

## Event relatives in Wolof

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### 1. Introduction

- Relative clauses in Wolof (West Atlantic, Senegal) involve complementizers that agree with the head noun in noun class and definiteness:

#### (1) Wolof relative clauses

- a. [Jën **w-u** Demba jënd] baax-ul=∅.  
fish CL-C<sub>REL.INDEF</sub> Demba buy good-C.NEG=3SG.S.  
'A fish that Demba bought was bad.'
- b. [Jigéen **j-i** ma gis] dafa njool.  
woman CL-C<sub>REL.DEF</sub> 1SG see C.3SG.S be.tall  
'The woman that I saw is tall.'

- This talk investigates a construction which has a surface form parallel to that of a relative clause, but the interpretation of a definite description ranging over events:

#### (2) Wolof 'event relative'

- [bind **b-i** Bintë bind tééré bi] jël na=∅ diir bu bare.  
write CL-C<sub>REL.DEF</sub> Binta write book DEF.SG take C=3SG.S aim C<sub>REL</sub> be.abundant  
'The writing of the book by Binta took a long time.'

#### Main properties of event relatives

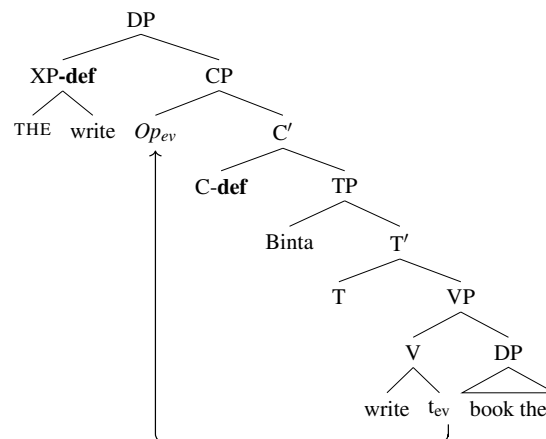
- The head appears to be a copy of the verb root
- The complementizer exhibits default *b*-class agreement
- The complementizer is obligatorily definite
- The clause contains no observable gap

- The construction has been previously described as a clausal nominalization (Tamba 2014).

### Analysis preview

- The clause in the construction in (16) does involve a gap: the construction instantiates relativization of the event argument (represented in the LF in (3) as  $t_{ev}$ ).

(3)



- Evidence for covert definite (THE):

- Definite agreement on C parallels that attested with overt definites in regular headed relative clauses. In both cases we find *-i* marking.

### Roadmap

- Wolof background
- Headed relatives
- Event relatives
- Analysis
- Free relatives
- Conclusion

## 2. Wolof background

- SVO language, rigid clause-internal word order
- Left-peripheral positions for A'-extracted and topicalized elements
- Noun class agreement (15 classes) on determiners and certain C-elements

- (4) a. xaj **b-i** dog CL-DEF 'the dog'  
 b. jigéen **j-i** woman CL-DEF 'the woman'

- Obligatory *sentence particles* in all finite clauses which occupy the highest head in the extended projection of the verb (low C-like head) (Dunigan 1994; Martinović 2015, 2023)

- (5) a. Xale y-i lekk **[na]**=ñu gato b-i.  
 child CL-DEF eat C =3PL.S cake CL-DEF  
 "The children ate the cake." Neutral affirmative
- b. Xale y-i **[da]**=ñu lekk gato b-i.  
 child CL-DEF C =3PL.S eat cake CL-DEF  
 "The children ATE the cake." Predicate focus
- c. Gato b-i **[la]** xale y-i lekk.  
 cake CL-DEF C child CL-DEF eat  
 "It's the cake that the children ate." Exhaustive Identification
- d. gato **[b-u]** xale y-i lekk  
 cake CL-C child CL-DEF eat  
 'a cake that the children ate' Relative clause
- e. **[b-u]** ñu lekk-ee gato...  
 CL-C 3PL eat-ee cake  
 'when they eat cake' Temporal clause

- We will be looking at clauses where the sentence particle shows noun class agreement, as in (5d) and (5e).

