Re: Unpublished Manuscript: "Kom Tonology"

The following is a manuscript I typed up in the Fall of 1984 but never finished. Since it goes into great detail on Kom nominal tonology, I thought I would post and make it available to others. It ends with an appendix of 'noun of noun' paradigms, the basis for much of the work on Kom tonology.

As will be seen, although Kom has a surface contrast between H, M, L, and L° (a L tone that does not downglide before pause), it can be readily analyzed with two underlying tones /H/ and /L/, certainly the situation in the proto language. What is needed is floating tones and rules of H and L tone spreading, which have slightly different properties.

Parts of what follows have been discussed in other publications of mine, particularly the following:

Hyman, Larry M. 1988. Syllable structure constraints on tonal contours. *Linguistique Africaine* 1.49-60.

Hyman, Larry M. 2005. Initial vowel and prefix tone in Kom: Related to the Bantu augment? In Koen Bostoen & Jacky Maniacky (eds), *Studies in comparative linguistics with special focus on Bantu and Mande: Essays in honour of Y. Bastin and C. Grégoire*, 313-341. Köln: Rüdiger Köppe Verlag.

Hyman, Larry M. 2018. Towards a typology of tone changes. In Haruo Kubozono & Mikio Giriko (eds), *Tonal change and neutralization*, 7-26. De Gruyter Mouton.

Larry Hyman, March 14, 2019

KOM TONOLOGY

0. INTRODUCTION

The purpose of this study is to provide a detailed account of the
tonology of Kom, a Western Grassfields Bantu language spoken in Cameroon.
Previous studies on related languages of this area have revealed complex
tonal systems that bear on crucial issues in the theoretical study of
tone in general. In the present study we shall similarly be interested
both in constructing a comprehensive description of the Kom tonal system
and in commenting on several theoretical issues to which Kom has some-
thing to contribute. Finally, since this and past studies have benefit-
ted from the comparative material available to us, we shall on occasion
refer to related languages in the group in order to elucidate the speci-
fic properties of Kom.

0.1. Grassfields Bantu

As mentioned, Kom belongs to the group of Cameroonian languages
known as Grassfields Bantu (GB). This group has, after years of neglect,
received considerable recent attention in the literature. There have
been three collections of a comparative/historical nature (Voorhoeve
1971a; Hyman and Voorhoeve 1980; Hyman 1980a) as well as several vol-
umes dealing with the phonological and grammatical properties of indi-
vidual GB languages (Hyman 1972; Leroy 197 ; Hyman 1979a; Nissim 198).
These works and the references cited therein deal both with diachronic
and synchronic issues--especially concerning the interlocking tone and
noun class systems (see Dunstan 1966 for the earliest statement on this
relationship).

In 1974 the Grassfields Bantu Working Group (GBWG) was established
with the purpose of further documenting the GB languages, especially

those scores of languages and dialects which remained virtually unstudied.
The results of the group's 1974 survey work, emphasizing the noun lexicon
and noun classes, are to be found in Hyman and Voorhoeve (1980). Stallcup's
(1980a) introductory chapter establishes that the GB group consists of two
subbranches: Western Grassfields Bantu (WGB) and Eastern Grassfields Bantu
(EGB), the latter formerly known as the Mbam-Nkam group (consisting of
Bali, Bamun, and the Bamileke and Ngemba languages, among others). Up
until 1974 almost all of our knowledge beyond simple word lists emanated
from the EGB subbranch, whose noun classes bear morphological resemblance
to those of the better known Narrow Bantu languages extending through
Central, Eastern and Southern Africa. The noun classes of the WGB lan-
guages, on the other hand, bear closer resemblance to West African lan-
guages outside of Bantu, in particular to those surveyed by de Wolf (1971).
This difference provided the major, though not the sole criterion dis-
tinguishing between the two subbranches.

Within WGB the picture is somewhat less clear. Stallcup (1980b)
establishes a Momo subgroup to which Moghamo, Ngie and Oshie belong,
among others. Hyman (1980b) establishes the Ring subgroup, which in-
cludes a group of languages/dialects spoken in the Wum area (of which
Aghem is the best known), Kom and some closely related languages/dia-
lects spoken North of Bamenda, and Lamnso and a few small languages
spoken in the Ndop Plain/Banso areas. It is not clear how many of these
should be viewed as separate languages and how many are only dialect
variants of a single language, since we have in this subgroup a continuum
or areal effect. Thus, Bafmeng and Bum seem somewhat intermediate be-
tween Kom and Aghem, and Oku seems, impressionistically, 2/3 Kom, 1/3
Lamnso in its morphological and phonological properties. Finally, Ba-
banki spoken to the south of Kom, has certain features in common with

the Ngemba languages on which it borders, these languages belonging in fact
to EGB. This areal effect makes it difficult to speak with authority on
the appropriate linguistic subgroupings at a low level.

Stallcup (1980a) included two other units within WGB: the Mundani-
Njen group and the Beba-Befang or Menchum group. The former may not have
been a unit at all--the languages/dialects of this area either are to be
added to the neighboring Momo unit, or they are not GB at all, but rather
are to be grouped with languages spoken in the South West Province (i.e.
Mamfe area). The latter consists of languages that bear resemblance to
certain WGB languages, but which show importance differences from both
Momo and Ring. Needless to say, additional work is required in virtually
all subgroups.

0.2. The Kom language

As indicated in the preceding section, Kom belongs to the Ring sub-
group of WGB. It is, with Lamnso, one of the most populous of these lan-
guages and an important one for its central geographic location. It was
first studied by Bruens (19), though this early description, full as it
is of phonetic inaccuracies, is of only limited interest. Chia (197),
on the other hand, provides certain information on Kom, though his inter-
est is mostly in the verbal morphology, not the tone or noun class sys-
tems. Kom has thus been singularly neglected.

In order to get information on what its tone and noun class systems
might be like, it is thus necessary to look at descriptions of closely
related languages. Hyman (1980b) gives comparative information on the
noun class systems of the languages/dialects of this group and a detailed
account of the noun class system of Babanki, one of the closest relatives
to Kom. Hyman (1979) documents the tone system and further information
on the interplay between tone and noun classes. It is here that we first

see the striking resemblance between the Momo and the Ring languages: Asongwed and Hyman (1976) had been the first to demonstrate a curious tonal quirk in the noun class morphology of the WGB languages. They demonstrate that the second noun (N2) of a "N1 of N2" possessive or "associative" construction always has a L tone prefix underlyingly, though nouns of most noun classes have an underlying H tone prefix in most other contexts. In other words, there appears to be a morphologically conditioned rule assigning L tone to the prefixes of "possessor" nouns. This observation made for Ngamambo, a Momo language, has been replicated in other Momo languages, especially by Hombert (1976, 1980?) for Ngie. Hyman (1979) and in unpublished work has determined that all Ring and Momo languages have this property. (It is not known to what extent this property is found in the Menchum languages surveyed in 1977 by Marie Anne Boum, though it may be in some of them--this will help determine whether these languages ought to be included within the WGB group and whether this tonal "quirk" is justifiably invoked as a criterial feature of WGB.) We shall see in subsequent sections that Kom has this property as well and that there are two contexts where all nouns are required to have an underlying L tone prefix: N2 and N1 following the locative preposition $\bar{a}$-.

0.3. Surface tones of Kom

One of the most interesting observations concerning the tone systems of this area is that within one subgroup different systems may derive from exactly the same underlying representations. In particular, closely related languages may differ in whether they have a discrete- or a terrace-level tone system. I believe that it is possible to show that this difference is attributable to areal distribution within GB in general. The issue is whether a language develops a downstepped high tone (!H) or a mid (M) tone as its third "toneme" distinct from high and low. The southern,

(Fe'fe', Nda'nda') and Northern (Limbum, Adere) edges of EGB have M tone,
while all of the rest of EGB has !H. Within WGB, all of the Momo languages
have M tone, while the Ring languages have both. Within the latter, the
M tone languages include Kom, Mbizinaku, Oku, Bafmeng and Bum (all very
closely related) and Lamnso (as reported by Grebe 19). !H languages in-
clude the Wum languages (e.g. Aghem) and Babanki. It is important to ask
how these differences came about, though we shall have to postpone this
question until later.

Kom, then, is a discrete-level tone language, lacking the downstep
phenomenon altogether. It also lacks intonational downdrift, though it
does have prepausal "downglide" (Stewart 1973). The following ~~kanxmQm~~
on the last syllable
nouns illustrate the surface contrasts found before pause:

(1) ə́-bʉ́   'dog'   (H)   ə̄-cvô   (HL)   'mouth'

     ə̄-ndɔ̄ŋ   'horn' (M)   ə̄-wʉ́ʈn   (HM)   'body'

     ə̄-bò   'bag'   (L)   ə̄-njàm° (L°)   'axe'

The left column illustrates the three surface tone levels: high (H), mid (M)
and low (L). These three tones can combine in a limited fashion to create
contour tones, two of which are seen in the right column: 'mouth' has a
high-low (HL) contour, while 'body' has a high-mid (HM) contour. It will
be seen that contours are simply a sequence of level tones associated onto
the same syllabic unit. The remaining contours (ML, LM, MH) are limited
and will arise only in certain grammatical contexts. They are not found
on citation forms of noun stems before pause. Finally, it is observed,
as in other GB languages, that the L tone of 'bag', which falls before
pause, contrasts with the L° tone of 'axe', which remains level before
pause. In other words, there is a falling-L/level-L opposition realized
only before pause. As in the other GB languages, this difference depends
on the absence (L) vs. presence (L°) of a "floating" H tone in underlying

these occur in various combinations, the issue will have to be addressed
ultimately as to whether these are vowel sequences or dipthongs, and if
the later, whether the diphthongs should be considered as having two "moras"
or one. The vowel symbols are straightforward except for ɨ and ơ. These
are very close and strident vowels, giving the impression in fact of syl-
labic fricatives, i.e. z̧ and ɣ̧, particularly in the latter case (e.g. T-fô̂:
'leaf' sounds like T-fv́v̄).

   While there are many open questions on the proper analysis of Kom
segments, there is no evidence that the resolution of these questions will
bear on any of the issues raised in this paper. For example, there is no
opposition between VV vs. V.V within morphemes, so as long as this dis-
tinction holds up we can postpone the question of how to represent intra-
morphemic VV. (In several cases it would seem to be clear that VV should
be analyzed with a single unit on the central tier, but we will not ad-
dress this issue here.)

0.5. Phonological theory

   We will attempt in this paper to do, perhaps, the impossible: keep
theoretical discussion to a minimum, but develop issues which are of the-
oretical significance. Our main goal is to present the tone and noun
class systems of Kom. These systems present an enormous descriptive under-
taking in themselves. Aspects of the tonal analysis bear, of course, on
issues currently being debated within phonological circles. One of these
has been alluded to: the proper understanding on the "central tier". It
is of potential interest to know whether vowel and consonant sequences are
represented with one vs. two core elements, e.g.

(3)   x   x   vs.   x   x   x   vs.   x
           | | / \ | | / \
           k   f   k   f   ɔ   i   ɔ   i

For most of the description to follow we shall sidestep this issue. However, there is an important aspect of the debate on the central tier which will be of relevance: in a crucial tone readjustment rule, reference must be made to the loss of a tone-bearing unit in just an environment where my own approach makes this prediction. It will thus be argued, following Hyman (1984; in press) that the core consists of weight units (WU's), each indicated by an x, which at any given stage in the derivation represent the potential tone-bearing units of a language.

The general theoretical framework will otherwise follow the theory of autosegmental phonology (Goldsmith 1976ab) incorporating some, though not all of the modifications proposed by Haraguchi (1977) and Clements and Ford (1979). We also will have occasion to invoke the notions of underspecification and extratonality (Pulleyblank 1983) when dealing with specific tonal problems. The result, we believe, is an approvement over segmental accounts of GB languages as have appeared in print (Hyman and Tadadjeu 1976; Asongwed and Hyman 1976; Hyman 1979; Nissim 198 ; Leroy 1979).

0.6. Outline of the study

We shall begin this study with a general presentation of the noun class system, since noun classes figure so importantly in the tonal account. Almost all descriptions of GB tone systems have concentrated only on the noun phrase. We shall do likewise, though we have collected considerable material on verb forms and find no difficulty in extending our analysis to the verb phrase. After the noun classes have been presented in section 1, we shall establish the underlying representations of noun forms in section 2 and then turn to the associative construction in subsequent sections.

1. NOUN CLASSES AND GENDERS

In this section we shall identify and exemplify the different noun classes recognized in Kom and the genders in which they participate.

1.1. <u>Noun classes</u>

As in Bantu in general, each noun in Kom, whether singular, plural or mass, belongs to a noun class. Each such noun class is assigned a number as well, as seen in the following table.

(4) CLASS	NOUN AFFIX	1	2	3	EXAMPLE	GLOSS
1	∅	wù	ə̀	ə̀	(ə̄)wáin	'child'
2	∅	ɣə́	ə́	ɣə̀	(ə̄)ɣɔ́in	'children'
3	ə-(w)	wú	ə́	ə̀w	ə̄-lwέ̄ŋ	'bamboo'
4	i-	yí	í	ì	T-lέ̄ŋ	'bamboos'
5	i-	yí	í	ì	T-sɔ́ŋ̄	'tooth'
6	a-	kə́	á	à	ə̄-sɔ́ŋ̄	'teeth'
7	a-	kə́	á	à	ə̄-tâ?	'snail'
8	ə-(w)	wú	ə́	ə̀w	ə̄-twâ?	'snails'
9	∅	yì	ə̀	ì	(ə̄)bú	'dog'
10	-sə́	sə́	sə́	sə̀	(ə̄)bú-sə̄	'dogs'
13	tə-	tə́	tə́	tə̀	(ə̄)tə̄-yáf	'pains'
19	fə-	fə́	fə́	fə̀	(ə̄)fə̄-ɲúTn	'bird'
6a	mə-	mə̀	mə̀	ə̀n	(ə̄)mə̄-ɲúTn	'birds'

The seven columns provide the following information:

(i) Number of the noun class. These numbers have long been estab-lished in Bantu studies and we retain them here for easy comparison with related languages. As seen, Kom recognizes Bantu classes 1-10, 13, 19 and 6a, whose contents are provided below.

(ii) The affix marking the class on the noun itself. As seen, there are three possibilities: (a) no affix [classes 1, 2, 9]; (b) a suffix [class 10]; and (c) a prefix [classes 3, 4, 5, 6, 7, 8, 10, 13, 19, 6a]. For discussion on the Ø prefix classes, see the next section, where a case is made for reconstructing an earlier prefix. In the case of the ə-ʷ prefix of classes 3 and 8, the ʷ stands for the labializing or labiodental-izing effect on the first consonant of the stem (see the examples; also remaining illustrations below). No tone is given on the noun class pre-fixes, since this is the subject of our study. It has already been sug-gested that the underlying tone is H in some cases and L in others, de-pending on grammatical considerations (and, as we shall see, on noun class and even lexical information). The class 10 suffix -sə́, on the other hand, clearly carries H tone underlyingly, though, as we shall see, it too undergoes tonal alternations.

(iii). #1: Subject pronouns corresponding to each class. As seen, these are of the structure CV for each class, though classes 1, 9 and 6a differ from the remaining classes in having a L tone subject pronoun as opposed to the others' H tone subject pronoun.

(iv) #2: The associative marker appearing between N1 and N2, i.e. the topic of much of this paper to follow.

(v) #3: The numeral concords occurring between the noun and a fol-lowing numeral. Again the labial(dental)izing effect of classes 3 and 8 is indicated, also the unusual (metathesized?) əN concord of class 6a.

(vi) An example is given of each class. The schwa's which are in parentheses represent the initial vowel (IV) which occurs overtly on nouns of classes 1, 2, 9, 10, 13, 19, and 6a; i.e. on nouns belonging to classes which either (a) have no prefix; or (b) have a CV- prefix. Even where the schwa is not present, phonetically, it will be argued that the

IV morpheme still is there underlyingly (see below). The forms given as examples thus appear as they would be pronounced in citation form--where the schwa's in parentheses would also be pronounced. Note that the schwas of classes 3 and 8 are real noun class prefixes, not instances of the IV.

(vii) The gloss of each noun is given, revealing in many cases a singular-plural relationship between nouns in different classes. This is the subject of the following section. For the present purpose this observation is important only because it provides the major argument for distinguishing classes 3 and 8, 4 and 5, and 6 and 7. These pairs of classes are _formally_ identically in all contexts. In a purely synchronic analyses we might renumber the noun classes and provide a single number to each of these pairs. Because we have wanted to maintain the comparability with other languages, we have not done so here. (The same argument could be made, at least, for renumbering classes 13, 19 and 6a, i.e. as classes 13, 11 and 12, say, since these numbers are synchronically arbitrary in Kom [cf. Hyman 1981 for Noni, where this is in fact done]). The basic argument for distinguishing these class pairs is one of semantics only: classes 3, 5 and 7 are _singular_ classes, while classes 8, 4 and 6 are _plural_ classes. In any case, it should be noted that there is only one noun that was found still to have a class 4 plural (i.e. 'bamboo(s)')--except for it, we would not have this noun class at all. (Surrounding languages represent represent both where Kom is coming from and where it is going: some have a few more nouns with a class 4 plural; others have no class 4 plurals and hence no class 4 at all; the same variation is found in the Momo languages.)

1.2. Noun genders

When two classes join together to form a singular/plural pair, we term this pair a "gender" in Bantu. A noun having only one form (e.g.

because it is semantically a mass noun, or perhaps because it is simply defective for whatever reason) is viewed as a single class gender. In this section we shall present each of the genders documented along with several examples of each one for future reference.

Gender 1/2 [n=6]

As seen from the following examples, all of the nouns in this gender have human referents, as expected throughout Bantu and GB:

(5) ə̄-wáin/ə̄-yɔ́in   'child/children'

ə̄-lóm/ə̄-yə̄-lóm   'husband(s)'

ə̄-nàbè°/ə̄-yə̀-nàbē)   'mother(s)'   [='mother of compound']

ə̄-bò/ə̄-bǒʔ   'owner(s)'   [plural unclear; needs checking]

ə̄-wúl/ə̄-yɛ́lə̄   'person(s)'

ə̄-wí/ə̀-kì°   'wife/wives'

These examples demonstrate also that there is considerable irregularity in this gender. It is not possible to predict the plural from the singular or vice-versa. There seems to be in the case of 'child' and 'person' and in the singular form of 'wife' evidence of an earlier w- vs. y- prefix opposition (cf. the subject pronouns in (4): wù vs. yə́). The phonetic [y] derives from an earlier voiced labial obstruent (e.g. [b], [β] or [ɓ]), as suggested in Hyman (1980c). This gender thus is to be identified in all ways with de Wolf's ù-/bá- gender.

The above six nouns represent all of the 1/2 nouns we have found. Other nouns having human referents are found in other genders. Additional human nouns expected to be in 1/2 are so, but consist of compounds involving one of the above nouns (already 'mother' is a compound, as indicated):

(6) ə̄-bòbè°/ə̄-yə̀-bǒbē   'father(s)'   [='father of compound]

ə̄-wáin wī / ə̄-wɔ́in yə̄-kì°   'girl(s)'

ə-wáiǹ wàin°/ ə-wɔ́in wɔ̄in 'grandchild/grandchildren' [=child of child]

ə-wúl ə-lōm̀nə̀ / ə-ɣɛ́l ə-ɣə̄-lōm̀nə̀ 'man' [=person male]

ə-wúl ə-wⲦ / ə-ɣɛ́l ə-ɣə̀-kì° 'woman' [=person female]

The use of the nouns meaning 'husband' and 'wife' in isolation, seen in (5), as a second element in these (and other) forms is made possible via the adjectival concords, which for 1/2 are ə̄- and ə̄-ɣə̄-. The plural nouns 'husbands' and 'mothers' in (5) might themselves suggest an earlier noun class prefix ɣə̄- for class 2, though this will not concern us here.

