

Chapter 3 Relatives and Their Kin

3.1 Introduction

This chapter concerns relative clauses. In the discussion of the *u*-construction, it was shown that the *u*-construction basically looked like a relative clause:

- (1) a. **j.u** ñu tóx ? *u*-construction
cl.*u* 3pl smoke
"what (*ji*-class item) did they smoke?"
- b. yàmbaa **j.u** ñu tóx *u*-relative clause
marijuana cl.*u* 3pl smoke
"some marijuana that they smoked"

Wolof also allows other elements in the same position where *-u-* occurs in relative clauses:

- (2) a. yàmbaa **j.i** ñu tóx *i*-relative clause
marijuana cl.*i* 3pl smoke
"the (proximal) marijuana that they smoked"
- b. yàmbaa **j.a** ñu tóx *a*-relative clause
marijuana cl.*a* 3pl smoke
"the (distal) marijuana that they smoked"

I make three main analytical points in this chapter. First, I will argue, that *u/i/a* in (1)b and (2)a-b are agreeing complementizers, not relative pronouns. Second, I show that Wolof provides strong support for a promotion analysis of relative clauses (Vergnaud 1972, Kayne 1994). Third, it will be seen that Wolof provides direct support for the analysis of relative clauses expounded in Kayne 1994, wherein a relative clause is a CP complement to D.

Significant portions of this chapter involve alternations between three elements: *-u-*, *-i-*, and *-a-*. Therefore, it is useful to have an idea of the distributional range of these elements and an understanding of how they can be identified and analyzed. Overall, it

will be shown that *i/a/u* have the distribution of a D^0 in DPs and that of a C^0 in CPs.

Consider first that each of *u/i/a* appears in DPs and CPs:

- | | |
|---|--------------|
| (3) a. u.m picc
u.cl bird
“a bird” | <i>u</i> -DP |
| b. k.u dem
cl.u go
“who went?” | <i>u</i> -CP |
| c. xac b.a
dog cl.a
“the dog there” | <i>a</i> -DP |
| d. bëgg-na-ñu [a dem]
want- <i>na</i> -3pl <i>a</i> leave
“they want to leave” | <i>a</i> -CP |
| e. xaj b.i
dog cl.i
“the dog” | <i>i</i> -DP |
| f. l.i mu lekk gato bi
cl.i 3sg eat cake the
“(the fact) that he ate the cake” | <i>i</i> -CP |

Both *-u-* and *-a-* show up in several other contexts in Wolof, aside from the two given in

(3)a-d. Consider first *-u-* :

- | | |
|---|--------------------|
| (4) a. xale b-u -ma gis
child cl- <i>u</i> -1sg see
“a child that I saw” | Relative Clause |
| b. xac- u Bintë
dog- <i>u</i> binta
“a dog of Binta’s” | Genitive DP |
| c. xac b-oo- b-u
dog cl-dem-cl- <i>u</i>
“aforementioned dog” | Demonstrative |
| d. b-u ma dem-ee, di-na-a gis Isaa
cl- <i>u</i> 1sg go-perf di- <i>na</i> -1sg see isaa
“if I go, I’ll see Isaa” | Conditional Clause |

The contexts where *-a-* appears overlap to a significant extent with the environments where *-u-* appears:¹

- | | |
|--|-----------------|
| (5) a. xale b- a -ma gis
child cl- <i>a</i> -1sg see
“the child (distal) that I saw” | Relative Clause |
| b. bëgg-na-a-léén- ë jënd
want- <i>na</i> -1sg-3pl- <i>a</i> buy
“I want to buy them” | Complementizer |
| c. a -ka dof!
<i>a</i> -emp crazy
“how crazy!” | Exclamative |
| d. xac b-oo-b- a
dog cl-dem-cl- <i>a</i>
“said dog (distal)” | Demonstrative |

Given the translations, the question immediately arises as to how we know that the *u*'s and *a*'s in (3)-(5) are the same items in different morphosyntactic contexts or whether

¹ *-u-* and *-a-* are also found in the progressive (often called “presentative”) construction.

- (i) xac b-àng-**u**-y lekk *u*-Progressive
dog cl-def+prog-*u*-di eat
“the dog (somewhere) is eating”
- (ii) xac b-àng-**a**-y lekk *a*-Progressive
dog cl-def+prog-*a*-di eat
“the dog (over there) is eating”

In addition, *-a-* is also found in certain types of verbal reduplication constructions:

- (iii) dóór-na-a-kó-**ó** dóór Intensive Doubling
hit-*na*-1sg-3sg-*a* hit
“I really hit him”
- (iv) di-na-a-ko dóór-**ë**-dóór Intensive Doubling
di-*na*-1sg-3sg hit-*a*-hit
“I will really hit him”

Note that (iii) is not a cognate object construction because, among other reasons, the second instance of *dóór* is not obligatory, nor will its presence save the structure if a suitable direct object is not present. I will not discuss these constructions here, but include them for the sake of completeness. I note only that the progressive forms are plausibly biclausal and that the fact that *-a-* appears in the intensive doubling construction is plausibly related to the appearance of *-a-* in restructuring contexts:

- (v) da-ma-**ko** jéém-**ë** dóór Restructuring
do-1sg-3sg try-*a* hit
“try to hit him is what I did”
- (vi) da-ma-**ko** jéém-**ë**-jéém-**ë** dóór Restructuring + Intensive Doubling
do-1sg-3sg try-*a*-try-*a* hit
“really try to hit him is what I did”

they are distinct, but accidentally homophonous units. In this chapter, I provide evidence that the complementizers and determiners in some of these constructions are identical. Specifically, I will concentrate on relative clauses, attributive adjectives, and temporal/conditional clauses. As always, identity will be established by similarity of form and distributional criteria such as position, obligatory co-occurrence (i.e. selectional properties), complementary distribution, interpretation, etc. That is, when syntactic and distributional similarities are found across clause/construction types that share identical morphological elements, I will assume that it is these elements that are the source of the homologies. Broadly speaking, the distribution of *u/i/a* will be seen to be remarkably uniform, suggesting that the *-u-*'s, *-i-*'s, and *-a-*'s in various contexts do not result from accidental homophony. Instead, they are the same building blocks, combined with other elements in the tree. As a whole, these forms are morphologically and syntactically complex, making them quite challenging from an analytical perspective. In analyzing these constructions, the approach will be similar to that taken by Haegeman 1992 with respect to variation in the complementizer system of Dutch dialects. Haegeman notes that in West Flemish the complementizer *da* 'that' introduces –WH embedded clauses, but also occurs with +WH embedded clauses (the following adapted from Haegeman 1992):

- (6) *kweten nie of da Valère gisteren dienen boek gelezen eet* West Flemish^{2,3}
 I.know not whether that Valere yesterday that book read has
 "I don't know whether Valere read that book yesterday"

It is natural to assume that the *da*'s that appear in both clause types are the same, even though one clause is declarative and the other interrogative. In the former case, *da* combines with C-field elements and yields a declarative clause. But, *da* also merges in a

² From Chapter 2, number 2b.

³ Similar phenomena are reported for Quebec French, colloquial Copenhagen Danish, and Icelandic (Burchert 1993, Vikner 1995).

C-field with *of* ‘if’, and yields an interrogative CP. It is, of course, an interesting problem to understand what the semantics of *da* is which can give this result. Nevertheless, it appears that there is a declarative complementizer in the C-domain of an interrogative clause. In terms of interpretation, a similar set of complex data can be seen in the following:

(7) *dat is niet zo gek als of dat hij gedacht had* (from Hoekstra 1993)⁴
 that is not so strange C₁ C₂ C₃ he thought had

The embedded clause in (7) is introduced by three complementizers. Interestingly, *als* is the complementizer found in comparative contexts, *of* is the complementizer that occurs in wh-contexts, and *dat* is the complementizer that occurs in declarative contexts.

A related type of problem occurs in Irish, as discussed in McCloskey 2001. He notes that the complementizer represented as “*aL*” occurs in all finite constructions that display the properties of Wh movement, such as relative clauses, constituent questions, comparatives, clefts, etc. However, *aL* also appears in clauses which do not obviously involve Wh movement:

(8) a. *Is amhlaidh a bhí neart céad fear ann* (= (15)a, McCloskey 2001)
 cop.pres so aL was strength hundred man in-him
 “It is a fact that he had the strength of a hundred men”
 b. *Is minic a dúirt sí go...* (= (15)b, McCloskey 2001)
 cop[pres] often aL said she C
 “She often said that ...”

We will see that analogous problems and phenomena arise in Wolof as we look across construction types. That is, in some constructions, a complementizer will be in complementary distribution with certain elements. However, in another construction, that selfsame complementizer *will* be able to co-occur with that element. A

⁴ Hoekstra says that cases like (7), his 2a, are marginally acceptable in Standard Dutch, but are found in some dialects like Frisian Dutch. Hoekstra provides evidence that the *als of dat* string is not analyzable as a single complementizer.

complementizer will appear in one structure involving A' extraction, but not in another, or under very strict morphosyntactic configurations. Our purpose will be to extract the basic generalizations, and see how the distribution of *u/i/a* are related across construction types (although some difficult problems remain for future research).

I will pursue a raising/promotion analysis of Wolof relative clauses (Vergnaud 1975, Kayne 1994). One advantage of this is that a raising analysis makes Wolof relative clauses basically identical to the *u*-construction. Recall that I argued for movement of a silent *wh*-word into the left periphery to SpecCP, where $C^0 = -u-$. The silent *wh* triggered class agreement on *-u-*. In addition, as will be shown, other properties of both these constructions suggest that they are in fact one and the same. Beyond this, I will argue that attributive adjectives and temporal/conditional clauses are derived by raising of a constituent containing the head noun (Vergnaud 1974, Kayne 1994) from inside of a FinP/TP-like domain into a C-domain. What this means is that the *u*-construction, relative clauses, and possessive constructions are of the same basic kind.

The chapter is organized as follows. 3.2 presents the basics of the Wolof determiner system. This is necessary because the “relative markers” that introduce relative clauses are often homophonous with determiners and agree with them. 3.3 describes Wolof relative clauses. The analytical sections begin in 3.4, in which I argue that the relative markers are agreeing complementizers, not relative pronouns. 3.5 discusses the distribution of tense in relative clauses and presents further support for the analysis of the relative markers as complementizers. 3.6 presents arguments that Wolof relative clauses are derived by promotion of the relativized nominal. In 3.7, I argue that Wolof relative clauses involve CP raising to SpecDP, using the distribution of adverbials and *wh*-words. 3.8 provides a description and analysis of attributive adjectives in Wolof, which are relative clauses. 3.9 discusses some remaining problems and puzzles. Appendix 1

contains a description and rough analysis of temporal and conditional clauses.

Appendices 2-4 describe and discuss the perfective suffix found in temporal/conditional clauses, “before” clauses, and other types of relative markers.

3.2 Wolof Determiners: a First Pass

In this chapter, some familiarity with the determiners of Wolof will be necessary. The determiner system of Wolof (including demonstratives) is essentially characterizable by a three vowel alternation: *i~a~u*, each alternant corresponding to different interpretations generally associated with determiners:

(9) xac b-**i** i-determiner
dog cl-*i*
“the dog mentioned recently”
“the dog that is close”
“the dog that has existed recently”

(10) xac b-**a** a-determiner
dog cl-*a*
“the dog mentioned a while ago”
“the dog that is far”
“the dog that existed long ago”

As the translations indicate, the interpretive difference between the determiners corresponds to spacial, temporal proximity, or conversational salience. Wolof also has a determiner form, *cl-u*:

(11) xac b-**u** u-Determiner
dog cl-*u*
“the dog mentioned at some point”
“the dog at some distance”
“the dog that has existed at some point”

The determiner form in (11), *b-u* is rare and not accepted by all speakers.⁵

⁵ Interestingly, speakers who do not accept *N cl-u* alone do accept *N cl-u TP* and *N cl-u Possessor*. That is, they allow *N cl-u* in relative clauses (both regular and possessive). This is strongly reminiscent of the distribution of postnominal genitives in English, where the definite is impossible, unless accompanied by a relative clause modifier. Contrast “a book of John’s” versus “the book of John’s *(that you gave me)”. See Kayne 1994 for discussion.

Significantly, (11) simply does not specify the spacial, temporal, or conversational proximity of the noun (cf. Seck 1997), just some indefinite “location”. In a nutshell, *-i-* is definite/specific and proximal, *-a-* is definite/specific and distal, and *-u-* is unspecified. That *-u-* as a definite determiner is unspecified is important because *-u-* and *-a-* are variants of the indefinite determiner (At this point it is unclear if there are any interpretive differences between the two variants.):

- (12) a. **u**-m picc b. **a**-m picc⁶
 u-cl bird *a*-cl bird
 “a bird” “a bird”

A first glance, the fact that *-u-* and *-a-* are found in both definite and indefinite determiners suggests that we are actually dealing with two pairs of homophonous determiners. However, it will be seen that across construction types *-u-* and *-a-* are strongly analogous, suggesting the opposite conclusion: namely, that these are the same elements, which can be embedded in distinct peripheries, thereby yielding overlapping sets of morphosyntactic properties. For example, in (11), while the noun is “definite” in having already been introduced into the discourse, it is still not completely specified. Note that it is not referential uniqueness that determines definiteness:

- (13) di-na-a bëgg doom j-**u**-mu-y jëkk-ë am
 di-na-1sg love child cl-*u*-3sg-*di* be.first-*a* have
 “I will love the first child that she has”

The first child is a unique referent, and in English, this (superlative) takes a definite article (***a** first child that she has). Yet, in Wolof, we see that this can take the “indefinite” *-u-*.⁷

⁶ Bare nouns may also be used as indefinites, typically generics.

⁷ There is some dialectal variation concerning the meanings of the determiner vowels. Pichl 1972 reports that *-ë/a* is indefinite for location, *-i* is for proximate definite location, and the *à/u* is for distal. Unfortunately, Pichl does not say which dialect he worked with.

Along these same lines, consider the “definite” determiner:⁸

- (14) a. Isaa ak Bintë dóór-ně-ñu xale **b-i** Definite Article
 isaa and binta hit-*na*-3pl child cl-def
 “Isaa and Binta hit the child”
- b. Isaa ak Bintë dóór-ně-ñu **b-enn** xale Numeral
 isaa and binta hit-*na*-3pl cl-1 child
 “Isaa and Binta hit one child”
 “Isaa and Binta hit a child”
- c. Isaa ak Bintë dóór-ně-ñu **b-enn** xale **b-i** Numeral and Definite Article
 isaa and binta hit-*na*-3pl cl-1 child cl-def
 “Isaa and Binta hit one of the two children”

The example in (14)a shows that the definite article plus a noun yields a definite interpretation, as expected. In (14)b, the noun *xale* ‘child’ is preceded by the numeral ‘1’. This gives either a numeral or indefinite interpretation of the DP. (14)c shows that the numeral can co-occur in a DP with the class-agreeing definite article, *b-i*. As discussed in Chapter 1, the *bi*-class is a *singular* noun class. Thus, *xale* ‘child’ in both (14)b and c is singular, given that the numeral and determiner are both in the *bi*-class. Although the definite article is present, the noun *xale* is *not* interpreted as definite, as the translation indicates.

⁸ Pichl 1972 notes that very rarely, one finds:

- (i) **a-g** pal-am **g-i**
 indef-cl calabash-3sg cl-def
 “one of his calabashes”

In the example above (adapted from Pichl 1972, the glossing is mine), what looks like the prenominal indefinite article occurs with the postnominal definite determiner and yields a partitive interpretation. No speakers that I have worked with use this construction.

Instead, there is a definite group of two children and Isaa and Binta hit one of them, i.e. this is some type of partitive.⁹

The definite determiner can also be used in vocatives, pronouns, and with proper names:

- (15) a. *jàŋq bi, kaay!*
 woman the come.imper.
 “young lady, come here!”
 (lit. “the young lady, come here!”)
- b. *yow mi, kaay!*
 you_{ind} the, come.imper.
 “you, yes you, come here!”
- c. *%gis-na-a Isaa mi*¹⁰
 see-na-1sg isaa the
 “I saw the Isaa”

Whatever the combinatorial semantics of the Wolof determiners is, it is far from obvious. At the same time, it is clear that a full description and analysis of the syntax and semantics of these determiners is beyond the scope of this thesis. It is enough that, overall, *-i-* and *-a-* correlate with definiteness and deixis, while *-u-* correlates with lack of specificity or indefiniteness. I will therefore take this as the basic descriptive generalization throughout:

⁹ Perhaps the correct analogy to draw is to the indefinite use of English *this/these*:

- (i) I met *this* guy at the party
 (ii) I met *a/some* guy at the party

In (i), it is seen that the presence of the demonstrative, otherwise definite and specific, correlates with a specific indefinite interpretation. This can be seen from the paraphrase in (ii) with *a* and *some*, which seem to be roughly equivalent. At the same time, the distal demonstrative does not have this meaning:

- (iii) i met *that* guy at the party ≠ I met *a/some* guy at the party

With the distal demonstrative, there is no indefinite reading, only the definite specific one, unless it is modified by a relative clause:

- (iv) I met *that* guy [you like] at the party

In (iv), *that* *guy* has a specific indefinite reading. In other words, some of the demonstratives overlap with indefinites while others do not.

¹⁰ Some speakers use only the demonstrative form *m.ii* (i.e. *isaa m-ii* “this isaa”) here.

(16)

Basic Determiner Meanings

	<i>-i-</i>	<i>-a-</i>	<i>-u-</i>
Definiteness	definite	definite	indefinite
Specificity	specific	specific	specific/ non-specific
Deixis	proximal	distal	unspecified

3.3 Relative Clauses

The determiner vowels *i/a/u* occur, as noted, in the left periphery of relative clauses.

- (17) a. **(u.b)** xale b.u [TP ma gis] *u*-relative clause
u.cl child *cl-u* 1sg see
 “a child that I saw”
- b. xale b.i [TP ma gis] **(b-i)** *i*-relative clause
 child *cl.i* 1sg see *cl-i*
 “the (proximal) child that I saw”
- c. xale b.a [TP ma gis] **(b-a)** *a*-relative clause
 child *cl.a* 1sg see *cl-a*
 “the (distal) child that I saw”

I will refer to the underlined strings in (17) (*b.u*, *b.i*, and *b.a*) as the “relative markers”.

As the translations indicate, the presence of *-u-*, *-i-*, or *-a-* correlates with different interpretations of the DP. As can be seen, when *-u-* is present, the head of the relative clause is interpreted as indefinite ((17)a). As (17)b shows, when *-i-* is present in the relative marker, the head of the relative clause is definite/specific and proximal.

Similarly, when the relative marker contains *-a-*, as in (17)c, the head of the relative clause is definite/specific and distal. Interpretively, the vowels that occur in the relative markers correspond very closely to the determiner vowels.¹¹ Note that in (17) the initial indefinite and final definite articles are optional.

¹¹ A relative maker can contain only one vowel.

