Fongang, Tadjo Leonel. 2025. Movement asymmetries in Ngemba possessor constructions reveal Anti-locality in the nominal domain. *Glossa: a journal of general linguistics* 10(1). pp. 1–29. DOI: https://doi.org/10.16995/glossa.20143

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Movement asymmetries in Ngemba possessor constructions reveal Anti-locality in the nominal domain

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In Bamileke Ngemba, lexical and pronominal possessors behave differently with respect to DP-internal focus. While the latter can be focused, hence surface in a position where they precede the head noun, the former cannot. I argue that the Phase Impenetrability Condition (PIC) and Spec-to-Spec Anti-locality (Erlewine 2016) conspire to block lexical possessor movement to the focus position. The analysis, overall, provides empirical evidence that Anti-locality also restricts Ā-movement from within the nominal domain and, if on the right track, strengthens the view that DPs and CPs are parallel in many respects (see, i.a., Szabolcsi 1981; Koopman 2008).

1 Introduction

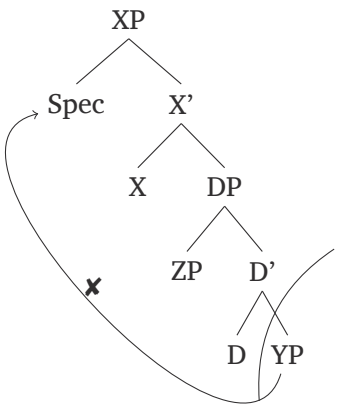
Starting with, among others, Chomsky (1964) and Ross (1967), it is currently undebated that syntactic movement is structurally and featurally restricted. What is still a matter for research is what types of constraints exist and how robust and cross-linguistically effective they are (see Müller 2011 for recent discussions). Two such constraints are (a) the Phase Impenetrability Condition (1), and (b) the Spec-to-Spec version of Anti-locality (2).[1]

(1) *Phase Impenetrability Condition (PIC)*
In phase α with head H, the domain of H is not accessible to operations outside α; only H and its edge are accessible to such operations (Chomsky 2000: 108)

(2) *Spec-to-Spec Anti-Locality*
Ā-movement of a phrase from the Specifier of XP must cross a maximal projection other than XP. (Erlewine 2016: 436)

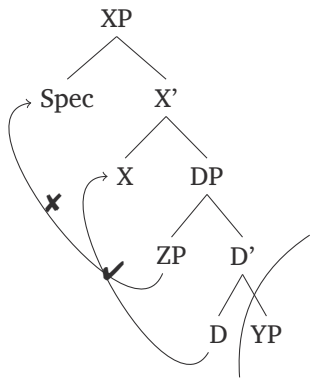
Assuming that DP is a phase (Bošković 2005; 2012, i.a.,), movement of YP (3), in one fell swoop, to SpecXP is blocked by the PIC (1). Only the edge of DP (ZP) and/or its head (D) can be extracted (c.f., the tree in (4)). For YP-movement to be possible, it must first move to the edge of DP and, subsequently, raise to SpecXP (see (5)).

(3)

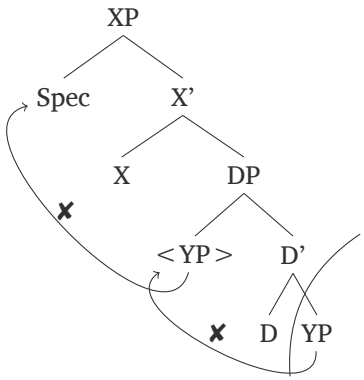


[1] Other conceptions of Anti-locality have been proposed by Abels (2003), Grohmann (2003) and Lee (2020). Grohmann (2003)'s version, for example, is modelled on the idea of prolific domains. Lee (2020) argues for a slightly-modified version of Abels (2003)'s concept.

(4)



(5)



Looking at the tree structures in (3)–(5) from the perspective of Spec-to-Spec Anti-locality (2) reveals that some of the movement operations that can, in principle, make it possible to escape the PIC are blocked. Given the tree in (4), for example, ZP-to-SpecXP movement would be too short, per the restriction in (2). Movement of D, however, is perfectly fine because D is not a specifier, hence is blind to (2). As far as the tree in (5) is concerned, Anti-locality would block successive-cyclic movement of YP to SpecXP. Specifically, YP-movement must proceed through SpecDP (per the PIC), but SpecDP is too close. Assuming that YP mysteriously gets to SpecDP, further movement to SpecXP would still violate Anti-locality.

Overall, the constraints in (1) and (2) can conspire in such a way that they assist each other in blocking movement. In this paper, I show that the type of conspiracy just described accounts for an asymmetry between lexical and pronominal possessors when it comes to DP-internal focus in Bamileke Ngemba. Crucially, Spec-to-Spec Anti-locality has been used to account for clause-internal Ā-movement phenomena (Erlewine 2016; Amaechi & Georgi 2019, i.a.,). The squib, in this regard, extends its empirical coverage to Ā-movement from within the nominal domain and, by so doing, strengthens the view that DPs and CPs are parallel in many respects (see, i.a., Szabolcsi 1981; Koopman 2008).

The rest of the paper is organized as follows: Section 2 provides a discussion of the movement asymmetry between lexical and pronominal possessors in Ngemba. In Section 3, I present and

discuss the information-structure-neutral (henceforth IS-neutral) order of regular DPs in the language and explore the internal make-up of lexical possessor DPs. Section 4 shows that positional restrictions in lexical possessor constructions provide arguments for the proposed derivation of DP-internal word order in the language. In Section 5, I propose an account of the movement asymmetry. Section 6 concludes.

2 On the movement asymmetry between lexical and pronominal possessors in Ngemba

In Ngemba (Grassfields Bantu, Cameroon), lexical and pronominal possessors follow the possessed nominal by default, as illustrated in (6) and (7).[2]

(6) a. mə-k^{h}wò m-á
6-leg 6-POSS.1SG
'my legs'
b. mə-sùù(m) p-á
2-friend 2-POSS.1SG
'my friends'

(7) a. mə-k^{h}wò Mbah
6-leg Mbah
'Mbah's legs'
b. mə-sùù(m) Mbah
2-friend Mbah
'Mbah's friends'

Interestingly, while the pronominal possessors in (6) can surface in a position where they precede the head noun, the lexical possessors in (7) cannot.[3] This is demonstrated in (8) and (9).[4]

(8) a. m-àà mə-k^{h}wò
6-POSS.1SG.FOC 6-leg
'MY legs (not X's)'

[2] I illustrate the phenomenon with plural nouns because singular agreement markers change to either animate *w-* or inanimate *j-* in focused-marked, pre-nominal contexts (for details, see Fongang 2025). Since this other asymmetry is not directly relevant to the main topic of discussion, I leave out singular examples for the sake of clarity.

Class membership, in the cases at hand, is dependent on the agreement marker. The two nouns in (6) have the same nominal prefix, but different agreement markers. While class 2 takes *p-*, class 6 selects *m-*.

[3] The Ngemba data come from five native speakers of the language and were collected during three fieldtrips to Cameroon. I am grateful to my Ngemba consultants for sharing their knowledge of the language with me.

[4] Note that the vowel of the focus-marked pronoun root has to be long. Throughout this paper, I take this vowel or tone change to be the spell out of the focus head or the focus feature on the focus head.
Lexical possessor focus (contrastive and/or corrective) is achieved in-situ, such that only context makes it possible to get the interpretational differences.

b. p-àà mə-sùù(m)
2-POSS.1SG.FOC 2-friend
'MY friends (not X's)'

(9) a. *Mbah mə-k^{h}wò
Mbah 6-leg
'Mbah's legs (not X's)'
b. *Mbah mə-sùù(m)
Mbah 2-friend
'Mbah's friends (not X's)'

That the order in (6) and (7), but not the one in (8), is the default comes from the empirical observation that (6-a) and (7-a), for example, would be natural answers to a wh-question like (10). The full sentences are given in (11), with the relevant portion in the square brackets.

(10) Fotsing nǒ kɔ́?↓
Fotsing press.PST what
'What did Fotsing press?'

(11) a. í nǒ **[mə-k^{h}wò m-á]**
He press.PST 6-leg 6-POSS.1SG
'He pressed my legs.'
b. í nǒ **[mə-k^{h}wò Mbah]**
He press.PST 6-leg Mbah
'He pressed Mbah's legs.'