  Recall, finally, that the initial schwa on the 1/2 forms in (5) and (6) is <u>not</u> a noun class prefix, but rather the IV spoken of earlier.

Gender 1/13 [n=1]

  A single noun ə̄-fɔ́in (~ə̄-fɔ̂in?) 'child', plural ə̄-tə̄-fɔ̂in, constitutes this gender. It was hypothesized (Hyman 1980b) that the singular may have come from another class, e.g. 5/13, having the meaning 'royalty' with the singular having shifted to class 1, but the plural remaining in class 13. On the other hand, this noun is probably a often-borrowed one in the GB region, and there may be some other explanation for this highly irregular pairing.

Gender 3/4 [n=1]

  As mentioned earlier, a singular noun, ə̄-lwɛ́ŋ 'bamboo' (pl. Ⲧ-léŋ) constitutes this gender which, in any case, is on its way out in Kom, as well as in nearby languages.

Gender 3/6 [n=4]

Only the following four nouns belong to this gender, as far as we know:

(7) ə̄-kwǽ̀/ə̄- 'arm(s)' ə̄-fwɛ́n/ə̄- 'leg(s)'

  ə̄-wúⲦn/ə̄- 'body/bodies' ə̄-cvɔ̂/ə̄- 'mouth(es)'

All four nouns are body parts and may once have belonged to another gender (e.g. one whose singular may have been a class no longer occurring in Kom, e.g. 12, 14 or 15). Note that the labializing effect of the singular prefix is maintained in the plural, e.g. ā-fwén 'legs', even though it most certainly was attributable to the class 3 prefix historically.

3/6a [n=4]

This gender also has only four members in our corpus.

(8) D ā-kɔ́in / ā-mā-kɔ́in   'bed(s)'

     A ā-lvôa / ā-mā-lǘ   'belly/bellies'

     C ā-kwɔ́` / ā-mā-kwɔ́`   'money/monies' [also 3/13]

        (ā-cá?àlə̀ / ā-mā-cá?àlə̀) 'mud(s)'

3/13 [n=4+1]

This final gender involving singular class 3 also has only four members (five, if we count 'money' which occurrs in either 3/6a or 3/13):

(9) C ā-fǘas`/ā-tā-fǘas`   'branch(es)'

     A ā-lûo / ā-tā-lûo   'bridge(s)'

     C ā-kɔ́?` / ā-tā-kɔ́?`   'ladder(s)'

     F ā-ǹkɔ̀in°/ ā-tə̀-nkɔ̀in°   'tail(s)'

Only 14 nouns have thus been found in genders involving a class 3 prefix. One might ask whether class 3 is unstable (having merged, for example, in Babanki Tungo with class 5).

Gender 5/6 [n=18]

The following 18 nouns have been found in this gender:

(10)   T-kɔ́in`/ā-   'bean(s)'   T-wóm̄/ā-   'egg(s)'

        T-sás`/ā-      'bottom(s)'     T-sǘ`/ā-   'eye(s)'

        T-ɣɛ́n`/ā-   'breast(s)'   T-kə̂?/ā-   'face(s)'

T-lvɔ̀́/ā-	'knee(s)'	T-bɔ́ʔ/ā-	'pumpkin(s)'
T-sáŋ/ā-	'maize(s)'	T-ɣáŋ/ā-	'root(s)'
T-yín/ā-	'name(s)'	T-ɣɔ́m/ā-	'shoulder(s)'
T-tɔ́ŋ/ā-	'navel(s)'	T-lɛ́mí/ā-	'tongue(s)'
T-sɔ́m/ā-	'palmtree(s)'	T-sɔ́ŋ/ā-	'tooth/teeth'
T-kɛ́l/ā-	'penis(es)'	T-lúm/ā-	'yam(s) [sweet sp.]'

Ten of the 18 nouns are body parts (including 'bottom', which also means 'buttock'), though body parts obviously do not all belong to this gender.

Gender 5/13 [n=5̶4̶ 3]

This is a very large gender in part because deverbal nouns fall into it and swell its membership. The following 22 deverbal nouns (possibly treatable as a sort of "infinitive") have been identified:

(11)

T-bɛ́̀/ə̄-tā-	'bigness'	T-tɔ́ʔɔ̀nə̀/ə̄-tā-	'kindness'
T-lû̃	'bitterness'	T-sáʔ̀	'law'
T-tɔ́f̀	'cleverness'	T-dîɛf	'length'
T-sáiǹ	'coldness'	T-jáʔ̀	'madness'
T-bíǹ	'dance'	T-yáf̀	'pain'
T-cɛ́ŋ̀	'dance'	T-kɔ́ʔɔ́sɛ́̀	'praise'
T-kfɔ́̀	'death'	T-cvɔ̂nə̀	'promise'
~~T̶x̶b̶ɛ̶~~	'	T-lɛ́ǹ	'slipperiness'
T-fâin	'fear'	T-lɛ́̀	'smallness'
T-kɔ́ʔí	'illness'	T-ncùa°	'sting' T̀ncū̄a
T-yûs	'itch'	T-fɛ̂l	'work'
T-jɛ̂l	'journey'		

Some of the glosses clearly reveal the deverbal nature of the above 5/13 nouns ('bigness' from 'to be big', 'bitterness' from 'to be bitter' etc.). Some of the plural forms are probably more natural than others, though the consultant supplied the class 13 forms without coercion. Since class 13

appears to be the productive plural class, this is not surprising.

In addition to the above deverbal nouns, the following 31 nouns have been found in gender 5/13. A few of these may also be deverbal, but have not been identified as such.

(12)

	T̄-fôʔ/ə̄-tə̄-	'basket'		T̄-kɛ̀lákɛ́l/ə̄-tə̀-	'hook'
	T̄-fɔ́m̀	'brain, marrow'		T̄-káŋ̀	'jar'
	T̄-bóʔ	'bundle'		T̄-bɪ́⁻	'kolanut'
	T̄-fô	'cave, cutlass'		T̄-fɔ́⁻	'leaf'
	T̄-káŋ̄	'ceiling'		T̄-bʉ́	'pit'
	T̄-láʔ̀	'country'		T̄-ǹgɔ̀m°	'plantain, banana'
	T̄-ǹfɔ̀m°	'crocodile'		T̄-ɣáʔàlə̀	'rib cage'
DV?	T̄-kúò	'debt'		T̄-wú	'rock'
	T̄-wɔ̀ŋáwɔ̄ŋ	'earthworm'	DV?	T̄-wúmí	'shame'
	T̄-só̀	'fat'		T̄-žvó	'sky'
	T̄-vêl	'feather'		T̄-ɣɔ́ŋ̄	'spear'
DV?	T̄-jə̂ŋtə̀	'foolishness'		T̄-tɪ́	'stone'
DV?	T̄-jáŋná	'giddiness'		T̄-dzɪ̄⁻	'termite'
	T̄-sê	'grave'		T̄-bál̀	'valley'
	T̄-lúŋ	'handpiano'		T̄-wô	'wing'
	T̄-kál̀	'headpad'			

Gender 7/6a [n=9]

The following nine nouns belong to gender 7/6a.

(13)

ā-kwɪ́̀/ə̄-mə̄-	'belt'		ā-fɔ́⁻	'medicine'
ā-cá́ʔ	'clay'		ā-kʉ́	'mortar (shallow one)'
ā-bé	'compound'		ā-kɔ́ŋ	'pestle'
ā-cɪ́	'day'		ā-cʉ́	'stool'
ā-kʉ́⁻	'forest'			

[Handwritten annotations in margins:]
ī̄ɣɔ̀ɣ̀ɔ̀ɣ̄ɣ̄ŋ <a
sā̀jɔ̀ŋtà to be dull
sā̀jɔ́ŋnâ
ᔕɔ̄kūo to collect debt
dull
sā̀wúmíɛ̀ NB

Gender 7/8 [n=71]

This is largest single gender, comprising among our corpus the following nouns:

(14)

ā-kâin/ə̄-kfâin	'barrenness'	ā-vó͘/ə̄-vó͘ 'foot'
ā-ǹŋwā̄ʔ/ə̄-ǹŋwā̄ʔ	'beehive'	ā-báin`/ə̄-bʉ́ain` 'fufu'
ā-kwʉ́/ə̄-kwí	'bell'	ā-yɔ́l/ə̄-yɔ́l 'grass'
ā-ǹfɛ̀f/ə̄-ǹfʉ̀ɛf	'blindness'	ā-wú`/ə̄-wú` 'hand'
ā-və́f/ə̄-və́f	'bone'	ā-tú`/ə̄-tú` 'head'
ā-ǹtáintáin/ə̄-ǹtwáintwáin 'box'		ā-tə́ʔ`/ə̄-tʉ́əʔ` 'heap'
ā-žʉ̂/ə̄-žʉ̂	'breath'	ā-tɛ́m/ə̄-twɔ́m 'heart'
ā-yɛ́s`/ə̄-yʉ́ɛs`	'broom'	ā-kɔ́ʔtə́`/ə̄- 'hip'
ā-tɛ́m`/ə̄-tɛ́m`	'calabash'	ā-túŋ/ə̄- 'hump'
ā-ǹkōnì/ə̄-ǹkōnì	'calabash bottle'	ā-lɔ́ʔlɔ́ʔ`/ə̄-tʉ́ɔʔlʉ́ɔʔ` 'hunting bell'
ā˙tɔ̀ŋ ábō̄`/ ə̄˙twɔ̀ŋ ə́ bʉ̄ò 'centipede'		ā-ǹɲâmnə̀/ə̄-ǹɲʉ̂amnə̀ 'hyena'
ā-gə̂əʔ/ə̄-gvʌ̂ʔ	'cheek, jaw'	ā-ǹtàin°/ə̄-ǹtwàin° 'insect'
ā-gúŋ/ə̄-gúŋ	'clod'	ā-kás`/ə̄-kwás` 'iron'
ā-ǹfʉ́əm/ə̄-ǹfʉ́əm	'cockroach'	(ā-béʔí/ə̄-bíeʔí) 'load'
ā-láῑŋ/ə̄-lʉ́āŋ	'cocoyam'	ā-ɣás/ə̄-wás 'lung'
ā-ɣʉ́əʔá/ə̄-wʉ́ɔ̀ʔá 'cowry' (PL?)	PL	ā-ǹkāŋ/ə̄-ǹkwāŋ 'lying'
ā-ǹkɛ́m/ə̄-ǹkfɛ́m	'crab'	ā-bás`/ə̄-bʉ́as` 'monitor lizard'
ā-ǹcɛ̀s°/ə̄-ǹcùɛs°	'cricket'	ā-wɔ́ʔ/ PL? ə̄wɔ́ʔ 'mushroom'
ā-ɣɛ́n/ə̄-wɛ́n	'cut open calabash'	ā-žʉ̂`/ə̄- 'nose'
ā-vê̂ŋ/ə̄-vê̂ŋ	'devil'	ā-bə́ʔ/ə̄-bʉ́əʔlə́ 'piece'
ā-bə̂l/ə̄-bə̂l	'dust'	ā-lê̂ʔ/ə̄-lûəʔ 'place'
ā-túŋlə́`/ə̄-túŋlə́`	'ear'	ā-báŋ`/ə̄-bʉ́aŋ` 'platform'
ā˙-tàm/ə̄˙-twàm	'elephant'	ā-kɛ́m/ə̄-kfɛ́m 'pliers'
ā-ǹgù°/ə̄-ǹgù°	'fool'	ā-ǹfə́f/ə̄- 'poverty'
		ā-lô̂ʔ/ə̄- 'raphia palm'

(Handwritten margin notes:)
sə̄fɛ̀f
sə̄žʉ̀isə̀
sə̄yìs
s̄ə̄kām squeeze
ā-wɔ̀ɛ hailstone
ə̄kfâm
sɔ̄bè`ʔì to load → ī béʔ
sə̄wâm tell lie
ā-ǹfə̀f
ə̄kfâm pliers
sə̄kfîm to scrape w/ni

(T) ā́lés/ā́lúas scar

ā-lýŋsə́/ə̄-	'shadow'	ā-kfôm/ə̄-	'stump'	
ā-bâs/ə̄-bûas	'side, piece'	ā-ǹdzɨ̄/ə̄-	'suffering'	
ā-cwí?tə́/ə̄-	'sign'	ā-yáŋsə́/ə̄-ywáŋsə́	'sugarcane'	
ā-kɔ̂s/ə̄-	'slave'	ā-m̀bɔ̀l/ə̄-m̀bwɔ̀l	'tadpole'	
ā-lûm/ə̄-	'smell, odor'	ā-b̰û̄ɨ/	'thigh'	PL?
ā-tâ?/ə̄-twâ?	'snail'	ā-fó`/ə̄-fúo`	'thing'	
ā`-dzɨ/ə̄`-	'sore'	ā-kóf/ə̄-	'tick'	
ā-žvɷ́s/ə̄-	'spirit'	ā-tám`/ə̄-twám`	'trap'	
ā-m̀tās/ə̄-m̀twàs	'spoon'	ā-m̄bā?sə̀/ə̄-m̄bûà?sə̀	'twin'	
ā-m̀tòfº/ə̄-	'stomach'	ā-vɛ̂ŋ/ə̄-	'witch'	
ā-día?`/ə̄-dúa?`	'strength'	ā-yó?`/ə̄-	'yam'	

ā-fûas/ə- wird per eussen Cf devil

āfûtā yuk tə-

As can be seen, there is often a segmental modification in passing from
singular class 7 to plural class 8. This modification in almost complete-
ly predictable, depending on the identity of the initial consonant and
the initial vowel of the stem, but also sometimes on the second consonant
of the stem as well. As mentioned earlier, we do not wish to go into the
analysis of this labial or labiodental element, i.e. whether it is a separ-
ate segment or not, and if so, whether it is a consonant or a vowel. Im-
pressionistically, it is as we have written it in each example. Those
nouns for which we have not completely spelled out the plural forms do
not undergo any segmental modification in class 8.

Gender 7/13 [n=1]

sə̄lýṭmtə̀
(to smell)

The single noun ā-lûm 'flavor, taste' has a singular in class 7 and
a plural in class 13 (ə̄-tə̄-lûm). Perhaps this plural was generated to
distinguish between the clearly related, probably identical noun 'smell,
odor' 7/8 which was given in (14). As mentioned earlier, 13 is the pro-
ductive plural class, the one which would be called into play in cases
of doubt or confusion.

Gender 9/10 [n=]

This is also a very large gender, comprising not only a lot of animal referents, but some human and many inanimate ones as well. We shall present the data in two sets: (a) those not having a stem-initial NC cluster; and (b) those having this NC cluster. First the Ø nouns:

(15)

ə́-ɲám̀	'animal'		ə́-ɲʉ́ŋ̀	'hair'
ə́-dɔ̀in	'anus'		ə́-hámà	'hammer' [Eng.]
ə́-kâf	'armpit'		ə́-kfín̄	'hill, mountain'
ə́-júm̄	'back'		ə́-fʉ́	'hoe'
ə́-bɔ̀	'bag'		ə́-jɛ́ŋ	'hunger'
ə́-žvɔ́̄	'bee'		ə́-mó	'lake'
ə́-ŋwà?àlə̀	'book'		ə́-làbá	'loin-cloth'
ə́-ɓó	'cliff'		ə́-gvə́l̄	'maggot'
ə́-ká?	'crack'		ə́-kál̄n	'monkey'
ə́-bɔ́m̄	'cup'		ə́-sá?ɣā	'news'
ə́-cɔ̀in	'dance leader'		ə́-kú̄	'palm kernel'
ə́-bʉ́	'dog'		ə́-dzf̄	'path'
ə́-jɛ́m̄	'dream'		ə́-bèŋ	'rainy season'
ə́-lɔ̀m	'dry season'		ə́-cwōókò?	'rat'
ə́-gwɛ́ǹ	'farm'		ə́-fʉ́	'rat'
ə́-švɔ́̄	'fish'		ə́-jvá	'river'
ə́-fə̀láwà	'flower' [Eng.]		ə́-tɔ̂s	'torch' [Eng.]
ə́-sɔ́l̄n	'friend'		ə́-gʉ́a	'voice, word'
ə́-dàlá	'garment (native)'			
ə́-ɓʉ́ɨ̀	'goat'			

As can be seen in the examples 'flower', 'hammer' and 'torch', this also is the class into which borrowings are placed (also 'milk'?).

The initial schwa in the forms in (15) is of course the IV, and not a noun class prefix. Plural formation in class 10 will be discussed and illustrated after the second set of 9/10 forms have been presented.

This second set, slightly more numerous than the first, consists of 9/10 nouns whose stems begin with a NC cluster:

(ngvɛmí)

(16)

ə-ngvà?	'age group'	ə-ngōmí	'locust'
ə-nsū	'antelope'	ə-nsɛ̄ŋ	'log'
ə-njàmº	'axe'	ə-ntōm	'message'
ə-nkwò	'basket'	ə-njɔ̄ŋ	'moon'
ə-ŋgʉ̀	'calabash serving chip'	ə-mbāin	'nail'
ə-njTì	'canerat'	ə-ŋgè	'nail, claw'
ə-ntɔ̄?	'chief's palace'	ə-ŋgòmº	'porcupine'
ə-mbē	'chisel'	ə-ntɔ̀in	'pot'
ə-ntōm	'cooking stone'	ə-ndɔ̄ŋ	'potato'
? ə-ŋkáŋ	'cornbeer'	ə-njʉ̀	'sheep'
ə-mbɔ̀ŋ	'dwarf cow'	ə-mbām	'snake'
ə-mbàin	'fence'	ə-njàŋ	'song'
ə-njòº	'flesh, meat'	ə-nsāŋ gvògvò	'spider'
ə-nsē	'ground'	ə-ŋgɔ̀?	'stone'
ə-ŋgvō	'hen, fowl'	ə-ntɛ̄n	'tadpole [sp]'
ə-nsə̀?àsə̀?à	'hiccup'	ə-njɔ̄ŋ	'thorn'
ə-mbə̀k	'hole'	ə-ndàbà?	'tobacco' [Eng.]
ə-nsā?	'hook, needle'	ə-ngə̄? -sɔ̄	'trouble'
ə-ndɔ̄ŋ	'horn'	ə-ndùm	'vagina'
ə-ndō	'house'	ə-ntə̀?	'village'
ə-mbù?	'jigger'	ə-njáŋ	'xylophone'
ə-ncTnə̀	'life'		

ənkfè cook -sə̀ ?

ə-nkfʉ̀º 'rope'

(PL tone)

PL?

es canthole

character

mbɔ̀k màŋgɔ̂ŋlə́ of ants

The class 10 plural of class 9 nouns is formed by adding the suffix /-sə́/ to the singular form. The tone of this suffix is predictable on the basis of the final tone written for each singular noun. Thus, the tone of /-sə́/ in class 10 citation forms will be: (a) H after H, M or L°; (b) M after a floating L; and (c) L° after a L tone. Examples are given below in (17).

(17) a. ə̄-mó-sə́   'lakes'   (ə̄-mó)

     ə̄-švó̄-sə́   'fishes'   (ə̄-švó̄)

     ə̄-mbām-sə́ 'snakes'   (ə̄-mbām)

     ə̄-njàm-sə́ 'axes'   (ə̄-njàm°)

  b. ə̄-ɲám-sə̄   'animals'   (ə̄-ɲám`)

     ə̄-ŋgvō̄-sə̄ 'hens'   (ə̄-ŋgvō̄`)

  c. ə̄-bò-sə̀°   'bags'   (ə̄-bò)

     ə̄-kâf-sə̀°   'armpits'   (ə̄-kâf)

The tonal alternations found on the class 10 suffix are completely predictable from general tone rules existing in the language, as will be seen in subsequent sections. For the present purposes, it will be noted that the surface tone of the class 10 suffix is transparent according to the above distributions--and that the one complication created by the presence of floating L tones after certain class 9 nouns is justified by the class 10 suffix tone as well as by other tonal properties of these nouns in context.

