Chapter 15

Factive relative clauses in Pulaar

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Drawing from Kayne (1994a), this chapter shows that Headed Relative Clauses and Factive Clauses in Pulaar are built from similar structures. Both display word order similarities, and in each case the complementizer, which is homophonous with the determiner, agrees with the (null or overt) head NP in Spec,CP. The verb form is also the same in Headed Relatives and Factive Relatives, and it undergoes the same agreement pattern. Furthermore, Headed Relatives and Factives in Pulaar both exhibit island constraints such that extraction out of either construction is impossible; this indicates that they all involve movement of some sort. The difference between these constructions is that the Headed Relative has an overt head noun whereas Factives have null head nouns.

1 Introduction

This paper investigates factive relative clauses in Pulaar, a West Atlantic language spoken in Senegal and other West African countries. The Pulaar variety described here is spoken in the southern part of Senegal. Specifically, the paper provides an analysis of two factive constructions in Pulaar, namely the verbal factive and the *ko*-factive, as (1a) and (1b) respectively: in (1a), the infinitive form of the verb is fronted and followed by the complementizer; in (1b), the particle *ko*[1] (glossed as a relative complementizer) always appears at the leftmost edge of the clause.[2]

(1) a. [**def-go** ngo **ndef**-mi ñebbe ngo] bettu Hawaa. Verbal Factive[3]
cook-INF C.$_{\text{REL}}$ cook-1SG beans CL.the surprise Hawaa
'The fact that I cooked beans surprised Hawaa.'
'The cooking that I cooked the beans surprised Hawaa.'

b. [**ko** **ndef**-mi ñebbe ko] bettu Hawaa. *ko*-Factive
C.$_{\text{REL}}$ cook-1SG beans CL.the surprise Hawaa
'The fact that I cooked beans surprised Hawaa.'

[1] *Ko* has a variety of meanings in Pulaar, most of which are not related semantically. I treat these various instances of *ko* as homophones, which have meanings/functions such as focus/topic (see Cover 2006), copula, noun class, complementizer, pronoun.
[2] The two meanings of (1a) are discussed in §3.2.

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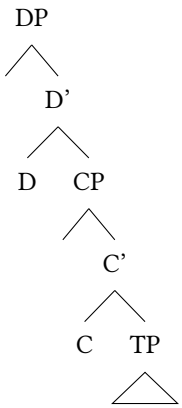
The main claim in this paper is that the constructions in (1) are relative clause constructions with a derivation similar to headed relative clauses in Pulaar, as in (2):

(2) Musa ñaam-ma [ñebbe ɓe ndef-mi ɓe].
Musa eat-PERF beans C.REL cook-1SG CL.the
'Musa ate the beans that I cooked.'

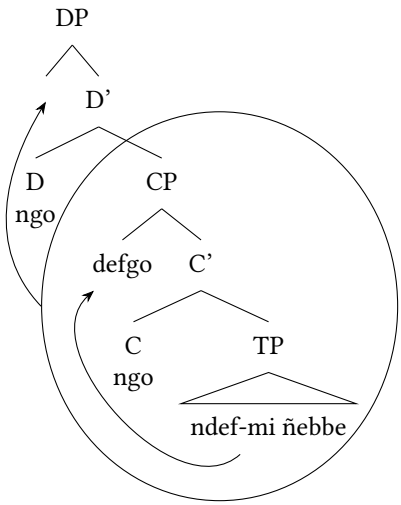
I argue that headed relatives as well as factive relatives can be derived from the same underlying structure in (3) following Kayne (1994b). The structure in (3) is composed of a D and a CP complement.

(3)

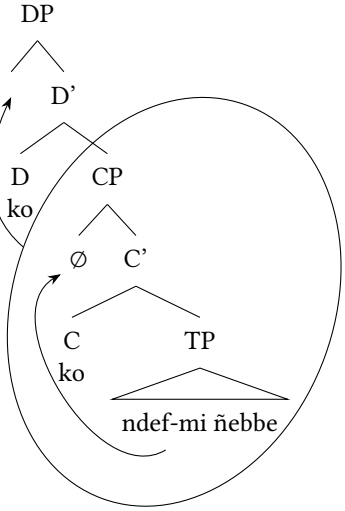


This is explicitly shown in the structures in (4) where we can see the different movement operations that occur in the derivation of the different clauses. Specifically, the entire CP moves to Spec, DP.

