Some Investigations into the Structure of DPs in Nawdm

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1 Purpose

Subject to the limitations of the data gathered so far, I will attempt here to lay out the contents of the DP in Nawdm, and their order. To be considered are the placement of demonstratives, adjectives, class markers, determiners, possessives, relative clauses, adjectives, numerals (and to some extent quantifiers generally), prepositional phrases, and, of course, nouns. While characterizing the data, I will also attempt to guess what sort of constituents and movement rules might generate such a data pattern.

2 The Data

2.1 Simple Definite and Indefinite DPs

Simple indefinite DPs consist of a stem plus a noun class marker. For example, in[1]

(CN229) bá꞉gó
dog-go
a dog

"ba" is the stem meaning "dog" and "go" is the class marker for nouns in the "go" class. When the DP is definite, that is, when a specific thing is being referred to, the final vowel of the word is lengthened[2]:

(TS2/17 T1R3C2) bá꞉gó꞉
dog-go-spec
the dog

Note however that specificity does not seem to correspond exactly to English "the." The lengthening seems to be fairly optional, and appears somewhat inconsistently. It never seems to appear if specificity can be determined from context. For example, in

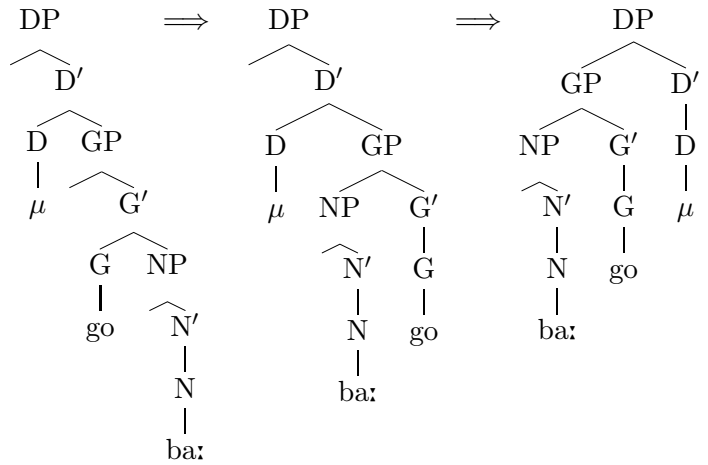
(CN573) bá꞉gáŋ kéŋgà꞉ há꞉ré
dog-cl-n cl-this-spec house-cl
the house of this dog

[1] Examples from the class notes will be denoted by the two letters "CN" followed by the class note number.
[2] From Temmi Szalai's notes ("TS"), Table 1, row 3, column 2

"house" is not marked for specificity because its specificity is given by the context.

As a first attempt at guessing the structure and constituency of these simple DPs, we might say that the extra length in (TS2/17 T1R3C2) is added by a determiner phonologically realized as a bare mora, that the class marker is a particle/morpheme representing grammatical gender, and that "ba" is the head of a noun phrase. Thus, (TS2/17 T1R3C2) might be derived as follows (where "GP" stands for "Gender Phrase"):

(1)



Each noun class has (at least) two suffixal forms: a singular form and a plural form. For example, the plural of (CN229) is as follows:

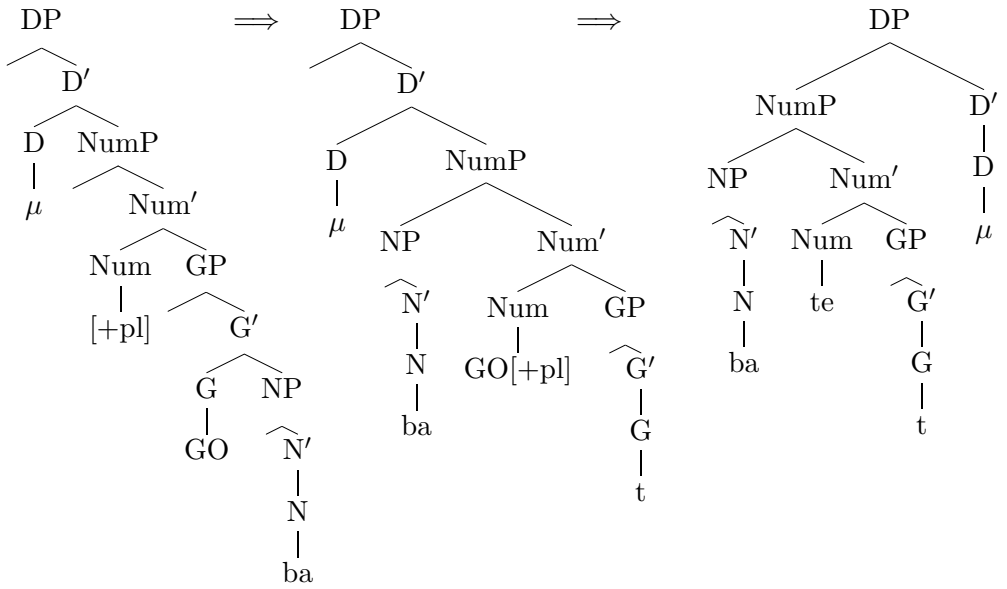
(TS2/17 T1R2C2) báté

with specificity marked by length, as before:

(TS2/17 T1R4C2) báːtéː

To account for this pattern, I propose that there is a Number Phrase (NumP) constituent dominating GP, that the underlying members of Num and G are features, that G undergoes head movement to left adjoin to Num, that the resulting complex is spelled out with the appropriate morpheme by the phonology, that NP moves somewhere above NumP (exactly where we will see later), and finally that the whole NumP complex then moves into [Spec,DP]. A derivation for (TS2/17 T1R4C2) is given below:

(2)



2.2 Adjectives

Adjectives in Nawdm follow the noun stem, but precede the class marker, as in

(TS2/17 T1R9C2) bàhɔ́ːlə̀gó
dog-black-go
a black dog

(TS2/17 T1R11C2) bàhɔ́ːlə̀gŏː
dog-black-go-spec
the black dog

(TS2/17 T1R10C2) bàhɔ́ːlə̀té
dog-black-go-pl
black dogs

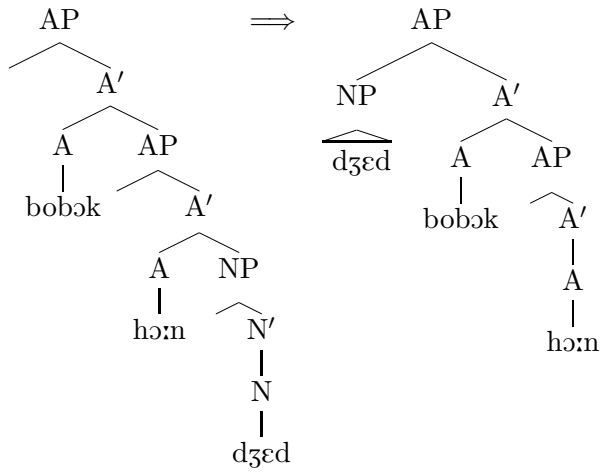
(TS2/17 T1R12C2) bàhɔ́ːlə̀tĕː
dog-black-go-pl-spec
the black dogs

Strings of more than two adjectives seem to be disallowed, the reason for which is not clear. When more than one adjective modifies a noun, the adjectives are given in the English order, rather than reversed:

(CN527) dʒɛ́d bóbɔ̀k hɔ̂ːn dé
chair tall black de
a tall black chair

To account for this pattern, I propose that what was heretofore called an "NP" be replaced by one or more APs with an NP under them. The NP itself moves into [Spec,AP] for the top AP. Thus the noun-adjective part of (CN527) would appear as follows:

(3)



This whole AP/NP complex now moves as described in the previous section for the NP.

2.3 Numerals/Quantifiers

When nouns are numbered, the numeral appears after the noun, the adjective(s) and the class marker, but before the specificity lengthening:

(MB1/29 85) báːté tèréʔétè
dog-cl cl-two-cl
two dogs

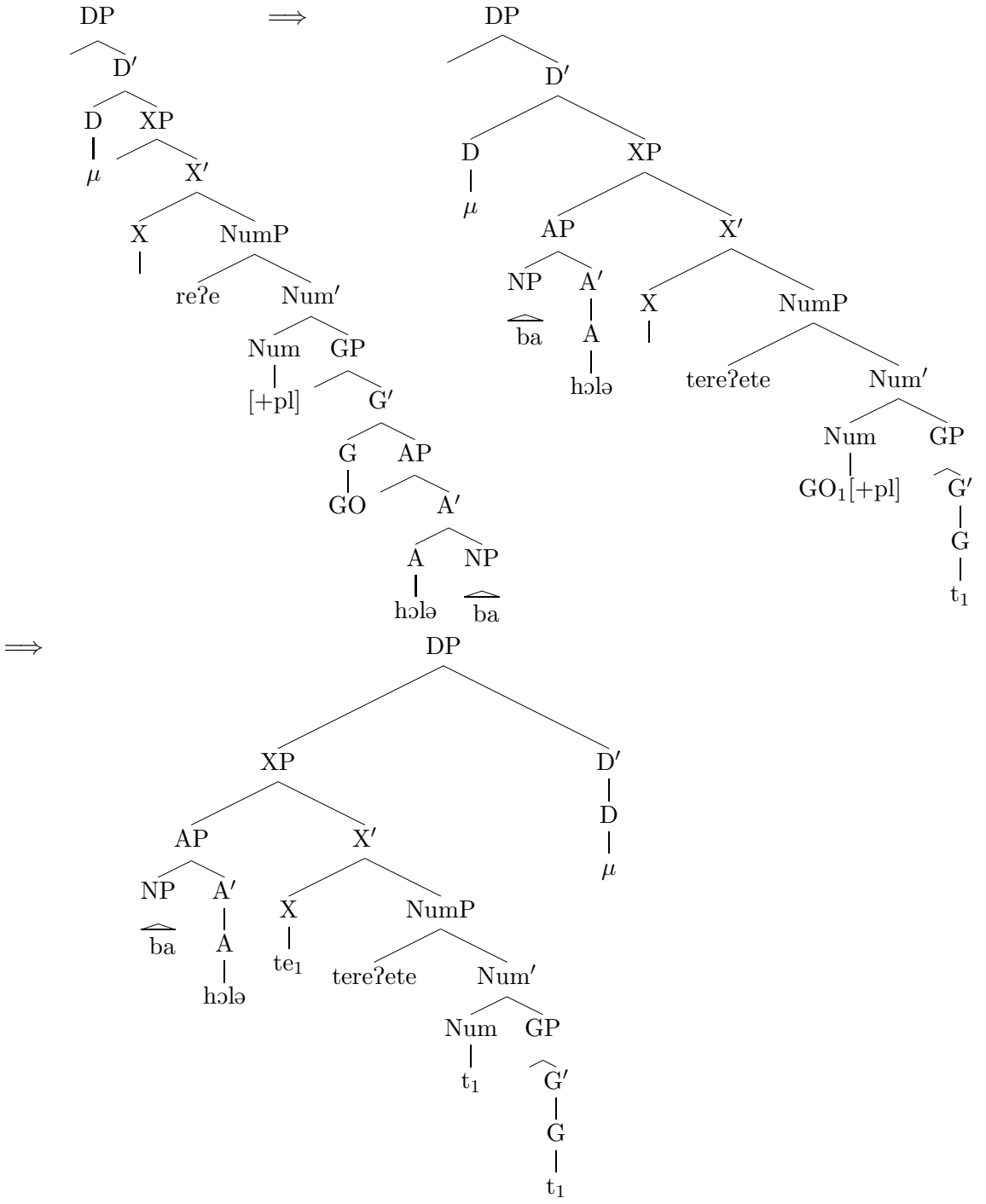
(TS2/17 T2R2C2) báːté tèréʔétěː
dog-cl cl-two-cl-spec
the two dogs

