Accessibility and demonstrative operators in Basaá relative clauses

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1. Introduction

This paper reviews both typical and less-typical properties of relative clauses in Basaá [ɓasaá] (A.43), a Bantu language spoken in southern Cameroon. Two basic relativization strategies are outlined, one involving a gap and another involving a resumptive pronoun. The distribution of these two strategies is shown to follow from the predictions of the Accessibility Hierarchy (Keenan & Comrie 1977). It is further demonstrated that relative clauses form a natural class with demonstratives: both license a definite/specific prefix /í-/ on the head noun, and relative operators are in complementary distribution with demonstratives in relative clauses involving a gap. Additionally we show that this restriction does not obtain for relative clauses with the resumption strategy.

We offer an account of these facts by adopting distinct analyses of relative clauses involving a gap and those with resumption. Specifically, we show that by adopting the head-raising analysis of relative clauses just for those relative clauses which include a gap; the complementarity of demonstratives and relative operators in Basaá follows directly. Thus, the Basaá facts provide a novel empirical argument for this analysis of relative clauses. Additionally, we discuss these facts from the perspective of historical change, suggesting that the relative operator in Basaá is only partially grammaticalized from a demonstrative.

The structure of this paper is as follows. Section 2 introduces relative clauses in Basaá, including their morphosyntactic marking, the range of arguments that can be relativized, and the position of relative clauses within the noun phrase. Section 3 discusses the relationship between definiteness, demonstratives, and relative operators. Section 4 presents a formal syntactic analysis of both relative clauses that involve a gap and relative clauses involving resumption. Section 5 discusses the grammaticalization of the definite/specific prefix and the relative operator in Basaá.

2. Restrictive relative clauses in Basaá

In contrast to many other languages in Cameroon, Basaá is a relatively well-described language and has been the subject of extensive previous work (e.g. Bot Ba Njock 1970, Lemb & Degastines 1973, Dimmendaal 1988, Bitjaa Kody 1990, Hyman 2003). The grammatical properties of Basaá are typical for Northwest Bantu languages: it is head-initial, exhibiting SVO word order in declarative sentences, head-modifier order, and prepositions. Basaá exhibits the rich noun class system typical of Bantu, as well as subject agreement on verbs and concord on nominal modifiers. Phonologically, Basaá exhibits a binary distinction in H vs. L tone; these tones play an important role in marking morphosyntactic distinctions as well as encoding lexical contrasts between words.

Relative clauses in Basaá have been described by Makasso (2010), which this paper builds on, and more briefly by Hyman (2003) and Dimmendaal (1988).[1] This section treats much of the same material as these works, covering the morphology and syntax of relative clauses in Basaá as well as the positions that are accessible to relativization. Section 2.1 reviews the external properties of relative clauses, including their position relative to other modifiers, the morphology of the relative operator, and the ability of relative clauses to license a nominal prefix that marks definiteness. Section 2.2 demonstrates that Basaá exhibits two basic strategies for relativization, a gap strategy for relativization from argument positions, and a resumption strategy for relativizing possessives.

2.1 Basic characteristics of relative clauses

Relative clauses in Basaá follow the head noun. In most cases, the internal syntax of relative clauses is identical to the syntax of declarative sentences, modulo a gap in an argument position created by relativization. The location of this gap will be marked overtly throughout this paper and subscripted with an index matching the head noun for clarity. The main morphological marker of a relative clause is an optional relative pronoun, identical to the 'near speaker' demonstrative (see Section 3) that precedes the relative clause and agrees with the head noun in noun class. This is illustrated for a subject (1b) and object (2b) relative clause:[2]

(1) SUBJECT RELATIVE CLAUSE

a. *mut a bí ↓jé bíjék* 'The person ate the food.'
1.person 1.SBJ P2 eat 8.food

b. *í-mut*$_1$ *(nú)* [___$_1$ *a bí ↓jé bíjɛ́k*] 'the person that ate the food'
AUG-1.person 1.REL 1.SBJ P2 eat 8.food

(2) OBJECT RELATIVE CLAUSE

a. *liwándá lí bí ↓téhé hínuní* 'The friend saw the bird.'
5.friend 5.SBJ P2 see 19.bird

b. *hínuní*$_1$ *(hí)* [*liwándá lí bí ↓téhê* ___$_1$] 'the bird that the friend saw'
AUG.19.bird 19.REL 5.friend 5.SBJ P2 see

[1] Another relevant reference on Basaá relative clauses in Bassong 2010. However, Bassong focuses on the Bakoko dialect group (A43b) spoken in Littoral province, while we focus on what has been called the Mbene dialect group (A43a) spoken in Centre province, specifically as spoken in the Nyong-et-Kellé division. The judgments and data reported in this paper have been checked with several native speakers of the Mbene dialect.

[2] Abbreviations: 1st, 2nd – first/second person; AUG – augment prefix; CON – connective; DEM – demonstrative; PRO – independent pronouns; P1 – today past tense; P2 – general past tense; POS – possessive; PR – present tense; REL – relative operator; SBJ – subject agreement

Relativization is also marked by the insertion of a /í-/ prefix on the head noun, realized either as *í-*, as in (1b), or simply as a H tone on the class prefix of the noun, as in (2b).[3] We concur with Dimmendaal (1988, p. 58) that the high tone on the prefix in (2b) is a reduced form of the *í*-prefix in (1b). We will return to this prefix in more detail in Section 3.1.[4]

Relative clauses occur at the right edge of the noun phrase in Basaá. This means that relative clauses must follow adjectives (3), numerals (4), possessive pronouns (5), and demonstratives (see Section 3), which also follow the noun:

(3) ADJECTIVE > RELATIVE CLAUSE

a. *hínuní hi-kéŋí (hí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1]
AUG.19.bird 19-big 19.REL 5.friend 5.SBJ P2 see
'the big bird that the friend saw'

b. * *hínuní (hí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1] *hi-kéŋí*

(4) NUMERAL > RELATIVE CLAUSE

a. *dínuní dítán (dí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1]
AUG.13.bird 13.five 13.REL 5.friend 5.SBJ P2 see
'the five birds that the friend saw'

b. * *dínuní (dí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1] *dítân*

(5) POSSESSIVE PRONOUN > RELATIVE CLAUSE

a. *hínuní hyɛ̂m (hí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1]
AUG.19.bird 19.my 19.REL 5.friend 5.SBJ P2 see
'my bird that the friend saw'

b. * *hínuní (hí)* [*liwándá lí bí ↓tɛ́hɛ̂* ___1] *hyɛ̂m*

The right-edge position of relative clauses puts them in a class with demonstratives, which must also occur following other modifiers (Hyman 2003, p. 270). Unlike other nominal modifiers, demonstratives and possessive pronouns can also precede the noun when focused, as Section 3.1 illustrates for demonstratives. We will see below that the connection between demonstratives and relative clauses is deeper than their shared syntactic distribution.

2.2 Accessibility to relativization and the resumptive strategy

While all noun phrases in Basaá are accessible to relativization, there are two distinct strategies for forming relative clauses. The first strategy, seen above in examples (1) and

[3] The noun class prefix also has H tone in object position in (2a), but this is due to metatony, whereby in most tenses a H tone occurs on the verb and what follows (Makasso 2012). The citation form for 'bird' is *hi-nuní*, with L on the class prefix.

[4] Bassong (2010:ch. 4) reports a distinct type of relative clause headed by the complementizer *lé* rather than the demonstrative operator discussed in this paper. For Mbene Basaá speakers, these relative clauses sound somewhat unnatural, and feel like calques from French relative clauses introduced by *que*, though this may be a dialectal difference (see fn. 1).