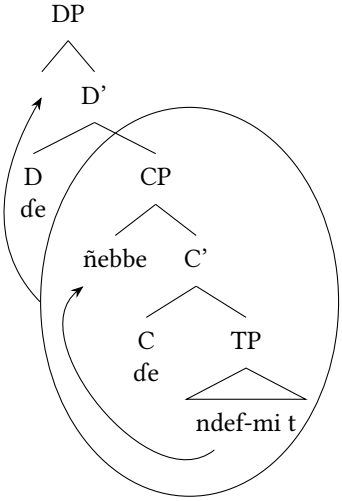
(4) a. Verbal Factive



b. *Ko*-Factive



c. Headed RC



The remainder of this paper is structured as follows: §2 provides a short background on Pulaar which will include the basic word order, some properties of the noun and the agreement morphology. The distribution of factive clauses is laid out in §3. §4 deals with the structural similarities that exist between Headed Relatives and Factives in Pulaar. §5 demonstrates that both headed relatives and factives are islands and §6 shows the derivation of Headed Relatives and Factive clauses. §6 presents concluding remarks.

2 Background on Pulaar

Lewis (2009) states that Pulaar belongs to Atlantic branch of the Niger-Congo language family. There is a large number of Pulaar dialects with varying levels of mutual intelligibility, spoken from Senegal to Cameroon and Sudan and all the countries in-between. There are at least four dialects of Pulaar in Senegal: Futa Tooro region (north-east), Fula(kunda) spoken in the Kolda region (south), Pular (spelled with one 'a') spoken by people originally from Guinea Republic; and the dialect spoken in Kabaadaa (south and east of Kolda), also known as Toore, which this paper is based on.

2.1 Word order

Pulaar is used here as a general term to refer to the language. It is a Subject-Verb-Object (SVO), prepositional language, as shown in the sentence below.

(5) Taalibe mo jangu-m deft-are nde les lekki.
student CL.the read-PERF.NEUT book-CL CL.the under tree
'The student has read the book under a tree.'

Focus in Pulaar is generally encoded by the particle *ko* which precedes the focused phrase, as shown in the example below:

(6) a. (Ko) raandu ndu Musaa yii-noo. DP focus
FOC dog.CL CL.the Musaa see-PAST
'It's the dog that Musaa saw.'

b. Musaa (ko) yii-no raandu ndu. Verb focus
Musaa FOC see-PAST dog.CL the.CL
'Musaa saw the dog (not heard it bark).'

The parentheses indicate that *ko* is optional. In the absence of *ko*, focus can still be interpreted from the verb ending. Long vowels indicate DP focus whereas short vowel indicate Verb focus, regardless of the presence or absence of of the focus particle *ko*. *Ko* is also used in Wh-questions, as in the following example:

(7) Ko Musaa yii-**noo?** Wh-question
what Musaa see-past
'What did Musaa see?'

2.2 Nouns in Pulaar

Pulaar is a noun class language. It has twenty-two noun classes and the noun class marker follows the noun (Sylla 1982: 34).

(8) a. raa-ndu ndu
dog-CL CL.the
'the dog'

b. daa-ɗi ɗi
dog-CL CL.the
'the dogs'

The noun in (8a) can be analyzed as the root noun *raa* "dog" and a suffix *ndu*. Thus, the noun always occurs as a combination of the noun and the suffix, like *raandu* "a dog".

The infinitive in Pulaar is composed of the verb root and the infinitive suffix *go*, as seen in the examples in (9a-b). This infinitive form occurs in a variety of positions within a sentence. The examples below show the different positions that the infinitive can occupy.

(9) a. Mbiɗo yiɗi/foti **def-go** maaro. Complement of V
1SG want/should cook-INF rice
'I want to cook rice.'

b. O ñoot-ma tuuba am ba **ñoot-go** wesoo. As a noun + adjective
3SG sew-PERF pants my CL.the sew-INF beautiful
'He has sewn my pants a beautiful sewing.'

