Adjectives as Nominal Heads in Basaá

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1. Introduction

Adjectives in Basaá [ɓasaá] (Bantu, A43: Cameroon) are morphologically nominal: they possess inherent noun class and distinguish singular and plural (Dimmendaal 1988, Hyman 2003). Additionally, adjectives in Basaá function as the head of their noun phrase, in a sense to be made precise below. This challenges the standard assumption that noun phrases or DPs are projected (or headed) by nouns. This paper provides an analysis of adjectives in Basaá which takes seriously the categorical status of Basaá adjectives as nouns, but proposes that these adjectives are syntactic predicates of the noun they modify, moving to their position as nominal heads by Predicate Inversion.

The status of adjectives as nominal heads can be seen in the example below, in which the adjective occurs in the position of the head noun and controls concord on its dependents, including the phrase containing the noun it modifies (Hyman 2003):

(1) *mín-laŋgá*   *mí* *dí-nuní*   *míní* / **tíní*   'these black birds'
    4-black   4   13-birds   4.these / 13.these   (*lit*: 'these blacks of birds')

In (1) the adjective *mínlangá* 'black' occurs initially in the noun phrase. This is the position of the noun in noun phrases without adjectives. The modified noun follows the adjective, but a connective intervenes between the adjective and the noun. The connective agrees with the adjective. In addition, higher modifiers, such as demonstratives, must agree with the adjective in noun class and number, and cannot agree with the modified noun.

This papers details properties of *nominal adjectives* (henceforth *n*A) in Basaá as well as the *n*A-of-N structure illustrated in (1). In section 2 we show that in addition to *n*As, Basaá possesses a restricted class of "true" adjectives which occur in a more canonical modification construction. Section 3 examines properties of the *n*A-of-N construction and lays out arguments that *n*As are the syntactic head in these structures, and that the nominal following the *of-N* component of the *n*A-of-N construction is structurally reduced, or not a full DP. Section 4 shows that *n*As must agree with the noun in number, and that this presents a technical problem for current theories of agreement. This problem is used to motivate an analysis of *n*A-of-N in terms of Predicate Inversion, where *n*A is taken to form a small clause with a nominal subject before moving to its position as the nominal head. Evidence for this analysis comes from the distribution of number agreement when adjectives occur as clausal predicates and small clauses.

2. Three categories of adjectives in Basaá

All putative adjectives in Basaá are nominal, as they take low tone gender prefixes typical of nouns. However, this section demonstrates that there are actually three groups of adjectives with respect to their behavior in noun phrases. More specifically, there are two possible positions for adjectives in Basaá, either they occur in the *n*A-of-N construction illustrated in (1), or they follow and agree with the noun they modify, e.g. *mut ŋkéŋí* 'big person.' The three groups of adjectives are distinguished by their ability to occur only in one or the other of these constructions, or in both.

The first group of adjectives are those which only occur in the *n*A-of-N construction. This group of adjectives is the most plentiful, and examples can be found representing each noun class:

(2) GROUP 1 ADJECTIVES : *n*A–of–N (N.B. L-tone is unmarked)

Class	Num	*n*A		*n*A	of	N	
1	SG	*n-lám*	'beautiful'	*n-lám*		*hi-nuní*	'beautiful bird'
2	PL	*ɓa-lám*		*ɓa-lám*	*ɓá*	*dí-nuní*	'beautiful birds'
3	SG	*n-laŋgá*	'black'	*n-laŋgá*		*hí-nuní*	'black bird'
4	PL	*min-laŋgá*		*min-laŋgá*	*mí*	*dí-nuní*	'black birds'
5	SG	*li-múgê*	'taciturn'	*li-múgé*	⁺*lí*	*hí-nuní*	'taciturn bird'
6	PL	*ma-múgê*		*ma-múgé*	⁺*má*	*dí-nuní*	'taciturn birds'
7	SG	*lóŋgê*	'good'	*lóŋgé*		⁺*hí-nuní*	'good bird'
8	PL	*bi-lóŋgê*		*bi-lóŋgé*	⁺*bí*	*dí-nuní*	'good birds'
9	SG	*mbóm*	'big'	*mbóm*		*hi-nuní*	'big bird'
10	PL	*mbóm*		*mbóm*	*í*	*dí-nuní*	'big birds'
19	SG	*hi-peda*	'small'	*hi-peda*	*hí*	*hí-nuní*	'small bird'
13	PL	*di-peda*		*di-peda*	*dí*	*dí-nuní*	'small birds'

Because a Group 1 adjective has inherent gender, controlling the noun class on the connective, we will called such an adjective a *nominal adjective* (*n*A). As the table above demonstrates, while the connective must agree with the nA in noun class and number, the noun in the *n*A-of-N construction must agree with the adjective in number (SG/PL), shown in the alternation between *hinuní* 'bird' and *dinuní* 'birds' above. We return to the issue of number agreement in more detail in section 4.

The second group is comprised of "true" adjectives. These adjectives cannot occur in the *n*A-of-N construction, and instead must follow and agree with the noun they modify.