Gender 19/6a [n=]

This is another commonly observed gender in the language, with the following nouns falling into it from our corpus.

(18) ə̄-fə̀-ngôŋlə̄   'ant'   ə̄-fə̄-wǿ   'bleeding cup'

    ə̄-fə̀-gvôf   'bat' (sp.)   ə̄-fə̀-ncūa   'bow & arrow'

    ə̄-fə̄-ɲúīn   'bird'   ə̄-fə̀-ndòmnê   'caterpillar' (sp.)

ə̄-fə̄-gvâm	'figtree'	ə̄-fə̄-cómə́	'pipe'
ə̄-fə̄-njênjɛ̀	'fly'	ə̄-fə̄-ngwáŋ	'salt'
ə̄-fə̄-tám	'fruit, guava'	ə̄-fə̄-lə́ʔ`	'smoke'
ə̄-fə̀-žìnì	'god'	ə̄-fə̄-sɛ́sɛ́`	'spark'
ə̄-fə̄-bɔ́ʔ`	'gorilla'	ə̄-fə̀-bɔ̀in	'squirrel' (ground)
ə̄-fə̀-ɲǚ°	'knife'	ə̄-fə̄-cûo	'squirrel' (tree)
ə̄-fə̄-ndî	'lampblack'	ə̄-fə̄-njên	'star'
ə̄-fə̄-nsɛ̂s	'louse'	ə̄-fə̄-jvâ	'stream'
ə̄-fə̄-ɣâm	'mat'	ə̄-fə̀-tɣ̆tū̄`	'tale'
ə̄-fə̄-kʉ́	'mortar'	ə̄-fə̄-kâʔ	'tree'
ə̄-fə̄-žvókážvók	'mosquito'	ə̄-fə̄-ɣáŋ	'vein'
ə̄-fə̄-sús	'pepper'	ə̄-fə̀-ncā̄ʔ	'wire, ring, bicycle'

All of the above nouns form their plural in class 6a, which is marked by
ə̄-mə̄- substituting for ə̄-mə̄-, e.g. ə̄-mə̄-tám 'fruits', ə̄-mə̄-ɣâm 'mats' etc.
More will be said later on the tonal properties of the mə- prefix. The
schwa observed preceding the CV prefix is, of course, the IV.

1.3. Single class noun genders

In addition to the above double class noun genders, a number of nouns
fall into one of the 13 noun classes without having a corresponding class
member to form a two class noun gender. We shall refer to these nouns as
single class noun genders. In several cases where we have relied on the
singular-plural opposition to assign class numbers, we shall be unable to
do so here. Thus, in the single class noun genders, class 3 = class 8,
class 4 = class 5, and class 6 = class 7. Nouns have this single class
gender proper either are defective in some way for whatever reason or
are semantically incapable of distinguishing singular and plural (e.g.
they are mass or non-count nouns). We shall present the ones we found in
our corpus below.

Gender 3=8 [n=1]

The one noun ā-vés 'fire' exists in this single class gender, though
the homophonous noun 'gun' was entered into gender 3/6a and is definitely
related etymologically. It is of course impossible to give this gender a
single number, because classes 3 and 8 are formally identical in Kom and
there is no alternating class to determine whether 'fire' is a singular or
a plural (the noun 'gun' would suggest that it is a singular, perhaps, if
we chose to view it as the identical noun).

Gender 4=5 [n=2]

Although these two classes are formally identical, the rarity of
class 4 suggests that this single class gender could be viewed simply
as gender 5/∅. Two nouns have been found in this category: Ī-ǹgvìn
'(green) grasshopper' and Ī-vó 'rain'.

Gender 6=7 [n=7]

The following seven nouns occur in this single class gender:

(19)   ā-bvó̀   'ashes'   ā-γâl   'excrement'

       ā-ké̀   'charcoal'   ā-yú?sə́̀   'perspiration'

       ā-ǹgàntə̀   'chest'   ā-fʉ́ɛf̀   'wind'   (check)

       ā-mʉ̂a?   'dew'

Except perhaps for 'chest', these nouns are of a mass or non-count nature.
They thus would not be expected to have a singular/plural distinction and
indeed they don't. Comparative data from related languages that distin-
guish class 6 from class 7 formally suggest that 'ashes', 'charcoal', 'chest',
'dew' and 'wind' are all historically from class 7. The data is too sketchy
to say with certainty what the original class is for 'excrement' and 'per-
spiration'.

Gender 6a [n=11]

Eleven nouns have been found in gender 6a.

(20)
ə̄-mə̄-lúŋ	'blood'	ə̄-mə̄-cúa`	'saliva'
ə̄-ŋkfwân	'flour'	ə̄-mə̄-sú`	'tear(s)'
ə̄-mə̄-kál	'guineacorn drink'	ə̄-mə̄-njî	'urine'
ə̄-mə̄-tú`	'intestines'	ə̄-mú̈	'water'
ə̄-mə̄-vél	'oil'	ə̄-mə̄-lû?	'wine'
ə̄-mə̄-fɔ́`	'pus'		

As seen, all of these nouns have mass or liquid referents and therefore are not expected to have singular-plural distinctions. The noun prefix of 'flour' is irregular; 'water' probably had a vowel-initial stem with which the regular mə- prefix fused.

Gender 9 [n=2]

Two nouns occur in class 9 without having a corresponding class 10 plural form: ə̄-ngɔ̄? '(fat) termite(s)' and ə̄-mbàs 'vegetable(s), greens'. In related languages 'termite' varies in noun class.

Gender 10 [n=2]

Again two nouns occur in this gender, which consists of a class 10 form without the expected corresponding class 9 singular: ə̄-ndzɨ-sə́ 'clothing' and ə̄-mbà?-sə̀° 'cloud(s)'.

This completes our survey of the different genders. We turn now to the structure of nouns as it can be determined from the 300+ nouns we have just illustrated.

2. NOUN STRUCTURE

All thirteen noun classes having been illustrated, we now are in a position to consider the general morphological and phonological structure of nouns themselves.

(PREF) - STEM - (SUFFIX)

2.1 NOUN PREFIXES !

2.1. Noun stems

The core element of any noun in Bantu is the noun stem itself. In Narrow Bantu and its proto language, the vast majority of noun stems are bisyllabic, either of a CVCV, CVVCV or CVNCV structure, where N is a syllabic nasal. In Grassfields Bantu, the vast majority of noun stems are mono-syllabic. However, it has been known at least since the time of Voorhoeve (1971) that these stems correspond to the bisyllabic ones found in NB and that there are traces of the "lost" syllable in the form of "floating" tones. We shall see evidence of these floating tones in Kom, but first consider the different shape the noun stem can take.

Every noun stem begins with a consonant in Kom. In the case of the alternating w-/ɣ- consonants of gender 1/2 (see (5) above), an argument could be made that these are noun class prefixes and the stems to which they attach are vowel-initial. Since there are only 2 or 3 examples of this alternation, and since there are even irregularities in what would be the singular vs. plural stems for 'child' and 'person', we shall regard these consonants as stem-initial and leave for historical reconstruction the task of evaluating the significance of these remnant forms (the same case could conceivably be made for class 6a 'water', once presumably analyzed as mə-u, but now pronounced ə̄-mú̵ with the IV).

In some cases the stem-initial consonant appears complex. Examples have been seen, especially, though not exclusively, in classes 3 and 8, of initial Cf, Cv, and Cw "sequences", since the prefix of these classes has a labial(dental)izing effect. We shall have little to say about the phonological analysis of these entities. Where such sequences are written we shall simply assume that these are complex consonants, i.e. that they have a single unit on the central tier. Any other assumption would render the tonal analysis needlessly complex.

Most Kom stems have a single vowel segment as the nucleus of their single syllable. There is no opposition between long vs. short vowels in noun stems. There is, however, a noted tendency for diphthongs to occur in the language. Since the tonal patterns on diphthongs are identical to those found on monophthongs, we have two possible explanations: either (a) tone associates onto the syllable node directly without regard to how many syllabic units there are in any given syllable; or (b) tone associates onto syllabic units (mora's or weight units [WU's] in my framework) and monophthongs and diphthongs simply have the same number of WU's in every case. We shall opt for the second position. However, there are still two possibilities: either (a) diphthongs have a single WU and so do monophthongs; or (b) there is a higher level stem structure condition on WU's which accounts for the failure of diphthongs to be distinct from monophthongs tonally. Again it is the second position which appeals to us. For reasons that will be developed later we propose that there is a weight structure condition requiring that each stem consist of more than two WU's; or, in other words, that there be no stem ending in a short vowel (i.e. a vowel having a single WU). What this means is that stems such as -bò 'bag' [9/10] or -mó 'lake' [9/10] have the value of two moras. That is, the underlying structure of such CV stems starts out as (21a) and becomes (21b) by the onset creation rule (OCR) discussed in Hyman (in press):

(21) a.   x   x   x   b.   x   x   c.   * x   x
           | \ /   \ /̂ | |
           C   V   C   V   C   V
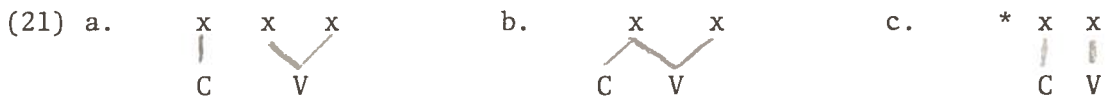
In (21a) the consonant onset has its own WU; in (21b) this WU has been de-leted by the OCR, and the C has been reassociated to the next x. In the underlying representation we have a long vowel, i.e. a single vowel matrix associated onto two WU's, since there is a stem-structure condition outlawing single mora stems--i.e. stems of the underlying structure in (21c). The

reason for this will be seen later. The result of this condition, note, is that the only single-mora CV syllables will be non-stem morphemes, i.e. syllables which do not occur as the only syllable within a stem. I believe that this condition, motivated as we shall see by tonal considerations, is the synchronic reflex of the fact that all stems had two syllables historically, as we have mentioned for NB.

2.2. Noun suffixes

A stem may, of course, be longer than the representation in (21a); i.e. it may have more than two WU's. The single-syllable stems are of the form CVV (=either a long vowel or a diphthong) or CVC, where the second C has its own WU and hence the stem condition is met. The examples given under several noun genders indicate occasionally longer "stems", though there is always an open question as to whether the additional syllabic material is part of the stem or is a suffix. In some cases we are confident in ascribing a suffixal status to this material, e.g. the final -Cə of words such as ā-yáŋ-sə́ 'sugarcane' [7/8] or ā-ŋ̀gàŋ-tə̀ 'chest' [6=7]. Not only does their phonological identity with real suffixes in the language (as found in the plural suffix of class 10 or in verb forms) suggest their suffixal status; but so does the fact that stems do not have internal consonant sequences. Thus, CVCCV must be analyzed as CVC-CV, even though the -CV suffix may not have any particular meaning: the lexical items in questions are assumed simply to have internal morphological structure, even if their overall meaning cannot be attributed to the sum of the meanings of the parts, a very frequent phenomenon in morphology, anyway. In other cases, however, it is not so easy to decide whether something is a suffix, e.g. cases where the would-be suffix is a vowel, e.g. ə̄-ngōmí 'locust' [9/10] or T̄-lémí 'tongue' [5/6]. We will in these cases consider the final vowel, usually i, to be the manifestation of the second mora required of stems.

Longer stems are either compounds, reduplications, or borrowings from other languages, mostly English.

The only productive noun suffix is the class 10 plural suffix -sə́. It
is almost certainly a recent development designed to disambiguate the plural
class 10 from the corresponding singular class 9. Within the Ring group it
is frequently found, though it is conspicuously missing from the Wum dialects,
where class 10 has merged with class 13 and a prefix tə́- is added to class 9
nouns to form the plural. It is probably derived from an earlier demonstra-
tive or generalized determiner (e.g. 'the one in question') and it is missing
whenever there is an agreeing element following the class 10 noun; i.e. when-
ever there is a modifier or a subject-verb agreement marker, we do not obtain
two sə's in a row, but rather only one, e.g. ə̄-mbām sə̀-bò° 'two snakes' and
not *ə̄-mbām-sə́ sə̀-bò°. Its role as a disambiguator is thus confirmed: where
another marker clearly establishes that the noun in question is plural [class
10], the suffix is not found. In citation or in contexts where there is no
overt class 10 agreement marker, the noun would be ambiguous between singu-
lar [class 9] and plural [class 10] and the suffix -sə́ is thus required.

While this one suffix is productive within the noun morphology, there
is no productive reduplication or juxtaposition of stems (i.e. true com-
pounding) that we know of. The occasional cases of these are thus lexical
rather than derived by some productive rule. This does not preclude their
derivation by "minor rules" within the lexicon, however. In the case of
class 8 reduplications, where each reduplicated stem must become labialized,
this seems required: the labialization takes place and then reduplication
occurs... or, in McCarthy's framework, we have an internal structure such
that the labialization takes place on the whole stem and percolates down to
each separate stem. [Develop or drop?]

Borrowings will not concern us here. They are not numerous in the
corpus, but coming from English as they do, they will have certain excep-
tional features with varying degrees of nativization.

2.3. ~~Tone~~ *Tone patterns on the CV- prefix*

We now come to the major topic at hand: the tones of nouns in isola-
tion. We shall restrict ourselves first to nouns which have a CV- prefix,
since they allow for the most transparent analysis--an analysis which will
be readily transferrable to the other noun classes. We thus approach first
the tones found in classes 13, 19 and 6a, whose prefixes are, respectively,
tə-, fə- and mə-.

We begin thus with tone patterns on nouns having the IV ə̄- (always with
surface M tone), one of the above CV- prefixes (varying between M and L),
and a single syllable stem. The different patterns and their frequency in
each of the classes 13, 19 and 6a are given in the following table:

(22) TONE PATTERN	CLASS 13	CLASS 19	CLASS 6a	TOTAL STEM:
M-M-[HL	15	8	8 + 4	27
M-M-[HM	5	2	2 + 4	11
M-M-[H L̥	20	3	3 + 7	30
M-M-[H	7	4	4 + 8	19
M-L-[L	0	1	1 + 0	1
M-L-[L°	4.5 (3/13)	1	1 + 0	4
M-L-[M	0	2	2 + 0	2
M-L-[HL	0	1	1 + 0	1

As seen, the vast majority of nouns in these classes begin with a M tone prefix
(a total of 87 nouns, counting the nouns in 19/6a only once each) as opposed
to beginning with a L tone prefix (a total of 8 nouns). Since less than 10%
of such nouns begin with a L prefix, we shall consider these not to represent
a major pattern in the language: CV- prefixes are expected, thus, to have a
M tone. Let us thus consider first the four tone patterns appearing above
the broken line, each of which is amply represented in these noun classes.
attested, statistically.

The [symbol indicates where the stem begins.

Consider thus the following representative nouns from each of the three noun classes and each of the four tone patterns:

(23)   TONE PATTERN   CLASS 13   CLASS 19   CLASS 6a

a.   M-M-[HL   ə̄-tə̄-fə̂in 'chiefs'   ə̄-fə̄-eûo 'squirrel'   ə̄-mə̄-eûo

b.   M-M-[HM   ə̄-tə̄-dzɨ́ɨ̄ 'termites'   ə̄-fə̄-ɲúⁿn 'bird'   ə̄-mə̄-ɲúⁿn

c.   M-M-[H L̥   ə̄-tə̄-bál̀ 'valleys'   ə̄-fə̄-bú? 'gorilla'   ə̄-mə̄-bú?`

d.   M-M-[H   ə̄-tə̄-wú 'rocks'   ə̄-fə̄-tám 'fruit'   ə̄-mə̄-tám

The class 6a forms are, of course, the plurals of the corresponding class 19 nouns, as can be readily seen.

The first important observation to be made about the stem tones is that all stems in these major tone patterns begin with a H tone. This is highly suspect, of course, since we expect, other things being equal, H and L tones to be equally distributed morphologically, i.e. that there should be H tone stems and L tone stems, etc. It is noted also that this initial H of each stem can be followed by a L (to create a HL falling tone), a M (to create a HM falling tone), by a floating L̥ tone (to be discussed) or by ∅. How to account for this?

The basic hypothesis is this: the above (and most) noun stems in iso-lation noun forms begin with a H tone because the prefix is underlyingly H tone, i.e. /tə́-/, /fə́-/ and /mə́-/ (we shall, however, have more to say about the class 6a prefix, since it alternates, along with classes 1 and 9, in a curious way between underlying H and underlying L tone). Noun stems which underlyingly begin with H need no further explanation in order to account for their initial H tone. Noun stems which underlyingly begin with L, on the other hand, acquire their initial H from a spreading rule which associ-ates the H of the prefix onto the stem syllable... somehow creating HL and HM contours, as we shall now see. A later rule accounts for the lowering

of the prefix (and the IV) from H to M.

But how do we assign underlying tones to the stem classes in (23)? In order to gain further insight into their underlying tone patterns, consider the realization of the same class 13 nouns after a L tone associative:

(24) a. ə̄-mə̄-cûo mə̀ tə̀-fɔ́in   'squirrels of the chiefs'

    b. ə̄-mə̄-cûo mə̀ tə̀-dzɨ̵°   'squirrels of the termites'

    c. ə̄-mə̄-cûo mə̀ tə̀-bā̄l   'squirrels of the valleys'

    d. ə̄-mə̄-cûo mə̀ tə̀-wù°   'squirrels of the rocks'

As in previous studies on GB tonology, we shall not be concerned with the sense or lack of sense acquired in juxtaposing different nouns in the N_1 of N_2 associative construction. Thus, while 'the squirrels of the chiefs' makes enough sense, 'the squirrels of the termites' makes less sense. We shall be interested only in the tonal alternations of these forms.

The reason for looking at these nouns in N_2 position is the following: we have remarked already on the general WGB property according to which nouns in this position all have underlying L tone prefixes (with, in fact, no exceptions). Kom is no exception to this rule. Thus, we assume that a morphological tone assignment or tone modification rule spells out the tone of prefixes in N_2 position as L and that the underlying form of the N_2 prefix in (24) is thus /tə̀-/. (We need not enter into a debate over whether the prefix begins as H and is lowered, or whether there is an additional L tone floating around, perhaps the mark of the associative construction, which "replaces" the H or what. The effect is the same and the cause of this effect so deeply embedded historically in these languages that little is expected to hinge on the exact statement of this clearly morphologically conditioned rule.) We now see that it is possible to observe the tone patterns of stems when preceded either by a H or by a L prefix, i.e. to compare the tone patterns of the class 13 nouns in (23)

with those in N_2 position in (24).

We have noted that there are exactly _four_ major tone patterns on stems.
Our task is to determine the underlying tone representation of these stems.
We already suspect that all can be done with two tones, H and L, and that
the M tone is a derived tone. Four tone patterns can thus be obtained by
assuming bi-tonal patterns of H and L, i.e. L-L, L-H, H-L and H-H. This
is what has been followed ever since Voorhoeve (1971) cracked the first
GB tone system. Within autosegmental theory we make the simple adjustment
of eliminating the second tone of the pattern when it is identical to the
preceding tone, i.e. we then have the patterns L, L-H, H-L and H. Already
in Hyman and Tadadjeu (1976) we alluded to the fact that the second like
tone was unnecessary but was included only for "symmetrical" reasons.

Stems will thus either have an underlying L or H tone, or they will
have a "contour" representation of LH or HL. This being accepted, it is
fairly easy to assign each of the four patterns one of these underlying
tonal representations:

(25) a.   /-fɔin/, L   c.   /-baI/, HL

     b.   /-dzɨ/, LH   d.   /-wu/, H

In (23a) we see that the stem 'chief' has an underlying L tone. This is
the same as its realization in N_2 position in (24[a]) and there should be
little question of its correctness. In (25b), 'termite' gets a LH repre-
sentation. In N_2 position in (24b) it had a L° tone before pause, i.e. a
level L tone. Since L is expected to "downglide" before pause, and since
this L does not do so (as symbolized by the ° mark), we can now attribute
this to the presence of a "floating" H tone in the representation, i.e. dzɨ .
                                                                    L H
The HL and HM contours seen on these nouns when their prefix is H, as
in (23a) and (23b), come from the spreading of the H tone of the prefix,
as we have already said. We assume, then, that there is a rule of the

form in (26).

