The morphosyntax of (anti) causatives in Wolof

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Abstract

The causative/anticausative alternation in Wolof follows four distinct patterns. I show that a derivation approach to Wolof verbs cannot work as a unified approach because of the presence of directed, labile and equipollent alternations.

I argue that the (anti) causative alternation can be accounted for within the framework of Distributed Morphology. Within this framework verbs are created in the syntax when a root selected in the lexicon merges with a "verbifiying" head. In Wolof that head can be either silent or overt with both the causative and anticausative verbs.

I also show that the suffix *–u* found in certain types of anticausatives have different properties depending on the type of verb it is attached to. Indeed with some verbs it has a pure anticausative property (no implicit agent) whereas in other contexts it does have an implicit agent.

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cl: noun class marker

3sg: third person singular

neg: negation 3pl: third person plural

2sg: second person singular

FIN: finiteness marker

caus: causative marker

refl: reflexive

pst: past tense

prog: progressive

1. Introduction

The purpose of this thesis is to provide an analysis of the causative/anticausative alternation in Wolof. This type of alternation allows the same verb to occur in two different syntactic constructions:

(1) a. ngelaw l-i toj na paranteer b-i — causative
wind cl-the break FIN window cl- the
"The wind broke the window"

b. paranteer b-i toj na — anticausative
window cl-the break FIN
"the window broke"

(1)b is the anticausative form of (1)a because the external argument is removed. Below is a similar structure for English.

(2) a. The children opened the door — causative

b. The door opened — anticausative

As in (1), in (2) we have an alternation of the verb "open " which has two arguments in (2)a and only one argument in (2)b. One property of the verbs participating in the altenation is that they denote a change of state (Levin & Rappaport-Hovav (1995), Haspelmath (1993)); in other words with these type of verbs the internal argument undergoes a change of state. In both (2)a and (2)b the internal argument of the verb "the door", which is an object in (2)a and a subject in (2)b, is an entity undergoing a change.

This causative/anticausative alternation has been the subject of various analyses that mainly deal with the origin of the derivation. Of central interest is whether the anticausative is derived from the causative or the other way round. This issue is at the center of

controversies among linguists, some like L&R-H, assuming that this alternation can be captured by a rule of detransitivization, others attempt to solve the problem with a causativization rule.

Morphological reflexes of the (anti) causative seem to be a language specific phenomenon. As pointed out by Haspelmath (1993), Schaefer (2007) and Alexiadou et. al (2006), languages show heterogeneity in the way they allow morphological mark the verbs participating in the alternation. In other words, some languages mark the anticausative of a given group of alternating verbs whereas other languages mark the causatives of the same group of verbs.

In this thesis I argue that the causative/anticausative alternation, at least in Wolof, cannot be accounted for with a single derivational rule. I show that a detransitivization rule will work with a subset of verbs but not with others, similarly, a causativization rule will work with some verbs but not with others.

I present evidence from Wolof causative/anticausative alternation can be accounted for within the framework of Distributed morphology (Marantz (1999), Arad (1999), Harley (2006)). Under this approach to word formation, the lexicon contains acategorial roots; word categories are created in the syntax when a root merges with a specific head. Verbs are thus created in the syntax where they merge with a verbifier head (Harley (2006)). In the same vein, I argue that in Wolof a root appears in the syntax with a verbifier head I will call "light verb" (Chomsky (1995)) that bears various semantic features. More specifically I show that various specifications of that light verb can account for why a verb can participate in the causative/ anticausative alternation in Wolof.

Apart from this, I also show that there are language-specific factors that play an important role in understanding why some verbs can alternate in Wolof and not in English for instance. These language specific factors can be accounted by the notion of teological capability (Folli and Harley (2008)). Folli and Harley refer to "teological capability" as the "inherent abilities" of a entity that allows it to occur as a subject of a given verb.

Finally I introduce the relevance of the notion of "middle voice" for a subset of alternating verbs in Wolof.

This thesis is structured as follows; in Chapter 1 I provide a background on Wolof language where I deal with some grammatical properties as well as some clause types of Wolof. In Chapter 2 I provide a derivational analysis of the causative/anticausative alternation with respect to causativization and detransitivization approaches. In Chapter 4 I analyze and account for the anticausative/causative alternation in Wolof by giving a syntactic and semantic description of the causative/anticausative alternation. Finally in Chapter 5 I discuss some semantic restrictions of some verbs that constitute a problem for the present analysis.

2. Background on Wolof

Wolof is a language that belongs to the West-Atlantic subgroup of the Niger-Congo family. It is mainly spoken in Senegal (West Africa) but also in The Gambia and in neighboring countries like Mali and Mauritania.

2. 1 Word ordrer

The basic worder order of Wolof is Subject-Verb-Object (SVO):

(3) a. Awa gis na Ø Daba
Awa see FIN 3sg Daba
"Awa has seen Daba"

b. xale y-i lekk na ñu ceeb
children cl-the eat FIN 3 pl rice
"The children have eaten some rice"

Wolof is a pro-drop language; the subjects of the verbs can be dropped leaving a grammatical sentence. This can be seen in (4) below.

(4) a. gis na- Ø Daba
see FIN 3sg Daba
"he/she has seen Daba"

b. lekk na ñu ceeb
eat FIN 3pl rice
"They have eaten some rice"

These sentences in (4) are like the ones in (3) except that the overt subjects are missing; nevertheless they are grammatical.

2.2 Noun classes

Wolof is a noun class language; there are thirteen noun classes including two plural ones; the noun classes agree with the nouns they occur with. The noun class is marked with a morpheme that co-occurs with different morphemes according to definiteness, for instance. Consider Table 1, which gives the noun classes below (adapted from Torrence (2005:21-22)):

Table 1. The Noun Classes of Wolof

"the NP"	Translation	Class Name
ceeb b-i	"the rice"	k-class
góór g-i	"the man"	g-class
ngelaw l-i	"the pot"	l-class
jigéén j-i	"the woman"	j-class
xaal w-i	"the watermelon"	w-class
ndaw s-i	"the lady"	s-class
ndox m-i	"the water"	m-class
nit k-i	"the person"	k-class
xale y-i	"the children"	y-class (plural)
góór ñ-i	"the men"	ñ-class (plural)
f-oo-f-u f-an (locative)	" aforementioned place" "where"?	*fi*-class
n-oo-n-u (manner)	"aforementioned way'"	*ni*-class
c-oo-c-u (prepositional)	'in/at/on aforementioned place"	c-i *ci/si*-class

Noun class is not typically marked on nouns themselves, but on elements inside of DP, such as definite and indefinite articles and demonstratives:

(5) a. xaj **b**-i "the dog" singular definite

b. xaj **y**-i "the dogs" plural definite

c. a-**b** xaj "a dog" singular indefinite

d. a-**y** xaj "some dogs" plural indefinite

(Torrence (2005))

In (5)a-b notice that the definite articles follow NP, while the indefinite articles precede NP. In both cases however, there is class agreement, as indicated by the class consonants.

(6) a. xaj **b**-ii
dog cl-this
"this dog"

b. góór **g-**ii
man cl-this
"this man"

c. xaj **b**-ee
dog cl-that
"that dog"

d. góór **g-**ee
man cl-that
"that man"

In (6)a-b there are different noun classes that occur with different nouns; these demonstratives are proximal. (6)c-d show that the morpheme attached to the noun class has to change depending on the types of demonstratives, distal in this case, involved. In a focus situation, these demonstratives can appear before the noun they modify (Torrence (2005)). However, basically the demonstrative follows the noun.

2.3 Adjectives

Wolof has predicate adjectives that conjugate like verbs, agreeing with subjects in person, number and are inflected for tense as in (7)a below. As for attributive adjectives, they appear in a relative clause construction ((7)b-c) (Torrence (2005)).

(7) a. góór g-i baax -oon na
man cl-the be nice pst FIN
"the man was nice"

b. xaal w-u neex
watermelon cl-u delicious
"a delicious watermelon"

c. góór g-u baax
man cl-u nice
"a nice man"

d. *góór baax
man nice
"a nice man" (intended translation)

. e. * baax góór
nice man
"a nice man" (intended translation)

(7) shows that the noun always precedes the adjective that modifies it. In (7)b the noun *xaal* is followed by the noun class marker *w-* which is followed by *-u*. For example (7)b has the literal meaning *a man who is nice.* (7)d is ungrammatical because the adjective is directly attached to the noun it modifies; (7)e shows that adjectives in Wolof occurs at the right of the noun. Torrence argues that cl-u is an agreeing complementizer that agrees in class with the noun it modifies.

Adjectives are of interest because they combine with verbal morphology and participate in the causative/anticausative alternation.

(8) a. Daba xonq-al na ceeb b-i
Daba red –caus FIN rice cl-the
"Daba reddened the rice"

b. ceeb b-i xonq
rice cl-the red
"The rice reddened"

In (8)a the adjective appears with a causative marker *–al* and in (8)b the adjective occurs in an anticausative construction. This is not surprising because as pointed out by Mc Laughlin (2004) in Wolof the adjectives "behave in a manner that is overwhelmingly verb-like" (2004:261).

2.4 Wolof clause structure

Wolof has a large number of distinctive clause types. The following table adapted from Torrence gives a subset of Wolof clause types[1].