(3) GROUP 2 ADJECTIVES : N-A

Class	Num	N	A	
1	SG	*mut*	*ŋ-kéŋí*	'big person'
2	PL	*ɓot*	*ɓa-kéŋí*	'big people'
3	SG	*n-tómbá*	*ŋ-kéŋí*	'big sheep'
4	PL	*min-tómbá*	*miŋ-kéŋí*	'big sheeps'
5	SG	*li-pan*	*li-kéŋí*	'big forest'
6	PL	*ma-pan*	*ma-kéŋí*	'big forests'
7	SG	*éé*	*i-kéŋí*	'big tree'
8	PL	*bi-éé*	*bi-kéŋí*	'big trees'
9	SG	*ŋ-gwɔ́*	*i-kéŋí*	'big dog'
10	PL	*ŋ-gwɔ́*	*í-⁺kéŋí*	'big dogs'
19	SG	*hi-nuní*	*hi-kéŋí*	'big bird'
13	PL	*di-nuní*	*di-kéŋí*	'big birds'

There are few Group 2 adjectives. A nearly exhaustive list that the third author uses or has heard includes *-kéŋí* 'big,' *-tídgí* 'small,' *-púbí* 'pure,' *-híndí*[1] 'black,' *-súní* 'cold,' *-léégá* 'warm,' and *-yomí* 'live.' Many of these adjectives are deverbal (Bot Ba Njock 1977). The prefixes on postnominal As closely resemble class prefixes on nouns — they are not connectives, which are generally characterized by H tone. The syntax of Group 2 adjectives is similar to the syntax of adjectives in many other Bantu languages, though some of these require the use of a connective between the noun and a following adjective (cf. Bresnan and Mchombo 1995:239-240).

The third group of adjectives is the smallest, and is comprised of those items that can occur either in the *n*A-of-N construction or the N-A construction typical of Group 2 adjectives. Group 2 adjectives form a small, variable group, including *n-lám* 'beautiful' and *m-ɓέ* 'ugly.' These adjectives are members of class 1/2, as is visible when they head the *n*A-of-N construction in the column.

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[1] The third author does not use this word, though he has heard others use it as an adjective.

(4) GROUP 3 ADJECTIVES : *n*A–of–N or N-A

Class	*n*A	of	N			N	A
1	*n-lám*		*mut*		'beautiful person'	*mut*	*n-lám*
2	*ɓa-lám*	*ɓá*	*ɓôt*		'beautiful people'	*ɓot*	*ɓa-lám*
3	*n-lám*		*n-tómbá*		'beautiful sheep'	*n-tómbá*	*n-lám*
4	*ɓa-lám*	*ɓá*	*mín-tómbá*		'beautiful sheeps'	*min-tómbá*	*min-lám*
5	*n-lám*		*li-pan*		'beautiful forest'	*li-pan*	*li-lám*
6	*ɓa-lám*	*ɓá*	*má-pan*		'beautiful forests'	*ma-pan*	*ma-lám*
7	*n-lám*		*↓éé*		'beautiful tree'	*éé*	*i-lám*
8	*ɓa-lám*	*ɓá*	*bí-éé*		'beautiful trees'	*bi-éé*	*bi-lám*
9	*n-lám*		*↓ŋ-gwɔ́*		'beautiful dog'	*ŋ-gwɔ́*	*i-lám*
10	*ɓa-lám*	*ɓá*	*ŋ-gwɔ́*		'beautiful dogs'	*ŋ-gwɔ́*	*í-↓lám*
19	*n-lám*		*hi-nuní*		'beautiful bird'	*hi-nuní*	*hi-lám*
13	*ɓa-lám*	*ɓá*	*dí-nuní*		'beautiful birds'	*di-nuní*	*di-lám*

Below the major properties of the three groups of adjectives are summarized. One generalization which emerges is that the defining property of DP-internal adjectives is number agreement with nouns.

(5) ADJECTIVE CLASSES

	Noun class	*n*A-of-N	N-A	Number agreement
Group 1	All	•		•
Group 2	None		•	•
Group 3	1/2	•	•	•

For now, the basic analysis we would like to suggest for these three groups is that the *n*As are categorically nouns, enabling them to head a noun phrase, as we will show below. In contrast, As are categorically adjectives, which means they are nominal dependents. Group 3 adjectives have both possibilities. The remainder of this paper focuses on Group 1 *n*As and the *n*A-of-N construction.

3. Properties of the *n*A-of-N construction

This section provides evidence for two conclusions regarding the *n*A-of-N construction, focusing on each of its components. First, *n*As are shown to be nouns, and to head the DP in which they appear. Second, the of-N constituent within *n*A-of-N is shown to have less functional structure than "true" genitive modifiers. These observations lead to a preliminary syntactic analysis of *n*A-of-N.

3.1. The status of n*As as nominal heads*

There are three arguments that *n*As are nominal heads in the *n*A-of-N construction. The first was presented in the previous section, namely, the fact that *n*As possess an inherent noun class, a property otherwise reserved for nouns. This section presents two additional arguments that *n*As are nouns, and also that they are nominal heads. First, *n*As control concord on nominal modifiers, a fact which specifically shows that *n*As are heads. Second, *n*As in the *n*A-of-N construction cannot take degree morphology or modifiers, though degree modifiers can occur with adjectives in other positions.

In Basaá, nominal modifiers occur after the noun, though possessive pronouns and demonstratives also can occur before the noun if in focus (Hyman 2003: 267). When postnominal, the demonstrative triggers a prefixal H tone on the head noun, as in (16d). Hyman (2003:267) identifies this prefix as a remnant of the proto-Bantu augment. Jenks, Makasso and Hyman (2012) observe that this augment is only found in noun phrases which are definitene and specific (*see also* Makasso 2010).