(26) <u>H-spreading</u>

$$\begin{array}{cc} x & x \\ | \diagup \\ H & L \end{array}$$
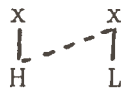
In a H L sequence, the H spreads onto the following TBU to create a HL falling
tone. This produces the stem tones -fŝin and -dzîf, the latter later simpli-
fying to -dzīf by a process we shall discuss later.

More remains to be said about H-spreading and the rules with which it
interacts. Let us for the moment postpone further discussion of this and
turn to the remaining tone patterns in (25), those which begin with a H tone.
Throughout the listing of nouns whose stems are phonetically H we have fol-
lowed the practice of indicating floating L tones for some, but not for
others. In (24c) and (24d) we see the first motivation for distinguishing
two classes of H tone stems: some of these (the ones we have marked with
a floating L tone) become L-M in this context; others (the ones we have not
marked with a floating tone) acquire a level L° tone instead. We suggest
that there is, corresponding to H-spreading but applying at a later stage
in the derivation (and hence not collapseable with H-spreading), a rule of
L-spreading, as formalized in (27).

(27) <u>L-spreading</u>

$$\begin{array}{ccc} x & x \\ | \diagup \\ L & H & \# \end{array}$$
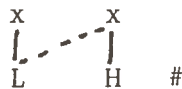
A L-H sequence which occurs word-finally (utterance-finally?) is converted
to a L-LH sequence by spreading of the L tone onto the following TBU. A
later rule simplies the LH rising contour to L° before pause.

That this could apply to 'rocks' in (24d), but not to 'valleys' in
(24c) is now seen from the fact that the latter noun has a floating L tone
occurring between the L-H sequence and the # boundary. This floating L
tone <u>blocks</u> L-spreading, as desired. Peeking ahead slightly just to further

convince us of the correctness of this analysis is seen from the realiza-
tion of the /tə́/ associative marker after each of these two nouns in (28):

(28) a. ə̄-tə̄-bál tə̄ wāin   'valleys of the child'

     b. ə̄-tə̄-wú tə́ wāin   'rocks of the child'

In (28b) the associative marker /tə́/ surfaces with its underlying H tone
intact, whereas in (28a), it is realized on the surface on a M tone. The
cause of this difference is, of course, the floating L tone found in the
HL pattern of 'valleys' as opposed to the simple H pattern of 'rocks'.
This floating L is itself not pronounced, but it has the effect of lowering
a following H to M. In fact, the same rule is responsible for the M tone
on 'valleys' observed in N_2 position in (24c). We generalized and say,
then, that a floating or anchored L tone will cause a following H tone to
be pronounced on a M tone level. Finally, since$_\wedge$prefixes themselves are
realized on a M tone level, the rule must also apply to a H tone that im-
mediately follows a word boundary. This low-level phonetic rule will be
reformulated later, but for reference we present it in (29) in its most
straightforward version, i.e. as a rule changing a tone feature. The in-
adequacy of this formulation will be addressed in a subsequent section.

(29) <u>H-lowering</u> [first formulation]

$$\begin{matrix} (x) \\ | \\ \left\{ \begin{matrix} L \\ \# \end{matrix} \right\} \end{matrix} \qquad \begin{matrix} x \\ | \\ H \searrow \\ \quad M \end{matrix}$$

2.4. <u>Tone patterns with V- prefixes</u>

In the previous section we saw that there are four major tone patterns
occurring on stems following a CV- prefix. The same is true in the case of
classes having a V- prefix, i.e. in classes 3, 4, 5, 6, 7, and 8. The fol-
lowing table summarizes the distribution of each tone pattern.

(30)	3/4	3/6	3/6a	3/13	5/6	5/13*	7/6a	7/8	7/13	3	5	6=7	TOT
M-HL		1	1	1	1	5/7		15	1			2	34
M-HM	1	1	1		6	5/0	3	2		1			20
M-Hl̰		1	1	2	5	7/11	2	15				3	47
M-H		2	1	1	5	6/0	4	10			1		30
ML-L								5			1		6
ML-L°				1		2/1		5					9
ML-M								3					3
ML-H								3					3

(*5/13 is presented first for non-deverbal and then deverbal nouns)

Again we have separated by a broken line the major tone patterns from the minor tone patterns, presenting only cases of where the noun stem has a single syllable. The totals to the right indicate that the vast majority of nouns fall into one of the four major patterns, i.e. 131 vs. 21. This time the minority patterns consist of just under 14% of the total single-syllable noun stems having a V- prefix. Curiously, 16 of these are in gender 7/8, 16 out of 58, or 27.6% of all of the single syllable stems in that gender. (A curious second observation about 7/8 is the paucity of M-HM nouns.)

The follow class 7 nouns will be used in later constructions and adequately illustrate the major tone patterns of V- prefix nouns:

(51) a. ā-lê̠ʔ   'place'   ā-kɔ̂s   'slave'

b. ā-láŋ̄   'cocoyam'   ā-kúū   'forest'

c. ā-tám`   'trap'           ā-bás`   'lizard'

d. ā-yɔ́l   'grass'   ā-kóf   'tick'

All of these belong to gender 7/8 except 'forest', which belongs to gender 7/6a. Their underlying tones correspond to those seen for CV- prefix nouns in (23) and (25):

(52) a. L : -làʔ , -kɔ̀s

   b. LH : -làŋ′ , -kù′

   c. HL : -tám` , -bás`

   d. H : -yɔ́l , -kóf

To further justify these underlying stem tones, consider how the nouns of the second column are realized as N$_2$ after the L tone associative marker /mà/ of class 6a:

(53) a. ə̄-mə̄-ĉûo m' à-kɔ̀s   'squirrels of the slave'

   b. ə̄-mə̄-ĉúo m' à-kù°   'squirrels of the forest'

   c. ə̄-mə̄-ĉúo m' à-bās   'squirrels of the lizard'

   d. ə̄-mə̄-ĉúo m' à-kòf°   'squirrels of the tick'

The tonal alternations on the V- prefix N2 nouns should be compared to the corresponding ones on CV- prefix N$_2$ nouns seen earlier in (24). The exact same tones are observed on the stems, as expected. The only difference between the forms in (24) and those in (53) is the coalescence which occurs between /mà/ and the class 7 prefix /à-/, which, recall, has an underlying L tone in N2 position.

We thus conclude that the major tone patterns on single syllable noun stems are identical in noun classes having either a V- or a CV- prefix.

2.5. Minor tone patterns

Before turning to the third possible noun structure, that lacking a prefix altogether, let us consider the tone patterns given below the broken line in (22) and (30). These patterns were said to be much less frequent and "minor" in nature, i.e. exceptional in some sense. Since they are not that numerous, we shall list them here in (54) and (55) by stem tone. The only difference between the two tables is in the M-L- vs. ML- prefix, due entirely to syllable structure.

(54)　-L　:　āǹ-fɛ̀f / ə̄ǹ-fɛ̀f　　　'blindness(es)'　7/8

　　　　　　　　āà-tàm / ə̄ə̀-twàm　　　'elephant(s)'　7/8

　　　　　　　　āà-dzɨ̵ / ə̄ə̀-dzɨ̵　　　'sore(s)'　7/8

　　　　　　　　āǹ-tàs / ə̄ǹ-tàs　　　'spoon(s)'　7/8

　　　　　　　　āǹ-bɔ̀l / ə̄m̀-bwɔ̀l　　'tadpole(s)'　7/8

　　　　　　　　Ī ǹ-gvìn　　　　　　'green grasshopper(s)'　5

　　　　　　　　ə̄-fə̀-bɔ̀in / ə̄-mə̀-bɔ̀in　'ground squirrel(s)'　19/6a

　　　-L°　:　āǹ-kɔ̀in° / ə̄-tə̀-nkɔ̀in°　'tail(s)'　3/13

　　　　　　　　Ī ǹ-fɔ̀m° / ə̄-tə̀-nfɔ̀m°　'crocodile(s)'　5/13

　　　　　　　　Ī ǹ-gɔ̀m° / ə̄-tə̀-ngɔ̀m°　'plantain(s)'　5/13

　　　　　　　　Ī ǹ-cʉ̀a° / ə̄-tə̀-ncʉ̀a°　'sting(s)'　5/13

　　　　　　　　(āà-tɔ̀ŋ á-bōò / ə̄ə̀-twɔ̀ŋ á-būò)　'centipede(s)'　7/8

　　　　　　　　āǹ-cɛ̀s° / ə̄ǹ-cùɛs°　'cricket(s)'　7/8

　　　　　　　　āǹ-gù° / ə̄ǹ-gù°　　　'fool(s)'　7/8

　　　　　　　　āǹ-tàin° / ə̄ǹ-twàin°　'insect(s)'　7/8

　　　　　　　　āǹ-tòf° / ə̄ǹ-tòf°　　'stomach(s)'　7/8

　　　　　　　　ə̄-fə̀-ɲʉ̀° / ə̄-mə̀-ɲʉ̀°　'knife(s)'　19/6a

　　　-M　:　āǹ-ŋwā? / ə̄ǹ-ŋvā?　　'beehive(s)'　7/8

　　　　　　　　āǹ-kāŋ / ə̄ǹ-kwāŋ　　'lie(s)'　7/8　　　　(gloss)

　　　　　　　　āǹ-dzɨ̵ / ə̄ǹ-dzɨ̵　　'delivia ~~suffering(s)~~'　7/8

　　　　　　　　ə̄-fə̀-cʉ̄a / ə̄-mə̀-cʉ̄a　'bow(s) & arrow(s)'　19/6a

　　　　　　　　ə̄-fə̀-cā? / ə̄-mə̀-cā?　'wire(s)'　19/6a

　　　-H　:　(āǹ-fʉ́əm / ə̄ǹ-fʉ́əm)　'cockroach(es)'　7/8

　　　　　　　　āǹ-kɛ́m / ə̄ǹ-kfɛ́m　'crab(s)'　7/8

　　　　　　　　āǹ-fə́f / ə̄ǹ-fə́f　　'poverty/poverties'　7/8

　　　-HL　:　ə̄-fə̀-gvɔ̂f / ə̄-mə̀-gvɔ̂f　'bat(s) [sp.]'　19/6a

Again we are faced with four stem patterns: L, L°, M and H, with the
one exception HL stem which we will regard simply as requiring exceptional
lexical marking on the stem itself. The irregularities in these surface
tones are due to the fact that these nouns involve a L tone prefix. As
can be seen, 18 out of 26 of these nouns, i.e. over two-thirds of them,
have a homorganic nasal occurring between the prefix and the stem-initial
consonant. (We have transcribed this nasal as part of the prefix in cases
where it alone is syllabic and tone-bearing; otherwise, where it is not
tone bearing, we have transcribed it as part of the stem--this is an arbi-
tary decision motivated solely by our desire to make the stem properties
as transparent as possible.) As in related WGB languages, a NC sequence
appears to have a tone-depressing effect on the prefix (cf. Ngamambo
[Asongwed and Hyman 1976], Babanki [Hyman 1979] etc.). Perhaps those
nouns having this L tone prefix but lacking the nasal once had the nasal--
for some of these nouns cognate forms in related languages DO have a nasal.
Be this as it may, the analysis of these forms is straightforward only in
part: the L stems clearly have an underlying /L/ representation, and the
L° stems clearly have an underlying /LH/ representation, as we have argued
above for other nouns. Thus, these nouns merged with their "regular"
counterparts in N_2 position, since in this position the latter have a
morphologically imposed L prefix, as we have seen.

The remaining patterns with M and H tone are somewhat perplexing.
The M stems suggest a /HL/ stem pattern so that the L of the prefix will
not condition L-spreading (rule (27)), though it will condition H-lowering
(rule (29)). However, if the -H nouns are recognized as /H/, then why
do we observe neither L-spreading, nor H-lowering? We can block L-spreading
by placing an additional (floating) L tone into the representation (e.g.
on a separate tier hooked to the nasal--but note from class 19 [check] that
not all nasals automatically condition this L... in genders other than 19/6a

they DO, however. [More information is needed on the structure of the 8 nouns having M and H stems--e.g. do they all pattern identically, or are they differenciable according to the presence vs. absence of a floating L after the stem?]

2.6. Prefixless nouns

Having established that the minor tone patterns are identical to the N_2 forms of major tone patterns, and that they are identical because they all involve a L- prefix, we are ready to consider the tones of the so-called prefixless noun classes. These are classes 1, 2, 9 and 10. We shall first concentrate on class 9 (recall that class 10 is identical to class 9 except for the addition of a /-sə́/ suffix), since there are many more nouns in this class than in class 1.

It is recalled that there are roughly equal numbers of 9/10 nouns having an initial NC cluster, vs. not having one: within our corpus, 44 nouns have the cluster, while 39 do not. Counting the IV ə̄- M tone within the calculation, since we interested at the moment only in how these nouns are pronounced <u>with</u> the IV, we have the following distribution of tone patterns within class 9:

(55)	M-L	M-L°	M-M	M-M L̥	M-H	M-H L̥	M-H͡L	M-H͡M	
NC-	14	3	3	15	(2)	0	0	0	(37)
ØC-	5	0	0	(1)	(1)	7/2	(2)	13	(31)
TOTALS	19	3	3	16	3	7/2	2	13	(68)

The numbers in parentheses indicate exceptional patterns due to borrowings or other causes. They need not concern us too much, though their tonal properties will of course have to be accounted for by the rules we shall establish. With these aside, there are appear to be four patterns on class 9 nouns with an initial NC- cluster, and three on ØC- initials (one of which,

7/2 indicating, however, two distinct subclasses to be discussed shortly.)

Let us consider first the NC- class 9 noun tone patterns, illustrated in (56) along with their class 10 plurals.

(56) a. ə̄-mbɔ̀ŋ / ə̄-mbɔ̀ŋ-sə̀°   'dwarf cow(s)'   /ə́ - ` mbɔ̀ŋ /

    b. ə̄-njàm° / ə̄-njàm-sə́   'axe(s)'   /ə́ - ` njàm´/

    c. ə̄-ntōm / ə̄-ntōm-sə̄   'message(s)'   /ə́ - ` ntóm`/

    d. ə̄-mbām / ə̄-mbām-sə́   'snake(s)'   /ə́ - ` mbám /

The forms given above are the citation pronunciations of these singular and plural nouns. To the write are the underlying tonal representations proposed to handle these forms (exclusive of the /-sə́/ class 10 suffix, which need merely be added to these representations). As can be seen, the four expected tone patterns on noun stems are obtained: L, LH, HL and H. These are considered to be preceded by the H tone IV /ə́-/ and a floating L tone indicating the noun class (for both singular and plural). The nasal of the NC initial is non-syllabic, even when the IV is absent, though either it once was the noun class prefix and carried the L tone, or there was a vowel (perhaps ì-, which dropped out). The floating L tone is of course responsible for the fact that both 'message' and 'snake' are pronounced on a M tone level. The two nouns which are M-H in isolation, namely ə̄-ŋkáŋ 'cornbeer' and ə̄-njáŋ 'xylophone' simply lack, exceptionally, this floating L tone. Both have simple H tone stems [check & give plurals].

The situation with ØC- initials is slightly more complex. First of all, the statistics are striking: nearly half of the nouns attested in the "major" patterns, i.e. M-L, M-H L̥, and M-HM, have the M-HM pattern. These patterns are illustrated in (57), both for singular and plural forms, and recognizing a split within the M-H L̥ pattern.

(57) a. ə̄-bò / ə̄-bò-sə̀°   'bag(s)'   /ə́ - ˋ bò /

     b. ə̄-ɲám / ə̄-ɲám-sə̄   'animal(s)'   /ə́ - ɲàm /

     c. ə̄-bʉ́ / ə̄-bʉ́-sə̄   'dog(s)'   /ə́ - bʉ́ ˋ /

     d. ə̄-jʉ́m̄ / ə̄-jʉ́m̄-sə́   'back(s)'   /ə́ - jʉ̀m ˊ /

As in the forms in (57), the plural suffix /-sə́/ is simply added to the
singular form and undergoes L-spreading when preceded directly by an
anchored L tone (the LH rising tone undergoing simplification to L° be-
fore pause) or H-lowering, if preceded by a floating L tone, as seen in
the forms for 'animals' and 'dogs'. The underlying tonal representations
are again given to the right, but they raise several questions. The
nouns of the structure M-L are assumed to have an additional tone-depressor,
a floating L tone, between the IV and the L stem. This is the only place
this is needed in ∅C- initials, i.e. there is no M-L° pattern here, and
there is only one attested noun with the surface realization M-M (ə̄-bō
'cliff' [needs to be checked anyway]). The numerous nouns in the (57d)
M-HM pattern have a LH stem, though many of these nouns can be shown to
derive, historically, from H stems (from earlier HH). In other words,
(57d) is the result of a merger of two tone classes, LH and H. What we
might assume is a reconstructed *L appearing between the IV and the stem
here too, but this L, is lost before a historical LH stem, but remains
with the H stem to create new LH stems merging with the historical ones.
There is no trace of the historical H stem in present-day Kom.

     The same phenomenon seems to have been at work in the case of the
L-HL̥ nouns. Two of these, 'dog' (57c) and ə̄-b̥ʉ́ɨˋ 'goat' clearly have
HL stems. The remaining 7 nouns in this pattern have an underlying L
stem, as indicated in (57b). We know this historically, as well as syn-
chronically, as from a comparison of the nouns 'animal' and 'dog' in N_2
position after a L associative:

(58) a. ə̄-múū mə̀ bò   'water of the bag'

     b. ə̄-múū mə̀ ɲàm   'water of the animal'

     c. ə̄-múū mə̀ bū   'water of the dog'

     d. ə̄-múū mə̀ jùm°   'water of the back'

The noun 'animal' is now realized with its underlying L tone, merging with
'bag'. 'Dog', on the other hand, is realized on a M tone, the result of
its H being lowered by the preceding L of the class 6a associative marker
/mə̀/. Finally, in (58d) we see the evidence for treating nouns such as
'back' as having a LH stem: as we have seen elsewhere, this sequence is
realized as L° before pause, and (58d) is no exception.

The tonology of class 9 nouns is not as symmetric as we would like
it. We cannot explain why certain patterns are present and others are not,
and we have already seen the need to accept some exceptionally marked tonal
patterns. Within the ØC- initials, we need to mark as exceptional the
one noun which is M-H (ə̄-mó 'lake') and the two nouns which are M-HL (i.e.
ə̄-kâf 'armpit' and ə̄-tɔ̂s 'torch', the latter of which is clearly a borrowing
from English, anyway). The question arises as to whether 'dog' and 'goat',
the two nouns which have HL̥ stems, are exceptional in some way.

These nouns, for one thing, do not undergo H-lowering, as seen in the
following associative constructions analogous to those in (58).

(59) a. ə̄-múū mə̀ kâf   'water of the armpit'   [CHECK]

     b. ə̄-múū mə̀ mó   'water of the lake'

We have no explanation for this failure to undergo a general rule except
to postulate an extra H tone on each stem, i.e. HHL, HH, though this would
be hard to justify. We may simply need an exception feature on these forms.

It seems as though 'dog' and 'goat', if exceptional at all, are so because

they do not have a nasal prefix (indeed they don't throughout WGB!).
We cannot pretend to have resolved these questions mired in history, but
at least feel confident that we have provided reasonable and justifiable
underlying tonal representations for all of the major classes of nouns.