For the order where the possessive pronoun precedes the possessed nominal to be acceptable, contrast or correction needs to be clearly involved. For example, the pre-nominal order in (12) is preferred if the speaker who uttered (11-a) were corrected because 'Fotsing' did not press their legs, but someone else's.

(12) ŋgáŋ!↓ í nǒ **[m-àà mə-k^{h}wò]**
No! He press.PST 6-POSS.1SG.FOC 6-leg
'He pressed MY legs (not, for example, yours).'

The squib argues that the focus asymmetry between lexical and pronominal possessors in Ngemba follows from a conspiracy between the PIC and Spec-to-Spec Anti-locality. Specifically, I show that pronominal possessors, on the one hand, can always move because they are heads, hence are blind to Spec-to-Spec Anti-locality. Lexical possessors, on the other hand, are phrases, hence must obey Anti-locality. Before I lay out the technicalities of the proposal, detailed properties of lexical possessors and DP-internal word order in Ngemba are required. In the next section, I discuss the

basic order of DPs in the language and the properties of lexical possessors. I show that lexical possessors in Ngemba can accommodate almost all possible modifiers.

3 IS-neutral word order in the nominal domain and the make-up of lexical possessors in Ngemba

This section discusses the internal structure of DPs in Ngemba, on the one hand, and the properties of lexical possessors, on the other hand. The relevant details are given in turn below.

3.1 The order of nominal modifiers in IS-neutral contexts

In IS-neutral contexts, nominal modifiers are ordered as in (13). This order is exemplified with the plural form of the root *pùmá* 'orange' in (14), because only plural nouns make it easy to identify the position of class markers (see also Footnote 2 for other complications that may arise with singular nouns).

(13) ADJ > N > POSS > DEM > NUMERAL.

(14) a. mə-pùmá m-á
6-orange 6-POSS.1SG
'my oranges'

b. mə mmá pùmá m-á
6 big orange 6-POSS.1SG
'my big oranges'

c. mə mmá pùmá m-á m-è
6 big orange 6-POSS.1SG 6-DEM
Lit. 'those my big oranges'

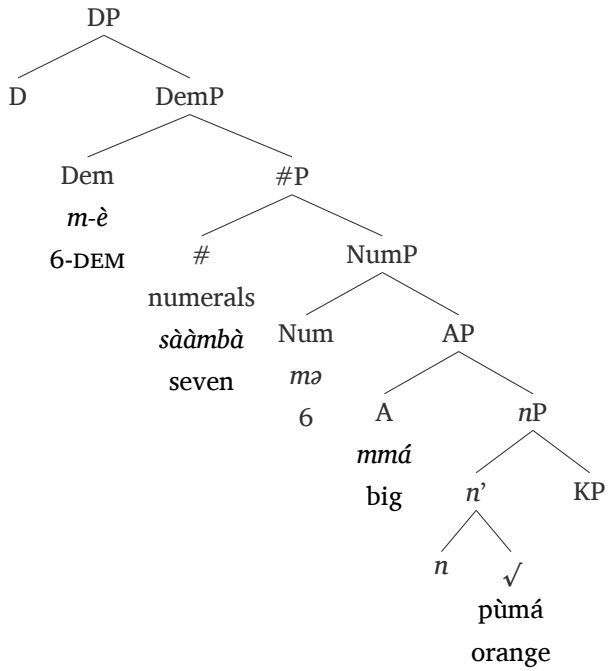
d. mə mmá pùmá m-á m-è sàámbà
6 big orange 6-POSS.1SG 6-DEM seven
Lit: 'those my seven big oranges'

Note, from (14-b)–(14-d), that the class marker precedes the adjective which, in turn, antecedes the head noun. Possessive pronouns follow the head noun. They are in turn followed by demonstrative pronouns. Numerals are the outermost modifiers.

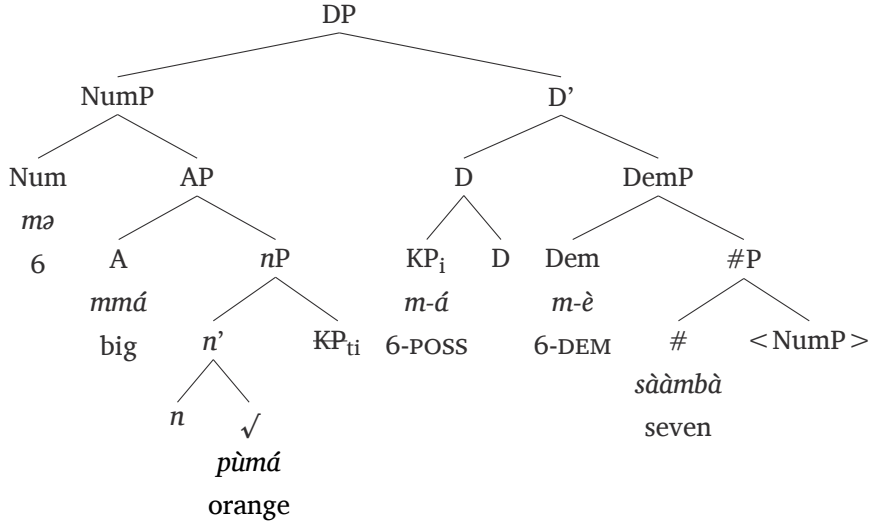
In deriving the order in (13), I will argue for (see Section 4 for details and empirical evidence) the structure in (15), and propose that the surface word order is always derived by moving NumP to SpecDP. This movement operation, crucially, obeys one of Cinque (2005)'s constraint on word-order-driven movement, namely that whatever moves for word order must contain the head noun. Possessive pronouns project a KP (for Case Phrase; see, i.a., van Urk 2018; Georgi & Amaechi 2023), and are base-generated in the rightward specifier position of *n*P, in line with the analysis

of possessors as subjects (see, among others, Abney 1987 and Szabolcsi 1994). As soon as D is available, they move and head-adjoin to it for, among other things, case assignment.

(15) DP structure before NumP-movement



(16) Deriving surface word order



Section 4 presents and discusses the empirical evidence for the structures that precede. In the remainder of this section, I add lexical possessors to the picture and discuss their internal properties in detail.

3.2 On the internal make-up of lexical possessors in Ngemba

The purpose of this section is to discuss the internal make-up of Ngemba lexical possessors in detail. I show that Ngemba lexical possessors can be modified by almost all possible modifiers in the language, and have a left periphery that can accommodate focus-marked possessive or demonstrative pronouns. I discuss each modifier in turn below.

3.2.1 Adjectives, quantifiers, numerals and demonstrative pronouns

Possessors, as well as possessed nominals, can simultaneously be modified by adjectives (17), quantifiers (18) and numerals (19). Adjectives and quantifiers precede the noun they modify. Specifically, *sássá* 'black' modifies the possessed nominal *ndə̀* 'house', and *tɔ́ŋ-tɔ́ŋ* 'tall' modifies the possessor *ntʃə̌ŋ* 'thief' in (17). Adjectives are sandwiched in-between the class marker and the nouns they modify. The plural of *ntʃə̌ŋ* 'thief', for example, is *mə-ntʃə̌ŋ* 'thieves', where the prefix *mə-* represents the class 2 marker. When this noun is modified by an adjective, we get *mə tɔ́ŋ-tɔ́ŋ ntʃə̌ŋ* 'tall thieves'.

(17) mə **səssá** ndə̀ mə **tɔ́ŋ-tɔ́ŋ** ntʃə̌ŋ
6 black house 2 tall thieve
'black houses of tall thieves'

(18) **ŋgwə̀ŋ** mə-ndə̀ **ŋgwə̀ŋ** mə-ŋkààmsí
all 6-house all 2-witch-doctor
'all the houses of all the witch-doctors'

(19) mə-ndə̀ ø-ntʃə̌ŋ **w-ítmɔ́ʔ** **sààmbà**
6-house 1-thief ANIM-one seven
'seven houses of one thief'

A closer look at the distribution of numerals reveals that they both follow the possessed nominal and the possessor (19). The numeral that modifies the possessed nominal must be the outermost. Agreement facts provide evidence for this generalization. In (19), only the possessor is animate-singular, and the numeral that shows animacy agreement immediately follows it. The possessed nominal is plural, hence is modified by the outermost numeral. This clearly shows that possessed nominals and possessors form a 'larger' DP in the language, and that at some point in the derivation of Ngemba DP syntax, possessor DPs as a whole must precede the numeral that modifies the possessed nominal.