## 3. Wolof headed relatives

- In Wolof, the complementizer of headed relative clauses agrees with the head in noun class and definiteness (Torrence, 2005, 2012, 2013)
- In (6a) *tééré* ('book') belongs to the *b*-class, and *jigéen* ('woman') in (6b) to the *j*-class. The vowel of the complementizer encodes definiteness and surfaces as *i* when the head noun is definite, and *u* when indefinite.<sup>1</sup>

<sup>1</sup>Additionally, the vowel encodes proximity for definite nominals, with *i* being the proximal, and *a* the distal marker.

- (6) RC complementizer encodes noun class and definiteness

- a. tééré **b-i** Fama bind  
 book CL-C<sub>REL.DEF</sub> Fama wrote  
 'the book that Fama wrote'
- b. jigéen **j-i** ñu gis  
 woman CL-C<sub>REL.DEF</sub> 3PL.S see  
 'the woman that they saw'
- c. tééré **b-u** Fama bind  
 book CL-C<sub>REL.INDEF</sub> Fama write  
 'a book that Fama wrote'

- Note that the RC complementizer in definite forms is homophonous with the definite determiner, which also encodes noun class and definiteness. Definite determiners are obligatory to obtain the definite reading.

- (7) Fama bind na=∅ tééré \*(**b-i**).  
 Fama write C=3SG.S book CL-DEF  
 'Fama wrote the book.'

- Evidence that the element glossed as a complementizer in (6) is not a determiner comes from indefinite determiners

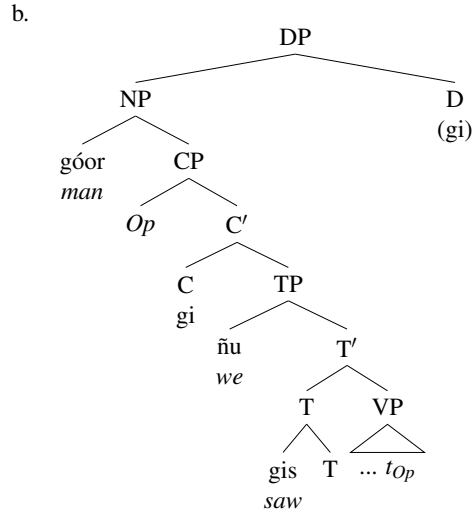
- (8) Fama bind na=∅ (**[a-b]**) tééré.  
 Fama write C=3SG.S INDEF-CL book  
 'Fama wrote a book.'

- Definite determiners obligatorily follow the noun, indefinite determiners precede the noun.
- The order of the class marker and the vowel in the indefinite determiner is reversed compared to the complementizer.
- In the dialect discussed here, the vowel in the indefinite determiner and complementizer differs (*a* vs. *u*).
- Indefinite determiners are optional, whereas the element *b-u* in (6c) is obligatory.

- Finally, in some dialects the definite determiner can optionally co-occur with the complementizer, on the right edge of the relative clause (Torrence 2012, 2013)

- (9) a. góor **g-i** ñu gis (**g-i**)  
 man CL-C<sub>REL.DEF</sub> 3PL.S see CL-DEF  
 'the man that they saw'

(Torrence 2012:103)



#### Wolof RCs

Wolof relative clauses consist of a head noun followed by a complementizer agreeing with the head in noun class and definiteness.

#### 4. Event relatives

- The focus of this talk are sentences as in (10):

(10) Wolof ‘event relative’

[bind **b-i** Bintë bind tééré bi] jël na=0 diir bu bare.  
 write CL-C<sub>REL.DEF</sub> Binta write book DEF.SG take C=3SG aim C<sub>REL</sub> be.abundant  
 ‘The writing of the book by Binta took a long time.’

