola]. Kumba la
 Roxaya look.for-NA.3SG CM.SG-one dog [CM.SG-COMP brown] Kumba COP.3SG
 tuddu.
 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.’

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

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

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

First, the previous section showed that a BN cannot be the object of a collective predicate like *dajale* ‘gather’. Adding a singular relative clause (i.e. a relative with a singular class marker like *b*) does not change this behavior (59a). On the other hand, if the relative clause has a plural class marker affixed to the complementizer (59b), a BN can now saturate a collective predicate.

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

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

Second, a singular relative clause does not change the singular behavior displayed by an unmodified BN regarding discourse anaphora: in both cases, the pronoun used to refer back to the nominal is singular (60a). Conversely, if the relative clause is plural (60b), discourse anaphora must now be plural.

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

The same pattern can be seen in the sluicing sentences in (61), where the interrogative pronoun tracks the number of the BN depending on whether it is modified by a singular or a plural relative clause.

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

Fourth, while a singular relative clause does not render a BN an appropriate binder for a reciprocal (62a), its plural counterpart does (62b).

- (62) a. * Jàngalekat b-i wonale-na **ndongo dara** [b-u Mareem
 teacher CM.SG-DEF introduce-NA.3SG student [CM.SG-COMP Mareem
 xam] ñu xam-ante.
 know] 3PL know-RECIP
 Lit.: ‘The teacher introduced student that Mareem knows to each other.’

- b. Jàngalekat b-i wonale-na **ndongo dara** [y-u Mareem
 teacher CM.SG-DEF introduce-NA.3SG student [CM.PL-COMP Mareem
 xam] ñu xam-ante.
 know] 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:

- (63) a. * Jàngalekat b-i sang-oloo-na **ndongo dara** [b-u njool]
 teacher CM.SG-DEF wash-CAUS-NA.3SG student [CM.SG-COMP tall]
 seen bopp.
 POSS.3PL head
 Lit.: ‘The teacher made student who is tall wash themselves.’
- b. Jàngalekat b-i sang-oloo-na **ndongo dara** [y-u njool]
 teacher CM.SG-DEF wash-CAUS-NA.3SG student [CM.PL-COMP tall]
 seen bopp.
 POSS.3PL head
 ‘The teacher made some tall students wash themselves.’

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

- (64) A. Mareem jàng-na **téere** [y-u Mariama Ba bind].
 Mareem read-NA.3SG book [CM.PL-COMP Mariama Ba write]
 ‘Mareem read some books that Mariama Ba wrote.’
- B. Ñaata téere [y-u Mariama Ba bind] la Mareem jàng?
 how.many book [CM.PL-COMP Mariama Ba write] COP.3SG Mareem read
 ‘How many books that Mariama Ba wrote did Mareem read?’

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

- (65) a. Jënd-na-a **téere** [b-u Mariama Ba bind-oon daal]. Jàng-na-a
 buy-NA-1SG book [CM.SG-COMP Mariama Ba write-PST last.year] read-NA-1SG
 y-ëpp.
 CM.PL-every
 i. ‘I bought a book that Mariama Ba wrote last year. I read all of it yesterday.’
 ii. # ‘I bought a book that Mariama Ba wrote last year. I read all of them yesterday.’
- b. Jënd-na-a **téere** [y-u Mariama Ba bind-oon daal]. Jàng-na-a
 buy-NA-1SG book [CM.PL-COMP Mariama Ba write-PST last.year] read-NA-1SG
 y-ëpp.
 CM.PL-every
 i. # ‘I bought some books that Mariama Ba wrote last year. I read all of it yesterday.’
 ii. ‘I bought some books that Mariama Ba wrote last year. I read all of them
 yesterday.’

- c. Jënd-na-a **téere** [y-u Mariama Ba bind]. Jàng-na-a y-ëpp démb.
 buy-NA-1SG book [CM.PL Mariama Ba write] read-NA-1SG CM.PL-every yesterday.
 ‘I bought some books that Mariama Ba wrote. I read all of them yesterday.’
- (66) a. # Gis-na-a **xaj** [b-u muus] ci bayaal b-i démb.
 see-NA-1SG dog [CM.SG-COMP intelligent] PREP field CM.SG-DEF yesterday
 Y-ëpp sokola la-ñu.
 CM.PL-every brown COP-3PL
 Lit.: ‘I saw dog that is intelligent in the field yesterday. All of them were brown.’
- b. Gis-na-a **xaj** [y-u muus] ci bayaal b-i démb.
 see-NA-1SG dog [CM.PL-COMP intelligent] PREP field CM.SG-DEF yesterday
 Y-ëpp sokola la-ñu.
 CM.PL-every brown COP-3PL
 ‘I saw some intelligent dogs in the field yesterday. All of them were brown.’

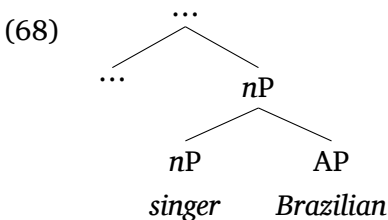
In §3.2, we had concluded that BNs in Wolof behave as if they were singular. The data examined in this section, however, lead us to conclude that this generalization has to be relativized to unmodified BNs only, since BNs modified by a plural relative clause behave as if they were plural. In the next section we will add to this data and see that nominal modifiers that do not have a plural morpheme like a relative clause do not have this “pluralizing” effect on the interpretation of BNs (i.e. they will retain an exclusively singular interpretation).

3.3.2 Plain (number-less) nominal modifier

In Wolof, nominal modifiers are usually relative clauses (see, for instance, *tall* in (63b), among many other examples). Nonetheless, expressions for nationality occur without the syntax of a relative clause. For convenience, I dub these expressions ‘plain modifiers’.

- (67) a. Mareem dajale-na a-y woykat brezilien.
 Mareem gather-NA.3SG INDEF-CM.PL singer Brazilian
 ‘Mareem gathered some Brazilian singers.’
- b. Samba bëgg-na tew/ataaya angale.
 Samba like-NA.3SG tea/tea English
 ‘Samba likes English tea.’

I assume that plain modifiers are APs adjoined to the nominal they modify:



Unlike what happens with plural relative clauses, plain modifiers do not have a “pluralizing” effect in the number interpretation of BN. A BN combined with a plain modifier still cannot be the object of a collective predicate (69), it must be referred back to with singular discourse anaphora (70) and a singular interrogative pronoun (71), it cannot be the antecedent of a reciprocal (72) or of a plural reflexive (73), and, finally, it cannot be followed up with ‘all of them’ (74). (Regrettably, the plain modifier counterpart of the ‘how many’ follow-up diagnostic is missing.)

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

- a. *Roxaya dajale-na **fecckat** brezilien.
 Roxaya gather-NA.3SG dancer Brazilian
 Lit.: ‘Roxaya gathered Brazilian dancer.’
- b. *Jàngalekat b-i dajale-na **ndongo.dara** angale ci bayaal
 teacher CM.SG-DEF gather-NA.3SG student English PREP park
 b-i.
 CM.SG-DEF
 Lit.: ‘The teacher gathered English student in the park.’

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

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

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

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

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

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

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

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

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

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

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

In view of this contrast, in addition to (46), repeated below as (75i), we may also ask the question (75ii):

- (75) 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 and plain modifiers, on the one hand, and plural relative clauses, on the other, suggests that what is relevant is the occurrence of 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.¹¹

3.3.3 Number interpretation in two types of possessive nominals

In Wolof, there are at least two types of possessive nominals. In (76a), 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 (76b), the linker suffix *-u* is used. It is affixed to the possessum *a-y muus* ‘INDEF-CM.PL cat’, which precedes the possessor *Mareem*.

- (76) 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 park.’

- b. *Linker suffix*

Toogakat b-i gis-na **a-y muus-u Mareem** (...).
 cook CM.SG-DEF see-NA.3SG INDEF.CM.PL cat-LNK Mareem
 ‘The cook saw some cats of Mareem’s.’

¹¹N. Richards and an LAGB 2019 reviewer suggest that unmodified BNs and BNs modified by a relative clause are distinct types of nominals differing in size. More specifically, relative clauses would require a more complex nominal structure to combine with. That nominal structure would include a NumP, which is why BNs modified by a relative clause can display either a singular or a plural interpretation. BNs, in contrast, would not have a complex structure that includes NumP, so that their number interpretation is more limited.

This analysis rests on the assumption that unmodified BNs and BNs modified by a relative clause are different nominals. An argument against this assumption is that these nominals are both narrow scope indefinites. In other words, adding a relative clause to a BN does not modify its status as a narrow scope indefinite, as discussed in this chapter. This shared property can be accounted for straightforwardly if BNs and BNs modified by a relative clause are underlyingly the same type of nominal. If they differ structurally, this shared property may come about as an accident.

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

Starting with possessive determiners, the possessum can either be a full nominal or a BN (77). Furthermore, the morphology affixed to the possessive determiner is sensitive to the number properties of the possessum that linearly follows it. In (77), *sama* is a 1st person possessive determiner that is linearly followed by a possessum. In (77a) and (77b), 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 (77b), where there is the addition of the affix *-y*.

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

The possessive determiners in Wolof are listed below:

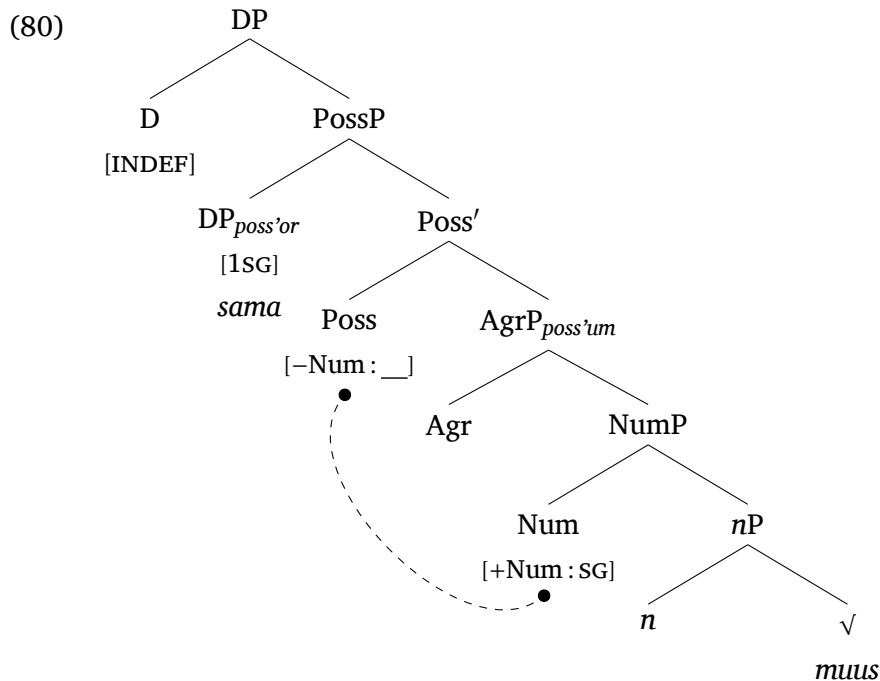
(78)	Poss’or	Singular poss’um	Translation	Plural poss’um	Translation
	1SG	<i>sama xarit</i>	‘my friend’	<i>sama-y xarit</i>	‘my friends’
	2SG	<i>sa xarit</i>	‘your friend’	<i>sa-y xarit</i>	‘your friends’
	3SG	<i>xarit=am</i>	‘his/her friend’	<i>ay xarit=am</i>	‘his/her friends’
	1PL	<i>suñu xarit</i>	‘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’

Additional data illustrating the behavior of the possessive determiner are below. (79a), (79b), and (79c) demonstrate that the number of the definite determiner (*bi*) and that of the possessive determiner must match. (79d) shows that the plural class marker for *nit* ‘person’ can be *y* or *ñ*. (79e) shows that the number suffix in the possessive determiner remains *y* nonetheless, suggesting that the plural class marker *y* and the possessum agreement suffix *-y* are different morphemes, albeit homophonous ones.