(6) a. *di-nuní dí   Victor*   'Victor's birds'   c. *di-nuní dítân*   'five birds'
         13-bird 13   V.   13-bird 13.five

     b. *di-nuní cêm*   'my birds'   d. *dí-nuní tíní*   'these birds'
         13-bird 13.my   13-bird 13.these

The examples below show that adjectives in the *n*A-of-N construction agree with *n*A rather than N:

(7) DEPENDENTS IN *n*A-OF-N AGREE WITH *n*A

    a.   *min-laŋgá*   *mí*   *dí-nuní*   *mí Victor*   (**dí Victor*)   'Victor's black birds'
          4-black   4   13-birds   4   13

    b.   *min-laŋgá*   *mí*   *dí-nuní*   *ŋwêm*   (**cêm*)   'my black birds'
          4-black   4   13-birds   4.my   13.my

    c.   *min-laŋgá*   *mí*   *dí-nuní*   *mítân*   (**dítân*)   'five black birds'
          4-black   4   13-birds   4.five   13.five

    d.   *mín-laŋgá*   *mí*   *dí-nuní*   *míní*   (**tíní*)   'these black birds'
          4-black   4   13-birds   4.these   13.these

When multiple *n*As occur, the *n*A-of-N construction can iterates. In such cases, nominal modifiers must agree with the leftmost *n*A.[2]

(8) DEPENDENTS AGREE WITH LEFTMOST *n*A

    a.   *bi-lɔ́ŋgέ*   ↓*bí*   *mín-laŋgá*   *mí*   *dí-nuní*   *bí Victor*   'Victor's good black birds'
          8-good   8   4-black   4   13-birds   8

    b.   *bi-lɔ́ŋgέ*   ↓*bí*   *mín-laŋgá*   *mí*   *dí-nuní*   *gwêm*   'my good black birds'
          8-good   8   4-black   4   13-birds   8.my

    c.   *bi-lɔ́ŋgέ*   ↓*bí*   *mín-laŋgá*   *mí*   *dí-nuní*   *bítân*   'five good black birds'
          8-good   8   4-black   4   13-birds   8.five

    d.   *bi-lɔ́ŋgέ*   ↓*bí*   *mín-laŋgá*   *mí*   *dí-nuní*   *bíní*   'these good black birds'
          8-good   8   4-black   4   13-birds   8.these

The fact that the leftmost *n*A controls agreement on dependents indicates that the leftmost *n*A is the head of the noun phrase, following the claim by Zwicky (1985) that heads determine concord. Furthermore, the *n*A can be taken to be a nominal head, as the ability to control concord on nominal modifiers is a defining characteristic of nouns in Basaá, along with the possession of inherent gender, another property of *n*As.

    Another argument that *n*As are nouns comes from degree modifiers. While predicative adjectives (9a-b) and postnominal (i.e. Group 2) adjectives (9c) can take degree modifiers, including *ŋgandak* 'many, very', *ndek* 'few, a little'; *n*As appearing in *n*A-of-A cannot occur with degree modifiers (19d):

(9) DEGREE MODIFIERS WITH PREDICATIVE AND ADNOMINAL ADJECTIVES

    a.   *di-nuní*   *dí*   *yé*   *di-kéŋí*   *ŋgandak*   *(ŋgandak)*
          13-birds   13.AGR COP   13-big   very   very
          'The birds are very (very) big.'

    b.   *di-nuní*   *dí*   *yé*   *min-laŋgá*   *ŋgandak*   *(ŋgandak)*
          13-birds   13.AGR COP   4-black   very   very
          'The birds are very (very) black.'

    c.   *di-nuní*   *di-kéŋí*   *ŋgandak*
          13-birds   13-big   very
          'very big birds'

    d.   *min-laŋgá*   *(*ŋgandak)*   *mí*   *dí-nuní*   *(*ŋgandak)*
          4-black   very   4   13-bird   very

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[2] Hyman (2003:278) reports that the speakers he worked with prefer to agree with the closest adjective. This pattern would be less easily accommodated by the analysis outlined below.

The inability of *n*As to receive degree modification in (9d) follows if degree modifiers are restricted to true adjectives, and the putative adjective in the *n*A-of-N construction is, in fact, a noun. Under this view, *n*As do function as adjectives when they occur in predicative environments such as (9b). Thus, the distribution of degree modifiers corroborates the claim that *n*As in the *n*A-of-N construction are categorically nouns rather than adjectives.

3.2. Properties of the of-N constituent

The nominal (*of-N*) component of the *n*A-of-N construction consists of a connective which agrees with the *n*A and a noun. This section demonstrates that the noun in the of-N component of the *n*A-of-N construction lacks functional structure, i.e., it is structurally reduced. The first piece of evidence that this N lacks functional structure is the inability of the N to occur with higher modifiers, such as demonstratives and genitives. This was shown in example (7). If such modifiers attach at the level of functional projections above NP, such as DP, it follows that these functional projections are not present with the N in the *n*A-of-N construction.

Two additional observations support this conclusion. The first relates to the connective in *n*A-of-N, which is morphologically distinct from the connective in genitive DPs. The second piece of evidence that N lacks functional structure comes from the behavior of possessive pronouns.