Unlike English, the relative markers in Wolof cannot be dropped:

- (18) [DP ñéy [CP*(w.ó) ó jënd]] feebar-na
 elephant cl.u 2sg buy sick-na
 “an elephant you bought is sick”

All of the canonical relativizations are permitted in Wolof and there are no Accessibility Hierarchy effects (Keenan and Comrie 1977):

- (19) a. xale yi jox-na-ñu jigéen ji tééré bi ca lekkool bi
 child the.pl give-na-3pl woman the book the P school the
 “the children gave the woman the book at school”
- b. xale y.i jox jigéen ji tééré bi ca lekkool bi subject relative
 child cl.i give woman the book the P school the
 “the children that gave Binta the book at school”
- c. jigéen j.i xale yi jox tééré bi ca lekkool bi IO relative
 woman cl.i child the.pl give book the P school the
 “the woman that the children gave the book to at school”
- d. tééré b.i xale yi jox jigéen ji ca lekkool bi DO relative
 book cl.i child the.pl give woman the P school the
 “the book that the children gave to the woman at school”
- e. lekkool b.i xale yi jox-e jigéen ji tééré bi adjunct relative
 school cl.i child the.pl give-loc woman the book the
 “the school where the children gave the woman the book”
- f. ubbi-na-a bunt bi ak caabi ji
 open-na-1sg door the with key the
 “I opened the door with the key”
- g. caabi j.i ma ubbe-e bunt bi instrumental relative
 key cl.i 1sg open-instr door the
 “the key that I opened the door with”
- h. n.i mu ubbé-é bunt bi manner relative¹²
 cl.i 3sg open-mann door the
 “the way he opened the door”

¹² For what are translated as manner relatives into English, Wolof often uses a deverbal noun:

- (i) wax 'speak, say'
- (ii) wax-in 'way of speaking'
- (iii) ubbi 'open'
- (iv) ubbi-n 'way of opening'
- (v) ubbi-n-am bunt bi 'his way of opening the door'

In the cases above, the relativized item corresponds to a gap inside of the relative clause. In the simple case, relativized items cannot occur with resumptive elements such as clitics. Note also that what corresponds to a stranded preposition in English ((19)g) does not do so in Wolof, but locatives and instrumentals trigger applied morphology on the verb.

Subject and non-subject clitics immediately follow the relative markers, in accordance with their clause type (See 1.6.7. *Clause Types and Verb Movement*):

- (20) a. caabi j.i ma la leen fa ubb-ee-l-ul wóón démb (ji)
 key cl.i 1sg 2sg 3pl loc open-instr-ben-neg past yesterday the
 “the key that I didn't open them with there for you yesterday”
- b. caabi j.i ma fa xale yi ubb-ee-l bunt bi démb (ji)
 key cl.i 1sg loc child the.pl open-instr-ben door the yesterday the
 “the key that children opened the door with there for me yesterday”

Example (20)a shows that the verb in a relative clause can occur with tense and negation.

In addition, (20)b shows that the clitic string, *ma fa*, precedes the DP subject, *xale yi*.

There are two different sets of subject markers that occur in relative clauses, the distinction being visible in the 2nd person forms. One set appears in relative clauses with *-u-* in the left periphery. The other set occurs when *-i-* or *-a-* occurs in the left periphery:

- (21) a. jigéen j.ë **ngë** d-oon xool -a- relative clause¹³
 woman cl.a 2sg di-past look.at
 “the (distal) woman that you were looking at”
- b. jigéen j.i **ngéen** d-oon xool -i- relative clause
 woman cl.i 2pl di-past look.at
 “the woman that you were looking at”

¹³ Relative clauses headed by temporal nouns pattern with lexical relative clauses for subject agreement. See Appendix 1 *Temporal and Conditional Clauses* for discussion.

c. jígéén j.u a d-oon xool -u- relative clause
 woman cl.u 2 di-past look.at
 "a/some woman that you were looking at"

d. jígéén ñ.u a-léén d-oon xool -u- relative clause
 woman cl.u 2-pl di-past look.at
 "some/whichever women yall were looking at"

These data are summarized below:

(22)

Relative Clause Subject Markers

	<i>u</i>	<i>i/a</i>
1sg	ma	ma
2sg	a	nga
3sg	mu	mu
1pl	nu	nu
2pl	a leen/ngeen	ngeen
3pl	ñu	ñu

Relative clauses only occur with "relative" TPs. Thus, *na*-CPs, for example, cannot occur in relative clauses:

(23) *tééré b.i xale yi jënd-**na**-ñu-(ko) démb
 book cl.i child the.pl buy-*na*-3pl-3sg yesterday
 "the book that the children bought yesterday"

Recall that *na* is a C^0 . It is important to note that this restriction only holds of the *highest* CP, as expected:¹⁴

(24) a. tééré b.i xale yi foog ne [_{CP} jënd-**na**-ñu-*(kó) démb¹⁵] embedded *na*-CP
 book cl.i child the.pl think *ne* buy-*na*-3pl-3sg yesterday
 "the book that the think that I bought it yesterday"

¹⁴ Relative clauses, certainly in written texts, are often biclausal:

(i) xale y.i nga xam ne [_{CP} ða-ñu lekk gato bi]
 child cl.i 2sg know *ne* do-3pl eat cake the
 "the children who ATE the cake"
 (lit. "the children who you know that they ATE the cake")

In (i), the most embedded CP is a verb cleft. The underlined higher clause, *nga xam ne* is a rather grammaticalized expression whose function is not clear. This can be seen from the fact that although the subject marker is second person singular, it can be used when talking to multiple people, for example.

¹⁵ The resumptive pronoun *kó* is necessary because this is extraction from a *na*-clause.

- b.tééré bi **l-a-a** jënd cleft
 book the xpl-*a*-1sg buy
 "it's the book that I bought"
 *"the book that I bought"
- c.tééré b.i xale yi foog ne [CP **l-a-a** jënd] embedded cleft
 book cl.*i* child the.pl think *ne* xpl-*a*-1sg buy
 "the book that the children think I bought"

At first glance, the relative markers may be taken to be relative pronouns. However, I will argue that the relative markers, just as the *u*-forms in the preceding chapter, are agreeing complementizers, akin to *que/qui* found in French relative clauses (Kayne 1975). Putting this together yields the following by now familiar template for relative DPs:

- (25) a. NP cl.*i/a* Clt_S-Clt_O-Cl_{Loc} S_{DP} V O (det) definite relative
 b.(det) NP cl.*u* Clt_S-Clt_O-Cl_{Loc} S_{DP} V O indefinite relative

As noted, while it is possible for the article, definite or indefinite, to co-occur with the relative marker, it is not necessary. The interpretation of the definiteness/deixis of the relative clause head correlates with the relative marker itself:

- (26) a.xale **b.u** leen gis
 child cl.*u* 2/3pl see
 "a child that saw them/yall"
 *"the child that saw them/yall"
- b.xale **b.i** leen gis
 child cl.*i* 2/3pl see
 "the proximal child that saw them/yall"
 *"a proximal child that saw them/yall"
- c.xale **b.a** leen gis
 child cl.*a* 2/3pl see
 "the distal child that saw them/yall"
 *"a distal child that saw them/yall"

As the translations indicate, if the relative marker is *cl-u*, then the head of the relative clause is interpreted as indefinite and unspecified for location, while if the relative marker is *cl-i/a*, the head of the relative clause is interpreted as definite. Further, if the relative

marker is *-i-*, the head noun is interpreted as proximal, while if the relative marker is *-a-*, the head noun is interpreted as distal. In other words, the interpretation of the vowel alternations in the relative markers corresponds to the interpretation of the determiner (vowels).

The determiners, when they occur, obligatorily show class agreement with the head noun, even though the noun it may be quite distant:

- (27) xaj **b.i** nga foog ne [cleft-CP l-a xale yi sàcc] **b.i**¹⁶
 dog cl.i 2sg think that xpl-a child the.pl steal cl.def
 "the dog that you think that the children stole"

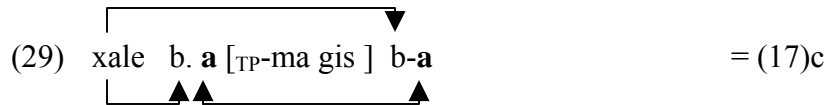
By looking at all three of the relative clauses in (17), it can be seen that there is a dependency between the *u/i/a* that appear in the relative markers and the optional determiners which may accompany a relative clause. If the determiner vowel of the relative marker is *-u-*, then the relative clause cannot co-occur with the definite determiners *cl.i* or *cl.a*. Similarly, if the vowel in the relative marker is *-i-* or *-a-*, the relative clause cannot co-occur with the indefinite determiner.

- (28) a. xale b.u ma gis (%b-i)¹⁷ (See (17)b)
 child cl.u 1sg see cl-i
 "a child that I saw, any/whatever child that I saw"
- b. *(u.j) jigéén j.i léén-fě jox a.y tééré (See (17)a)
 u-cl woman cl.i 3pl-loc give a.cl book
 "a certain woman who gave them some books there"
- c. *xale b.a ma gis (*b-i)
 child cl-a 1sg see cl-i
 "the child that I saw"

¹⁶ Multiple embeddings like (27), with the right peripheral determiner, seem to be most natural when clefted or topics.

¹⁷ See Appendix 4 *Relative Markers* for dialectal variation.

Thus, the relative markers and determiners agree in definiteness/deixis. In sum, there are three agreement dependencies that occur: between the head noun and the two class agreement markers, and between the complementizer (-u/i/a-) of the relative marker and the determiner vowel of the optional determiner:

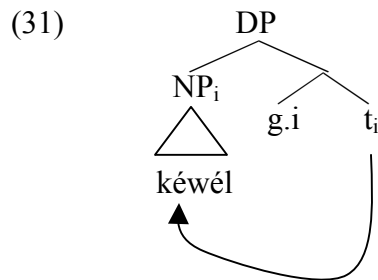


These dependencies fall out naturally from Vergnaud's (1974) and Kayne's (1994) promotion analysis of relative clauses, whereby the head noun originates inside of the CP and raises to the specifier of DP. Wolof shows this overtly because the noun immediately precedes the C^0 , u/i/a. As the u/i/a is the head of CP, the noun in its specifier triggers agreement (and correlates with the definiteness).

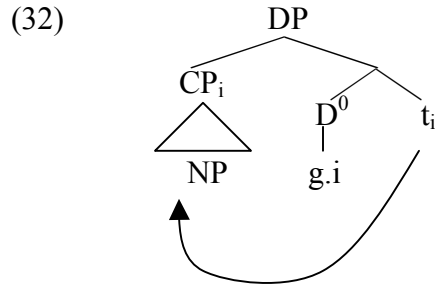
That Wolof definite determiners are postnominal and agree with the NP is instructive:

- (30) kéwél g.i
 gazelle cl.def
 "the gazelle"

This is because they show that the NP has undergone raising to SpecDP:



The fact that the definite determiner follows the entire relative clause therefore follows from the entire relative clause complex raising, along with NP to SpecDP (more about which later, in 3.6 *Raising Properties of Wolof Relative Clauses*):



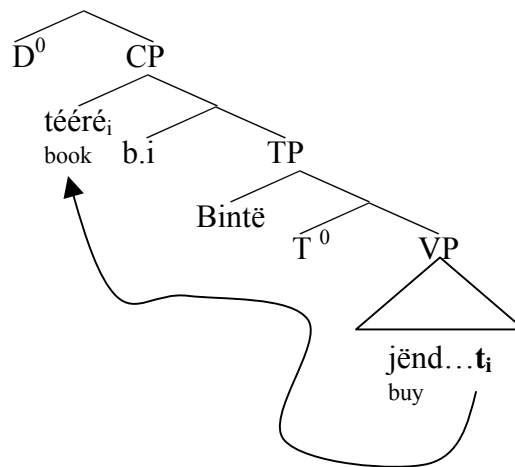
3.4 Status of the Relative Markers

In this section, we concentrate on the relative markers. I will argue that they are agreeing complementizers rather than relative pronouns. Similar to the *u*-construction, I will argue that relative clauses are derived by movement of an NP from inside of TP to SpecCP, where it triggers agreement on C^0 . This CP is the complement of a D (Kayne 1994).

Thus, (33)a will be analyzed as in (33)b:

- (33) a. tééré b.i Bintë jënd
 book cl.i binta buy
 "the book that Binta bought"

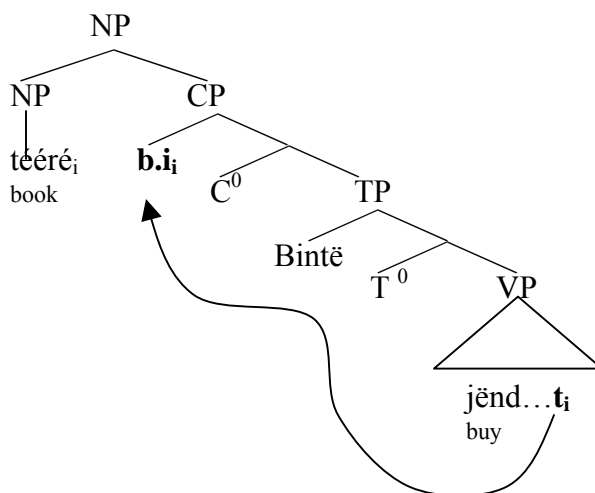
b. Promotion analysis



In arguing for the promotion analysis in (33)b, I will argue against two analyses which have been offered for relative clauses in other languages (Chomsky 1976). The first of

these is a "relative pronoun" analysis. This is essentially the analysis for English wh-relatives:

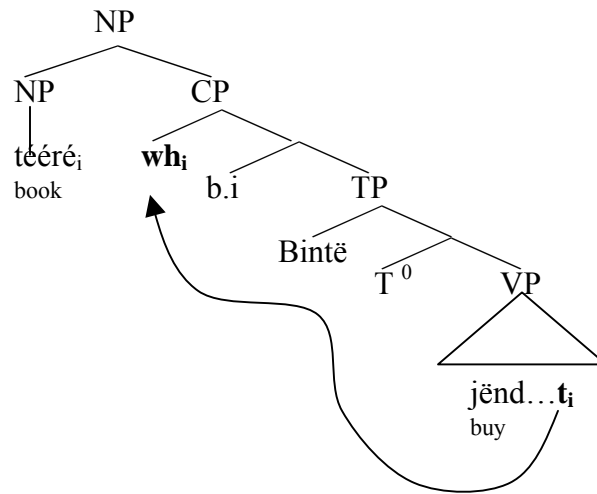
(34) Relative Pronoun Analysis



Under the relative pronoun analysis, the relative marker, *b.i*, is merged in the object argument position inside of TP. It then raises to SpecCP, where C⁰ is silent. The CP is an adjunct to NP. The head of NP, *tééré*, is base generated and coindexed with the relative pronoun. This analysis predicts that the head of the relative clause will display no reconstruction effects. This is because the head is not inside of the relative clause at any point in the derivation. In addition, this analysis predicts that movement constraints should be observable since the relative pronoun moves from its base position inside of TP to SpecCP.

A second analysis, one which I will argue against, the "null-wh analysis", is the Wolof equivalent of the operator analysis given for English *that*-relatives:

(35) Null-wh Analysis



Under the null wh-analysis, Wolof relative clauses are derived by wh-movement of a wh-operator, wh_i , to SpecCP. As in the relative pronoun analysis, the head of the relative clause, *tééré* in (35), is base generated and coindexed with the wh-operator. This is like the standard analysis of *that*-relatives in English in that the category that raises to SpecCP is silent, while the complementizer is overt. The null wh analysis is especially appealing since it has been shown in Chapter 2 that Wolof has a set of silent wh-words. As in the derivation of the *u*-construction, it is the silent wh that triggers agreement on C^0 . Like both the promotion analysis and the relative pronoun analysis, the null wh-analysis predicts movement sensitivity. In addition, like the promotion analysis, the wh-analysis takes the relative marker to be complementizer. However, the null wh-analysis has in common with the relative pronoun analysis the idea that the head of the relative clause is base generated outside of the clause. Therefore, it does not predict reconstruction effects.

(36) The Thee Analyses

Promotion	Relative Pronoun	Null-wh	
yes	no	no	head NP raises
yes	no	yes	$u/i/a = C^0$
no	yes	no	$u/i/a = wh-DP$
yes	no	no	reconstruction

The first indication that the relative markers are C⁰s comes from the fact that one of them is *-u-*, which is analyzed in the *u*-construction as a complementizer. The *-u-* in both constructions also agrees with the DP in its specifier.

There are three sets of observations that strongly suggest that the relative markers are complementizers. The first data that can help to distinguish the three competing analyses is similar to that what was seen with the *u*-construction; specifically, iteration of the relative markers:

- (37) a. ?tééré **b.i** nga wax [CP **b.i** xale yi sàcc]¹⁸
 book cl.i 2sg say cl.i child the.pl steal
 "the book that you said the children stole"
- b. ?tééré **b.a** nga wax [CP **b.a** xale yi sàcc]
 book cl.a 2sg say cl.a child the.pl steal
 "the (distal) book that you said the children stole"
- c. ?tééré **b.u** a wax [CP **b.u** xale yi sàcc]
 book cl.u 2sg say cl.u child the.pl steal
 "a book that you said that the children stole"

The fact that *u/i/a* can have multiple occurrences immediately suggests that we are dealing with a complementizer because these are expected to be iterable. This is simply because if the relative markers are relative pronouns merged as arguments inside of TP, their iterability is completely unexpected. Thus, the relative pronoun analysis seems to rest on very shaky ground from the start. As with the *u*-construction, the *u/i/a* appear on

¹⁸ The examples in (37) are grammatical, but slightly odd. The most natural way to do relativization from an embedded clause is to use a non-subject cleft:

- (i) tééré **b.i** nga wax [CP **l-a** xale yi sàcc] (bi)
 book cl.i 2sg say xpl-a child the.pl steal the
 "the book that you said that the children stole"
- (ii) tééré **b.a** nga wax [CP **l-a** xale yi sàcc] (ba)
 book cl.a 2sg say xpl-a child the.pl steal the.distal
 "the (distal) book that you said that the children stole"
- (iii) (ab) tééré **b.u** a wax [CP **l-a** xale yi sàcc]
 a book cl.u 2sg say xpl-a child the.pl steal
 "a book that you said that the children stole"

Note that the optional definite determiner still appears on the far right edge of DP.

the left edge of the clause, where complementizers occur in the language. The agreement facts fall out from successive cyclic movement of the NP through the intermediate SpecCP positions, as in the *u*-construction.

The second set of observations concern predicate selection (Bresnan 1974). I have not done a systematic study of complementation types in Wolof, however there are some cases where it can be shown that a higher predicate selects for *u/i/a*.

- (38) a. *réccu-na-a* **l.i** Isaa dàq xale yi ✓*réccu + i*
 regret-*na*-1sg cl.*i* isaa chase child the.pl
 "I regret that Isaa chased the children"
- b. *réccu-na-a* **l.a** Isaa dàq-oon xale yi ✓*réccu + a*
 regret-*na*-1sg cl.*a* isaa chase-past child the.pl
 "I regret that Isaa chased the children"
- c. **réccu-na-a* **l.u** Isaa dàq xale yi **réccu + u*
 regret-*na*-1sg cl.*u* isaa chase child the.pl
- d. **réccu-na-a* Isaa **réccu + DP*
 regret-*na*-1sg isaa
 "I regret Isaa"

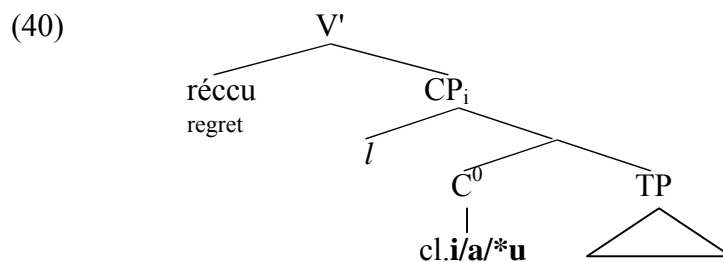
In (38) and in (39) below, *l-* in *l.i*, *l.a*, *l.u*, is an expletive (see Chapter 4 *Clefts*). In (38), the predicate, *réccu* 'regret', is factive and s-selects for a propositional complement, not a DP. It can be seen that *réccu* can select for a CP headed by *i/a*, the "definite" vowels, but not by *-u-*, the "indefinite/unspecified" vowel.¹⁹

- (39) a. *gëm-na-a* Isaa *gëm + DP*
 believe-*na*-1sg isaa
 "I believe Isaa" (i.e. I believe what Isaa says)
- b. *gëm-na-a* **ne** Isaa dàq-na xale yi *gëm + ne*
 believe-*na*-1sg *ne* isaa chase-*na* child the.pl
 "I believe that Isaa chased the children"

¹⁹ In languages like Greek and Spanish, factive complements can or must occur with the definite determiner (Roussou 1999).