- (79) 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 démb.
 see-NA-1SG POSS.1SG-PL person CM.PL-DEF / CM.PL-DEF PREP Boston yesterday
 ‘I met the people in Boston yesterday.’

I assume that this type of possessive nominal has the structure in (80), which represents *sama-y xaj y-i* ‘POSS.1SG-PL dog CM.PL-DEF’ (*my dogs*). In this possessive nominal, the head of PossP probes for a number feature. This feature is valued by the possessum, which is in its c-command domain. If the possessum is singular, the exponent of Poss is phonologically null. If the possessum is plural, the head of PossP is exponed as -y.



I assume that the determiner that heads the entire possessive construction takes scope over it. Linear order evidence for this assumption is provided by the fact that the indefinite determiner *a-b* ‘INDEF-CM.SG’ must be placed to the left of the possessive *sama* ‘POSS.1SG’; it cannot immediately precede the possessum (*muus* ‘cat’).¹²

¹²Definite determiners would not be helpful in this regard, as they are always post-nominal.

- (81) { a-b } sama { *a-b } muus
 { INDEF-CM.SG } POSS.1SG { *INDEF-CM.SG } cat
 ‘a cat of mine’

[M. Deme, p.c.]

Additionally, I assume in (80) that the possessum projects its AgrP within PossP. Agr can then probe downwards for number and class (and eventually be exponed with a class marker). Agr then affixes to the determiner.¹³ Agr is placed below PossP because otherwise, the class marker would reflect the features of the possessor, which is contrary to fact.

With this background in mind, let us consider what happens when the possessum is a BN. (82) shows that, in this scenario, the possessive construction has an indefinite interpretation, which is why it can be used in an existential construction.

- (82) 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.’

Furthermore, BNs inside this type of possessive nominal have a singular interpretation, unless the plural possessum-sensitive -y occurs. In the data to follow, the (a) examples display the behavior of possessive constructions where the determiner is suffixed with the possessum-sensitive -y morpheme, while the (b) examples display the behavior of possessives without -y.

(83) *Collective predicate*

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

(84) *Discourse anaphora*

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

¹³It is possible that the latter operation is post-syntactic (Harizanov & Gribanova, 2019), as it skips over intermediate heads.

(85) *Interrogative pronoun in sluicing*

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

(86) *Reciprocal*

- a. Desin-ante-loo-na-a sama-y **doom** seen bopp.
draw-RECIP-CAUS-NA-1SG POSS.1SG-PL child POSS.3PL head
'I made some children of mine draw each other.'
- b. * Desin-ante-loo-na-a sama **doom** seen bopp.
draw-RECIP-CAUS-NA-1SG POSS.1SG child POSS.3PL head
Lit.: 'I made child of mine draw each other.'
- c. Wonale-na-a sama-y **ndongo.dara** ñu xam-ante.
introduce-NA-1SG POSS.1SG-PL student 3PL know-RECIP
'I introduced some students of mine to each other.'
- d. Wonale-na-a sama **ndongo.dara** ???(ak **ndongo.dara** 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.'

(87) *Plural reflexive*

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

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

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

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

(89) ‘All of them’ follow-up

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

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

We can now turn to the linker possessive nominal (Kihm, 2000), illustrated below.

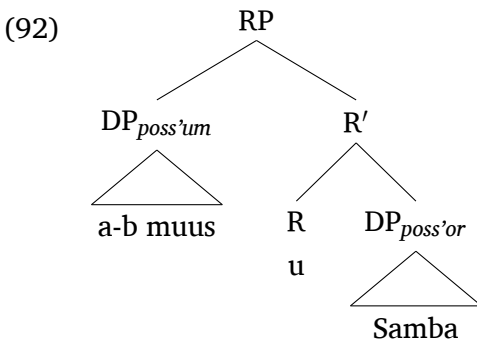
- (90) Gis-na-a **doom-u** Roxaya.
 see-NA-1SG child-LNK Roxaya
 ‘I saw a child of Roxaya’s.’

Again, I take the possessum in this construction to be a BN because the latter alternates with a full nominal, as we can see in the sentences in (91). In (91e), it is particularly clear that what the definite determiner *b-i* combines with is the noun to which the linker is suffixed (i.e. *muus* ‘cat’), since the preceding proper name (*Roxaya*) cannot merge with it, as evidenced by (91d). (91f) and (91g) show clearly with the post-nominal definite determiners that determiners merge outside of linker possessives.

- (91) a. A-b muus-u Samba lekk-na céeb.
 INDEF-CM.SG cat-LNK 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-LNK 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-LNK 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-LNK Roxaya CM.SG-DEF
'We like Roxaya's cat.'
- f. Muus-u Samba y-i lekk na-ñu céeb.
cat-LNK Samba CM.PL-DEF eat NA-3PL rice
'Samba's cats ate rice.'
- g. Liggéeykat b-i tabax-na kër-u Mareem g-i.
worker CM.SG-DEF build-BA.3SG house-LNK Mareem CM.SG-DEF
'The worker built Mareem's house.'

I assume the structure in (92) for linker possessives, illustrated with *a-b muus-u Samba* 'INDEF-CM.SG cat-LNK Samba' (*a cat of Samba's*). For concreteness, I assume Den Dikken's (2006) Relator Phrase, whose head here is realized by the linker morpheme *-u*. Contrary to the possessive in (80) examined above, in the linker (92), there is no probe for number.



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

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

As just mentioned, in the linker 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.¹⁴

¹⁴An *NLLT* reviewer notes that some Wolof dialects allow for a class marker in linker constructions:

- (i) kër-u(g) buur
house-LNK(CM.SG) king
'the king's house'

I have not found this possibility in my data set. They also correctly remark that, for these dialects, the prediction is that a plural interpretation can should also be licenseable, as long as a plural class marker occurs in these linker constructions. I thank the reviewer for this observation and for the data.

(94) *Collective predicate*

- a. Roxaya boole-na a-y xaj-u Kadeer.
Roxaya put.together-NA.3SG INDEF-CM.PL dog-LNK 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-LNK Kadeer *(with dog-LNK Kumba)
'Roxaya put together Kadeer's dog *(with Kumba's dog).'
- c. Isaa juboole-na muus-u Kadeer ??(ak muus-u Roxaya).
Isaa unite-NA.3SG cat-LNK Kadeer ??(with cat-LNK Roxaya)
'Isaa united a cat of Kadeer's (with a cat of Roxaya's).'

(95) *Discourse anaphora*

Gis-na-a muus-u Kadeer ci tool b-i. Bëgg-na-a ko / *leen.
see-NA-1SG cat-LNK 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.'

(96) *Interrogative pronoun in sluicing*

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

(97) *Reciprocal*

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

(98) *Plural reflexive*

- a. Isaa sang-oloo-na a-y xaj-u Kadeer seen bopp.
Isaa wash-CAUS-NA.3SG INDEF-CM.SG dog-LNK Kadeer POSS.3PL head
'Isaa made some dogs of Kadeer's wash themselves.'
- b. Isaa sang-oloo-na xaj-u Kadeer bopp=am / *seen bopp.
Isaa wash-CAUS-NA.3SG dog-LNK Kadeer head=POSS.3SG / *POSS.3PL head
'Isaa made a dog of Kadeer's wash himself/themselves.'

(99) ‘All of them’

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

These data indicate that, unlike the possessive determiner, which has number morphology, the linker possessive is not compatible with a plural interpretation for a BN. Alternatively stated, combining a BN with the linker *-u* does not have any effect on in the singular interpretation of the Wolof BN. However, in the appendix 3.5 I will discuss a difference found among the speakers consulted regarding the realization and properties of the linker morpheme. As we will see there, the behavior of that variant of the linker morpheme behaves as predicted by the analysis to be proposed.

3.3.4 Interim summary

All the data surveyed so far is summarized in the table (100). The grey boxes indicate missing data.

(100) *Number interpretation of BN*

		BN	Plural RC	Plain modifier	Possessum <i>-y</i>	Linker <i>-u</i>
i.	Collective predicate	*	✓	*	✓	* / ??
ii.	Discourse anaphora	SG	PL	SG	PL	SG
iii.	Pronoun (sluicing)	SG	PL	?SG	PL	SG
iv.	Reciprocal	*	✓	*	✓	*
v.	Plural reflexive	*	✓	??	✓	*
vi.	‘How many’	#	✓		✓	
vii.	‘All of them’	#	✓	??	✓	#

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

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

I will propose an analysis to account for this generalization in the next section. The proposal will be grounded on a condition that requires the licensing of a marked number feature via Agree.

3.4 Analysis

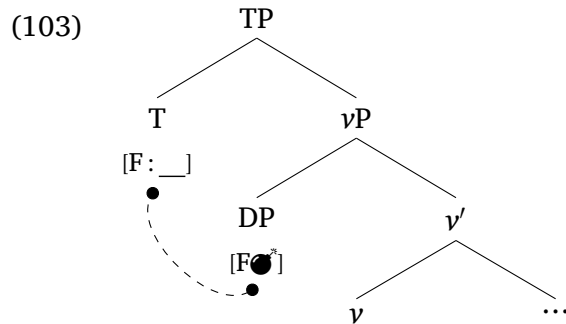
Kalin (2017, 2018, 2019) proposes a theory of nominal licensing that is driven by the need of certain interpretable features to undergo some operation. Kalin (2018) assumes that nominal licensing is governed by abstract Case assignment and thus by the Case Filter. Here, I assume Kalin’s

(2019) more general formalization whereby certain interpretable features require licensing, otherwise the derivation crashes. Specifically, Kalin assumes the following typology of features:

(102) *Feature types*

- a. [F: $_$] = unvalued/placeholder (= a probe)
- b. [F] = valued/snippet (= a potential goal)
- c. [F \bullet] = valued/snippet (= a potential goal, derivational time bomb)

[Kalin 2019, (12)]



[Kalin 2019, (13); adapted]

According to Kalin (2017, 2018, 2019), languages may differ in which features are derivational time bombs. Another point of variation is the range of licensers available in a given language. Licensers are additionally, divided into two categories, primary and secondary. Primary licensers are [F: $_$] probes merged in every clause. Secondary licensers are probes that enter the derivation only when the derivation would crash otherwise. The occurrence of secondary licensers are regulated by the following principle:

(104) *Licensing Economy Principle*

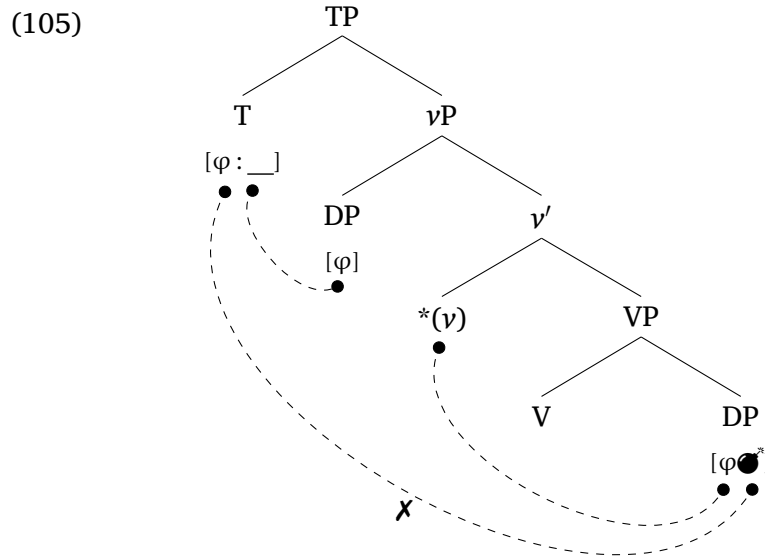
A secondary licenser is activated iff the derivation will otherwise not converge.