(2), involves a dependency between the head noun and a gap located inside of the relative clause. This strategy extends to relative clauses formed on indirect objects (6) as well as oblique noun phrases, such as the object of a prepositional phrase (7):

(6) RELATIVIZATION FROM INDIRECT OBJECT

a. *liwándá lí bí ˩tí njə̂k litám*
5.friend 5.SBJ P2 give 9.elephant 5.fruit
'The friend gave the elephant fruit.'

b. í-njɔk$_1$ (i) [liwándá lí bí ˩tí __$_1$ litám]
'the elephant that the friend gave fruit (to)'

(7) RELATIVIZATION FROM OBJECT OF PREPOSITION

a. *mut a m ɓíí káar í-ŋgií têble*
1.person 1.SBJ P1 put 9.book LOC-top 9.table
'The person put the book on the table.'

b. *í-têble$_1$ (i)* [*mut a m ɓíí káar í-ŋgií* __$_1$]
'the table that the person put the book on top of'

The second strategy for forming relative clauses involves the use of a resumptive pronoun. This strategy can be used with objects of prepositions, which are realized as possessive pronouns (8) (Makasso 2010, p. 152). Resumptive pronouns are obligatory when relative clauses are formed on possessive noun phrases (9):

(8) RESUMPTIVE PRONOUN WITH RELATIVIZATION FROM OBJECT OF PREPOSITION

í-têble$_1$ (i) [*mut a m ɓíí káar í-ŋgii yé˩é$_1$*]
AUG-9.table 9.REL 1.person 1.AGR P1 put 9.book LOC-top 9.POS
'the table that the person put the book on top of it'

(9) RESUMPTIVE PRONOUN WITH RELATIVIZATION FROM POSSESSIVE

a. *ŋgwɔ́ i maaŋgɛ́ i bí kɔgɔ́l mɛ̂*
9.dog 9.CON 1.child 9.SBJ P2 bite 1ST.SG
'The child's dog bit me.'

b. *í-maaŋgɛ́$_1$ (nú)* [*ŋgwɔ́ yé˩é$_1$ i bí kɔgɔ́l mɛ̂*]
AUG-1.child 1.REL 9.dog 9.POS 9.SBJ P2 bite 1ST.SG
'the child whose dog bit me' (*lit.* 'the child that his dog bit me')

In (9b), the head noun, 'child', is coindexed with the class 1 possessive pronoun *yeé* (the H tone and downstep on the pronoun arise due to high tone spread from *ŋgwɔ́*).

If the possessive target of relativization is located in object position, another possibility for relativization becomes available: the noun phrase containing the resumptive possessive pronoun is displaced to the front of the relative clause, and a pronoun is left in its place (10b). Fronting is optional, however. The noun phrase containing the resumptive pronoun can also occur in object position (10c):

(10) RELATIVIZATION FROM POSSESSOR IN OBJECT POSITION

a. *mɛ* *bí* *↓jɛ́* *bíjɛ́k* *bí* *mááŋgɛ́*
1ST.SG P2 eat 8.food 8.CON 1.child
'I ate the child's food'

b. *í-maaŋgɛ́*$_1$ *(nú)* [*bijɛ́k* **(gwéé*$_1$*)* *mɛ* *bí↓* *jɛ́* **(gwɔ́)*$_1$]
AUG-1.child 1.REL 8.food 8.POS 1SG P2 eat 8.PRO
'the child whose food I ate' (lit. 'the child that his food I ate it')

c. *í-maaŋgɛ́*$_1$ *(nú)* [*mɛ* *bí* *↓jɛ́* *bijɛ́k* **(gwéé*$_1$*)*]
AUG-1.child 1.REL 1SG P2 eat 8.food 8.POS
'the child whose food I ate' (lit. 'the child that I ate his food')

Resumptive pronouns are obligatory in these examples. Thus, relativizing a possessive noun phrase necessarily relies on the resumption strategy.

Resumption is also necessary with standards or objects of comparison:

(11) RELATIVIZATION FROM OBJECT OF COMPARATIVE

a. *ŋgwɔ́* *i* *ye* *i-kɛ́ŋí* *ilɛ́l* *maaŋgɛ́*
9.dog 9.SBJ PR.be 9-big exceed 1.child
'The dog is bigger than the child'

b. *í-maaŋgɛ́*$_1$ *(nú)* *ŋgwɔ́* *i* *ye* *ikɛ́ŋí* *ilɛ́l* **(↓nyɛ́*$_1$*)*]
AUG-1.child 1.REL 9.dog 9.SBJ PR.be 9-big exceed 1.him
'the child that the dog is bigger than'
(lit. 'the child that the dog is big exceeding him')

We can identify a common structural thread that connects comparative objects to the objects of prepositions and genitive, all of which require resumption. In all three cases, the relativized argument is not a core argument of the main predicate. Thus, we can generalize over the distribution of relativization strategies in Basaá that the gap strategy is only allowed with arguments of the main predicate/

In addition, this distribution follows from the predictions of the *Accessibility Hierarchy* (Keenan and Comrie 1977, p. 66), where '>' means 'is more accessible than':

(12) ACCESSIBILITY HIERARCHY (AH)
SU > DO > IO > OBL > GEN > OCOMP

As predicted by Keenan and Comrie, the two relativization strategies in Basaá correspond to contiguous segments of the AH, and that the primary strategy in Basaá — marking the relativized site with a gap — forms a contiguous stretch of the AH including subjects. The secondary strategy, marking the relativized site with a resumptive pronoun, includes oblique arguments, optionally, and genitive noun phrases:

(13) ACCESSIBILITY IN BASAÁ

a. Strategy 1: Gap SU > DO > IO > OBL
b. Strategy 2: Resumptive pronoun OBL > GEN > OCOMP

The generalization seems to be that while arguments of the main verb can be directly relativized with the gap strategy in Basaa, arguments of these arguments must be relativized with the resumptive strategy. The oblique arguments/prepositional objects are transitional because in many cases the preposition is selected by the verb, though the noun phrase is structurally dependent on the preposition. It would not be surprising to find variation even between different prepositions.

In summary, we have seen that relative clauses occur at the right edge of the noun phrase. The primary morphological reflex of relativization is an optional relative operator which is homophonous with a demonstrative modifier. The following section turns to the syntactic status of this operator as well as the status of the augment prefix on the noun.

3. Relative operators, demonstratives, and specificity

This section examines the distribution of demonstratives and the augment prefix with relative clauses. After reviewing the distribution of demonstratives in section 3.1, section 3.2 shows that the augment prefix, obligatory with postnominal demonstratives, only occurs with relative clauses in definite noun phrases. Section 3.3 presents a novel finding: demonstratives in Basaá are in complementary distribution with relative operators in the gapped relative clause strategy.

3.1 Properties of demonstratives

Basaá makes a three-way distinction in its demonstrative system. These distinctions identify people or objects near the speaker, near the hearer, and beyond the speaker and hearer. Demonstratives show concord with the noun in noun class, i.e. gender and number.

(14) DEMONSTRATIVES IN BASAÁ (from Hyman 2003, p. 267)

Class	'this' (n.s.)	'that' (n.h.)	'that' (far)
1	*núnú*	*nû*	*núú*
2	*ɓáná*	*ɓá*	*ɓáa*
3	*únú*	*û*	*úú*
4	*míní*	*mî*	*míí*
5	*líní*	*lî*	*líí*
6	*máná*	*mâ*	*máá*
7	*íní*	*î*	*íí*
8	*bíní*	*bî*	*bíí*
9	*iní*	*i*	*ií*
10	*íní*	*î*	*íí*
19	*híní*	*hî*	*híí*

13	*tíní*	*dî*	*díí*

These demonstratives all begin with a H tone except for class 9, whose tonal agreement is L, as in Proto-Bantu. Class 1 is mixed in this regard. While connectives and demonstratives do begin with a H tone, other instances of class 1 agreement have a L tone (Hyman 2003, p. 266).

Demonstratives in Basaá can occur either before or after the noun they modify, as in many Bantu languages (Van de Velde 2005). The prenominal position of demonstratives is associated with constrastive or identificational focus on the demonstrative (cf. Makasso 2010, p. 149). The postnominal position, while information structurally unmarked, requires that the augment prefix be present on the noun:[5]

(15) PRENOMINAL AND POSTNOMINAL DEMONSTRATIVES

a. *líní* *liwándá*
5.this 5.friend
'THIS friend' (near speaker)

b. *lí↓wándá* *líní*
AUG.5.friend 5.this
'this friend' (near speaker)

c. *lí* *liwándá*
5.that 5.friend
'THAT friend' (near hearer)

d. *lí↓wándá* *lî*
AUG.5.friend 5.that
'that friend' (near hearer)

e. *líí* *liwándá*
5.that 5.friend
'THAT friend' (far)

e. *lí↓wándá* *líí*
AUG.5.friend 5.that
'that friend' (far)

Hyman (2003) identifies the *í*-prefix as a trace of the Proto-Bantu augment due to its identical position before the noun, its H tone, and its connection to definiteness. A homophonous prefix also functions as locative marker in expressions such as *í-↓ndáp* 'at home' (Makasso 2010, p. 148). While the formal connection between the locative and the nominal prefix cannot be ignored, we will refer to *í-* as the 'augment prefix' in the following discussion below.