[1] Note that this list is far from being exhaustive. Torrence gives more than fifteen clause types in Wolof:

Table 2: Wolof clauses

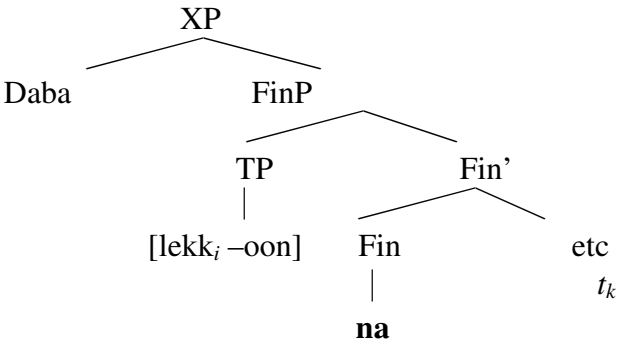
Type	Example	Use
-*Na* Clause	(9) a. xale yi lekk na-ñu gato bi child the.pl eat-*na*-3pl cake the "the children ate the cake"	The entire clause is new information. No subconstitutent is in focus.
Negative	b. xale yi lekk-u-ñu gato bi child the.pl eat-neg-3pl cake the "the children did not eat the cake"	No emphasis on anything. Negative of *na*-clause
Subject Cleft 1	c. xale yi a lekk gato bi child the.pl *a* eat cake the "it's the children who ate the cake"	Subject in focus
Subject Cleft 2	c'. xale yi ñu a lekk gato bi child the.pl 3pl *a* eat cake the "it's the children who ate the cake"	Subject in focus
Negative Subject Cleft 1[2]	d. xale yi a lekk-ul gato bi child the.pl *a* eat-neg cake the "it's not the children who ate the cake"	negative of subject cleft
Negative Subject Cleft 2	e. d-u xale yi a lekk gato bi imperf-neg child the.pl *a* eat cake the "it's not the children who ate the cake"	negative of subject cleft
Non-Subject Cleft[3]	f. gato bi l-a xale yi lekk cake the xpl-*a* child the.pl eat "it's the cake that the children ate"	Non-Subject in focus

The *Na*- clause in (9)a is particularly relevant for the present analysis since all the examples in this paper will be given using this clause type. Torrence (2003) analyzes *na*-clauses as involving VP and TP remnant movement into the left periphery. I follow Zribi-Hertz and Diagne (2002) and Torrence (2003), (2005) analysis of *na* as a finiteness marker in the left periphery of the clause. Torrence and Koopman (2006) anlayze *na*-clauses as involving VP and TP remnant movement into the left periphery, specifically the specifier of *na* which heads FinP (Rizzi (1997)). Thus for a sentence like (10)a below Torrence proposes a structure as in (10)b.

[2] Both Subject Cleft 1 and Subject Cleft 2 can be negated by either negative construction.

(10) a. Daba lekk-oon na ceeb
Daba eat –pst FIN rice
"Daba ate the rice"

b.



Torrence argues that the derivation above implies not only head movement but a XP movement; in this case TP moves to the specifier of FinP. Torrence also posits the existence of a position higher than FinP that he labels XP that host full DP subjects.

2.5 Wolof verb morphology

Wolof has very rich verb morphology (Diallo (1981), Ka (1994), Nouguier-Voisin (2002)). Apart from a few exceptions, verbal affixes in Wolof are suffixes, most of them being derivational as shown in the following[4]:

(11) a. xale y-i sàcc na ñu gato b-i
child cl-the steal FIN 3pl cake cl-the
"the children stole the cake"

b. xale y-i sàcc **-i** na -ñu gato b-i **-i-** allative
child cl-the steal-allative FIN-3pl cake cl-the
"the children went and stole the cake"

[3] The non-subject cleft, like the subject cleft, has two different negative forms. I have not included these forms here.
[4] Adapted from Torrence (2005:45-46)

c. xale y-i sàcc-**si**- na ñu gato b-i **-si-** illative
child cl-the steal-illative FIN-3pl cake cl-the
"the children came and stole the cake"

d. xale y-i sàcc-**ante** na -ñu **-ante** reciprocal
child cl-the steal-recip FIN-3pl
"the children stole each other"

e. xale y-i **sàcc-sàcc-lu** na ñu gato b-i **V-V-lu** pretendive
child cl-the steal-steal pretenditive- FIN-3pl cake cl-the
"the children pretended to steal the cake"

f. xale y-i sàcc-**e** na ñu gato b-i (ak) sémmiñ **-e-** instrumental
child cl-the steal-instr FIN 3pl cake cl-the (with) hatchet
"the children stole the cake with a hatchet"

g. xale y-i **të̈j** na ñu bunt b-i
child cl-the close FIN 3pl door cl-the
"the children closed the door"

h. xale y-i **tijj - i** na ñu bunt b-i reversive
child cl-the unclose-rev. FIN 3pl door cl-the
"the children unclosed the door"

In (11) b-c the derivational suffixes *–i, –si* respectively change the basic meaning of the verb. As can be seen from the examples above, the meaning of the verb *sàcc* "steal" is no longer limited to the action of stealing. In a language like English such readings are obtained by adding more elements in the sentence as shown in the translation equivalents provided above. In (11)e there is a new meaning associated to the verb with the attachment of the pretendive suffix *–lu,* but there is also a change with the verb root that has to undergo total reduplication. (11)f involves the use of an instrumental suffix which makes the presence of the preposition *ak* "with" optional. In (11)h when the reversive suffix is added to the verb root, it undergoes a morphological modification. Indeed, the verb changes from a $C_1V_1C_2$ template to a $C_1V_2C_2C_2$ so the V changes and C_2 is doubled in such conditions. As for (11)f it shows another situation as the instrumental suffix *–e* triggers an increase of the verb's

valency. Buell and Sy (2005) argue that these types of Wolof affixes should be treated as syntactic heads that take arguments in the syntax.

2.5.1 Verbal morphology in causative and anticausative constructions

In this section I give a brief overview of Wolof verb morphology in causative and anticausative contexts.

2.5.1.1 Causative constructions

In Wolof, there are five suffixes that participate in a causative construction *–e*, *–al*, *–lu*, *–loo* and *–le* (Nouguier (2002)), however some of them (*al*, *–lu*, *–loo*) are more productive than the others.

2.5.1.1.1 The causative suffixes *–le* and *-e*

As mentioned by Nouguier these causative suffixes are not as productive as the other ones. They only occur with specific verbs.

(12) a. moom yég na xew b-i
3sg hear/aware of FIN event cl-the
"s/he heard of the event"

b. Daba yég **-le** na xew b-i
Daba hear/aware of FIN event cl-the
"Daba informed people about the event"/ "Daba had people hear about the event"

In (12)b the suffix *–le* is used to add a causative meaning to the stative verb *yég* "hear". A similar situation is observed with the suffix *–e* below.

(13) a. Awa génn na
Awa leave FIN
"Awa left"

b. Daba génn-**e** na Awa
Daba leave-caus FIN Awa
"Daba made Awa leave"

In (13)b the causation can be direct or indirect depending on the context. I use the expression "direct" to refer to a situation where the agent is the causer and also the initiator of the action described by the verb.

2.5.1.1.2 The suffix *-loo*

The *-loo* suffix only occurs with agentive verbs as illustrated in the following examples.

(14) a. Daba jox na xale y-i ceeb b-i
Daba give FIN child cl-the rice cl-the
"Daba cooked the rice"

b. Daba jox-**loo** na Xadi xale y-i ceeb b-i
Daba give-caus FIN Xadi child cl-the rice cl-the
"Daba made Xadi give the children the rice"

In (14)b *-loo* is used with a transitive verb and increases the valency of the verb since it adds an external causer of the action. In other words, the suffix *–loo* introduces an indirect causer that triggers the action of the agent "xale yi". (15) below shows the behavior of this suffix with an intransitive verb.

(15) a. xale y-i ree na ñu
children cl.-the laugh FIN 3pl
"the children laughed"

b. Daba ree-**loo** na xale y-i
Daba laugh-caus FIN children cl-the
"Daba has made the children laugh"

c. *Daba ree-**loo** na
Daba laugh -caus FIN
Intended :"Daba caused laugh"

In (15)a the verb does not have any causative component associated to it but in (15)b when the suffix *-loo* is attached, it adds a causative meaning ans the verb valency changes from one to two arguments. The introduced element becomes a core argument of the verb that cannot be suppressed hence (15)c is ungrammatical.

2.5.1.1.3 The suffix *–lu*

This causative is also referred to as impersonal causative (Njie (1982), Buell and Sy (2005)). The *-lu* suffix is a valency-decreasing suffix but only with two or three argument verbs and introduces an indefinite agent. It targets action verbs like *cook, open, hit* and *give* etc. leading to a type of construction where the agent of the action is omitted but the causer is present as illustrated below:

(16) a. Daba jox na xale y-i ceeb b-i
Daba give FIN child cl-the rice cl-the
"Daba cooked the rice"

b. Daba jox-**loo** na Xadi xale y-i ceeb b-i
Daba give-caus FIN Xadi child cl-the rice cl-the
"Daba made Xadi give the children the rice"

c. Daba jox-**lu** na ceeb b-i
Daba give-caus FIN rice cl-the
"Daba made someone give the rice"

In (16)a *Daba* is the agent of the action as well as the one that caused the agent to perform the action. In (16)b *Daba* is no longer the agent of the action of "rice giving" whereas in (16)c the agent of the action is not expressed and in this way. The only information relevant here is that matrix clause subjectdid not perform the action of "giving rice" but had someone do it instead.

2.5.1.1.4 The suffix *-al*

This *-al* suffix is very productive in Wolof; it can basically occur with all unaccusative and stative verbs.

(17) a. màngo b-i wadd na — anticausative
mango cl-the fall FIN
"The mango has fallen down"

b. Amina wadd-**al** na mango b-i — causative
Amina fall - caus FIN mango cl-the
"Amina has made the mango fall down"

c.* Amina wadd na mango b-i — causative
Amina fall FIN mango cl-the
"Amina has made the mango fall down"

As shown in (17)b, an unaccusative verb has to occur with the causative suffix *–al* which introduces an external argument which is a direct causer of the action described by the verb. Its absence explains the ungrammaticality of (17)c. This suffix plays an important analytical role as it can be used to test unaccusativity. I discuss this suffix in more details later as it is plays an important role in the causative/anticausative alternation in Wolof. *–al* also combines with stative verbs, usually translated in English as "predicate adjectives".

(18) a. ceeb b-i xonq na stative
rice cl-the red FIN
"the rice is red"

b. Ayda xonq-**al** na ceeb b-i causative
Ayda red -caus FIN rice cl-the
"Ayda has made the rice red"

c.* Ayda xonq na ceeb b-i causative
Ayda red FIN rice cl-the
"Ayda has made the rice red"

In (18)b the predicate adjective *xonq* appears in a causative context with *–al* to avoid ungrammatical sentence like (18)c. It is important to mention that if a verb root has both an unaccusative and an eventive meaning, it can occur with either causative (*-loo* and *-al*). This is the case of the verb *daw* "to run" (a person) or "be running" (an engine) as in the following:

(19) a. daw-loo na-a xale b-i unergative interpretation
run-caus FIN 1sg child cl-the
"I made the child run"

b. daw-al na - a masin b-i unaccusative interpretation
run –caus FIN- a engine cl-the
"I made the machin run"

In (20)a the verb is agentive and thus combines with *–loo* whereas in (20)b the verb has an unaccusative meaning and thus combines with the *–al.*

The following table summarizes the different types of causatives suffixes in Wolof.