This conclusion is supported by the distribution of demonstrative pronouns.[5] Specifically, the possessor and the possessed nominal can simultaneously be modified by demonstrative pronouns,

[5] I am grateful to one of the anonymous reviewers for suggesting the English examples that made it possible to double-check the distribution of demonstrative pronouns with my Ngemba consultants.

as illustrated in (20). Interestingly, the two modifiers must come last, and the one that modifies the possessed nominal needs to be the outermost (c.f., the difference in noun class).

(20) a. mə-k^{h}wò m-ɛ́n ø-è m-è
6-leg 1-child 1-DEM 6-DEM
'those legs of that child'
b. mə-ndə ø-ntʃŏŋ ø-è m-è
6-house 1-thief 1-DEM 6-DEM
'those houses of that thief'

It is ungrammatical in Ngemba for the demonstrative pronoun that modifies the possessed nominal to surface immediately after it (21).

(21) a. *mə-k^{h}wò m-è m-ɛ́n ø-è
6-leg 6-DEM 1-child 1-DEM
'those legs of that child'
b. *mə-ndə m-è ø-ntʃŏŋ ø-è
6-house 6-DEM 1-thief 1-DEM
'those houses of that thief'

The demonstrative pronoun that modifies the possessor can be focused and, as a result, appear in a position where it follows the possessed nominal, and precedes the possessor it modifies (22). Note the class exponence asymmetry between the focused and the non-focused modifiers. The glide *w-* is prefixed to the agreeing demonstrative if the modified noun is singular-animate. If it is singular-inanimate, *j-* is used. Plural class markers never change.

(22) mə-ndə w-èè ø-ntʃŏŋ m-è
6-house ANIM-DEM.FOC 1-thief 6-DEM
'those houses of THAT thief (as opposed to this one)'

The demonstrative pronoun that modifies the possessed nominal can also be focused and, as a result, surface in a position where it precedes the head noun (23).

(23) m-èè mə-ndə ø-ntʃŏŋ ø-è
6-DEM.FOC 6-house 1-thief 1-DEM
'THOSE houses (as opposed to these ones) of that thief'

It is also possible to simultaneously focus the demonstrative pronoun that modifies the possessed nominal and the one that modifies the possessor (24).

(24) m-èè mə-ndə w-èè ø-ntʃŏŋ
6-DEM.FOC 6-house ANIM-DEM.FOC 1-thief
'THOSE houses (as opposed to these ones) of THAT thief (as opposed to this one)'

3.2.2 Possessive pronouns

Possessive pronouns in their regular position (i.e., post-nominal) can also modify the possessor but, crucially, not the possessed nominal. This is shown in (25).

(25) ø-ndə ø-ntʃɔ̌ŋ ø-à
1-house 1-thief 1-POSS.1SG
'my thief's house'

The example in (25) would be ungrammatical if the possessive pronoun appeared in their regular position and modified the possessed nominals (26).

(26) *ø-ndə ø-à ø-ntʃɔ̌ŋ
1-house 1-POSS.1SG 1-thief
Lit. 'thief's my house'

It is, however, possible for the possessive pronoun in (25) to appear before the possessor. They still modify the possessor (and, crucially, not the possessed nominal). This is illustrated in (27). The major difference between (25) and (27) is that the possessive pronoun in (27) has a contrastive reading. Note the class marking asymmetry between the focused and the non-focused modifier.

(27) ø-ndə w-àà ø-ntʃɔ̌ŋ
1-house ANIM-POSS.1SG.FOC 1-thief
'MY thief's (as opposed to X's) house'

That a possessed nominal cannot be further modified by a possessive pronoun seems to be a rather general restriction, as illustrated by the French and English examples in (28) and (29), respectively.[6]

[6] Although Ngemba, at least superficially, shares this property with English and French, it is important to note – following a reviewer's comment – that there are quite a number of differences between Ngemba, Romance and Germanic languages when it comes to possessor constructions. Cardinaletti (1998), for example, demonstrates that a number of Romance and Germanic languages make a distinction between clitic, weak and strong possessive pronouns. She shows that pre-nominal possessives are deficient (clitics or weak) in Romance, while post-nominals are strong. One key feature of weak pronouns, she notes (see also Manzini 2014) is that they cannot be focused. In Ngemba, however, the pre-nominal pronouns are, specifically, the ones that are marked for focus and, as such, cannot be thought of as being deficient. For this reason, Ngemba and Romance are different.

Besides, as noted by the same reviewer, while French allows *mon argent* 'my money' as in Ngemba, albeit with a difference in interpretation, it disallows **Jean argent*. On the surface, there also seems to be a similarity between Ngemba and French in this direction. However, the grammatically correct form of **Jean argent* is *argent de Jean*, where *de* is a preposition that stands in-between the possessor and the possessed nominal. As shown in this squib, Ngemba does not have such a preposition and, as such, one might as well claim that the ungrammaticality of **Jean argent* follows from the fact that *Jean* is embedded in a PP, and PPs are islands in French?

(28) *Mon argent de Jean
POSS.1SG money of Jean
'my money of Jean'

(29) a. *John's my money
b. *my money of John

3.2.3 Combining all possible modifiers

Ngemba allows a combination of all possible modifiers with possessed nominals and possessors. This is illustrated in (30) for contexts in which there is no focus.

(30) [$_{DP}$ ŋgwɔ̀ŋ mə sə́ssá kwə̌ʔ [$_{DP_{POSSESSOR}}$ ŋgwɔ̀ŋ mə tɔ́ŋ-tɔ́ŋ ŋkààmsí p-á p-è
all 6 black chair all 2 tall witch-doctor 2-POSS 2-DEM
w-ítét]$_{LEXICAL\ POSSESSOR}$ m-è sààmbà]$_{possessed\ nominal}$
ANIM-three 6-DEM seven
Lit. 'all those seven black chairs of all those my three tall witch-doctors'

The example in (30) provides empirical evidence that the possessor DP sits within a larger DP whose head noun is the possessed nominal. It also demonstrates that the possessor DP is structurally in a position where it precedes both the demonstrative pronoun and the numeral that modify the head noun. The quantifiers take scope over each DP, and sit in phrase-initial position.

In (31), the demonstrative pronouns (in bold) are focus-marked. Note that the quantifiers have to precede the focus-marked demonstrative pronouns, again, suggesting that they take scope over each DP.

(31) [$_{DP}$ ŋgwɔ̀ŋ **m-èè** mə sə́ssá kwə̌ʔ [$_{DP_{POSSESSOR}}$ ŋgwɔ̀ŋ **p-èè** mə tɔ́ŋ-tɔ́ŋ
all 6-DEM.FOC 6 black chair all 2-DEM.FOC 2 tall
ŋkààmsí p-á w-ítét]$_{LEXICAL\ POSSESSOR}$ sààmbà]$_{possessed\ nominal}$
witch-doctor 2-POSS ANIM-three seven
Lit. 'all THOSE seven chairs of all THOSE my three witch-doctors'

3.2.4 Summary

To sum up, this section has shown that possessed nominals as well as possessors allow for a combination of modifiers, such that the following can be observed: on the one hand, the make-up of the lexical possessor is that of a regular DP, and it contains all possible modifiers in the order

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Moreover, the fact that pre-nominal possessive pronouns are focused in Ngemba, and not in, for example, French, might suggest that DPs vary across languages. It might well the case that in Ngemba-type languages, DPs have a left periphery where certain modifiers can Ā-move to. In French-type languages, either this position is absent, or Ā-movement is unavailable? (for discussions, I refer the reader to, for example, Szabolcsi 1981 and Horrocks & Stavrou 1987 – both of which were suggested to me by the anonymous reviewer).

Quant > Class marker > Adj > N > Poss > Dem > Numeral. Poss or Dem can be focus-marked within the lexical possessor DP and, as a result, appear in pre-nominal position. Quantifiers have to take scope over everything, including the focus-marked modifiers. On the other hand, the possessed nominal lacks a possessive pronoun, both in pre- and post-nominal positions; a property that seems to be attested in many languages, French and English included. It allows a quantifier, an adjective, a numeral and a demonstrative pronoun. While the adjective and the quantifier have to precede the possessed nominal, numerals and demonstrative pronouns have to follow the lexical possessor DP. Based on what precedes, the basic word order of possessed nominals is: Quant > Class marker > Adj > N > lexical possessor > Dem > Numeral. Taking the contends of the lexical possessor into account, we get the order in (32).

(32) Internal word order of lexical possession in Ngemba

Quant > Class marker > Adj > N > (Quant > Class marker > Adj > N > Poss > Dem > Numeral)$_{\text{lexical possessor}}$ > Dem > Numeral.