- c. *gëm-na-a* **l.i** Isaa dàq xale yi (l.i) *gëm + i*
 believe-*na*-1sg cl.*i* isaa chase child the.pl cl.*i*
 "I believe that Isaa would chase the children (in those circumstances)"
- d. *gëm-na-a* **l.a** Isaa dàq-oon xale yi (l.a) *gëm + a*
 believe-*na*-1sg cl.*a* isaa chase-past child the.pl cl.*a*
 "I think that Isaa would have chased the children (in those circumstances)"
- e. **gëm-na-a* **l.u** Isaa dàq xale yi **gëm + u*
 believe-*na*-1sg cl.*u* isaa chase child the.pl

A predicate like *gëm* 'believe' takes both DP ((39)a) and CP ((39)b) complements. While not a factive predicate, (39)c-e show that *gëm* can select for a CP headed by either *-i-* or *-a-*, but not by *-u-*. Note also the interpretive contrast between the (39)b, where *ne* is the complementizer, and (39)c-d, where *i/a* are the complementizers. As the translations indicate, when *i/a* is selected as C^0 , the embedded clause has a (type of) evidential or alethic modal interpretation. This makes sense if *u/i/a* are complementizers which can be selected by a higher predicate. The fact that the definite articles can appear with the embedded CPs is plausibly related to the fact that, just as in canonical relative clauses, the relative marker (i.e. C^0) agrees with the definite determiner. Thus, (38)a-c have a surface structure like:



3.5 Tense in Relative Clauses

Additional support for the analysis of the relative markers as complementizers comes from the relation between tense, verb movement, and *u/i/a/* in relative clauses. The line

of reasoning is based on the well-known property of complementizers that they typically occur only with a restricted set of TP types. Thus, *for* in English only occurs with non-finite TPs, while *that* only occurs with finite TPs.

At the outset, note that there are two past tense morphemes in Wolof, the “definite” past, *-oon*, and “habitual” past, *-aan*. Roughly, definite past is used when referring to a specific situation in the past. This is like the English simple past. Habitual past is used to refer to general situations in the past and may be suitably rendered by “used to” in English:

- (41) a. d-**oon**-na-a lekk ceebu.jën (definite) past
 di-past-*na*-1sg eat rice.fish
 “I was eating fish-rice (...when X walked in)”
- b. d-**aan**-na-a lekk ceebu.jën habitual past
 di-habpast-*na*-1sg eat rice.fish
 “I used to eat fish-rice”

It is also worth noting that the definite and habitual past can co-occur in a single clause, yielding what I will call a “compound” tense form. Linearly, habitual past always precedes definite past. In the negative, definite past follows subject agreement, negation, and the neutral marker, *na*:

- (42) a. d-**aa-woon**-na-a lekk ceebu-jën²⁰ habitual past + definite past
 di-habpast-past-*na*-1sg eat rice-fish
 “I used to eat fish-rice (long ago)”
- b. d-**aa-wu-ma** **woon** lekk ceebu-jën habitual past + definite past
 di-habpast-neg-1sg past eat rice-fish
 “I did not use to eat fish-rice (long ago)”

As the translation indicates, the presence of both definite and habitual past gives a

²⁰ One also finds:

- (i) d-**aan-oon**-na-a lekk ceeb-u jën
 di-habpast-past-*na*-1sg eat rice-*u* fish
 “I used to eat fish-rice (long ago)”

That is, with *aan* instead of *aa* and *oon* instead of *woon*.

distant past habitual meaning.²¹

Crucially, in relative clauses with overt nominal heads there is a dependency between the presence of *i/a/u* and the presence of habitual past tense on perfective verbs:²²

- (43) a. **d-aan-nga** raxas y-epp cin y.**u** mē togg-e-**waan**²³ *u...V-aan*
di-habpast-2sg+na wash cl-all pot cl.*u* 1sg cook-instr-habpast
 “you used to wash every pot that I used to cook with”
- b. **d-aan-nga** raxas y-epp cin y.**u** mē **d-aan** togg-e *u...d-aan V*
di-habpast-2sg+na wash cl-all pot cl.*u* 1sg *di-habpast* cook-instr
 “you used to wash every pot that I used to cook with”
- c. ***d-aan-nga** raxas y-epp cin y.**i** mē togg-e-**waan** **i...V-aan*
di-habpast-2sg+na wash cl-all pot cl.*i* 1sg cook-instr-habpast
 “you used to wash every pot that I used to cook with”
- d. **d-aan-nga** raxas y-epp cin y.**i** mē **d-aan** togg-e *i...d-aan V*
di-habpast-2sg+na wash cl-all pot cl.*i* 1sg *di-habpast* cook-instr
 “you used to wash every pot that I used to cook with”
- e. ***d-aan-nga** raxas y-epp cin y.**a** mē togg-e-**waan** **a...V-aan*
di-habpast-2sg+na wash cl-all pot cl.*a* 1sg cook-instr-habpast
 “you used to wash every pot that I used to cook with”
- f. **d-aan-nga** raxas y-epp cin y.**a** mē **d-aan** togg-e *a...d-aan V*
di-habpast-2sg+na wash cl-all pot cl.*u* 1sg *di-habpast* cook-instr
 “you used to wash every pot that I used to cook with”

²¹ There may be other meanings. I have not explored these constructions in detail.

²² In overtly headed relative clauses, all of *i/a/u* are compatible with tense on the verb:

- (i) gis-na-a-kó **bés** b.i mē dem-**oon**
see-na-1sg-3sg day cl.*i* 1sg leave-past
 “I saw him the day that I left”
- (ii) *gis-na-a-kó **T_{op}** b.i ma dem-**oon**
see-na-1sg-3sg cl.*i* 1sg leave-past
 “I saw him when I left”

²³ For some reason, these types of relative clauses sound much more natural if there is a universal quantifier with the relativized noun. Thus, (43)a is fine, but:

- (i) ?cin l.**u** mē togg-e-**waan**
 pot cl.*u* 1sg cook-instr-hab
 “a pot that I used to cook with”

is a little bit odd or unnatural, although grammatical.

Example (43)a shows that when the *-u-* is present, a perfective verb can take the habitual past *-aan* suffix. In contrast, (43)c and e show that when either the *-i-* or *-a-* is present in the relative marker, the habitual past cannot occur with a perfective verb. In order for *cl-i* or *cl-a* to occur with *-aan*, the imperfective auxiliary, *di-/d-*, must be present, as in (43)d and f. Under a C^0 analysis of the relative markers, this dependency falls out naturally because C selects for a TP:



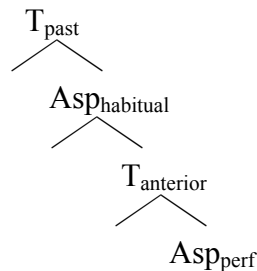
It is not immediately clear how the differences between *-u-* and *-i/a-* arise. The fact that when *i/a* is present a dummy auxiliary, *di*, must be inserted suggests that the problem in (43)c and (43)e is related to the verb movement properties of TP, which are themselves *structural* properties of the TP. Take, for example the prepositional complementizer *di* in Italian. It can be seen that the finite versus non-finite TP distinction corresponds to structural differences in TP. This is clear in a language like Italian where the position of clitics varies linearly with respect to the verb in finite versus non-finite TPs:

- (45)
- | | | | | |
|----|---------------------|---------------------|--------------|--|
| a. | ho | prov-ato | di | [_{TP} mangi-ar- lo] |
| | have.1sg.pres | try-past.ppl | <i>di</i> | eat-inf-3sg.masc |
| | "I tried to eat it" | | | |
| b. | *ho | prov-a-t-o | di | [_{TP} lo mangi-a-re] |
| | have.1sg.pres | try-a-past.ppl-agr | <i>di</i> | 3sg eat-a-inf |
| c. | lo | ho | provato | di [_{TP} mangi-are] |
| | 3sg.masc | have.1sg.pres | try-past.ppl | <i>di</i> eat-inf |
| | "I tried to eat it" | | | |
| d. | *ho | prov-ato- lo | di | [_{TP} mangi-are] |
| | have.1sg.pres | try-past.ppl | <i>di</i> | eat-inf-3sg.masc |
| | "I tried to eat it" | | | |

The examples in (45) show that a clitic must follow the verb in an infinitival TP ((45)a versus (45)b), but precede the verb in a finite TP ((45)c versus (45)d). The fact that the TP complement of *di* is infinitival, while that in the matrix clause is indicative ((45)c), simply follows from the presence of different heads/functional categories in these TP types. Differences of the type in (45) have been analyzed as arising from different heights of verb movement in finite and non-finite TPs (See Pollock 1989, Belletti 2004 for related discussion). The Wolof data are plausibly analyzed along the same lines. Let us do so.

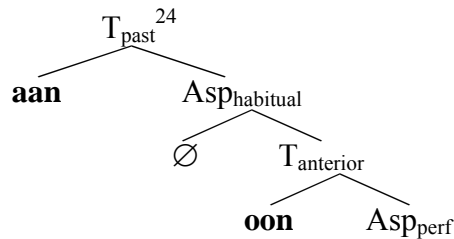
It will be useful to look at the Wolof facts relative to a fragment of the functional hierarchy proposed in Cinque 1999:

(46) Fragment of Cinque's Hierarchy



Translating this into Wolof we get:

(47) Wolof Version of Cinque's Hierarchy



The *-aan* morpheme is both past and habitual, while *-oon* is past/anterior.²⁵ In fact, *-oon* can be used like a past perfect/anterior tense:

- (48) togg-**oon**-na-a-ko, laata nga ñëw
 cook-past-*na*-1sg-3sg before 2sg arrive
 "I had (already) cooked it before you arrived"

Although drawn adjacent in the tree in (47), $Asp_{habitual}$ and $T_{anterior}$ are quite distant.

Recall that when the compound tense is negated, the subject markers and negation intervene between *-aan* and *-oon*:

²⁴ Cinque 1999 takes T_{past} , the higher tense, to be an absolute past tense, i.e. which is relative to 'now'. This seems to fit in with the Wolof facts. When *-aan* appears in a temporal clause introduced by *b.u*, it is interpreted as past, not as a counterfactual conditional, unlike the simple past *-oon*:

- (i) b.u ma bey-**aan** ceeb St. Louis
 cl.u 1sg cultivate-past.hab rice habitual past
 "when I used to cultivate rice"
 *"if I had used to cultivate rice"
- (ii) b.u ma bey-**oon** ceeb St. Louis
 cl.u 1sg cultivate-past rice simple past
 "if I were to cultivate rice"
 *"when I cultivated rice"

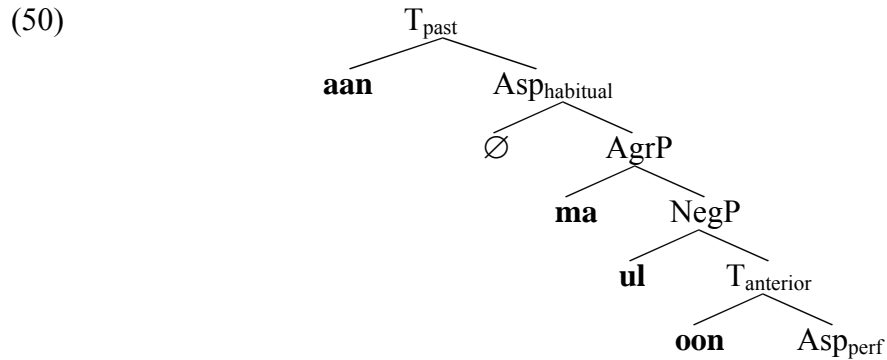
In other words, the *-aan* is always interpreted as past (with respect to the present). In this way, it appears to be an absolute tense. Note that this does not seem to hold cross-dialectally:

- (iii) s.u liggéy-ut-**aan** Gambian Dialect
 cl.u work-neg-past
 "if he had not worked" (from WEC International 1992)
- (iv) b.o o **d-aan** wax benn baat
 cl.u 2sg *di*-aan say one word
 "if you say one word" (from Diouf 2003)

²⁵ It could be that *-aan* is a portmanteau spellout of T_{past} and $Asp_{habitual}$ or just $Asp_{habitual}$. I have put it in the T_{past} position for concreteness.

- (49) **d-aa-wu-ma woon** lekk ceebu-jën habitual past + past
di-past-neg-1sg past eat rice-fish
 “I did not use to eat fish-rice (long ago)”

This can be represented as:



This ordering fits in with the fact that lexical verbs *always* raise higher than *-oon*, the lower tense:²⁶

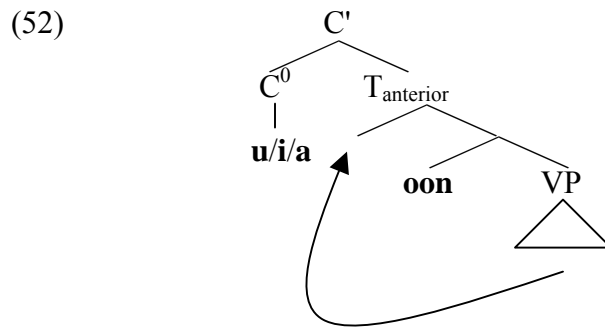
- (51) a. **góór g.i Bintë gis-óón** *-i- + V-raising*
 man cl.i binta see-past
 “the man (proximal) that Binta saw”
- b. **góór g.ë Bintë gis-óón** *-a- + V-raising*
 man cl.a binta see-past
 “the man (distal) that Binta saw”
- c. **góór g.u Bintë gis-óón** *-u- + V-raising*
 man cl.u binta see-past
 “a man that Binta saw”

²⁶ Cinque's ordering is also consistent with data from the Dakar dialect where, in a temporal clause (which is a type of relative clause), the perfective morpheme, *-ee*, can occur with past tense in the order: V-perf past:

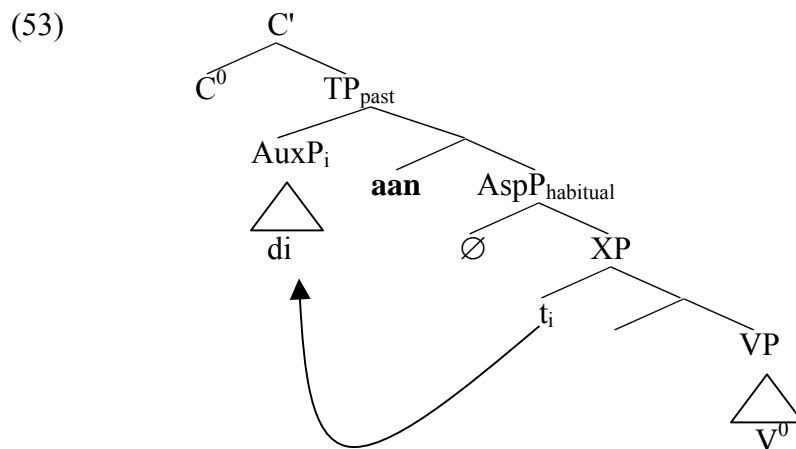
- (i) b.i ma [gis-éé] **woon** Isaa *V perf past* Dakar
 cl.i 1sg see-perf past isaa
 "when I saw Isaa"
- (ii) b.i ma [gis-éé] **wul woon** Isaa *V perf neg past* Dakar
 cl.i 1sg see-perf neg past isaa
 "when I didn't see Isaa"

This ordering follows if the bracketing is as given and the verb pied pipes Asp_{perf}. Similar pied piping was deduced in Torrence 2000 for perfective verbs in matrix *na*-clauses.

Thus, complementizer choice does not seem to affect verb movement to the lower tense, but it does seem to impact verb raising to the higher tense, *-aan*. If we consider verb movement in the cases like (51), it yields the following rough derivation (omitting irrelevant structure):



In the case where the imperfective auxiliary occurs, the auxiliary raises to the specifier of *-aan*. Given that the auxiliary is merged higher than the lexical verb, this is not unexpected:



Although the differences are reducible to differing heights of verb movement, it is still not clear why such differences should exist in the first place. However, such differences are independently attested in languages like English where lexical verbs simply do not raise as high as auxiliaries (necessitating *do*-support, for example). Cases where the

presence of a complementizer affects the height of verb movement are well known from the literature on verb second phenomena in Germanic, as discussed in Vikner 1995, among many others. Across languages one striking difference is the occurrence of V2 in embedded clauses. Roughly, in standard German, embedded V2 is impossible if the complementizer is present. Yiddish and Icelandic have generalized V2 and thus embedded V2 occurs when a complementizer is present. In Standard Dutch, it can be seen that complementizer choice determines how high the verb moves. Canonically, Standard Dutch does not allow for embedded V2. Consider the following difference in Standard Dutch (based on Hoekstra 1993):

- (54) a. Ik denk [**dat** Jan hem **zag**] V-final
 I think that Jan him saw
- b. Hij rende [**als zat** de duivel hem op de hielen] V-first
 he ran as sat the devil him P the hielen

In (54)a, where the complementizer is *dat*, the verb *zag* is clause-final in the embedded CP. However, in (54)b, where the complementizer is *als*, the verb occurs first in the embedded clause, immediately following C^0 . English and Danish are interesting because they display embedded V2 in limited circumstances. For example, English has negative inversion in embedded clauses:

- (55) a. *The goblin said **that** would he eat guacamole
 b. The goblin said **that** under no circumstances would he eat guacamole
 c. *The goblin said **that** under no circumstances he would eat guacamole

In some non-standard varieties of English (like Irish English (McCloskey 2005, for discussion and analysis), subject-aux inversion occurs with the silent +Q complementizer:

- (56) a. %Leston asked did Greg kiss the fairy
 b. %I wondered what was he eating

Like standard German, the presence of the (overt +Q) complementizer blocks verb movement into the left periphery:

- (57) a. *Leston asked **if** did Greg kiss the fairy
 b. *I wondered **if** what was he eating

Thus, across languages, it can be seen that the height of verb movement is related to the composition of the C-field. This is essentially what I am claiming for Wolof.

Another possibility is related to the extraction of definite versus indefinite NP/DPs. Recall that *-u-* is indefinite and *-i/a-* are definite. It could be that the presence of *-aan* somehow blocks the extraction of definites, but not indefinites. This could follow if, for example, a definite DP makes use of a position that *-aan* also uses, thus, they are in complementary distribution in the simple case. Under this view, when *di* is present, it provides additional structural positions which can then be used by the definite to escape TP.