The augment prefix cannot occur on bare (unmodified) nouns. Thus, there is no means of overtly marking definiteness in Basaá in unmodified noun phrases:

(16) DEFINITE BARE NOUNS

a. *yaaní* *mɛ* *bí↓* *tɛ́hɛ́* *mût* *ni* *mudaá.*
yesterday 1SG P2 see 1.person with 1.woman.
'Yesterday I saw a man and a woman.'

b. (**í-*)*mut* *a* *ɓée* *ntendéé,* (**í-*)*mudaá* *kírîk*
1.person 1.SBJ P2.be tall 1.woman short
'The man was tall, but the woman (was) short.'

[5] As discussed earlier, this prefix is realized as H on the noun class marker, or as *í-* with nouns that lack an overt CV prefix, as in examples (1) and (6-10).

With the exception of relative clauses and demonstratives, postnominal modifiers do not occur with the augment prefix, including numerals (*ma-wándá mátân* 'five friends vs. **má-ˡwándá mátân)* possessive pronouns (*li-wándá jêm* 'my friend' vs. **lí-ˡwándá jêm*) and adjectives (*li-wándá likéŋí* 'big/important friend' vs. **lí-ˡwándá li-kéŋí*). This distinction between the demonstrative and the other modifiers also obtains in their phonological behavior: while H spreads from nouns to numerals and possessive pronouns, it does not spread to demonstratives. To see this, compare *ŋgwɔ́ yêm* 'my dog' vs. *njok yɛm* 'my elephant,' where H spreads to the possessive pronoun from the H toned *ŋgwɔ́*, to *ŋgwɔ́ iní* 'this dog' vs. *njok iní* 'this elephant', where H does not spread from *ŋgwɔ́* onto the following demonstrative.

3.2 The augment prefix and definiteness

The previous section demonstrated that the augment prefix appears in Basaá in noun phrases with postnominal demonstratives. In Section 2, we saw that the augment prefix also occurs on nouns modified by relative clauses. However, relative clauses and demonstratives differ in one crucial respect: while the augment is obligatory with demonstratives, it can be omitted with relative clauses, resulting in an indefinite interpretation for the noun phrase (cf. Makasso 2010, p. 153-4):

(17) a. *mɛ ŋ́ ˡgwés mût*$_1$ (*nú*) [__$_1$ *a yé mbóm*]
1SG PR like 1.person 1.REL 1.SBJ COP 9.big
'I like a person that is big/important.'

b. *mɛ ŋ́ ˡgwés í-mut*$_1$ (*nú*) [__$_1$ *a yé mbóm*]
'I like the person that is big/important.'

(18) a. *mɛ ń ˡyéŋ mááŋgɛ́*$_1$ *(nú)* [*mɛ ń ˡyí* __$_1$]
1.SG PR seek 1.child 1.REL 1.SG PR know
'I'm looking for a child that I know.'

b. *mɛ ń ˡyéŋ í-maaŋgɛ́*$_1$ *(nú)* [*mɛ ń ˡyí* __$_1$]
'I'm looking for the child that I know.'

The augment in Basaá thus marks definiteness in the presence of relative clauses. We can see this by examining contexts that would allow only one of the sentences in (18). Example (18a) would be felicitous in the following context: there are twenty kids around and five of them that I know. What I am looking for is one of the five. In contrast, example (18b) would be used in a context where there are twenty kids around and I know just one. In other words, the augment in (18b) seems to carry a uniqueness presupposition, a canonical characteristic of definites.

Thus, we conclude augment is an overt marker of definiteness in noun phrases containing relative clauses.[6] In a sense, this makes its exclusive occurrence with

[6] Van de Velde (this volume, fn. 76?) notes that the augment in Eton (A.71) does not express a semantic contrast, and expresses skepticism that it could express any such contrast in "neighboring languages." Yet Barlew and Clem (2014) show that Bulu (A.74), a close relative of Eton, uses

demonstratives outside of relative clauses less surprising, as demonstratives are the only nominal modifiers in Basaá that are inherently definite.

3.3 Relative operators and demonstratives

We have seen that the distribution of the relative operator (e.g. *nú*) is independent from the definiteness of the noun phrase, marked by the augment. This is expected if the sole syntactic function of the relative operator is to mark a relative clause.

However, the following examples demonstrate that relative operators are in complementary distribution with demonstratives, whether they are postnominal or prenominal. This is shown for subject relative clauses in example (19) and object relative clauses in example (20), both of which use the gap strategy:

(19) COMPLEMENTARY DISTRIBUTION OF RELATIVE OPERATOR AND DEMONSTRATIVE (SUBJECT R. C.)

a. *lí-↓wándá*$_1$ *líní/lí↓/líí* (**lí↓*) [___$_1$ *lí* *bí* *↓jé* *bíjék*]
AUG.5-friend 5-DEM 5.REL 5.SBJ P2 eat food
'this/that friend that ate the food'

b. *líní/lí/líí* *li-wandá*$_1$ (**lí↓*) [___$_1$ *lí* *bí* *↓jé* *bíjék*]
5.DEM 5-friend 5.REL 5.SBJ P2 eat food
'THIS/THAT friend that ate the food'

(20) COMPLEMENTARY DISTRIBUTION OF RELATIVE OPERATOR AND DEMONSTRATIVE (OBJECT R. C.)

a. *í-maaŋgɛ́*$_1$ *núnú/nú↓/núú* *(*nú)* [*mɛ* *ń* *↓yí* ___$_1$]
AUG-1.child 1.DEM 1.REL 1ST.SG PR know
'this/that child that I know.'

b. *núnú/nú↓/núú* *maaŋgɛ́*$_1$ (**nú)* [*mɛ* *ń* *↓yí* ___$_1$]
1.DEM 1.child 1.REL 1ST.SG PR know
'THIS/THAT child that I know.'

The complementary distribution of demonstratives and relative operators is unexpected. This is because the demonstratives and the relative operator have been shown to have distinct syntactic behaviors — only demonstratives require the augment prefix — and semantic effects — augmentless noun phrases with relative clauses are indefinite.

The complementarity between demonstratives and the relative operator is more limited with relative clauses involving the resumption strategy. While the 'near-hearer' demonstrative cannot occur with the relative operator, the 'near-speaker' and distal demonstrative can occur with the relative operator. This is illustrated for resumptive relatives formed on standards of comparison (21) and possessive noun phrases (22):

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augments to mark a semantic contrast very reminiscent of definiteness in the context of relative clauses just like Basaá. Specifically, they show that the Eton augment marks an existence commitment or presupposition. In either case, the similarities and differences between A-group Bantu languages in the distribution and interpretation of an augment strike us as an important topic for future research.

(21) DISTRIBUTION OF RELATIVE OPERATOR AND DEMONSTRATIVE (OBJECT OF COMP R. C.)

a. *í-maaŋgɛ́*$_1$ *núnú/*nú↓/núú (nú)* [*↓ŋgwɔ́ i ye ikɛ́ŋí ilɛ́l ↓nyɛ́*$_1$]
AUG-1.child 1.DEM 1.REL 9.dog 9.SBJ PR.be 9-big exceed 1.PRO
'this/that child that the dog is bigger than'

b. *núnú/*nú↓/núú maaŋgɛ́*$_1$ *(nú)* [*↓ŋgwɔ́ i ye ikɛ́ŋí ilɛ́l ↓nyɛ́*$_1$]
'THIS/THAT child that the dog is bigger than'

(22) DISTRIBUTION OF RELATIVE OPERATOR AND DEMONSTRATIVE (OBJECT POSSESSOR R.C.)

a. *í-maaŋgɛ́*$_1$ *núnú/*nú↓/núú nú* [*mɛ bí ↓jɛ́ bijɛ́k gwɛ́ɛ́*$_1$]
AUG-1.child 1.DEM 1.REL 1ST.SG P2 eat 8.food 8.POS
'this/that child whose food I ate'

b. *núnú/*nú↓/núú maaŋgɛ́*$_1$ *nú* [*mɛ bí ↓jɛ́ bijɛ́k gwɛ́ɛ́*$_1$]
1.DEM 1.child 1.REL 1ST.SG P2 eat 8.food 8.POS
'THIS/THAT child whose food I ate'