(TS2/17 T2R7C2) bá hɔ́lə́ té tèréʔétěː
dog black cl cl-two-cl
the two black dogs

The challenge in accounting for this pattern is to explain why the class marker shows up in both the numeral and after the noun/adjective cluster. I will propose here that the class marker appears in the numeral as a result of Spec-Head agreement with the Number/Gender head that was built up in the manner described at the end of section 2.1. The numeral is generated in [Spec,NumP] and picks up its phonological form as a result of agreement with the composite head of NumP. The numeral has to be in [Spec,NumP] to agree with Num, but this leaves nowhere for the NP to go. In section 2.1 it was proposed that NP moves to [Spec,NumP] and then NumP moves to [Spec,DP]. We cannot say that the NP moves directly to [Spec,DP], because this would leave the class marker in the wrong place (it should precede the numeral and follow the NP), and it would put specificity lengthening in the wrong place as well (it should be clause-final). Thus we must hypothesize a new phrase to be (temporarily) called XP, between DP and NumP. We have to say that the composite Num/Gender head continues to move up to X, leaving behind the numeral, that the NP moves

to [Spec,XP], and that finally XP itself moves to [Spec,DP]. The derivation of (TS2/17 T2R7C2) might thus go as follows:

(4)



There is little data so far on quantifiers other than bare numerals. The complete set seems to be as follows:

(AG3/5 18)	bíʔí	kódé
	child-cl(pl)	many

many children

(AG3/5 19) báʔé kódé
dog-cl(pl) many
many dogs

(AG3/5 20) tìːnì kòdé
tree-cl(pl) many
many trees

Given this data, it seems conceivable that these quantifiers originate in [Spec,NumP] just as numerals do, differing only in their lack of agreement. Elicitation of quantified DPs that have demonstratives or that are possessed objects might help to determine the exact position of these quantifiers.

2.4 Demonstratives

There are two basic demonstratives in Nawdm, corresponding to "this" and "that" in English. Their distribution within the DP is different. The demonstrative corresponding to "this" appears at the end of the DP (where it seems to be able to pick up specificity lengthening in some contexts), and the demonstrative corresponding to "that" appears at the beginning of the DP, leaving specificity marking to appear at the end, if it appears (it usually does not). The following examples show the two demonstratives in DPs corresponding to those analyzed above:

(TS2/17 T2R8C2) làʔà bà hɔ́lə té tèréʔétéː
that dog black cl-pl cl-two-cl
those two black (big) dogs

(TS2/17 T2R9C2) bà hɔ́ːlə té tèréʔètèn tènté
dog black cl-pl cl-two-cl-n cl-this-cl
these two black (big) dogs

(TS2/17 T2R9C1) bà hɔ́ːlə ʔé ʔèréʔèn ʔéná
dog black cl-pl cl-two-(cl)-n cl-this
these two black (small) dogs

The demonstrative corresponding to English "this" has two forms, one which is formed from two copies of the noun class marker separated by "n" (exemplified by (TS2/17 T2R9C2)), and another which is formed from the noun class marker followed by "na" (exemplified by (TS2/17 T2R9C1). The type of demonstrative chosen does not seem to depend on the noun class as might be implied by the above:

(CN573) báːgáŋ kɛ́ŋgàː háːré
dog-cl-n cl-this-cl-spec house-cl
this dog's house

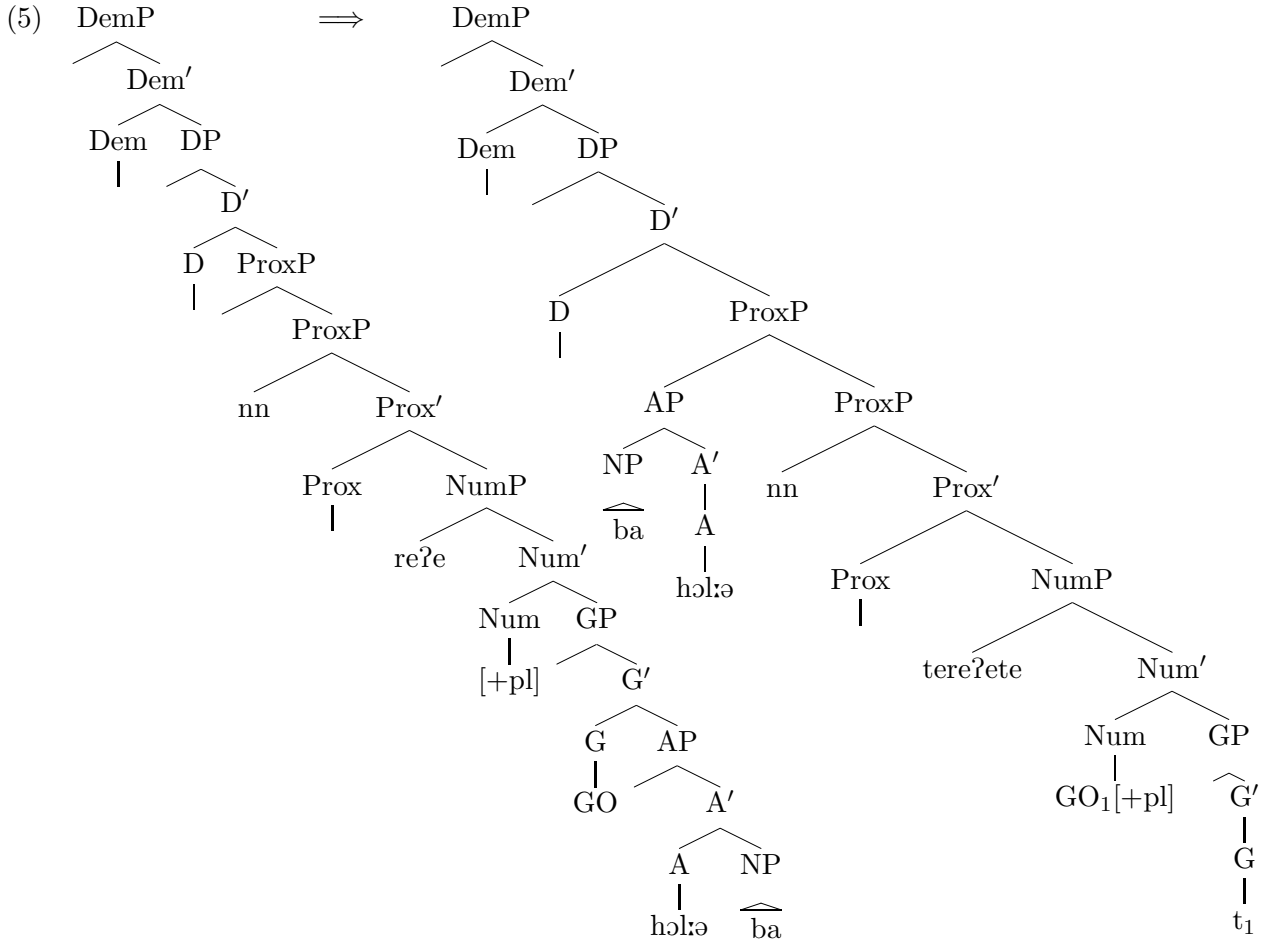
(CN575) báːgáŋ kɛ́náʔá hámɔ̀ndè
dog-cl-n cl-this-spec house-red-cl
this dog's red house