A third way of accounting for the obligatory presence of *di* with *-i/a-* is also related to the definiteness encoded by these elements. It could be that habitual past tense is semantically incompatible by itself with these “definite” complementizers. This can be done in (at least) two ways. Informally, one can think of the habitual as referring to a state or set of events, not to a specific event. Therefore, habitual past is compatible with *-u-*, which does not pick out an event. The definite complementizers might require *di*, the imperfective auxiliary, because this supplies a time span which can be definite, but in which the habitual state can hold. Alternatively, it could be that the auxiliary *di* acts somehow to “definitize” or specify the event so that it is now semantically compatible with the definite complementizers. Evidence for the specifying effect of *di* comes from temporal constructions. Consider the following interpretive contrast:

- (58) a. b.u ma-ko gis-ée, di-na-a wax ak moom
 cl.u 1sg-3sg see-perf *di-na-*1sg speak with 3sg_{str}
 “when(ever) I see him, I will speak with him”

- b. b.u ma-ko d-ee gis, di-na-a wax ak moom
 cl.u 1sg-3sg *di*-perf see *di-na*-1sg speak with 3sg_{str}
 “the exact moment I see him, I will speak with him”

In (58)a, with simply *-u-*, the interpretation is indefinite with respect to time. However, in (58)b, with *di* (*di + ee* → *d-ee*), the interpretation is specific/emphatic, as the translation indicates. I will not pursue these issues any further here, but consider the examples in (58) in relation to the following:

- (59) a. b.u ma-ko-y gis, di-na-a wax ak moom
 cl.u 1sg-3sg-*di* see *di-na*-1sg speak with 3sg_{str}
 “(habitually,) when I see him, I speak with him”
- b. b.i ma-ko d-ee gis, d-aan-na-a wax ak moom²⁷
 cl.i 1sg-3sg *di*-perf see, *di-past-na*-1sg speak with 3sg_{str}
 “when I was in the habit of seeing him, I used to speak with him”

When the clitic form of *di* is used in an *-u-* temporal clause, as in (59)a, a habitual interpretation results, not an emphatic/specific one. Similarly, when *di* is used in an *-i-* temporal clause, there is no emphatic/specific interpretation.

A final point here is that the Wolof data concerning the complementizers and occurrence of tense is analogous to the kind of evidence that Kayne 1976 used in arguing that *que* in French relative clauses is not a relative pronoun, but the same complementizer *que* that introduces embedded clauses. Relative clauses which involve relativization of the object of a preposition must use a relative pronoun, *laquelle*, for example. But, if the object is non-prepositional, *laquelle* cannot be used, instead, one finds *que*:

- (60) a. la table **sur laquelle** j-ai mis le livre Prep + *laquelle*
 the table on relpro 1sg-have put the book
 “the table on which I put the book”
- b. *la table **laquelle** j-ai vue **laquelle*
 the table relpro 1sg-have seen
 “the table that I saw”

²⁷ I leave it as an open question as to how the *imperfective* auxiliary can appear with the “perfective” suffix. Presumably, the traditional names are misleading.

- c. *la table **sur que** j-ai mis le livre *Prep + *que*
the table on that 1sg-have put the book
“the table on that I put the book”
- d. la table **que** j-ai vue *que*
the table that 1sg-have seen
“the table that I have seen”

He notes that the same distribution occurs in infinitival relatives for relative pronouns, like *laquelle*:

- (61) a. je cherche une femme avec **laquelle** parler Prep + *laquelle* + Infinitive
1sg look.for a woman with relpro speak.inf
“I am looking for a woman with whom to speak”
- b. *je cherche une femme **laquelle** embrasser **laquelle* + Infinitive
1sg look.for a woman relpro hug.inf
“I am looking for a woman to hug”

The crucial observation for the analog to the Wolof case is that relative *que* cannot occur in infinitival relatives, even when it is a non-prepositional object that is relativized:

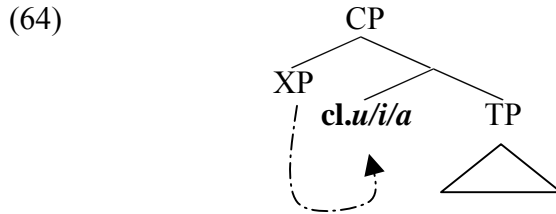
- (62) *je cherche une femme **que** embrasser **que* + Infinitive
1sg look.for a woman that hug.inf
“I am looking for a woman that to hug”

This distribution falls out immediately from the fact that the complementizer *que* does not occur with infinitival clauses (although it does appear as a wh-clitic with infinitivals, *je ne sais pas que faire* “I don’t know what to do”):

- (63) je voudrait aller
1sg want.imperf go.inf
“I would like to go”

To summarize, in this section, I have presented three different types of support for a complementizer analysis of the relative markers in Wolof: multiple occurrence in the C-field, predicate selection, and tense dependencies. It was noted that these properties are inconsistent with the expected behavior of relative pronouns. Conversely, it was

argued that these phenomena are most easily explained if *u/i/a* in relative clauses are agreeing complementizers that agree with an element in their specifier:



The tree in (64) is consistent with both the promotion analysis and the null *wh*-analysis since these both take the relative markers to be C^0 s. Recall that these two analyses were distinguished by whether the head noun is base generated high (the *wh*-analysis) or whether it is promoted from inside of TP (the promotion analysis). This question is addressed in the next section.

3.6 Raising Properties of Wolof Relative Clauses

In this section, I present raising properties of relative clause constructions in Wolof. These provide strong support for the promotion analysis of relative clauses. Consider first the island facts. The data below show that relativization is sensitive to both strong ((65), (66)) and weak islands ((67)):

Complex Noun Phrase Constraint

- (65) a. *tээрэ b.i jigéen ji jox xale yi démb*
 book *cl.i* woman the give child the.pl yesterday
 "the book that the woman gave to the children"
- b. **xale_k y.i [tээрэ_j b.i [TP jigéen ji jox t_j t_k démb]]*
 child *cl.i* book *cl.i* woman the give yesterday
 "the children that the book that the woman gave yesterday"
- c. *sàcc-na-a [DP xaj-u góor gi]*
 steal-*na*-1sg dog-*u* man the
 "I stole the man's dog"

d. góór g.i ma sàcc [_{DP} xaj-*(am)]
 man cl.i 1sg steal dog-3sg
 "the man that I stole his dog"

Adjunct Island

- (66) a. gis-na-a Bintë [laata ñu jox tééré yi xale bi]
 see-na-1sg binta before 3pl give book the.pl child the
 "I saw Binta before they gave the books to the child"
- b. *tééré; y.i ma gis Bintë [laata ñu jox t_i xale bi]
 book cl.i 1sg see binta before 3pl give child the
 "the books that I saw Binta before they gave the child"

Wh Island

- (67) a. fàtte-na-a k.u sàcc tééré bi
 forget-na-1sg cl.u steal book the
 "I forgot who stole the book"
- b. *tééré b.i ma fàtte k.u sàcc
 book cl.i 1sg forget cl.u steal
 "the book that I forgot who stole"
- c. *tééré b.i ma fàtte k.an mo o sàcc
 book cl.i 1sg forget cl.an 3sg a steal
 "the book that I forgot who it was that stole"

The island data indicate that relativization involves movement. Further evidence for movement in the derivation of relative clauses comes from the distribution of the applied suffix, *-al*. Recall from the discussion of the *u*-construction that *-al* appears if and only if the applied object has undergone A'-movement:

- (68) a. wax-na-a ak Móódu
 speak-na-1sg with moodu
 "I spoke to Moodu"
- b. k-an l-a-ñu wax-*(**al**)?
 cl-an xpl-a-3pl speak-appl
 "who did they speak to?"
- al* + A'-moved object

- c. *wax-**al**-na-a (ak) Móódu *al* + in situ object
 speak-appl-*na*-1sg with moodu
 “I spoke to Moodu”
- d. *jécém-na-a-**kó** door-a wax-**al** *al* + restructured clitic
 try-*na*-1sg-3sg begin-*a* speak-appl
 “I tried to begin to speak to him”

In (68)b, where the object has not undergone A'-movement, the presence of the applied suffix induces ungrammaticality. However, the applied suffix is obligatory ((68)c), when the object undergoes A'-movement. (68)d shows that it is not merely the presence of a gap which licenses the applied suffix. If the clitic is restructured out of its clause, the applied suffix is still impossible. Thus, the presence of the applied suffix is diagnostic for the presence of an A'-moved applied object. Crucially, if an applied object is relativized, the applicative suffix is obligatory:

- (69) **góór g.i** wuudé bi wax-*(**al**) A'-movement of Applied Object
 man cl.i shoemaker the speak-appl
 “the man that the shoemaker talked to”

As in matrix clauses, if the applied object has not undergone A'-movement, then the applied suffix is impossible:

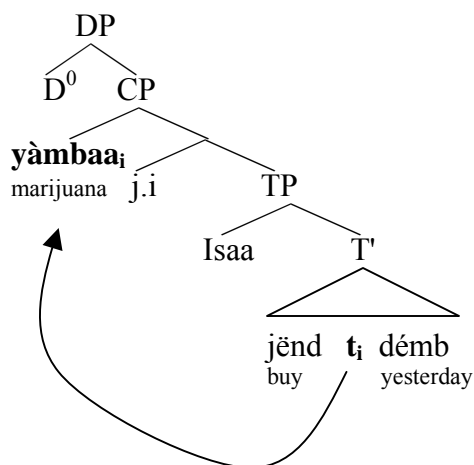
- (70) *lekkool b.i wuudé bi wax-e-**el** **góór gi**
 school cl.i shoemaker the speak-loc-appl man the
 “the school where the shoemaker talked to the man”

This language specific test demonstrates that *something* undergoes A'-movement in relativization in Wolof. Thus, an analysis of the relative construction in Wolof must involve a movement component. However, neither this test nor the island data show *what* has been moved. That is, it does not indicate whether, in a headed relative clause, the head of the relative is generated inside of the CP or outside:

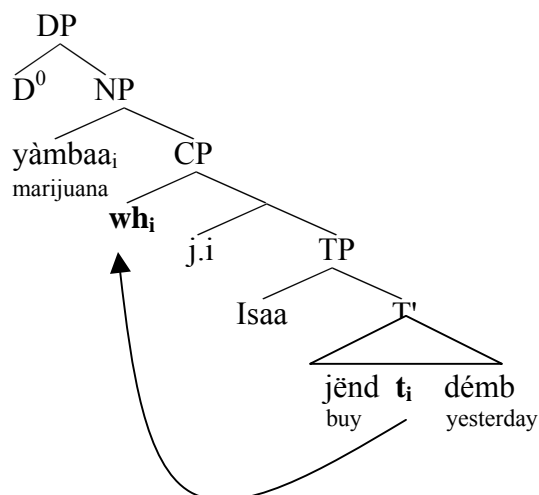
- (71) a. yàmbaa j.i Isaa jënd démb
 marijuana cl.i isaa buy yesterday
 “the marijuana that Isaa bought yesterday”

b. Promotion and Null-wh Analyses

b'. Promotion Analysis



b''. Null Wh Analysis

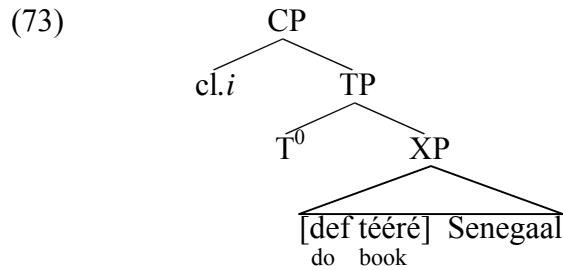


Reconstruction tests allow us to distinguish between the two analyses. A strong argument for the promotion analysis comes from the fact that idiom chunks can undergo relativization:

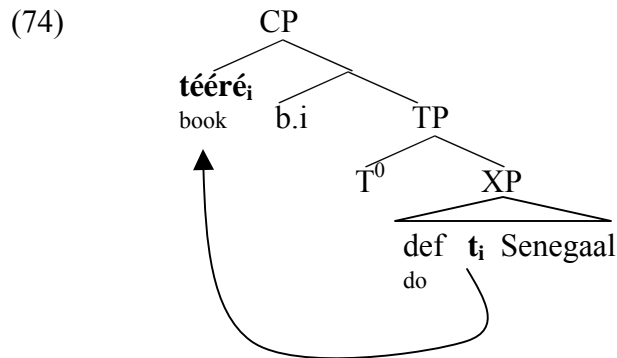
- (72) a. def-na-a tééré Senegaal Idiom
 make-na-1sg book senegal
 “I believe in Senegal”
 (Lit. “I maka a book Senegal”)
- b. [tééréᵢ b-i-mě def tᵢ Senegaal] mo-o-ma tax-a dem
 book cl-i-1sg do senegal 3sg-a-1sg cause-a leave
 “it’s the dedication that I felt for Senegal that made me leave”
 (Lit. “it’s the book that I did Senegal that caused me to leave”)
- c. [tééréᵢ b-i-ngě foog ne l-a-a def tᵢ gaal gi] jaaxal-na-ma
 book cl-i-2sg think that xpl-a-1sg do boat the surprise-na-1sg
 “the dedication that you think that I have for the boat surprised me”

As (72)b-c show, the noun in the idiom *def tééré X* 'believe in X' can be relativized.²⁸

Vergnaud 1974 uses the fact that idiom chunks in French and English can undergo relativization as evidence for a promotion analysis. The data in (72) follow if the idiom chunk, a type of lexical item, begins as a unit inside of CP:



The idiomatic object, *tééré* 'book', subsequently raises to SpecCP, where it triggers agreement on C^0 :



As noted, an idiom is a type of lexical item. The entire idiom is merged together. Under a promotion analysis, relativization of a subpart of the idiom follows without stipulation because the entire idiom is merged together inside of TP. It is only later in the derivation

²⁸ As in English, not all nouns in idioms can be relativized (e.g. “the bucket that Bill kicked surprised me” ≠ “the fact that Bill died surprised me”):

- (i) *fās-na-a yééné dem*
tie-na-1sg decision leave
 “I decided to leave”
- (ii) *[*yééné b-i-më fas dem*] *bett-na-leen*
decision cl-i-1sg tie leave surprise-na-3pl
 “the decision that I made to leave surprised them”

that the integrity of the idiom is destroyed. The null wh-analysis is difficult to reconcile with the idiom chunk data. The fact that in (72)b-c the idiomatic interpretation is available is mysterious because if *tééré* ‘book’ is base generated as an adjunct, it should have the meaning ‘book’. However, in the idiom *def tééré* ‘be dedicated to’, *tééré* does not mean ‘book’. In other words, under the null wh-analysis, in (72)b-c the idiomatic interpretation should be unavailable.

More support for the promotion analysis comes from the distribution of reflexives in Wolof. Wolof has no word that corresponds to English *myself*, *yourself*, etc. Instead, like many African languages, the reflexive is a genitive meaning literally, "X's head":

- (75) gis-na-ñu s-een bopp
 see-*na*-3pl P-3pl head
 "they saw themselves"
 "they saw their head(s)"

As expected, the reflexive interpretation is subject to Principle A. Thus, if there is no appropriate binder for the reflexive, the reflexive interpretation is out:

- (76) a. gis-na-ñu s-een bopp
 see-*na*-3pl P-3pl head
 "they saw themselves"
 "they saw their head(s)"
 b. s-een bopp gis-na-ñu-leen
 P-3pl head see-*na*-3pl-3pl
 *"they saw themselves"
 "their heads saw them"

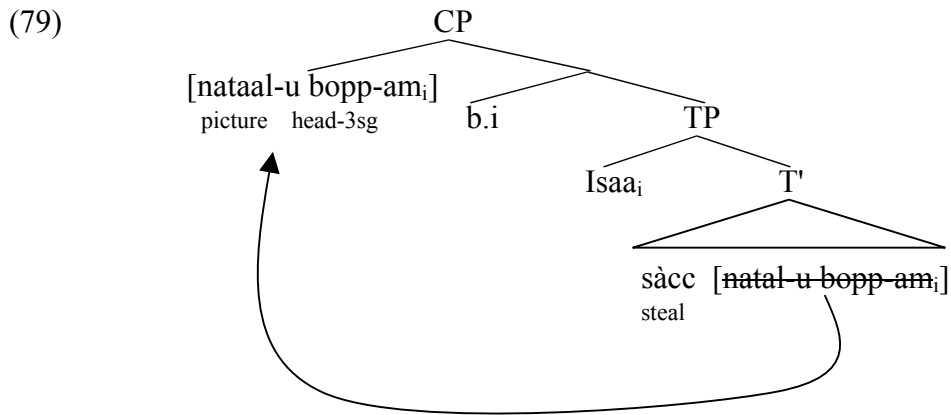
The reflexive interpretation is fine if the reflexive can reconstruct lower than the subject:

- (77) s-een bopp_i l-a xale yi_i gis
 P-3pl head xpl-*a* child the.pl see
 "it's themselves that the children saw"

Reconstruction is possible under relativization:

- (78) [nataal-u bopp-am_i] b.i Isaa_i sàcc
 picture-*u* head-3sg cl.*i* isaa steal
 "the picture of himself that Isaa stole"
 "the picture of his_{i/j} head that Isaa_i stole"

That the reflexive interpretation is possible in (78) follows if the DP containing the reflexive, *natal-u bopp-am*, originates inside of TP lower than the subject, where the binding relation is established, and subsequently raises to SpecCP:



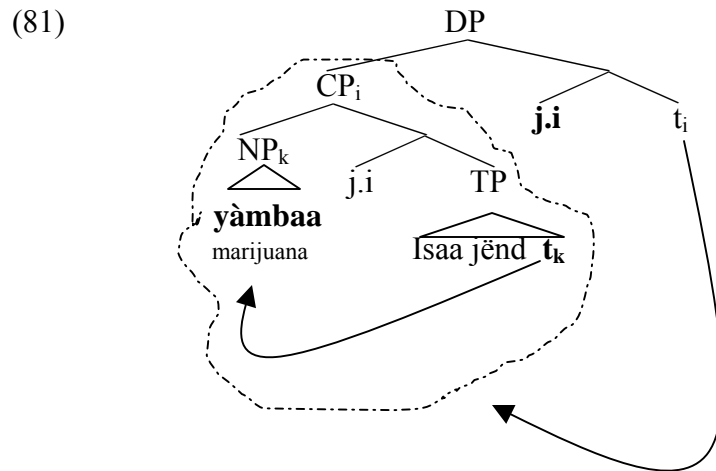
To summarize, we have reached two conclusions in this section. First, it has been shown that relativization in Wolof is sensitive to island constraints and language specific movement constraints. Thus, relativization in Wolof involves movement. Second, idiom chunk data and reconstruction for reflexive binding support the notion that the head of a relative clause originates inside of the relative clause and is promoted to SpecCP. Put together, these cast serious doubt on the relative pronoun and null-wh analyses because neither of these predicts reconstruction effects. However, this is what we expect if relative clauses are derived by promotion of the head from inside of TP.

3.7 CP Raising

It was noted earlier that the definite determiners could appear on the right edge of a relative clause:

- (80) [_{DP} [_{CP} yàmbaa j.i Isaa jënd] (j.i)]
 marijuana cl.i isaa buy cl.def
 "the marijuana that Isaa bought"

This follows straightforwardly if we assume that the determiner takes a CP complement, essentially the analysis of relative clauses in Kayne 1994, with subsequent movement of CP to SpecDP:



The movement of the complement of D to SpecDP is independently attested in simple DPs:

- (82) [_{DP} [_{NP} yàmbaa] j.i]
 marijuana cl.def
 "the marijuana"

In (82), the NP complement of D raises to SpecDP. The noun triggers class agreement on D, spelled out as *j-*. In (81), the NP raises to SpecCP and triggers agreement on C. When CP raises to SpecDP, it triggers agreement on D.

The posited CP raising in (81) provides a ready explanation for the distribution of certain adverbial modifiers in Wolof. Like many African languages, Wolof has a (rather

large) set of adverbial elements, often called “ideophones” (Dialo 1985), which have a very restricted distribution. Typically these adverbs add emphasis, intensity, or indicate manner or extent:

- (83) a. *xam-na-a-ko* verb
 know-*na*-1sg-3sg
 “I know it”
- b. *xam-na-a-ko xell* *know + xell*
 know-*na*-1sg-3sg id
 “I am really sure of it”
- c. **wóór-na-a-kó xell* **be sure + xell*
 be.sure-*na*-1sg-3sg id
 “I am really sure of it”
- d. **xell-na-a-ko* ideophone
 id-*na*-1sg-3sg
 “I am really sure of it”

(83)a-d show that the adverb *xell* only occurs with the verb *xam* ‘know’. Semantically similar predicates like *wóór* ‘be sure’ are ungrammatical when they occur with *xell*.