(9b) shows that the infinitive in Pulaar can be modified by an adjective, which suggests that it behaves as a noun belonging to the *ngo* class. Table 1 shows the noun classes in Pulaar.

Table 1: Noun Classes in Pulaar.

	Noun class	example	gloss
1	mo	suko mo	the child
2	nde	hoore nde	the head
3	ndi	ngaari ndi	the ox
4	ndu	raandu ndu	the dog
5	nge	nagge nge	the cow
6	**ngo**	jungo ngo	the hand
7	ngu	pucuu ngu	the horse
8	nga	damnga nga	the door
9	ba	mbabba ba	the donkey
10	ka	laanaa ka	the plane, boat
11	ki	leɓii ki	the knife
12	**ko**	huuko ko	the grass
13	ɓum	ɓaleejum ɓum	the black thing
14	ɓam	ndiyam ɓam	the water
15	nge	laacee nge	the little tail
16	ka	leyka ka	the small land
17	ngi	damngii ngi	the huge door
18	nga	neɓɓaa nga	the huge person
19	ɓe	yimɓe ɓe	the people
20	ɓe	gite ɓe	the eyes
21	ɓi	babaaji ɓi	the donkeys
22	koñ	laanoñ koñ	the small boats

Noun classes 1 to 18 are singular and noun classes 19 to 22 are plural. The noun class 1 is used for humans and borrowed words. It has two plural forms: 19 for humans and 21 for borrowed words. However, while 19 relates specifically to humans, 21 is not only related to borrowed words; it is also the plural of other noun classes such as 3, 4, 5, 7 etc. The noun class 20 is also the plural of several noun classes such 8, 10, 2, etc. The noun class 22 is the plural for diminutives 15 and 16. The augmentative classes 17 and 18, however, have the regular plural class 20 even when the "augmented" noun denotes a human referent.

For the remainder of this paper, I will be spelling nouns as one single unit, for instance *raandu* instead of a split word *raa-ndu.*

Table 2: Singular/Plural Mapping of Noun Classes.

Singular	Plural
mo	ɓe (humans), ɗi (loanwords)
ndi, ndu, nge, ngu, ba, ko, ɗum, ɗam	ɗi
nde, ngo, ka, ki & the augmentatives nga, ngi	ɗe
nge, ka (diminutives)	koñ

2.3 Consonant mutation

Consonant mutation refers to the change of one consonant into another under certain conditions. According to Sylla (1982) and McLaughlin (2005), Pulaar exhibits consonant mutation, for instance the alternation between *y*, *g* and *s*, *c* below:

(10) a. **y**itare 'eye'
b. **g**ite 'eyes'

(11) a. **s**engo 'side'
b. **c**engle 'sides'

Table 3 shows the alternation patterns that can be found in Pulaar.

Table 3: Mutating Initial Consonants.

Initial consonant of the verb	
Simple	Mutated
Ø[4], g	ŋg
f	p
h	k
b, w	mb
s	c
j, y	ñj
d, r	nd

Alternations like these occur in a variety of contexts such as subject agreement on the verb, singular/plural alternation on nouns, but also affixation. In what follows, I show an example of each of these alternations. In matrix clauses for instance, subject agreement is shown on the verb through the mutation of the initial consonant when the subject is plural.

[4]The symbol 'Ø' represents cases when the verb starts with a vowel. In such cases, [ŋg] becomes the mutated sound in the right context.

(12) a. mi/a/o **s**ood-ma oto. Singular
I/you/he/she buy-PERF.NEUT car
'I/you have bought a car.'

b. En/on/ɓe **c**ood-ma oto. Plural
We/you/they buy-PERF.NEUT car
'We have bought a car.'

In (13a) the sentence has a singular subject and the verb 'buy' starts with [s]. In (13b), however, where the subject is plural the verb 'buy' begins with <c> and is pronounced [ʧ].