Table 3: Summary of the different causatives morphemes in Wolof

Suffixes	**valency**	**Type of causation**
-e	increasing	Direct/indirect
-loo	Increasing	indirect
-al	Increasing	direct
-lu	decreasing	indirect

2.5.1.2 The anticausative suffix *-u*

In Wolof the suffix *-u* or *-ku* (when the verb ends in a vowel) is found in anticausative or some tyeps of reflexive contexts.

(20) a.bunt b-i ubbi-**ku** na anticausative
door cl-the open- refl FIN
"the door opened"

b. bunt b-i tëj-**u** na anticausative
door cl-the close- refl FIN
"the door closed"

(20)a-b describe situations where the entity in the subject position undergoes a change of state, in addition the verbs are morphologically marked. A deeper analysis of this suffix is provided later in the discussion as this suffix plays a crucial role in the present work.
The suffix *-u* in Wolof is reminiscent of the reflexive clitics found in Romance languages like French.

(21) a. la porte ***se*** ferm-a
the door refl close-pst
"the door closed"

b. Musa ***se*** ras-a
Musa refl shave –pst
"Musa shaved"

In (21)a-b the anticausative constructions go along with the presence of the clitic *se* before the verb.

3. Two approaches of the causative/anticausative alternation

In this chapter I discuss alternating verbs inWolof in the light of previous analyses. I present the different types of alternation possible in the language with an emphasis on the morphology of the verbs involved. Adapting Haspelmath's (1993) formal distinction of this alternation[5] crosslinguistically, I show that there are various ways of pairing Wolof verb alternations based on morphology. Haspelmath describes two types of alternation: directed alternation and non-directed alternations. Both are found in Wolof. Directed alternations refer to the type of alternation where one of the alternating verbs occurs with overt morphology (either the causative or anticausative). Non-directed alternations can be split into "labile" and "equipollent" alternations as in Hapelamth. A labile alternation does not trigger any morphological marking on the verb whereas with equipollent alternations, some morphology is added to both causative and anticausative verbs. In the following section I discuss the alternation in the light of two major analyses that have been provided in the causative/anticausative literature.

3.1 A causativization approach

In the causativization approach the inchoative/anticausative verb is assumed to be more "basic" predicate (Williams (1981), Brousseau and Ritter (1991)). The addition of a causative element increases the predicate's valency from one to two arguments. This explains the lack of an implicit argument with anticausatives. In other words the causative counterpart

[5] Haspelmath uses *inchoative/causative verb pairs* instead of *causative/anticausative alternation*.

is derived from the anticausative through causativization as schematized in Dowty (1979:206):

(22) a. $break_{incho}$: ʎx [BECOME *broken* (x)]

b. $break_{caus}$: ʎy ʎx [(y) CAUSE [BECOME *broken* (x)]]

(22)a can be understood as representing the set of x such that x becomes broken; there is just one argument x that undergoes breaking. As for (22)b it defines the set of x and y pairs such that y causes x to become broken. Basically this derivation process can be summarized in the following rule according to which the inchoative/anticausative form of the verb produces the causative one:

(23) break $_{anticausative}$ → break $_{causative}$

(24) This seems to be correct if we look at various languages, like Quechua and Khalkha Mongolian:

Quechua[6]

(25) a. waɲu "die"
die

b. waɲu-**ci**: "kill"
die-caus

Khalkha Mongolian[7]

(26) a. ongoj-x "open" (intr)
open-refl

b. ongoj-**lg-**ox "open" (tr)
open-caus

[6] Thanks to Maria Rosa Masaquiza for the Quechua data.
[7] Alexiadou (2006) p 5

In (25) and (26) the causative verbs are marked with some morphology; this approach seems appealing in explaining (27) and (28) below from Wolof:

(27) a. màngo b-i wadd na — anticausative
mango cl-the fall FIN
"The mango has fallen down"

b. Amina wadd-**al** na mango b-i — causative
Amina fall - caus. FIN mango cl-the
"Amina has made the mango fall down"

In (27), the causative verb is morphologically marked with the *–al* suffix. (27) constitutes evidence in favor of the causativization approach because it shows a causative that is derived from an anticausative verb, which is predicted by the causativization approach. Indeed in these sentences the causative is morphologically marked. We have a similar pattern in the following.

(28) a. galas g-i seeyi na — anticausative
ice cl-the melt FIN
"The ice melted"

b. Daba seeyi-**al** na galas g-i — causative
Daba melt-caus FIN ice cl-the
"Daba has made the ice melt"

A list of verbs that pattern this way is provided in Appendix 3. The problem with the causativization approach is that due to the lack of overt morphology on the alternation, the following data could also be handled by the approach.

(29) a. bant b-i damm na — anticausative
stick cl-the break FIN
"The stick broke"

b. Daba damm na bant b-i — causative
Daba break FIN stick cl- the
"Daba has broken the stick"

In (29)a it can be assumed that it is the anticausative that derives the causative forms of (29)b. Since there is no morphological marking on the verb in the alternation, such an assumption can be easily made. A similar example is provided in the following with the verb *lakk* "to burn".

(30) a. këyit b-i lakk na — anticausative
paper cl-the burn FIN
"the paper burned"

b. lakk na ñu këyit b-i — causative
burn FIN 3pl paper cl-the
"they burned the paper"

While Wolof provides support for the causativization approach, it also provides evidence against it. Indeed there is a class of verbs whose alternation marks the anticausative variant but for which the causative is unmarked. This suggests that the causativization approach is not appropriate for them:

(31) a. Amina faj na xale b-i — causative
Amina cure FIN child cl-the
"Amina cured the child"

b. xale b-i faj -**u** na — anticausative
child cl-the cure –*u* FIN
"the child is cured" / "the child got cured "

In (31)a there is no overt morphology on the verb that could relate to a causative reading, instead (31)b, the anticausative, has some morphology. (31) constitutes evidence against the causativization approach because it deals with a derivation of the anticausative from the causative counterpart. According to the causativization approach, the existence of a causative

presupposes the existence of anticausative and these examples show the opposite situation that is, an anticausative derived from a causative verb.

In this section, I have shown that the causativization approach alone cannot handle the causative/anticausative alternation in Wolof. Indeed, I have dealt with different types of derivations and shown that this approach works with a subset of verbs but not with others. In the following section, I turn to the opposite of the causativization approach, namely, the "detransitivization" and argue that a detransitivization operation like the causativization approach discussed above will work only for a subset of verbs in Wolof.

3.2 A detransitivization approach

Proponents of the detransitivization approach such as Reinhart & Siloni (2004), and (L&R-H (1995)) contend that the intransitive (i.e. anticausative) form of the alternation is obtained through a process of detransitivization. In this respect, detransitivization results from a reduction operation of the cause component present in both the causative and the anticausative (Alexiadou et al. (2006)):

(32) break $_{\text{causative}}$ → break $_{\text{anticausative}}$

(32) is a reduction operation in that it suppresses the external argument of the verb which is basically transitive. In Wolof this detransitivization process seems to work in many verbs that are derived from a transitive root as can be seen in the following:

(33) a. Amina faj na xale b-i causative
Amina cure FIN child cl-the
"Amina cured the child"

b. xale b-i faj -**u** na anticausative
child the cure –*u* FIN
"The child got cured"

(34) a.Daba tuur na ndox m-i causative
Daba pour FIN water cl-the
"Daba has poured the water"

b. ndox m-i tuur-**u** na anticausative
water cl-the pour-*u* FIN
"the water spilled"

Examples (33)b, and (34)b support the detransitivization approach because the anticausative forms are derived from their causative counterparts, (33)a and (34)a respectively, through suffixation. An argument in favor of the detransitivization approach noted by L&R-H (1995) is that in most languages, the transitive counterpart of the alternation is the one that is morphologically unmarked. However as was shown with the causativization approach, one can use the Wolof labile alternations examples to illustrate the detransitivization approach:

(35) a. Daba damm na bant b-i causative
Daba break FIN stick cl-the
"Daba has broken the stick"

b. bant b-i damm na anticausative
stick cl-the break FIN
"The stick broke"

(36) a. lakk na ñu këyit b-i causative
burn FIN 3pl paper cl-the
"they burned the paper"

b. këyit b-i lakk na anticausative
paper cl-the burn FIN
"the paper burned"

In (33) and (34) the examples that favored the causativization view are used as evidence for the detransitivization by reversing the order of *a* and *b* in each example. This shows that without morphological marking on the verb, it is difficult to ascertain which way (*intransitive → transitive or transitive→intransitive*) the derivation goes. Now consider these:

Anticausative

(37) a. màngo b-i wadd na
mango cl-the fall FIN
"The mango has fallen down"

Causative

b. Amina wadd-**al** na mango b-i
Amina fall - caus. FIN mango cl-the
"Amina has made the mango fall down"

In this example it can be assumed that (37)b derived (37)a from a because we do have a morphological marking on the causative. The same situation occurs in the following:

Anticausative

(38) a. galas g-i seeyi na
ice cl-the melt FIN
The ice melted"

Causative

b. Daba seeyi-**al** na galas b-i
Daba melt-caus FIN ice cl-the
"Daba has made the ice melt"

The preceding examples clearly argue against the detransitivization approach in that (37) and (38) show a derivation of a causative from an anticausative verb contrary to the detransitivization hypothesis that predicts the other way round. These derivations take an an anticausative as a "base" form and are very productive in Wolof. In fact, the *–al* suffix is used to form the causative of unaccusative and stative verbs.

In this section, I showed that neither the detransitivization nor the causativization approach alone works for the language. In other words neither of them could work as a

unified account for the causative/anticausative alternation in Wolof because they fail to account for language-specific derivations that can go both ways. Indeed for some verbs a detransitivization process seems to work whereas for others a causativization one seems to work.

Another problem for both approaches arises when we turn to the so-called 'equipollent' alternations. The existence of equipollent alternations in Wolof is challenging for a derivational analysis that focuses on the morphology of the verbs involved in the causative/anticausative alternation.