#### Recall: main properties of ‘event relatives’

- The head appears to be a copy of the verb root
- The complementizer exhibits default *b*-class agreement
- The complementizer is obligatorily definite
- The clause contains no observable gap

- Following Tamba (2014), we argue that these ‘event relatives’ are indeed relative clauses and that *bi* is a C element

- They are islands for A'-extraction

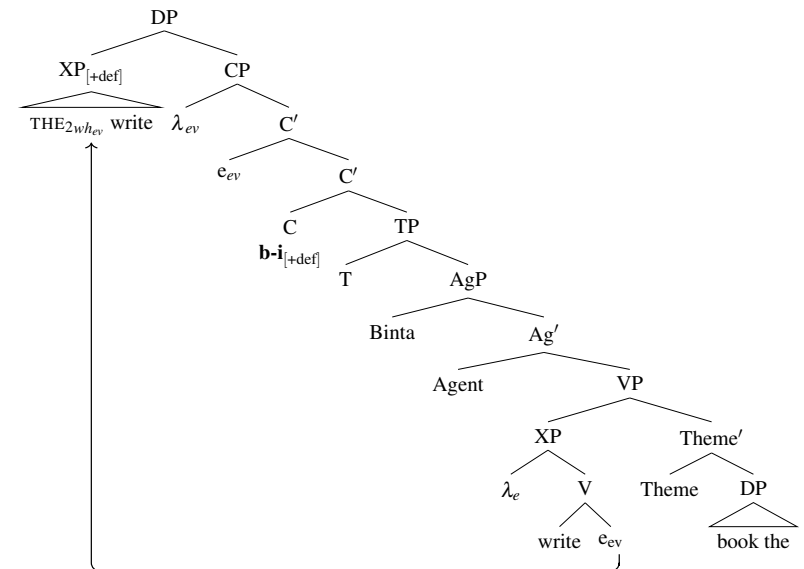
(11) \*Lan la [bind b-i Bintë bind \_\_] jël na=0 diir bu bare.  
 what C<sub>WH</sub> write CL-C<sub>REL.DEF</sub> Binta write take C=3SG last C<sub>REL</sub> very  
 Intended: \*‘What did the writing of by Binta take a long time.’

- As in relative clauses, their left periphery contains a position for topicalized elements which must be resumed.

- The resumptive clitic right-adjoins to C, as all other clitics in finite clauses (Martinović to appear)

(12) [tééré b-i [bind b-i=ko Bintë bind]] jël na=0 diir  
 book CL-DEF.SG write CL-C<sub>DEF.REL</sub>=3SG.O Binta write take C=3SG aim  
 bu bare.  
 C<sub>REL</sub> be.abundant  
 ‘As for the book, the writing of it by Binta took a long time.’

(13) Relativization of event argument



- We assume relativization of a covert wh-definite phrase  $\text{THE}_{wh_{ev}}$ , as in (14).

$$(14) \quad \llbracket \text{THE}_{wh_{ev}} \rrbracket = \lambda Q_{\langle v,t \rangle} \lambda P_{\langle v,t \rangle} : |P| = 1 \ \& \ P \subseteq Q. \ \iota e[P(e)]$$

- $\text{THE}_{wh_{ev}}$  takes a property of events  $Q$  and a property of events  $P$ , it presupposes that  $P$  is true of only one event and that that event is a  $Q$ -event, and, when these requirements are met, it yields the unique event that  $P$  is true of.
- We assume that  $\text{THE}_{wh_{ev}}$  is base generated in the event argument position, from where it moves, to [Spec,CP], to avoid a type mismatch, leaving a trace of the type of events, which can saturate the event argument of the verb.
- We assume that movement generates a property of events obtained by abstracting over the event argument (Heim & Kratzer, 1998).
- In (13) we assume overt representation of event arguments and event abstraction in the object language, we take *bind* ('write') to be of type  $\langle v,t \rangle$ , and let THEME and AGENT introduce other arguments (15).