With fronted genitives (cf. 10b), the pattern is the same:

(23) DISTRIBUTION OF RELATIVE OPERATOR AND DEMONSTRATIVE (FRONTED OBJECT POSSESSOR R.C.)

a. *í-maaŋgɛ́*$_1$ *núnú/*nú↓/núú nú* [*bijɛ́k gwɛ́ɛ́*$_1$ *mɛ bí ↓jɛ́ gwɔ́*$_1$]
AUG-1.child 1.DEM 1.REL 8.food 1.POS 1ST.SG P2 eat 8.PRO
'this/that child whose food I ate'

b. *núnú/*nú↓/núú maaŋgɛ́*$_1$ *nú* [*bijɛ́k gwɛ́ɛ́*$_1$ *mɛ bí ↓jɛ́ gwɔ́*$_1$]
1.DEM 1.child 1.REL 8.food 1.POS 1ST.SG P2 eat 8.PRO
'THIS/THAT child whose food I ate'

To summarize, relative clauses formed by resumption pattern together, allowing demonstratives to co-occur with the relative operator, with the exception of the homophonous near-hearer demonstrative. In contrast, in relative clauses formed with the gap strategy, demonstratives cannot co-occur with the relative operator at all.

We have seen that relative clauses in Basaá share with demonstratives the ability to license an overt marker of definiteness, the augment prefix. This prefix cannot mark definiteness on bare (unmodified) nouns, however. Furthermore, while the relative operator is segmentally identical to the near-hearer demonstrative, it can occur in indefinite, augment-less noun phrases, leading to the expectation that the relative operator is syntactically distinct from demonstratives. Yet the relative operator and demonstratives are in complementary distribution, though a subset of the demonstratives can occur with the relative operator in relative clauses formed by resumption.

4. An analysis of Basaá relative clauses

In this section we present one possible theoretical analysis of relative clauses in Basaá which accounts for the distribution of demonstratives and relative operators. For those who have little interest in formal syntactic theory, this section may not be particularly compelling, and the data may not add much to the overall picture of Basaá relative clause.

In brief, we suggest a head-raising analysis of gapped relative clauses along the lines of Kayne (1994), from which the complementarity between the relative operator and demonstrative in (19-20) follows, given additional assumptions about the syntactic category of relative operators. This analysis cannot be extended to the resumption strategy, for which an analysis involving base generation of relative operator is proposed. This analysis accounts for the non-complementarity of certain demonstratives with the relative operators in these cases (21-23), and offers suggestions about the syntactic position of the augment prefix and the fact that it only occurs with certain modifiers in Basaá.

4.1 The syntactic status of the relative operator

This section provides evidence from stacked relatives and non-restrictive relatives that suggest that the relative operator is indeed a relative operator, and hence is part of the relative clause. Once we adopt this conclusion, we can exclude analyses of the complementarity between demonstratives and relative operators above which posit that relative operators are not relative operators at all but simple demonstrative determiners, rendering the observation moot.

The first argument that relative operators form a constituent with relative clauses comes from the recurrence of relative operators in stacked restrictive relative clauses in Basaá. (24) and (25) provide definite and indefinite stacked relatives, respectively:

(24) DEFINITE STACKED RELATIVES

liwándá jêm lí ŋ́ ˩gwés ńdíkí híŋgɔnda$_1$ *(hí)* [___$_1$ *hí yé diláám*]
5.friend 5.my 5.SBJ PR like only AUG.19.girl 19.REL 19.SBJ PR.be 13.beaut.
**(hí)* [*nyaŋ a ń ˩yí* ___$_1$]
19.REL mother 1.SBJ PR know
'My friend only likes the girl that is beautiful that his mother knows.'

(25) INDEFINITE STACKED RELATIVES

liwándá jêm lí ŋ́ ˩gwés ńdíkí diŋgɔnda$_1$ *(tí)* [___$_1$ *dí yé diláám*]
5.friend 5.my 5.SBJ PR like only 13.girls 13.REL 13.SBJ PR.be 13.beaut.
**(tí)* [*nyaŋ a ń ˩yí* ___$_1$]
19.REL mother 1.SBJ PR know
'My friend only likes girls that are beautiful that his mother knows.'

If a demonstrative occurs with the stacked relatives in (26), only the first relative operator is prohibited:

(26) STACKED RELATIVES WITH PRENOMINAL DEMONSTRATIVE

liwándá jêm lí ŋ́ ˩gwés tíní diŋgɔnda$_1$ *(*tí)* [___$_1$ *dí yé diláám*]
5.friend 5.my 5.SBJ PR like these 13.girls 13.REL 13.SBJ PR.be 13.beaut.
**(tí)* [*nyaŋ a ń ˩yí* ___$_1$]
19.REL mother 1.SBJ PR know
'My friend only likes THESE girls that are beautiful that his mother knows.'

These examples show that the demonstrative which occurs before relative clauses is a true relative operator by virtue of the fact that it *must* recur in stacked relatives. Example (26) demonstrates that the complementarity between the relative operator and demonstratives only holds of the relative operator closest to the head noun.[7]

The second argument that the relative operator is syntactically associated with the relative clause comes from non-restrictive relative clauses (Makasso 2010, p. 152):

(27) NON-RESTRICTIVE RELATIVE CLAUSES

a. *Paul₁, nú *(ꜜnyɛ́₁) a ŋ́ ꜜgwés jɛ́, a bí ɓok í-têble*
P. 19.REL 1.PRO 1.SBJ PR like eat 1.SBJ P2.be first LOC-table
'Paul, who likes to eat, was the first to the table.'

b. *ɓaúrú₁ ɓɛ̂m, ɓá *(ꜜɓɔ́₁) ɓá bí ꜜsál lɔ́ŋgɛ̂, ɓá bí nɛt ɓɔ́ɓasô*
2.student 2.my 2.REL 2.PRO 2.SBJ P2 work well AGR P2 succeed all
'My students, who have been working well, have all succeeded.'

Non-restrictive relative, like restrictive relatives are introduced by the relative operator, but they necessarily use the resumption strategy, as indicated by the free subject pronouns in the examples above, usually used for non-subjects (Hyman 2003, p. 269). As the commas indicate, the relative operator forms a prosodic constituent with the non-restrictive relative clause, suggesting that the relative operator is not an adnominal demonstrative. Additionally, we see in (27a) that the relative operator occurs with the proper name Paul. As proper names are otherwise prohibited with demonstratives, the demonstrative in example (27a) is licensed by the relative clause.

4.2 Demonstrative–operator complementarity and head-raising relatives

The Basaá facts detailed above present two problems: 1) the complementarity of relative operators and demonstratives in 'strategy 1' relative clauses containing a gap and 2) distinguishing these cases from the non-complementarity of certain demonstratives and relative operators in 'strategy 2' relative clauses containing a resumptive pronoun. The intuition we pursue in this section is that the complementarity between demonstratives and relative operators in Basaá is due to the fact that even true demonstratives can function as relative operators, and relative operators and demonstratives occupy in the same syntactic position in the noun phrase. However, competition does not extend to relative clauses involving resumption, which must receive a different analysis, the topic of section 4.3.

[7] A reviewer has suggested that the requirement that the second demonstrative operator be obligatory might be due to pragmatic or processing considerations, as more complex embedded structures often require more explicit marking. While it such a processing explanation is indeed possible, the very fact that Basaá noun phrases permit, much less allow, two demonstratives just in case relative clauses are stacked would be very surprising indeed if these demonstratives were associated with the head noun rather than the relative clause.

Complementarity arises from competition: two syntactic elements compete for the same syntactic position. To see how this will solve our problem, we begin with prenominal demonstratives in Basaá, which we take to occur in a position in the specifier of DP:

(28) [$_{DP}$ *núnú/nú/núú* [$_{D'}$ Ø [$_{NP}$ *mut*]]] '*this/that* person'

As relative operators compete with demonstratives in all positions, including prenominally, we take prenominal demonstrative operators to occur in the specifier of DP as well. Evidence for this claim comes from alternative constituent questions, in which the *wh*-operator must occur prenominally:

(29)	*njɛ́*	*máaŋgɛ́*	*a*	*bí*	*ɓok*	*í-têble*	*(*í-máaŋgɛ́ njɛ́)*
	1.which	1.child	1.SBJ	P2.be	first	LOC-table	

`Which child was the first to the table?'