	Anticausative	Causative
(39)	a. Mami daan-**u** na Mami daan-refl na " Mami fell"	b. Awa daan-**al** na Mami Awa fall –caus FIN Mami "Awa caused Mami to fall"

In (39) both the anticausative and the causative are morphologically marked; 0 below follows the same pattern; verbs that pattern this way can be found in Appendix 5.

	Anticausative	Causative
(40)	a. garab g-i yëng-**u** na garab cl-i shake-refl FIN "the tree shook"	b. Awa yëng-**al** na garab g-i Awa shake-caus FIN tree cl-the "Awa shook the tree"

(40) is particularly interesting in that the verb is meaningless without the different morphemes. This will be discussed in more detail when I discuss the relevance of a root analysis for Wolof alternating verbs in section 4.

To deal with the alternation in Wolof, a good start would be to split the verbs into different groups (as done by Schaefer (2007)) according to whether they mark the

causative/anticausative alternation or not. This done, we would be in a better position to account for restrictions on the alternations and will try to make generalizations about the causative/ anticausative alternation.

Wolof verbs can be split into five classes with respect to the morphological marking of the (anti)causative alternation:

- Labile class: verbs that do not show any morphological change in the causative/anticausative alternation (*toj* "break", *damm* "break", *lakk* "burn").

- Marked Anticausatives: verbs whose anticausative counterparts are morphologically marked with the anticausative hile the anticausative is unmarked. Schaefer mentions that this type of derivation is not found in English but present in languages like French and German.

- Marked Causatives: verbs for which the causative form is morphologically marked while the anticausative is unmarked.

- Equipollent class: verbs that are morphologically marked in both the anticausative and causative.

- Non-alternating class: verbs that do not participate in the alternation (*dëbb* "pound", *door* "hit", *bëgg* "love" etc.). This type of verb is helpful in that it sheds more light on the properties of other verb types that undergo the

causative/anticausative alternation. In other words it would be interesting to determine the semantic properties of these verbs that block them from participating in the alternation.

Table 4 below presents the different verb classes described above.

Table 4 : Classes of verbs in Wolof

Class	*Labile*	*marked anticausatives*	*marked causatives*	*Equipollent*	*non alternating*
Causative mark	Ø	Ø	*-al*	*-al*	N/A
Anticausative mark	Ø	*-u/ku*	Ø	*-u*	N/A
Examples	toj “break” damm “ break” lakk “ burn” dagg “ cut” tas “spread out” “divorce” bënn “pierce”	tëj “ close” ubbi “ open” faj “ cure” sang “ have a bath” fal “ elect” faat “murder” wàññi “reduce” yee “wake up” làq, nëbb “hide” yàq “destroy” etc.	fer “wean” nàmp “breastfeed” seeyi “melt” wadd “fall down” réér “lose” door “start” reew “be indisciplined” weex “be white” xonq “be red” lëndëm “be dark” etc.	rand- “move” daan “ fall” yëng- “shake”	bëgg “like” tabax “build” dóór “hit” jënd “buy” taal “turn on light/ put on fire” gis “see” jël “take” dëbb “pound” bind “write” etc.

The second column in the table shows examples of labile verbs that alternate without any morphological change. In the third column there are examples of verbs whose intransitive version of the alternation is marked whereas the fourth column shows the reverse that is verbs whose transitive parts are marked. The fifth column contains equipollent verbs which are marked in both the causative and the anticausative. The last column includes vebs that do not participate in the alternation.

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4. The internal structure of the alternation

I argue that the causative/anticausative alternation in Wolof can be accounted for by relating to little or light *v* with the notion of "root".

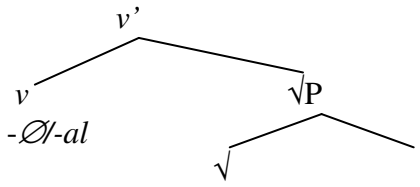
As discussed previously, the causative/anticausative alternation targets change-of-state verbs (Haspelmath (1993), L&R-H (1995) Alexiadou et al. (2006), Schaefer (2007)). This means that the verb describes a "change in the physical shape or physical appearance of an entity" (L&R-H 1995). Canonically, the alternation can occur when a change-of-state verb has an internal argument; for this reason, unergative verbs, because they lack an internal argument, cannot undergo the alternation. As showed previously, in Wolof there are different representations of causatives and anticausatives; some are morphologically marked, others are not. Following is a summary of the different types of alternation.

	Causative	Anticausatives
(41) a.	tëj "close"	tëj-**u**
b.	wat "shave"	wat-**u**
c.	damm "break"	damm
d.	bënn "pierce"	bënn
e.	wadd-**al** " fall down"	wadd
f.	nàmp-**al** "breastfeed"	nàmp
g.	daan-**al** "make fall"	daan-**u**
h.	yëng-**al** "shake"	yëng-**u**

(41) a-f are the different morphological patterns that exist in Wolof. Indeed the causatives and the anticausatives show two different surface structures. I argue that decomposing these verbs into "roots" and other elements can shed light on their internal structure.

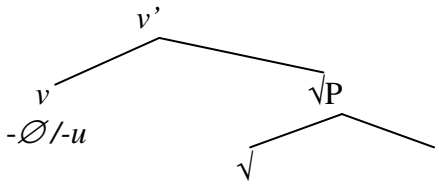
The idea that "verbs" are actually derived from acategorial roots has been posited within the framework of Distributed Morphology (Marantz (1997), Arad (1999), Embick (2004), Harley (2006)). Within this framework verbs are created in the syntax when "roots" provided by the lexicon merge with morphemes to form the category "verb". One piece of evidence for acategorial roots in Wolof comes from the existence of equipollent verbs introduced above ((41)g-h). Recall that these are verbs in which both the causative and anticausative are morphologically marked. In Wolof there are are two possible morphological realizations of a verb that participates in the alternation as in the following.

(42)



causative

(43)



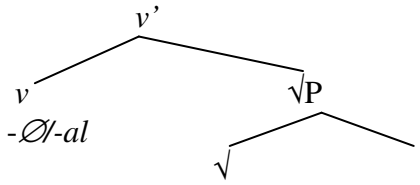
anticausative

I use (42) and (43) to motivate the decomposition of verbs into various entities that occupy different terminal nodes (Harley (2006)). In the next subsection I extend and motivate a little *v* analysis to the transitive/causative verb that participates in the alternation.

4.1 The causative verb

As pointed out earlier there are reasons to believe that the underlying structure of bare and morphologically marked causatives is the same. I argue that a transitive verb participating in the alternation can have a silent or an overt morpheme attached to it as follows.

(44)

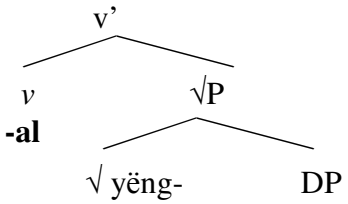


causative

(44) shows that the two possible realizations of little *v* in Wolof; this can be further illustrated by the following verb:

(45) yëng-al
shake-caus
"to shake"

(46)



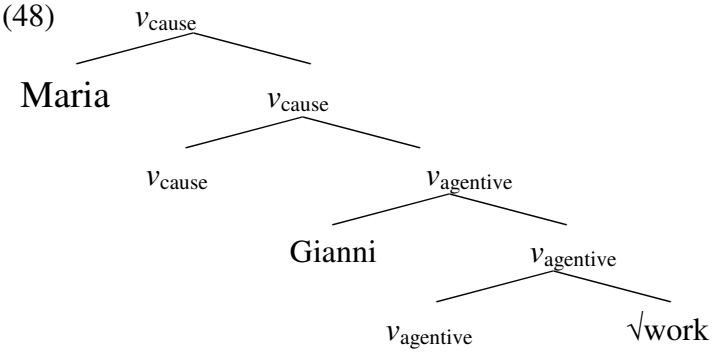
In (46) the verb is meaningless without the causative suffix *–al* attached to it suggesting that this suffix has a "verbifying" role. The *v* functional head has been widely discussed in the literature following Chomsky (1995) who posited its existence. He argued that *v* is a light verb that introduces an agent or causer. In the same vein, Kratzer (1996) argues that a verb external argument is external to the verb's theta grid and is added via a specific head. Hovarth and Siloni (2003) reject Kratzer's hypothesis and contend that the external argument of a verb is actually included in the verb theta grid. In Wolof there is some morphosyntactic evidence for positing the presence of a functional head like *v.* Indeed some

Wolof verbs require that an affix attaches to the verb before an external argument can surface. This does not necessarily follow from Hovarth and Siloni argument that both the internal and the external argument are part of the "part of the verbal grid in the lexicon" (Hovarth and Siloni 2003:11). This would imply that the lexicon contains morphologically complex verbs associated with their theta grid and I will show with Wolof the external argument, at least in the causative/anticausative alternation, is introduced syntactically by a special head. In a recent study, Ritter and Rosen (2010) provided evidence that the *little v* as a functional head is not just an abstract element that introduces an external argument. Ritter and Rosen argue that *v* can be overtly realized in Blackfoot, an Algonquian language. Ritter and Rosen further contend that *v* might come with some semantic content that restricts the type of external argument selected by a verb.

Following Kratzer (1996) and Embick (2004), I assume that the external argument is introduced by a causative-like functional head *v*. Arad (1999) and Harley (2006) dealing with little *v* put forth that it can have various "flavors". Arad argues that little *v* features might be related to more than causativization or transitivity. Arad argues that little *v* can comes with various features the same way other functional head like T (tense) can have a +/- feature. She uses the same approach for little *v* to posit that "verbs" are the result of "roots" with features.The example below, from Arad (1999:17) shows one flavors of little *v* in Italian:

(47) Maria ha fatto lavorare Gianni
Maria made work Gianni. Acc
"Maria made Gianni work"

(48)

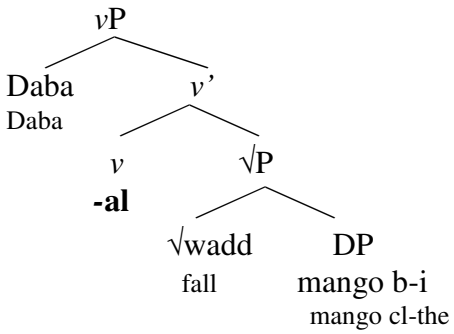


Arad argues that (48) is evidence that in Romance "the formation of causatives involves placing a verbal head on top of another head." (Arad, 1999:17).