For most noun classes, the connective which occurs with full genitive DPs is identical to the connective in *n*A-of-N, but there are several notable exceptions. In particular, the connectives of the singular classes 1, 3, 7, and 9 reveal that there are two connectives (Con_1, Con_2) in Basaá with syntactically distinct distributions:

(10) TWO CONNECTIVES IN BASAÁ

Class>	1	2	3	4	5	6	7	8	9	10	19	13
Con_1	nú	6á	ú	mí	lí	má	í	bí	i	í	hí	dí
Con_2	ˋ	6á	´	mí	lí	má	´	bí	ˋ	i	hí	dí

The connectives in classes 1, 3, 7, and 9 contain a vowel in Con_1 series, which occurs with possessive DPs, but are marked with only a H or L tone in the Con_2, which is the connective in *n*A-of-N.

Con_1 is shown to introduce possessive DPs below in the relevant noun classes:

(11) POSSESSIVES WITH Con_1

Cl.	N-	Con_1	-N	Gloss
1	maangé	nú	mût	'the person's child'
3	ntómbá	ú	mût	'the person's sheep (sg.)'
7	nugá	í	mût	'the person's animal'
9	njeé	i	mut	'the person's lion'

Con_2 is found in compound-like N-of-N expressions which often have conventionalized meanings, as shown below. These meanings are not available if Con_2 occurs in this position:

(12) N-OF-N COMPOUNDS WITH Con_2

Cl.	N-Con_2-N				N-Con_1-N			
1	mut	wǐm	person-of-theft	'thief'	*mut	nú	wǐm	
3	ǹ-yín	njɔ̂k	fem.-of-elephant	'elephant cow'	*ǹ-yín	ú	njɔ̂k	
7	nugá	mût	animal-of-person	'idiot'	nugá	í	mût	'the person's animal'
9	njeé	mut	lion-of-person	'brave person'	njeé	i	mut	'the person's lion'

The connective in the left columns above is only apparent n the change in tone on the following word. This can be seen most clearly by comparing the falling tone on *mut* 'person' in *nugá mût* 'idiot' to the low tone in *njeé mut* 'brave person.' When Con_1 is used in these latter cases, the idiomatic meaning is lost, and instead the second noun is interpreted referentially, as a possessor.

As with lexicalized N-of-N compounds, only Con_2 can occur with the *n*A-of-N construction:

(13) CON$_2$ IN nA-OF-N

    a.   *mbóm* *(*i)* *wɔ̌m*   b.   *ɓaŋga* *(*i)* *m-alêt*
        big   9.CON$_1$ field   great   9.CON$_1$ teacher
        'big field'   'great teacher'

So the noun in nA-of-N forms a natural class with the second noun in N-of-N compounds in that they are both selected by Con$_2$. A natural explanation for this connection is that both of these nouns are structurally reduced.

    Measure constructions in Basaá further support this conclusion, as well as the connection between the occurrence of Con$_2$ and the inability to license higher modifiers. Measure constructions allow both Con$_1$ and Con$_2$, but the interpretations differs. Additionally, while nouns following Con$_1$ can license higher modifiers, such as possessives, nouns after Con$_2$ cannot license these modifiers.

(14) MEASURE CONSTRUCTIONS WITH CON$_1$ AND CON$_2$

    a.   *mbógól*   [*i*   [$_{DP}$ *di-loba*   *cêm*   ]]   'a hundred of my peppers'
        9-hundred   9.CON$_1$ 13-pepper   13.my
    b.   *mbógól*   [-   [$_{NP}$ *di-loba*]]   *yɛm* / **cêm*   'my hundred peppers'
        9-hundred   9.CON$_2$ 13-pepper   9.my   13.my

In (14a), the interpretation is partitive: the noun phrase picks out a hundred peppers of a presupposed larger set which belong to the speaker. In (14b), on the other hand, no larger set is assumed, similar to English pseudopartitives. Partitives differ from pseudoparitives in requiring that DP be projected in the complement of *of*. Thus, the interpretive, syntactic, and morphological differences come together in this example to show that Con$_2$ reliably selects a structurally reduced complement.

    A final argument for the absence of functional projections in of-N comes from the distribution of possessive pronouns. Possessive pronouns usually occur immediately after the head noun in Basaá, but they can sometimes scramble with other nominal elements to their right. In (15a), we see that a possessive pronoun can occur both after nA (15a) and after N (15b) in nA-of-N; (15b) demonstrates that the possessive pronoun can occur after both Ns in N-of-N compounds:

(15) POSSESSIVE PRONOUNS BEFORE AND AFTER *OF-N*

    a.   *min-laŋgá* {*ŋwêm*} *mí*   *dí-nuní*   {*ŋwêm*}   'my black birds'
        4-black   4.my   4.CON$_1$ 13-birds   4.my
    b.   *nugá*   {*yêm*}   *mût*   {*yêm*}   'my idiot'
        7.animal 7.my   1.CON$_1$-1.person   7.my

However, when true possessives occur, introduced by Con$_1$, the possessive pronoun must occur after the head noun; it cannot follow the possessive noun phrase. In the following example the possessive noun phrase is a full DP by virtue of the fact that it does not have to agree in number with its head and its ability to be modified by a demonstrative in (16b). While not shown, *di-nuní* 'birds' could also be modified by a distinct possessive pronoun in this case.

(16) POSSESSIVE PRONOUNS ONLY OCCUR BEFORE POSSESSIVE NOUN PHRASES

    a.   *bi-fóto*   *gwɛ́m*   ↓*bí dí-nuní* (**gwêm*)   'my picture of the birds'
        8-picture 8.my   8 13-bird   8.my
    b.   *bi-fóto*   *gwɛ́m*   ↓*bí dí-nuní* *tíní*   (**gwêm*)   'my picture of these birds'
        8-picture 8.my   8 13-bird   13.this 8.my

In summary, possessive pronouns treat the of-N components of N-of-N compounds and the nA-of-N constructions on par in their ability to follow them, correlating with the fact that both nouns are introduced by Con$_2$. In contrast, these pronouns cannot occur to the right of a possessive noun phrase introduced by Con$_1$.