Consider next the idiomatic adverb *fàtiit*:

- (84) a. *dàgg-na-ñu jën yi* verb
 cut-*na*-3pl fish the
 “they cut the fish”
- b. *dàgg-na-ñu jën yi fàtiit* *cut + fàtiit*
 cut-*na*-3pl fish the id
 “they cut the fish in one stroke (in one motion)”
- c. *réy-na-ñu jën wi fàtiit* *kill + fàtiit*
 kill-*na*-3pl fish the id
 “they killed the fish by cutting it (in one motion)”
- d. **fàtiit-na-ñu jën yi* ideophone
 id-*na*-3pl fish the
 “they cut the fish in one stroke (in one motion)”

As expected, verbs of cutting can occur without an ideophone, as in (84)a. However, the opposite does not hold for *fàtiit*. The ideophone *fàtiit* only occurs with verbs of cutting, for example, not just with verbs that describe events that can happen in a single motion or instantly:

(85) a. ***ubbi**-na-ñu bunt bi **fàtiit**
 open-*na*-3pl door the id
 “they opened the door in one motion”

b. ***tisóoli**-në-ñu **fàtiit**
 sneeze-*na*-3pl id
 “they sneezed”

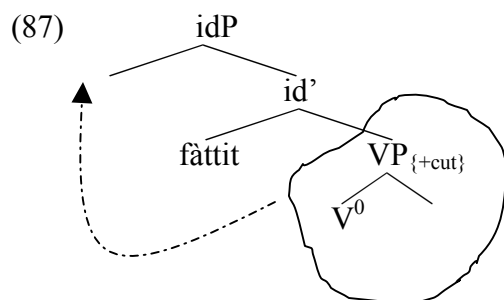
Ideophones may also occur with adjectival predicates:

(86) a. daf-a ñuul adjective
 do-*a* black
 “it’s black”

b. daf-a ñuul **kuuk** *black + kuuk*
 do-*a* black id
 “it’s pitch black”

c. *daf-a lëndëm **kuuk** **dark + kuuk*
 do-*a* dark id
 “it’s really dark”

The distribution of ideophones suggests a *selectional* relation between the ideophone and the predicate.²⁹ It is plausible that this relation is structurally instantiated by the ideophone/adverb taking the verb as its complement (with subsequent verb movement obscuring the underlying order). That is, the ideophone must occur with the verb because it selects for it:



²⁹ This is a rather rough characterization of these interesting adverbs. A thorough description of their properties is beyond the scope of this paper. For the sake of completeness, it should be noted that many ideophones can occur *without* a lexical verb, but the verb *ne* ‘say’ must be present:

- (i) ñu *(ne) **fattiit** (dagg) jën yi
 3pl say id cut fish the
 “they cut the fish in one stroke (in one motion)”

This appears to hold quite generally, except that ideophones that modify adjectives never occur in the *ne*-construction, and those ideophones that can undergo reduplication + suffixation can occur without *ne*:

- (ii) sedd guyy
 cold id
 “very cold”
- (iii) *ne guyy (sedd)
 ne id cold
- (iv) dagg yoloos
 walk.slowly id
 “walk stealthily”
- (v) *(ne) yoloos (dagg)
 ne id walk.slowly
 “walk stealthily”
- (vi) (*ne) yoloos-yoloos-u
 ne id-id-?
 “walk stealthily”

The distribution of adverbs in relative clauses reveals crucial aspects of the derivation. Ideophones and run-of-the-mill adverbs like *lool* ‘very’ can occur in relative clauses inside of TP:

- (88) a. *gis-ně-ñu jën w. i* [TP *mě dàgg fàtiit*] *w. i* ideophone...det
 see-*na*-3pl fish cl.*i* 1sg cut id cl.def
 “they saw the fish that I cut in one stroke”
- b. *sàcc-na-ñu tééré b. i* [TP *neex Isaa lool*] *b. i* adverb...det
 steal-*na*-3pl book cl.*i* please isaa very cl-def
 “they stole the book that Isaa really likes”

When the adverbs are inside of TP, predictably, they precede the determiner on the right edge. Strikingly, the adverbs may also follow the definite article:

- (89) a. *gis-ně-ñu jën w. i* [TP *mě dàgg*] *w. i fàtiit* det...ideophone
 see-*na*-3pl fish cl.*i* 1sg cut cl.def id
 “they saw the fish that I cut in one stroke”
- b. *sàcc-na-ñu tééré b. i* [TP *neex Isaa*] *b. i lool* det...adverb
 steal-*na*-3pl book cl.*i* please isaa cl.def very
 “they stole the book that Isaa really likes”

In (89)a-b, the ideophone *fàtiit* and adverb *lool* occur quite distant from the predicates that they modify. It was previously established that ideophones select for V. This means that the ideophone in (89)a must have been in a local relation with the predicate that it selects for at some point in the derivation. The ideophone cannot be in the matrix clause in (89)a because *fàtiit* only occurs with verbs of cutting, not *gis* ‘see’. Even for non-idiomatic adverbs like *lool* ‘very’, it can be seen that when the adverb follows the determiner it is still inside of the relative clause. Consider the distribution of a temporal adverb like *démb* ‘yesterday’:

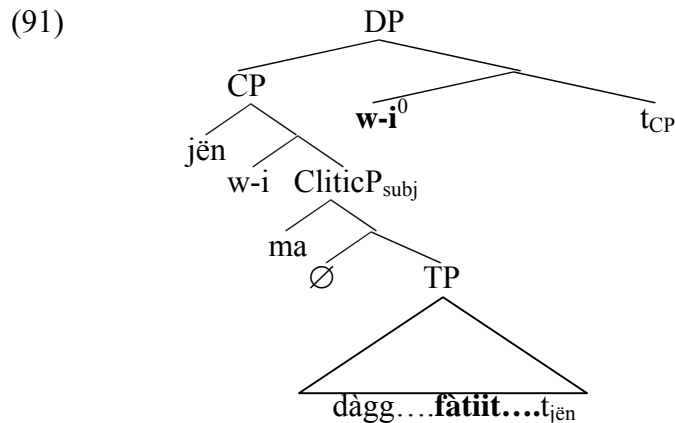
- (90) a. **di-na-a jàng taalif bi démb*
di-na-1sg read poem the yesterday
 “I will read the poem yesterday”
 “I (habitually) read the poem yesterday”

b. di-na-a jàng [taalif b.i nga bind **démb** b.i] adverb...det
di-na-1sg read poem cl.i 2sg write yesterday cl.def
 "I will read the poem that you read yesterday"

c. di-na-a jàng [taalif b.i nga bind b.i **démb**] det...adverb
di-na-1sg read poem cl.i 2sg write cl.def yesterday
 "I will read the poem that you read yesterday"

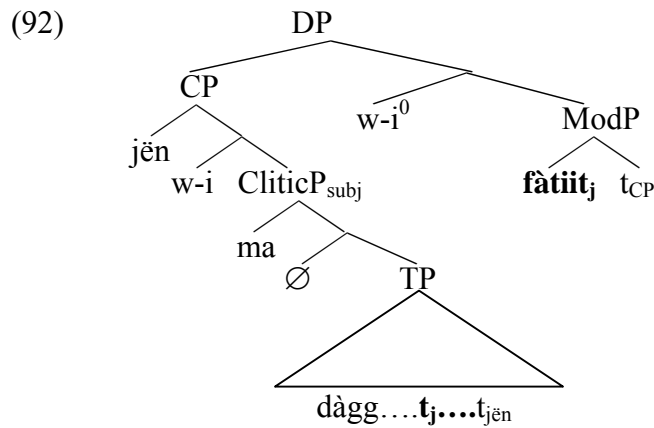
(90)a shows that, as we might expect, the indexical adverb *démb* "yesterday", cannot appear in a future/habitual clause. However, (90)b-c, which contain future/habitual main verbs and *démb*, indicate that the adverb must be contained in the relative clause, even though it follows the definite article. If this were not so, we would expect (90)c to be ungrammatical, just as (90)a is.

Recall that in the analysis of relative clauses an entire CP fronts to SpecDP. Given the representation in (87), the derivation of (88)a is straightforward: the ideophone is inside of the CP constituent that raises to SpecDP. Therefore it appears to the left of the determiner, as expected:



The TP pied piping in (91) derives the case where the ideophone precedes the article. In order to get the case where the ideophone follows the article, something else must happen. I will assume the existence of a position higher than "CP" to which adverbs may raise. Note that, at least for the ideophones, it must be a position to which they raise,

since they are merged close enough to VP to select V^0 . I label this position, "ModP", (following Rizzi 2002) a C-field position where adverbs can occur in Italian. When CP raises to SpecDP, the ideophone is stranded in ModP and therefore follows the determiner:



Thus, the distribution of adverbs provides strong independent evidence that CP raising in the derivation of Wolof relative clauses. If this were not so, it would be quite difficult to explain how idiomatic adverbs, for instance, end up following the definite determiner. If there is a position in the C-field, ModP, to which adverbs can raise before CP fronting, the distribution of adverbs falls out without stipulation.

Further support for CP raising comes from the distribution of wh-words in relative clauses. A surprising feature of Wolof is that when the head of a relative clause is +wh, the relative clause can precede or follow the wh-word:

Subject

- (93) a. [kan [k.u jënd tééré]] l-a-ñu dóór post-nominal relative
 who cl.u buy book xpl-a-3pl hit
 “who that bought a book did they hit?”
 (i.e. of the people that have the property of
 having bought a book, which one did they hit?)

b.?[[k.u jënd tééré] **kan**] l-a-ñu dóór pre-nominal relative
 cl.u buy book who xpl-a-3pl hit
 “who that bought a book did they hit?
 (i.e. of the people that have the property of
 having bought a book, which one did they hit?)

Direct Object

(94) a.[**lan**_i [l.u nu lekk **t**_i]] l-a Bintë jënd post-nominal relative
 what cl.u 1pl eat xpl-a binta buy
 “what that we ate did Binta buy?”
 (i.e. of the things that they ate, which is
 such that Binta is one who bought it?)

b.?[[l.u nu lekk **t**_i] **lan**] l-a Bintë jënd pre-nominal relative
 cl.u 1pl eat what xpl-a binta buy
 “what that we ate did Binta buy?”
 (i.e. of the things that they ate, which is
 such that Binta is one who bought it?)

Adjunct

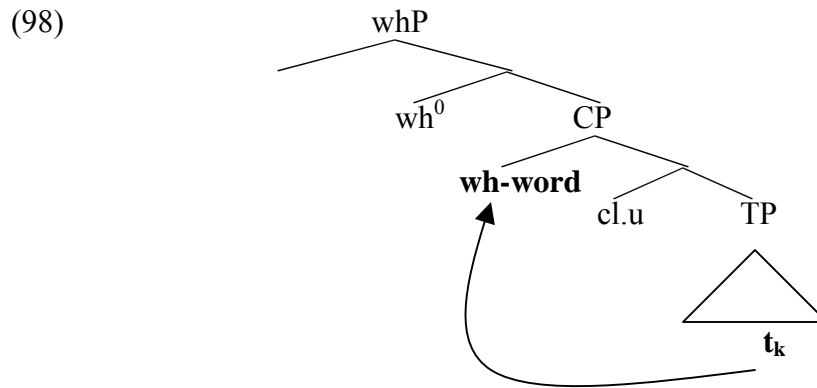
(95) a.[**fan** [f.u nu lekk-e yaasa]] l-a-ñu yàq postnominal relative
 where cl.u 1pl eat-loc yaasa xpl-a-3pl destroy
 “where that we ate yaasa is it that they destroyed?”
 (i.e. of the places where we ate yaasa,
 which is such that they destroyed it?)

b.[[f.u nu lekk-e yaasa] **fan**] l-a-ñu yàq prenominal relative
 cl.u 1pl eat-loc yaasa where xpl-a-1pl destroy
 “where that we ate yaasa is it that they destroyed?”
 (i.e. of the places where we ate yaasa,
 which is such that they destroyed it?)

Direct Object

- (97) a. [**cin_i** [l.u nu jënd **t_i**]] l-a Bintë yàq post-nominal relative
 pot cl.u 1pl buy xpl-a binta destroy
 “it’s a pot that we bought that Binta destroyed”
- b. *[l.u nu jënd **t_i**] **cin_i**] l-a Bintë yàq *pre-nominal relative
 cl.u 1pl buy pot xpl-a binta destroy
 “it’s a pot that we bought that Binta destroyed”

The availability of both prenominal and postnominal relative clauses for +wh RC heads suggests, by analogy to the ideophone stranding, that there is a position, “whP”, which is higher than “CP” to which +wh phrases raise, after having landed in SpecCP. That this position is not available for –wh phrases is supported by the lack of prenominal relative clauses for –wh phrases (as in (96)b and (97)b). That is, when a wh-word is relativized, the following configuration arises at some point in the derivation:



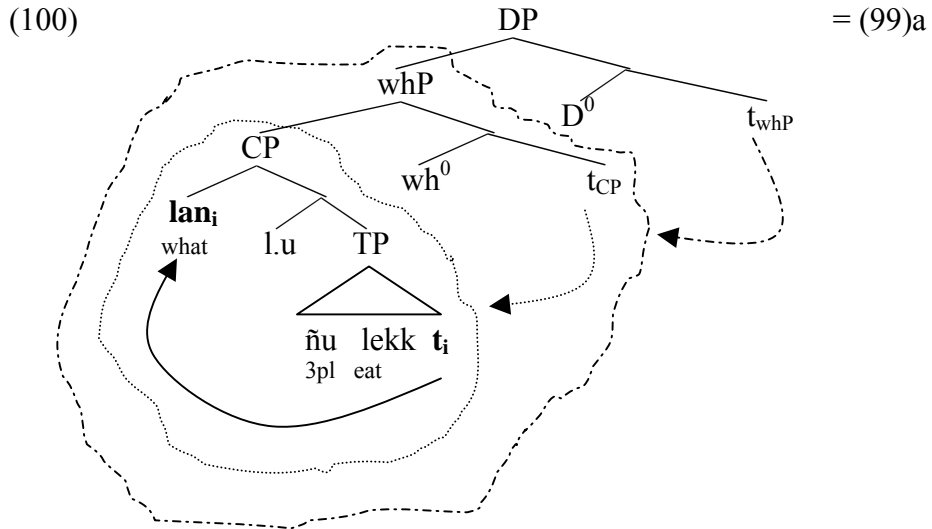
The linear order contrast between (94)a and b (repeated below as (99)a and b) is essentially obtained by the same mechanism needed to strand ideophones:

- (99) a. [**lan_i** [l.u nu lekk **t_i**]] l-a Bintë jënd postnominal relative
 what cl.u 1pl eat xpl-a binta buy
 “what that we ate did Binta buy?”

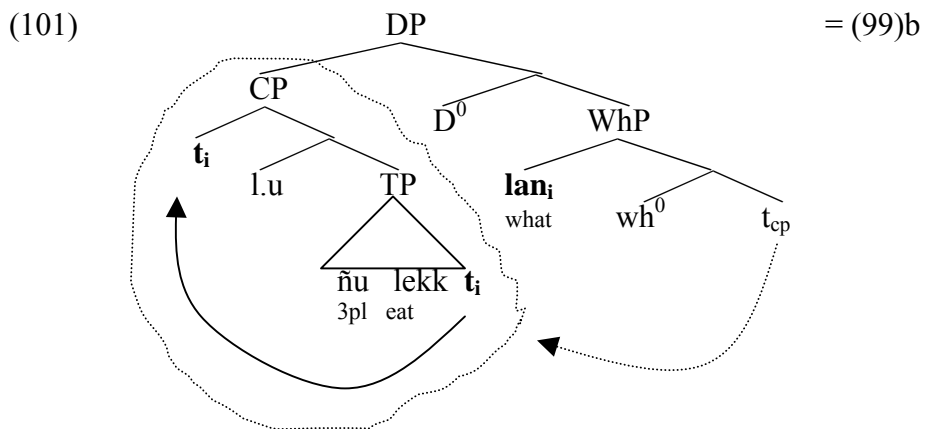
b.?
 b.?
 cl.u 1pl eat what xpl-a binta buy
 “what that we ate did Binta buy?”

prenominal relative

For the postnominal relative in (99)a, the wh-word raises to the specifier of whP and piedpipes CP:



When the determiner merges, it attracts CP and the wh-word in SpecCP is pied piped, yielding the surface order. In the pronominal relative in (99)b, the wh-word extracts out of SpecCP, thereby stranding it. When the determiner merges, it attracts CP. Because the wh-word has stranded the CP, this yields a pronominal relative clause:



b.garab *(g).u ma gis
 tree cl.u 1sg see
 “a tree that I saw”

-u-relative clause

Comparing the attributive adjective in (103)a to the relative clause in (103)b, it can be seen that the familiar complementizer *-u-* appears in both, preceded by obligatory class agreement with the nominal its left, and that both the adjective and relative clause are postnominal. By examining another relative construction, we gain a more complete picture of the morphosyntactic distribution of the complementizers. It is these similarities to canonical relative clauses which make attributive adjectives relevant. I present a brief general introduction to adjectives in Wolof followed by the analysis I will pursue.

3.8.1 *Adjectives in Wolof*

Most adjectives in Wolof have a distribution similar to verbs. It is for this reason that adjectives in Wolof are typically assumed to be verbs. However, there are a number of morphosyntactic differences between adjectival predicates and canonical verbs. For example, there is a “negative” suffix, similar in meaning to English *un-*, that is only found with adjectives (and certain other stative predicates):

- (104) a. *ñor* ‘ripe’ → *ñor-adi* ‘unripe’
 b. *xam* ‘know’ → *xam-adi* ‘ignorant’
 c. *wer* ‘healthy’ → *wer-adi* ‘unhealthy’

In this section, I first lay out the basic properties of predicative adjectives and adverbs and then turn to the attributive adjectives.

3.8.2 *Predicative Adjectives and Adverbs*

Predicative adjectives in Wolof are not introduced by an overt copular element, like English *be* or *become*. Instead, the adjective appears in the same conjugational forms as canonical verbs:

- (105) a. xale yi mer-na-ñu *na*-clause
 child the.pl angry-*na*-3pl
 "the children became angry"
- b. xale yi da-ñu-a mer verb cleft³¹
 child the.pl do-3pl-*a* angry
 "the children are angry"
- c. xale yi da-ñu-a mer-ul woon verb cleft
 child the.pl do-3pl-*a* angry-neg past
 "the children were not angry"

Although they occur in the same conjugational forms as canonical verbs, adjectives are interpreted differently from active predicates. Consider the following contrasts:

- (106) a. di-na-ñu lekk ceeb *na*-clause, active verb
di-na-3pl eat rice
 "they will eat rice"
 "they eat rice"
 future
 habitual
- b. di-na-ñu feebar *na*-clause, adjective
di-na-3pl sick
 "they will be sick"
 *"they are sickly"
 future
 *habitual
- c. mu a di lekk ceeb subject cleft, active verb
 3sg *a di* eat rice
 "they will eat rice"
 "they eat rice"
 future
 habitual
- d. mu a di feebar subject cleft, adjective
 3sg *a di* sick
 "it them who will be sick"
 "it's them who are sickly"
 future
 habitual

³¹ English predicate adjectives are often translated using verb clefts.