In Wolof I assume that with the transitive form of the causative/anticausative alternation, a causative feature as well as an agentive feature has to occur with little *v*. The following verb does not participate in an equipollent alternation but in a directed alternation. Indeed the transitive form of the alternation is morphologically marked whereas the intransitive is not.

(49) a. Daba wadd **-al** na mango b-i
Daba fall down-caus FIN mango cl-the
"Daba made the mango fall down"

b.

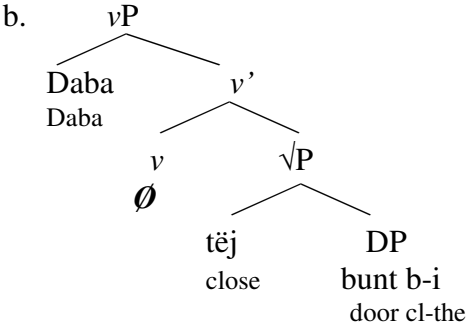


In (49) little *v* is overtly realized by the suffix *–al* and introduces the causer of the action. In this case, the causer of the change-of-state is also the agent of the action.

Another type of directed alternation involves transitive verbs that do not bear any morphological marking even though they have a causative meaning associated with them. For this reason I argue that with these types of verbs the suffix *–al* described above as well as the silent causative morpheme in (50) below have the same role. To illustrate this I give the example of the verb *tëj* "close".

(50) a. Daba tëj- Ø na bunt b-i
Daba close-caus FIN door cl-the
"Daba closed the door"

b.



In (50)b an external argument is introduced by little *v* (which is silent)*;* however, in this case, it can be assumed that it does have a [+causative] feature as the external argument "causes the state of the door being closed". In addition to this, little *v* can also be given a [+ agentive] feature; however this feature is optional because an event like "wind" is not an agent even though it can bring about the action of "door closing". In 0 though, *v* does have both a [+agentive] and a [+causative] feature.

The fact that there is a silent causative morpheme involved with a change-of-state verb can be further supported by the fact that *v*P can combine with the indirect causative

suffix *–loo.*This suffix can only combine with agentive *v*P. In other words, *-loo* only attaches to a *v*P headed by a [+agentive], [+causative] *v*.

(51) a. Daba tëj na bunt b-i
Daba close FIN door cl-the
"Daba closed the door"

b. Faatu [tëj]-loo na Daba bunt b-i
Faatu close-caus FIN Daba door cl-the
"Faatu made Daba close the door"

In (51), this causative suffix can attach to agentive verbs because we have the presence of *v*P and in the following, *-loo* can attach to the verb after little *v* has introduced an agent. The same applies to morphologically marked causatives.

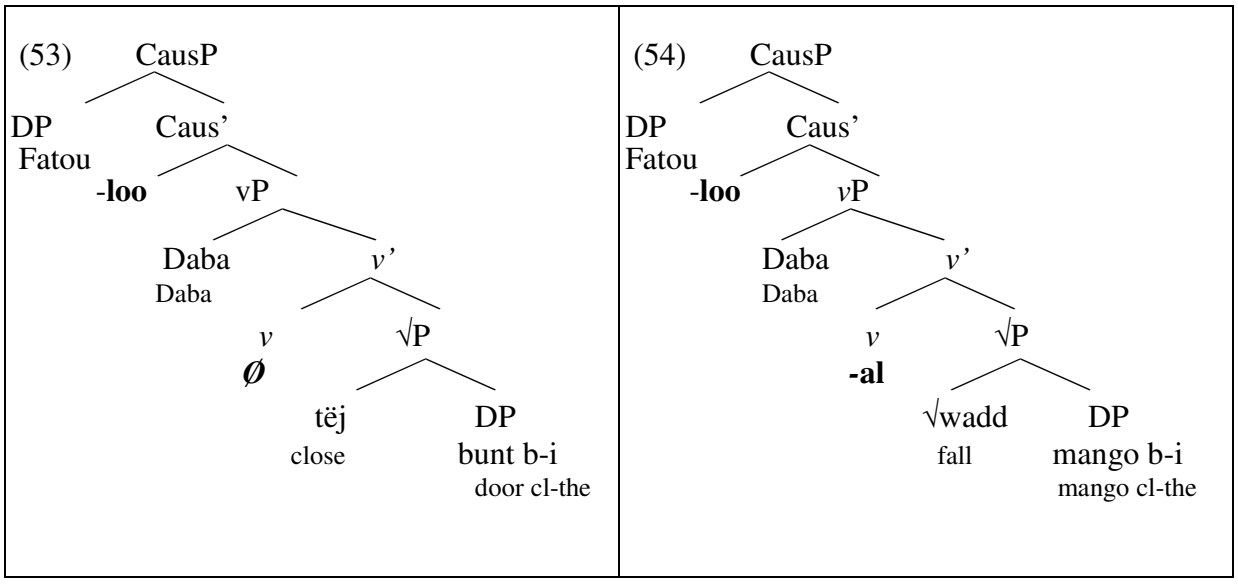
(52) a. Daba wadd -al na mango b-i
Daba fall down caus FIN mango cl-the
"Daba made the mango fall down"

b. Faatu [wadd -al] –loo na Daba mango b-i
Faatu fall down caus. caus. FIN Daba mango cl-the
"Faatu made Daba cause the mango to fall"

c. *Faatu [wadd] –loo na Daba mango b-i
Faatu fall -caus. FIN Daba mango cl-the
"Faatu made Daba cause the mango to fall" (intended meaning)

d.* Faatu [wadd -al] –loo na ngelaw l-i mango b-i
Faatu fall down caus. caus. FIN wind the mango cl-the
"Faatu made the wind cause the mango to fall" (intended meaning)

(52) a-c provides evidence that the verb root *wadd* "fall" has to combine with *–al* which carries the features of the *v*; the absence of *–al* explains the ungrammaticality of (52)c. As for (52)d ungrammaticality it can be explained by the fact that v in this sentence lacks [+agentive] feature because the external argument of the *v*P is "the wind". The structures of (51)b and (52)b are shown below:



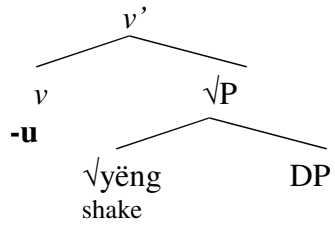
(53) and (54) show that there is a syntactic similarity between the two verbs, the main difference has to do with overt or silent morphology of little *v* in each case. In addition in both (53) and (54) I have introduced the functional head *Caus* to introduce an indirect causer of the action. This head *Caus* can only introduce causers. Indeed in both structures Daba is the causer and agent of the action even though another entity *Fatou* had her perform the action. This shows the feature [+agentive] has an important role to play. The assumption is that an agent is a conscious being that can volitionally or non-volitionally act on a patient (Alexiadou et al. (2006)). Basically in the presence of a non-conscious being that brings about a change-of-state (e.g. "the wind"), no agentive feature is involved (L&R-H (1995)).

The following subsection focuses specifically on a little *v* analysis of the anticausative version of the alternation.

4.2 The anticausative verb

In this chapter I further motivate a little *v* analysis by assuming that different realizations of specific features on a root make possible the (anti) causative alternation as mentioned previously. I use the anticausative member of the equipollent pairs given above.

(55)



In (55) the root combines with *v* (overtly realized in this case) to form an anticausative verb. Remember that this type of root is important for our analysis because it does not have any meaning unless a causative or anticausative suffix is attached to it.

Anticausative verbs relate to events that occur spontaneously, more specifically anticausative constructions focus on the fact that the entity at subject position underwent a change (Alexiadou et al. (2006)). With anticausatives, the causer of the action cannot be syntactically expressed as will be shown later. Anticausative constructions are similar to passive constructions in that they both focus on the entity undergoing the action described by the verb. However there are many syntactic differences between passives and anticausatives (Haspelmath (1993), L&R-H (1995) and Alexiadou et al (2006).

The next subsections deal with the different types of anticausatives in Wolof. There are two types of anticausatives, one that is morphologically marked and another that is not morphologically marked (bare anticausatives).

4.2.1 Morphologically marked anticausatives

I refer to morphologically marked anticausatives as anticausatives that are suffixed with *–u*. This suffix has received various denominations in the Wolof literature; "reflexive marker",(Ka (1994), Njie (1982), N'diaye (2003)), "medio-passive", Fal (1999)) "reflexive-neutro-passive", Ka (1994). In her dissertation on Wolof syntax and semantics, Nouguier argues that the suffix *–u* relates to what she refers to as "middle voice". She analyzes two functions of *–u* that she refers to as "autocausative" and "decausative".

The "autocausative" function, as described by Nouguier is analogous to a reflexive because the argument that occurs in subject position carries two different semantic roles (agent and patient). In other words the agent and the patient are the same as in a normal reflexive situation. This type of reflexive is very common with the types of verbs referred to as "verbs of body care" (Kemmer (1993), Becher (2002)); some of these include and are not limited to: *shave, wash, tattoo, pierce* etc.. In the "decausative" function, the middle voice marker *–u* occurs in a situation where the agent or causer of an action is not mentioned in the sentence because it is unknown or is just voluntarily not mentioned.

In the following I argue that as far as the (anti) causative is concerned, the suffix *–u* can be analyzed in two different ways depending on the verb root it combines with.

4.2.1.1 *–u* as an anticausativizing suffix

In the context of an anticausative, *–u* attaches to a transitive verb and selects for the verb's internal argument as its subject. In other words, the root combines with *v* that is overtly realized.

	Transitive	Intransitive	
(56)	ub	ub-u	"close"
	tëj	tëj-u	"close"

In (56), the suffix *–u*[8] attaches to a transitive verb and makes it intransitive. Before going deeper in the analysis, I will show that *–u* cannot be related to a passive for various reasons. Contrary to passives, anticausatives cannot express the agent or causer of an action whereas passives can. In other words, passives can occur with agent-oriented PPs (prepositional phrases) whereas anticausatives cannot, that is, the external argument is implicit in passives whereas anticausatives lack an implicit external argument (Alexiadou et al. (2006)).