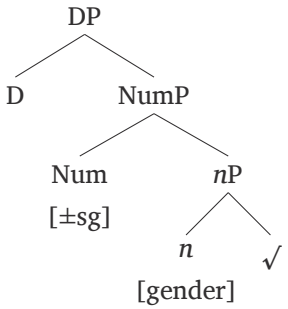
4 Detailing the structure of the Ngemba DP

This section looks into the structure of the Ngemba DP in detail. It does so in two steps. In the first, I discuss how nominal prefixes are spelled out, especially given the position they occupy vis-à-vis adjectives. In the second, I derive the word orders from Section 3, with focus on lexical possessors.

4.1 The spell out of the nominal prefix

The recent literature on Bantu noun classes has proposed that nominal prefixes spell out the *n* head, such that gender features are on *n*, and number features on Num. The surface difference in class exponents is the result of different genders combining with different numbers (c.f., Fuchs & van der Wal 2022; Carstens 2024; Fongang 2024; 2025, i.a., for recent discussions). The proposal is such that the simplified structure of DPs is as presented in (33). Carstens (2024) adopts the view that Bantu number-gender portmanteaux result from allomorphic-like spell out rules in the form illustrated in (34).

(33) *n* spells out the nominal prefix

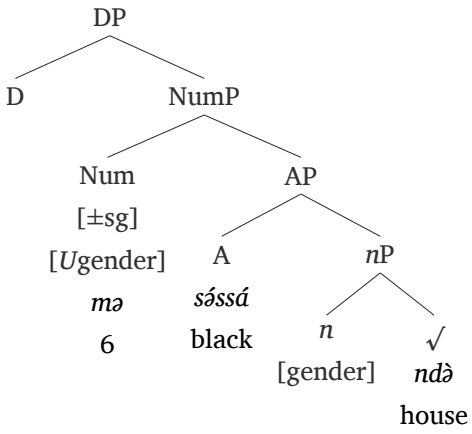


(34) a. [Gender A] → /X-/ / [+SG]
b. [Gender A] → /Y-/ / [-SG]

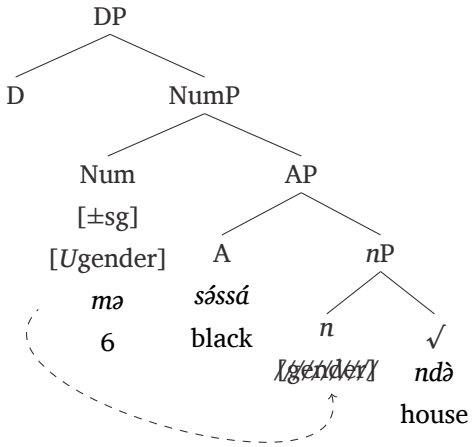
Assuming that number-gender portmanteaux is Ngemba also result from spell out rules of the type in (34) might be problematic because adjectives intervene between the class marker and the head noun in the language (see Section 3.2.1).

Under this view, the head that spells out the adjective (e.g., A of AP) would intervene between the *n* and Num head, blocking both features from communicating for the purpose of spell out. I propose the tree structures in (35) and (36) such that adjectives project an AP, and a gender probe on Num copies gender features from *n* to Num to ensure number-gender portmanteaux.[7]

(35) Adjectives project AP



(36) [Gender] is copied onto Num



In the section that follows, I derive the order of the other modifiers in the language.

[7] A possible solution to the intervention problem might be to assume that roots project, and adjectives sit in their specifier position. Alexiadou (2014), Borer (2014) and van Craenenbroeck (2014) have, however, provided convincing empirical arguments against root-projection in Distributed Morphology.

4.2 Deriving DP-internal word order in Ngemba

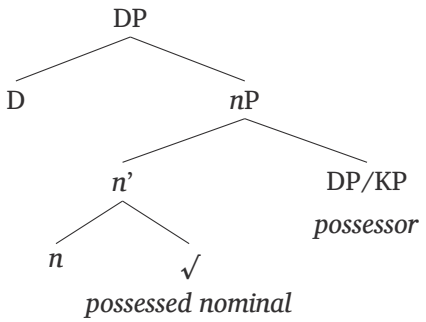
In what precedes, I proposed that adjectives project above *n*P, and that assuming that the Num head spells out the nominal prefix derives the fact that adjectives are sandwiched in-between the head noun and the class marker. This section looks at the other modifiers in detail. I start the discussion with possessors.

Given The Uniformity of Theta Assignment Hypothesis (Baker 1997) in (37), pronominal and lexical possessors need to start out in /or occupy the same syntactic position (at least at some point within Ngemba DPs), because they have the same thematic relation.

(37) *The Uniformity of Theta Assignment Hypothesis* (UTAH)
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure. (Baker 1997: 74)

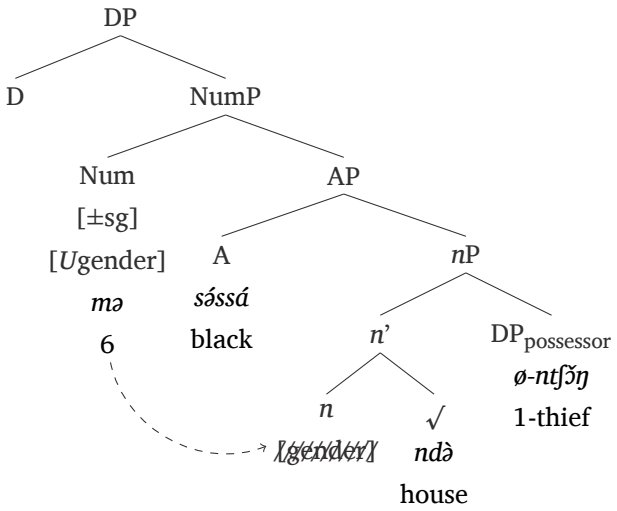
I assume that both are base-generated as rightward specifiers of *n*P, in line with the analysis of possessors as subjects (see, among others, Abney 1987 and Szabolcsi 1994). Since, following Alexiadou (2014), Borer (2014) and van Craenenbroeck (2014), the nominal root does not project, we get the structural representation in (38) for genitive constructions in Ngemba. I adopt the notation KP (Case Phrase) for pronouns (see also van Urk 2018), and follow, among others, Scott (2021); Georgi & Amaechi (2023), in assuming that the structure of pronouns differs minimally from that of lexical DPs in that the former lacks, among other things, a nominal root.

(38) Structure of genitive constructions in Ngemba



Combining an adjective and a lexical possessor, we get the structure in (39). A relevant example is given in (40).

(39) Combining adjectives and the lexical possessor



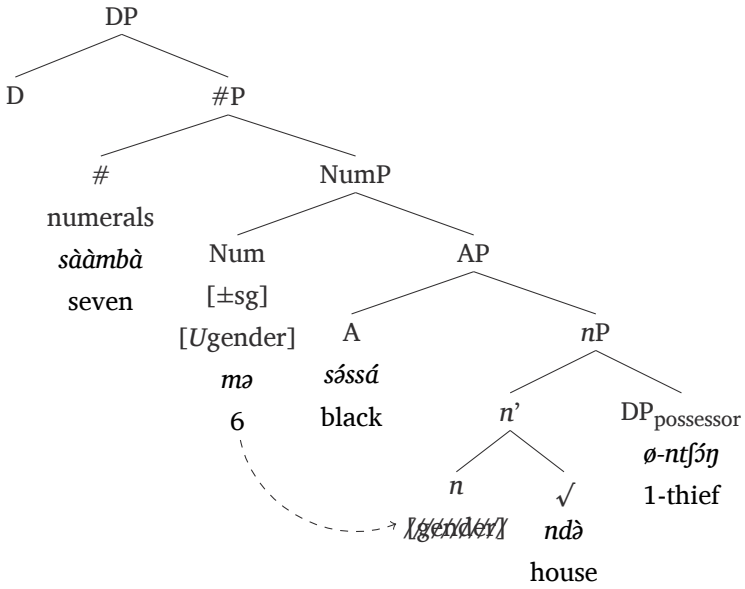
(40) mə səssá ndə ø-ntʃŏŋ
6 black house 1-thief
'thief's black houses'

The structure in (39) derives the order in (40) without further ado. Complications come in as soon as one brings numerals into the picture. Recall, from the discussion of numerals in lexical possession (c.f., Section 3.2.1), that they can modify the possessor and the possessed nominal. In such contexts, the two numerals appear last, and the one that modifies the possessed nominal is the outermost. In (41-a), the numeral *sààmbà* 'seven' modifies the possessed nominal, and is the outermost numeral. In (41-b), it modifies the possessor, and immediately follows it.