In the *na*-clause, an active verb with the imperfective marker *di* can have either a future or habitual reading ((106)a). In contrast, the adjective has only the future reading ((106)b).³² In a subject cleft, the future and habitual readings are available for both active predicates ((106)c) and adjectives ((106)d).

Adjectives can be used to form adverbs of various morphological shapes. Typically, these look like free relatives with *-u-* as the complementizer. There are morphological, syntactic, and subtle interpretive differences between the adverb types, but these have not been investigated (in any detail):

- | | | | | | | | |
|----------|-----|----|-------|---------------------------------------|-------------|-------------------------------|---------------------------------|
| (107) a. | fas | wa | daf-a | <u>gaaw</u> | | adjective | |
| | | | | horse the.dist do-a fast | | "the horse there is fast" | |
| b. | fas | wa | daf-a | daw | <u>gaaw</u> | bare adverb | |
| | | | | horse the.dist do-a run fast | | "the horse there ran quickly" | |
| c. | fas | wa | daf-a | daw | (daw) b.u | <u>gaaw</u> | <i>b.u</i> adverb ³³ |
| | | | | horse the.dist do-a run run cl.u fast | | "the horse there ran quickly" | |
| d. | fas | wa | daf-a | daw | l.u | <u>gaaw</u> | <i>l.u</i> adverb |
| | | | | horse the.dist do-a run cl.u fast | | "the horse there ran quickly" | |
| e. | fas | wa | daf-a | daw | ci l.u | <u>gaaw</u> | <i>ci l.u</i> adverb |
| | | | | horse the.dist do-a run P cl.u fast | | "the horse there ran quickly" | |

³² To get the habitual reading of the adjective in the neutral clause, a second *di* must occur. This yields only a habitual reading for both adjectival and active predicates:

- | | | | | | | |
|------|------------------|-----------|----------------------------------|--------------------------------------|--|--------------------------------|
| (i) | di -na-ñu | di | lekk | ceeb | | <i>na</i> -clause, active verb |
| | | | | <i>di</i> -na-3pl <i>di</i> eat rice | | habitual |
| | | | | "they eat rice (habitually)" | | *future |
| | | | | *"they will eat rice" | | |
| (ii) | di -na-ñu | di | feebat | | | <i>na</i> -clause, adjective |
| | | | <i>di</i> -na-3pl <i>di</i> sick | | | habitual |
| | | | "they are sickly" | | | *future |
| | | | *"they will be sick" | | | |

³³ Wolof lacks cognate object constructions.

f. fas wa daf-a daw n.u gaaw *n.u* adverb
horse the.dist do-*a* run cl.*u* fast
"the horse there ran in a way that was quick"

3.8.3 Attributive Adjectives

The initial impression that attributive adjectives are relative clauses is strengthened by the occurrence of *-u/i/a* with attributive adjectives, with obligatory class agreement with the nominal to the left:

- (108) a. garab **g.i** wert (g.i) *i*-adjective
tree cl.*i* green cl.def
"the GREEN tree(, not the blue one)"
- b. garab **g.i** ma gis (g.i) *i*-relative clause
tree cl.*i* 1sg see cl.def
"the tree that I saw"
*"the tree that I SAW(, not the one I cut down)"
- c. garab **g.a** wert-*(oon) (g.a) *a*-adjective
tree cl.*a* green-past cl.def.dist
"the formerly green tree"
- d. garab **g.a** ma gis-oon (g.a) *a*-relative clause
tree cl.*a* 1sg see-past cl.def.dist
"the tree I saw (long ago)"

As the translation in (108)a indicates, when *-i-* is the C^0 the interpretation is one of contrastive focus on the adjective. This interpretation is not present when *-i-* is the complementizer in a canonical relative clause ((108)b). When *-a-* the C^0 in an attributive adjective, past tense is obligatory on the adjectival predicate ((108)c). However, when *-a-* is the C^0 of a canonical relative clause, past tense is preferred, but optional ((108)d). In both adjectives relative clauses, the presence of *-i-* is associated with definite/specific and proximal, while *-a-* is associated with definite/specific and distal. This suggests that the *i/a* that occurs with adjective are the same as the *i/a* that occur as complementizers in relative clauses. Note also that the definite determiner is optional on the right edge of attributive adjectives, just as with canonical relative clauses. As (103)a indicates, *-u-* is

associated with an indefinite interpretation of the modified DP. In striking contrast to relative clauses, in attributive adjectives *-u-* can occur with the definite articles.

- (109) a. garab g.**u** wert g-**i** *u...i* adjective
 tree cl.*u* green cl.def
 “the green tree”
- b. *garab g.**u** ma xool g-**i** **u...i* relative clause
 tree cl.*u* 1sg look.at cl-def
- c. garab g.**u** wert g-**a** *u...a* adjective
 tree cl.*a* green cl-def.dist
 “the green tree over there”
- d. *garab g.**u** ma xool g-**a** **u...a* relative clause
 tree cl.*u* 1sg look.at cl-def.dist

It is not clear why *-u-* and the *i/a* determiners can co-occur in adjectives. If the adjective is made transitive, it then patterns like a canonical relative clause in that if *-u-*:

- (110) a. xaj b.**u** mer intransitive adjective
 dog cl.*u* angry
 “an angry dog”
- b. xaj b.**u** mer b-**i** intransitive adjective
 dog cl.*u* angry cl-def
 “the angry dog”
- c. xaj b.**i** mu mer-e (b-**i**) transitive adjective
 dog cl.*i* 3sg angry-trans cl-def
 “the dog that he’s angry at”
- d. *xaj b.**u** mu mer-e b-**i** transitive adjective
 dog cl.*u* 3sg angry-trans cl-def
 “the dog that he’s angry at”

Attributive adjectives can be associated with tense and negation, like verbs in canonical relative clauses:

- (111) a. xaal w.**u** ñor-**ul** **woon** (w-**i**) *u*-adjectival relative clause
 melon cl.*u* ripe-neg past cl-def
 “the melon that was not ripe”
- b. xaal w.**i** ñor-**ul** **woon** (w-**i**) *i*-adjectival relative clause
 melon cl-*i* ripe-neg past cl-def
 “the melon that was not RIPE (...not the other one)”

c. xaal w-a ñor-ul woon (w-a) a-adjectival relative clause
 melon cl-a ripe-neg past cl-def.dist
 “the melon that was not ripe (long ago)”

d. xaal w-a-ma jënd-ul wóón (w-a) a-relative clause
 melon cl-a-1sg buy-neg past cl-def.dist
 “the melon that I did not buy (long ago)”

The notion that attributive adjectives are relative clauses in Wolof is further supported by the fact that *-i-* can be iterated, also attested in canonical relative clauses:

(112) a. xaj b.i nga foog b.i xonq *cl.i....cl.i* adjective
 dog cl.i 2sg think cl.i red
 “the dog that you think is black”

b. xaj b.i nga foog b.i ma xool *cl.i...cl.i* relative
 dog cl.i 2sg think cl.i 1sg look.at
 “the dog that you think I looked at”

This suggests that *-i-* has the same status in both adjectives and relative clauses.

Surprisingly, neither *-u-* nor *-a-* can be iterated with adjectives, although this is fine in relative clauses:

(113) a. *xaj b.a nga foog b.a xonq(-oon) **cl.a....cl.a* adjective
 dog cl.a 2sg think cl.a red-past
 “the dog that you think was black long ago”

b. xaj b.a nga foog b.a ma xool *cl.a...cl.a* relative
 dog cl.a 2sg think cl.a 1sg look.at
 “the dog that you think I looked at long ago”

c. *xaj b.u a foog b.u xonq **cl.i....cl.i* adjective
 dog cl.u 2sg think cl.u red
 “a dog that you think is black”

d. xaj b.u a foog b.u ma xool *cl.i...cl.i* relative
 dog cl.u 2sg think cl.u 1sg look.at
 “a dog that you think I looked at”

It is not clear how these properties are to be accounted for.

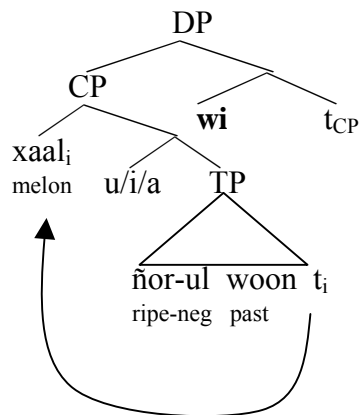
To summarize, attributive adjectives in Wolof occur with *u/i/a* on the left edge of a TP that contains clitics, tense, and negation, just as in relative clauses. The *u/i/a* have the same basic interpretations in relative clauses and adjectives. In both constructions *u/i/a*

obligatorily agree with a nominal that immediately precedes it. In addition, the definite determiners occur to the right of TP in relative clauses and adjectives. Thus, it seems that adjectives and relative clauses are essentially relative clauses. While adjectives and relative clauses are not exactly identical, it appears that Wolof attributive adjectives make use of the same basic structural resources and derivational pathways as canonical relative clauses. Given this, I will assume that attributive adjective clauses are basically derived like non-adjectival relative clauses: promotion of NP to SpecCP, followed by CP fronting to SpecDP. Thus, adjectives and relative clauses as in (114)a and b, will be analyzed as in (115)a and b:

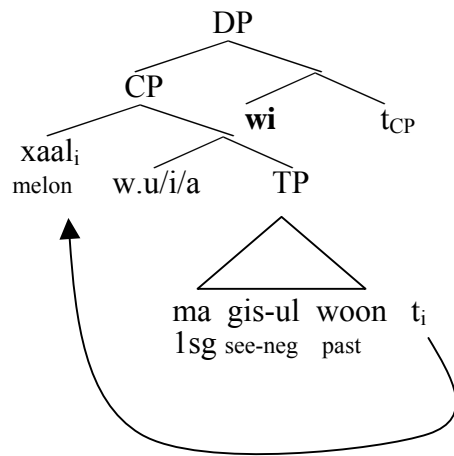
- (114) a. xaal w.u ñor-ul woon w.i adjective
 melon cl.i ripe-neg past cl.def
 "the melon that wasn't ripe"
- b. xaal w.i ma gis-ul woon w.i relative clause
 melon cl.i 1sg see-neg past cl.def
 "the melon that I didn't see"

That the optional definite article appears on the right edge to the adjective, following TP and CP associated material immediately suggests CP raising to SpecDP, as in relative clauses.

(115) Adjectival Relative Clause



Relative Clause

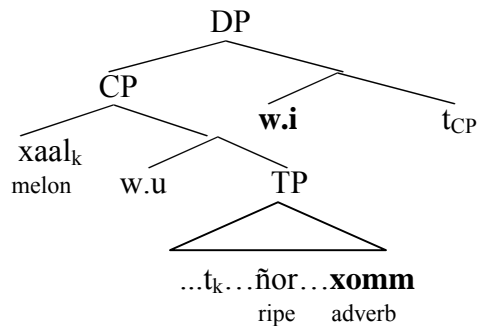


Support for CP raising comes from the by-now familiar distribution of adverbs, which may either precede or follow the definite article in attributive adjectives (as discussed in Diouf 1984), just as in relative clauses:

- (116) a. [DP [CP xaal w.u ñor **xomm**] w.i] ideophone...det
 melon cl.u ripe id cl.def
 "the perfectly ripe melon"
- b. [DP [CP xaal w.u ñor] w.i **xomm**] det...ideophone
 melon cl.u ripe cl.def id
 "the perfectly ripe melon"
- c. [DP [CP xaal w.u ñor **lool**] w.i] adverb ...det
 melon cl.u ripe very cl.def
 "the very ripe melon"
- d. [DP [CP xaal w.u ñor] w.i **lool**] det...adverb
 melon cl.u ripe cl.def very
 "the very ripe melon"

Notice that, as in relative clauses, both idiomatic ((116)b) and non-idiomatic ((116)d) adverbs can be stranded. This distribution follows straightforwardly from there being a left peripheral position, "ModP" (Rizzi 2002) in adjectival relative clauses, where adverbials occur, just as in relative clauses. Thus, when the adverb precedes the definite article ((116)a,c)), it is inside of TP. When CP raises to SpecDP, the adverb is pied piped:

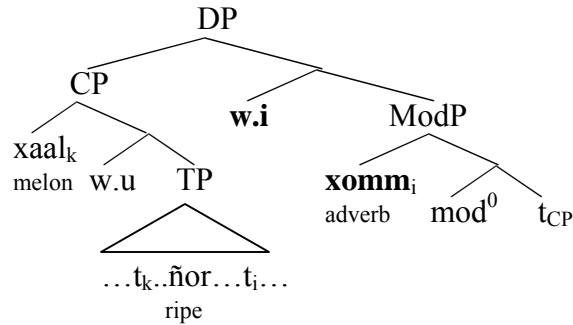
(117) Pied Piping Derivation



However, when the adverb follows the article, as in (116)b and d, it occurs in SpecModP.

Now, when CP raises to SpecDP, the adverb is stranded:

(118) Stranding Derivation



Consider next adjectivally modified wh-words:

- (119) [ñan [ñ.u gàtt]] l-a-ñu y xool
 who(pl) cl.u short xpl-a-3pl di look.at
 "who(pl) short is it that they are looking at?"

Just as with relative clauses, if an adjective modifies a wh-word, it may appear preminally:

(120) Adjectival modification of wh-words

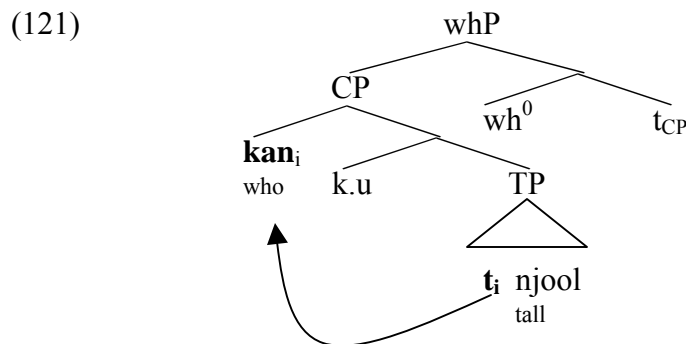
	postnominal adjective	prenominal adjective
+wh	a. [CP k.an k.u njool] k.i cl.an cl.u tall cl.def "who that is tall...?"	b. [CP k.u njool] k.i k.an cl.u tall cl.def cl.an "who that is tall...?"
-wh	c. [CP xale b.u njool] b.i child cl.u tall cl.def "the child that is tall..."	d. *[CP b.u njool] b.i xale cl.u tall cl.def child "the child that is tall..."

(120)a and b show that the wh-word can precede the adjectival relative or follow the definite article on the right edge. (The definite article is optional.)³⁴ Comparing (120)c

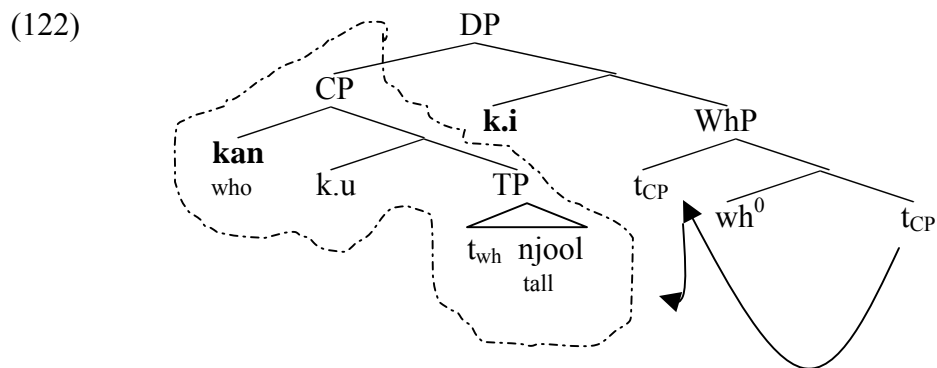
³⁴ When a wh-word is relativized in a canonical relative clause, the presence of the definite article yields ungrammaticality:

- (i) *[**kan** k.i/u xale yi dàq] **k-i** l-a Isaa bëgg
 who cl.i/u child the.pl chase cl-def xpl-a isaa love
 "who that the children chased is it that Isaa loves?"

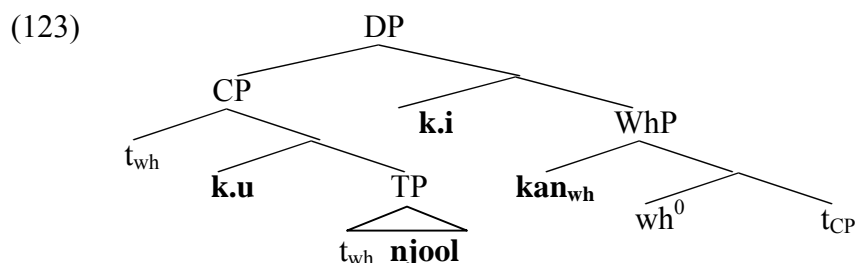
and d, it can be seen that if the "head" of the adjectival relative clause is –wh, then the adjectival relative is postnominal. As with the derivation of relative clauses that modify wh-words, I take the existence of prenominal adjectives in Wolof as support for the existence of a "wh" position in the left periphery of adjectival (and canonical) relative clauses. In the derivation in (120)a, where the wh-word precedes the adjectival relative, the wh is merged in TP and raises to SpecCP, where it triggers agreement on C. When the head of whP merges, it attracts the wh-word, which pied pipes CP:



When the determiner merges, it attracts CP. The wh in SpecCP is pied piped yielding a postnominal adjective:



In the derivation of (120)b, where the adjective precedes the wh-word, the wh first raises to SpecCP from inside of TP. When wh^0 merges, the wh raises out of SpecCP to SpecWhP. When the determiner merges it attracts CP, “stranding” the wh-phrase:³⁵



This means that the derivational difference between postnominal and prenominal adjectival relative clauses is reducible to a difference in the size of the pied piped constituent. If CP is pied piped to the specifier of whP, a postnominal adjective results. If wh strands CP on its way to the specifier of whP, this yields a prenominal adjectival relative.

3.9 Puzzles

There are several outstanding issues that remain given the analysis of relative clauses presented here. I have made the point several times that the *u*-construction and relative clauses are very close. However, there are a number of puzzling differences. For example, in the *u*-construction, the CP can be pied piped, this is impossible in relative clauses:

- (124) a. [_{CP} [_{CP} k.u lekk gato bi] k.u ñu foog] *u*-construction
 cl.u eat cake the cl.u 3pl think
 "who ate the cake do they think?"