What we have not done yet is to explain how or why the underlying
/ə́-ɲàm/ representation of 'animal' should surface as M-H Ḷ. This repre-
sentation has in all other cases resulted in a M-HL surface pronunciation,
e.g. /á-kɔ̀s/ 'slave' is pronounced [ā-kɔ̂s]. The only difference between
these forms is that 'animal' has a H IV and a L stem, whereas 'slave' has
a H prefix and a L stem. So it has something to do with the word struc-
ture. Before attempting an explanation to this problem, it will be neces-
sary to investigate the remaining unusual tonal properties of ∅- prefix
L tone stems--and since these are not discussed until a much later section,
we shall postpone further treatment of this irregularity.

However, please note that this "irregularity" is found in class 1
as well. The complete list of monomorphemic class 1 nouns we have iden-
tified are given in (60).

(60) a. ə̄-wáin   'child'   /ə́ - wáin /

     b. ə̄-lóm`    'husband'        /ə́ - lóm` /

     c. ə̄-nà   'mother'   /ə́ - ` nà /

     d. ə̄-bò   'father, owner' /ə́ - ` bò /

     e. ə̄-wúl`   'person'   /ə́ - wùl /

     f. ə̄-wí   'wife'   /ə́ - wí /

     g. ə̄-fɔ̂in   'chief'   /ə́ - ə́-fɔ̀in/

The one noun 'chief' belongs to gender 1/13 (instead of 1/2) and is excep-
tional in being distinct both from 'mother, father' and from 'person', all
of which also have a L tone stem. We suggest in the underlying representa-
tion that it has a prefix /ə́-/, making it identical with the form 'slave'

or 'place' in (51a). What is important for our present purpose is that
the noun 'person' has exactly the same characteristics as nouns such as
'animal' in 9/10. And in this case as well as the 9/10 cases it is clear
that we are dealing with an underlying L tone stem and a stem which was
diachronically L as well!

After we have consider the tonal properties of associative construc-
tions with a $\emptyset$ prefix N_2, we will address the necessary steps that must be
taken to account for the tonal irregularities in class 1 and class 9 nouns.

3. TONE IN THE ASSOCIATIVE CONSTRUCTION

We have already had occasion to refer to the associative construction,
that construction characterizing possessive and other relations holding
between noun phrases. Since we will be limiting ourselves to unmodified
nouns, we are able to refer to it as in (61).

(61)

N_1	of	N_2
CV-CV(V)(C)	CV	CV-CV(V)(C)
V-	V	V-
$\emptyset$-		$\emptyset$-

In the above schema, "N_1" refers to the possessed noun, while "N_2" refers
to the possessor noun. The 'of' morpheme is the associative marker itself.
The various canonical shapes of 'N_1 of N_2' strings are enumerated in (61):
noun prefixes may be of the shapes CV-, V- or $\emptyset$-, as we have seen, ignoring
the sometimes syllabic nasal we have encountered for further discussion
later. The associative marker may be of the shape CV or V and can be gotten
for each noun class from #2 in the table in (4) above. There it is also
seen that the associative marker, agreeing as it does with the N_1, may have
either H or L tone; the nouns with a single syllable stem may also have any
of these tones... in fact, as we have seen, quite a number of major and minor
tone patterns are observed, some we have not yet accounted for.

In the following subsections it will be necessary to control for the relevant segmental and tonal shapes that enter into this construction in order to expose the different properties of the system and to provide an account thereof. I emphasize the notion "relevant", because it turns out that we do not need to present every conceivable permutation of these features, something which would lead to needless repetition. It is necessary to consider, specifically, the following:

(a) All of the major and minor tone patterns of N_1

(b) Both tone patterns of the associative marker

(c) All of the major tone patterns of N_2

(d) The segmental structure of the associative marker

(e) The segmental structure of the N_2 prefix

To a limited extent we shall have to point out the importance of the segmental structure of the N_1 noun stem.

The organization of this section will thus necessarily be complex, taking the following structure:

(a) Section 3.1 will consider associative constructions having a CV associative marker and then a V associative marker, both occurring with a N_2 with a CV- prefix. Data will first be presented with a H associative

(a) Section 3.1 will present cases where the N_2 prefix is CV-

(b) Section 3.2 will present cases where the N_2 prefix is V-

(c) Section 3.3 will present cases where the N_2 prefix is $\emptyset$-

Under each section there will be subsections which, respectively, consider combinations of CV́ associative, V́ associative, CV̀ associative and V̀ associative markers.

3.1. N₂ prefix is CV-

The reason for separating out associative combinations where the N₂ prefix is CV- is that in such cases, independent of what precedes this prefix, there will be no coalescence between the AM and this prefix. The first set of data involve cases where the AM is of the shape CV́. In just this case there is not only no coalescence between it and the following N₂ prefix; there also is no possible coalescence between it and the preceding N₁ stem:

(62) a. /ə́-fə́-cùo + fə́ + tə̀-fɔ̀in/ → ə̄-fə̄-cûo fə̄ tə̂-fɔ̀in 'squirrel of the chiefs'

b. /ə́-fə́-cùo + fə́ + tə̀-dzɬ́/ → ə̄-fə̄-cûo fə̄ tə̂-dzɬ° '...of the termites'

c. /ə́-fə́-cùo + fə́ + tə̀-bál`/ → ə̄-fə̄-cûo fə̄ tə̂-bāl '...of the valleys'

d. /ə́-fə́-cùo + fə́ + tə̀-wú/ → ə̄-fə̄-cûo fə̄ tə̂-wù° '...of the rocks'

(63) a. /ə́-fə́-ɲùin′+fə́ + tə̀-fɔ̀in/ → ə̄-fə̄-ɲúⁱn fə́ tə̂-fɔ̀in 'bird of the chiefs'

b. /ə́-fə́-ɲùin′+fə́ + tə̀-dzɬ́/ → ə̄-fə̄-ɲúⁱn fə́ tə̂-dzɬ° '... of the termites'

c. /ə́-fə́-ɲùin′+fə́ + tə̀-bál`/ → ə̄-fə̄-ɲúⁱn fə́ tə̂-bāl '... of the valleys'

d. /ə́-fə́-ɲùin′+fə́ + tə̀-wú/ → ə̄-fə̄-ɲúⁱn fə́ tə̂-wù° '... of the rocks'

(64) a. /ə́-fə́-bú?` + fə́ + tə̀-fɔ̀in/ → ə̄-fə̄-bú? fə̄ tə̂-fɔ̀in 'gorilla of the chiefs'

b. /ə́-fə́-bú?` + fə́ + tə̀-dzɬ́/ → ə̄-fə̄-bú? fə̄ tə̂-dzɬ° '... of the termites'

c. /ə́-fə́-bú?` + fə́ + tə̀-bál`/ → ə̄-fə̄-bú? fə̄ tə̂-bāl '... of the valleys'

d. /ə́-fə́-bú?` + fə́ + tə̀-wú/ → ə̄-fə̄-bú? fə̄ tə̂-wù° '... of the rocks'

(65) a. /ə́-fə́-tám + fə́ + tə̀-fɔ̀in/ → ə̄-fə̄-tám fə́ tə̂-fɔ̀in 'fruit of the chiefs'

b. /ə́-fə́-tám + fə́ + tə̀-dzɬ́/ → ə̄-fə̄-tám fə́ tə̂-dzɬ° '... of the termites'

c. /ə́-fə́-tám + fə́ + tə̀-bál`/ → ə̄-fə̄-tám fə́ tə̂-bāl '... of the valleys'

d. /ə́-fə́-tám + fə́ + tə̀-wú/ → ə̄-fə̄-tám fə́ tə̂-wù° '... of the rocks'

(66) a. /ə́-fə̀-bɔ̀in + fə́ + tə̀-fɔ̀in/ → ə̄-fə̀-bɔ̀in fə̄ tə̂-fɔ̀in 'squirrel of the chiefs'

b. /ə́-fə̀-bɔ̀in + fə́ + tə̀-dzɬ́/ → ə̄-fə̀-bɔ̀in fə̄ tə̂-dzɬ° '... of the termites'

c. /ə́-fə̀-bɔ̀in + fə́ + tə̀-bál`/ → ə̄-fə̀-bɔ̀in fə̄ tə̂-bāl 'gr.squirrel of the valleys'

d. /ə́-fə̀-bɔ̀in + fə́ + tə̀-wú/ → ə̄-fə̀-bɔ̀in fə̄ tə̂-wù° '... of the rocks'

(67)a. /ə́-fə̀-ɲ̀ü' + fə́ + tə̀-fɔ̀in/ → ə̄-fə̀-ɲ̀ü fə́ tə̂-fɔ̀in 'knife of the chiefs'

 b. /ə́-fə̀-ɲ̀ü' + fə́ + tə̀-dzɬ'/ → ə̄-fə̀-ɲ̀ü fə́ tə̂-dzɬ° '... of the termites'

 c. /ə́-fə̀-ɲ̀ü' + fə́ + tə̀-bál`/ → ə̄-fə̀-ɲ̀ü fə́ tə̂-bāl '... of the valleys'

 d. /ə́-fə̀-ɲ̀ü' + fə́ + tə̀-wú/ → ə̄-fə̀-ɲ̀ü fə́ tə̂-wù° '... of the rocks'

[Acquire data on the two nouns in 19/6a of the shape M-L-M.]

In (62)-(67) we have presented the "uncoalesced" combinations of N_1 of N_2, varying the tonal patterns found in N_1 and N_2 position. The N_2 nouns 'chiefs', 'termites', 'valleys' and 'rocks' are all of the class 13 and all have an underlying L tone prefix, which is required of all nouns in this position. Their stem tones are, respectively, L, LH, HL and H. Because there is a merger between H and L prefix nouns in this position, we have not included N_2 nouns from the minor tone patterns. In N_1 position, on the other hand, we observe first the presence of the IV (more about which to follow in a later section) and, in the case of (62)-(65), a H tone prefix. The nouns 'tree squirrel', 'bird', 'gorilla' and 'fruit' all belong to class 19 and have, respectively, the underlying stem tones L, LH, HL and H. The nouns 'ground squirrel' and 'knife', also belonging to class 19, differ from the others in having an underlying L tone prefix--thus accounting for their surface minor tone patterns. The citation forms of all of these nouns (with the IV) are given in (68) for comparison:

(68) a. ə̄-fə̄-cûo   ə̄-fə̀-bɔ̀in   b. ə̄-tə̄-fɔ̀in

         ə̄-fə̄-ɲ̀űīn   ə̄-fə̀-ɲ̀ü°   ə̄-tə̄-dzfɬ

         ə̄-fə̄-bú?   ə̄-tə̄-bál

         ə̄-fə̄-tám   ə̄-tə̄-wú

citation

The N₁ nouns in (68a) are all identical to the way they appear in the associ-

ative N₁ position except for the opposition between L and L° in 'ground squir-

rel' and 'knife', which is neutralized on the noun itself in (66) and (67),

though a difference does occur on the following associative morpheme, which

is M in (66), but H in (67). We shall address this difference shortly. In

class 13

(68b) we see the citation forms of these nouns, all having a major tone pat-

tern--and being identical, in fact, to the four class 19 nouns given in (62)-

(65). There are considerable differences between these citation forms in

(68b) and the N_2 realizations of the same nouns in (62)-(67). Most of these

changes are due, of course, to the fact that in this latter position, the

underlying tone of the N_2 prefix is L, not H.

But this is not the complete story. We have already formalized in a

preliminary way the rules of H-spreading, L-spreading, and H-lowering. We

see these rules in operation throughout these forms. We shall not be con-

cerned with the N_1 forms, since we have already explained how the underlying

representations become the surface ones observed, e.g. how the H of the pre-

fix spreads onto both the L and the LH stems. Let us then consider the

changes in tone which take place across word boundaries.

We see first that the H of the associative marker /fə́/ in every case

spreads onto the L tone of the N_2 prefix /tə̀-/. In (63), (65) and (67),

the result is a phonetic sequence [fə́ tə̂-]. This is accomplished via the

H-spreading rule. In (62), (64) and (66), however, the phonetic sequence

obtained is [fə̄ tə̂-]. That is, after the H of /fə́/ has spread to create

a HL falling contour on [tə̂-], its own (original) H tone is lowered to M.

This instantiation of the H-lowering rule has serious consequences for the

correct formulation of this rule; we postpone discussion of this problem

until section ___, taking note only that it must be the underlying (single)

H tone that is affected, and NOT both the original and the copied H tone.

The formulation given tentatively in (29) of H-lowering is thus inadequate because in changing the one H tone (now doubly associated onto two TBU's by H-spreading) into M tone, both TBU's would be affected. (H-lowering, of course, cannot precede H-spreading either, because we would in this case get a M-ML sequence on the surface, instead of the desired M-HL.) Note, finally, that H-lowering is blocked in (67) because of the floating H tone of the N_1 noun 'knife'. The rule should probably be formalized to change this H̥ to M̥; however, since it does not anchor, the effect of the H-lowering rule in this case is not felt--except, of course, in that it "protects" the following H from undergoing the rule. On the surface, then, the L vs. LH (L°) opposition is realized by the operation vs. non-operation of the H-lowering rule on the following H tone morpheme.

There must be a rule simplifying LH to L° before pause, accounting for the realization of N_2 'termites' as [tə̂-dzɨ°] in every case. The realization of N_2 'rocks' as [tə̂-wù°] is due first to the L-spreading rule which then creates a LH intermediate representation, feeding the LH to L° simplification rule before pause.

3.1 3̃(2.) ČV associative

In this section we consider the same syllable structures (CV associative, CV- N_2 prefix), but this time the associative marker bears a L tone. The one class with a ČV associative marker is class 6a. The appropriate forms are obtained by substituting the plural 6a forms for the singular 19 forms in (62)-(67). The results are shown in (69)-(74). ~77, 82~ ~mə́fâm~ ~maṭ~

77 (69) a. /ə́-mə́-cùo + mə̀ + tə̀-fɔ̀in/ → ə̄-mə̄-cûo mə̀ tə̀-fɔ̀in 'the squirrels of chiefs'

    b. /ə́-mə́-cùo + mə̀ + tə̀-dzɨ́'/ → ə̄-mə̄-cûo mə̀ tə̀-dzɨ° '... of the termites'

    c. /ə́-mə́-cùo + mə̀ + tə̀-bál'/ → ə̄-mə̄-cûo mə̀ tə̀-bāl '... of the valleys'

    d. /ə́-mə́-cùo + mə̀ + tə̀-wú/ → ə̄-mə̄-cûo mə̀ tə̀-wù° '... of the rocks'

78(70)a. /ə́-mə́-ɲǜin´ + mə̀ + tə̀-fɔ̀in/ → ə̄-mā-ɲǘ‖n mə̀ tə̀-fɔ̀in 'birds of the chiefs'

b. /ə́-mə́-ɲǜin´ + mə̀ + tə̀-dzɬ´/ → ə̄-mā-ɲǘ‖n mə̀ tə̀-dzɬ° '... of the termites'

c. /ə́-mə́-ɲǜin´ + mə̀ + tə̀-bá l`/ → ə̄-mā-ɲǘ‖n mə̀ tə̀-bāl '... of the valleys'

d. /ə́-mə́-ɲǜin´ + mə̀ + tə̀-wú/ → ə̄-mā-ɲǘ‖n mə̀ tə̀-wù° '... of the rocks'

79(71)a. /ə́-mə́-bú?` + mə̀ + tə̀-fɔ̀in/ → ə̄-mā-bú? mə̀ tə̀-fɔ̀in 'gorillas of the chiefs'

b. /ə́-mə́-bú?` + mə̀ + tə̀-dzɬ´/ → ə̄-mā-bú? mə̀ tə̀-dzɬ° '... of the termites'

c. /ə́-mə́-bú?` + mə̀ + tə̀-bá l`/ → ə̄-mā-bú? mə̀ tə̀-bāl '... of the valleys'

d. /ə́-mə́-bú?` + mə̀ + tə̀-wú/ → ə̄-mā-bú? mə̀ tə̀-wù° '... of the rocks'

80(72)a. /ə́-mə́-tám + mə̀ + tə̀-fɔ̀in/ → ə̄-mā-tám mə̀ tə̀-fɔ̀in 'fruits of the chiefs'

b. /ə́-mə́-tám + mə̀ + tə̀-dzɬ´/ → ə̄-mā-tám mə̀ tə̀-dzɬ° '... of the termites'

c. /ə́-mə́-tám + mə̀ + tə̀-bá l`/ → ə̄-mā-tám mə̀ tə̀-bāl '... of the valleys'

d. /ə́-mə́-tám + mə̀ + tə̀-wú/ → ə̄-mā-tám mə̀ tə̀-wù° '... of the rocks'

81(73)a. /ə́-mə̀-bɔ̀in + mə̀ + tə̀-fɔ̀in/ → ə̄-mə̀-bɔ̀in mə̀ tə̀-fɔ̀in 'gr.squirrels of the chiefs'

b. /ə́-mə̀-bɔ̀in + mə̀ + tə̀-dzɬ´/ → ə̄-mə̀-bɔ̀in mə̀ tə̀-dzɬ° '... of the termites'

c. /ə́-mə̀-bɔ̀in + mə̀ + tə̀-bá l`/ → ə̄-mə̀-bɔ̀in mə̀ tə̀-bāl '... of the valleys'

d. /ə́-mə̀-bɔ̀in + mə̀ + tə̀-wú/ → ə̄-mə̀-bɔ̀in mə̀ tə̀-wù° '... of the rocks'

82(74)a. /ə́-mə̀-ɲǜ´ + mə̀ + tə̀-fɔ̀in/ → ə̄-mə̀-ɲǖū mə̀ tə̀-fɔ̀in 'knives of the chiefs'

b. /ə́-mə̀-ɲǜ´ + mə̀ + tə̀-dzɬ/ → ə̄-mə̀-ɲǖū mə̀ tə̀-dzɬ° '... of the termites'

c. /ə́-mə̀-ɲǜ´ + mə̀ + tə̀-bá l`/ → ə̄-mə̀-ɲǜū̠ mə̀ tə̀-bāl '... of the valleys'

d. /ə́-mə̀-ɲǜ´ + mə̀ + tə̀-wú/ → ə̄-mə̀-ɲǜū̠ mə̀ tə̀-wù° '... of the rocks'

There is nothing surprising in the realization of the N₂ nouns, which are realized, respectively, as L-L, L-L°, L-M and L-L° in each set. The associative marker remains L in all cases and, except for the N₁ realization in (74), there are no differences between the citation and N₁ noun tones when followed by the class 6a /mə̀/ marker. In (74) we observe that 'knives', pronounced M-L-L° in pre-pause position, is here pronounced M-L-LM. The final M is, of

course, none other than the underlying floating H which, we have said, is
simplified before pause. As we shall see, it is simplified before H as well--
in fact, it is realized phonetically only when followed by a L tone within
the same prosodic domain. It, of course, is lowering to M by the H-lowering
rule we have referred to on several occasions.

INSERT
ABOVE

3.1.2. V́ associative

In this subsection we shall shift to an N₁ noun class which has, instead
of a CV́ associative marker, a V́ associative marker. Because its vowel is the
most stable, i.e. the most resistant to elision, we choose nouns of class 7,
whose associative marker is /á/. Any differences observed in the following
sets of data from those just presented in (62)-(67) will be attributable to
the difference in canonical shape of the two different associative markers.