Given that relative clauses and constituent questions are subtypes of long-distance dependencies with closely related semantics, we expect *wh*-operators to occupy the same position as prenominal relative operators and focused demonstratives. In addition, demonstrative relative operators have been analyzed as a D-element associated with the head noun in several other Bantu languages (Ngonyani 2001, Zeller 2004, Carstens 2005, Cheng 2006), which is particularly attractive, given the common morphological and diachronic relationship between demonstratives and relative operators (see section 5).[8]

Of course, relative operators, *wh*-operators, and prenominal demonstratives cannot co-occur with a postnominal demonstrative. This observation follows if we derive the prenominal position of demonstratives and operators from the postnominal position. which is a lower position within NP or some intermediate functional projection. Following Leu 2015 and many others,[9] we take morphologically complex prenominal determiners, such as demonstratives, to originate from a lower, adjectival position. In Basaá, we can say that this movement is always associated with focus semantically:

(30) a. POSTNOMINAL DEMONSTRATVE [$_{DP}$ *í* [$_{NP}$ [$_{NP}$ *mut*] *nú*]] → b. PRENOMINAL DEMOSTRATIVE [$_{DP}$ *nú* [$_{DP}$ *í* [$_{NP}$ [$_{NP}$ *mut*] ~~*nú*~~]]

[8] The alternative would be to analyze the relative operator as a relative complementizer (cf. Demuth & Harford 1999; Schneider-Zioga 2007; Henderson 2009). However, such an analysis offers no way of accounting for the complementarity of the demonstrative operator and demonstratives, and in fact predicts that they should never be in complementary distribution as they occupy distinct structural positions. Also, as discussed in fn. 3, Bassong (2010) reports that an overt complementizer *lɛ́* can occur in relative clauses in other dialects of Basaá. The fact that a complementizer can occur which is distinct from the demonstrative suggests they should not receive the same analysis.

[9] Demonstratives show similar alternations in their position in Romance languages, particularly in Romanian and Spanish, and they are similarly seen as alternating between a lower postnominal position to a higher position before the noun. In Spanish, the prenominal position also blocks the definite article. See, e.g., Bernstein 1997; Brugè 1996, 2002; Giusti 1997, 2002.

The fact that the augment prefix occurs overtly in (30a) but not in (30b) follows from a generalized version of the "Doubly-filled COMP Filter" (e.g. Koopman & Szabolsci 2000, p. 4), which states that a head cannot be pronounced if its specifier is filled. That is, D cannot be pronounced in (30b) because the demonstrative or relative operator is occupying its specifier position. Leu (2015) relies on this principle to account for the inability of prenominal demonstratives and definite articles to co-occur in Germanic.

With this proposal as background, we turn to the derivation of relative clauses themselves. Kayne (1994, p. 87) proposes that the nominal heads of relative clauses raise to the specifier of the relative CP, which can be selected as the complement of D. This head-raising analysis has been argued to hold in other Bantu languages (Ngonyani 2001; Carstens 2005; Cheng 2006; Henderson 2009), and to a different dialect of Basaá by Bassong (2010) albeit based on different considerations. The head-raising analysis is one of only three available analyses of relative clauses in the literature, the others being the operator-movement analysis and the matching analysis (Bhatt 2002). Because both of these other two analysis assume two distinct noun phrases — one inside the relative clause and another heading the main DP — they do not lend themselves to an explanation of the complementarity of demonstratives and relative operators observed in Basaá, precisely because there are multiple NPs in the structure and hence multiple potential sources of demonstratives. In contrast, the head-raising analysis provides a natural account of this complementarity as well as explaining why only gapped relative clauses manifest this restriction.

We now turn to an explicit model of head-raising relative clauses in Basaá, showing how they account for the complementarity of demonstratives and relative operators. First, in this analysis, because the augment is the head of DP we propose that it takes the relative CP as its complement. The head noun and relative operator occur in the specifier of this relative CP:

(31) $[_{DP1}$ í $[_{CP}$ $[_{DP2}$ *nú mut* $]_i$ $[_{C'}$ … t_i …]]]

Here, DP1 represents the entire DP, headed by the augment. DP_2 is the moved relative head, whose base position is t_1. The C head is silent here due to the filled specifier,[10] again by the Doubly-filled COMP Filter.

According to the proponents of the head-raising analysis, the structure in (31) never surfaces, however, because one of two further operations must take place for the derivation to converge. Either 1) the N must move past Dem to the specifier of DP_2 (cf. Kayne 1994, p. 90), or 2) DP_2 moves to Spec, DP_1. Both steps occur because D_1 requires a noun in its "minimal domain" (Bianchi 2000, p. 128).

The movement of the relative operator to the spec of the larger DP is motivated as an instance of focus-associated movement, parallel to the noun phrase-internal operation in (31). NP movement to [Spec, DP] is less clearly motivated; several other options exist in the literature, including of the N moving to a higher CP shell (Zwart 2000), a higher *n* head (de Vries 2002) and N moving and reprojecting above the CP (Bhatt 2002). However, the noun

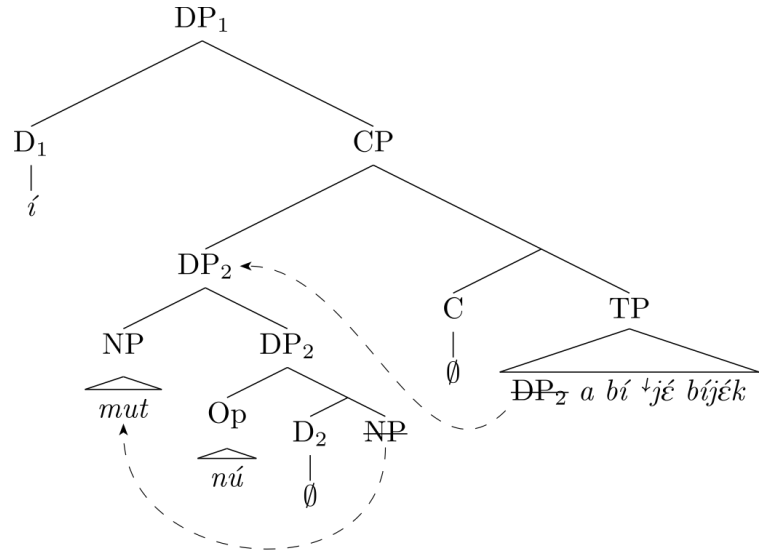
[10] Again, see fn. 3 and fn. 6 on overt complementizers.

in the Aug-N-Dem order must be the NP originating within the relative clause, or our account of the complementarity between demonstratives and relatives would be lost.

In the first case, the Aug-N-Op/Dem-RC word order results, as is illustrated below:

(32) a. *í-mut*$_1$ *nú* [__$_1$ *a* *bí* *ꜜjɛ́* *bíjɛ́k*]
AUG-1.person 1.REL 1.SBJ P2 eat 8.food
'the person that ate the food'

b.



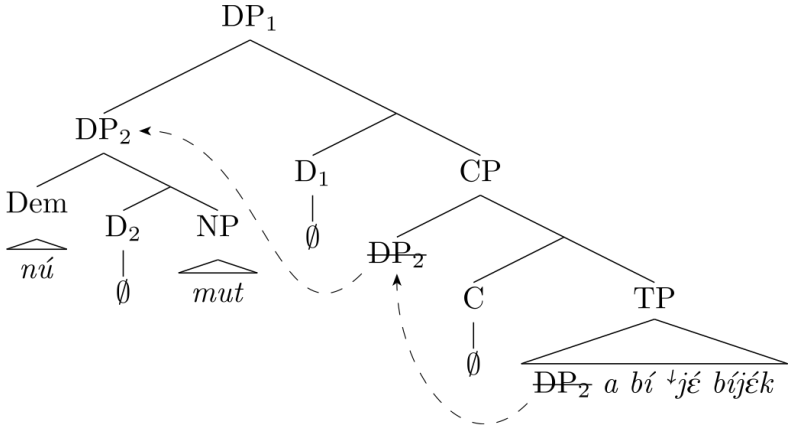
The movement of the demonstrative to the operator position inside the specifier of DP_2 is not represented for simplicity.