Consonant mutation may also occur in nominalization; that is when a verb is turned into a noun, as shown in the following examples:

(13) Verb to Noun Alternations

a. **s**urku-go → **c**urki 'smoke'
smoke-INF
'to smoke'

b. **y**im-go → **j**imoo 'a song'
sing-INF
'to sing'

Note the alternations in examples (13a) and (13b) in which the initial consonant of the verb changes in the corresponding noun.

3 Distribution and semantic interpretations of factives

3.1 Distribution of factives

Both factive clause types occur as subjects and complements to factive predicates, i.e. predicates that presuppose the truth of their subjects or complements. For instance, the sentence in (14), from Kiparsky & Kiparsky (1970), involves the non-factive verb 'claim'. In other words, a claim may be proven either right or wrong, as shown in (14b-c):

(14) a. John claims that he offended Mary. Non-factive Predicate
b. … and in fact, he did.
c. … but in fact, he did not.

The example in (15), however, involves a factive verb. That means it refers to an event that has necessarily occurred, as shown in (15b-c):

(15) a. John regrets that he offended Mary. Factive Predicate
b. … and in fact, he did.
c. # … but in fact, he did not.

The examples in (16b) and (16c) respectively show verbal and *ko* factives as subjects:

(16) a. ɓe nguju-m deftare. (input to (16b-c)
3.PL steal-PERF book
'They stole a book.'

b. [wuju-go ngo ɓe nguj-i deftare ngo] bettu-mii-m. Verbal-Factive
steal-INF C.$_{REL}$ 3.PL steal-PERF book CL.the surprise-1SG-PERF
'The fact that they stole the book surprised me.'

c. [ko ɓe nguj-i deftare ko] bettu-mii-m. *ko*-Factive
C.$_{REL}$ 3.PL steal-PERF book CL.the surprise-1SG-perf
'(The fact) that they stole the book surprised me.'

In Pulaar, factive clauses occur as arguments of factive verbs like *bettugo* 'surprise', *loɓgo* 'to be angry', *ricitaago* 'to regret'. Factive clauses can, thus, be complements to factive verbs, as in the following examples where the verbal and the *ko* factive are objects of the verb *ricitaago* 'to regret':

(17) a. ɓe ndicit-iim [wuju-go ngo ɓe nguj-i deftare ngo]. Verbal-Factive
1PL regret-PERF steal-INF C.$_{REL}$ 3.PL steal-PERF book CL.the
'They regret the fact that they stole the book.'

b. ɓe ndicit-iim [ko ɓe nguj-i deftare ko]. *ko*-Factive
1PL regret-PERF C.$_{REL}$ 3.PL steal-PERF book CL.the
'They regret (the fact) that they stole the book.'

Also, factive clauses do not occur as arguments of non-factive verbs like *siɓ-go* 'to doubt', as shown in the following examples:

(18) a. * Verbal-Factive
mbiɗo siɓ-i [wuju-go ngo ɓe nguj-i deftare ngo].
1SG doubt-PERF steal-INF C.$_{REL}$ 3.PL steal-PERF book CL.the
Intended: 'I doubt the fact that they stole a book.'

b. * *ko*-Factive
mbiɗo siɓ-i [ko ɓe nguj-i deftare ko].
1SG doubt-PERF C.$_{REL}$ 3.PL steal-PERF book CL.the
Intended: 'I doubt that they stole a book.'

3.2 Semantic interpretations of Pulaar factive clauses

There are interpretive differences between the verbal factive and the *ko*-factive in Pulaar. In fact, whereas the verbal factive is ambiguous between an eventive and a manner readings, the *ko*-factive can be interpreted as an event.

(19) a. [**def-go** ngo **ndef**-mi ñebbe ngo] bettu Hawaa. Verbal-Factive
cook-INF C.$_{REL}$ cook-1SG beans CL.the surprise Hawaa
'The fact that I cooked beans surprised Hawaa.'
'The cooking that I cooked the beans surprised Hawaa.'

b. [**ko** **ndef**-mi ñebbe ko] bettu Hawaa *ko*-Factive
C.$_{REL}$ cook-1SG beans CL.the surprise Hawaa
'The fact that I cooked beans surprised Hawaa.'