[Kalin 2018, (36)]

The empirical basis for this view of nominal licensing is provided by DOM (Differential Object Marking, Kalin 2018) and by the PCC (Person–Case Constraint), which Kalin (2017, 2019) show to share a number of similarities. The phenomena arise when interpretable features like [+PARTICIPANT] (PCC) and [+DEFINITENESS] or [+ANIMACY] (DOM) are derivational time bombs. To be more precise, under this framework, DOM and the PCC are the byproduct of the occurrence of a secondary licenser triggered by the need of an interpretable feature to be licensed. A primary licenser cannot Agree with these derivational time bombs due to the presence of an intervening nominal that the primary licenser can Agree with and thus cannot skip over. Furthermore, as alluded to above, there may be different secondary licensers made available for different languages. For instance, in DOM languages where the differentially marked DP bears accusative case, v may

be a secondary licenser. In languages where the differentially marked DP bears dative case, Appl may play this role (cf. Kalin 2018).

A toy example (from Kalin 2018) is provided by a DOM language where [+ANIMATE] objects are differentially marked and T is a primary licenser, while ν is a secondary licenser. In (105), the probe in T Agrees with the closest goal, the matching feature in the subject in Spec- ν P. T cannot Agree with the lower object. A ν that is able to Agree with the object must occur in the derivation as a secondary licenser because, otherwise, the interpretable feature in the object, a derivational time bomb, would not be defused.



[Kalin 2018, (24); adapted]

In this chapter, I propose to extend this theory of nominal licensing from the clausal to the nominal domain. Specifically, I propose that the interpretable feature [+PLURAL] is a derivational time bomb in Wolof that needs to be Agreed with in order to be licensed.

One may wonder why [+PLURAL] and not [+SINGULAR] is the number value that requires licensing via Agree. Crosslinguistically, it is not in fact uncommon for the feature [+PLURAL] to behave differently from [+SINGULAR] (Nevins, 2011). For instance, in past participle agreement in Abruzzese (D'alessandro & Roberts, 2008; D'Alessandro & Roberts, 2010; Longenbaugh, 2019), only [+PLURAL] triggers omnivorous agreement. In (106), the participle *painted* obligatorily agrees with a plural DP, irrespective of whether it is an object (106b) or subject (106c). The feature [+SINGULAR] does not participate in this pattern.

(106) *Past participle agreement in Abruzzese*

- a. Giuwanne a pittate nu mure.
John have.3 painted.SG a wall
'John has painted a wall.'
- b. Giuwanne a pittite **ddu mure**.
John have.3 painted.PL two walls
'John has painted two walls.'
- c. **Giuwanne e Mmarije** a *pittate/pittite nu mure.
John and Mary have.3 *painted.SG/painted.PL a wall
'John and Mary have painted a wall.'
- d. Giuwanne e Mmarije a *pittate/pittite **ddu mure**.
John and Mary have.3 *painted.SG/painted.PL two walls
'John and Mary have painted two walls.'

[D'Alessandro & Roberts 2010, (2); adapted]

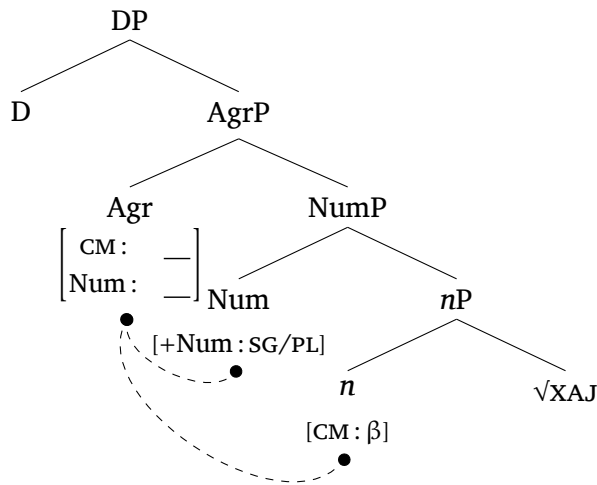
Indeed, [Harley & Ritter \(2002\)](#), a.o. argue that number is best syntactically represented as a single feature [+PLURAL], with a singular interpretation arising as the consequence of the absence of such a feature. While the present chapter does not allow us to distinguish between bivalence and privativity, I take data like (106) to suggest that the feature [+PLURAL], as opposed to [+SINGULAR], have some syntactic "prominence", so that only the former may require licensing.

Going back to Wolof nominals, I assume that the [+PLURAL] in the nominals in this language are the projections that require a [-Number: __] to be valued, namely:

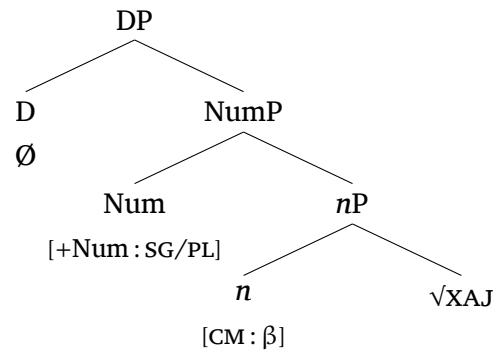
- (107) a. Agr (cf. full nominals in (32) and relative clauses in (50))
- b. Poss (cf. (80))

Furthermore, instead of drawing a distinction between primary and secondary licensers and of assuming that their occurrence is regulated by the economy principle (104), I assume that the licensers in (107) are all that is available in the Wolof nominal domain and, additionally, I hypothesize that the occurrence of these licensers is regulated by restrictions imposed by the nominal spine in Wolof. More precisely, my proposal is that the action of an economy principle like (104) cannot be seen due to the restrictions superimposed by the structure of nominals in Wolof, which are repeated below for convenience.

(108) Structure of full nominals in Wolof



(109) Structure of bare nominals in Wolof



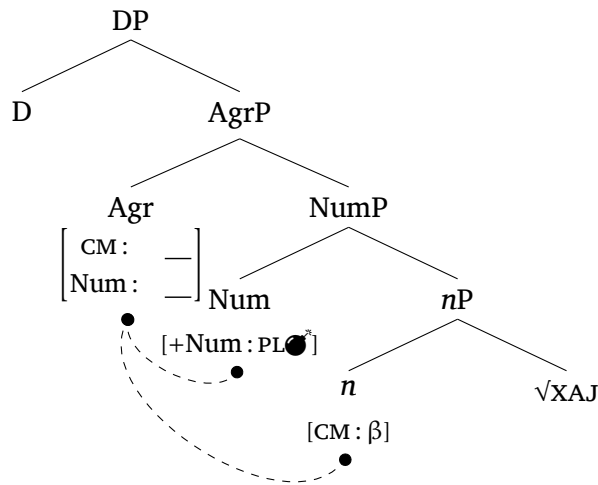
If Agr (107a) were to be introduced in the structure of the BN, the c-selectional requirements of the null D proposed for BNs would not be satisfied. Recall that I proposed that Agr is exponed by a class marker, which is absent in BNs. That the null D c-selects a NumP and not an AgrP was the solution proposed to prevent a class marker from surfacing in BNs. Conversely, if Poss (107b) were to be merged with a BN, the result would be a possessive nominal, with an altogether different semantics. I tentatively assume that some interpretive principle is also at play when determining when a licenser can occur in a given derivation. Contrast the proposed plural licenser Poss with secondary licensers like Appl, which Kalin (2018) proposes for DOM languages where the differential case is dative. By assumption, Appl – *unlike* the Poss under discussion – does not alter the interpretive properties of a sentence – it just formally licenses an interpretable derivational time bomb.

With this system in place, we can turn to an explanation as to why BNs in Wolof are singular when unmodified, but plural only when merged with nominal elements that can expone number. A fact that must be reckoned with is that full nominals in Wolof can be either singular or plural, as see in e.g. (110), repeated from above.

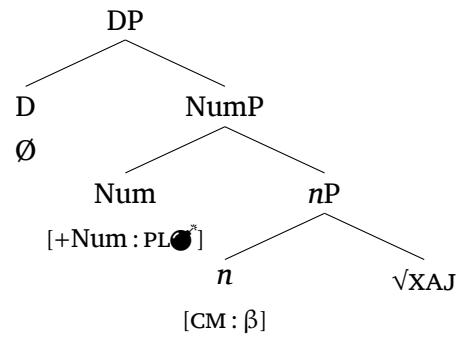
- (110) Xale **y-i** lekk-na-ñu gato **b-i**.
 child CM.PL-DEF eat-NA-3PL cake CM.SG-DEF
 ‘The children ate the cake.’

All things equal, the same values for the number feature should be available for BNs as well. In the full nominal (111), the interpretable number feature in NumP is always Agreed with by Agr, which probes for both number and class. The need for the feature [+PLURAL] to be licensed can thus be satisfied. Conversely, in the BN in (111), there is no number probe. As such, if the numeration contains a plural Num, the derivation crashes because [+PLURAL] is not defused. Because no such requirement is imposed on [+SINGULAR], the derivation converges.

(111) *Full nominal*: ●*defused



(112) *Bare nominal*: ●*not defused → crash



We have now arrived at an explanation as to why BNs in Wolof exclusively singular when unmodified: of the two logically available derivations (one with a singular Num and one with a plural Num), only the one with a singular BN leads to a convergent derivation.

For this analysis to go through, though, we must assume that BNs in Wolof project NumP, which I have assumed to be either singular or plural, as a null hypothesis. It is the presence of a [+PLURAL] Num that triggers the need for licensing via Agree. However, a reasonable alternative is that BNs in Wolof, being truncated nominals, simply lack a NumP, in which case, some other strategy would have to be resorted to to engender licensing by Agree. Nonetheless, I believe that assuming that Wolof BNs do not have number may not be compatible with certain facts about the behavior of BNs when they are coordinated, nor with conventional assumptions about how number neutrality is obtained in bare nominals.

A suggestion that BNs may have number is provided by the fact that they can trigger plural morphology in the verb when coordinated in the subject position. (113a) shows that coordination of singular nominals trigger plural agreement necessarily. (113b) and (113c)/(113d) show that this restriction also holds when the coordinated nominals are bare.