(69) a. /á-lə̀ʔ + á + tə̀-fɔ̀in/ → ā-lə́ʔ ā tê-fɔ̀in 'place of the chiefs'

 b. /á-lə̀ʔ + á + tə̀-dzɬ́/ → ā-lə́ʔ ā tê-dzɬ° '... of the termites'

 c. /á-lə̀ʔ + á + tə̀-bál`/ → ā-lə́ʔ ā tê-bāl '... of the valleys'

 d. /á-lə̀ʔ + á + tə̀-wú/ → ā-lə́ʔ ā tê-wù° '... of the rocks'   [tə̀iwú]

(70) a. /á-làŋ′ + á + tə̀-fɔ̀in/ → ā-láŋ á tê-fɔ̀in 'cocoyam of the chiefs'

 b. /á-làŋ′ + á + tə̀-dzɬ́/ → ā-láŋ á tê-dzɬ° '... of the termites'

 c. /á-làŋ′ + á + tə̀-bál`/ → ā-láŋ á tê-bāl '... of the valleys'

 d. /á-làŋ′ + á + tə̀-wú/ → ā-láŋ á tê-wù° '... of the rocks'

(71) a. /á-yɛ́s` + á + tə̀-fɔ̀in/ → ā-yɛ́s ā tê-fɔ̀in 'broom of the chiefs'

 b. /á-yɛ́s` + á + tə̀-dzɬ́/ → ā-yɛ́s ā tê-dzɬ° '... of the termites'

 c. /á-yɛ́s` + á + tə̀-bál`/ → ā-yɛ́s ā tê-bāl '... of the valleys'

 d. /á-yɛ́s` + á + tə̀-wú/ → ā-yɛ́s ā tê-wù° '... of the rocks'

(72) a. /á-yɔ́l + á + tə̀-fɔ̀in/ → ā-yɔ́l á tê-fɔ̀in 'grass of the chiefs'

 b. /á-yɔ́l + á + tə̀-dzɬ́/ → ā-yɔ́l á tê-dzɬ° '... of the termites'

   c.   /á-yɔ́l + á + tə̀-bál`/   →   ā-yɔ́l á tə̂-bāl   '... of the valleys'

   d.   /á-yɔ́l + á + tə̀-wú/   →   ā-yɔ́l á tə̂-wù°   '... of the rocks'

(73) a.   /án̩-tàs̩ + á + tə̀-fɔ̀in/   →   ān̩-tàs̩ ā tə̂-fɔ̀in   'spoon of the chiefs'

   b.   /án̩-tàs̩ + á + tə̀-dzɬ´/   →   ān̩-tàs̩ ā tə̂-dzɬ°   '... of the termites'

   c.   /án̩-tàs̩ + á + tə̀-bál`/   →   ān̩-tàs̩ ā tə̂-bāl   '... of the valleys'

   d.   /án̩-tàs̩ + á + tə̀-wú/   →   ān̩-tàs̩ ā tə̂-wù°   '... of the rocks'

(74) a.   /án̩-tɔ̀f´ + á + tə̀-fɔ̀in/   →   ān̩-tɔ̀f á tə̂-fɔ̀in   'stomach of the chiefs'

   b.   /án̩-tɔ̀f´ + á + tə̀-dzɬ´/   →   ān̩-tɔ̀f á tə̂-dzɬ°   '... of the termites'

   c.   /án̩-tɔ̀f´ + á + tə̀-bál`/   →   ān̩-tɔ̀f á tə̂-bāl   '... of the valleys'

   d.   /án̩-tɔ̀f´ + á + tə̀-wú/   →   ān̩-tɔ̀f á tə̂-wù°   '... of the rocks'

As in the previous set we have included N_1 nouns representing all of the
four major tone patterns, as well as the ML-L and ML-L° minor tone patterns.
The results are exactly the same except for (69) and (70): in these two
sets the N_1 nouns fail to manifest the HL and HM contour tones on their stems
that their counterparts exhibited in (62) and (63). The question is why?

We shall put off an explanation until the theoretical framework is in-
troduced and supported. It is important to note ~~themfollowingmxhowwerenx~~
that ~~(a)~~ the L of the HL contour expected on the N_1 in (69) is not realized
phonetically, but it is present underlyingly, since the following associative
marker /á/ is realized on a M tone. The stem L tone thus floats between the
H stem tone and the following associative marker, lowering the latter to M.
The cause of its disassociation with the stem to which it belongs underlyingly
is the fact that the AM consists solely of a V. Note that in (70) there is
no corresponding lowering of the H associative marker, because of the additional
floating H. That is, we must assume that there is both a floating L and a
floating H following the stem 'cocoyam', i.e. -láŋ ` ´ á. Finally, note in
the following two sets of data that the syllable structure of the N_1 stem
is irrelevant since it is observed in (75) and (76) that a -CV(V) stem

undergoes the same tonal simplification process as the -CVC stems in (69) and (70).

$\left(\begin{matrix} \acute{\check{z}}\acute{u} & \bar{æ} \end{matrix} \right)$

(75)a. /á-žṵ + á + tà-fɔin/ → ā-žṵ́ ā tê-fɔin   'breath of the chiefs'

  b. /á-žṵ + á + tà-dzł'/ → ā-žṵ́ ā tê-dzł°   '... of the termites'

  c. /á-žṵ + á + tà-bál`/ → ā-žṵ́ ā tê-bāl   '... of the valleys'

  d. /á-žṵ + á + tà-wú/ → ā-žṵ́ ā tê-wù°   '... of the rocks'

(76)a. /á-vò̰' + á + tà-fɔin/ → ā-vɔ̰́ á tê-fɔin   'foot of the chiefs'

  b. /á-vò̰' + á + tà-dzł'/ → ā-vɔ̰́ á tê-dzł°   '... of the termites'

  c. /á-vò̰' + á + tà-bál`/ → ā-vɔ̰́ á tê-bāl   '... of the valleys'

  d. /á-vò̰' + á + tà-wú/ → ā-vɔ̰́ á tê-wù°   '... of the rocks'

The two N_1 nouns are pronounced ā-žṵ 'breath' and ā-vɔ̰̄ 'foot' in citation form. However, just as we do not hear the pronunciations *ā-lḛ̂? ā tê-fɔin and *ā-lá̰ŋ á tê-fɔin, we do not obtain *ā-žṵ ā tê-fɔin or *ā-vɔ̰̄ á tê-fɔin. While one might rule out the last two pronunciations because they involve HLM and HMH falling-rising tones without a non-syllabic consonant intervening, this cannot be said for the first two pronunciations. In fact, as we see from the pronunciation of the /tà-/ suffix in forms involving 'valleys', pronounced [tê-bāl], the very same sequence is observed, i.e. HL-M, that is disallowed in *(ā-)lḛ̂? ā.... Somehow the analysis must be made sensitive to the internal structure such as $\hat{V} + C\bar{V}$ is acceptable, but $\hat{V}C + \bar{V}$ is not. More on this later (see section ___).

3.1.4. V̀ associative

Classes 1 and 9 both have a /à/ associative marker whose vowel elides in most instances. In the following sets of forms, the N_1 nouns belong all to class 9.

(83) a. /ə́-`ntə̀ʔ + ə̀ + tə̀-fɔ̀in/ → ə̄-ntə̀ʔ ə̀ tə̀-fɔ̀in 'village of the chiefs'

b. /ə́-`ntə̀ʔ + ə̀ + tə̀-dzɨ́'/ → ə̄-ntə̀ʔ ə̀ tə̀-dzɨ° '... of the termites'

c. /ə́-`ntə̀ʔ + ə̀ + tə̀-bál`/ → ə̄-ntə̀ʔ ə̀ tə̀-bāl '... of the valleys'

d. /ə́-`ntə̀ʔ + ə̀ + tə̀-wú/ → ə̄-ntə̀ʔ ə̀ tə̀-wù° '... of the rocks'

(84) a. /ə́-`njàm´ + ə̀ + tə̀-fɔ̀in/ → ə̄-njàm̄ m̀ tə̀-fɔ̀in 'axe of the chiefs'

b. /ə́-`njàm´ + ə̀ + tə̀-dzɨ́'/ → ə̄-njàm̄ m̀ tə̀-dzɨ° '... of the termites'

c. /ə́-`njàm´ + ə̀ + tə̀-bál`/ → ə̄-njàm̄ m̀ tə̀-bāl '... of the valleys'

d. /ə́-`njàm´ + ə̀ + tə̀-wú/ → ə̄-njàm̄ m̀ tə̀-wù° '... of the rocks'

(85) a. /ə́-`ŋgə́ʔ + ə̀ + tə̀-fɔ̀in/ → ə̄-ŋgə̄ʔ ə̀ tə̀-fɔ̀in 'trouble of the chiefs'

b. /ə́-`ŋgə́ʔ + ə̀ + tə̀-dzɨ́'/ → ə̄-ŋgə̄ʔ ə̀ tə̀-dzɨ° '... of the termites'

c. /ə́-`ŋgə́ʔ + ə̀ + tə̀-bál`/ → ə̄-ŋgə̄ʔ ə̀ tə̀-bāl '... of the valleys'

d. /ə́-`ŋgə́ʔ + ə̀ + tə̀-wú/ → ə̄-ŋgə̄ʔ ə̀ tə̀-wù° '... of the rocks'

(86) a. /ə́-kâf + ə̀ + tə̀-fɔ̀in/ → ə̄-káf ə̀ tə̀-fɔ̀in 'armpit of the chiefs'

b. /ə́-kâf + ə̀ + tə̀-dzɨ́'/ → ə̄-káf ə̀ tə̀-dzɨ° '... of the termites'

c. /ə́-kâf + ə̀ + tə̀-bál`/ → ə̄-káf ə̀ tə̀-bāl '... of the valleys'

d. /ə́-kâf + ə̀ + tə̀-wú/ → ə̄-káf ə̀ tə̀-wù° '... of the rocks'

(87) a. /ə́-kà̀ʔ´ + ə̀ + tə̀-fɔ̀in/ → ə̄-káʔ ə̀ tə̀-fɔ̀in 'crack of the chiefs'

b. /ə́-kà̀ʔ´ + ə̀ + tə̀-dzɨ́'/ → ə̄₁káʔ ə̀ tə̀-dzɨ° '... of the termites'

c. /ə́-kàʔ´ + ə̀ + tə̀-bál`/ → ə̄-káʔ ə̀ tə̀-bāl '... of the valleys'

d. /ə̄-kāʔ´ + ə̀ + tə̀-wú/ → ə̄-káʔ ə̀ tə̀-wù° '... of the rocks'

(88) a. /ə́-bʉ́` + ə̀ + tə̀-fɔ̀in/ → ə̄-bʉ́ ʉ̀ tə̀-fɔ̀in 'dog of the chiefs'

b. /ə́-bʉ́` + ə̀ + tə̀-dzɨ́'/ → ə̄-bʉ́ ʉ̀ tə̀-dzɨ° '... of the termites'

c. /ə́-bʉ́` + ə̀ + tə̀-bál`/ → ə̄-bʉ́ ʉ̀ tə̀-bāl '... of the valleys'

d. /ə́-bʉ́` + ə̀ + tə̀-wú/ → ə̄-bʉ́ ʉ̀ tə̀-wù° '... of the rocks'

(89) a. /ə́-mó + ə̀ + tə̀-fɔ̀in/ → ə̄-mó ò tə̀-fɔ̀in 'lake of the chiefs'

b. /ə́-mó + ə̀ + tə̀-dzɨ́'/ → ə̄-mó ò tə̀-dzɨ° '... of the termites'

c. /ə́-mó + ə̀ + tə̀-bál`/ —→ ə̄-mó ò tə̀-bā̄l '... of the valleys'

d. /ə́-mó + ə̀ + tə̀-wú/ —→ ə̄-mó ò tə̀-wù° '... of the rocks'

We have not bothered to present distinct N₁ nouns differentiating M-M from what we have entered as M-M L̥, since the two are not distinct before a L tone associative. Nor have we entered any example of /H-L/, since as we saw in the case of ə̄-ɲ́ám` 'animal', these nouns exceptionally merge with the /H-HL/ nouns (e.g. 'dog' in (88)) in this position. The above forms should thus suffice in exemplifying the properties of the V̀ associative.

The N₁ nouns in (83)-(89) are pronounced as follows in isolation: ə̄-ntə̀ʔ 'village', ə̄-njàm° 'axe', ə̄-ŋgə̄ʔ 'trouble', ə̄-kâf 'armpit', ə̄-ká᷈ʔ 'crack', ə̄-bʉ́ 'dog', and ə̄-mó 'lake'. The noun 'armpit' is exception in having a lexically linked HL contour to its stem (see discussion in section ___ above). Class 9 nouns differ in that some (including all that have an initial NC cluster) have a L depressor tone immediately preceding the stem such that the IV ə́- in (83), and (84), and (85) cannot spread onto the following L(H) stem, and such that the H of the stem in (85) is lowered to M.

There are no surprises in these data. The /ə̀/ marker is present on the surface as [ə̀] when preceded by an obstruent (including glottal stop), but assimilates to the preceding segment when it is a sonorant (vowel or sonorant consonant, e.g. nasal). The same realization of schwa is observed in classes 3 and 8, where the associative marker is /ə́/. Other than this observation, we also observe that the contour-simplification process found in the preceding section is in effect here: in (86) the HL of 'armpit' simplifies to H (and is followed by a L) as does the HM of 'crack' in (87) (also followed by a L). 'Armpit' is an exceptional noun, such examples being rare. The set of data in (90), however, clearly show that the same contour simplification is present when the N₁ stem is of the structure CV(V):

(90) a. /ə́-žvɔ̀′ + ə̀ + tə̀-fɔ̀in/ → ə̄-žvɔ́ ɔ̀ tə̀-fɔ̀in   'bee of the chiefs'

    b. /ə́-žvɔ̀′ + ə̀ + tə̀-dzɫ′/ → ə̄-žvɔ́ ɔ̀ tə̀-dzɫ°   '... of the termites'

    c. /ə́-žvɔ̀′ + ə̀ + tə̀-bál`/ → ə̄-žvɔ́ ɔ̀ tə̀-bāl   '... of the valleys'

    d. /ə́-žvɔ̀′ + ə̀ + tə̀-wú/ → ə̄-žvɔ́ ɔ̀ tə̀-wù°   '... of the rocks'

The noun 'bee' is pronounced in isolation as ə̄-žvɔ́ɔ̄. There is in (90),
however, no question of hearing forms such as *ə̄-žvɔ́ɔ̄ ɔ̀ tə̀-fɔ̀in. We thus
see that in the case of a following L tone associative, a preceding HL or
HM contour is always simplified, just as it is when followed by a H tone V
associative.

The LM contour on 'axe' in (84) is, of course, the result of the H of
the LH stem being assigned to the stem to create a LH rising tone, lowered
to LM by H-lowering. The elision of the following schwa gives the impression
of a ML falling tone on the labial nasal.

3.2. N₂ prefix is V-

We have seen in some of the above examples that syllable structure is
important in determining the surface tonal realization of otherwise identical
underlying representations. Where every tone was separated from every other
tone by an "intervening" consonant, i.e. where we have alternation of CVCV,
a more direct realization of the underlying tones was observed. Where tones
abut without the intervention of a non-syllabic segment, further modifications
may and do take place.

There are important differences observed in the associative construction
when the N₂ is of the structure V-. Since the AM is always CV or V, this
means that two vowels will necessarily come together. The result is elision
and the effect on tone is substantial. This section considers sets of forms
corresponding to those seen but where the N₂ begins with a V- prefix. The
possessors chosen for this purpose are given in (91).

fə̄γâm f'ā̄kə̀s

(91) a. /á-kɔ̀s/ → ā-kɔ̂s 'slave'

   b. /á-kù'/ → ā-kúū 'forest'

   c. /á-bás`/ → ā-bás '(monitor) lizard'

   d. /á-kóf/ → ā-kóf 'tick'

All of these nouns belong to class 7, a decision that was made because the /á-/ prefix is resistent to elision. The forms in (91) are as pronounced in isolation. Again, the L, LH, HL and H stem patterns are represented.

3.2.1. CV́ associative

As in section 3.1.1, we begin with CV́ associatives. The same class 19 nouns are observed in N₁ position in (92)-(97) as were seen in (67)--this time, however, with the N₂ nouns of (91), as they occur with a L- prefix:

(92)a. /ə́-fə́-cùo + fə́ + à-kɔ̀s/ → ə̄-fə̄-cûo f' ā-kɔ̀s ~~tr.squirrel~~ *mat* of the slave'

   b. /ə́-fə́-cùo + fə́ + à-kù'/ → ə̄-fə̄-cûo f' ā-kù° '... of the forest'

   c. /ə́-fə́-cùo + fə́ + à-bás`/ → ə̄-fə̄-cûo f' ā-bās '... of the lizard'

   d. /ə́-fə́-cùo + fə́ + à-kóf/ → ə̄-fə̄-cûo f' ā-kōf '... of the tick'

(93)a. /ə́-fə́-ɲùin' + fə́ + à-kɔ̀s/ → ə̄-fə̄-ɲúTn f' á-kɔ̀s 'bird of the slave'

   b. /ə́-fə́-ɲùin' + fə́ + à-kù'/ → ə̄-fə̄-ɲúTn f' á-kù° '... of the forest'

   c. /ə́-fə́-ɲùin' + fə́ + à-bás`/ → ə̄-fə̄-ɲúTn f' á-bās '... of the lizard'

   d. /ə́-fə́-ɲùin' + fə́ + à-kóf/ → ə̄-fə̄-ɲúTn f' á-kōf '... of the tick'

(94)a. /ə́-fə́-bú?` + fə́ + à-kɔ̀s/ → ə̄-fə̄-bú? f' ā-kɔ̀s 'gorilla of the slave'

   b. /ə́-fə́-bú?` + fə́ + à-kù'/ → ə̄-fə̄-bú? f' ā-kù° '... of the forest'

   c. /ə́-fə́-bú?` + fə́ + à-bás`/ → ə̄-fə̄-bú? f' ā-bās '... of the lizard'

   d. /ə́-fə́-bú?` + fə́ + à-kóf/ → ə̄-fə̄-bú? f' ā-kōf '... of the tick'

(95)a. /ə́-fə́-tám + fə́ + à-kɔ̀s/ → ə̄-fə̄-tám f' á-kɔ̀s 'fruit of slave'

   b. /ə́-fə́-tám + fə́ + à-kù'/ → ə̄-fə̄-tám f' á-kù '... of forest'

   c. /ə́-fə́-tám + fə́ + à-bás`/ → ə̄-fə̄-tám f' á-bās '... of lizard'

   d. /ə́-fə́-tám + fə́ + à-kóf/ → ə̄-fə̄-tám f' á-kōf '... of tick'

(96) a. /ə́-fə̀-bɔ̀in + fə́ + à-kɔ̀s/ → ə̄-fə̀-bɔ̀in f' ə̄-kɔ̀s 'gr.squirrel of the slave'

b. /ə́-fə̀-bɔ̀in + fə́ + à-kù'/ → ə̄-fə̀-bɔ̀in f' ə̄-kù° '... of the forest'

c. /ə́-fə̀-bɔ̀in + fə́ + à-bás`/ → ə̄-fə̀-bɔ̀in f' ə̄-bās '... of the lizard'

d. /ə́-fə̀-bɔ̀in + fə́ + à-kɔ́f/ → ə̄-fə̀-bɔ̀in f' ə̄-kɔ̄f '... of the tick'

(97) a. /ə́-fə̀-ɲʊ̀' + fə́ + à-kɔ̀s/ → ə̄-fə̀-ɲʊ̀ f' á-kɔ̀s 'knife of the slave'

b. /ə́-fə̀-ɲʊ̀' + fə́ + à-kù'/ → ə̄-fə̀-ɲʊ̀ f' á-kù° '... of the forest'

c. /ə́-fə̀-ɲʊ̀' + fə́ + à-bás`/ → ə̄-fə̀-ɲʊ̀ f' á-bās '... of the lizard'

d. /ə́-fə̀-ɲʊ̀' + fə́ + à-kɔ́f/ → ə̄-fə̀-ɲʊ̀ f' á-kɔ̄f '... of the tick'

There are a number of striking differences between (92)-(97) and their counterparts in (62)-(67):

(a) There is elision between the CV associative (here, /fə́/) and the following V- N_2 prefix (here, /à-/), whereas there was no elision in (62)-(67). In the above forms, elision is indicated by an apostrophe (') indicating that the schwa of the /fə́/ associative marker has been deleted. As far as can be determined, however, the result remaining is a short vowel.

(b) The resulting elision of the associative vowel somehow causes the vowel of the N2 prefix to be realized on a level tone (H or M), whereas in (62)-(67) the N_2 prefix was always realized on a HL falling tone.