The example in (19a) can mean that Hawaa did not expect the speaker to cook the beans in the first place; maybe they agreed that the beans were for sale. In addition to this eventive reading, the verbal factive has a manner reading under which (19a) would mean that Hawaa expected the speaker to cook the beans but the cooking turned out to be either so good or so bad that Hawaa is somehow surprised.

As for the *ko*-factive, it only has an eventive reading. In (19b) for instance, Hawaa is surprised that the speaker cooked the beans. There may be a few reasons to this; Hawaa may not have expected or wanted the beans to be cooked or she may not have expected or wanted the speaker to cook the beans he/she does not like cooking or is a terrible cook, etc.

4 Pulaar relative clauses

In this section I show the morphological similarities between factive clauses and headed relative clauses. Specifically, I show that factive clauses are types of relative clauses. In addition to being head initial, these three constructions have agreeing complementizer, final determiner, similar placement for subject DP or pronoun. They also have the same agreement properties.

4.1 Clause structure of headed relative clauses

Pulaar has head-initial relative clauses. The relativizer (or complementizer) agrees with and follows the head noun. It is homophonous with the clausal determiner at the end of the clause which encodes definiteness. When it is omitted, the head noun is indefinite. The relative complementizer is obligatory.

(20) a. simis **mo** Hawaa loot-i **mo** Headed Relative Clause
shirt C.$_{REL}$ Hawaa wash-PERF CL.the
'the shirt that Hawaa washed'

b. simis *(**mo**) Hawaa loot-i
shirt C.$_{REL}$ Hawaa wash-PERF
'(some) shirt that Hawaa washed'

(21) a. faɓoo **ngo** Hawaa watt-ii **ngo**
shoe C.REL Hawaa wear-PERF CL.the
'The shoe that Hawaa is wearing'

b. faɓoo *(**ngo**) Hawaa watt-ii
shoe C.REL Hawaa wash-PERF
'(some) shoe that Hawaa is wearing'

The examples in 20 have all the same material, the only difference is that (20a) ends with a determiner which is missing in (20b). However, the complementizer in (20b) cannot be deleted. The same can be said (21) where the only difference is that (21b) is lacking the final determiner; and again the complementizer is mandatory.

Subject agreement is shown on the verb through consonant mutation for plural subjects, as in matrix clauses. This is shown in the examples below:

(22) a. ñebbe ɓe Hawaa **d**ef-i ɓe 3SG subject
beans C.REL Hawaa cook-PERF CL.the
'the beans that Hawaa cooked'

b. ñebbe ɓe **nd**ef-mi ɓe 1SG subject
beans C.REL cook-1SG CL.the
'the beans that I cooked'

c. ñebbe ɓe rewɓe ɓe **nd**ef-i ɓe 3PL subject
beans C.REL women CL.the cook-PERF CL.the
'the beans that the women cooked'

The initial consonant of the verb changes from [d] in (22a) to [nd] in (22b,c). DP subjects in relative clauses always precede the verb.

Table 4: Pulaar subject pronouns.

Singular	Plural
mi	min, en
a	on
o	ɓe

The word order of the headed object relative clauses in Pulaar is as follows:

(23) NP C.REL S V O_{trace} DET.CL

4.2 Clause Structure of factive clauses

Verbal factives are so called because a form of the verb (the infinitive or gerundive) is treated as a noun heading the factive clause. In this clause, the nominalized form of the verb is followed by an agreeing relativizer which is homophonous with the determiner at the end of the clause. This can be seen in the examples below:

(24) loot-go **ngo** Hawaa loot-i wutte **ngo** Verbal Factive
wash-INF C.REL Hawaa wash-PERF shirt CL.the
'the fact that Hawaa washed a shirt'

(25) **ko** Hawaa loot-i wutte **ko**
C.REL Hawaa wash-PERF shirt CL.the
'(the fact) that Hawaa washed a shirt'

When the determiner is omitted, the verbal noun is indefinite[5]. The relative complementizer is obligatory. This is shown in the following examples:

(26) Loot-go *(**ngo**) Hawaa loot-i wutte
wash-INF C.REL Hawaa wash-PERF shirt
'A/some washing that Hawaa washed a shirt'