- (113) a. A-b xale ak a-b jàngalekat woy-na*(-ñu) ci daara
 INDEF-CM.SG child with INDEF-CM.SG teacher sing-NA*(-3PL) PREP school
 j-i.
 CM.SG-DEF
 ‘A child and a teacher sang in the school.’
- b. * **Xale** ak **jàngalekat** woy-na ci daara j-i.
 child with teacher sing-NA.3SG PREP school CM.SG-DEF
 Int.: ‘A child and a teacher sang in the school.’
- c. **Xale** ak **jàngalekat** woy-na-ñu ci daara j-i.
 child with teacher sing-NA-3PL PREP school CM.SG-DEF
 ‘A child and a teacher sang in the school.’

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

A similar effect is found in French.¹⁵ (114) is a baseline example that shows that coordinated DPs require plural agreement in the verb.

(114) *French: coordinated nominals require plural agreement*

Sur le moment, *Le Monde* et *Libération* *m’a semblé /
 on the moment *Le Monde* and *Libération* *1ST.DAT=had.3SG seemed /
 m’ont semblé être d’excellents journaux.
 1ST.DAT=had.3PL seemed be.INF INDEF=excellent newspapers
 ‘In the moment, *Le Monde* and *Libération* seemed to me to be excellent newspapers.’

[K. Chatain, p.c.]

(115) in turn shows that coordinated infinitival clauses obey the same constraint.

(115) *French: coordinated infinitival clauses require agreement*

[Séjourner dans les montagnes] et [longer la côte] me *paraît /
 [stay.INF in the mountains] and [go.along the coast] 1SG.DAT *seem.3SG /
 paraissent des façons admirables de connaître la vraie France.
 seem.3PL INDEF.PL ways admirable for get.to.know.INF the true France
 ‘Traveling through the mountains and going along the coast appear to me an admirable way to get to know the real France.’

[K. Chatain, p.c.; modeled after [Davies & Dubinsky 2001](#), p. 260]

Following [Davies & Dubinsky \(2001\)](#), we can conclude that sentences like (115) indicate that subject agreement provides evidence for the hidden number properties of the element that occupies the subject position – in this case, coordinated infinitival clauses. By analogy, the Wolof sentences (113c) and (113d) would be indicative that coordinated BNs have number properties as well.

Additionally, I tentatively assume, following [Kiss’s \(2012\)](#) analysis of coordination in Hungarian, that &P lacks ϕ -features of its own, so that these features are “projected” from its conjuncts. If this analysis can be extended to Wolof, this would imply that BNs like those in (113c) and (113d) have number features. Given the interpretation of these sentences, the number feature of the BN is, more precisely, singular. Needless, a fully fledged analysis of coordination in Wolof is due.

Furthermore, a brief comparison with previous literature on number neutral BNs may give the retention of NumP in Wolof BNs further traction. [Rullmann & You \(2006\)](#), [Müller \(2002\)](#), and [Kramer \(2017\)](#) investigate BNs in Mandarin, Brazilian Portuguese, and Amharic, respectively. In these languages, as mentioned above (see (1c), (1b), and (1a)), BNs are number neutral. [Rullmann & You](#), [Müller](#), and [Kramer](#) capture this semantic property by proposing that BNs in these languages lack NumP. They assume that entities of type e denote singleton sets (atoms) and all

¹⁵I thank K. Chatain and A. Mortier for the French data and for insightful and useful discussion.

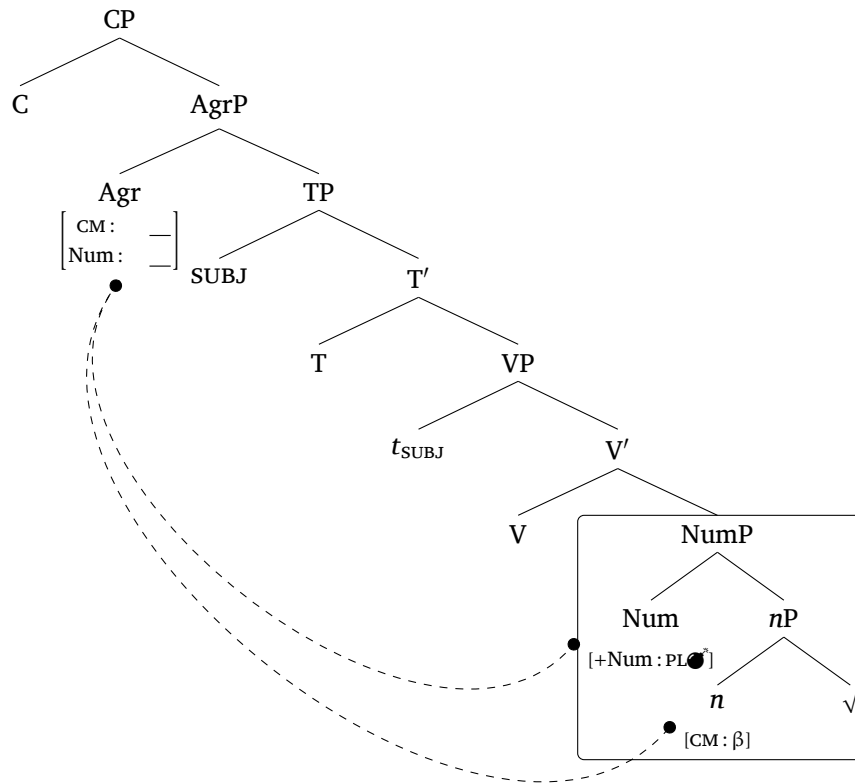
their sums. What number does is restrict that denotation to only singleton sets (singular) or pluralities (plural). Under this view, number neutrality in BNs emerges as a consequence of the absence of a restriction that picks out just atoms or pluralities, so that both possibilities are available. In 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.

To summarize, I have argued that Wolof BNs project a NumP. This NumP can be either singular or plural, options that are independently available for full nominals in the language. A BN with a plural NumP causes the derivation to crash because the feature [+PLURAL] is not licensed or not defused. The feature [+SINGULAR] does not impose such a requirement, allowing the derivation to converge. The byproduct is that BNs in Wolof are exclusively singular when unmodified.

However, if the BN merges with some nominal element that can expone a number feature, a plural interpretation does become available, along with a singular one. We can now restate this generalization as the presence of a number probe in the nominal structure the BN belongs to, the exponent of which is a plural morpheme and which suffices to license the [+PLURAL] in a BN (or in any nominal in Wolof that bears such a feature). This is the case of relative clauses (as opposed to plain modifiers) and of possessive nominals (as opposed to linker possessives). We analyze each nominal construction in turn.

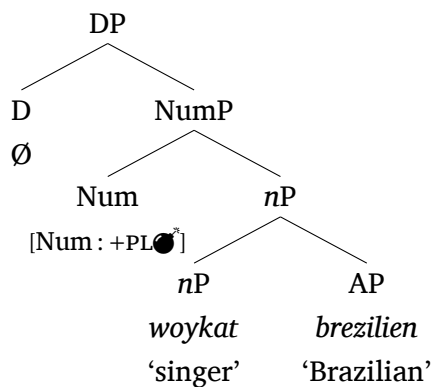
We start with relative clauses. In this structure, even though the BN itself does not have a [+PLURAL] licenser (i.e. a matching probe that Agrees with it), there is an Agr at the CP level. The interpretable feature [+PLURAL] can be Agreed with and licensed, which is why a BN can have a plural interpretation in this case. At the point of the derivation diagrammed in (116), the BN occupies its base generation position and is targeted for Agree by Agr. Afterwards, the BN raises out of the relative clause.

(116) *BN modified by relative clause: ●³ defused*



In plain modifiers, on the other hand, there is no probe that Agrees with the number feature in NumP. As a consequence, the interpretable feature [+PLURAL] cannot be defused, causing the derivation to crash. This is diagrammed in (118), which represents the BN object *woykat brezilien* ‘Brazilian singer’ in (70).

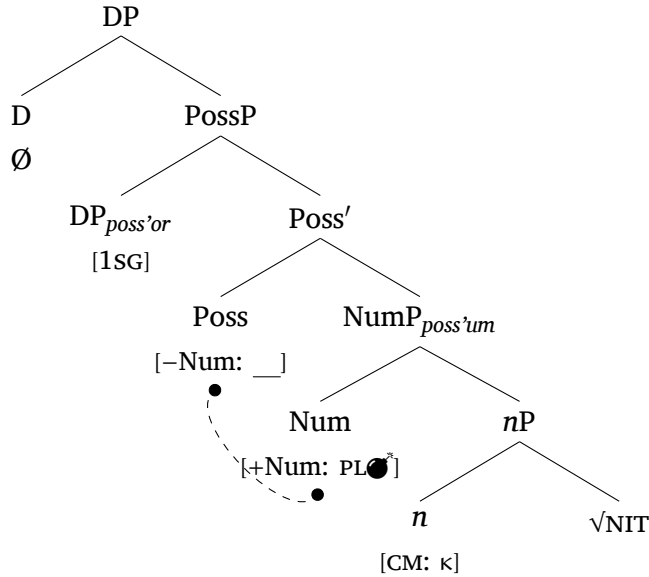
(117) *Plain modifier: ●³ not defused → crash*



Licensing of a [+PLURAL] feature by Agree is possible in the possessive construction (77b), if y

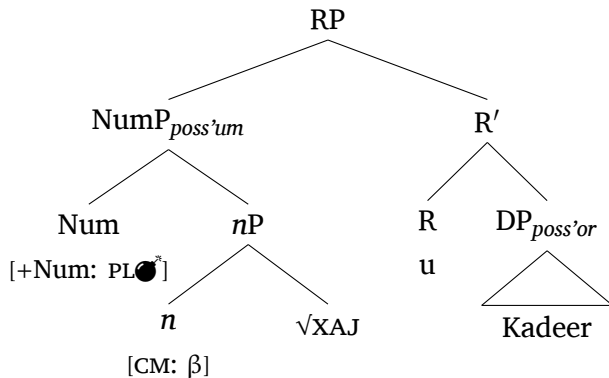
is the exponent of Agree. The derivation of (77b) (*sama-y nit* ‘POSS.1SG-PL person/friend’) would be as in (118), where the head of PossP probes for a number feature in the possessum. In this case, both a derivation with a singular and with a plural BN can converge, since, in the latter case, an interpretable feature requiring licensing is indeed Agreed with.

(118) *Possessive determiner*: ●* defused



Finally, we turn to the number-less linker possessive construction in (119), which diagrams *xaj-u Kadeer* ‘dog-LNK Kadeer’ in (94b). There is no probe to Agree with the [+PLURAL] number of the BN, so, again, only a derivation with a singular NumP converges.

(119) *Linker possessive*: ●* not defused → crash



3.4.1 Interim summary

In brief, in this section, I provided answers to the questions this chapter set out to address:

- (8) i. How can we account for the exclusively singular interpretation (and not number neutral) interpretation of unmodified BNs in Wolof?

- ii. Why does a BN without any plural morphology behave as if it were singular, while a BN merged that does contain plural morphology behaves as if it were plural?

BNs in Wolof project a NumP, which is why they are not number-neutral. In principle, they can be either singular or plural, just like the other nominals in the language. However, a plural interpretation is precluded because unmodified BNs do not contain any number probe that licenses [+PLURAL], which I proposed to be a derivational time bomb, in Kalin’s (2017; 2018; 2019) sense. If the nominal structure contains a number probe, licensing goes through, so that the BN can now have not only a singular interpretation, but also a plural one. Number probes can be found in relative clauses, which agree in class and number with a BN (or full nominal) head, and possessive constructions that display number agreement with a BN possessum. In contrast, plain modifiers and linker possessives do not contain a number probe, so that once again only a derivation where NumP happens to be [+SINGULAR] will converge (i.e. [+PLURAL] will not be defused, causing the derivation to crash). Descriptively, the effect of adding these number-less modifiers to the BN is that the BN retains its singular interpretation.