    One puzzle introduced by these facts is that possessive DPs and possessive pronouns have a distinct syntactic distribution despite the fact that their syntactic status is similar: both indicate

possession. Possessive pronouns related to the possessee must precede possessive DPs, and they also interrupt the 'small' *n*A-of-N and N-of-N constructions above. This latter fact is particularly surprising of possessive pronouns are taken to be higher nominal modifiers. A plausible account of this problem is that pronouns are shifted to the left due to their lightness. Support for this view comes from the distribution of pronominal objects of verbs, as described by Hyman (2003:278). While two DP objects must be ordered *recipient-theme* (17a-b), if one of these objects is pronominal, it must occur immediately after the verb, resulting in an otherwise impossible *theme-recipient* order (17c-d).

(17) PRONOUNS WITH DITRANSITIVE VERBS (Hyman 2003:278)

    a. *a*   *ŋ-ébá*   *mááŋgé* *kaat*   'He/she showed the child the picture.'
        1.AGR P1-show child   picture

    b. *a*   *ŋ-ébá*   *káát*   *maaŋgé*   (i.e.'He/she showed child to the picture')

    c. *a*   *ŋ-ébá*   *mɛ́*   *maaŋgé*   'He/she showed the child to me.' *or*
        1.AGR P1-show me   child   'He/she showed me to the child.'

    d. *a*   *ŋ-ébá*   *mááŋgé* *mɛ*

As with possessive pronouns, object pronouns must be positioned closer to their head than their full DP counterparts. Returning to the distribution of possessive pronouns in (15) and (16), it seems that the ordering requirement on pronouns relative to full DPs is not enforced relative to of-N constituents, perhaps because they lack functional structure. In contrast, pronouns must occur to the left of full possessive DPs and object DPs.

    Summarizing, the *n*A-of-N construction has the following properties. First, the *n*A constituent is morphosyntactically a noun which heads the noun phrase in which it occurs. Second, the connective in this construction is distinct from the connective which introduces possessive DPs. The distribution of this connective, modifiers, and the unique distributional properties of possessive pronouns all point to the conclusion that the second, true, noun in *n*A-of-N lacks functional structure.

3.3. An analysis of nA-of-N

    This section presents a first-pass analysis of Basaá noun phrases the *n*A-of-N construction based on the discussion above. However, this analysis encounters theoretical problems related to agreement which set the stage for the discussion of number agreement and Predicate Inversion in section 4.

    Postnominal modifiers in Basaá can be analyzed as rightward adjuncts to different functional projections of the noun. For example, demonstratives can be seen as adjoining to the DP projection, which we take to be headed by by the definite H tone augment.[3]

(18) BASIC NOUN PHRASE STRUCTURE IN BASAÁ

    a. *dí-nuní tíní*
        13-bird 13.these
        'these birds'
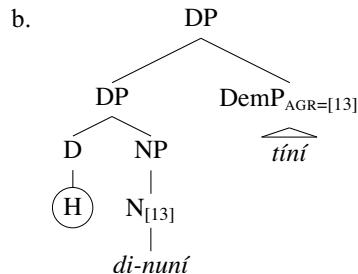


Concord between the demonstrative and the head noun in (18b) is established by the Agree operation of Chomsky (2001), wherein an uninterpretable φ-feature on the modifier must be matched by interpretable φ-features. Matching takes place via a downward search procedure initiated by the modifier which copies the closest interpretable φ-features, here the features of the noun.

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[3] This analysis differs from the analysis of Jenks, Makasso, and Hyman (2012) wherein the demonstrative attaches to a projection between NP and DP. The simpler analysis is adopted here for expository clarity.

A search-based analysis of agreement accounts for the observation that modifiers which occur with *n*A-of-N must agree with the *n*A rather than N, which is more deeply embedded, because Agree looks for the closest interpretable φ-features. In light of the discussion above, we take *n*A to combine with a Con$_2$ complement, forming *n*AP, which itself selects a bare NP complement, forming a Con$_2$P. Because *n*A is structurally higher than the embedded NP, the demonstrative must agree with *n*A:

(19) STRUCTURE FOR *n*A-OF-N

a. *mín-laŋgá mí dí-nuní míní*
4-black   4   13-bird   4.these
'these black birds'

b.
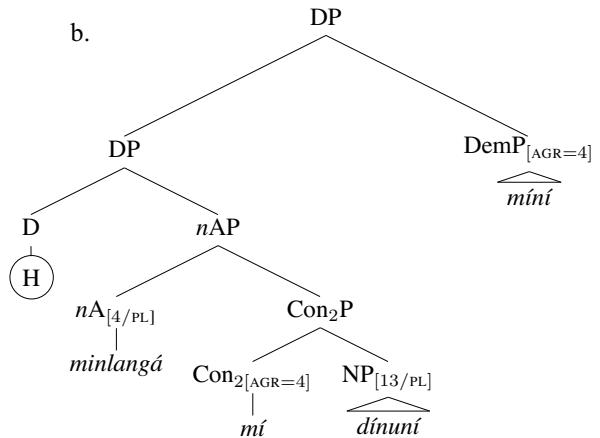
Thus, standard assumptions about the Agree mechanism are able to capture the agreement facts if we adopt the structure in (19b). Higher modifiers such as the demonstrative in (19b) cannot occur inside the complement of Con$_2$ as it does not contain a DP. This restriction does not hold for possessive modifiers introduced by Con$_1$, as these do project DP.