(41) a. mə sə́ssá́ ndə ø-ntʃŏŋ w-ítmɔ́ʔ sààmbà
6 black house 1-thief ANIM-one seven
'seven black houses of one thief
b. ø-ndə mə səssá ntʃŏŋ sààmbà ɜ-ítmɔ́ʔ
1-house 2 black thief seven INAN-one
'one house of seven black thieves

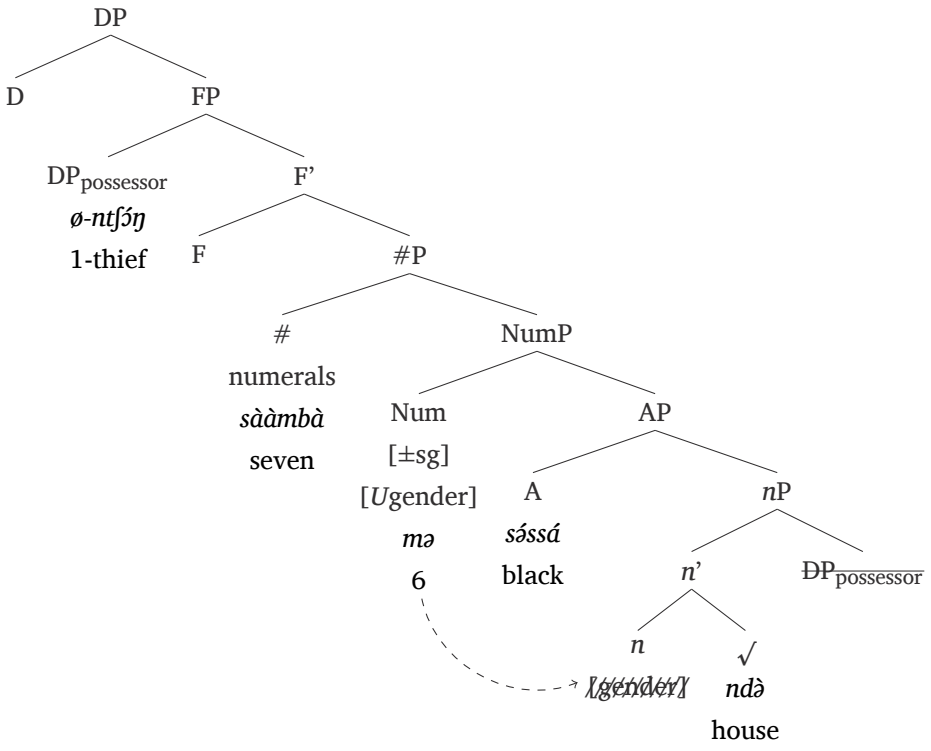
Following, among others, Alexiadou (2014), numerals are hosted by a #P that projects below D. I propose that this #P is above NumP in Ngemba. In the framework developed by Borer (2005), as noted in Alexiadou (2014), it would not be strange to have a #P in addition to a NumP because the two functional projections do not always have the same functions. She points out that #P is "similar, but not equal to (c.f., Alexiadou 2014: 292)" NumP. The resulting structural representation is given in (42).

(42) Numerals are hosted by #P



The problem with (42) is that it does not derive the correct word order (the numeral would be DP-initial, contrary to facts). What the examples in (41) suggest is that the lexical possessor (in Spec*n*P) surfaces in a position where it precedes #P, the host for numerals. I propose that it moves into the specifier position of a Functional Phrase (FP) above #P, as illustrated in (43).

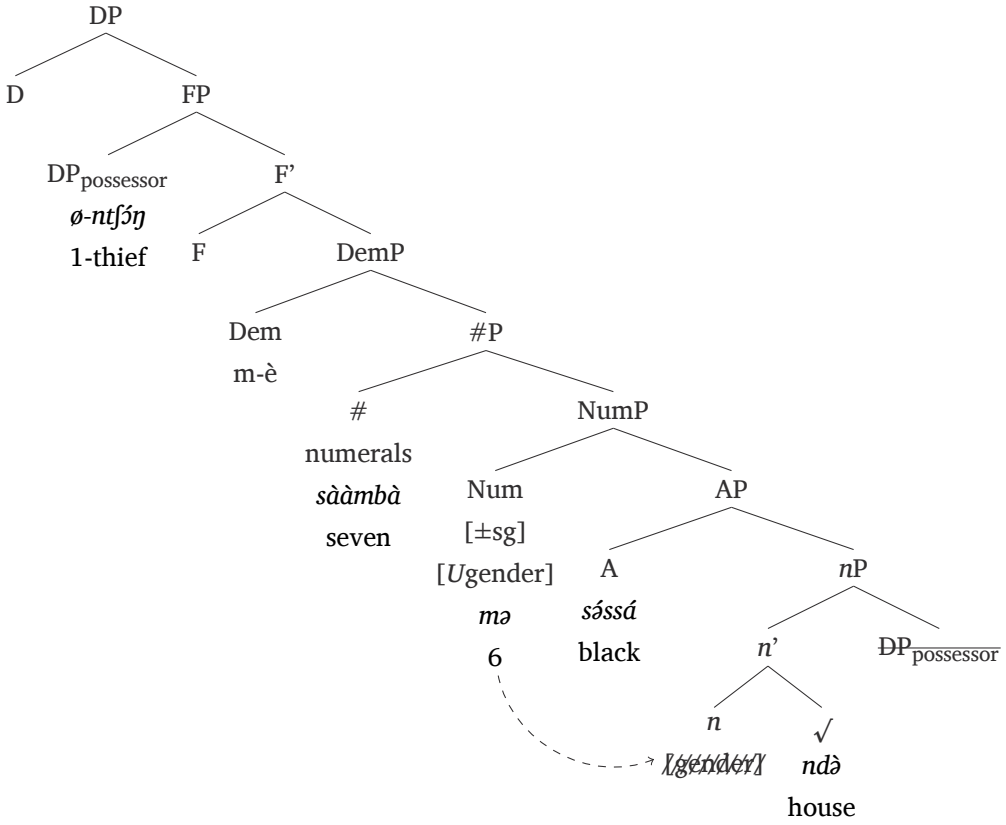
(43) $DP_{possessor}$ moves into SpecFP



Given the fact that the demonstrative pronouns that modify the possessed nominal must also follow the possessor DP (c.f., (30), repeated as (44)), I propose that they project a DemP above #P and below FP.

(44) [$_{DP}$ ŋgwɔ̀ŋ mə sə́ssá kwɔ̌ʔ [$_{\mathbf{DP_{POSSESSOR}}}$ ŋgwɔ̀ŋ mə tɔ́ŋ-tɔ́ŋ ŋkààmsí p-á p-è
all 6 black chair all 2 tall witch-doctor 2-POSS 2-DEM
w-ítét]$_{\text{LEXICAL POSSESSOR}}$ m-è sààmbà]$_{\text{possessed nominal}}$
ANIM-three 6-DEM seven
Lit. 'all those seven black chairs of all those my three tall witch-doctors'

(45) DemP Projects above #P, but below FP



The tree in (45) cannot be the whole story because it still does not derive the correct word order (c.f., (32), repeated as (46)).