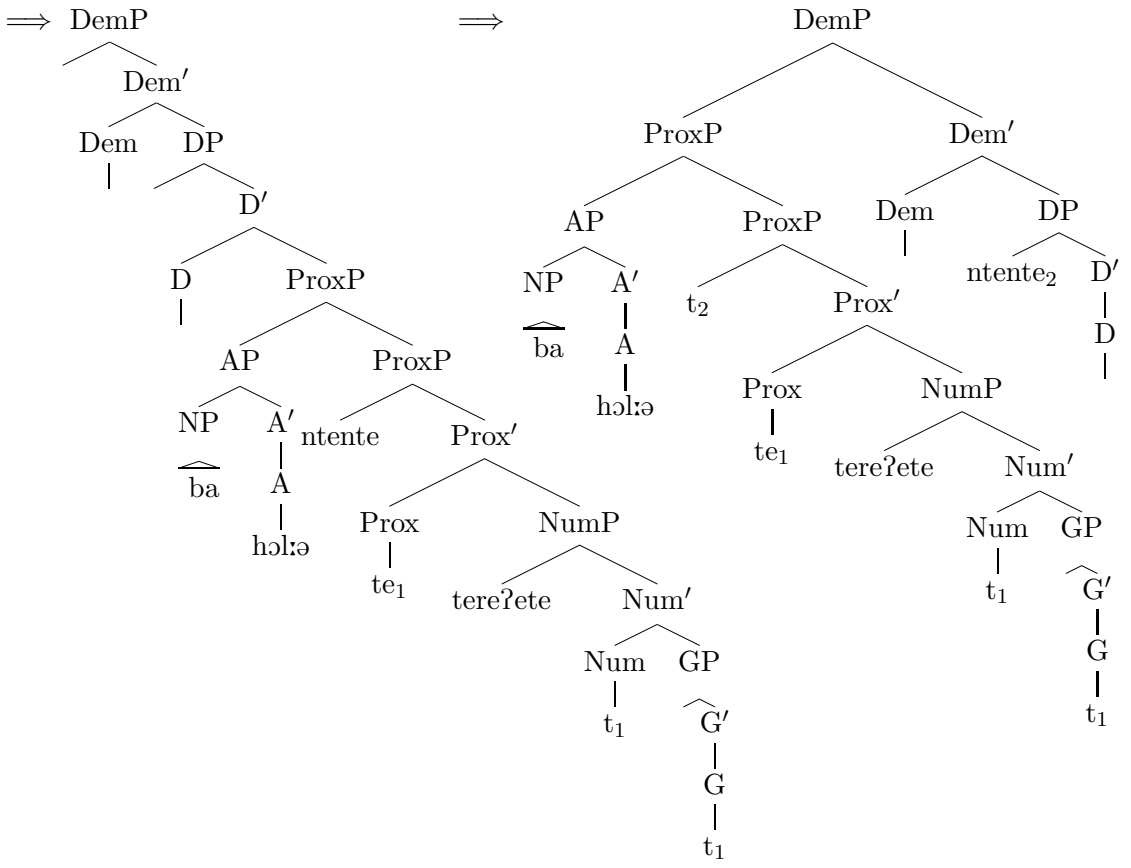
(CN573) and (CN575) also show that the "this" demonstrative can take specificity, and (CN573) shows that the left class marker in the demonstrative is the nominative form of the class marker, whereas the right class marker is the accusative form.

To analyze the *laʔa* demonstratives, I will propose here that there is a Demonstrative Phrase (DemP) above DP. The demonstrative *laʔa* originates in Dem, and everything else moves as before, thus leaving *laʔa* at the beginning.

The "this" demonstratives are a bit more difficult to analyze. They undergo some sort of agreement with the class marker, and they introduce a nasal in whatever word precedes them. Specificity marking follows "this" demonstratives, as shown in (CN573) and (CN575). I propose to analyze these facts by generating the "this" demonstrative in a "proximity phrase" ProxP between XP and NumP. XP could actually be simply an adjunct position to ProxP—this will be assumed in the derivations to follow. The "this" demonstrative originates in [Spec,ProxP] as underlyingly /n—n—/. That is, the nasal that the "this" morpheme introduces in preceding words is actually part of its underlying form. It was previously hypothesized that the Gender/Number complex head moved up one head position from Num. This position is Prox. When it is there, the "this" demonstrative undergoes agreement with the Gender/Number morpheme, filling in the dashes in its underlying template. The "this" demonstrative then moves into [Spec,DP]. The NP/AP conglomerate moves into XP, and XP moves as a whole into [Spec,DemP]. The derivation of (TS2/17 T2R9C2) should help to illustrate this:

(5)





2.5 Possessives and Genitives

Possessive pronouns in Nawdm appear at the beginning of the DP in which they act as a possessor. Judging from the data so far, possessive pronouns are incompatible with demonstratives, but they seem (based on Szalai's notes) to indicate specificity in some cases. Some examples:

(TS2/17 T2R10C1) mà bàːgá
my dog-cl
my dog

(TS2/17 T2R11C1) mà bàːʔé
my dog-cl(pl)
my dogs

(TS2/17 T2R12C1) mà bàhɔ́ːlə̀gə̆ː
my dog-black-cl-spec
my black dog

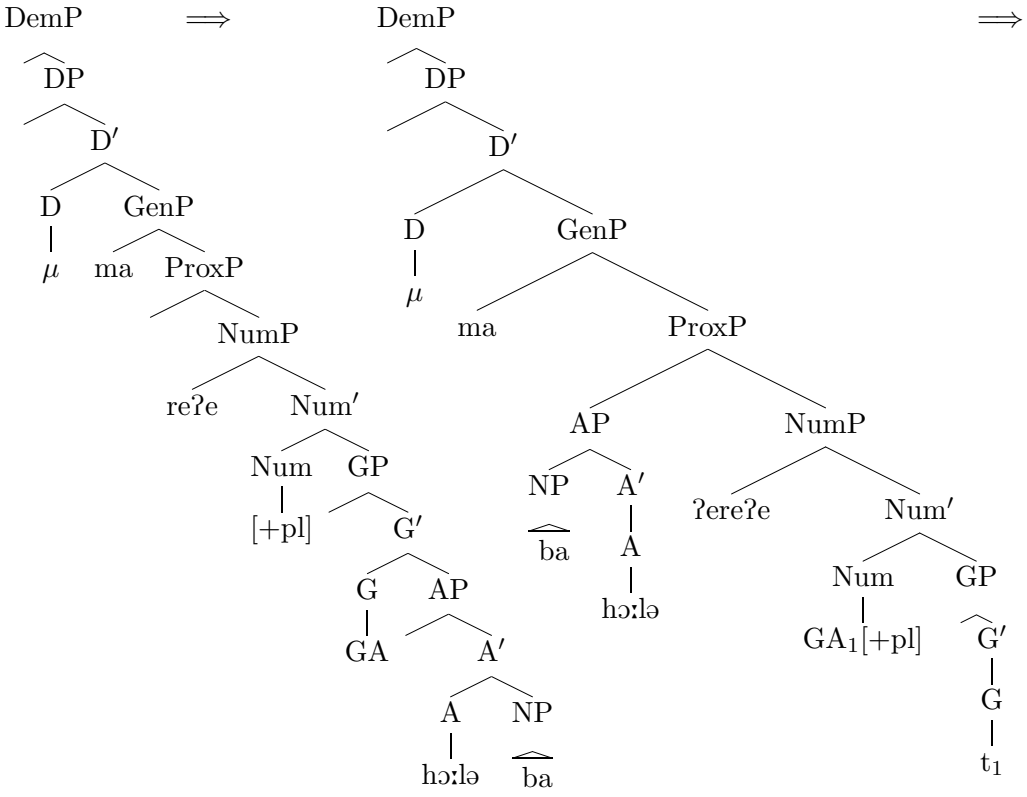
(TS2/17 T2R14C1) mà bàʔé ʔèréʔĕː
my dog-cl(pl) cl-two-cl-spec
my two dogs