$$(15) \quad \begin{array}{l} \text{a. } \llbracket \text{AGENT} \rrbracket = \lambda P_{vt} . \lambda x . \lambda e . \text{AGENT}(x)(e) \ \& \ P(e) \\ \text{b. } \llbracket \text{THEME} \rrbracket = \lambda x . \lambda e . \text{THEME}(x)(e) \\ \text{c. } \llbracket \text{PAST} \rrbracket^c = \lambda P_{\langle vt \rangle} . \lambda e . P(e) \ \& \ \tau(e) < t_c \end{array}$$

- The complementizer agrees with the moved phrase.
  - The *-i* part on C reflects the definiteness of the moved phrase.
  - The default *b-* class agreement part signifies that the moved phrase is a nominal.
- We propose that the copied verbal root is nominalized by  $\text{THE}_{wh_{ev}}$ . Note that this event nominal is different from the nominalized verb in VP nominalizations, which has the form *mbind* (*mbind-um tééré bi* 'the writing of the book').
- Our analysis predicts that the copied verbal phrase must denote a property of events that is less specific than the property created by abstraction. This, by itself, does not predict the *identity* of the main verb and the verb at [Spec,CP].
- For  $\text{THE}_{wh_{ev}}$  not to overgenerate with structures where the verbs differ (i.e. one is an hypernym of the other, *produce-write*) we need to rely on an operation that copies the verb that is the sister of  $\text{THE}_{wh_{ev}}$  at base. The exact nature of this operation remains to be determined. Once this operation is taken for granted, the hypernym condition can go from the lexical entry of  $\text{THE}_{wh_{ev}}$

### Prediction

- The construction should be able to combine with predicates of events, like 'took a long time.' This is borne out.

$$(16) \quad \text{Wolof 'event relative'}$$

[bind **b-i** Musaa bind tééré bi] jël na= $\emptyset$  diir bu  
write CL-C<sub>REL.DEF</sub> Moussa write book DEF.SG take C=3SG aim C<sub>REL</sub>  
bare.  
be.abundant  
*'The writing of the book by Moussa took a long time.'*

### 5. Another kind of event relative?

- Another kind of construction exists in Wolof that appears to have similar meaning to the event relative, but has the form of a headless relative.

$$(17) \quad \begin{array}{l} [\text{FR } l-i \quad \text{Musaa bind tééré bi}] \text{bett} \quad \text{na}=\emptyset=\text{ma.} \\ \text{CL-C}_{\text{FR}} \text{ Moussa write book the surprise C=3SG.S=1SG.O} \\ \approx \text{'The writing of the book by Moussa surprised me.'} \end{array}$$

- At first sight, it looks like interpretation is equivalent to that of headed event relatives.

$$(18) \quad \begin{array}{l} [\text{bind } b-i \quad \text{Musaa bind tééré bi}] \text{bett} \quad \text{na}=\emptyset=\text{ma.} \\ \text{write CL-C}_{\text{REL.DEF}} \text{ Moussa write book the surprise C=3SG=1SG.OBJ} \\ \text{'The writing of the book by Moussa surprised me.'} \end{array}$$

- We might expect that these structures are equivalent, differing only in whether the copy of the verb is present or not.

#### • Coming up next:

- We first show that headless relatives in Wolof involve a null nominal in Spec,CP, and show how they are different from relative clauses.
- We then show what an analysis might look like that would treat clauses in (17) and (18) as equivalent.
- Then argue that this type of analysis is misguided, since (17) and (18) are not, after all, equivalent, despite what looks like at first sight.

### 5.1. Null nominals in Spec,CP

- Torrence (2005, 2012, 2013) extensively argues that Wolof possesses a set of null nominals, which trigger agreement on C-elements

- (19) exemplifies two types of wh-questions in Wolof:
  - (19a) has an overt question word and a non-agreeing C
  - (19b) has a covert question word and an agreeing C

(19) Questions with overt and covert wh-words

- K-an la ñu gis?  
CL-WH C<sub>WH</sub> 3PL.S see  
'Who did they see?'
- ∅ **K-u** ñu gis?  
WH CL-C<sub>WH</sub> 3PL.S see  
'Who did they see?'