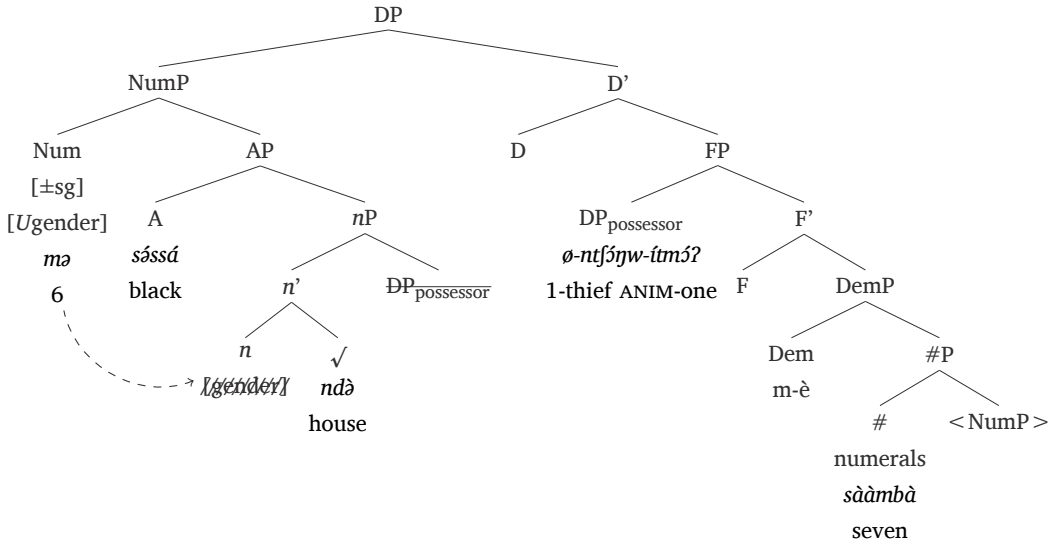
(46) Internal word order of lexical possession in Ngemba

Class marker > Adj > N > (Class marker > Adj > N > Poss > Dem > Numeral)$_{\text{lexical possessor}}$ > Dem > Numeral

If things were to remain the way they are, we would get the order in which the possessor is DP-initial, contrary to facts. To derive the correct surface word order in (46), I propose that, after $DP_{possessor}$-to-SpecFP movement, NumP (including all the projections it dominates) moves to SpecDP, as structurally represented in (48). The tree in (48) derives the example in (47).[8]

(47) mə sə́ssá ndə̀ ø-ntʃɔ́ŋ w-ítmɔ́ʔ m-è sàámbà
6 black house 1-thief ANIM-one 6-DEM seven
'those seven black houses of one thief

(48) NumP moves to SpecDP



So far, the derivation has not taken pronominal possessors into account. They precede demonstrative pronouns, as illustrated in (49).

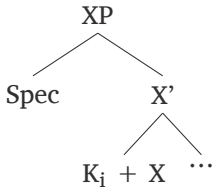
(49) mə-ndə̀ m-á m-è
6-house 6-POSS 6-DEM
Lit. 'those my houses'

I propose, given the discussion that precedes, that pronominal possessors – which, assuming UTAH, are also in Spec*n*P from the start – move to the D head. That lexical and pronominal possessors have different surface syntax is suggested by the fact, unlike lexical possessors, pronominal possessors do not have the properties of a full DP, and cannot be further modified. Two approaches can be envisaged to account for how movement into D operates. The first would

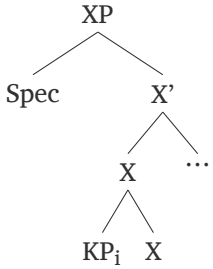
[8] NumP-movement obeys one of Cinque (2005)'s constraint on word-order-driven movement, namely that whatever moves for word order must contain the head noun.

be to assume that it is only K that undergoes long-distance head movement (Lema & Rivero 1990; Toyoshima 1997) into D.[9] The second approach would be to assume that KP undergoes phrasal movement and head-adjoins to D (c.f., Sağ 2016 and references therein). These two options are structurally presented in (50) and (51), respectively.[10]

(50)



(51)



I adopt the phrasal-movement-and-head-adjunction approach in (51), such that KP moves and head-adjoins to the D head. The relevant structure is given in (52).[11]

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[9] The type of head movement approach that Lema & Rivero (1990) and Toyoshima (1997), for example, argue for allows the moving head to skip intervening heads on its way up.

[10] The structure in (51) is reminiscent of the head-movement-and-m-merger approach proposed by Matushansky (2006); Harizanov (2014); Kramer (2014); Sikuku et al. (2018), for clitic doubling. Matushansky (2006), for example, argues that 'head movement is not a single syntactic operation, but a combination of two operations: a syntactic one (movement) and a morphological one (m-merger)' (Matushansky 2006: 69). I am particularly grateful to one of the anonymous reviewers for suggesting the relevant references.

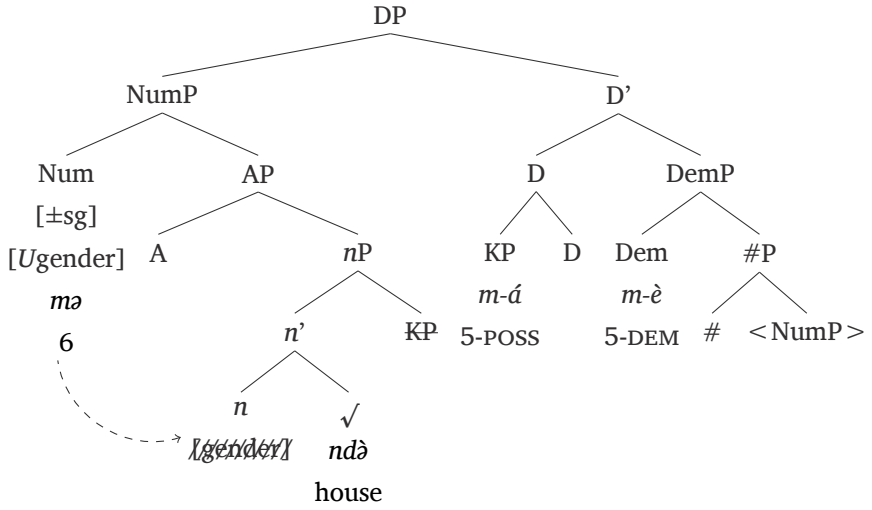
Note, in addition, that the head-adjunction approach I pursue in this paper is slightly different from the one that is proposed for clitics by, for example, Cardinaletti (1998). In these accounts, a head adjoins to another head. In the proposal I sketch in this paper, it is a phrase (KP) that adjoins to the D head.

[11] Possessors probably move into D for case. The examples in (i) show that there is just one case position for genitives within Ngemba DPs. It is impossible to utter the strings in (i) with the understanding that they are within a single DP. While the fragment *fútù John* 'john's picture' in (i-a) is grammatical, the complete string *fútù John Deffo* 'John's picture of Deffo' is not. This is evidence that there is only one case position per DP in the language. This might also explain why pronominal and lexical possessors end up in separate syntactic positions. To express English 'John's picture of Deffo', Ngemba uses a relative clause (ii-a).

(i) a. *fútù John Deffo
picture John Deffo
'John's picture of Deffo'

b. *fútù n-à Deffo
picture 5-POSS Deffo
'my picture of Deffo'

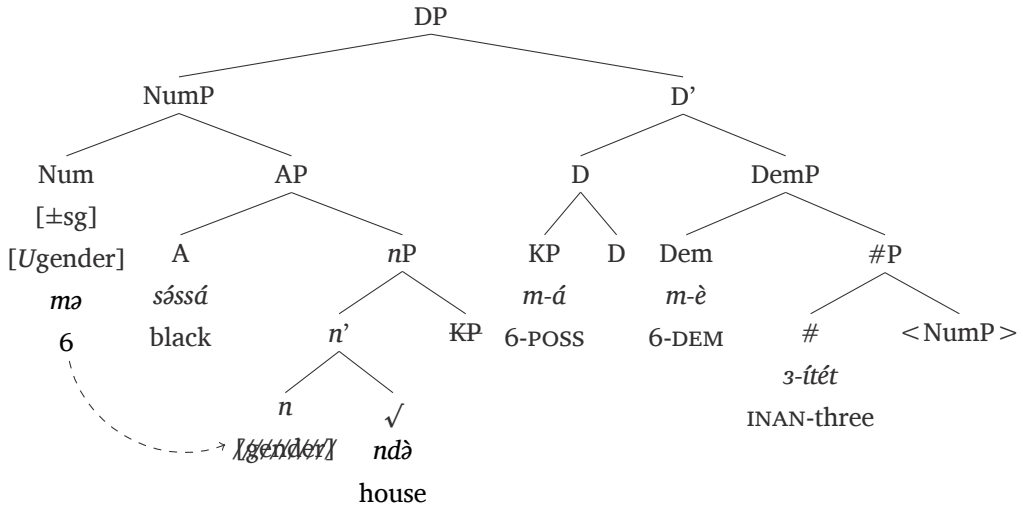
(52) Pronominal possessors head-adjoin to D



Based on all that precedes, the structure of the basic DP in (53) would be (54).