This derivation above is the only option when the relative operator is a true operator rather than a demonstrative. This is because in order to be focused in the specifier of DP_1, the operator must have additional deictic lexical content that can be focused there. Furthermore, we can now see that the configuration in (32b) is the one in which the relative operator is optional, a fact that that we likewise relate to the fact that the operator itself is not in focus in this position. Additionally, indefinite relative clauses that lack an augment can be analyzed as having the structure in (32b), but with an unpronounced indefinite article in D_1 instead of the augment.

In the second derivation, the entire relative DP head moves out of CP, resulting in the Dem-N-RC word order with emphasis on the demonstrative:

(33) a. *nú* *mut*$_1$ [___$_1$ *a* *bí* *ꜜjɛ́* *bíjɛ́k*]
1.that 1.person 1.SBJ P2 eat 8.food
'THAT person that ate the food'

b.



The derivation in (33b) is restricted to cases where the operator is a 'true' demonstrative (e.g. 20-21). Demonstratives can also remain in [Spec, CP], as in (32b), but they do not received a focused interpretation there. The derivations in (32-33) for relative clauses thus mirror the two options for demonstratives themselves illustrated in example (30). It follows that either a demonstrative or a relative operator can occur in a restrictive relative clause, but not both, as both occur in the same position internal to DP_2.

This proposal thus derives the complementarity between demonstratives and relative operators (Section 3.3). In contrast, alternatives to the head-raising analysis of relative clauses cannot account for this fact. This is because these analyses, which include the matching analysis and the operator-movement analysis[11] both posit a second which the relative clause adjoins to. If there were a distinct NP from the one in the relative clause, we would expect that it would be able to host a distinct demonstrative under the assumption that this demonstrative modifies NP or one of its projections.

At the same time, this analysis raises the deeper question of why demonstratives and relative operators are in competition at all, or, stated differently, why demonstratives can serve as relative operators. This seems to be a language-particular property of Basaá: if relative operators are distinguished by some feature *Op* (cf. McCloskey 2002, Adger & Ramchand 2005), then *Op* can also be realized by demonstratives in addition to their more contentful deictic features in Basaá. Thus, Basaá is simply a language with a rich set of relative operators, as we will discuss further in Section 5.

Standard diagnostics for *wh*-movement,[12] including weak and strong crossover effects (34-35) (Postal 1971) and island constraints (36) (Ross 1967) confirm that the gap strategy for relative clauses involve overt movement, as expected under the analysis above:

[11] See Bhatt 2002 for discussion.

[12] These restrictions on extraction have been shown to restrict instances of *wh*-movement including relativization in many languages, and are thus typologically robust tests for analyses involving overt movement. See, for example, Cullicover 1997, ch. 6 and ch. 9 for English, and the discussion in McCloskey 2006 for discussion of cases of non-movement in Irish and other languages.

(34) WEAK CROSSOVER

a. *í-maaŋgɛ́*$_1$ *nú* [___$_1$ *a* *ŋ́*$^{\downarrow}$*-gwɛ́s* *líwándá* *jéé*$_{1/2}$]
AUG-1.child 1.REL 1.SBJ PRES-like 5-friend 5.POSS
'the child$_1$ that likes his$_{1/2}$ friend'

b. *í-maaŋgɛ́*$_1$ *nú* [*li-wándá* *jéé*$_{*1/2}$ *lí* *ŋ́*$^{\downarrow}$*-gwês* ___$_1$]
AUG-1.child 1.REL 5-friend 5.POSS 5.SBJ PRES-like
'the child$_1$ that his$_{*1/2}$ friend likes'

(35) STRONG CROSSOVER

í-maaŋgɛ́$_1$ *nû* [*pro*$_{*1/2}$ *a* *ŋ́*$^{\downarrow}$*-gwɛ́s* ___$_1$]
AUG-1.child 1.REL 1.SBJ PRES-like
'the child$_1$ that he$_{*1/2}$ likes'

(36) COMPLEX NP ISLAND VIOLATION IN SUBJECT (A) AND OBJECT (B) RELATIVE W/GAP

a. * *liwándá* *jêm* *lí* *ŋ́* $^{\downarrow}$*gwés* *í-kaat*$_1$ *i* [*mɛ́* *ń* $^{\downarrow}$*yí*
5.friend 5.my 5.SBJ PR like AUG-9.book 9.REL 1ST.SG PR know
[*í-maaŋgɛ́*$_2$ nú [___$_2$ *a* *ŋáŋ* ___$_1$]]]
AUG-1.child 1.REL 1.SBJ read
'*My friend likes the book that I know the child that read.'

b. * *liwándá* *jêm* *lí* *ń* $^{\downarrow}$*yí* *í-maaŋgɛ́*$_1$ nú [*mɛ́* *ŋ́* $^{\downarrow}$*gwés*
5.friend 5.my 5.SBJ PR like AUG-1.child 1.REL 1ST.SG PR like
[*í-kaat*$_2$ *i* [___$_1$ *a* *ŋáŋ* ___$_2$]]]
AUG-9.book 9.REL 1.SBJ read
'*My friend knows the child that I like the book that read.'

Reconstruction facts that have been argued to specifically favor the head-raising analysis of relatives by Bhatt (2002) can also be reproduced in Basaá. For example, relative heads can receive bound readings under quantificational subjects inside the relative clause (37), and adjectives can receive interpretations internal to the relative clause (38):

(37) BOUND VARIABLE RECONSTRUCTION

í-$^{\downarrow}$*fóto*$_1$ *i* [*hígií* *ŋ̀úrú* *a* *bí* *yɔŋ* ___$_1$ *ndáp* *yé*$^{\downarrow}$*é*] *i* *ɓée* *iláám*
AUG-9.photo 9.REL every 1.student 1.SBJ P2 take 9.house 9.his 9.SBJ P2.be 9.nice
'The picture that every student took of his house was nice.'

(38) ADJECTIVE RECONSTRUCTION

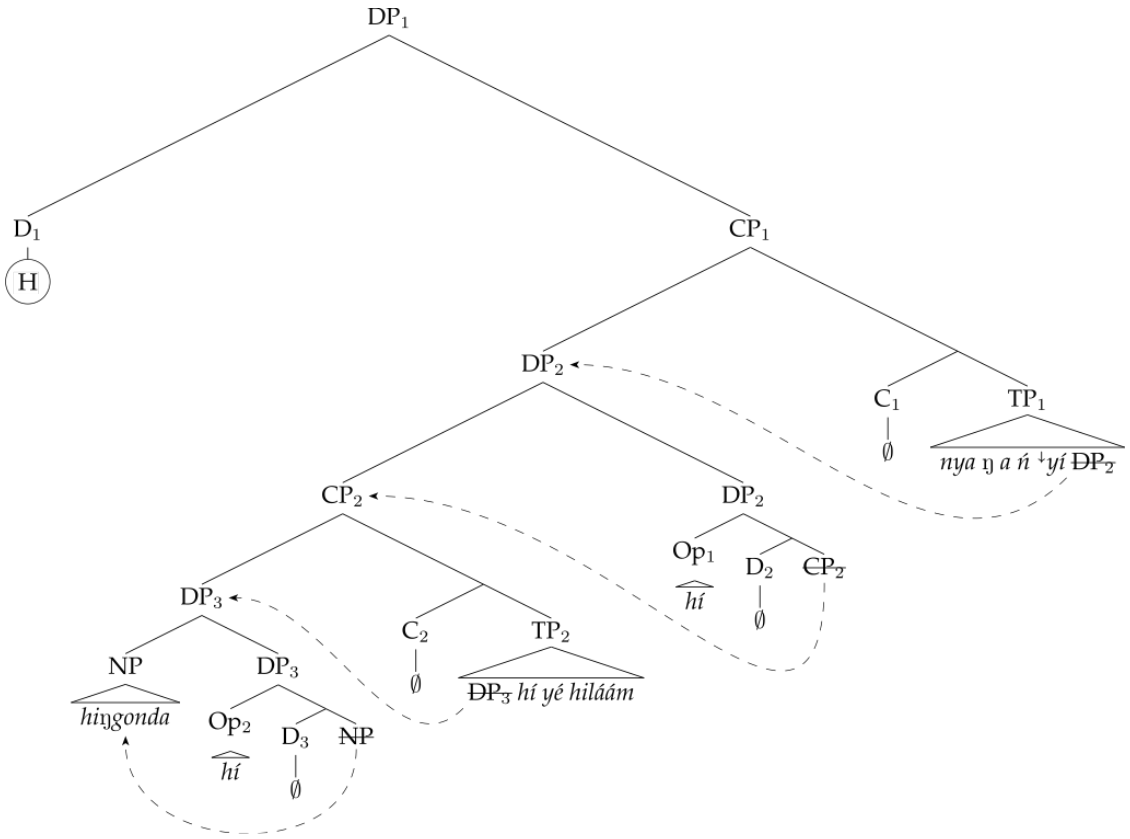
pǒm *kaat*$_1$ *i* [*Pierre* *a* *ŋ́-kal* *lɛ́* *Victor* *a* *ŋáŋ* ___$_1$]
only book 9.REL P. 1.SBJ P1-say that V. 1.SBJ read
'the only book that Pierre said that Victor read' (only > say, say > only)