(57)	a. John broke the door	active
	b. The door was broken (**by John**)	passive+agent
	c. The door broke	anticausative
	d.* The door broke **by John**	anticausative+agent

In (57)b the internal argument in (57)a is promoted to subject position whereas the external argument is demoted to an oblique (a *by*-phrase) and becomes optional. (57)c deals with a similar situation; however contrary to (57)b, in this situation we do not have any information about the agent or causer of the action. In other words there is no implicit external argument in the anticausative (Alexiadou et. al (2006)) hence it cannot be modified by a *by*-phrase ((57)d). However anticausatives can take *by*-itself phrase

[8] *–u* has an allomorph which is *-ku*. The latter only attaches to reversive verbs as in the following

i.	ubb-i	ubbi-ku	"open"
	tijj-i	tijji-ku	"close"
	xoll-i	xolli-ku	"peel-off"
	tekk-i	tekk-ku	"take-off"

with the interpretation that no external force caused the action.

(58) The door broke (**by itself**) Anticausative

As far as I know, Wolof does not have passive constructions; this implies that a "*by*-phrase" without an agent as the phrase cannot be used in the data. However an agent-oriented prepositional phrase can be used to test for the presence of an agent. In addition a "by-itself" can be used to test the nature of Wolof anticausatives. Kallulli (2007) points out that in languages like Albanian using a *by-phrase* test alone would not be successful in determining the distinction between passives and anticausatives. Kallulli contends that in those languages a *by-phrase* would go with either anticausative or passive. For this reason she argues that the distinction between passives and anticausatives lies on the features of v[9].

In Wolof one can use an agent-oriented PP like an instrumental phrase (Reinhart and Siloni (2005)) or also an agent-oriented verb like *tey* "do something on purpose" in order to test the presence of an agent as in the following.

(59) a. * bunt b-i tëj-**u** na ak caabi
door cl-the close-refl FIN with key
"the door closed with a key" (intended)

---

[9] Kalluli proposes the following among others as possible realizations of little v .

Table 5: Features in v

a. [+cause]	The pressure cracked the window
b. [+cause] , [-external argument]	The window cracked
c. [+cause], [+act]	John cleaned the table
d. [+cause], [+act] , [-external argument]	The table was cleaned (by John)

(Adapted from Kallulli (2007))

b. *bunt b-i ubbi-**ku** na ak caabi
door cl-the close-refl FIN with key
"the door closed with a key"

c. Xadi tëj na bunt b-i ak caabi
Xadi close FIN door cl-the with key
"Xadi closed the door with a key"

(59)a-b are ungrammatical because there is no agent implied in the meaning conveyed by the verb hence an agent-oriented PP cannot be used in this context. In (59)c an agent is present hence the grammaticality of the sentence. A similar situation is found in the following:

(60) a.* bunt b-i tey na tëj-**u**
door cl-the purpose FIN close-refl
"the door opened on purpose"

b. * bunt b-i tey na ubbi-**u**
door cl-the purpose FIN open-refl
"the door opened on purpose"

c. Xadi tey na tëj bunt b-i ak caabi
Xadi purpose FIN close door cl-the with key
"Xadi closed the door with a key

As in (59) above, (60) shows that an agent oriented verb cannot be used when an agent is not present due to the verb meaning. This explains why (60)a-b is ungrammatical contrary to (60)c which is grammatical.

Another interesting characteristic of *-u* is that it cannot co-occur with "by-itself" (*bopp-am*[10] in Wolof) what shows that the agent or causer of the action is not implicit.

[10] Literally *head-his/her* ; this is basically how a canonical reflexive is formed:
eg. (i) bëgg na bopp-am
like FIN head-his/her
"s/he likes him/herself"

(61) a. bunt b -i tëj-u na
door cl-the close-ku FIN
"the door closed"

b. bunt b -i tëj na bopp-am
door cl-the close FIN self – 3sg
"the door closed by itself"

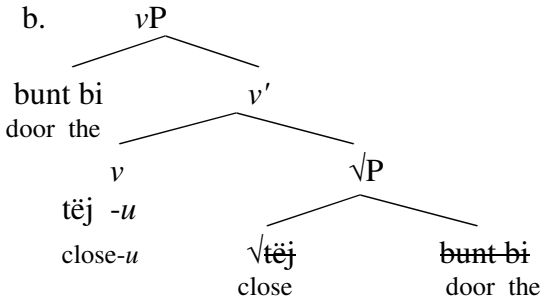
c. bunt b -i tëj-u-al na boppam
door cl-the close-refl –caus FIN self-3sg
"the door closed by itself"

d.* bunt b -i tëj-u na bopp-am
door cl-the close-refl FIN self-3sg
"the door closed"

The slight meaning difference between (61) a -c lies in the expression or non-expression of the causer of the action. In (61)a, the only information we get is related to the action undergone by the internal argument. The action could have been performed by the door due to its internal properties, by an agent or by a causer, the wind for instance. In short, any information related to a potential external argument is missing. (61)a can be represented in the following:

(62) a. bunt bi tëj-u na

b.



In the above, little *v* comes with a bundle of features. First the verb root merges with its internal argument. In this case I assume that the features [+cause], [-external argument] and

[-agentive] occur with *v*; so the DP subject of *v*P has semantic properties different from the that of a transitive verb. This shows that spec *v*P is not the causer or agent of the action but an internal argument of the verb. Thisconstitutes more evidence that little *v* comes in various "flavors".

My assumption is that (61)b deals with a transitive construction where the subject is coreferential with the anaphor object; in other words, the door itself is "responsible" for the action. Further, this example shows that (61)a is not equivalent in meaning to something like (61)b contra to the assumption in Njie that they are the same. (61)c is interesting for various reasons. The anticausative verb in (61)a looks like a normal causative verb with an internal and an external argument introduced by *–al,* which increases its valency. Njie sees it as a benefactive suffix, which it is obviously not. In Wolof a benefactive suffix cannot attach to an anticausative verb. As mentioned earlier the benefactive and the causative suffix are homophonous[11]. Actually we are dealing with a causative suffix; the same encountered previously. Since *ubééku* by itself is anticausative (semantically unaccusative), it just has an internal argument. The causative suffix *–al* then introduces an external argument, modifying the verb valency.

I conclude that the suffix *–u* has an anticausative property; when combined with an inanimate entity. It has a detransitivizing role in that it turns a transitive verb into an anticausative one In the next section another realization of *–u* is provided.

[11] In Wolof the causative suffix, the benefactive one as well as the imperative marker are homphonous. They are all realized by *–al.*

(i) Daba raxas-**al** na ma bool b-i "Daba washed the bowl for me"
Daba wash –ben FIN 1sg bowl cl-the

4.2.1.2 Reflexive-anticausatives

I will call this type of *–u* a reflexive-anticausative marker because it shows properties of both a reflexive and an anticausative. As mentioned above, Njie (1982) considers the suffix *–u* as a reflexive marker just like the pronominal reflexive *bopp* "head"*(* that literally means "head"). Let us consider the following examples adapted from Njie (Njie 1892:205).

(63) a. Modu wat -u na
Modu shave –u FIN
"Modu shaved"

b. yow wat -u nga
2sg shave –u 2sg- FIN
"you shaved"

c. Modu da fa wat bop-am
Modu aux 3sg shave self -3sg
"Modu shaved himself"

d. yow da nga wat sa bopa
2sg aux 2sg shave 2sg
"you shaved yourself"

Njie gives a reflexive meaning to the examples in (63) above. In other words, she assumes that *Modu* is at the same time an undergoer and an agent of the action of shaving.

However, such an assumption is too strong in light of the semantic and pragmatic properties associated with the use of *–u.* In both (63)a-b, the emphasis is on the completion of the action and on the action itself; for this reason, the reflexive reading is not always obtained. Instead, an anticausative reading can be obtained because one reading is that *Modu* underwent the shaving process and no information is given about the agent of that action. If we consider a situation where someone says *Modu wat-u na* "Modu shaved" the question one might ask is "*kan moo ko wat?"* (who shaved him?), a question that would have been

irrelevant if *–u* did have a clear reflexive component. So the only relevant reading in this situation is that we are dealing with an undergoer of an action (Kauffman (2007)). However if we know that *Modu* (the subject in (63) a) never goes to the hair salon and usually shaves his hair by himself or he has been seen shaving his hair, the reflexive reading can be pragmatically obtained.

This situation is not only restricted to the verb *wat* "shave" but also to similar verbs whose transitive counterparts require two animate [+human] entities (*létt* "to do hair", *wat* "shave", *sang* " wash", *faj* " heal/ cure") as pointed out by Kauffman.

An important point to distinguish between this suffix *-u* and the one mentioned in the previous subsection relates to the fact that the aforementioned can be used along with an agent-oriented PP.

(64) a. Xadi sang-u na ak saabu
Xadi wash-refl FIN with soap
"Xadi washed herself with soap"

b. Musaa wat-u na ak lañset
Musaa shave-refl FIN with blade
"Musa shaved himself using a blade"

In (64)a-b the fact that the verb can occur with an instrument is evidence that an agent is present in the argument structure of the verb. Similarly an agent-oriented verb can be used in this context as in (65) below.

(65) a. Xadi tey na sang-u ak saabu
Xadi purpose FIN wash-refl with soap
"Xadi washed herself with soap on purpose"

b. Musaa tey na wat-u ak lamest
Musaa purpose FIN shave-refl with blade
"Musa used a blade toshave himself"

This type of ambiguous situations that arises when a suffix like *–u* is used has been related to a middle voice Kemmer (1993), Becher (2002), Kauffman (2007).

Kemmer defines middle forms as a "broad semantic-pragmatic domain that includes not only the traditional voice categories (active and passive) but also the semantic categories of transitive and intransitive events" (1993: 3).

In Wolof, the different interpretations one gets from (63) show that there is an overlap between a reflexive and an anticausative situation. This may suggest that actually we are dealing with middle voice. There is no agreement about the definition of "middle voice". Kemmer conducts a cross-linguistic study of middle constructions and defines various domains that can be associated with the middle voice. Those domains include, but are not limited to, reflexives, passive-like situations, and body parts. All these domains have share the properties that an agent cannot be expressed, what ca lead to ambiguous interpretations. Kaufmann argues that the middle form is used "to mark certain non-canonical semantic properties of the arguments of the verbal stem" (Kaufmann 2006:1678). She further assumes that middle marking is associated with the verb's argument structure. With a transitive verb the patient and the agent are syntactically realized whereas in the middle form only one argument is overtly realized. In this respect the middle morphology participates in detransitivizing the verb.