In the next section, we turn to some predictions that this analysis yields and how they can or cannot be tested in Wolof.

3.4.2 Predictions

3.4.2.1 Pluralia tantum nouns

According to the analysis put forward here, BNs can in principle combine with a singular or a plural NumP. However, the latter option only leads to a convergent derivation where some nominal-internal number probe Agrees with [+PLURAL], defusing this derivational time bomb. In the absence of such a probe, only a derivation with a singular BN converges. A prediction that emerges from this analysis is that a sentence containing a BN may be completely ungrammatical, lacking even a singular interpretation. This would be the case for nouns that are themselves plural, above and beyond the specification of NumP. A case in point would be pluralia tantum nouns.¹⁶

Babou & Loporcaro (2016) observe that *jooy* ‘weeping’ is an instance of such a noun in Wolof. This also holds for a consultant of mine: (120) shows that *jooy* can only combine with a plural class marker (*y*), both in the subject and in object position. (120a) and (120b) (originally from Babou & Loporcaro 2016 and confirmed by a consultant) further demonstrate the plural requirement imposed by *jooy* with verbal morphology that cross-references the subject.

- (120) a. Jooy y-i metti-na-ñu lool.
 weeping CM.PL-DEF hard-NA-3PL much
 ‘The weeping is so hard.’
- b. * Jooy b-i metti-na lool.
 weeping CM.SG-DEF hard-NA.3SG much

¹⁶A few people brought up the relevance of pluralia tantum nouns to me, including D. Pesetsky, O. Preminger, and S. Zoppi.

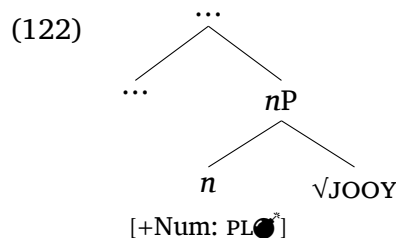
Int.: ‘The weeping is so hard.’

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

As also remarked by Babou & Loporcaro, *teggin* is another pluralia tantum noun. It is likewise found in the dialect spoken by a consultant of mine.

- (121) a. * Faatu am-na a-b teggin.
 Faatu have-NA.3SG INDEF-CM.SG respect
 ‘Faatu has some respect.’
- b. Faatu am-na a-y teggin.
 Faatu have-NA.3SG INDEF-CM.PL respect
 ‘Faatu has some respect.’

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



Recall that I assume that root-specific properties are encoded at the categorizer level. Under the assumption that whether or not a noun is a pluralia tantum noun is also an idiosyncratic property, (122) is aligned with this assumption.

If (122) is the correct representation for *jooy* and *teggin*, the prediction, as mentioned, is that a BN pluralia tantum is going to be ungrammatical, since there is no nominal-internal probe to Agree with [+PLURAL]. The BN cannot “fall back” to a singular interpretation due to the plurality inherently encoded at the *n* level. As shown in (123), the prediction is borne out by facts, as *jooy* and *teggin* cannot occur in bare form:

- (123) a. * Gis-na-a **jooy**.
 see-NA-1SG weeping
 Lit.: ‘I saw weeping.’
- b. ?? Faatu am-na **teggin**.
 Faatu have-NA.3SG respect
 Lit.: ‘Faatu has respect.’

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

3.4.2.2 BNs in subject position

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

Beyond this debate, this potential prediction cannot be tested here, as BNs in Wolof cannot occur in the subject position. This holds of both root and finite embedded clauses.¹⁷

- (124) a. * **Saasfaam** fàtte-na téj palanteer=am.
 nurse forget-NA.3SG close window=POSS.3SG
 Int.: ‘A nurse forgot to close his;her window.’
- b. * **ndongo.dara** lekk-na maafe.
 student eat-NA.3SG maafe
 Lit.: ‘Student ate maafe.’
- c. * Kumba wax-na [ne **muus** lekk-na a-b janax].
 Kumba say-NA.3SG [COMP cat eat-NA.3SG INDEF-CM.SG mouse]
 Int.: ‘Kumba said that a cat ate a mouse.’

The impossibility of BNs to occur in the subject position is not uncommon in pseudo noun incorporation languages, which I claim Wolof to be an instance of in [\[Redacted\] \(2021\)](#). What is relevant in this section is that a prediction that the analysis proposed here cannot be tested, for independent reasons.

Likewise, as mentioned earlier (see (13)), BNs can be predicates in Wolof. Another potential environment where the need for the interpretable feature [+PLURAL] to be licensed could be tested is thus in predicational sentences. However, it seems that the copula of these constructions agrees with the subject of the predication (*xale yi* ‘the children’), irrespective of the full or bare form of the nominal predicate ((*ay*) *sàcc* ‘(some) thieves’).

- (125) a. Xale y-i a-y sàcc l-a-ñu.
 child CM.PL-DEF INDEF-CM.PL thief l-COMP-3PL
 ‘The children are thieves.’
- b. Xale y-i sàcc l-a-ñu.
 child CM.PL-DEF thief l-COMP-3PL
 ‘The children are thieves.’

[[Martinović 2020](#), (8), adapted]

Having discussed the predictions that the analysis put forth here gives rise to, in the next section, we turn to alternative approaches to the same data. We will see that, while these analyses are plausible, they may not be able to account for the data considered here in full.

¹⁷A speaker commented that the sentence (124a) would only be grammatical if *Saasfaam* were parsed as a proper name (in which case this would not be a BN).

3.4.3 Alternative analyses

3.4.3.1 Martinović's (2017) obliteration analysis

In §3.3.1, 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 have applied. In this section, I try to show that this analysis cannot be carried over to the Wolof dialects studied in this paper.

[Martinović's](#) main goal is to provide an analysis for the alternation between the two types of *Wh*-questions in (126).

- (126) 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 (126) have the same underlying structure, but in each either the head of the CP (126a) or the phrase in Spec-CP (126b) gets obliterated (i.e. a whole syntactic node is deleted; [Arregi & Nevins 2007](#)). Obliteration is triggered by the violation of an OCP (Obligatory Contour Principle) effect that operates at the syntactic level and which bans nodes that have identical featural specifications to occur close together (see details is [Martinović 2017](#)). Obliterating either offending node suffices to satisfy this requirement. Obliteration is schematized below, where an obliterated node is between '< >'. (On how *la* surfaces in (126a), see [Martinović 2017](#); this detail is not relevant in the present discussion.)

- (127) a. [_{CP} L-an [_{C'} <1-u> Maymuna lekk-oon déemba]]?
[CM.SG-Q [CM.SG-COMP Maymuna eat-PERF yesterday]]
- b. [_{CP} <L-an> [_{C'} l-u Maymuna lekk-oon déemba]]?
[CM.SG-Q [CM.SG-COMP Maymuna eat-PERF yesterday]]

[Martinović](#) extends this analysis to relative clauses in Wolof. The author claims that, in relative clauses, there is no optionality in what is obliterated (either Spec-CP or the head of the CP in (127)). 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 §3.3.1 is *u*. [Martinović's](#) Vocabulary Item for *u* is as follows:

(128) C[+Wh] → u / {φ, -Def}

[Martinović 2017, (78a)]

Martinović’s obliteration analysis for a nominal modified by a relative clause like (129a) can thus be diagrammed as (129b). 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.

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

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

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

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

In the data investigated by Martinović, there cannot be an overt determiner in the nominal modified by a relative clause, as observed in (129a). Martinović then introduces the final ingredient of the 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:

(130) *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 (129a) 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. (129a) 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:

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

- b. Mareem séy-aat-na ak a-b 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.’
- c. Samba déeg-na a-b woy [b-u Faatu woy].
 Samba hear-NA.3SG INDEF-CM.SG song [CM.SG-COMP Faatu sing]
 ‘Samba heard a song that Faatu sang.’
- d. Gis-na-a a-b ndonggo darra [b-u ko bind].
 see-NA-1SG INDEF-CM.SG student [CM.SG-COMP OBJ.3SG write]
 ‘I saw a student who was writing it.’
- e. Gis-na-a a-b jàngalekat [b-u Maymuna jox chër]
 see-NA-1SG INDEF-CM.SG teacher [CM.SG-COMP Maymuna give consideration]
 ‘I saw a teacher who Maymuna respects.’

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

- (132) a. Awa defar-na oto [b-u Samba jënd] b-i.
 Awa fix-NA.3SG car [CM.SG-COMP Samba buy] CM.SG-DEF
 ‘Awa fixed the car that Samba bought.’
- b. Awa defar-na oto [y-u Samba jënd] y-i.
 Awa fix-NA.3SG car [CM.PL-COMP Samba buy] CM.PL-DEF
 ‘Awa fixed the cars that Samba bought.’
- c. Samba xam-na ndongo.dara [b-u njool] b-i.
 Samba know-NA.3SG student [CM.SG-COMP tall] CM.SG-DEF
 ‘Samba knows the student who is tall.’
- (133) Muus b-i daxee-na xaj [b-u sokola] b-ee.
 cat CM.SG-DEF chase-NA.3SG dog [CM.SG-COMP brown] CM.SG-DEM.DIST
 ‘The cat chased that brown dog (over there).’

Hence, the Vocabulary Item (128) does not seem adequate for the Wolof dialect reported in the present paper. Importantly, obliteration in Martinović’s analysis is driven by an OCP-based principle that militates against the co-occurrence of nodes that have the same featural specification. Specifically, the determiner has definiteness and proximity features that cannot be present the relative complementizer in (132) and (133) – otherwise, presumably, *u* could not be used in all these constructions without causing a feature clash (e.g. definite and indefinite and/or distal and proximal).

In fact, even if we grant that the Vocabulary Item (128) 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 (126) 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 (134b) shows that the complementizer (and the class marker prefixed to it) cannot be omitted:

- (134) a. Roxaya xam-na a-b jàngalekat b-u Maymuna bëgg.
 Roxaya know-NA.3SG INDEF-CM.SG teacher CM.SG-COMP Maymuna like
 ‘Roxaya knows a teacher that Maymuna admires.’
- b. * Roxaya xam-na a-b jàngalekat Maymuna bëgg.
 Roxaya know-NA.3SG INDEF-CM.SG teacher Maymuna like
 Int.: ‘Roxaya knows a teacher that Maymuna admires.’

To avoid overgenerating (134b), 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 this operation is optional. In other words, it applies in the data in §3.3.1, but not in (131), (132), and (133). 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 (126) and relative clauses, why would it be optional only in the latter? (135) completes the paradigm in (126) 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.

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

[modeled after examples from Torrence 2012 and Martinović 2017 and confirmed by a consultant of mine]

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

- (136) 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.’
- (137) a. Xadi xalaat-na [ne a-y ndongo.dara [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 **fecckat** [b-u ma xam] fecc-na
 Isaa say-NA.3SG [COMP dancer [CM.SG-COMP OBJ.1SG know] dance-NA.3SG
 ci xewum b-i].
 PREP party CM.SG-DEF]
 Int.: ‘Isaa said that a dancer that knows me danced in the party.’