(TS2/17 T2R15C1) mà bàhɔ́ːlə̀ʔé ʔèréʔĕː
my dog-black-cl(pl) cl-two-cl-spec

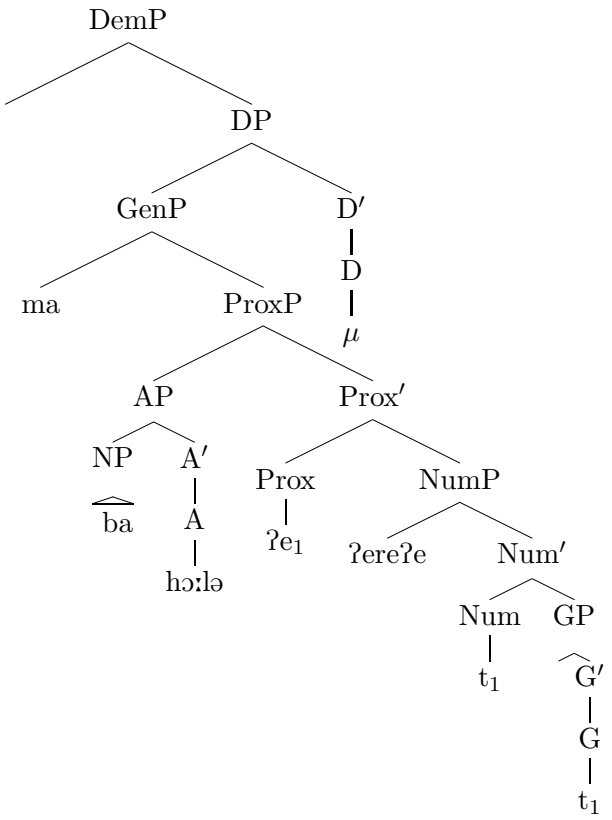
my two black dogs

To account for these patterns, I will suggest that there is a "Genitive Phrase" (GenP) between DP and ProxP, that possessives and genitives (as we will see later) appear in the Specifier of this clause, and that, rather than ProxP moving to [Spec,DP]/[Spec,DemP] (see above), GenP moves there. Since (and to account for the fact that) possessives are incompatible with demonstratives, and because the NP/AP complex only needed to move to a position above [Spec,ProxP] in the case of "this" demonstratives, where [Spec,ProxP] was full, I suggest that the XP referred to above was actually GenP, and that the NP/AP complex usually moves to [Spec,ProxP], but when blocked by the presence of "this" in that position, NP/AP moves to [Spec,GenP]. A derivation for (TS2/17 T2R15C1) follows[3]:

(6)



[3]This derivation leaves off empty X′ levels to save space.



Phrases with full-DP possessors work exactly the same way, with the exception that a lot more material can go in [Spec,GP] (a full DP):

(CN571) bá꞉gá꞉ hâ꞉rě꞉
dog-spec house-spec
the house of the dog

(CN573) bá꞉gáŋ ké꞉ŋgà꞉ há꞉ré
dog*1*-n cl*1*-this-spec house
the house of this dog

(CN574) bá꞉gáŋ ké꞉ŋgà꞉ há mɔ̀n dě꞉
dog*1*-n cl*1*-this-spec house*2* red cl*2*-spec
the red house of this dog

(CN576) bá hɔ́lèʔe ènnòʔè꞉ háyá ʔànòʔà ándɛ́ bò꞉lè ɛ̌꞉ dɛ̀ bɛ́ mɔ̀lá
dog*1* black-cl*1* cl*1*-five-cl*1*-spec house*2*-pl cl*2*-five-cl*2* he-n-then burn cl*2*-spec then be red-cl*2*
The five black dogs' five houses he burned were red.

From these examples it can be seen that genitives are of the form DemP+DP or possibly DemP+DemP. An elicitation of the form "that house of this dog" is necessary to refine the structure. The analysis presented here would predict an order of "that dog-this house-the."