This process however, may result in ambiguity because unless we rely on pragmatics, it would be difficult to decide what type of argument structure we are dealing with. In Wolof in particular, as shown earlier, the middle marking on the verb is ambiguous between a two-place predicate reading and a one-place predicate reading. By "two-place predicate" reading I

am referring to a reflexive situation where a verb occurs with just one argument that cumulates the role of the patient as well as the role of the agent.

To sum up I argue that in Wolof, whenever a two-place predicates selects for [+animate, +human] for both its subject and its patient, the pragmatic situation would be highly helpful in determining whether we are dealing with a proper anticausative or a reflexive-anticausative.

In the next section I will further discuss some language-specific properties inherent to the verbs that can account for their behavior in the causative/anticausative alternation.

4.2.2 Bare anticausatives

Some anticausatives originate from an intransitive root; this explains why the causative requires a causative suffix to transitivize it.

(66) a. màngo b-i wadd na — anticausative
mango cl-the fall FIN
"The mango has fallen down"

b. Daba wadd -al na mango b-i — causative
Daba fall down caus FIN MANGO cl-the
"Daba made the mango fall down"

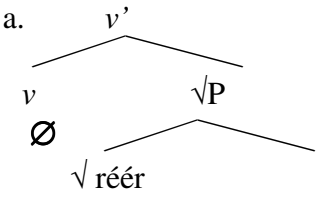
(67) a. galas b-i seeyi na — anticausative
ice cl-the melt FIN
"The ice melted"

b. Daba seeyi-**al** na galas b-i — causative
Daba melt-caus FIN ice cl-the
"Daba has made the ice melt"

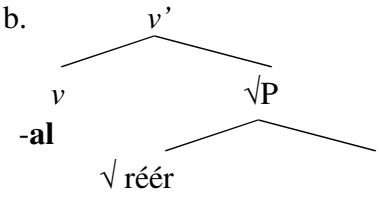
In both (66)a and (67)a the internal argument of the verbs appear in subject. Other verbs that pattern in a similar way include, but are not limited to, *réér* " lose", *tàkk* "light", *nàmp*

"breastfeed". In the intransitive construction, these verbs behave like their English counterparts in that there is no morphological marking on them. These verbs behave like the one represented in (67) above; a similar representation can be used with the verb *réér* "lose".

(68) a.



b.



In (68)a-b, the verb root combines with the functional head to form an anticausative (68)a or (68)b.

Even though this verb is not suffixed with *–u*, it patterns as if it was. For example an agent oriented PP cannot occur with these bare anticausatives as in (69).

(69) a. mango b -i wadd-ø na
mango cl-the fall FIN
"the mango fell"

b. mango b -i wadd-ø na bopp-am
mango cl-the fall- FIN self – 3sg
"the mango fell by itself"

c. mango b -i wadd-ø-al na boppam
mango cl-the fall–caus FIN finger
"the mango fell by itself"

d.* mango b -i wadd-ø- na bopp-am
mango cl-the fall FIN self-3sg
"the mango fell"

(69) a-d show that the verb *wadd* "fall" behaves like the anticausative *tëj-u* "close" which is further evidence that semantically, there are no differences between bare and morphologically marked anticausatives.

5. Verb restrictions

The aim of this section is to discuss language-specific properties that constitute a challenge to any derivational approach to the alternation.

A generalization that has been made regarding the causative/anticausative verbs is that verbs that require agents or instruments as subjects but not "causer" cannot participate in the altenation (L&R-H (1995), Alexiadou et al. (2006)). Folli and Harley define agents as volitional causers, "entities which can produce particular events by themselves" (Folli and Harley 2008:192). To better understand the generalization about the type of transitive verbs that cannot form anticausatives, consider the following:

(70) a. The baker cut the bread — agent subject

b. the knife cut the bread — instrument subject

c. *The lightning cut the clothesline — causer subject

d. *The bread cut — theme subject (anticausative)

In (70)a-b the verb can have either an agent or an instrument as its subject; however it cannot take a causer as it subject ((70)c). This situation explains why the verb cannot form an anticausative as in (70)c. According to L&R-H the ungrammaticality of (70)c is due to the fact that in English "cut" licenses an agent or instrument but not a causer (non volitional agent). This generalization about the alternation seems to work for Wolof as in (71) below with the verb *tabax* "build".

(71) a. Xadi tabax na kër g-i
Xadi build FIN house cl-the
"Xadi built the house"

b. * kër g-i tabax na
house cl-the build FIN
"The house built" (intended)

c. *kër g-i tabax-u na
house cl-the build-refl FIN
"The house built" (intended)

d. * ngelaw l-i tabax na kër g-i
wind cl-the build FIN house cl-the
"the wind built the house"

e. masin b-i d-ey tabax kër
machine cl-the aux- prog
"The machine can build houses"

In (71)a the verb can occur with an agent, *Xadi* but cannot in an intransitive construction as in (71)b-c. In the same way the verb cannot have an natural force as its external argument as shown by the ungrammaticality of (71)d. Nevertheless the same verb can have an instrument as subject ((71)e). In the light of (71)a-e, the generalization described by L&R-H seems to hold for Wolof with an agent-oriented verb (*tabax* "build") which is change-of-state that behaves like the verb "cut" in English. On the other hand, non agent-oriented change-of-state verbs allow natural forces as external arguments and can participate in the alternation.

(72) a. The vandals/the rocks/the storm broke the window causative

b. The window broke anticausative

In (72)a, the verb allows a causer as its subject; indeed all the potential subjects are causers i.e. external forces. For this reason it can form an anticausative ((72)b). The following are Wolof examples similar to the ones in (70) where the verb *dagg* "cut" is used:

(73) a. xale /*paaka b-i dagg na liñ b-i causative
child/* knife cl-the cut FIN clothesline cl-the
"the child/*the knife has cut the clothesline"

b. liñ b-i dagg na anticausative
clothesline cl-the cut FIN
"The clothesline is cut"

c. ngelaw l-i dagg na liñ b-i causative
wind cl- the cut FIN clothesline cl-the
"the wind cut the cothesline"

The examples above show that in Wolof *cut* "dagg" not only licenses an agent (73)a and a causer (73)c but also allows an anticausative derivation (73)b. Consider the following cases in which the same verb restricts the occurrence of a causer as its subject:

(74) a. xale /paaka b-i dagg na baraam-am causative
child/knife cl-the cut FIN finger- 3sg
"The child/knife has cut his/her finger"

b. baaraam-am dagg na anticausative
finger- his/her cut FIN
"his/her finger cut"

c. *ngelaw l-i /*taw b-i/ dagg na baaraam-am causative
wind cl-the/ rain cl-the/ cut FIN finger –3sg
"the wind/the rain cut his/her finger"

A conclusion that can be drawn from (74)c is that in Wolof the ability of the verb "cut" to allow a causer depends on the type of internal argument involved. In (74)c, these types of causers cannot appear in subject position whereas in (73)c they can. In (75) below, the verb "cut" restricts the type of internal argument that can appear in subject position in the anticausative constuction.

(75) a. Daba dagg na yàpp/ mburu/ jën b-i
Daba cut FIN meat/bread/ fish cl-the
"Daba cut the meat/bread/fish"

b. paaka b-i dagg na yàpp/ mburu/ jën b-i causative
knife cl-the cut FIN meat / bread/fish cl-the
"The knife cut the meat/bread/fish"

c.* yàpp/*mburu/* jën b-i dagg na anticausative
meat / bread/ fish cl-the cut FIN
"the meat / bread/fish cut"

d. *ngelaw l-i/*taw b-i dagg na yàpp/mburu/ jën b-i causative
wind cl-the/rain cl-the cut FIN meat/bread/ fish cl-the
"the wind/rain cut the meat/bread/ fish"

In (75)a *dagg* "cut" allows an agent or an instrument but not a causer; in (75) b the internal argument cannot be present in subject position, hence an anticausative construction is not allowed ((75)c).

Haspelmath (1993) points out that there seems to be a universal property regarding the semantics of the verbs that undergo the anticausative/causative alternation. However he mentions that some languages like Slave (Athabaskan) deviate from this universal in that they allow an agent-oriented verb to participate in the alternation as in the following:

Slave (Athabaskan)[12]

(76) a. bé whet'e anticausative[13]
meat be.cooked
"the meat is cooked"

b. bé whe-h-t'e causative
meat be.cooked-caus
"She cooked the meat"

(76)a and b show the alternation of the verb "cook" in an intransitive or transitive use. Haspelmath further mentions that the translation in (76)a is different from the intended

[12] Haspelmath (1993), p 95.

translation as the only way that sentence can be translated in English is through passive. A similar situation has been described with the Wolof verb *dagg* "cut" above.

Another restriction on the anticausative/causative alternation in Wolof is related to body part-related internal arguments (Becher (2002), Nouguier (2002)). With some types of verbs, a causative reading can be constructed with any type of internal argument allowed in the selectional properties of the verb; however in the anticausative construction, only one type of meaning related to one body part is allowed.

(77) a. Daba raxas na bool b-i / oto b-i — causative
Daba wash FIN bowl cl-the/ car cl-the
"Dab has washed the bowl/car"

b. *bool b-i / *oto b-i raxas-u na — anticausative
bool cl-the car cl-the wash-u FIN
"the bowl/the car washed" (intended meaning)

In (77)b an anticausative "interpretation" is not allowed with the types of internal arguments in (77)a. However the alternation is possible in the following:

(78) a. Daba raxas na loxo Faatu — causative
Daba wash FIN hand Faatu
"Daba has washed Faatu's hands"

b. *loxo Faatu raxas-u na — anticausative
hand Faatu wash-refl FIN
"Faatu's hand is washed"

c. Faatu raxas-u na — anticausative
Faatu wash-refl FIN
"Faatu has washed her hands/ *herself"

In (78)a the verb is in a causative construction and its internal argument is *loxo Faatu* "Faatu's hand" but the latter cannot surface as the subject of the anticausative hence (78)b is

[13] Haspelmath uses a different terminology; instead of "anticausative/causative alternation" he uses

ungrammatical. This is due to the fact that the only internal argument allowed in such position has to be the person with that body part. This represents instances of language specific derivation not accounted for by the causative/anticausative alternation. Indeed what is expected is for the internal argument to move from object position to subject position. However in (78) we notice that it is not the case. Instead of *loxo Faatu* "Faatu's hand" moving to subject position, we have only "Faatu" at that position. Folli and Harley (2008) relate these types of restriction to the notion of teleological capability. Folli and Harley discuss this capability with respect to external arguments. They argue that in the case of change-of-state verbs like "break" the physical makeup of the Causers at hand directly determine their felicity in the external argument position (Folli and Harley 2008:195). A similar account could be referred to in dealing with internal arguments in subject position. The concept of teleological capability might be useful in explaining why an entity that is a body-part cannot surface as the subject of an anticausative verb as in (78) above.