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

- (138) a. * **Xale** [b-u Samba xam ___] jàng-na a-b taalif.
 child [CM.SG-COMP Samba know ___] write-NA.3SG INDEF-CM.SG poem
 Int.: ‘A child who Samba knows wrote a poem.’
- b. * **Woykat** [y-u Samba bëgg ___] woy-në ci xewum b-i.
 singer [CM.PL-COMP Samba like ___] sing-NA.3PL PREP party CM.SG-DEF
 Int.: ‘A singer who Samba likes sang in the party.’¹⁸

If e.g. (136b) were derived from (136a) 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 §3.3.1 (data repeated below for convenience) that *ab* full indefinites may scope above or below an intensional predicate, while BNs can only take narrow scope. In both cases, the nominal (full or bare) is modified by a relative clause.

- (139) a. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind], *Une si longue lettre* la tuddu.
 write] *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*.’
- b. Sama doom bëgg-na jàng a-b téere [b-u Mariama Ba
 POSS.1SG child want-NA.3SG read INDEF-CM.SG book [CM.SG-COMP Mariama Ba
 bind], waaye bu mu am baax-na.
 write] but BU 3SG have good-NA.3SG
 ‘A child of mine needs to read a book that Mariama Ba wrote, but it does not matter which.’

¹⁸As far as I can tell, *na-ñu* and *në* just alternate with one another.

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

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

3.4.3.2 BNs in Wolof as mass nouns

Another plausible analysis is that BNs in general 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.¹⁹ There may be reason, nevertheless, not to apply the same analysis to BNs in Wolof.

First, recall from (39) that *ñaaata* ‘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 *ñaaata* is concerned).

- (141) A. Binta jënd-na sukkar ci luuma b-i démb.
 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?’
- (142) A. Binta naan-na ndox démb.
 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?’

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

¹⁹Thank you J. Colley (p.c) and to O. Preminger (p.c.) for the suggestion.

is a mass noun, a plural pronoun is possible, albeit with a different corresponding interpretation for the mass noun.

- (143) a. Binta lekk-na sukkar / sukkar b-i tey. Jënd-oon-na ko
 Binta eat-NA.3SG sugar / sugar CM.SG-DEF today buy-PERF-NA.3SG OBJ.3SG
 démb.
 yesterday
 ‘Binta ate sugar/the sugar today. She had bought it yesterday.’
- b. Binta lekk-na sukkar / a-y sukkar tey. Jënd-oon-na leen
 Binta eat-NA.3SG sugar / INDEF-CM.PL sugar today buy-PERF-NA.3SG OBJ.3PL
 démb.
 yesterday
 ‘Binta ate sugar/some sugars today. She had bought them yesterday.’
(Felicitous in a scenario where e.g. Binta bought a box with packets of sugar; leen is judged to refer back to these packets.)

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

3.4.3.3 BNs in Wolof denote atoms exclusively

Yet another plausible way to examine the data would be to say that what is different about Wolof is that its nouns denote not atoms and all their possible sums, but rather atoms only. Recall that I proposed that BNs in Wolof can indeed be singular or plural (like the other nominals in the language), with the need to license the interpretable feature [+PLURAL], in combination with resources available within given nominal, being what regulates what the ultimate number interpretation is at the end of the derivation. According to the atom-only alternative, a plural interpretation would only arise if the nominal combines with a plural operator. This operator would be exponed as plural morphology in the form of relative complementizer or possessum agreement.²⁰

While this analysis seems consistent with the behavior of BNs in Wolof, I believe it faces a potential technical issue. The occurrence of the proposed number operator is determined by the resources and restrictions of each nominal construction considered here. As such, I believe an analysis of the number interpretation of BNs in Wolof must include a syntactic component. Perhaps specially relevant in this context is the fact that relative complementizer agreement is at long distance and, furthermore, it seems to be exclusively the effect of a formal operation (i.e. Agree). This seems particularly clear in cases like (49) above, where the class marker (which includes number information) appears in more than one head of the nominal structure, but presumably without semantic import. The occurrence of agreement morphology without an impact to the meaning of a construction can be taken to be the residue of the Agree operation.

In the alternative analysis under discussion may have to be made more complex to account for how a plural operator can affect the interpretation of a nominal at long distance in relative

²⁰For suggesting this analysis to me, I thank P. Elliot and C-R. Little.

clauses and for determining which occurrence of an operator can do so. No new component has to be added in the present analysis. The number interpretation of a nominal is encoded as an interpretable feature at NumP (a conventional assumption) and the occurrence of “number operators” are just instances of formal number agreement that are expected given the internal structure of the nominal constructions considered in this study.

3.5 Summary and open issues

In this chapter, we investigated BNs in Wolof, which, when unmodified, are exclusively singular, unlike their number neutral counterparts in other languages. More precisely, I tried to provide an analysis to the following generalization:

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

According to the analysis put forward here, BNs in Wolof are singular when unmodified because this is the only option that allows a derivation to converge: BNs can be either singular or plural, but a plural BN causes a derivation to crash because the interpretable feature [+PLURAL] cannot be licensed. The nominal internal morphology that can appear in the nominal construction a BN is embedded within is the realization of a number probe that Agrees with [+PLURAL], thereby defusing it. If this analysis is on the right track, it provides support for the proposal that interpretable features may require licensing as well (Béjar & Rezac 2003, 2009; Kalin 2017, 2018, 2019; Keine *et al.* 2019; though see Coon & Keine 2019 for a diverging view).

The analysis also provides an account as to why BNs in Wolof are singular (when unmodified) and not number-neutral, as is the crosslinguistic tendency. The number interpretation of BNs in Wolof in the analysis advocated for here is the result of a conspiracy between the requirement to license [+PLURAL] and the restrictions imposed by the nominal spine in Wolof. The latter regulates the availability of number probes that can defuse the interpretable feature just mentioned. A potential reason why singular BNs are less common than number neutral ones across BN languages is that the former may be the byproduct of a combination of factors, while the latter may be the straightforward result of the lack of a NumP.

Appendix: A note on variation in the linker

One of the speakers consulted (though not all of them) allowed for two different allomorphs of the linker suffix, namely, *-u* and *-i*, such that the latter is a plural version of the former. For convenience, I call the dialect where the linker occurs in the invariable form ‘Dialect A’ and the dialect where both forms *-u* and *-i* can be found ‘Dialect B’.²¹ While I do not have the data with all plurality diagnostics considered in this chapter, the difference between these allomorphs can be seen in the discourse anaphora paradigm in (144), where the number of the pronoun tracks the

²¹No prominence or preference is implied in choice of these arbitrary labels.

number of the possessum the linker is suffixed to. More precisely, in (144a), the linker attached to the possessum *kër* ‘house’ is the singular *-u*. The determiner that heads this nominal is also in the singular (*g-i*). Correspondingly, the pronoun that refers back to this possessive nominal is the singular *ko*. Conversely, in (144b), the plural allomorph *-i* is used. Now, the determiner of the overall nominal bears the plural class marker *y* and the pronoun is also plural (*leen*).

(144) *Wolof Dialect B: form of the linker and discourse anaphora*

- a. Liggéeykat b-i tabax-na **kër-u** Mareem g-i. Bëgg-na-a
 worker CM.SG-DEF build-NA.3SG house-LNK.SG Mareem CM.SG-DEF like-NA-1SG
ko / *leen.
 OBJ.3SG / *OBJ.3PL
 ‘The worker built Mareem’s house. I like it/them.’
- b. Liggéeykat b-i tabax-na **kër-i** Mareem y-i. Bëgg-na-a
 worker CM.SG-DEF build-NA.3SG house-LNK.PL Mareem CM.PL-DEF like-NA-1SG
 **ko* / leen.
 *OBJ.3SG / OBJ.3PL
 ‘The worker built Mareem’s houses. I like it/them.’

Converging evidence that the *-u/-i* alternation in Dialect B is conditioned by the number of the possessum is furnished by the possibility of using the plural *-i* linker in a nominal that is the complement to a collective predicate (*boole* ‘gather’).²²

(145) *Wolof Dialect B: form of the linker and collective predicates*

- Liggéeykat b-i boole-na taabal-i Mareem y-i.
 worker CM.SG-DEF put.together-NA.3SG table-LNK.PL Mareem
 ‘The worker gathered Mareem’s tables.’

In the analysis put forth in this chapter, the interpretable number feature must enter an Agree relation in order to be licensed. If *-i* is the realization of an Agree operation that targets the number of the possessum, we would predict that a BN to which *-i* is suffixed would behave as a plural nominal. This is indeed the case, as demonstrated by the interrogative pronouns in (146). In (146a), to the possessum BN *xaj* ‘dog’ is suffixed the singular linker *-u* and the interrogative pronoun must be singular. On the other hand, if the linker suffixed to *xaj* is the plural *-i*, the pronoun must be plural too (cf. (96b) above, a data point from the Wolof dialect where only the invariable *-u* is present and the interrogative pronoun used must be singular).

(146) *Wolof Dialect B: form of the linker and interrogative pronouns*

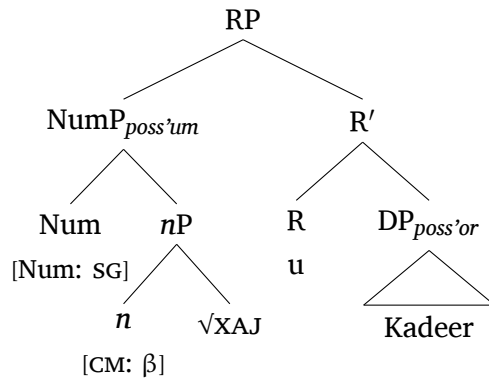
- a. Roxaya bëgg-na **xaj-u** Kadeer, waaye xa-w-ma b-an
 Roxaya like-NA.3SG dog-LNK.SG Kadeer but know-NEG-1SG CM.SG-which
 la / *y-an la.
 COP.3SG / *CM.PL-which COP.3SG
 ‘Roxaya likes a dog of Kadeer’s, but I don’t know which one/which ones.’

²²Regrettably, I did not elicit a version of (145) where the possessum is singular (in that case, the class marker in the definite determiner would be *b*). This example is expected to be ungrammatical.

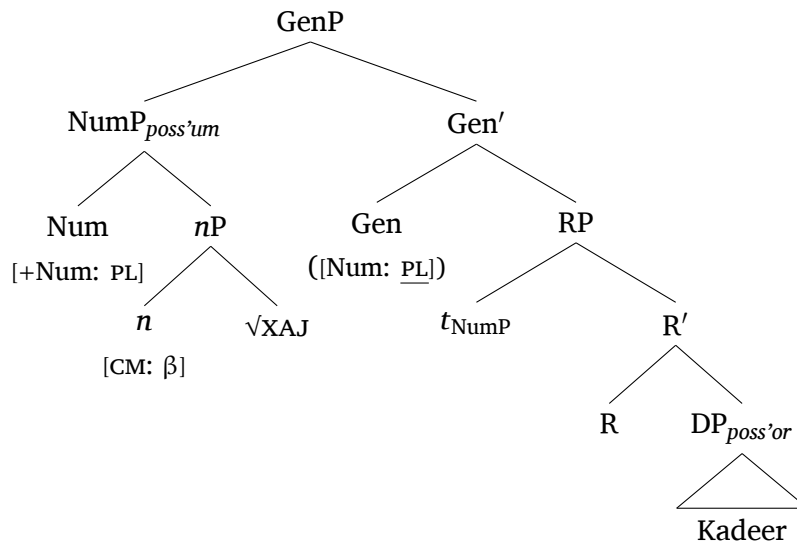
- b. Roxaya bëgg-na **xaj-i** Kadeer, waaye xa-w-ma *b-an
 Roxaya like-NA.3SG dog-LNK.PL Kadeer but know-NEG-1SG *CM.SG-which
 la / y-an la.
 COP.3SG / CM.PL-which COP.3SG
 ‘Roxaya likes some dogs of Kadeer’s, but I don’t know which ones.’