Example (37) is admittedly not a true case of bound variable reconstruction: the head DP does not contain a bound pronoun. However, the most salient interpretation of (37) is one where each student took a different picture, which would involve reconstruction of the head noun into the relative VP where it could be interpreted under the scope of *hígií* 'every.' Together, then, the facts in (34-38) support the head-raising analysis of restrictive relative clauses involving a gap in Basaá.

A remaining challenge for this proposal is the recursion of relative operators in stacked relative clauses, only the first of which is in complementary distribution with demonstratives (27). The proposal above can countenance these facts if relative operators are base-generated in the specifier of a DP (DP_2 below) which can take a CP complement (CP_2 below). This latter CP must move to a position above the operator, as was shown to be necessary with nouns in simple (non-stacked) relative clauses in example (32b), and parallel to the movement of NP below (cf. Bianchi 2000, p. 132):

(39) a. *híŋgɔnda*$_1$ *(hí)* [___$_1$ *hí yé hiláám*] **(hí)* [*nyaŋ a ń ˩yí* ___$_1$]
AUG.19.girl 19.REL 19.SBJ PR.be 19.beautiful 19.REL mother 1.SBJ PR know
'the girl that is beautiful that his mother knows.'

b.



This structure accounts for the observed properties of stacked relative clauses. First, the configuration in DP_3 is similar to the configuration in (34b) where it is adjacent to the upper D head, and the relative operator is optional in both cases. Second, the relative operator in DP_2 is not adjacent to a upper D head, and this operator is obligatory. Third, the relative clause on the right, CP_1, is predicted to have scope over CP_2 on the left, due to the fact that it is structurally higher. This prediction is correct; (41a) has the interpretation of restricting a larger set of beautiful girls to a particular girl that his mother knows. Fourth, demonstratives are only predicted to alternate with Op_2, because only Op_2 occurs in a DP which takes a NP complement, which is the source of demonstratives (cf. 32). Finally, demonstratives are only predicted to be in complementary distribution with Op_2 for the same reason.

4.3 Resumption, unselective binding, and non-complementarity

Now that the analysis of 'strategy 1' restrictive relative clauses involving a gap has been established, 'strategy 2' restrictive relative clauses involving a resumptive pronoun will be shown to have a different structure. This proposal can account for the ability of relative operators to co-occur with demonstratives in relative clauses with resumption (22-24).

There is an earlier literature analysis identifying the presence of resumptive pronouns in relative clauses and *wh*-question as evidence that they were not derived by movement. This has most famously been shown in Irish (McCloskey 1990, 2002, 2006), where there is a morphological distinction on the relative complementizer correlating with the presence of resumptive pronouns, and relative clauses involving resumption are not subject to island constraints.

The following examples, which are identical to (36a-b) except for the existence of resumption, demonstrate that resumption alleviates island constraints in Basaá as well.

(40) NO COMPLEX NP ISLAND VIOLATION IN SUBJECT (A) AND OBJECT (B) RELATIVES W/ RESUMPTION

a. *liwándá jêm lí ń ↓yí í-maaŋgɛ́*$_1$ nú [*mɛ́ ŋ́ ↓gwés*
5.friend 5.my 5.SBJ PR know AUG-1.child 1.REL 1ST.SG PR like
[*í-kaat*$_2$ *i* [*nyɛ́*$_1$ *a ŋáŋ* ___$_2$]]]
AUG-9.book 9.REL 1.PRO 1.SBJ read
'??My friend knows the child that I like the book that he read.'

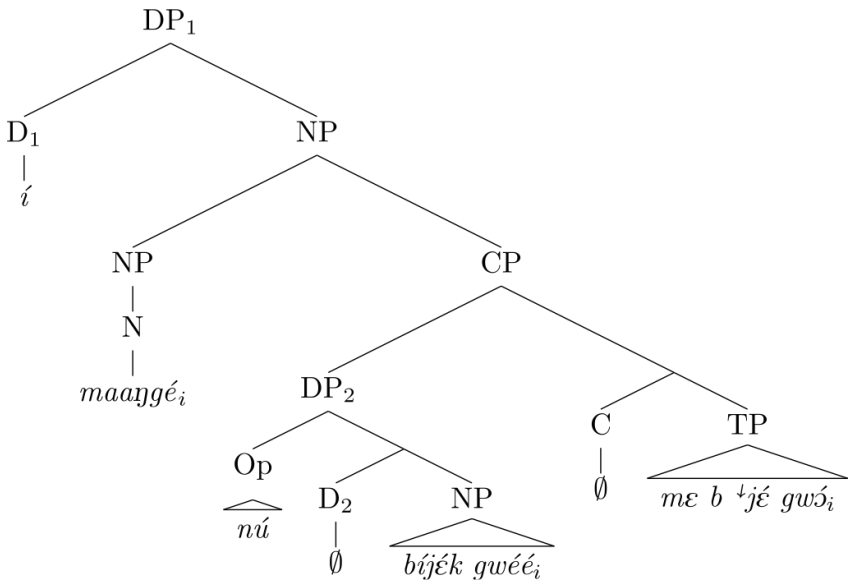
b. *liwándá jêm lí ŋ́ ↓gwés í-kaat*$_1$ *i* [*mɛ́ ń ↓yí*
5.friend 5.my 5.SBJ PR like AUG-9.book 9.REL 1ST.SG PR know
[*í-maaŋgɛ́*$_2$ nú [___$_2$ *a ŋáŋ yɔ*$_1$]]]
AUG-1.child 1.REL 1.SBJ read
'??My friend likes the book that I know the child that read it.'

Unlike their English counterparts, these sentences are fully grammatical in Basaá. Thus, we conclude that relative clauses involving a resumptive pronoun do not involve movement in Basaá. This entails in turn that these relative clauses cannot be derived by the head-raising analysis detailed in section 4.2, but must simply occur as nominal adjuncts with a base-generated relative operator.

The analysis of relative clauses involving resumption is illustrated with a possessive relative, which can occur left peripherally in the relative clause (10b):

(41) a. *í-maaŋgɛ́*$_1$ *(nú)* *bijɛ́k* *gwéé*$_1$ *mɛ* *bí* *ˡjɛ́* *gwɔ́*$_1$
AUG-1.child 1.REL 8.food 8.POS 1SG P2 eat 8.PRO
'the child whose food I ate'

b.



The structure is the same in relative clauses that lack an overt NP complement with the operator.

It follows from the structure in (41b) that demonstratives are not in complementary distribution with relative operators because the relative clause is an adjunct. Therefore, the presence or absence of a relative operator would not be expected to affect the internal syntax of the NP to which it attaches. Thus, when an additional demonstrative is present (22-24), it presumably attaches a position between the NP and the CP, and optionally fronts to [Spec, DP], as outlined in the previous section.

Two issues remain. The first is the fact that the 'near hearer' demonstrative is blocked even in cases involving resumption. The second is how these proposals shed light on the licensing of the augment.