³⁵ Although I will not pursue an analysis here, more complex forms of stranding are possible. For example, both a wh-word and an adverb can follow the determiner:

- (i) [k.u njool k-i kan lool] l-a-ñu dóór
 cl.u tall cl-def who very xpl-a-3pl hit
 “which very tall person did they hit?”

b. *gis-na-a [DP [CP [CP k.u lekk gato bi] k.u ñu foog]] relative clause
 see-na-1sg cl.u eat cake the cl.u 3pl think
 "I saw someone who they think ate the cake"
 (lit. "I saw who ate the cake who they think")

In addition, a PP can be pied piped in the *u*-construction, but not under relativization:

(125) a. **ci lo** o teg tééré bi
 P cl.u 2sg put book the
 "on what did you put the book?"

b. *gis-na-a [DP **ci lo** o teg tééré bi]
 see-na-1sg P cl.u 2sg put book the
 "I saw on what you put the book"

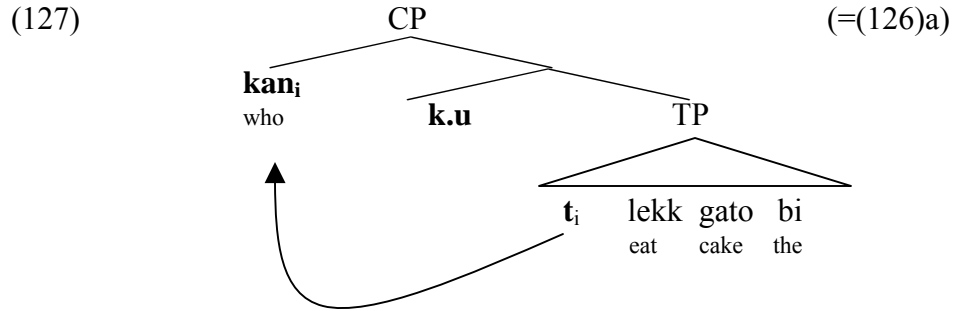
Third, an *an*-form can occur with a relative clause modifier, but not in the *u*-construction in a single clause:

(126) a. #**k.an** k.u lekk gato bi
 cl.an cl.u eat cake the
 "who ate the cake?" *wh-question
 "who that ate the cake?" ✓ relative clause

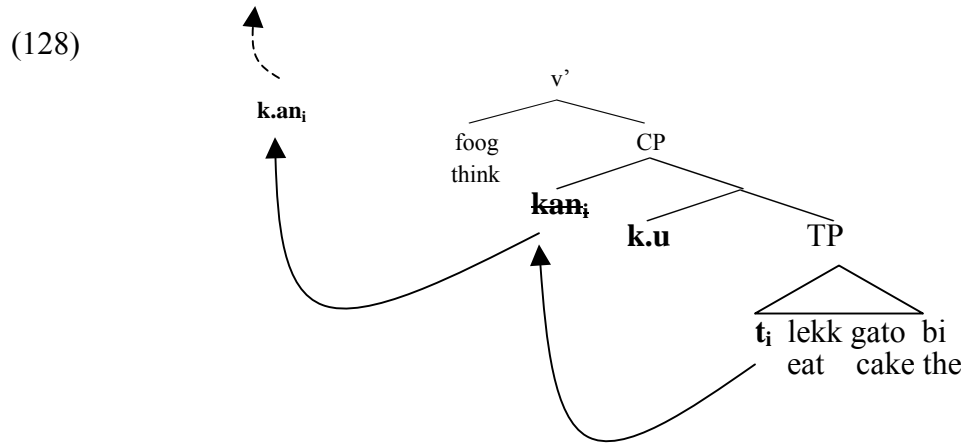
b. [**k.an** k.u lekk gato bi] nga gis relative clause
 cl.an cl.u eat cake the xpl.a.2sg see
 "who that ate the cake did you see?"
 (lit. "which person, who has the property
 of having eaten of the cake, is a person that you saw?")

c. **k.an** nga foog **k.u** lekk gato bi *u*-chain
 cl.an xpl.a.2sg think cl.u eat cake the
 "who do you think ate the cake?"

According to the analysis of the *u*-construction, in (126)a, the *an*-form is in SpecCP. The existence of mixed *u*-chains like (126)c indicates that the *an*-form has passed through SpecCP, triggering class agreement. If the *-u-* that appears in both the *u*-construction and relative clauses is the same, it is not clear why (126)a cannot be a wh-question, but can only be interpreted as a relative clause modifier:



In order to get a wh-question, the *an*-form must escape from SpecCP. That this is the case is suggested by (126)c, which is a real wh question:



According to the analysis presented here, prenominal relative clauses in Wolof arise when a wh-word raises to SpecCP, and then raises to SpecWhP, stranding the CP. However, a prenominal CP headed by *-u-* in the *u*-construction is impossible:

- (129) a. *[[_{CP} t_j **k.u** dem] **kan_j**] l-a-ñu foog *u*-construction
 cl.*u* leave who xpl-*a*-3pl think
 “who do they think left?”
- b. [[_{CP} t_j **k.u** dem] **kan_j**] l-a-ñu dóór relative clause
 cl.*u* leave who xpl-*a*-3pl hit
 “who that left did they hit?”

The contrast in (129) points out that, while the *u*-construction and relative clauses make use of the same basic set of building blocks, a more fine-grained analysis is necessary to account for the differences between them.

Finally, although the *u*-construction looks like a relative clause, the silent *wh*-words, unlike the *an*-forms, cannot be modified by relative clauses. (In the example in (130), the silent *wh*-word is underlined.):

- (130) *[wh l.u Bintë jënd] l-a-ñu sàcc
cl.*u* binta buy xpl-*a*-3pl steal
“what that Binta bought did they steal?”

It is not clear how to account for these properties.

3.10 Summary

In this chapter, I have argued for two principal points. First, relative clauses in Wolof involve a D^0 that takes a CP complement. This is the analysis of relative clauses proposed in Kayne 1994. I argued that the *u/i/a* in the relative markers are (agreeing) complementizers. That the definite determiners appear on the right edge of the entire relative clause complex was shown to follow from CP raising to SpecDP. The second point was that relative clauses in Wolof involve promotion of the head noun from inside of TP. This was argued for based on the existence of reconstruction effects (reconstruction for Principle A, idiom chunks).

Appendix 1 *Temporal and Conditional Clauses*

Temporal clauses in Wolof look like relative clauses:

- (131) a. [**b.i** leen-fa Isaa togg-al-ee jën wi], lekk-u-ma-ci temporal clause
cl.i 3pl-loc isaa cook-ben-perf fish the eat-neg-1sg-part
"when Isaa cooked the fish for them there, I didn't eat any of it"
- b. yaasa [**b.i** leen-fa Isaa togg-al] saf-na relative clause
yaasa cl.i 3pl-loc isaa cook-ben be.tasty-na
"the yaasa that Isaa cooked for them there tasted good"

Both the temporal and relative clauses contain a class marker, *b-* followed by *-i-* on the left edge. In the relative clause in (131)b, the class agreement is triggered by the noun *yaasa*. However, in the temporal clause in (131)a, there is no overt element which triggers the agreement. The DP subject in both the temporal and relative clauses, *isaa*, follows the clitic string, *leen-fa* '3pl-loc'. Conditional/temporal clauses are germane to the discussion because they display several properties distinct from the canonical relative clauses analyzed previously. Looking at these will be useful for understanding how some of the differences between construction/clause types occur, even if the complementizers are the same.

The idea that temporal/conditional clauses are relative clauses is strengthened by the fact that all of *u/i/a* appear on the left edge:

(132) Temporal and Conditional Clauses

C ⁰	Perfective	Imperfective
-i-	a. b.i ayda ñëw-éé, gis-na Isaa <i>b.i</i> ayda arrive-perf see- <i>na</i> isaa “when Ayda arrived, she saw Isaa” “if Ayda arrived, then she saw Isaa”	b. b.i Ayda di ñëw-(*éé)... <i>b.i</i> ayda <i>di</i> arrive-perf “when Ayda was arriving”
-a-	c. b.a Ayda ñëw-éé, gis-óón-na Isaa <i>b.a</i> ayda arrive-perf see-past- <i>na</i> isaa “when Ayda arrived (long ago), she saw Isaa” “if Ayda arrived (long ago), then she saw Isaa”	d. b.a Ayda di ñëw-(*éé)... <i>b.a</i> ayda <i>di</i> arrive-perf “when Ayda was arriving (long ago)”
-u-	e. b.u Ayda ñëw-éé, di-na gis Isaa <i>b.u</i> ayda arrive-perf <i>di-na</i> see isaa “when Ayda arrives, she will see Isaa” “when(ever) Ayda arrives, she sees Isaa” “if Ayda were to arrive, she would see Isaa”	f. b.u Ayda di ñëw-(*éé)... <i>b.u</i> ayda <i>di</i> arrive-perf “when Ayda is arriving” “if Ayda were arriving” “if Ayda arrived (habitually)”

Notice that the interpretation of the temporal/conditional clause varies according to whether *-u-*, *-i-*, or *-a-* is present. In (132)a-b, when *-i-* occurs, the temporal/conditional clauses are interpreted as past and refer to a specific situation. Similarly, in (132)c-d, the presence of *-a-* corresponds to a specific situation in the distant past. The presence of *-u-*, as in (132)e-f, correlates roughly with clauses that are interpreted as counterfactual conditionals or future/habitual temporals. These rough interpretations are quite close to the expected interpretations of *u/i/a* in the relative markers of relative clauses and the determiners. In (132)a,c,e, the verb bears an *-ee* suffix (the “perfective” suffix).^{36, 37} This does not occur in canonical relative clauses.

Templatically, temporal/conditionals and relative clauses look almost identical:

(133) Temporal/Conditionals and Relative Clauses

	Perfective	Imperfective
temp/cond	b.u/i/a Clt _S Clt _O Clt _{Loc} S V-*(ee) O	b.u/i/a Clt _S Clt _O Clt _{Loc} S di-(ee) V O
relative	(NP) cl.u/i/a Clt _S Clt _O Clt _{Loc} S V (*ee) O	(NP) cl.u/i/a Clt _S Clt _O Clt _{Loc} S di V O

³⁶ This suffix is often associated with perfectivity, however, as discussed in 3.6 *Tense in Relative Clauses* (example (59)b), the *-ee* suffix can appear with the imperfective marker *di*. In that case, it lends an emphatic/specific interpretation.

³⁷ See Appendix 2 *The Perfective Suffix* for further details on the distribution of the perfective suffix.

There are two sets of subject markers that appear in conditional/temporal clauses. One set occurs when *-u-* is the complementizer, the other is found when *i/a* is the complementizer. (This is the same split noted for relative clauses.):³⁸

- (134) a. **b.u** Ø dem-ee **-u-** temporal relative clause
 cl.*u* 3sg leave-perf
 “when(ever) he leaves”
- b. **b.i mu** dem-ee **-i-** temporal relative clause
 cl.*i* 3sg leave-perf
 “when he left”

(135) Temporal/Conditional Subject Markers

C ⁰	<i>u</i>	<i>i/a</i>
1sg	ma	ma
2sg	a	nga
3sg	Ø	mu
1pl	nu	nu
2pl	a leen/ngeen	ngeen
3pl	ñu	ñu

As can be seen the 2sg, 3sg, and 2pl subject markers differ. It is tempting to take these differences as akin to the complementizer agreement found in languages like West Flemish (Haegeman 1992). Note, however, that the subject markers are in complementary distribution with DP subjects in TP:

- (136) a. **b.i (*ñu)** xale yi dem-ee Ndar DP subject
 cl.*i* 3pl child the.pl go-perf st. louis
 “when the children went to St. Louis”

³⁸ In the Mauritanian dialect there is a morphological distinction between the subject marker paradigms in the 2sg in temporal and conditional clauses:

- (i) **b.u nga** lekk-ee 2sg temporal clause (adapted from Halaoui 1984, p.30)
 cl.*u* 2sg eat-perf
 “when you eat”
- (ii) **b.u a** lekk-ee 2sg conditional clause
 cl.*u* 2sg eat-perf
 “if you eat”

Forms like (i) are ungrammatical in the St. Louis dialect. However, like the St. Louis dialect, in the Mauritanian dialect, *i/a* only occur with *nga* in the 2sg.

b.xale yi b.i *(ñu) dem-ee Ndar DP topic
 child the.pl cl.i 3pl go-perf st. louis
 "the children, when they went to St. Louis"

There is a tense dependency in conditional/temporal clauses unlike that found in canonical relative clauses. The simple past tense does not occur in *i/a* conditional/temporal relative clauses:³⁹

- (137) a. *b.i ma gis-óón Isaa, da-ma tiit *i...-oon
 cl.i 1sg see-past isaa do-1sg be.scared
 "when I saw Isaa, I got scared"
- b. *b.a ma gis-óón Isaa, *a...-oon
 cl.a 1sg see-past isaa
- c. b.u ma gis-óón Isaa u...-oon
 cl.u 1sg see-past isaa
 "if I were to see Isaa"
 "if I had seen Isaa"

Note that while the past tense morpheme occurs with *-u-*, it is not interpreted as past. Instead, (137)c is a counterfactual conditional. A past interpretation comes from the matrix clause:

- (138) a. b-u-ma am-oon xaalis, di-na-a kon jënd woto Imperfective Matrix CP
 cl-u-1sg have-past money di-na-1sg cond buy car
 "If I had money, I would buy a car"
- b. b-u-ma am-oon xaalis, jënd-kóón-na-a woto Past Matrix CP
 cl-u-1sg have-past money buy-cond+past-na-1sg car
 "If I had had money, I would have bought a car"

³⁹ It is important to note the the data in (137) is for the St. Louis dialect. In other dialects, there are different distributions.

The data in (137)a-c are surprising given that past tense can occur in ordinary relative clauses, with *i/a* as C⁰:⁴⁰

(139) a. xaj b.i Isaa gis-óón (cf. (137)a)
 dog cl.i isaa see-past
 "the dog that Isaa saw"

b. xaj b.a Isaa gis-óón (cf. (137)b)
 dog cl.a isaa see-past
 "the (distal) dog that Isaa saw"

c. xaj b.u Isaa gis-óón (cf. (137)c)
 dog cl.u Isaa see-past
 "a dog that Isaa saw"

If the *i/u/a* in the cond/temp clauses and relative clauses are the same, it must be explained why *i/a* are compatible with past tense in a relative clause, but not in a cond/temp clause. I will return to this point later. If the auxiliary *di* is present in *i/a* temporal/conditionals, then past tense can occur with *u/i/a*, yielding a past progressive reading:

(140) a. b.i ma d-oon togg yaasa
 cl.i 1sg *di*-past cook yaasa
 "when I was cooking yaasa"

b. b.a ma d-oon togg yaasa
 cl.a 1sg *di*-past cook yaasa
 "when I was cooking yaasa (long ago)"

⁴⁰ Free relative clauses pattern with headed relatives in allowing definite past tense:

- (i) b.i Isaa gis-óón (cf. (137)a)
 cl.i isaa see-past
 "the (*bi*-class) thing that Isaa saw"
- (ii) b.a Isaa gis-óón (cf. (137)b)
 cl.a isaa see-past
 "the (distal *bi*-class) thing that Isaa saw"
- (iii) b.u Isaa gis-óón (cf. (137)c)
 cl.u isaa see-past
 "some/whatever (*bi*-class) thing that Isaa saw"

- c. **b.u** ma **d-oon** togg yaasa
 cl.u 1sg *di*-past cook yaasa
 "when(ever) I was cooking yaasa"

This is similar to the effect of *di* in canonical relative clauses with respect to the presence of habitual past *-aan*. Recall that in canonical relative clauses, the *i/a* complementizers cannot occur with habitual past without *di* also being present. When habitual past occurs in a *b.u* temporal/conditional clause, as in (141)a, this yields a past habitual interpretation of the clause.⁴¹ In the examples below I use the indefinite past. The same results are found with definite past.⁴²

- (141) a. **b.u** Bintē gis-**aan** Isaa, d-aan-na-∅ ragal ✓*u...V-aan*
 cl.u binta see-past isaa *di*-past-na-3sg afraid
 "when Binta used to see Isaa, she used to become afraid"
- a'. **b.u** Bintē **d-aan** gis Isaa, d-aan-na-∅ ragal ✓*u...d-aan V*
 cl.u binta *di*-past see isaa *di*-past-na-3sg afraid
 "when(ever) Binta used to see Isaa, she used to become afraid"
- b. ***b.i** Bintē gis-**aan** Isaa, d-aan-na-∅ ragal **i...V-aan*
 cl.i binta see-past isaa *di*-past-na-3sg afraid
 "when Binta used to see Isaa, she used to become afraid"
- b'. **b.i** Bintē **d-aan** gis Isaa, d-aan-na-∅ ragal ✓*i...d-aan V*
 cl.i binta *di*-past see isaa *di*-past-na-3sg afraid
 "when Binta used to see Isaa, she used to become afraid"
- c. ***b.a** Bintē gis-**aan** Isaa, d-aan-na-∅ ragal **a...V-aan*
 cl.i binta see-past isaa *di*-past-na-3sg afraid
 "when Binta used to see Isaa, she used to become afraid"

⁴¹ Note that (141)a and a' are interpreted as past habitual temporals, not counterfactual conditionals. This is unlike (137)c and (138)a and b, where the presence of definite past triggers a counterfactual conditional interpretation:

- (i) b-u-ma **d-aan** bey ceeb
 cl-u-1sg *di*-habpast cultivate rice
 "when I used to cultivate rice" (...) temporal
 *"if I had used to cultivate rice" (...) counterfactual conditional

The definite past seems to be responsible for the counterfactual interpretation. This is because in order to obtain a counterfactual past habitual reading, a compound tense form must be used:

- (ii) b-u-ma **d-aan-oon** bey ceeb
 cl-u-1sg *di*-habpast-past cultivate rice
 "if I had used to cultivate rice" (...) temporal
 "when I used to cultivate rice" (...) counterfactual conditional

⁴² Both definite and indefinite tense are in complementary distribution with the perfective suffix, *-ee*.

c'. **b.a** Bintë d-**aan** gis Isaa, d-aan-na-∅ ragal ✓ *a...d-aan V*
 cl.a binta *di*-past see isaa *di*-past-na-3sg afraid
 "when Binta used to see Isaa, she used to become afraid"

A perfective verb with an *-aan* suffix is possible in clauses with *-u-* in the left periphery ((141)a), but impossible for clauses with either *i/a* in the left periphery ((141) b and c). Neither definite nor indefinite articles can occur with temporal clauses, unlike relative clauses:

- (142) a. (***a/u.b**) **b.u** xale yi lekk-ee *ndef det...cl.u
 an cl.u child the.pl eat-perf
 "if/when the children eat"
- b. **b.i** xale yi lekk-ee (***bi**) *cl.i...det
 cl.i child the.pl eat-perf the
 "when the children ate"
- c. **b.a** xale yi lekk-ee (***ba**) *cl.a...det
 cl.a child the.pl eat-perf the
 "when the children ate (long ago)"
- d. **b.i** mätt Isaa (**bi**) relative clause
 cl.i bite isaa the
 "the *bi*-class object that bit Isaa"

The perfective suffix, *-ee*, occurs neither in canonical relative clauses nor matrix clauses:

- (143) a. xaj b.i ma gis-(***ée**) démb relative clause
 dog cl.i 1sg see-perf yesterday
 "the dog that I saw yesterday"
- b. gis-(***ée**)-na-a xaj b.i démb matrix clause
 see-perf-na-1sg dog the yesterday
 "I saw the dog yesterday"

To summarize, there are several reasons for taking temporal/conditional clauses to be relative clauses in Wolof. First, the same set of elements, *u/i/a* appear in the same positions in both clause types. Second, *u/i/a* have (roughly) the same meanings in both

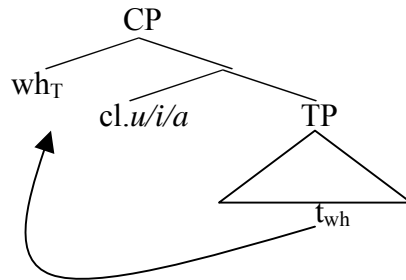
constructions. Third, the TP type that occurs in temporal/conditionals and relatives is the same, as can be seen from the clitic positions.

Given that *u/i/a* display class agreement, there must be a silent nominal, Wh_T , that triggers the agreement. This means that temporal/conditional clauses look very much like the *u*-construction, where there is a silent *wh*-word that triggers agreement on C^0 . This is supported by the existence of questions like:

- (144) %b.u nu y dem?
 cl.u 1pl di leave
 “when will we leave?”