While this analysis seems to be on the right track, it encounters two theory-internal problems. First, if agreement is initiated by a downward-searching probe, it is not clear how Con$_2$ itself can agree with *n*A, as *n*A c-commands Con$_2$P. Second, We observed in section 2 that the definitive property of adjectives was that they agreed with the noun they modified in number, though not in noun class. If number agreement is an instance of syntactic agreement, then it is not clear how Con$_2$ can agree with *n*A in number in gender while *n*A simultaneously agrees with the lower NP in only number. The following section revises the analysis in (19b) to avoid these problems.

4. Number agreement, small clauses, and predicate inversion

This section articulates a more abstract analysis of the *n*A-of-N construction which avoids the problems with agreement faced by the analysis in (19b). Evidence for the revised analysis comes from the distribution of number agreement on adjectives in Basaá, which differ in small clauses and in clausal predicates. The *n*A-of-N construction derived from a small clause via Predicate Inversion, movement of the *n*A from the predicate position of a small clause (Kayne 1994:106; Moro 1997; Corcer 1998; den Dikken 1998; *see also* Birner 1994, 1996; Mikkelsen 2005).

4.1. Number agreement in copular clauses and small clauses

Another property that *n*As share with nouns in Basaá is that both occur after the copula *ye* when they are predicates of a main clause, or matrix predicates:

(20) PREDICATE NOMINALS AND *n*As

a. *a   ye   m-alêt*   b. *a   ye   n-tɔ́mbɔ̂k*
1.AGR COP   1-teacher   1.AGR COP   3-tired
'He is a teacher.'   'He is tired.'

Like in the *n*A-of-N construction, when predicate nominals are matrix predicates they must agree with their subject in number in Basaá.

(21) NUMBER AGREEMENT REQUIRED WITH PREDICATE NOMINALS

a.	*ɓá	yé	m-alêt		b.	*a	ye	ɓ-alêt
	2.AGR	COP	1-teacher			1.AGR	COP	2-teacher

Unlike predicate nominals, however, *n*As do not have to agree with their subject in number when they are matrix predicates. With plural subjects, predicate *n*As can be either singular or plural. The choice of number corresponds to a collective versus exhaustive distributive reading of the predicate:

(22) NUMBER AGREEMENT NOT REQUIRED WITH PREDICATE *n*AS

a.	ɓá	yé	ŋ-hát		b.	ɓá	yé	mi-hát
	2.AGR	COP	3(SG)-rich			2.AGR	COP	4(PL)-rich
	'They are rich (collectively).'					'They are each rich.'		
c.	máŋgolo	má	yé	ŋ-hóólak	d.	máŋgolo	má	yé	miŋ-hóólak
	6.mango	6.AGR	COP	3(SG)-ripe(sg.)		6.mango	6.AGR	COP	4(PL)-ripe
	'The mangos are ripe (collectively).'					'The mangos are each ripe.'		

The contrast between *n*As and predicate nominal in allowing number disagreement makes sense from a semantic perspective; predicate nominals such as 'teacher' must be distributively predicated of the subject, as being a teacher is a property of an individual.

Within noun phrases, specifically the *n*A-of-N construction, *n*As do not have this flexibility in number agreement; mismatches are impossible:

(23) NUMBER AGREEMENT REQUIRED IN *n*A-OF-N:

a.	*ŋ-hát	ɓôt	(< /ŋ-hát ΄ ɓot/)		b.	*min-hát	mí	mût
	3-rich	3.CON₂.2.people				4-rich	4.CON₂	1.person

The glossing in (23a) indicates that the tonal Con₂ has been associated with the noun *ɓot* 'people,' leading to the surface falling tone (cf. 12).

Another context where mismatches are impossible is small clauses. Small clauses are reduced predicational structures, which are introduced by verbs such as *téhé* 'see, consider':

(24)   NUMBER AGREEMENT REQUIRED IN SMALL CLAUSE

mé	ń-↓téhé	[ɓɔ́	mi-hát / *ŋ-hát]
1P.SG	PRES-see	3P.PL	4-rich 3-rich

'I consider them rich.'

To summarize, while *n*As do not need to agree in number with subjects when they occur as matrix predicates, number agreement is obligatory in small clauses and the *n*A-of-N construction.

There is no *a priori* semantic or syntactic reason why number agreement should have this distribution. The semantic contrast of distributivity vs. collectivity should in principle be available both for small clause predicates and internal to small clauses, but we find that such a contrast cannot be expressed in these contexts, at least with disjoint number agreement. While no explanation is provided for why these two contexts should pattern differently from predicative *n*As, in the following section it is proposed that small clauses and *n*A-of-Ns pattern as a class because *n*As are derived from small clauses.