Another example of restriction in the subject of anticausatives can be found in (79) below; the internal argument is allowed to move to subject position; however the verb cannot be marked with the suffix *–u*.

(79) a. Awa bënn na mbuus b-i — causative
Awa pierce FIN plastic bag cl-the
"Awa pierced the plastic bag"

b. mbuus b-i bënn na — anticausative
plastic bag cl-the pierce FIN
"the plastic bag is pierced"

c. *mbuus b-i bënn-u na — anticausative
plastic bag cl-the pierce-u FIN
"the plastic bag is/got pierced"

"inchoative/casuative alternation"

In these examples, a causative and an anticausative are allowed as in (79)a-b but the suffix *–u* cannot be present in a anticausative construction as the ungrammaticality of (79)c shows. The verb *bënn* "pierce" behaves like the verb *toj* "break" in that it allows the alternation without any morphological marking. However in the following, overt morphological marking is mandatory because the underlying internal argument"ear" is a part of an animate entity:

(80) a. Ayda bënn na Faatu
Ayda pierce FIN Faatu
"Ayda pierced Faatu's ear(s) "

b. Faatu bënn-u na
Faatu pierce-refl FIN
"Faatu's ear(s) got pierced"

c. *Faatu bënn na
Faatu pierce FIN
"Faatu's ear(s) got pierced"

The examples in (80)a-c shows that in the anticausative of the the verb in some cases has to be morphologically marked with the suffix *–u*; this explains the grammaticality of (80)b and the ungrammaticality of (80)c. Contrary to (79), here the morphological marking has to be present for grammaticality. My assumption is that there is actually one root in the lexicon that gives rise to two different anticausative verbs based on the type of internal arguments involved. If the internal argument can conceptually brings about the change-of-state described by the verb, the verb has to occur with the suffix *–u* as (80)b shows. On the other hand if the internal argument represents an entity that cannot have control of the event the verb cannot be suffixed with *–u* ((79)b).

To conclude, this section has shown that being a change-of-state verb is not the only condition for the causative/anticausative alternation to occur. Indeed, the nature of the verb internal argument will determine its possibility to allow alternation (as with the verbs *dagg* "cut" though it is a change-of –state verb and *bënn* "pierce"*)*. In addition as seen in (78)-(80) above, some alternations are possible only if the action described by the verbs relates to a body part. For this reason I argue in the anticausative construction, some verbs do have an inherent subject that they can occur with.

6. Conclusion

In this thesis I have argued that the causative/anticausative alternation in Wolof can be accounted for by an analysis that focuses on the decomposition of verbs into roots and features. Little *v* does not just add an external argument; in the present analysis it is a verbifier and as such comes with different semantic features. This accounts for some restrictions noted in the causative/anticausative alternation. I have shown that there are four patterns of the causative/anticausative alternation. I have argued that in order to capture the different realizations of anticausatives, one has to look at language-specific factors in order to deal with some selectional restrictions. This explains for instance why some verbs cannot undergo the causative/anticausative alternation in one language and undergo it in another.

Further, I have shown that the verbal suffix *–u* is a very complex suffix. I contend that we are dealing with two homophonous morphemes *-u* with different selectional restrictions. In one of its realizations *–u* triggers an anticausative that is semantically unaccusative and selects for a [-animate] subject. In another realization *–u* overlaps between anticausative and reflexive situations. This challenges the analysis of a unique *–u* as "neutro-passive" Ka (1994), medio-passive Fal (1995), "pronominal voice" (N'diaye (2003)).

Finally in Wolof the condition for the alternation to take place lies on the physical properties of the verb's internal argument. This would explain why some verbs like *tabax* "build" cannot form an anticausative because the action related to it cannot occur from the properties of the entity undergoing the action solely. However there are different ways in which languages vary with respect to the alternation because a given language may conceptualize the meaning of a verb differently from the way another language will do it.

This explains the cross-linguistic differences associated with the anticausative/causative alternation.

This thesis is a contribution to the field of the causative/anticausative in Wolof as, to the best of my knowledge; no prior work has dealt with the causative alternation in Wolof. I hope that this thesis will be a reference source for future research in this field.

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Appendix: List of Verbs

Appendix 1

verb	Translation	type	-u	-al$_{caus}$	-loo
jooy	cry	unergative	-	-	√
julli	pray	unergative	-	-	√
juum	make a mistake	unergative	-	-	√
xëm	faint	unergative	-	-	√
fecc	dance	unergative	-	-	√
tëp	jump	unergative	-	-	√
jóg	get up	unergative	-	√	√-
ree	laugh	unergative	-	-	√
dox	walk	unergative	-	-	√
daw	run	unergative	-	-	√
wóy	sing	unergative	-	-	√
sëqët	cough	unergative	-	-	√
tissóóli	sneeze	unergative	-	-	√
ñëw	come	unergative	-	√	√
fakkastalu	stumble	unergative	-	-	√?
fééyi	swim	unergative	-	-	√
muuñ	smile	unergative	-	-	√
lox	shiver	unergative	-	-	√
taxaw	stand up	unergative	-	-	√
toog	sit	unergative	-	-	√
noppi	keep quiet	unergative	-	-	√
rëcc	escape	unergative	-	-	X
naaw	fly	unergative	-	-	√
tane	get better	unergative	-	-	-

Appendix 2

verb	Translation	type	-u	-al$_{caus}$	-loo
jënd	sell	transitive	-	-	√
jaay	buy	transitive	√	-	√
làq	hide	transitive	√	-	√
laxas	(do a type of hair style)/ envelop	transitive	√	-	√
lonk	hang	transitive	√	-	√
dugg	enter	transitive	-	√	√
ñand	wipe nose	transitive	√	-	√
sëlëm	wash face	transitive	√	-	
bëgg	love	transitive	-	-	?
takk	marry/tie	transitive	√	-	√
fàdd	kill	transitive	-	-	√

faat	kill	transitive	√	-	√
faj	heal	transitive	√	-	√
fal	elect	transitive	√	-	√
defar	repair	transitive	√	-	√
ngemb	wear a traditional outfit	transitive	√	-	√
ñaas	make a gash	transitive	√	-	√
samp	plant/set up	transitive	√	-	√
sang	wash (whole body)	transitive	√	-	√
seppi	take some food out of a cooking broth	transitive	-	-	√
taaj	place something on the floor	transitive	√	-	√
tabax	build	transitive	-	-	√
xañ	prevent from happening	transitive	-	-	√
xëpp	pour in	transitive	√	-	√
tuur	pour	transitive	√	-	√
dàmp	massage	transitive	√	-	√
ubbi	open	transitive	√	-	√
tëj	close	transitive	√	-	√
denc	store	transitive	-	-	√
yee	wake up	transitive	√	-	√ ?
yàq	destroy	transitive	√	-	√
dóór	hit	transitive	-	-	√
yokk	increase	transitive	-	-	√
jur	give birth	transitive	-	-	-
togg	cook	transitive	-	-	√
wàññi	decrease	transitive	√	-	√
jam	tatoo/pierce	transitive	√*	-	√
bënn	pierce	transitive	√*	-	√
raxas	wash (hands)	transitive	√*	-	√
laab	wash (private parts)	transitive	√*	-	√
nëbb	hide	transitive	√	-	√

Appendix 3

verb	**Translation**	**type**	**-u**	**-al$_{caus}$**	**-loo**
jeex	finish	unaccusative	-	√	-
toj	break (into pieces)	unaccusative	-	-	√
lakk	burn	unaccusative	-	-	√
damm	break	unaccusative	-	-	√
dagg	cut	unaccusative	-	-	√
tas	spread out/divorce	unaccusative	-	-	√
fàcc	burst	unaccusative	-	√	-

sax	sprout	unaccusative	-	-	-
walangaan	flow	unaccusative	-	-	-
feeñ	appear	unaccusative	-	√	- ?
nëb	rot	unaccusative	-	√	-
melax	glitter	unaccusative	-	√	-
tàkk	explode	unaccusative	-	√	-
wadd	fall	unaccusative	-	√	-
seeyi	melt	unaccusative	-	√	-
réér	lose	unaccusative	-	√	-
xeeñ	smell	unaccusative	-	√	-
metti	hurt/painful	unaccusative	-	-	-
xew	happen	unaccusative	-	√	-
meññ	sprout	unaccusative	-	-	-
des	remain	unaccusative	-	√	-
door	start	unaccusative	-	√	-
nàcc	bleed	unaccusative	-	√	-
jàll	pass	unaccusative	-	-	√
xasan	itch	unaccusative	-	√	-
màbb	collapse/crash	unaccusative	-	√	√
ñor	ripe/cook	unaccusative	-	√	-
saxaar	smoke	unaccusative	-	√	-
fer	wean	unaccusative	-	√	-
nàmp	breastfeed	unaccusative	-	√	-

Appendix 4

verb	**Translation**	**type**	**-u**	**-al$_{caus}$**	**-loo**
xasaw	stink	stative	-	√	-
wow	dry	stative	-	√	-
ñuul	black	stative	-	√	-
gàtt	short	stative	-	√	-
gudd	long	stative	-	√	-
reew	insolent	stative	-	√	-
baax	nice	stative	-	√	-
rafet	pretty	stative	-	√	-
dof	crazy	stative	-	-	√
mer	mad	stative			
lëndëm	dark	stative	-	√	-

Appendix 5

verb*	**Translation**	**type**	**-u**	**-al$_{caus}$**	**-loo**
rand-u/rand-al	move	-	√	√	√
yëng-u/yëng-al	shake	-	√	√	√
daan-u/daan-al	fall	-	√	√	√
tox-u/tox-al	move	-	√	√	√

***** these verb roots cannot appear without suffixation with either *–u* or *-al*