The structure and derivation I assumed above for linker possessive constructions in (119), repeated below for convenience, is not compatible with this state-of-affairs, given that the possum is outside of the c-command domain of the linker (here, the head of the Relator Phrase). In order to correct this analysis-internal issue, I propose the amendment in (147b), representing *xaj-i Kadeer* ‘some dogs of Kadeer’s’.

- (147) a. *Linker possessive: previous structure*



- b. *Linker possessive: amended structure*



In (147b), the Relator Phrase (RP) is now embedded another layer of functional structure, which I dub ‘GenP’ for convenience. It is the head of the latter that is now expounded as *-u* in Dialect A or as *-u/-i* in Dialect B. This head may also have a number feature to be valued, depending on the dialect. In Dialect A, the linker is invariable and can only combine with BNs with a singular interpretation (recall the data in §3.3.3). In keeping with the analysis advanced in this chapter, I

encode these properties as the absence of a number probe in Gen. Correspondingly, in Dialect B, where the linker can be realized as *-u* or *-i* depending the number interpretation of the possessum it is affixed to, as described above. In both Dialects, Gen triggers the movement of the possessum base-generated at Spec-RP to its own specifier position.²³

For completeness, I assume the following Vocabulary Items for the linker in each dialect considered here:

(148) *Linker Vocabulary Item: Dialect A*

[GEN] ↔ /-u/

(149) *Linker Vocabulary Item: Dialect B*

i. [GEN] ↔ -u

ii. [GEN, PL] ↔ -i

In this appendix, we briefly considered a dialectal variation observed in the morphology of the linker. This variation is correlated with the number interpretation the possessum the linker is suffixed to. If the dialect where this suffix is sensitive to number, a BN possessum can receive a plural interpretation. In the present analysis, this possibility is fully predictable and can be modeled in terms of an Agree operation that allows an interpretable plural feature in the BN to be licensed.

Appendix: BNs in object control

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

Examples of object control sentences with the verb *dimbala* ‘help’ are in (150).

- (150) a. *Dimbala-na-a a-b* *xale mu jàng téere b-i.*
 help-NA-1SG INDEF-CM.SG child 3SG read book CM.SG-DEF
 ‘I helped some child read the book.’
- b. *Dimbala-na-a a-y* *xale ñu jàng téere b-i.*
 help-NA-1SG INDEF-CM.PL child 3PL read book CM.SG-DEF
 ‘I helped some children read the book.’

Two obvious questions to ask at this point are what the arguments are to characterize (150) as object control sentences and what the status is of the morphemes *mu* and *ñu*.

²³I abstract away from anti-locality (cf. Erlewine 2016 and references therein) issues here.

There are two straightforward diagnostics for object control that can be applied to *dimbala* sentences like those in (150). First, the sequence that follows the verb *dimbala* cannot be pseudo-clefted, which suggests that it is not a constituent.

- (151) a. Binta *dimbala*-na Samba mu defar oto b-i.
 Binta help-NA.3SG Samba 3SG fix car CM.SG-DEF
 ‘Binta helped Samba fix the car.’
- b. *L-ima *dimbala* moy jàngalekat b-i mu tabax kër g-i.
 CM.SG-what help 1SG teacher CM.SG-DEF 3SG build house CM.SG-DEF
 Int.: ‘What I did was help the teacher build the house.’

Second, *dimbala* sentences do not allow for a subject–verb idiom. An example of this type of idiom is in (152).

- (152) 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.

- (153) *Dimbala*-na-a sa jaan mu wàcc.
 help-NA-1SG POSS.2SG snake 3SG descend
- i. ✓ Literal: ‘I (a veterinarian) helped your snake descend.’
 ii. * Idiomatic: ‘I helped you finish your work.’

The pseudo-clefting and idiom diagnostics argue in favor of a control structure for a sentence like (150a) as in (154), where *a-b xale* ‘INDEF-CM.SG child’ is the object of *dimbala* and XP is a clausal complement of this verb.

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

The second question to ask is what the morphemes *mu* ‘3SG’ and *ñu* ‘3PL’ in (150) 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).

- (155) a. Roxaya_i bègg-na mu_{*i/k} fecc.
 Roxaya want-NA.3SG 3SG dance
 ‘Roxaya wants him/her to dance.’

- b. Roxaya bëgg-na fecc.
Roxaya want-NA.3SG dance
'Roxaya wants to dance.'
- c. * Roxaya bëgg-na ko fecc.
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.'

(155a) shows that if *mu* '3SG' is the subject of the embedded clause, it cannot be coindexed with the matrix subject (*Roxaya*). (155b) shows that this meaning is conveyed by a sentence where the embedded subject is a null category (or completely absent). (155c) in turn shows that an object pronoun cannot be in the same position that *mu* occupies. Lastly, (155d) shows that the matrix subject belongs to the same binding domain as the embedded clause if the embedded subject is descriptively null.

In order to account for the data in (155), one may hypothesize that the complement of *bëgg* 'want' is a restructured clause (Wurmbrand 1998; et seq.) when the embedded subject is null. Because of the truncated structure of the embedded clause, its subject belongs to the same binding domain as the matrix subject, hence the Condition B violations observed in (155a) and (155d). Conversely, the XP in *dimbala* sentences, diagrammed in (154), would be a binding domain (or phase, Bošković 2014), so that matrix arguments like the object controller belong to a different binding domain from that of embedded pronouns like *mu* and *ñu*.

Having established the relevant properties of *dimbala* sentences, we can turn to the behavior of BNs when they are the object controllers of these constructions. The number encoded in the embedded pronoun of these sentences will track the equivalent property in the BN. By way of a summary of the data seen in the main portion of this chapter, 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 (156) with (150) above).

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

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

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

The ‘all of them’ diagnostic employed above also fails:

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

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

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

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

- (160) a. Dimbala-na-a xale brazilien b-i mu jàng téere b-i.
 help-NA-1SG child Brazilian CM.SG-DEF 3SG read book CM.SG-DEF
 ‘I helped the Brazilian child read the book.’
- b. Dimbala-na-a **xale** brazilien mu jàng 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** brazilien y-i ñu jàng téere b-i.
 help-NA-1SG child Brazilian CM.PL-DEF 3PL read book CM.SG-DEF
 ‘I helped the Brazilian children read the book.’

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

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

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

Linker possessives in turn lack any plural morphology. Consequently, only a singular pronoun can be used in a *dimbala* sentence.

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

In sum, in this appendix, we can see the distribution of BNs summarized by the behavior of pronouns in *dimbala* sentences. These data further illustrated the generalization previously arrived, namely, that BNs in Wolof are singular, unless there is some nominal-internal plural morphology.

Appendix: Oblique case in indeclinable nouns in Serbian/Croatian

Building on an observation first made by Wechsler & Zlatić (2001), Horvath (2014) (see also Pesetsky 2013) examines the oblique case that appears on indeclinable nouns in Serbian/Croatian,²⁴ which display a different behavior relative to the canonical behavior of nominals in the language. Specifically, indeclinable nouns cannot occur as the complement of heads that idiosyncratically assign oblique case, unless some other element in DP the indeclinable noun heads is able to expone oblique case. Horvath analyzes the distribution of oblique case in indeclinable nouns as a response to an independent requirement on the realization of oblique case. From this brief description, we can already draw a comparison between Serbian/Croatian indeclinable nouns and BNs in Wolof, where a plural interpretation only arises when a some nominal-internal element that is able to expone the corresponding feature occurs.²⁵

Horvath notes that, as far as declinable nouns are concerned, case realization is obligatory. Additionally, as we can see in (163), case also appears in adjectives, determiners, possessives, etc.

²⁴Here, I use the term originally employed by Horvath.

²⁵I thank David Pesetsky (p.c.) and Stan Zoppi (p.c.) for drawing my attention to this similarity. A special thank-you goes to David for encouraging me to further pursue this issue.

- (163) moja stara knjiga
 my.SG.NOM.F old.SG.NOM.F book.SG.NOM.F
 ‘my old book’

[Horvath 2014]

On the other hand, in a divergence from this pattern, in indeclinable nouns (e.g. loanwords like *lejdi* ‘lady’ and proper names like *Miki*), case does not seem to be realized. Notice, however, that case can be realized in concord.

- (164) a. (Ova) **Miki** je došla iz Amerike.
 (this.SG.NOM.F) Miki AUX.3SG came.PTCP.SG.F from America
 ‘(This) Miki came from America.’
 b. Poznajem (jednu) **Miki**.
 know.1SG (one.SG.ACC) Miki
 ‘I know (someone named) Miki.’

[Horvath 2014, (5)]

A striking property property of indeclinable nouns in Serbian/Croatian is that they cannot be the complement of verbs that assign oblique case. No such restriction applies to declinable nouns like the proper name *Larisa*. In (165), we see that the object of *diviti* ‘admire’ (165a), the agent-phrase in a passive (165b), and the complement of *Ponositi se* ‘be proud of’ (165c) are marked with some oblique case (dative or instrumental). That description holds true if the aforementioned DP is declinable (*Larisa*). If it is indeclinable (*Miki*), the result is simply ungrammatical.

- (165) a. Divim se Larisi / ***Miki**.
 admire.1SG RFL Larisa.DAT / *Miki
 ‘I admire Larisa/Miki.’
 b. *Passive agent-phrase appears in instrumental*
 Oduševljena sam Larisom / ***Miki**.
 impress.PTCP.F AUX.1SG Larisa.INST / *Miki
 ‘I am impressed by Larisa/Miki.’
 c. *Ponositi se ‘be proud of’ assigns instrumental*
 Ponosim se Larisom / ***Miki**.
 proud.be.1SG RFL Larisa.INST / *Miki
 ‘I am proud of Larisa/Miki.’

[Horvath 2014, (7)]

Nevertheless, another remarkable property of indeclinable nouns in Serbian/Croatian is that they can indeed occur as the complement of verbs that assign oblique case as long as there is something else in the DP that realizes that oblique case. This effect can be observed in (166), where oblique case appears in a possessive determiner.

- (166) *Oblique case realized by modifier in DP headed by indeclinable noun*

- a. Divim se *(**mojoj**) Miki.
 admire.1SG RFL *(my.SG.DAT) Miki
 ‘I admire (my) Miki.’
- b. Oduševljena sam *(**mojom**) Miki.
 impress.PTCP.F AUX.1SG *(my.SG.INST) Miki
 ‘I am impressed by Larisa/Miki.’

[Horvath 2014, (8)]

This generalization can also be seen when we contrast an adjective like the ones above, which are declinable, with an adjective that is itself indeclinable (*braon* ‘brown’). In that case, the result is still ungrammatical.