4.2. Predicate inversion

Now recall from section 3.3 the problem with number agreement in *n*A-of-N, unanalyzable within a search-based theory. While Con₂ agrees with *n*A in number and gender, the *n*A simultaneously must agree with the N which is located across the connective. In other words, there is a kind of agreement paradox, as two different agreement operations must take place simultaneously in opposite directions. This paradox is represented below; arrows proceed from the controller of agreement to the controllee:

(25) THE AGREEMENT PARADOX IN *n*A-OF-N

(CLASS 4 AGREEMENT)

(PLURAL AGREEMENT)

However, if number agreement takes place at an earlier point in the derivation, this paradox can be avoided. Specifically, if the *n*A enters the derivation as the predicate of a DP-internal small clause, number agreement between *n*As and Ns can be derived from the requirement that small clauses have number agreement (24), whatever its source. After this small clause is formed (26b), Con₂ merges with the small clause, probes its complement, and Agrees with *n*A while requiring that it move and reproject above Con₂P (26c):

(26) DERIVING *n*A-OF-N BY PREDICATE INVERSION

a. *min-laŋgá*   *mí dí-nuní*
    4-black   4   13-bird
    'black birds'

b.

c.
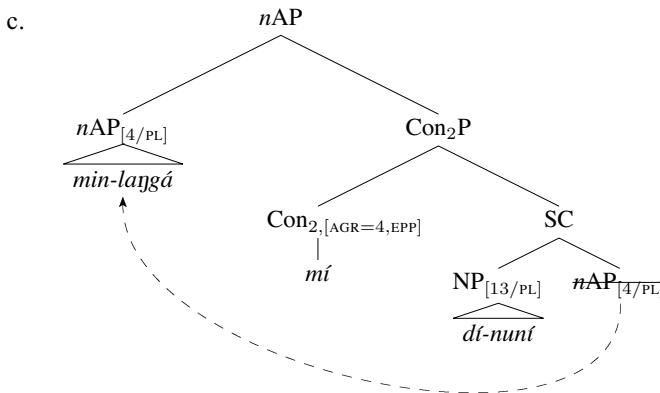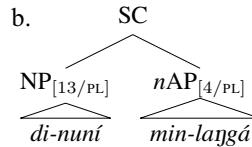
When it reprojects, the *n*A serves as the head of the DP as in example (19). The derivation in (26c) avoids the problems with the proposal in (19b): number agreement takes place in the small clause at an earlier stage of the derivation, and Con₂ no longer must be c-commanded by *n*AP at the point that they agree. Additionally, the fact that the NP is structurally reduced may follow from the semantic requirements on DP-internal small clauses, interpreted by set-intersection.

Other cases of DP-internal Predicate Inversion have been argued to involve a *linker* element, alternately analyzed as a kind of complementizer (Kayne 1994) or a DP-internal copula (Moro 1997, den Dikken 1998).[4] Under this view, Con₂ could be analyzed as a linker in Basaá. Incidentally, the contexts besides *n*A-of-N where Con₂ was observed in Basaá in section 3.2 resemble environments where Predicate Inversion has been proposed, both in N-of-N constructions (Kayne 1994, den Dikken 1998) and pseudopartitives (Corver 1998). Additionally, the Predicate Inversion analysis above formalizes with a context free grammar the intuition of Van de Velde (2011), phrased in the language of Dependency Grammar, that *n*A-of-N represents a *dependency reversal*.

Crysmann (2011) analyzes a similar dependency reversal in Hausa, arguing that the Hausa equivalent of the Bassaa *n*As are derived from postnominal adjectives by a lexical rule that converts adjectival modifiers to relational nouns taking nominal complements. Such a rule would be needed for Class 3 adjectives in Basaá (those occurring both pre- and postnominally), and it could also be extended to Basaá Class 1 *n*As, which only occur as relational nouns in the lexicon. However, it is unclear how this proposal would extend to predicative (postcopular) uses of *n*As. While predicative *n*As take an external argument, the differences in the syntax of *n*A-of-N and predicative *n*As might

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[4] See Aarts (1998) for an alternative view of these constructions.

require an additional mechanism to unify the constructions under Crysmann's analysis. Under the Predicate Inversion proposed above, all occurrences of *n*As are analyzed as predicative (see below).

One problematic aspect of our proposal, as with original analyses of Predicate Inversion, is the motivation for moving *n*AP in this construction, rather than the NP. In other words, what prevents an N-of-*n*A construction in Basaá? One possible answer would be to identify morphological properties of the *n*A which require that it be a goal when probed by Con_2, but the identity of such a property is not obvious given the morphosyntactic similarities between *n*As and "true" nouns. Another possibility would be to identify geometric properties of the small clause as triggering inversion, perhaps due to the fact that it violates a requirement that phrase structure be asymmetric (Moro 2000, Ott 2010). However, movement of either the NP or the *n*AP would suffice to break this symmetry, and as such it is not clear why only movement of the *n*AP is allowed. As no easy answer to this question is forthcoming, we set it aside for further work.

One empirical issue that we have not addressed is whether N is obligatory with *n*A. Except for a few lexicalized cases, N is obligatory, and *n*A cannot be used in isolation. Even in contexts where NP-ellipsis would be expected, omission of the noun is dispreferred in Basaá. For example, the question *imbé ŋgwɔ́ a nsɔ́mb?* 'Which dog did he buy?' could be answered *nlaŋgá ŋgwɔ́* '(the) black (of) dog' but not **nlaŋgá* '(the) black.' However, as NP-ellipsis in Basaá generally seems to be more constained than English, it is hard to say whether these facts support our analysis.