(27) ***ko** Hawaa loot-i wutte[6]
C.REL Hawaa wash-PERF shirt
'the fact that Hawaa washed a shirt'

In verbal factive constructions, the verb appears to show some form of agreement. Subject agreement is shown on verb through consonant mutation for plural subjects, as in matrix clauses. However, singular subjects also trigger consonant mutation when they follow the verb. This is shown in the examples below:

(28) a. def-go ngo Hawaa **d**ef-i ñebbe ngo 3SG subject
cook-INF C.REL Hawaa cook-PERF beans CL.the
'the fact that Hawaa cooked beans'

b. def-go ngo **nd**ef-mi ñebbe ngo 1SG subject
cook-INF C.REL cook-1SG beans CL.the
'the fact that I cooked beans'

c. def-go ngo ɓe **nd**ef-i ñebbe ngo 3PL subject
cook-INF C.REL SUBJ.pro cook-PERF beans CL.the
'the fact that they cooked beans'

[5] This is still interpreted as a factive. Structures like (26) and (27) can be answers to a question like: 'What is so and so mad about' where the person answering the question is not making it sound like their interlocutor knew about that specific event.

[6] This is just interpreted as a subject focus construction and means something along the lines: 'It's Hawaa who cooked/washed…'.

The initial consonant of the main clause verb changes from [d] in (28a) to [nd] in (28b,c). DP subjects in relative clauses always precede the verb, as in (28a). However, all subject pronouns, except 3SG/PL, have to follow the verb. In this case, the initial consonant of the verb mutates even when the subject pronoun is singular, as in (28b).

The word order in a verbal factive appears to be the following:

(29) V_{NOM} C.REL S V O DET.CL

I assume that the infinitive form of the relative verb (V_{NOM}) is moved to Spec,CP to fill in for a null noun 'fact' (which does not exist in Pulaar) along the lines of Collins (1994) and Tamba & Torrence (2013). Assuming that only the verb root has been moved, the presence of the infinitive suffix can be justified by the need for agreement; V_{NOM}, the complementizer and the determiner must all agree.

4.3 Clause structure of the ko-factive

With *ko* as a relativizer, the *ko*-factive is headless, or it is rather headed by a null noun. This is due to the fact that Pulaar does not have the word 'fact'. But one piece of evidence is also that this null noun is associated with an existing noun class *ko*. When the determiner is omitted, the structure cannot be interpreted as a factive. The relative complementizer is obligatory. This is shown in the following examples:

(30) ***ko** Hawaa loot-i wutte[7]
C.REL Hawaa wash-PERF shirt
'the fact that Hawaa washed a shirt'

(31) ***ko** Hawaa def-i ñebbe
C.REL Hawaa cook-PERF beans
'the fact that Jeyla cooked beans'

Similar to verbal factive and headed relative constructions, the verb show of agreement morphology in *ko*-factives. Subject agreement is shown on verb through consonant mutation for plural subjects, as in matrix clauses. This is shown in the examples below:

(32) a. ko Hawaa **d**ef-i ñebbe ko — 3SG subject
C.REL Hawaa cook-PERF beans CL.the
'the fact that Hawaa cooked beans'

b. ko **nd**ef-mi ñebbe ko — 1SG subject
C.REL cook-SG beans CL.the
'the fact that I cooked beans'

[7]This is just interpreted as a subject focus construction and means something along the lines: 'It's Hawaa who cooked/washed…'.

c. ko ɓe **nd**ef-i ñebbe ko — 3PL subject
C.REL 3RD.PL cook-PERF beans CL.the
'the fact that they cooked beans'

The initial consonant of the verb changes from [d] in (32a) to [nd] in (32b,c). DP subjects always precede the verb. However, all subject pronouns, except 3SG/PL, have to follow the verb. In this case, the initial consonant of the verb mutates even when the subject pronoun is singular, as seen (32b).