(c) The N_2 of the (d) forms is realized above as H-M or M-M, whereas it was realized in (62)-(67) as HL-L° in all cases. This seems somehow related to the point in (b) that the single AM + N_2 prefix syllable is a level tone, not a falling tone.

Let us consider the input fə́ + à-kɔ́f 'of the tick'. Clearly the H of the AM wants to spread over the L tone N_2 prefix; clearly, also, the L of this prefix wants to spread onto the H of the stem. If the latter is allowed we will erroneously derive *f' á-kɔ̀f°. Here is the dilemma, however: in effecting this elision process, it is the vowel of the AM which is elided, but the tone of the N_2 prefix which is "lost", i.e. which is set afloat.

Put somewhat differently, the tone of the AM and the vowel segment of the N_2 prefix survive.

What we propose is a two-step adjustment, as in (98).

(98) a.
```
    ə     a         b.  (ə)···· a       c.        a
    |     |             |       |                / \
    x     x             x       x              x   (x)
    |     |             |       |              |··· ͡
    H     L             H       L              H    L
```
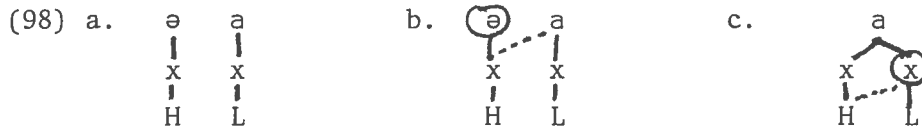
The input to coalescence is given in (98a): two core units (WU's), repre-
sented b- the x's, each one of which has on one tier a set of vowel features
and on another tier the appropriate tone. In (98b) we see that the first
set of vowel features, the schwa, is elided, and the second set of vowel fea-
tures, the a, associates leftwards to take its WU. At this point we have a
geminate aa vowel, with the first "mora" carrying H tone and the second car-
rying L tone. In (98c) we have vowel truncation, i.e. the second unit is
deleted, since Kom does not normally permit long vowels (except perhaps on
stems--see below), and the result is that the WU which had the L associated
to it is deleted and the L now floats. This accounts for the non-contour
nature of the remaining vowel length, also for the reason why L-spreading
does not occur in the (d) forms: the L-spreading rule will be formulated
to require that the L that spreads be an anchored one. A floating L will
not suffice to cause L-spreading, though it will suffice to cause H-lowering.
Finally, note in (98c) that it is possible, even probable, that we shall
order the rules so that H-spreading will take place prior to x-truncation.
This creates an intermediate áâ sequence from the áà acquired in (98b).
Since the second WU is to be deleted anyway, it makes no difference in the
output whether H-spreading takes place or not.

It is hard to imagine how such facts could be handled in a non-ad-hoc
way without having a tier of core elements such as the WU's we have assumed.

3.2.2. V́ associative

The forms in (99)-(106) show the same elision effects on the tone of the N₂ nouns:

N.B.

(99) a. /á-là? + á + à-kɔ̀s/ → ā-lə́? ʼā-kɔ̀s 'place of the slave'

    b. /á-là? + á + à-kù′/ → ā-lə́? ʼā-kù° '... of the forest'

    c. /á-là? + á + à-bás`/ → ā-lə́? ʼā-bā̄s '... of the lizard'

    d. /á-là? + á + à-kóf/ → ā-lə́? ʼā-kō̄f '... of the tick'

(100) a. /á-làŋ′ + á + à-kɔ̀s/ → ā-láŋ ʼá-kɔ̀s 'cocoyam of the slave'

    b. /á-làŋ′ + á + à-kù′/ → ā-láŋ ʼá-kù° '... of the forest'

    c. /á-làŋ′ + á + à-bás`/ → ā-láŋ ʼá-bā̄s '... of the lizard'

    d. /á-làŋ′ + á + à-kóf/ → ā-láŋ ʼá-kō̄f '... of the tick'

(101) a. /á-yɛ́s` + á + à-kɔ̀s/ → ā-yɛ́s ʼā-kɔ̀s 'broom of the slave'

    b. /á-yɛ́s` + á + à-kù′/ → ā-yɛ́s ʼā-kù° '... of the forest'

    c. /á-yɛ́s` + á + à-bás`/ → ā-yɛ́s ʼā-bā̄s '... of the lizard'

    d. /á-yɛ́s` + á + à-kóf/ → ā-yɛ́s ʼā̄-kō̄f '... of the tick'

(102) a. /á-yɔ́l + á + à-kɔ̀s/ → ā-yɔ́l ʼá-kɔ̀s 'grass of the slave'

    b. /á-yɔ́l + á + à-kù′/ → ā-yɔ́l ʼá-kù° '... of the forest'

    c. /á-yɔ́l + á + à-bás`/ → ā-yɔ́l ʼá-bā̄s '... of the lizard'

    d. /á-yɔ́l + á + à-kóf/ → ā-yɔ́l ʼá-kō̄f '... of the tick'

(103) a. /án̄-tàs + á + à-kɔ̀s/ → ān̄-tàs ʼā-kɔ̀s 'spoon of the slave'

    b. /án̄-tàs + á + à-kù′/ → ān̄-tàs ʼā-kù° '... of the forest'

    c. /án̄-tàs + á + à-bɐ′s`/ → ān̄-tàs ʼā-bā̄s '... of the lizard'

    d. /án̄-tàs + á + à-kóf/ → ān̄-tàs ʼā-kō̄f '... of the tick'

ān̄tàn   *insect*

(104) a. /án̄-tɔ̀f′ + á + à-kɔ̀s/ → ān̄-tɔ̀f ʼá-kɔ̀s 'stomach of the slave'

    b. /án̄-tɔ̀f′ + á + à-kù′/ → ān̄-tɔ̀f ʼá-kù° '... of the forest'

    c. /án̄-tɔ̀f′ + á + à-bás`/ → ān̄-tɔ̀f ʼá-bā̄s '... of the lizard'

    d. /án̄-tɔ̀f′ + á + à-kóf/ → ān̄-tɔ̀f ʼá-kō̄f '... of the tick'

+ *ān̄kān̄ 'lie'*

Because both the AM and the N[2] prefix are identical in segment features (both are /a/), it is not immediately obvious which vowel is deleting and which is remaining. Be this as it may, the same characteristics of CV associatives is found here: the surviving vowel is either of H or M tone, and the (d) forms have a M tone stem, rather than a L° one. The main difference here is that we also observe in (99) and (100) the contour simplification that has characterized N[1] stems before when they are followed by a V associative marker. Though not shown, this simplification of HL and HM to H occurs independent of the syllable structure of the N[1] stem, i.e. whether it has CVC structure (as shown) or CV(V) structure.

In the transcriptions in (99)-(104) we have indicated the apostrophe before the surviving vowel. [Somewhere in here it would be good to have the results of elision, as understood. It would appear that there is a hierarchy, with /i/ stronger than /a/, which is stronger than schwa.]

3.2.3. C$\dot{V}$ associative

In order to obtain sets of forms requiring a C$\grave{V}$ associative, we turn again to class 6a in N[1] position.

(105)a. /ə́-mə́-cùo + mə̀ + à-kɔ̀s/ → ə̄-mə̄-cûo m' à-kɔ̀s 'tr. squirrels of the slave'

b. /ə́-mə́-cùo + mə̀ + à-kù'/ → ə̄-mə̄-cûo m' à-kù° '... of the forest'

c. /ə́-mə́-cùo + mə̀ + à-bás`/ → ə̄-mə̄-cûo m' à-bā̄s '... of the lizard'

d. /ə́-mə́-cùo + mə̀ + à-kóf/ → ə̄-mə̄-cûo m' à-kɔ̀f° '... of the tick'

(106)a. /ə́-mə́-ɲṵin' + mə̀ + à-kɔ̀s/ → ə̄-mə̄-ɲúⁱn m' à-kɔ̀s 'birds of the slave'

b. /ə́-mə́-ɲṵin' + mə̀ + à-kù'/ → ə̄-mə̄-ɲúⁱn m' à-kù° '... of the forest'

c. /ə́-mə́-ɲṵin' + mə̀ + à-bás`/ → ə̄-mə̄-ɲúⁱn m' à-bā̄s '... of the lizard'

d. /ə́-mə́-ɲṵin' + mə̀ + à-kóf/ → ə̄-mə̄-ɲúⁱn m' à-kɔ̀f° '... of the tick'

(107)a. /ə́-mə́-bú?` + mə̀ + à-kɔ̀s/ → ə̄-mə̄-bú? m' à-kɔ̀s 'gorillas of the slave'

b. /ə́-mə́-bú?` + mə̀ + à-kù'/ → ə̄-mə̄-bú? m' à-kù° '... of the forest'

c. /ə́-mə́-bú?` + mə̀ + à-bás`/ → ə̄-mə̄-bú? m' à-bās '... of the lizard'

d. /ə́-mə́-bú?` + mə̀ + à-kóf/ → ə̄-mə̄-bú? m' à-kòf° '... of the tick'

(108)a. /ə́-mə́-tám + mə̀ + à-kòs/ → ə̄-mə̄-tám m' à-kòs 'fruits of the slave'

  b. /ə́-mə́-tám + mə̀ + à-kù´/ → ə̄-mə̄-tám m' à-kù° '... of the forest'

  c. /ə́-mə́-tám + mə̀ + à-bás`/ → ə̄-mə̄-tám m' à-bās '... of the lizard'

  d. /ə́-mə́-tám + mə̀ + à-kóf/ → ə̄-mə̄-tám m' à-kòf° '... of the tick'

(109)a. /ə́-mə̀-bɔ̀in + mə̀ + à-kòs/ → ə̄-mə̀-bɔ̀in m' à-kòs 'gr.squirrels of the slave'

  b. /ə́-mə̀-bɔ̀in + mə̀ + à-kù´/ → ə̄-mə̀-bɔ̀in m' à-kù° '... of the forest'

  c. /ə́-mə̀-bɔ̀in + mə̀ + à-bás`/ → ə̄-mə̀-bɔ̀in m' à-bā̄s '... of the lizard'

  d. /ə́-mə̀-bɔ̀in + mə̀ + à-kóf/ → ə̄-mə̀-bɔ̀in m' à-kòf° '... of the tick'

(110)a. /ə́-mə̀-ɲʊ̀´ + mə̀ + à-kòs/ → ə̄-mə̀-ɲʊ̀ū m' à-kòs 'knives of the slave'

  b. /ə́-mə̀-ɲʊ̀´ + mə̀ + à-kù´/ → ə̄-mə̀-ɲʊ̀ū m' à-kù° '... of the forest'

  c. /ə́-mə̀-ɲʊ̀´ + mə̀ + à-bás`/ → ə̄-mə̀-ɲʊ̀ū m' à-bā̄s '... of the lizard'

  d. /ə́-mə̀-ɲʊ̀´ + mə̀ + à-kóf/ → ə̄-mə̀-ɲʊ̀ū m' à-kòf° '... of the tick'

In the above forms we are back to the pattern we were used to in section 3.1.
The tone of the N₁ stem in the (d) forms is L° again. There are no tonal
modifications of note except for the LM rising tone found on the stem of N₁
in (110). The M comes from the underlying H which anchors onto the N₁ stem
syllable (creating a long vowel length, as indicated), lowered as we have seen
so many times by the H-lowering rule. Note that neither this H nor the H of
the N₁ stem in (108) are allowed to spread onto the following /mə̀/ L tone as-
sociative marker. H-spreading must be blocked from applying across certain
"boundaries". We thus assume that there is a prosodic domain juncture occur-
ring between N₁ and the AM--in other words, that the AM belongs to the follow-
ing unit in terms of phonological domains.

3.2.4. V̀ associative

_The following sets of forms illustrate N₂ V- prefixes preceded by ~~V̀~~ V̀

associative, namely the /à/ of class 9.

(111) a. /ə́-ˋntə̀ʔ + ə̀ + à-kɔ̀s/ → ə̄-ntə̀ʔ ʾà-kɔ̀s 'village of the slave'

b. /ə́-ˋntə̀ʔ + ə̀ + à-kù´/ → ə̄-ntə̀ʔ ʾà-kù° '... of the forest'

c. /ə́-ˋntə̀ʔ + ə̀ + à-bás`/ → ə̄-ntə̀ʔ ʾà-bās '... of the lizard'

d. /ə́-ˋntə̀ʔ + ə̀ + à-kóf/ → ə̄-ntə̀ʔ ʾà-kòf° '... of the tick'

(112) a. /ə́-ˋnjàm´ + ə̀ + à-kɔ̀s/ → ə̄-njàm`āà-kɔ̀s 'axe of the slave'

b. /ə́-ˋnjàm´ + ə̀ + à-kù´/ → ə̄-njàm`āà-kù° '... of the forest'

c. /ə́-ˋnjàm´ + ə̀ + à-bás`/ → ə̄-njàm`āà-bās '... of the lizard'

d. /ə́-ˋnjàm´ + ə̀ + à-kóf/ → ə̄-njàm`āà-kòf° '... of the tick'

(113) a. /ə́-ˋŋgə́ʔ + ə̀ + à-kɔ̀s/ → ə̄-ŋgə̄ʔʾà-kɔ̀s 'trouble of the slave'

b. /ə́-ˋŋgə́ʔ + ə̀ + à-kù´/ → ə̄-ŋgə̄ʔʾà-kù° '... of the forest'

c. /ə́-ˋŋgə́ʔ + ə̀ + à-bás`/ → ə̄-ŋgə̄ʔʾà-bās '... of the lizard'

d. /ə́-ˋŋgə́ʔ + ə̀ + à-kóf/ → ə̄-ŋgə̄ʔʾà-kòf° '... of the tick'

(114) a. /ə́-kâf + ə̀ + à-kɔ̀s/ → ə̄-káfʾà-kɔ̀s 'armpit of the slave'

b. /ə́-kâf + ə̀ + à-kù´/ → ə̄-káfʾà-kù° '... of the forest'

c. /ə́-kâf + ə̀ + à-bás`/ → ə̄-káfʾà-bās '... of the lizard'

d. /ə́-kâf + ə̀ + à-kóf/ → ə̄-káfʾà-kòf° '... of the tick'

(115) a. /ə́-kà?´ + ə̀ + à-kɔ̀s/ → ə̄-ká?ʾà-kɔ̀s 'crack of the slave'

b. /ə́-kà?´ + ə̀ + à-kù´/ → ə̄-ká?ʾà-kù° '... of the forest'

c. /ə́-kà?´ + ə̀ + à-bás`/ → ə̄-ká?ʾà-bās '... of the lizard'

d. /ə́-kà?´ + ə̀ + à-kóf/ → ə̄-ká?ʾà-kòf° '... of the tick'

(116) a. /ə́-bʉ́` + ə̀ + à-kɔ̀s/ → ə̄-bʉ́ʾà-kɔ̀s 'dog of the slave'

b. /ə́-bʉ́` + ə̀ + à-kù´/ → ə̄-bʉ́ʾà-kù° '... of the forest'

c. /ə́-bʉ́` + ə̀ + à-bás`/ → ə̄-bʉ́ʾà-bās '... of the lizard'

d. /ə́-bʉ́` + ə̀ + à-kóf/ → ə̄-bʉ́ʾà-kòf° '... of the tick'

(117)a. /ə́-mó + ə̀ + à-kɔ̀s/ → ə̄-mó 'à-kɔ̀s 'lake of the slave'

  b. /ə́-mó + ə̀ + à-kù'/ → ə̄-mó 'à-kù° '... of the forest'

  c. /ə́-mó + ə̀ + à-bás`/ → ə̄-mó 'à-bās '... of the lizard'

  d. /ə́-mó + ə̀ + à-kóf/ → ə̄-mó 'à-kòf° '... of the tick'

In all of the above forms we see that the class 9 /ə̀/ AM has been elided
before the N₂ class 7 prefix /à-/. The forms in (114) and (115) show
the familiar simplification of HL and HM contours before a vowel--but the
forms in (112) show something not yet seen. In this case the would-be LM
rising tone on the N₁ noun stem 'axe' is shifted over to the following L
tone vowel, creating instead a ML falling tone, as indicated. It now
becomes clear that we have two separate processes:

    (a) contour simplification of HL, HM or LM by means of setting afloat
all but the first tone (thus, simplification to H, H and L, respectively);

    (b) reassociation of the tones set afloat--as seen in (112), only a
M (/H/) between L's is reassociated.

    We might consider direct assigning of the H of the -LH stem 'axe' to
the following vowel. However, we would run into difficulties with the "HM"
pattern which, as indicated in (115) and elsewhere, derives from a H-LH
underlying sequence. In other words, it would be difficult to treat the H
of -LH differently according to whether it is preceded by a H vs. L prefix.
[Consider the possibility of having first tone of a noun associated directly
onto the stem syllable?] This still does not help us with the H-HM pattern
if at the stage where contour simplification takes place we are dealing with
H-HLH, because then when followed by L the final H should do the same as it
does in (112), i.e. we should obtain *ə̄-ká? 'ə̄ə̀-kɔ̀s 'crack of slave' etc.
We shall therefore have to make the reassignment of the [M] tone to the N₂
prefix in (112) sensitive to the fact that the preceding L is an anchored one.

3.3. N₂ prefix is ∅

Classes 1, 2, 9 and 10 all have ∅ prefixes. There is some question as to whether some of these should be established with a floating (L) tone, i.e. in classes 1 and 9. These classes are distinct from all of the others, in any case, by their failure to have either a CV- or a V- prefix. The initial schwa which has sometimes been present before these nouns has been said to be the IV and not a noun class prefix.

This section looks at the tones of the associative construction when the N₂ nouns are prefixless. The nouns used in this position are those seen in their isolation form in (118).

(118) a. /ə́-ɲàm/   →   ə̄-ɲám   'animal'

    b. /ə́-kàin'/   →   ə̄-káTn   'monkey'

    c. /ə́-b̩ʉ́ɬ`/   →   ə̄-b̩ʉ́ɬ   'goat'

    e. /ə́-`mbɔ̀ŋ/   →   ə̄-mbɔ̀ŋ   'dwarf cow'

    f. /ə́-`ŋgòm'/   →   ə̄-ŋgòm°   'porcupine'

    g. /ə́-`ŋgvɔ́`/   →   ə̄-ŋgvɔ̄   'hen'

    d. /ə́-wáin/   →   ə̄-wáin   'child'

Of the above nouns, all except (118d) 'child' belong to class 9; 'child' belongs to class 1. (118a-d) have nouns with a C- initial, while (118e-g) have nouns with a NC- initial. [Note on not having NC- H stem or the one noun 'lake'; check realization of such words including HL ones in N₂ position after L AM.] We shall see that in most cases the presence of the nasal results in a different realization from nouns not having the nasal. [We have already remarked on the unusual realization of C- initial stems with L tone, e.g. 'animal' in (118a) with its M-H instead of expected *M-HL tone. It will be important to keep an idea on this pattern throughout the data to be presented.]

bʋɨ́ goat

3.3.1. CV associative

The following sets of forms illustrate the associative tones when the N$_2$ is prefixless and the associative consists of a H tone CV- structure, in this case that of class 19, as we have seen earlier.