Some speakers (none that I have worked with regularly) allow for a *when* *wh*-question with the *u*-construction. Significantly, the class marker is *b-*; the same class marker that appears in temporal/conditionals. Given this set of overlapping properties, I will take it that temporal/conditionals are basically (headless) relative clauses, derived like canonical relative clauses:

- (145) Temporal/Conditional Clauses



The presence of a silent *wh*-phrase in temporal/conditional clauses is supported by the existence of two other types of temporal/conditional clauses that display distinct noun class agreements:

- (146) a. s.u ma Isaa dóór-*(éé), di-na-a jóóy *s*-conditional
 cl.u 1sg Isaa hit-perf, di-na-1sg cry
 “if Isaa hits me, I will cry”

- b. **f.u** ma Isaa dóór-(éé), di-na-a jóóy *f*-temporal/conditional
 cl.*u* 1sg isaa hit-perf *di*-na-1sg cry
 “when(ever) Isaa hits me, I cry”
 “if Isaa hits me, I will cry”

Recall that the *bi*-class is a default noun class, the *si*-class is one form of the prepositional class (canonically the *ci*-class), while the *fi*-class is the locative class. This means that there is some type of silent wh-phrase in the *si*-class in (146)a, and one in the *fi*-class in (146)b. The presence of different silent wh-phrases corresponds to different sets of morphosyntactic properties. For example, in (146)a, with a *si*-class wh-phrase, the perfective suffix, *-ee*, is obligatory. In (146)b, where the wh-phrase is from the *fi*-class, the perfective marker is optional. The complementizers that occur with the silent wh’s also differ. In the table in (132), it can be seen that *u/i/a* occur with the *bi*-class silent noun. However, only *-u-* occurs with the *si*-class silent wh-phrase, while *u/i/a* occur with the *fi*-class wh-phrase:

- (147) a. ***s.i/a** ma gis-éé Isaa *wh_{si} + *i/a*
 cl.*i/a* 1sg see-perf isaa
 “when I saw Isaa”
- b. **f.i/a** ma gis-éé Isaa ✓wh_{fi} + *i/a*
 cl.*i/a* 1sg see-perf isaa
 “when I saw Isaa”

The notion that the raised silent nominal affects the distribution of tense in temporal/conditionals is supported by the properties of relativization when a “temporal” noun is relativized:

- (148) a. **bés** b.i temporal noun
 day cl.def
 “the day”

- b. **bés** b.i ma gis-*(**éé**) xac bi temporal noun relative⁴³
 day cl.i 1sg see-perf dog the
 “the day that I saw the dog”
- c. **xaj** b.i lexical noun
 dog cl.def
 “the dog”
- d. **xaj** b.i ma gis-*(**éé**) lexical noun relative
 dog cl.i 1sg see-perf
 “the dog that I saw”

Temporal nouns are interesting because they have properties of both canonical relative and temporal clauses when relativized. As can be seen, when a temporal noun is relativized, the perfective suffix is obligatory ((148)b). As noted previously, when a non-temporal noun is relativized, the presence of the perfective suffix leads to ungrammaticality ((148)d). Thus, temporal nouns pattern like temporal clauses. However, like canonical relatives, temporal noun relatives can occur with the definite determiner:

- (149) a. xac b.i ma gis (**bi**) lexical noun
 dog cl.i 1sg see the
 “the dog that I saw”
- b. **bés** b.i mē gis-éé Isaa (**bi**) temporal NP
 day cl.i 1sg see -perf isaa the
 “the day that I saw Isaa”

⁴³ Other temporal nouns include *waxtu* ‘time, hour’, *saa* ‘moment’, *at* ‘year’, *yoon* ‘time (‘fois’)', *jamano* ‘time period, epoch’, *ginnaaw* ‘back’, and *weer* ‘month’. Some temporal nouns may alternate between occurring in relative clauses and other structures:

- (i) gannaaw b-i-ma-ko gis-éé Relative Clause Structure
 back cl-i-1sg-3sg see-perf
 “after I saw him”
- (ii) gannaaw ma gis-ko Some Other Structure
 back 1sg see-3sg
 “after I saw him”

In (i) the complementizer *-i-* appears, there is agreement with the noun *gannaaw*, *b-*, the verb carries the perfective suffix *-éé*, and the clitic *ko* precedes the verb. None of these properties obtain in (ii), where *gannaaw* triggers a different clause type.

c. b.i ma gis-ée Isaa (*bi) temporal clause
 cl.i 1sg see-perf isaa the
 “when I saw Isaa”

In addition, definite past can occur in temporal NP relatives, just as in canonical relative clauses:

(150) a. bés b.i ma gis-óón Isaa⁴⁴ temporal NP
 day cl.i 1sg see-past isaa
 "the day that I saw Isaa"

b. b.i ma gis-(*óón) Isaa temporal clause
 cl.i 1sg see-past isaa
 "when I saw Isaa"

That This distribution suggests that the dependency between C^0 and Tense is mediated by NP.⁴⁵ The dependency between *-u-* and *-aan* is not direct since the tense of the matrix verb matters too.⁴⁶

(151) *raxas-nga cin l-u-mě togg-e-waan
 raxas-2sg+na pot cl-u-1sg cook-instr-past
 “you washed the pot that I used to cook with”

In the example above, the matrix verb is in the simple perfective. The relevant contrast to note is that even with the licensing by the matrix tense, *cl-i* and *cl-a* simply cannot

⁴⁴ The perfective morpheme and past tense are in complementary distribution in the St. Louis dialect:
 (i) %waxtu w.i ma gis-ée wóón/* gis-óón-ée Isaa *St. Louis, ✓Dakar, ✓Gambia
 time cl.i 1sg see-perf past/ see-past-perf isaa
 "the time when I saw Isaa"

See Appendix 2 *The Perfective Suffix*. In the dialects where the perfective suffix and past tense occur together, the order is invariably $V > ee > woon$.

⁴⁵ There is also a relation between the predicate type and the complementizer. See Section X on adjectival relative clauses:

- (i) b-u suba-a
 cl-u tomorrow-perf
 “when it’s tomorrow”
- (ii) *bi/a démb-ee
 cl-i/a yesterday-perf
 “when it was yesterday”

⁴⁶ The use of the *d-aan V* option, available for *cl-u/i/a*, seems to make the tense of the matrix verb irrelevant for grammaticality:

- (i) di-na raxas cin l-i-mě d-aan togg-e
di-na wash pot cl-i-1sg *di-past* cook-instr
 “he will wash the pot that I used to cook with”

co-occur with the *-aan*. The fact that *cl-u* can occur with *-aan* perfectives, while *cl-i/a* cannot can be explained if *u/i/a* are D^0/C^0 's that select for particular types of FinP/TPs. A relevant analogy is to the English complementizers *that* and *for*. *That*, homophonous with a determiner, can only co-occur with finite TPs, while *for*, homophonous with a preposition, can only co-occur with a non-finite TP.

Appendix 2 The Perfective Suffix

The perfective suffix can combine with *di*, yielding *de-e*, with consequent interpretive effects.

- (152) a. **b.u** ma-leen de-e dóór, di-na-ñu daanu
 cl.u 1sg-3pl *di*-perf hit, *di-na*-3pl fall
 “the moment I hit them, they will fall”
 *”when I hit them , they fall”
 *”if I hit them, they will fall”

- b. **b.i/a** ma-leen de-e dóór, d-aan-na-ñu daanu
 cl-*i/a* 1sg-3pl *di*-perf hit *di-past-na*-3pl fall
 “when I used to hit them, they would fall”
 *”the moment I hit them in the past, they would fall”
 *”when I was in the act of hitting them in the past, they would fall”

The perfective suffix may occur with the past tense morpheme, *woon*, in the Dakar and Gambian dialects.

- (153) **b.i** ma gis-ée **wóón** Isaa, da-ma-a tiit-óón ✓Dak, ✓Gam, *St.L
 cl.i 1sg see-perf past isaa do-1sg-*a* be.scared-past
 "when I saw Isaa, I became scared"

Forms like (153) are ungrammatical in the St. Louis dialect. Recall that in the St. Louis dialect, past tense cannot occur in a conditional/temporal clause.

The precise relation between the perfective suffix and perfectivity is not clear. This is because, as (152)a-b show, it occurs with the imperfective marker *di*. A second possibility is that the perfective suffix is an adjunct marker. This is plausible because Wolof has a (short) *-e-* suffix that appears when manner and locative adjuncts are A'-extracted:

- (154) fan l-a-ñu gis-*(é) Isaa
 where xpl-*a*-3pl see-loc isaa
 “where did they see Isaa?”

Note that the perfective suffix is a long vowel and cannot be pronounced short. It is important to note that noun classes of the silent *wh*-phrases in the *s*-conditionals and *f*-temporal conditionals are the prepositional and locative classes respectively. Both of these trigger the *-e-* suffix on the verb under A'-extraction (This is seen for the *fī*-class in (154)):

- (155) c/s-i l-a-a gis-*(é) tééré bi
 cl/cl-det xpl-*a*-1sg see-loc book the
 “it was on it that I saw the book”

However, canonical *when* questions do not have an *-e(e)-* suffix:

- (156) *kañ* l-a-ñu d-oon seetaan-*(e(e)) telebisiyoŋ
 when xpl-*a*-3pl *di*-past see-perf television
 “when is it that they were watching television?”

Appendix 3 "Before" Clauses

Some types of *before* clauses in Wolof look very much like relative clauses. Clauses expressing the notion of temporal precedence are divided by whether the precedent time period is in the past or non-past. Past "before" clauses involve the bimorphemic *laa-ta*:

- (157) a. b.**i/a/*u** ma (di) *laa-ta* gis Isaa temporal past "before" clause
 cl.*i/a/u* 1sg *di* ?-? see isaa
 "before I saw Isaa"
- b. *laa-ta* ma gis Isaa subjunctive "before" clause
 ?-? 1sg see isaa
 "before I arrived"

In the temporal "before" clause, either *-i-* or *-a-* can occur, but not *-u-*. This is consistent with the past orientation of the *i/a* temporal clauses. The meanings of the subparts of *laa-ta* are unclear. I take *laa-ta* to be bimorphemic because *laa* appears independently in

non-past *before* clauses (see (168)). Note that although (157)a is introduced by the *b.i/a* familiar from temporal clauses, the verbs lacks the *-ee* ending, even if *di* is absent:

(158) a. ***b.i/a** ma laa-te-(e) gis Isaa
 cl.i/a 1sg ?-?-perf see isaa
 "before I saw Isaa"

b. ***b.i/a** ma laa-ta gis-ée Isaa
 cl.i/a 1sg ?-? see-perf isaa
 "before I saw Isaa"

The form *laa-ta* is the "short" form. A "long" form, *laa-taa*, also occurs:

(159) **bi//a/*u** ma laa-**taa** gis Isaa
 cl.i/a/u 1sg ?-? see isaa
 "before I saw Isaa"

I do not know of any interpretive differences between the long form, *laa-taa*, and the short form, *laa-ta*. However, there are distributional differences between the two. The long form cannot appear clause initially.⁴⁷

(160) ***laa-taa** ma gis Isaa (cf. (157)b)
 ?-? 1sg see isaa

Temporal *before* clauses may contain the imperfective marker, with no apparent change in meaning. The position of *di* varies according to whether the long form or short form is present:

(161) a. **b.i** ma-**y** laa-ta gis Isaa ✓ *di...laa-ta*
 cl.i 1sg-*di* ?-? see isaa
 "before I saw Isaa"

b. **b.i** ma laa-ta-**y** gis Isaa ✓ *laa-ta...di*
 cl.i 1sg ?-?-*di* see Isaa
 "before I saw Isaa"

c. ***b.i** ma-**y** laa-**taa** gis Isaa **di...laa-taa*
 cl.i 1sg-*di* ?-? see isaa

⁴⁷ Fal 1999 also lists *daataan*. I have not worked with speakers who use this form.

d.b.i ma laa-**taa-y** gis Isaa ✓*laa-taa...di*
 cl.i 1sg *??-di* see isaa
 "before I saw Isaa"

In the imperfective form of the *laa-ta* subjunctive, the non-subject clitic position is variable:

(162) a. laa-ta nga-**ko-y** togg Clt_s-Cl_{t0} *di*
?? 2sg-3sg-*di* cook
 "before you were cooking it"

b. laa-ta nga **di-ko** togg Clt_s *di*-Cl_{t0}
?? 2sg *di*-3sg cook
 "before you were cooking it"

The habitual past does not occur in a temporal *before* clause, but it does occur in the subjunctive:

(163) a. ***b.i/a** ma **d-aan** laa-ta togg ceebu.jën
 cl.i/a 1sg *di*-past *??* cook rice.fish
 "before I used to cook fishrice"

b. ***b.i/a** ma laa-ta **daan** togg ceebu.jën
 cl.i/a 1sg *??* *di*-past cook rice.fish

c. laa-ta ma **d-aan** togg ceebu.jën
?? 1sg *di*-past cook rice.fish
 "before I used to cook fishrice"

When *laa-ta* is not present, habitual past, *d-aan*, can occur with *b.i/a*:

(164) **b.i/a** ma **d-aan** gis Isaa
 cl.i/a 1sg *di*-past see isaa
 "when I used to see Isaa"

The position of non-subject clitic pronouns is variable in the temporal before clause.

They may either precede or follow the imperfective marker *di*:

(165) a. b.i/a ma **ko-y** laa-ta gis⁴⁸ clitic...*di*
 cl.i/a 1sg 3sg-*di* ?-? see
 "before I saw him"

b. b.i/a ma **di-ko** laa-ta gis *di*...clitic
 cl.i/a 1sg *di*-3sg ?-? see
 "before I saw him"

I do not know of any interpretive difference between (165)a and (165)b. This is surprising because in canonical temporal clauses, the subject and non-subject clitics *always* precede *di*:

(166) a. b.i ma **ko-y** togg ✓ *Cl_{tO}-di*
 cl.i 1sg 3sg-*di* cook
 "when I was cooking it"

b. *b.i ma **di-ko** togg **di-Cl_{tO}*
 cl.i 1sg *di*-3sg cook

In the perfective subjunctive *before* clause, the non-subject clitics always appear following the verb:

(167) a. laa-ta ma gis-**ko** Cl_{tS} V-Cl_{tO}
 ?-? 1sg see-3sg
 "before I saw him"

b. *laa-ta ma-**ko** gis *Cl_{tS}-Cl_{tO} V
 ?-? 1sg-3sg see
 "before I saw him"

Non-past *before* clauses involve *b-a-laa* (or *b-a-la*) on the left edge of a subjunctive clause:

(168) b.a-laa ma togg-al-**leen** Isaa
 cl.a-? 1sg cook-ben-3pl isaa
 "before I cooked them for Isaa"

⁴⁸ The imperfective marker *di* can also appear as *di* here. In (165)a it is written in its clitic form, *-y*. When the non-subject clitic follows *di*, it must appear as *di*, as in (165)b.

Note that in (168) the subject and non-subject clitics are split. The non-subject clitic, *leen*, follows the verb, while the subject clitic, *ma*, precedes the verb. That *b-a-laa* is trimorphemic can be deduced from the fact that it is possible to substitute *-a-* with *-u-*, but not *-i-*):

- (169) **b.u/*i-laa** ma togg-al-leen Isaa
 cl.*u/i*-? 1sg cook-ben-3pl isaa
 "before I cook them for Isaa"

I do not know of any interpretive difference between (168) and (169). The *u/a* alternation precede by *b-* immediately suggests kinship with temporal clauses. However, the non-subject clitics appear in the "wrong" place, i.e. following the main verb. Another possibility is that the *u/a* alternation is related to the *u/a* alternation seen with the indefinite article *a/u.cl* NP "an NP".

The Gambian dialect allows *b.a.la + laa-ta*, with a future interpretation:

- (170) di-na-a-ko def **b.a.la** nga-y **laa-ta** ñëw⁴⁹
di-na-1sg-3sg do cl.*a*.? 2sg-*di* ?-? arrive
 "I will do it before you arrive"

(170) is ungrammatical in the St. Louis and Dakar dialects.

Appendix 4 Relative Markers

The simple relative markers found in all of the dialects discussed herein are the following:

- (171) a.cl.*i* definite proximal
 b.cl.*a* definite distal
 c.cl.*u* indefinite

It was noted earlier that some speakers allow the following:

⁴⁹ Adapted from WEC International 1992.

(172) a. %góór g.u xale yi gis g.i ✓Ziguinchor, *St. Louis, *Dakar
 man cl.u child the.pl see cl.i
 "the very man that the children saw/exactly the man that the children saw"

b. góór g.i xale yi gis g.i ✓Ziguinchor, ✓St. Louis, ✓Dakar
 man cl.i child the.pl see cl.i
 "the man that the children saw"

In (172)a the (indefinite) *cl.u* relative marker co-occurs with the *cl.i* definite article on the right edge. The head of the relative is interpreted as definite and with some type of emphasis. This is different from when the *cl.i* relative marker occurs with the definite article ((172)b), where no special emphasis obtains. This is consistent with *-u-* being the un(der)specified for definitenes/deixis. Neither of the *-i-* or *-a-* forms can combine with each other:

(173) a. *góór g.a xale yi gis g.i **cl.a...cl.i* relative
 man cl.a child the.pl see cl.i

b. *góór g.i xale yi gis g.a **cl.i...cl.a* relative
 man cl.i child the.pl see cl.a

It is particularly interesting that even speakers who reject (172)a still allow exactly this configuration, *cl.u...cl.i/a* in attributive adjectival relatives (see Chapter 4 *Adjectives*):

(174) taabal j.u xonq j.i
 table cl.u red cl.i
 "the red table"

There is no emphasis associated with the head of the relative clause in (174).

The Ziguinchor dialect has another type of relative marker, *cl.u/i/a-y*:

(175) a. xaj b.u y Isaa gis
 dog cl.u ? isaa see
 "the type of dog that Isaa sees"

b. xaj y.u y Isaa gis
 dog cl.u ? isaa see
 "the types of dogs that Isaa sees"

c. xaj **b.i** y Isaa gis
 dog cl.i ? isaa see
 "the type of dog that Isaa sees"

d. xaj **b.a** y Isaa gis
 dog cl.a ? isaa see
 "the type of dog that Isaa sees"

It is not clear what the *-y* is related to. The imperfective marker, *di*, whose clitic form is *-y*, follows the subject in TP. However in (175), the *-y* precedes the subject *isaa*.

Demonstratives can appear in the same position as the relative markers. Recall the paradigm for demonstratives:

- (176) a. xaj **b.ii**
 dog cl.this
 "this dog"
- b. **b.ii** xaj
 cl.this dog
 "THIS dog (not that one)"
- c. xaj **b.i-le**
 dog cl.i-?
 "this dog"
- d. **b.i-le** (b) xaj
 cl.i-? cl dog
 "THIS dog"

Neutrally, these demonstratives follow the noun. When the demonstrative precedes the noun, it indicates contrastive focus on the demonstrative:

- (177) a. xaj b.i ma gis **b.i-le**
 dog cl.i 1sg see cl.i-?
 "this dog that I saw"
- b. xaj **b.i-le** ma gis (*b.i)
 dog cl.i-? 1sg see cl.def
 "this dog that I saw"
- c. xaj b.i ma gis **b.i-i**
 dog cl.i 1sg see cl.i-?
 "this dog that I saw"

d.xaj **b.i-i** ma gis (*b.i)
dog cl.i-? 1sg see cl.def
“this dog that I saw”

As the examples show, the demonstrative can appear either on the right edge of the entire relative clause ((177)a,c) or in the same position as the relative marker ((177)b,d). When the demonstrative appears in the position of the relative marker, it is in complementary distribution with the right peripheral definite article. This further supports the hypothesis that the demonstratives themselves contain the definite article.