The word order in a *ko*-factive appears to be the following:

(33) $Ø_{NP}$ C.REL S V O DET.CL

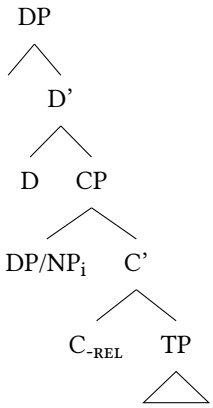
Based on the data presented here, the headed relative clause and factive relative clauses share a similar structural pattern, as shown below:

(34)	a.	NP	C.REL	S	V	O_{trace}	DET.CL	Headed relative
	b.	V_{NP}	C.REL	S	V	O	DET.CL	Verbal factive
	c.	$Ø_{NP}$	C.REL	S	V	O	DET.CL	*ko*-factive

Factive clauses involve a null noun for the *ko*-factive and a verb with nominal features for the verbal factive and both of these nominals agree with a specific complementizer and the corresponding homophonous determiner or noun class. I assume the presence of a null noun in the *ko*-factive due to the fact that it agrees with a noun class, but also there is no noun 'fact' in Pulaar.

The clear parallel that exist between the headed relative clause and factive relative clauses suggest that these constructions look like NP [CP] Det. I will follow Kayne (1994b) and analyze relative clauses as involving a D + CP, as in the structure in (35):

(35)



However, whether these constructions are all derivable from the same structure is dependent upon whether or not they all involve some type of movement.

The data below suggest that relativization and factivization involve movement. In fact, relativization or 'factivization' out of a relative clause is impossible in headed relatives as well as the verbal and *ko*-factive clauses. The examples below illustrate this fact:

(36) a. ɓa yiɓ-i [suko mo Isa tott-i ñebbe mo.]
2SG like-PERF child CL_{REL} Isa give-PERF beans CL.the
'I like the boy that Isa gave beans'

b. * ɓa yiɓ-i [ñebbe ɓe [suko mo Isa tott-i ____ mo]. RC
2SG like-PERF [beans CL_{rel} [child CL_{rel} Isa give-PERF] CL.the
'You like the beans that boy that Isa gave'

c. * ɓa yiɓ-I [tottu-go ngo [suko mo Isa tott-i] ñebbe mo ngo.
2SG like-PERF [give-INF CL_{rel} [child CL_{rel} Isa give-PERF] beans CL.the CL.the
VF

d. * ɓa yiɓ-i [ko [suko mo Isa tott-i] mo ko ñebbe ɓe.
2SG like-PERF [CL_{rel} [child CL_{rel} Isa give-PERF] CL.the CL.the beans CL.the
Ko-F

The examples in (36b-d) show that it is impossible to relativize (or 'factivize') out of a relative clause. The examples (36b), (36c) and (36d) show, respectively, a relative clause, a verbal factive and a *ko*-factive. The impossibility of extracting out of a relative clause or relativizing out of a relative clause indicates that these constructions involve some type of movement and are islands.

5 Derivation of relative and factive clauses

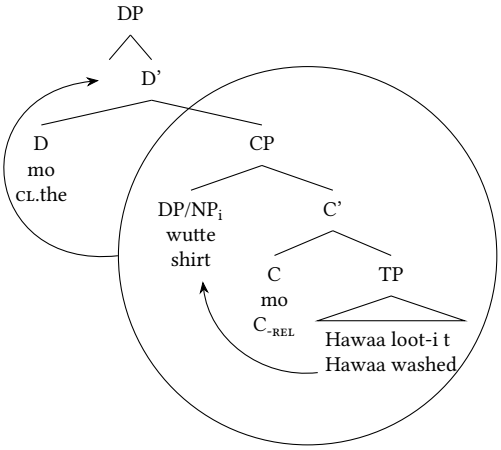
In this section, I provide a unified analysis of RCs and factive clauses. Following Tamba & Torrence (2013), Torrence (2005) and Kayne (1994b), I assume that in Pulaar, headed relatives and factives can be derived from the same underlying structure which consists of a D and a CP complement. I argue that in this structure CP raises to Spec,DP.