2.6 Relative Clauses

Relative clauses consist of a head noun (which is less than a full DemP/DP), followed by a sentence from which the noun has been extracted, followed by the noun class marker and specificity lengthening. The following examples illustrate which components can go into the "head noun" position[4]:

(DA6 22) dèndĕːn dɛ́ tùgəːdègè bùrùgú màndɛ́ lɔ̀grè kŭː
yesterday then attach-perfect goat I-then take-perfect it-specific

Yesterday you attached the goat I took

(DA6 22) shows that simple nouns can be head nouns. It also shows that the class marker appears both on the end of the noun and at the end of the relative clause. Specificity marking appears only at the end of the clause.

(CN407) ándɛ́ bòːlè kɔ́fɛ́ŋgàː tĭː dɛ̀ dʒàrèŋgè má
he-n-then burn-perf village-the it-manner-specific then bother-perf me

The way he burned the village bothered me.

(CN410) ámbáː dʒùm bòdòbòdò lĕː mà bâː dɛ̂n búgə́dègĕm á kɔ́fɛ́ŋgá
he-n-will eat bread it-time-specific I will den burn his village

While he is eating the bread I will burn his village

(CN407) and (CN410) show that there are relative clauses with no head noun, if the head referred to is a time or manner element.

(DA8 1) mà hŭ̋ŋé bùrù hɔ́ːlə gó mà n̩ dɛ́ tùgùdà kŭː dʒúgún
I forget goat black go I n then attach-perf it-goat-specific head-in

I forgot about the black goat I attached yesterday.

(CN568) kɔ̀fín(e) ʔèré tèndɛ́ bòːlé ĕː bɛ́ tàːmán
village cl-2-cl we-n-then burn cl-spec be close

The two villages we burned are close.

(CN572) báːgá hâːrè ándɛ́ bóːlè dĕː dɛ̀ bɛ́ mɔ̀ndé
dog house$_1$ he-n-then burn cl$_1$-spec then be red-cl$_1$

The dog's house that he burned was red.[5]

(CN575) báːgáŋ kɛ́náʔá hámɔ̀ndè ándé bòːlè dĕː tíndə́gé hɔ̂ːndè
dog$_1$-n cl$_1$-this-spec house$_2$-red-cl$_2$ he-n-then burn cl$_2$-spec become black-cl$_2$

This dog's red house he burned has become black.

(CN576) bá hɔ́ləʔe ènnòʔèː háyá ʔànòʔà ándɛ́ bòːlè ĕː dɛ̀ bɛ́ mɔ̀lá
dog$_1$ black-cl$_1$ cl$_1$-five-cl$_1$-spec house$_2$-pl cl$_2$-five-cl$_2$ he-n-then burn cl$_2$-spec then be red-cl$_2$

The five black dogs' five houses he burned were red.

[4]Items from my session notes are identified by the initials "DA" followed by the session number.
[5]Can't lengthen final vowel of "dog".

The above examples show that head nouns can be modified by adjectives and quantifiers, and that they can be the object of a possessor.

(DA9 2) * bodobodo ʔo ran pare ʔoː andɛ bole ʔoː
bread it comes-from Paris cl-spec he-n-then burn cl-spec
the bread from Paris that he burned [6]

Example (DA9 2) shows that it is not possible to extract a head that includes a relative clause from within a relative clause. That is, the head of a relative clause may not have a relative clause within it.

(DA9 10) láʔá ná láʔá búrúgú màn dɛ́ tògədègè kŏː mĕː kùná
that not that goat I-n then attach cl-spec but this
Not that goat I attached, this goat I attached! [7]

It is not exactly clear what example (DA9 10) shows, except that the head noun of a relative clause may be modified by a "that"-type demonstrative. I believe it also, in conjunction with an unrecorded, failed earlier attempt to elicit a head noun modified by a "this"-type demonstrative, shows that the head noun of a relative clause must not be modified by a "this"-type demonstrative. There is a fundamental asymmetry between the two types of demonstratives.

To account for these data, I propose, following Kayne (more or less) (1994), that DPs with relative clauses are like normal DPs except that some part of the DP below ProxP has been replaced with a CP[8]. The CP itself is the relative clause, and the head of the relative clause is found in [Spec, CP]. This head is of category ProxP, and thus can contain nouns, adjectives, and quantifiers, along with the class marker. Demonstratives of the "this" type, although hypothesized to originate in [Spec,ProxP], cannot appear in the head, because these demonstratives need to move to [Spec,DP] (as mentioned above) to meet some sort of featural requirement, and they could not jump out of the CP, so any derivation with a "this" demonstrative originating in the head of the relative will crash. The CP itself moves into [Spec,ProxP] at some point in the derivation, and a class marker agreeing with the relative clause head appears under Prox as a result of some sort of agreement. The GenP of the main DP then moves to [Spec,DP], thus causing specificity to be marked on the class marker that was in Prox. Thus "that" demonstratives should have scope over the entire DemP including the relative clause, not just the head noun, and similarly with possessors of the head noun. To try to make this clear, the hypothesized surface structure of (CN576) will appear below[9]:

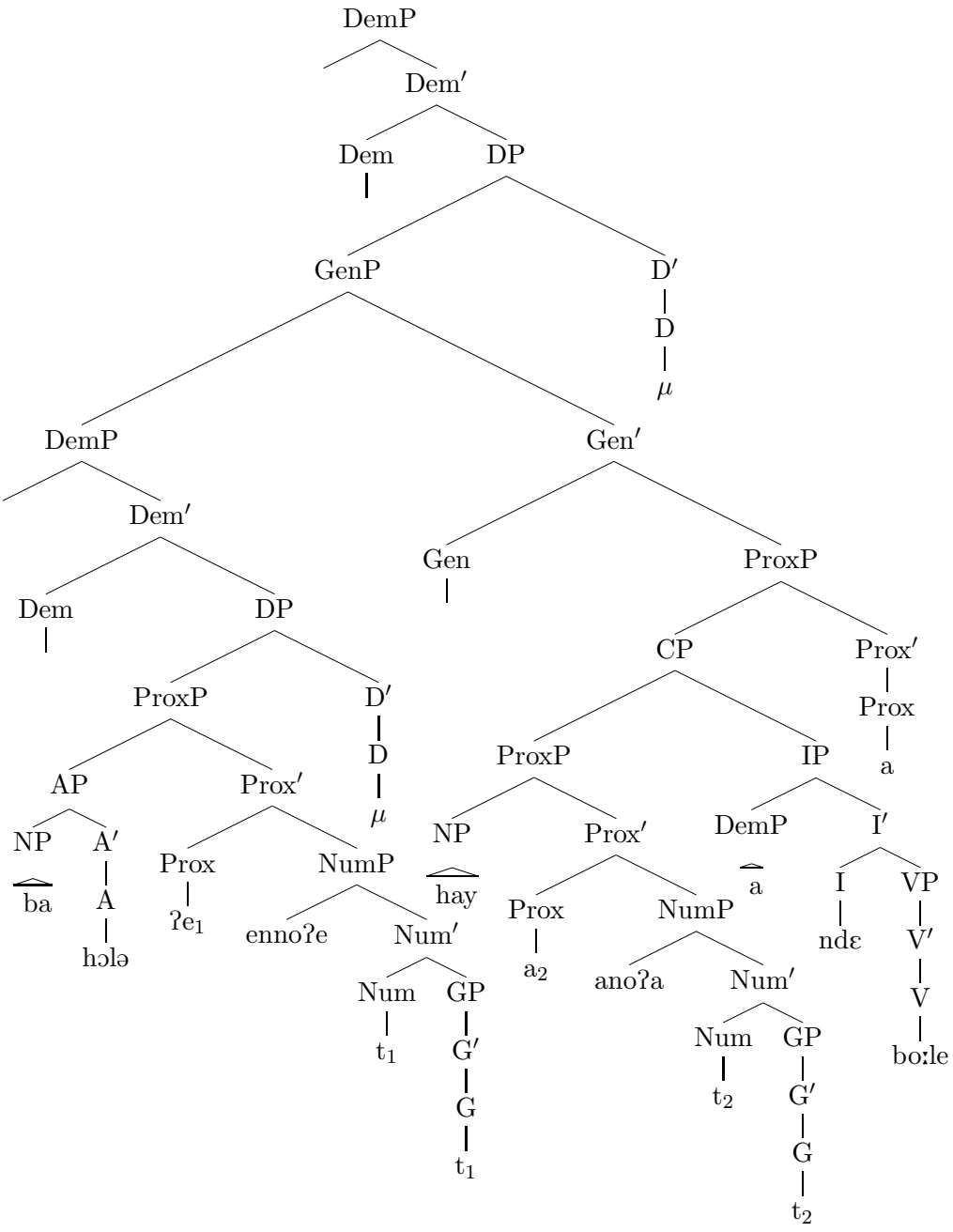
[6] This is not allowed. Instead, must use "Paris bread that he burned."

[7] Can't say anything else after "kuna." "me:" is French "mais."

[8] The question of where exactly the CP originates perhaps has some bearing on the structure of gerunds. The question is beyond the scope of this paper, however.

[9] I hope the reader will forgive me for not giving a complete derivation here.

(7)



3 Discussion

There are a number of areas that have been left out of this analysis for lack of space and time. A fair amount of data has been gathered of conjunctions within DPs, and an account of this data might be instructive, although I believe it will be consistent with the analysis above. Other than conjunctions, the above section points out a few areas of investigation bearing on the constituents that have been examined here, such as the elicitation of sentences such as "that house of this dog" to determine the exact structure of demonstratives, and deeper investigation of quantifiers in relation

to the other parts of DPs. Another topic that has not been discussed here is gerund phrases. Here some data has already been gathered, but an analysis of the data would not fit within this squib. Finally, while in general Nawdm does not allow nouns to be modified by prepositional phrases (favoring genitives instead), there is one exception—the preposition *n* ("with"), which appears as a NP-modifier in only one example, as far as I am aware:

(MB2/19 6) k͡pɛ̀lé ɛ̀n náŋk͡pàʔé ʔènàːʔé
table with leg-cl(pl) cl-four-cl
a table with four legs

More data is needed to see where the prepositional phrase might fit into the overall DemP/DP.

References

KAYNE, R. 1994. *The Antisymmetry of Syntax*. Linguistic Inquiry monographs. Cambridge, MA: MIT Press.