- Torrence convincingly shows that the agreeing element *ku* in (19b) does not pattern with question words/DPs, but behaves as a complementizer
- A null wh-operator can be used to question a variety of constituents (data from Torrence 2013)
- The noun class marking varies depending on the constituent and/or its properties: **l-** – non-human arguments; **k-** – human arguments; **f-** – locative adjuncts; **ñ** – manner adjuncts

- (20)
- ∅ **L-u** ñu gis?  
WH CL-C<sub>WH</sub> 3PL.S see  
'What did they see?' Direct object
  - ∅ **F-u** jigéen j-i togg-e ceeb?  
WH CL-C<sub>WH</sub> woman CL-DEF cook-LOC rice  
'Where did the woman cook rice?' Locative adjunct
  - ∅ **Ñ-u** Isaa ubbé-e bunt b-i?  
WH CL-C<sub>WH</sub> Issa open-MANN door CL-DEF  
'How did Issa open the door?' Manner adjunct

- Null wh-elements occur in a variety of constructions corresponding to different kinds of quantifiers or indefinites (data from Torrence 2013); similar to so-called *wh-indefinites* in Chinese and Japanese

- (21)
- Am na=a ∅ l-u ma lekk  
have C=1SG.S WH CL-C<sub>WH</sub> 1SG eat  
'I have something to eat.'
  - Lekk-al ∅ l-u mu mën-ti doon  
eat-IMPER.2SG WH CL-C<sub>WH</sub> 3SG.S can-? be  
'Eat anything!'

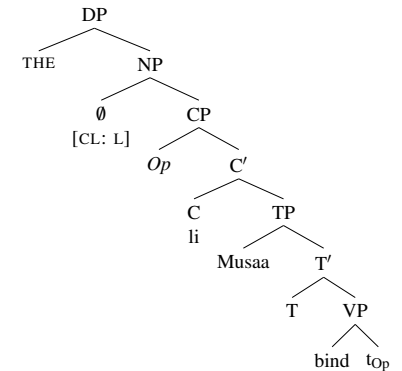
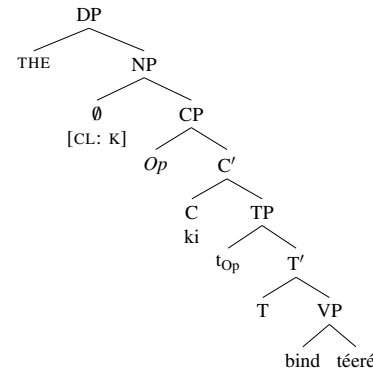
- Additionally, null wh-elements occur in temporal clauses, conditionals, and free relatives

- (22) Object free relative
- [**l-i**] Musaa bind] tééré la.  
CL-C<sub>FR</sub> Moussa write book C<sub>WH</sub>.  
'What Moussa wrote is a book.'

- (23) Subject free relative
- [**k-i**] bind tééré] Moussa la.  
CL-C<sub>FR</sub> write book Moussa C<sub>WH</sub>  
'Who wrote a book is Moussa.'

- There is no overt head, but the complementizer shows noun class agreement (*l-* class marker signals agreement with non-human entities, *k-* with human) (Caponigro & Heller 2007; Torrence 2005, 2012), indicating that there is something present in the structure that it is agreeing with
- The vowel is obligatorily *-i*, which encodes definiteness in headed relatives

(24) Relativization of external argument (25) Relativization of internal argument