(53) mə sə́ssá ndə̀ m-á m-è ɜ-ítét
6 black house 6-POSS.1SG 6-DEM INAN-three
Lit. 'Those my three black houses'

(54) Basic DP structure with a pronominal possessor

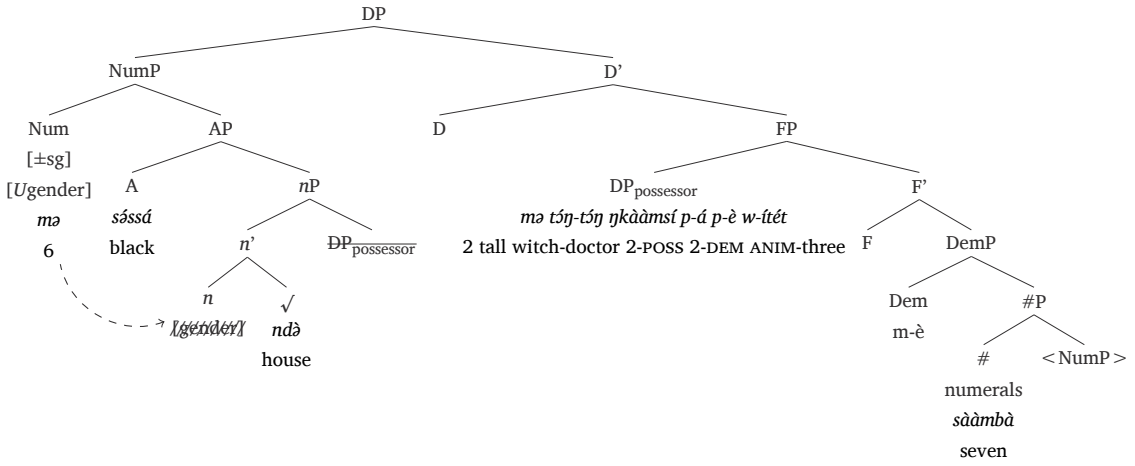


(ii) a. fútù Deffo n-è John llɔ̀ɔ̀ a
picture Deffo 5-REL John take.PST DET
Lit. The picture of Deffo that John took.
'John's picture of Deffo'

b. fútù Deffo n-è à w-à a
picture Deffo 5-REL is ANIM-POSS DET
Lit. The picture of Deffo that is mine.
'my picture of Deffo'

The Num head spells out the class marker. It is followed by the adjective in AP. The nominal root is spelled out as *ndə̀* ‘house’. ‘KP’ moved and head-adjoined to D. The possessive pronoun is spelled out in D, the demonstrative pronoun in Dem, and the numeral inside #P. The structure in (54) is exactly that of a lexical possessor in a genitive construction. In order words, $DP_{possessor}$ in (55) has the internal structure in (54). This derives the word order in (56), exemplified in (57). The pronominal possessor is absent from DP, but not $DP_{possessor}$, per the semantic restriction that prevents possessed nominals from being modified by a possessive pronoun in the presence of a lexical possessor. The possessive pronoun is present in the structure of the possessor.

(55) Deriving surface word order



(56) Internal word order of lexical possessor constructions in Ngemba

Class marker > Adj > N > (Class marker > Adj > N > Poss > Dem > Numeral)$_{lexical\ possessor}$ > Dem > Numeral

(57) mə sə́ssá ndə̀ mə tə́ŋ-tə́ŋ ŋkààmsí p-á p-è w-ítét m-è sààmbà
6 black house 2 tall witch-doctor 2-POSS 2-DEM ANIM-three 6-DEM seven
Lit. ‘those seven houses of those my three witch-doctors’

As far as quantifiers are concerned, they precede the focused modifiers (59). Their distribution, therefore, suggests that their syntactic position depends on their scope properties. The prediction of this is that each noun in a lexical possessor construction should be able to have a quantifier that scopes over it. This is borne out ((58) and (59)). The quantifiers are underlined.

(58) ŋgwɔ̀ŋ mə sə́ssá kwɔ̌ʔ ŋgwɔ̀ŋ mə tə́ŋ-tə́ŋ ŋkààmsí p-á p-è w-ítét
all 6 black chair all 2 tall witch-doctor 2-POSS 2-DEM ANIM-three
m-è sààmbà
6-DEM seven
Lit. ‘all those seven chairs of all those my three witch-doctors’

(59) ŋgwɔ̀ŋ m-èè mə sə́ssá kwɔ̌ʔ ŋgwɔ̀ŋ p-èè mə tɔ́ŋ-tɔ́ŋ ŋkààmsí p-á
all 6-DEM.FOC 6 black chair all 2-DEM.FOC 2 tall witch-doctor 2-POSS
w-ítét sààmbà
2-DEM ANIM-three seven
Lit. 'all THOSE seven chairs of all THOSE my three witch-doctors'

5 Deriving the movement asymmetry

In this section, I propose an account of the movement asymmetry between lexical and pronominal possessors in Ngemba. As a reminder from Section 2, the IS-neutral position of lexical and pronominal possessors in Ngemba is post-nominal. Unlike lexical possessors, pronominal possessors can be focused, hence appear in pre-nominal position. The relevant examples are repeated in (60)–(63) for convenience.

(60) a. mə-k^{h}wò m-á
6-leg 6-POSS.1SG
'my legs'
b. mə-sùù(m) p-á
2-friend 2-POSS.1SG
'my friends'

(61) a. mə-k^{h}wò Mbah
6-leg Mbah
'Mbah's legs'
b. mə-sùù(m) Mbah
2-friend Mbah
'Mbah's friends'

(62) a. m-àà mə-k^{h}wò
6-POSS.1SG.FOC 6-leg
'MY legs (not X's)'
b. p-àà mə-sùù(m)
2-POSS.1SG.FOC 2-friend
'MY friends (not X's)'

(63) a. *Mbah mə-k^{h}wò
Mbah 6-leg
'Mbah's legs (not X's)'
b. *Mbah mə-sùù(m)
Mbah 2-friend
'Mbah's friends (not X's)'

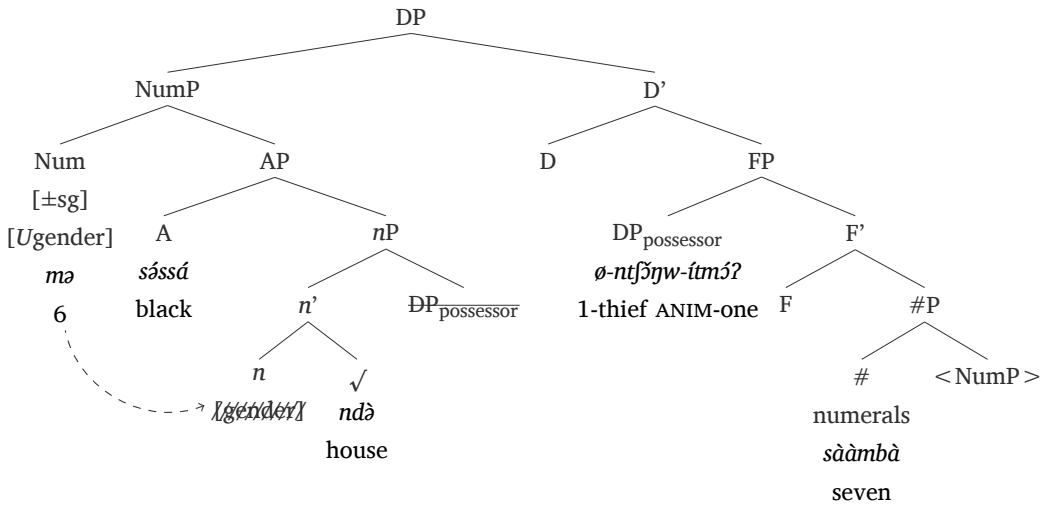
In the section that precedes, I proposed, given UTAH, that lexical and pronominal possessors start out in Spec*n*P, but end up in different positions. While lexical possessors move to SpecFP, pronominals move and head-adjoin to D. That they behave differently is suggested by the fact that unlike pronominal possessors, lexical possessors are full DPs. The next question then relates to the fact that lexical possessors cannot be moved for focus. This section proposes a derivation of this asymmetry based on the two constraints in (1) and (2), repeated as (64) and (65) for convenience.

(64) *Phase Impenetrability Condition (PIC)*
In phase α with head H, the domain of H is not accessible to operations outside α; only H and its edge are accessible to such operations (Chomsky 2000: 108)

(65) *Spec-to-Spec Anti-Locality*
Ā-movement of a phrase from the Specifier of XP must cross a maximal projection other than XP. (Erlewine 2016: 436)

To show how the proposal works, consider the structural representation of a lexical possessor construction in (66).