I first analyze relative clauses like (35):

(37) wutte$_i$ **mo** Hawaa loot-i t_i **mo** Headed Relative Clause
shirt CL.REL Hawaa wash-PERF CL.the
'The shirt that Hawaa washed'

In this construction, the head (object) NP moves to Spec,CP as shown in (38):

(38)

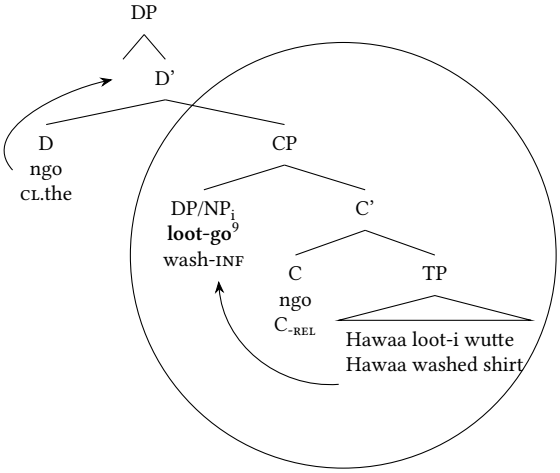


In the second step of the derivation, CP moves to Spec,DP to yield the surface structure, as it appears in (39).

Turning to verbal factives, along the lines of Tamba & Torrence (2013) and following Collins (1994) and Aboh (2005), I argue that in the Verbal Factive in (39a), a copy of the verb, which is relativized and carries the infinitival *–go*, is moved to Spec,CP. The complementizer agrees in noun class with the infinitival verb in Spec,CP. As have I have pointed out, the infinitive form the Pulaar verb exhibits nominal properties[8].

(39) a. loot-go **ngo** Hawaa loot-i wutte **ngo**
Wash-INF C.$_{REL}$ Hawaa wash-PERF shirt CL.the
'the fact that Hawaa washed a shirt'

b.



[8]See example (9b).

Once the infinitival verb has moved to Spec,CP, the whole CP node is then moved to Spec,DP generating the expected surface structure.

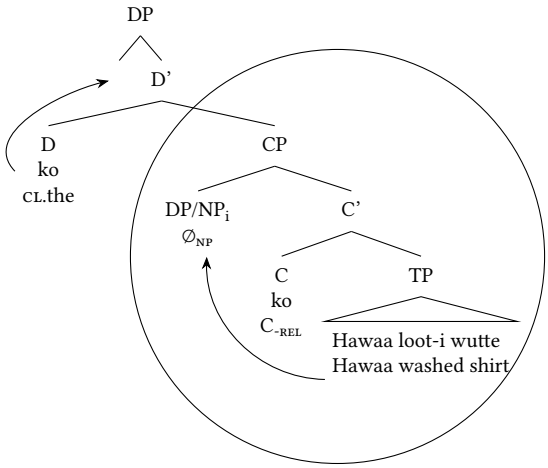
This analysis correctly derives the word order of the Verbal Factive construction in (39a) in a way similar to the derivation of the headed relative.

I now move to the *ko*-factive structure. The *ko*-Factive Relative is slightly different from the other relative types because it involves a null NP meaning 'fact'. But the presence of this null NP is signaled by its agreement with some noun class, in this case *ko*.

In order to derive a *ko*-Factive like the one in (40a), we can posit the movement of the null NP from inside the TP to Spec,CP. As a second step, the movement of CP to Spec,DP yields the surface word order along the lines of Headed Relatives and Verbal Factives, as we can see in (40b):

(40) a. ko Jeyla loot-i wutte ko
C.REL Jeyla wash-PERF shirt CL.the
'(the fact) that Jeyla washed a shirt'

b.



As the analysis has shown, Headed Relatives and Factive Relatives in Pulaar can all be derived from the same hierarchical structure in a relatively similar manner.

6 Concluding remarks

In this paper, I have argued that Headed Relatives and Factive Relatives have similar structure in sense that they have a similar word order and in all of them the complementizer agrees with the (null or overt) head NP in Spec,CP and is homophonous with the determiner.

[9] A reviewer notes that the fact the verb copy is infinitival indicates that there is more structure involved. I leave for future research the precise nature of the nominal constituent in Spec,CP and how a verb becomes nominalized.

In my analysis, the differences between the three types has to do with the material in Spec,CP. In headed RCs, it is a lexical noun. In the verbal factives, it is a nominalized copy of the verb, while in the *ko*-factives it is a null noun of the *ko* class.

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