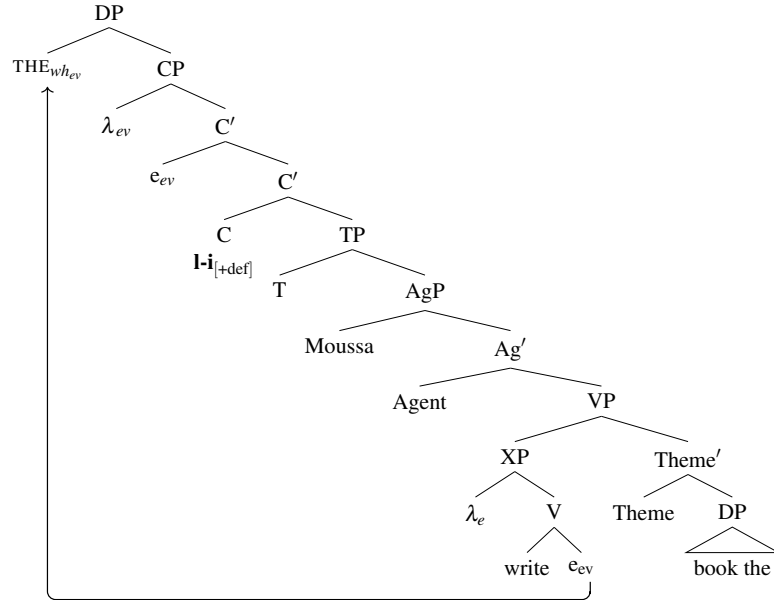


## 5.2. Not event relatives

- Given the parallel in derivation between relative clauses and free relatives, we might expect that free relatives could also be event relatives.
- These constructions could also involve relativization of the event argument, with a non-restricted covert definite, as in the LF in (27).

- (26) [<sub>FR</sub> l-i Musaa bind tééré bi] bett na=∅=ma.  
CL-C<sub>FR</sub> Moussa write book the surprise C=3SG.S=1SG.O  
≈ 'The writing of the book by Moussa surprised me.'

(27) Relativization of **event** argument



- Free relatives as in (26), however, cannot be interpreted eventively.

(28) \*[l-i Musaa bind tééré bi] jël na=∅ diir bu bare.  
 CL-C<sub>FR</sub> Moussa write book DEF.SG take C=3SG aim C<sub>REL</sub> be.abundant  
 Intended: ‘The writing of the book by Moussa took a long time.’

- The more natural interpretation of the examples in (26) is *The fact that Moussa wrote the book surprised me*.
- If there is event relativization, the construction must involve more than simply mapping a property of events to an event.
- Haegeman & Ürögdi (2010) propose that movement of the event operator to Spec,CP can explain the incompatibility with main clause phenomena of a variety of embedded clauses, amongst them ‘factive’ clauses.
- If our analysis is on the right track, that cannot be what is going on in the free relatives in Wolof that do not have eventive interpretation, but are only licensed in factive contexts (or at least not all that is going on).
- Note that this kind of free relative can also convey a manner reading, with the change in the class agreement on the complementizer

(29) [ñ-i Musaa bind tééré bi] bett na=∅=ma.  
 CL-C<sub>FR</sub> Moussa write book the.SG surprise C=3SG.S=1SG.O  
 ‘The way in which Moussa wrote the book surprised me.’

- The change of the class agreement on the complementizer to one used in manner wh-questions (see (20c)) indicates that a different kind of operator is involved

## 6. Conclusions and looking ahead

- We discussed two kinds of relative clause constructions in Wolof
- We propose that headed relatives that contain the copy of the verb in the head position involve the relativization of the event argument.
- Headless relatives with apparently similar meaning do not have a parallel derivation
  - They are compatible only with a factive or manner interpretation
  - The complementizer agreement indicates that a different kind of operator is involved
  - To determine: what are manners and how they relate to events, what are facts and how they relate to events.
- The nature of the verb copying mechanism also remains to be determined. Interestingly, not only the verb root can be copied, but other material from inside the vP (but not any inflectional material!):

(30) [wadd-al b-i Fanta wadd-al mango bi] bett na=∅=ma.  
 fall-CAUS CL-C<sub>REL.DEF</sub> Fanta fall-CAUS mango DEF.SG surprise C=3SG.S=3SG.O  
 ‘That Fanta made the mango fall surprised me.’

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