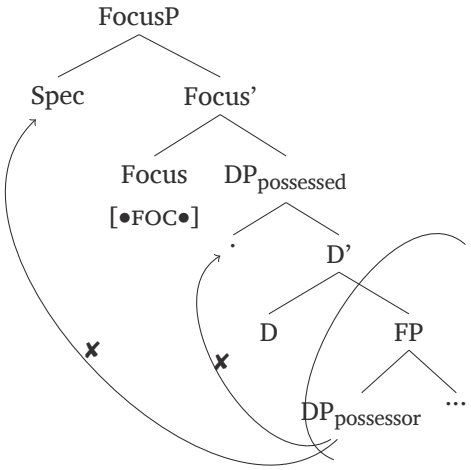
(66) Structure of a lexical possessor construction



Assuming that focus marking involves movement of the focalized XP to the specifier of a focus phrase in the DP left periphery, we expect the [•FOC•] feature on the focus head to trigger movement of the possessor DP into its specifier position, as represented in the simplified structure in (67). Movement in one fell swoop is impossible because DP$_{possessor}$ is in the complement position of the phase head D. The only way for the possessor DP to be extracted is to first raise to SpecDP$_{possessed}$ and, subsequently, to SpecFocusP – assuming multiple specifiers (Chomsky

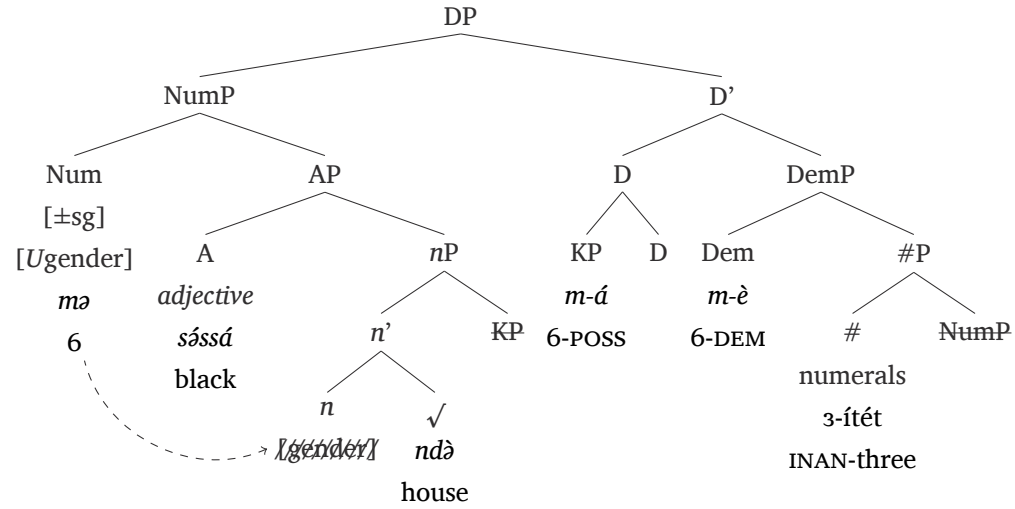
1995; Doron & Heycock 1999; Grewendorf & Sabel 1999, among others), such that $DP_{possessed}$ has at least two specifier positions; one for NumP, and another to serve as an escape hatch for successive-cyclic movement. These two movement steps, however, are ruled out by Spec-to-Spec Anti-locality. The result of this is that lexical possessors never move for focus.

(67) Basic DP structure in focus-marked contexts (with a lexical possessor)



The crucial difference between lexical and pronominal possessors is that KP undergoes phrasal movement and head-adjoins to D. Consider the structure of a pronominal possessor construction in (68).

(68) Structure of a pronominal possessor construction



The simplified structural representation of focused contexts is given in (71). Empirical evidence that possessive pronoun focus is achieved by movement in Ngemba comes from the bolded

VP-idiom *lá ø-kə̀lám ø-ɔ́* 'beat you' in (69). For the idiomatic reading to be available, *ø-kə̀lám* must be modified by a possessive pronoun.

(69) ø-ndúm ø-à hó [**lá ø-kə̀lám ø-ɔ́**]$_{\text{IDIOM}}$
1-husband 1-POSS.1SG FUT cook 1-kelam 1-POSS.2SG
Lit. 'My husband will cook your Kelam.'
Idiom. 'My husband will beat you.'

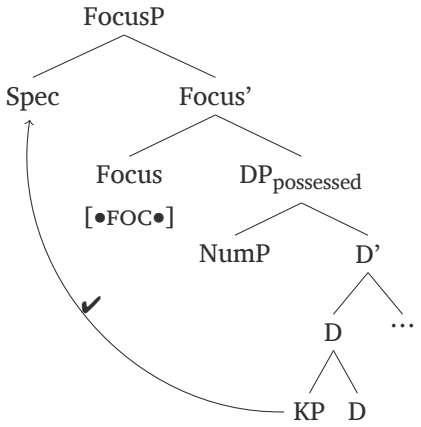
Crucially, the possessive pronoun in the object DP *ø-kə̀lám ø-ɔ́* 'your kelam' in (69) can be focused, hence appear in pre-nominal position. When this happens, the idiomatic reading of the VP is kept.[12]

(70) n-dúm ø-à hó [**lá j-ɔ̀ɔ̀ ø-kə̀lám**]$_{\text{IDIOM}}$
1-husband 1-POSS.1SG FUT cook INAN-POSS.2SG.FOC 1-kelam
Lit. 'My husband will cook YOUR Kelam (as opposed to X's).'
Idiom. 'My husband (as opposed to X's) will beat you, and not any other person.'

The fact that the reading of the VP-idiom is maintained when the possessive pronoun surfaces in pre-nominal position provides empirical evidence that it is Ā-moved into the focus position, and a silent copy is interpreted in the movement site.

The movement asymmetry is derived as follows: D is the phase head, hence can move without violating the PIC (c.f., (71)). KP is not a specifier and, as such, is blind to Spec-to-Spec Anti-locality. The host D is also blind to Spec-to-Spec Anti-locality. The pronoun can, as a consequence be moved for focus.

(71) Basic DP structure in focus-marked contexts (with a pronominal possessor)



[12] Note the presence of the glide, as one would expect. The head noun in the object DP (part of the idiom), *kelam* is inanimate and, as such, *j-* is used.

The nice thing, it should be noted, about the current approach is that it independently accounts for the fact that possessors cannot be Ā-moved into the left periphery of the clause, as illustrated in (72) below. If lexical possessors cannot move out of $DP_{possessed}$ as argued for above, then (72) would be ungrammatical without recourse to the ban on movement out of moved.

(72) *[$_{CP}$ à wɔ́$_j$ ø-è [$_{DP}$ mû t$_j$]$_i$ lə [$_{VP}$ t$_i$ pèè ŋkàp ø-à à?]]
FOC who 1-REL PST take money 1-POSS.1SG DET
'Who is it that the child of took my money?'

6 Conclusion

The paper presented an asymmetry between pronominal and lexical possessors with respect to DP-internal focus in Bamileke Ngemba. It proposed that, given UTAH, lexical and pronominal possessors start out in Spec*n*P, but end up in different positions. While lexicals move to SpecFP, pronominals move and head-adjoin to D. These movement operations are motivated by, among other things, case marking. The paper then argued that lexical possessors cannot move further for focus because of a conspiracy between two important constraints on movement. The first (the PIC) blocks movement of $DP_{possessor}$ to SpecFocusP in one fell swoop. The second (Spec-to-Spec Anti-locality) blocks successive-cyclic movement of $DP_{possessor}$ through SpecDP into SpecFocusP. The squib, therefore, proposes a detailed description of lexical possession in an understudied Grassfields Bantu language and shows that data from this language may provide evidence that the relevant movement constraints are on the right track and may be part of UG. It also extends the application of Anti-locality to Ā-movement from within the nominal domain and, by so doing, strengthens the view that DPs and CPs are parallel in many respects (see, i.a., Szabolcsi 1981; Koopman 2008).

Abbreviations

1SG/2SG = 1st/2nd person, 1/2/…6 = Bantu noun classes, ANIM = animate, DEM = demonstrative pronoun, DET = determiner, FOC = focus marker, FUT = future, INAN = inanimate, LOC = locative marker, POSS = possessive pronoun, PST = past, REL = relative clause marker, SG = singular.

Acknowledgements

I am particularly grateful to my Ngemba consultants for sharing their knowledge of the language with me. For helpful questions, comments and suggestions, I would like to thank Gereon Müller, Vicki Carstens and Philipp Weisser. I also express my gratitude to the three anonymous reviewers and the Glossa editor for valuable comments and suggestions. All errors are mine.

Competing interests

The author has no competing interests to declare

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