Despite these lingering questions, a benefit of the Predicate Inversion analysis is that it allows all instances of *n*As in Basaá to be identified with *predicative* environments, rather that *attributive* ones, which are reserved for "true" postnominal As as described in section 2 (Bolinger 1967, Siegel 1980, Baker 2004: 205-11). In this light, the ability of *n*As to occur in the *n*A-of-N construction can be seen as way of "hacking" the prohibition on using non-attributive adjectives noun-phrase internally, in much the same way that relative clauses allow the exclusively predicative a-adjectives in English to occur noun phrase internally, e.g. **the alive/asleep man* vs. *the man who is alive/asleep.* Thus, the distinction between *n*As and As in Basaá can be couched in terms of this more traditional distinction between different kinds of adjectives.

5. Conclusion

In this paper we have motivated an analysis of the *n*A-of-N construction in Basaá.[5] Noun phrases in which this construction appeared were shown to be headed by the *n*A, and the N occurring in this construction was shown to be structurally reduced. The connective in this construction was shown to be distinct from the connective occurring in possessive noun phrases, with the connective in the *nA*-of-N construction only taking structurally reduced nominals as its complement. A simple analysis of this construction created problems related to the formal implementation of agreement. The solution to these problems was proposed based on Predicate Inversion, which also allowed the mysterious class of *n*As to be identified with a known entity: exclusively predicative adjectives.

References

Aarts, Bas. 1998. Binominal noun phrases in English. *Transactions of the Philological Society* 96(1), 117-158.

Baker, Mark C. 2004. *Lexical categories: verbs, nouns, and adjectives.* Cambridge: Cambridge University Press.

Bernstein, Jane. 2001. The DP hypothesis: Identifying clausal properties in the nominal domain. In *The Handbook of Contemporary Syntactic Theory*, ed. by M. Baltin and C. Collins, 536-561. Malden, MA: Blackwell.

Birner, Betty J. 1994. Information status and word order: An analysis of English inversion. *Language* 70(2), 223-259.

——. 1996. *The Discourse Function of Inversion in English.* New York: Garland.

Bolinger, Dwight 1967. Adjectives in English: attribution and predication. *Lingua* 18: 1-34.

Bot Ba Njock, Henri Marcel. 1977. L'adjectif qualificatif dans trois langues bantu du Nord-Ouest: duala, basaa, bulu. In *Langauge and Linguistic Problems in Africa* ed. by P. F. A. Kotey and H. Der-Houssikian, 207-225.

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[5] We are aware that variations on the Basaá situation exist in other Cameroonian zone A Bantu languages (Van de Velde 2011). A particularly interesting case is found in Bafia (Guarisma 2000) which admits several different structures including both A-of-N and N-of-A. Additionally, the Grassfields Bantu language Nweh (Nkemnji 1995, Tamanji 2002) has a very similar construction as Basaá *n*A-of-N, though without a connective.

Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A life in language*, ed. by M. Kenstowicz, 1–52. Cambridge, Mass.: MIT Press.

Corver, Norbert. 1998. Predicative movement in pseudopartitive constructions. In *Possessors, predicates and movement in the determiner phrase*, ed. by A. Alexiadou & C. Wilder, 215–258. Amsterdam: John Benjamins.

Crysmann, Berthold. 2011. A unified account of Hausa genitive constructions. In *Formal Grammar*, Eds. Philippe de Groote, Markus Egg and Laura Kallmeyer. 14th International Conference, FG 2009, Bordeaux, France, July 25-26, 2009, Revised Selected Papers. Lecture Notes in Artificial Intelligence No. 5591, pp. 102-117, Springer-Verlag, Heidelberg.

Den Dikken, Marcel. 1998. Predicate inversion in DP. In *Possessors, Predicates, and Movement in the Determiner Phrase*, ed. By A. Alexicadou and C. Wilder, 177-214. Amsterdam: John Benjamins.

Dimmendaal, Gerrit J. 1988. *Aspects du basaá: bantou zone A, Cameroun.* Paris: Peeters/Selaf.

Hyman, Larry M. 2003. Basaá (A43)*. In *The Bantu languages*, ed. by D. Nurse and G. Philippson, 257–282. New York: Routledge.

Jenks, Peter, Emmanuel-Mossely Makasso, and Larry M. Hyman. 2012. Accessibility and demonstrative operators in Basaá relative clauses. Ms., University of California, Berkeley and Zentrum for Algemeine Sprachwissenschaft, Berlin.

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

Makasso, Emmanuel-Mossely. 2010. Processus de relativisation en Bàsàa: de la syntaxe à la prosodie. *ZAS Papers in Linguistics 53*: 145-158.

Mikkelsen, Line. 2005. *Copular clauses: specification, predication, and equation.* Ambsterdam: John Benjamins.

Moro, Andrea. 1998. *The raising of predicates: predicative noun phrases and the theory of clause structure.* Cambridge: Cambridge University Press.

Nkemnji, Michael, 1995. On adjectives that show up as nouns. In *Theoretical Approaches to African Linguistics,* ed. by A. Akinlabi, 147–166. Trenton, New Jersey: Africa World Press.

Ott, Dennis. 2011. *Local instability: The syntax of split topics*. Doctoral Dissertation, Harvard University.

Siegel, Muffy E. A. 1980. *Capturing the adjective.* New York: Garland.

Tamanji, Pius Ngwa. 2002. Nominal Adjectives and the Binominal NP in Nweh. *Afrikanistische Arbeitspapiere* 69, 153-170.

Van de Velde, Mark. 2011. Dependency reversal in northern sub-saharan Africa. Talk given at the Asociation of Linguistic Typology 9th Biennial Conference.

Zwicky, Arnold. 1985. Heads. *Journal of Linguistics* 21: 1-30.

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