One possible explanation for the persistent complementarity between the 'near hearer' demonstrative and the relative operator is that it represents a case of haplology, or Menn & MacWhinney (1984)'s Repeated Morph Constraint: when two identical elements are adjacent, one must be deleted: e.g. *í-maaŋgɛ́ (*nú) nú bijɛ́k gwéé*$_1$ *mɛ bí ˡjɛ́ gwɔ́*$_1$ '(lit.) the child that (*that) his food I ate it.' Of course, the problem with this view is that even prenominal near-hearer demonstratives are impossible with the relative operator: **nú maaŋgɛ́ nú bijɛ́k gwéé*$_1$ *mɛ bí ˡjɛ́ gwɔ́*$_1$ '(lit.) that child that his food I ate it.' To block this latter case, a more powerful constraint would be required, which either blocked adjacent identical elements at any point in the derivation or at a certain distance. Yet the claim that the Repeated Morph Constraint would apply at an earlier point in the derivation which does not surface would be surprising, as this is generally a surface-level phenomenon.

The alternative we adopt is that the 'near hearer' demonstrative is a default demonstrative, which is underspecified for deixis. Thus, it receives its 'near-hearer' interpretation by virtue of neither being distal or proximal. Because it lacks a lexical deictic

specification, we take this demonstrative to be semantically vacuous in the presence of a relative clause and hence ruled out by a semantic economy constraint.

The second issue is how the augment prefix is licensed in just the presence of a demonstrative and relative clause. The structures for head-raising relative clauses pursued in the previous section offered a potential explanation for the licensing condition, as in these structures the D took a CP complement rather than an NP, and thus was participating in a distinct structure. However, the ability for relative clauses involving resumption (e.g. 43) and demonstratives to license the augment cannot be made to follow from this proposal, as both of these modifiers elements are adjuncts. One promising line of explanation would be to say that demonstratives and relative clauses both attach to a higher position in the noun phrase than other modifiers, and are able to license the augment from this position. Evidence for this analysis comes from the H spreading facts noted at the end of section 3.1, where demonstratives were seen to be distinct from other modifiers in not allowing spreading from the N, a possible effect of their structural height. In general, however, we note with Creissels (this volume) that cases of definiteness being only marked in the presence of modification are not unattested crosslinguistically, and with him observe that similar patterns occur in languages of the Balkans.

5. Grammaticalization

While the previous section has examined relative clauses in Basaá from a formal perspective, this section puts into a historical context the distribution of the augment prefix in Basaá (section 3.1-3.2) as well as the complementarity between demonstratives and relative operators (section 3.3). These facts receive ready explanations from the idea that Basaá relative operators are not fully grammaticalized from demonstratives, and that, simultaneously, the augment came to be associated with deixis as well as definiteness historically. We will model this process in this section by using a kind of informal featural representation that approximates what was and is a more complex semantics.

To begin, if the augment prefix in Basaá is a remnant of the Proto-Bantu augment, as suggested in Hyman (2003, p. 267), we suggest, based on its very irregular modern distribution both in Basaá and across the A group, that it once was a productive definitene marker that has eroded and semantically bleached in different ways in different languages. This conclusion would not be surprising from a broader Bantu perspective, as the augment has very different behavior in different Bantu languages (e.g. de Blois 1970, Hyman & Katamba 1993). Thus, we suggest an initial stage where the augment had the feature [DEF], and the demonstratives had a feature [DEIX], relating to the semantic process of identification with an discourse index, as well as the feature [DEF], corresponding to their definite specification:

(42) STAGE 1
í- [DEF]
nú [DEF, DEIX]

At this stage, other modifiers such as relative clauses, adjectives, and possessives lacked the [DEIX] feature because these modifiers are fundamentally predicative rather identificational.

In a second stage of grammaticalization, the augment only occurred with demonstratives. Because we assume that the augment was still definite at this stage, and hence would be expected to freely combine with other modifiers, we posit that this restriction in the distribution of the augment corresponded to the augment gaining a DEIX feature, meaning that it was only compatible with other modifiers with this feature:

(43) STAGE 2A
í- [DEF, DEIX]
nú [DEF, DEIX]

This view is compatible with the suggestion by Maksasso (2010) that the augment in Basaá is inherently deictic. Other semantic factors that may have differentiated these two markers, including the fact that the demonstratives contained other features marking proximity, as well as syntactic differences in their category and position. An analogy can be made here with negation and the Jespersen cycle: negation can be adverbial or inflectional, and there are often stages in the development of negation where both types of markers can co-occur, as in French (*ne)-V pas*.

This leads us to the complementarity between relative operators and demonstratives in Basaá. Recorded instances of grammaticalization from demonstratives to relative markers are widespread (Diessel 1999; Heine & Kuteva 2002, p. 113). In some languages where this process has occurred, demonstrative relative markers and demonstratives themselves freely co-occur. Germanic provides examples of this late stage of grammaticalization. English is one case: *that man that I knew*; German is another: *die Frau die meinen Bruder liebt.* From this perspective, Basaá represents a language where the demonstrative has not fully grammaticalized as a relative marker, but still retains its demonstrative status at some level. We have seen in the formal analysis above that this can be captured by identifying the demonstrative and relative operator both within the raised head internal to the relative clause, also accounting for the different behaviors of demonstratives between gap-strategy and resumption-strategy relative clauses.

We can model this stage in the development in the demonstrative using a similar representation to the one used for the augment prefix. At Stage 1, the demonstrative was only a deictic determiner. However, at Stage 2, demonstratives became polysemous due to the innovation of an OP feature that is characteristic of relative operators:

(44) STAGE 2B
í- [DEF, DEIX]
$nú_1$ [DEF, DEIX]
$nú_2$ [OP,DEF, DEIX]

At this intermediate stage, we expect that demonstrative operators may only have been used in definite noun phrases, and that neither the augment nor the demonstrative operator would be present in indefinite complex noun phrases.

The final stage in the development of the augment and operator is the modern stage for Basaá: at some point the demonstrative operator lost its [DEF] feature, and as a result could be used in either indefinite or definite noun phrases, with only the augment remaining as a marker of definiteness:

(45) STAGE 3
í- [DEF, DEIX]
nú$_1$ [DEF, DEIX]
nú$_2$ [OP, DEIX]

In a way, Stage 3 represented a return to form for the augment prefix, as there was once again a context where it could be used to mark definiteness. Basaá demonstratives are still at an early stage of grammaticalization by virtue of the fact that they retain their deictic semantics, represented by the [DEIX] feature.

Relative markers in many Bantu languages have fully grammaticalized from demonstratives into verbal prefixes, as in the southern Bantu languages discussed by Zeller (2004, also Demuth & Harford 1999), where they lack demonstrative semantics. Such markers can be seen as retaining only the [OP] feature. A similar case of bleaching can be seen in languages like German, where relative operators identical to definite determiners can be used in indefinite noun phrases.

A different grammaticalization pathway is represented by Bantu A-group languages like Eton, discussed by Van de Velde (this volume). In Eton, the augment prefix lacks any semantic contribution, and seems to be fully optional. In the context of the pathway represented above, we can take the augment prefix in Eton to have lost its [DEF] feature, simply serving as a redundant marker of general deictic features.

In summary, then, we can identify a contiguous grammaticalization pathway from a Proto-Bantu stage where the augment prefix was purely a marker of definiteness to a later stage of development where the augment prefix only marks definiteness in certain contexts. Similarly, demonstrative operators in Basaá developed due to semantic enrichment of a demonstrative determiner followed by bleaching of the definite semantics typical of demonstratives.

6. Conclusion

While certain aspects of relative clauses in Basaá are unsurprising from a crosslinguistic perspective, including the conformity of relativization to the Accessibility Hierarchy (Section 2), other aspects of relative clause formation are more particular to Basaá, such as the ability of relative clauses to license an augment prefix which overtly marks definiteness (Section 3.2) and the complementarity of demonstratives with relative operators (Section 3.3.). This complementarity, and the different distributions of demonstratives with gapped and resumptive relatives, was in turn shown in Section 4 to follow from two standard analyses of relative clauses, one which invokes head-raising, accounting for the complementary pattern, and another that relied on base-generation of the relative operator and adjunction of the relative clause to NP, which allowed multiple demonstratives.

It seems that two of the main issues discussed in this paper — the contextually restricted marking of definiteness by the augment prefix and the complementarity of demonstratives and relative operators, pose a promising topic for future typological research. Both topics are of historical and theoretical interest, and they are likely to exhibit additional shades variation when more languages are considered, especially the typologically and genetically related languages spoken in Cameroon.

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