(167) *Indeclinable modifier won’t do*

Divim se lepog / ***braon** Miki.
 admire.1SG RFL beautiful.SG.DAT / *brown Miki
 ‘I admire beautiful/brunette Miki.’

[Horvath 2014, (8c)]

Furthermore, indeclinable nouns may appear as the complement to a preposition that is able to assign oblique case.

(168) a. *Prema ‘toward’ governs DAT*

On je trčao **prema** (lepog) Miki.
 he AUX.3SG run.PTCP.SG towards (beautiful.SG.DAT) Miki
 ‘He ran towards (beautiful) Miki.’

b. *Sa ‘with’ governs INSTR*

Dolazim **sa** (mojom) Miki.
 come.1SG with (my.INST) Miki.
 ‘I am coming with my Miki.’

c. *O ‘about’ LOC*

Razgovarali smo **o** (mojoj) Miki.
 talk.PTCP.PL AUX.1PL about (my.LOC) Miki
 ‘We talked about (my) Miki.’

[Horvath 2014, (11)]

In order to account for the distribution of indeclinable nouns in Serbian/Croatian, Horvath, building on Wechsler & Zlatić (2001), proposes that it is a response to the following requirement:

(169) *The Generalized Case Realization Requirement*

Oblique cases must be overtly realized by some element of the assignment domain (where “assignment domain” consists of the assigning head and the assignee—its noun phrase complement).

[Horvath 2014]

According to this proposal, the impossibility of an indeclinable noun to occur on its own in the presence of an element that assigns oblique case (165) is the consequence of a violation of (169). The effect of the addition of a declinable modifier (168), as well as the lack of effect of the addition of an indeclinable modifier (167) can also be traced back to the same requirement. As for the preposition in (168), Horvath assumes the case theory proposed by Pesetsky (2013), where the preposition is not a case assigner per se, but an instance of case itself.

The Wolof data surveyed in this chapter is strikingly similar to what is found in Serbian/Croatian. To recall, two types of modifiers can be added to a Wolof BN, a relative clause or a plain modifier, which differ mainly in the presence or absence, respectively, of class morphology. Importantly, class markers in the language also encode number properties. As such, the difference between relative clauses and plain modifiers boils down to whether or not number features are expounded in the nominal. Likewise, the two types of Wolof possessive constructions surveyed here mimic this distinction regarding the realization of number features. This dichotomy is analogous to the Serbian/Croatian distinction between declinable and indeclinable modifiers, which differ, as we have just seen above, in whether or not they can display oblique case suffixes. As far as I can tell, the only point where an analogy cannot be drawn between Serbia/Croatian and Wolof has to do with the preposition data in (168), which has no direct analogue in Wolof.

Analytically, the analysis advanced here and that proposed by Horvath are also similar. The main component in both analyses is a requirement that stipulates the occurrence of a given property (a plural feature in Wolof and oblique case in Serbian/Croatian). Both proposals are consistent with the data. In fact, this could hardly not be the case, since the both analyses rely on the stipulation of a requirement that imposes the occurrence of the observed morphology. The similarity between Wolof BNs and Serbian/Croatian oblique case seems to be calling for a unified analysis. A unified view could perhaps represent a step towards a less stipulative account.

In the next section, we turn to another type of data that the number interpretation of Wolof BNs is reminiscent of.

3.5.1 The person feature in T̥ichq̥ Yatì

Welch (2016) analyzes the occurrence of a seemingly optional copula in predicational sentences in T̥ichq̥ Yatì. Welch demonstrates that the optionality is illusory and that the occurrence of the copula is regulated by the need to expone a person feature of the subject of the predication.

According to Welch, T̥ichq̥ Yatì has synthetic verbal morphology; to the verb are affixed several morphemes, which include subject and object agreement. Adjectives, on the other hand,

lack inflectional morphology. In (170a) and (170b), for instance, the adjective *edi* ‘warm/feverish’ does not cross-reference the features of the subject (1st person singular and 3rd person singular, respectively). Rather, these properties are borne by the copula.

- (170) a. Eya h-lɪ t'à, edi h-lɪ.
sick/painful IPFV.1SG.SBJ-COP.IPFV because warm/feverish IPFV.1SG.SBJ-COP.IPFV
‘Because I’m sick, I’m feverish.’
- b. ɪxèɛ eya ɪ-lè.
yesterday sick/painful PFV.3.SBJ-COP.PFV
‘Yesterday he was sick.’

[Welch 2016, (4)]

However, it is not the case that this pattern (i.e. a copula realizes features that an adjective is unable to express) is exceptionless. More precisely, in some sentences, a copula simply does not occur. In (171) and (172), the adjective and the presence or absence of the copula are kept constant. What differs is the semantic properties of the subject. In (171), the subject is animate (*chekoa* ‘child’), while in (172), inanimate (*ɪxèɛ* ‘yesterday’). The occurrence of the copula correlates with these properties: in (171), the copula is obligatory, while in (172), prohibited.

- (171) a. **Chekoa** edi Ø-lɪ.
child warm/feverish IPFV.3.SBJ-COP.IPFV
‘The child is feverish.’
- b. * **Chekoa** edi.
child warm/feverish
Int.: ‘The child is feverish.’

[Welch 2016, (1)]

- (172) a. * **ɪxèɛ** edi Ø-lɪ.
yesterday warm/feverish IPFV.3.SBJ-COP.IPFV
Int.: ‘Yesterday was warm.’
- b. **ɪxèɛ** edi.
yesterday warm/feverish
‘Yesterday was warm.’

[Welch 2016, (1)]

Welch remarks, thus, that the occurrence of the copula is regulated by the animacy of the subject. The correlation between the animacy of the subject and the occurrence of the copula can also be observed in sentences where the subject is dropped. In (173a), a copula is present and the subject is interpreted as animate. Conversely, in (173b), there is no copula and the same adjective is interpreted as weather predicate.

- (173) a. Edi Ø-lɪ.
warm/feverish IPFV.3.SBJ-COP.IPFV
‘S/he has a fever.’

- b. Edi.
warm/feverish
'The weather is warm.'

[Welch 2016, (12)]

Welch proposes that Tɕhɕ Yatù is characterized by a requirement of morphological requirement according to which a [PERSON] feature must be realized morphologically:

(174) *Morphological Realization*

φ -features must be realized in agreement morphology at spellout.

[Welch 2016, (31)]

Because adjectives are not able to expone φ -features, a copula is inserted which has this capability. This explains the obligatoriness of the copula in (171). However, this only holds if the subject of the predication contains a [PERSON] feature. If it is an inanimate, as in (172), no [PERSON] is present, so the requirement (174) is satisfied vacuously, so the need to insert a copula does not arise.

There are also similarities between the need to license the interpretable feature [+PLURAL], as postulated here, and Welch's Morphological Realization requirement. A difference is that the latter is specifically a condition on the realization of φ -features, while morphological exponence is a response to the compliance with the need to license [+PLURAL]. Furthermore, empirically, while [+PLURAL] (much like the oblique case in Serbian/Croatian) appears in the Wolof BN itself, while the Tɕhɕ Yatù's person feature appears elsewhere in the sentence. Nonetheless, there may be an appropriate degree of abstraction where the Tɕhɕ Yatù and Wolof data are comparable.

In fact, if we bring in the oblique case from Serbian/Croatian, we may ask whether there is some common ground between a plural feature (in Wolof), oblique case (in Serbian/Croatian), and animacy (in Tɕhɕ Yatù) such that some additional requirement seems to be imposed on their occurrence. One may also ask why other comparable features in the same languages do not have to comply with the same requirement. Stated differently, why is it not the case that singular, structural, and inanimates features require some additional form of licensing? Speculatively, one may consider whether some well-defined notion of markedness could play a role in this distinction. While I do not have an answer to these outstanding questions, it could be fruitful in future research to pursue a comparison between Serbian/Croatian, Tɕhɕ Yatù, and Wolof, a result of which could be a more general account that alleviates the stipulative nature of the conditions of rules like Morphological Realization (174), the Generalized Case Realization Requirement (169), and the need to license [+PLURAL] in Wolof BNs.

Chapter 4

Concluding remarks

Crosslinguistically, bare nominals tend to be number neutral and to require adjacency with a verb in order to be licensed. Their counterparts in Wolof, however, diverge from both of these patterns. An investigation into these properties allows us not only to capture why Wolof differs from the typological expectation, but also, if on the right track, provides a window into two modes to nominal licensing, one at the distributional level and one at the featural level.

By adopting [Branan's \(to appear\)](#) dependent case-based licensing requirement to the analysis of the syntactic distribution of BNs in Wolof, it was possible to account for the adjacency requirement that BNs in object position must obey and also for the conditions under which this requirement is obviated. Critically, [Branan's](#) framework provided a unified account as to why \bar{A} -movement and three-argument constructions, despite being distinct phenomena, are on a par in allowing a BN to void the adjacency requirement. In the investigation of the syntactic distribution of BNs in Wolof, nominal licensing was underscored by the strategies employed by this type of nominal in order to be assigned case. These findings motivate a reappraisal of the claim that dependent case and nominal licensing are necessarily incompatible with each other ([Marantz, 1991](#)). The properties of Wolof PNI can be restated in terms of nominal licensing. The accessibility to another nominal (either by the introduction of another NP or by moving the BN through a higher case domain) leads to the licensing of the BN via competition. The need for adjacency with the verb only arises when dependent case cannot be assigned. This is predicted in a theory of nominal licensing where it is regulated by dependent case, where case competition plays a defining role.

This analysis, however, does not account for the other unusual property of Wolof BN, namely, the fact that they are not number neutral. In this case, nominal licensing has to occur at the featural level. Inspired by [Kalin's \(2017; 2018; 2019\)](#) derivational time bomb system, I stipulated that the singular interpretation of BNs in Wolof is caused by the failure to license the [+PLURAL] feature that all nominals in the language may bear. Conversely, when a probe can Agree with this feature, the corresponding interpretation can indeed arise. Relative complementizer and possessum agreement were analyzed as the reflex of the this Agree operation. In similar nominal modifiers, if number morphology were absent, the BN was predicted to retain its singular interpretation. This prediction was corroborated by the facts.

Two potential implications must be discussed. First, it must be said that an analysis that is based on a condition that stipulates the occurrence of the observed feature can be hard to falsify. Secondly, and relatedly, the proposal that the interpretable feature [+PLURAL] must be licensed is similar to other restrictions advanced to account for independent, though remarkably similar data than that examined in chapter 3. More precisely, as mentioned on the [appendix](#) on p. 147, in Serbian/Croatian and in Tɕichɔ Yatì, it is also the case that a certain type of feature (oblique case and animacy, respectively) can only occur if the sentence where it occurs has the ability to expone this feature. All conditions postulated to account for the occurrence of these features (the proposal made here, [Horvath's 2014](#) Generalized Case Realization Requirement and [Welch's 2016](#) Morphological Realization) are all similar requirements that state the occurrence of the desired feature. It is possible that pursuing a unified analysis of these phenomena and attempting to find some common ground among them could help dissipate the stipulative flavor of these separate proposals.

Finally, this thesis can help expand the empirical picture empirical regarding the limited ways in which the interpretation and distribution of BNs can vary across languages. Rather than positing a sui generis new type of BN, I proposed that the properties of BNs in Wolof arise as a consequence of a conspiracy between Wolof-specific properties (e.g. the morphosyntax of class markers) with general grammatical principles and resources (e.g. dependent case and licensing by Agree).

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