(119) a. /ə́-fə́-cùo + fə́ + ɲàm/ → ə̄-fə̄-cûo fə̄ ɲâm 'squirrel of the animal'

b. /ə́-fə́-cùo + fə́ + kàin'/ → ə̄-fə̄-cûo fə̄ káTn '... of the monkey'

c. /ə́-fə́-cùo + fə́ + bʉɨ`/ → ə̄-fə̄-cûo fə̄ bʉ̄ɨ '... of the goat'

d. /ə́-fə́-cùo + fə́ + wáin/ → ə̄-fə̄-cûo fə̄ wāin '... of the child'

e. /ə́-fə́-cùo + fə́ + mbòŋ/ → ə̄-fə̄-cûo fə̄ mbòŋ '... of the dwarf cow'

f. /ə́-fə́-cùo + fə́ + ŋgòm'/ → ə̄-fə̄-cûo fə̄ ŋgòm⁶ '... of the porcupine'

g. /ə́-fə́-cùo + fə́ + ŋgvó`/ → ə̄-fə̄-cûo fə̄ ŋgvō '... of the hen'

(120) a. /ə́-fə́-ɲ̀uin' + fə́ + ɲàm/ → ə̄-fə̄-ɲúTn fə́ ɲâm 'bird of the animal'

b. /ə́-fə́-ɲ̀uin' + fə́ + kàin'/ → ə̄-fə̄-ɲúTn fə́ káTn '... of the monkey'

c. /ə́-fə́-ɲ̀uin' + fə́ + `bʉɨ`/ → ə̄-fə̄-ɲúTn fə́ bʉ̄ɨ '... of the goat'

d. /ə́-fə́-ɲ̀uin' + fə́ + `wáin/ → ə̄-fə̄-ɲúTn fə́ wāin '... of the child'

e. /ə́-fə́-ɲ̀uin' + fə́ + mbòŋ/ → ə̄-fə̄-ɲúTn fə́ mbòŋ '... of the dwarf cow'

f. /ə́-fə́-ɲ̀uin' + fə́ + ŋgòm'/ → ə̄-fə̄-ɲúTn fə́ ŋgòm° '... of the porcupine'

g. /ə́-fə́-ɲ̀uin' + fə́ + `ŋgvó`/ → ə̄-fə̄-ɲúTn fə́ ŋgvō '... of the hen'

(121) a. /ə́-fə́-bú?` + fə́ + ɲàm/ → ə̄-fə̄-bú? fə̄ ɲâm 'gorilla of the animal'

b. /ə́-fə́-bú?` + fə́ + kàin'/ → ə̄-fə̄-bú? fə̄ káTn '... of the monkey'

c. /ə́-fə́-bú?` + fə́ + `bʉɨ`/ → ə̄-fə̄-bú? fə̄ bʉ̄ɨ '... of the goat'

d. /ə́-fə́-bú?` + fə́ + `wáin/ → ə̄-fə̄-bú? fə̄ wāin '... of the child'

e. /ə́-fə́-bú?` + fə́ + mbòŋ/ → ə̄-fə̄-bú? fə̄ mbòŋ '... of the dwarf cow'

f. /ə́-fə́-bú?` + fə́ + ŋgòm'/ → ə̄-fə̄-bú? fə̄ ŋgòm° '... of the porcupine'

g. /ə́-fə́-bú?` + fə́ + `ŋgvó`/ → ə̄-fə̄-bú? fə̄ ŋgvō '... of the hen'

(122) a. /ə́-fə́-tám + fə́ + ɲàm/ → ə̄-fə̄-tám fə́ ɲâm "FRUIT OF THE ANIMAL"

b. /ə́-fə́-tám + fə́ + kàin'/ → ə̄-fə̄-tám fə́ káⁱn 'fruit of the monkey'

c. /ə́-fə́-tám + fə́ + `búɨ`/ → ə̄-fə̄-tám fə́ bū̄ɨ '... of the goat'

d. /ə́-fə́-tám + fə́ + `wáin/ → ə̄-fə̄-tám fə́ wā̄in '... of the child'

e. /ə́-fə́-tám + fə́ + mbɔ̀ŋ/ → ə̄-fə̄-tám fə́ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-fə́-tám + fə́ + ŋgòm'/ → ə̄-fə̄-tám fə́ ŋgòm° '... of the porcupine'

g. /ə́-fə́-tám + fə́ + `ŋgvɔ́`/ → ə̄-fə̄-tám fə́ ŋgvɔ̄̄ '... of the hen'

(123) a. /ə́-fə̀-bɔ̀in + fə́ + ɲàm/ → ə̄-fə̀-bɔ̀in fə̄ ɲâm 'gr.squirrel of the animal'

b. /ə́-fə̀-bɔ̀in + fə́ + kàin'/ → ə̄-fə̀-bɔ̀in fə̄ káⁱn '... of the monkey'

c. /ə́-fə̀-bɔ̀in + fə́ + `búɨ`/ → ə̄-fə̀-bɔ̀in fə̄ b̪ū̄ɨ '... of the goat'

d. /ə́-fə̀-bɔ̀in + fə́ + `wáin/ → ə̄-fə̀-bɔ̀in fə̄ wā̄in '... of the child'

e. /ə́-fə̀-bɔ̀in + fə́ + mbɔ̀ŋ/ → ə̄-fə̀-bɔ̀in fə̄ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-fə̀-bɔ̀in + fə́ + ŋgòm'/ → ə̄-fə̀-bɔ̀in fə̄ ŋgòm° '... of the porcupine'

g. /ə́-fə̀-bɔ̀in + fə́ + `ŋgvɔ́`/ → ə̄-fə̀-bɔ̀in fə̄ ŋgvɔ̄̄ '... of the hen'

(124) a. /ə́-fə̀-ɲù̩' + fə́ + ɲàm/ → ə̄-fə̀-ɲù̩ fə́ ɲâm 'knife of the animal'

b. /ə́-fə̀-ɲù̩' + fə́ + kàin'/ → ə̄-fə̀-ɲù̩ fə́ káⁱn '... of the monkey'

c. /ə́-fə̀-ɲù̩' + fə́ + `búɨ`/ → ə̄-fə̀-ɲù̩ fə́ bū̄ɨ '... of the goat'

d. /ə́-fə̀-ɲù̩' + fə́ + `wáin/ → ə̄-fə̀-ɲù̩ fə́ wā̄in '... of the child'

e. /ə́-fə̀-ɲù̩' + fə́ + mbɔ̀ŋ/ → ə̄-fə̀-ɲù̩ fə́ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-fə̀-ɲù̩' + fə́ + ŋgòm'/ → ə̄-fə̀-ɲù̩ fə́ ŋgòm° '... of the porcupine'

g. /ə́-fə̀-ɲù̩' + fə́ + `ŋgvɔ́`/ → ə̄-fə̀-ɲù̩ fə́ ŋgvɔ̄̄ '... of the hen'

There are a number of important observations that must be made on the basis of the above forms.

(a) There appears to be a need for a floating L tone prefix on nouns whose stems begin with a H tone, i.e. in the (c), (d) and (g) forms. Otherwise we would not be able to account for the M tone observed on 'goat', 'child' and 'hen' in all cases. Since the N_2 position is characterized by a

L prefix anyway, this appears to be the same entity and is not alarming in any way.

(b) However, if we generalize this L prefix to all prefixless nouns in N_2 position, we run into trouble in the (a) and (b) forms. In all cases, the L and LH stems 'animal' and 'monkey' are realized with H and HM tone. If there were an extra L prefix preceding them, we would expect the incorrect realizations *ə̄-fə̄-cûo fə̄ ɲàm and *ə̄-fə̄-cûo fə̄ kàin°. We therefore either have to stipulate that this L prefix is present only if a stem begins with an underlying H tone, or that it is present everywhere but is deleted by a special rule when the stem begins with a L tone. Since this is an instanti-ation of Leben's "obligatory contour principle", i.e. since L̥ L simplifies to a single L, this is not too disturbing. We shall later attempt an analysis which combines this irregular aspect of L(H) nouns with the irregular aspects of L nouns seen earlier. It should be noted in this respect, however, that were there no L tone, we might expect realizations such as *ə̄-fə̄-cûo fə̄ ɲám (cf. ə̄-ɲám in (118a)), whereby the underlying L stem is realized H, not HL. This irregular realization of 'animal' and other such nouns is restricted to cases where the H to its left is from the IV. That is, a real prefix will simply spread and create the HL contour expected. Of course, we do have the problem of getting rid of the extra L prefix, as mentioned.

(c) In realizations such as ɲâm and káⁱn, the H of the CV associative has spread onto the stem of the N_2. It is noted in the (e) and (f) forms that this spreading is not observed when the noun in question begins with a NC- sequence. We either attribute this non-spreading to the sequence, or possibly to an extra L tone (=the N_2 prefix? or perhaps lexical, since some such nouns do not have a nasal, e.g. ə̄-bò 'father, owner'). The L tone is needed in the (g) forms in order to get the M realization on ŋgv̄ɔ.

3.3.2. V́ associative

The following sets of data illustrate Ø prefix N₂ nouns following a
V́ associative:

(125) a. /á-lə̀ʔ + á + ɲàm/   →   ā-lə́ʔ ā ɲâm   'place of the animal'

b. /á-lə̀ʔ + á + kàin'/   →   ā-lə́ʔ ā káTn   '... of the monkey'

c. /á-lə̀ʔ + á + `ɓʉ́ɬ`/   →   ā-lə́ʔ ā ɓʉ̄ɬ   '... of the goat'

d. /á-lə̀ʔ + á + `wáin/   →   ā-lə́ʔ ā wāin   '... of the child'

e. /á-lə̀ʔ + á + mbɔ̀ŋ/   →   ā-lə́ʔ ā mbɔ̀ŋ   '... of the dwarf cow'

f. /á-lə̀ʔ + á + ŋgòm'/   →   ā-lə́ʔ ā ŋgòm°   '... of the porcupine'

g. /á-lə̀ʔ + á + `ŋgvə́`/   →   ā-lə́ʔ ā ŋgvō   '... of the hen'

(126) a. /á-làŋ' + á + ɲàm/   →   ā-láŋ á ɲâm   'cocoyam of the animal'

b. /á-làŋ' + á + kàin'/   →   ā-láŋ á káTn   '... of the monkey'

c. /á-làŋ' + á + `ɓʉ́ɬ`/   →   ā-láŋ á ɓʉ̄ɬ   '... of the goat'

d. /á-làŋ' + á + `wáin/   →   ā-láŋ á wāin   '... of the child'

e. /á-làŋ' + á + mbɔ̀ŋ/   →   ā-láŋ á mbɔ̀ŋ   '... of the dwarf cow'

f. /á-làŋ' + á + ŋgòm'/   →   ā-láŋ á ŋgòm°   '... of the porcupine'

g. /á-làŋ' + á + `ŋgvə́`/   →   ā-láŋ á ŋgvō   '... of the hen'

(127) a. /á-yɛ́s` + á + ɲàm/   →   ā-yɛ́s ā ɲâm   'broom of the animal'

b. /á-yɛ́s` + á + kàin'/   →   ā-yɛ́s ā káTn   '... of the monkey'

c. /á-yɛ́s` + á + `ɓʉ́ɬ`/      →    ā-yɛ́s ā ɓʉ́ɬ`   '... of the goat'

d. /á-yɛ́s` + á + `wáin/   →   ā-yɛ́s ā wâin   '... of the child'

e. /á-yɛ́s` + á + mbɔ̀ŋ/   →   ā-yɛ́s ā mbɔ̀ŋ   '... of the dwarf cow'

f. /á-yɛ́s` + á + ŋgòm'/   →   ā-yɛ́s ā ŋgòm°   '... of the porcupine'

g. /á-yɛ́s` + á + `ŋgvə́`/   →   ā-yɛ́s ā ŋgvō   '... of the hen'

(128) a. /á-yɔ́l + á + ɲàm/   →   ā-yɔ́l á ɲâm   'grass of the animal'

b. /á-yɔ́l + á + kàin'/   →   ā-yɔ́l á káTn   '... of the monkey'

c. /á-yɔ́l + á + `ɓʉ́ɬ`/   →   ā-yɔ́l á ɓʉ̄ɬ   '... of the goat'

d. /á-yɔ́l + á + `wáin/ → ā-yɔ́l á wāin '... of the child'

e. /á-yɔ́l + á + mbɔ̀ŋ/ → ā-yɔ́l á mbɔ̀ŋ '... of the dwarf cow'

f. /á-yɔ́l + á + ŋgòm´/ → ā-yɔ́l á ŋgòm° '... of the porcupine'

g. /á-yɔ́l + á + `ŋgvɔ́`/ → ā-yɔ́l á ŋgvō '... of the hen'

(129) a. /án̄-tàs + á + ɲàm/ → ān̄-tàs ā ɲâm 'spoon of the animal'

b. /án̄-tàs + á + kàin´/ → ān̄-tàs ā káTn '... of the monkey'

c. /án̄-tàs + á + `b̪ɨ́ɨ̀`/ → ān̄-tàs ā b̪ū̵ '... of the goat'

d. /án̄-tàs + á + `wáin/ → ān̄-tàs ā wāin '... of the child'

e. /án̄-tàs + á + mbɔ̀ŋ/ → ān̄-tàs ā mbɔ̀ŋ '... of the dwarf cow'

f. /án̄-tàs + á + ŋgòm´/ → ān̄-tàs ā ŋgòm° '... of the porcupine'

g. /án̄-tàs + á + `ŋgvɔ́`/ → ān̄-tàs ā ŋgvō '... of the hen'

(130) a. /án̄-tɔ̀f´ + á + ɲàm/ → ān̄-tɔ̀f á ɲâm 'stomach of the animal'

b. /án̄-tɔ̀f´ + á + kàin´/ → ān̄-tɔ̀f á káTn '... of the monkey'

c. /án̄-tɔ̀f´ + á + `b̪ɨ́ɨ̀`/ → ān̄-tɔ̀f á b̪ū̵ '... of the goat'

d. /án̄-tɔ̀f´ + á + `wáin/ → ān̄-tɔ̀f á wāin '... of the child'

e. /án̄-tɔ̀f´ + á + mbɔ̀ŋ/ → ān̄-tɔ̀f á mbɔ̀ŋ '... of the dwarf cow'

f. /án̄-tɔ̀f´ + á + ŋgòm´/ → ān̄-tɔ̀f á ŋgòm° '... of the porcupine'

g. /án̄-tɔ̀f´ + á + `ŋgvɔ́`/ → ān̄-tɔ̀f á ŋgvō '... of the hen'

The same observations are to be made as in the last set of data--in addition, the familiar HL and HM simplification processes are in effect, respectively, in (125) and (126).

3.3.3. C̀V associative

In (131)-(136) we have substituted the plural 6a forms for their corresponding class 19 singulars seen earlier in (119)-(124). The result is a L tone /mə̀/ AM followed by the Ø prefix we are interested in:

(131)a. /ə́-mə́-cùo + mə̀ + ɲàm/   → ə̄-mə̄-cûo mə̀ ɲàm   'r.squirrels of the animal'

   b. /ə́-mə́-cùo + mə̀ + kàin'/   → ə̄-mə̄-cûo mə̀ kàin°   '... of the monkey'

   c. /ə́-mə́-cùo + mə̀ + `ƀɨ́ɨ̄`/   → ə̄-mə̄-cûo mə̀ ƀɨ̄ɨ̄   '... of the goat'

   d. /ə́-mə́-cùo + mə̀ + `wáin/   → ə̄-mə̄-cûo mə̀ wàin°   '... of the child'

   e. /ə́-mə́-cùo + mə̀ + mbɔ̀ŋ/   → ə̄-mə̄-cûo mə̀ mbɔ̀ŋ   '... of the dwarf cow'

   f. /ə́-mə́-cùo + mə̀ + ŋgòm'/   → ə̄-mə̄-cûo mə̀ ŋgòm°   '... of the porcupine'

   g. /ə́-mə́-cùo + mə̀ + `ŋgvə́`/   → ə̄-mə̄-cûo mə̀ ŋgvə̄   '... of the hen'

(132)a. /ə́-mə́-ɲʉ̀in' + mə̀ + ɲàm/   → ə̄-mə̄-ɲʉ́īn mə̀ ɲàm   'birds of the animal'

   b. /ə́-mə́-ɲʉ̀in' + mə̀ + kàin'/   → ə̄-mə̄-ɲʉ́īn mə̀ kàin°   '... of the monkey'

   c. /ə́-mə́-ɲʉ̀in' + mə̀ + `ƀɨ́ɨ̄`/   → ə̄-mə̄-ɲʉ́in mə̀ ƀɨ̄ɨ̄   '... of the goat'

   d. /ə́-mə́-ɲʉ̀in' + mə̀ + `wáin/   → ə̄-mə̄-ɲʉ́īn mə̀ wàin°   '... of the child'

   e. /ə́-mə́-ɲʉ̀in' + mə̀ + mbɔ̀ŋ/   → ə̄-mə̄-ɲʉ́īn mə̀ mbɔ̀ŋ   '... of the dwarf cow'

   f. /ə́-mə́-ɲʉ̀in' + mə̀ + ŋgòm'/   → ə̄-mə̄-ɲʉ́īn mə̀ ŋgòm°   '... of the porcupine'

   g. /ə́-mə́-ɲʉ̀in' + mə̀ + `ŋgvə́`/ → ə̄-mə̄-ɲʉ́īn mə̀ ŋgvə̄   '... of the hen'

(133)a. /ə́-mə́-bʉ́ʔ` + mə̀ + ɲàm/   → ə̄-mə̄-bʉ́ʔ mə̀ ɲàm   'gorillas of the animal'

   b. /ə́-mə́-bʉ́ʔ` + mə̀ + kàin'/   → ə̄-mə̄-bʉ́ʔ mə̀ kàin°   '... of the monkey'

   c. /ə́-mə́-bʉ́ʔ` + mə̀ + `ƀɨ́ɨ̄`/   → ə̄-mə̄-bʉ́ʔ mə̀ ƀɨ̄ɨ̄   '... of the goat'

   d. /ə́-mə́-bʉ́ʔ` + mə̀ + `wáin/   → ə̄-mə̄-bʉ́ʔ mə̀ wàin°   '... of the child'

   e. /ə́-mə́-bʉ́ʔ` + mə̀ + mbɔ̀ŋ/   → ə̄-mə̄-bʉ́ʔ mə̀ mbɔ̀ŋ   '... of the dwarf cow'

   f. /ə́-mə́-bʉ́ʔ` + mə̀ + ŋgòm'/   → ə̄-mə̄-bʉ́ʔ mə̀ ŋgòm°   '... of the porcupine'

   g. /ə́-mə́-bʉ́ʔ` + mə̀ + `ŋgvə́`/   → ə̄-mə̄-bʉ́ʔ mə̀ ŋgvə̄   '... of the hen'

(134)a. /ə́-mə́-tám + mə̀ + ɲàm/   → ə̄-mə̄-tám mə̀ ɲàm   'fruits of the animal'

   b. /ə́-mə́-tám + mə̀ + kàin'/   → ə̄-mə̄-tám mə̀ kàin°   '... of the monkey'

   c. /ə́-mə́-tám + mə̀ + `ƀɨ́ɨ̄`/   → ə̄-mə̄-tám mə̀ ƀɨ̄ɨ̄   '... of the goat'

   d. /ə́-mə́-tám + mə̀ + `wáin/   → ə̄-mə̄-tám mə̀ wàin°   '... of the child'

   e. /ə́-mə́-tám + mə̀ + mbɔ̀ŋ/   → ə̄-mə̄-tám mə̀ mbɔ̀ŋ   '... of the dwarf cow'

   f. /ə́-mə́-tám + mə̀ + ŋgòm'/   → ə̄-mə̄-tám mə̀ ŋgòm°   '... of the porcupine'

   g. /ə́-mə́-tám + mə̀ + `ŋgvə́`/   → ə̄-mə̄-tám mə̀ ŋgvə̄   '... of the hen'

(135) a. /ə́-mə̀-bɔ̀in + mə̀ + ɲàm/ → ə̄-mə̀-bɔ̀in mə̀ ɲàm 'gr.squirrels of the animal'

    b. /ə́-mə̀-bɔ̀in + mə̀ + kàin´/ → ə̄-mə̀-bɔ̀in mə̀ kàin° '... of the monkey'

    c. /ə́-mə̀-bɔ̀in + mə̀ + ˋb̥ú̵ɨ ˋ/ → ə̄-mə̀-bɔ̀in mə̀ b̥ū̵ɨ '... of the goat'

    d. /ə́-mə̀-bɔ̀in + mə̀ + ˋwáin/ → ə̄-mə̀-bɔ̀in mə̀ wàin° '... of the child'

    e. /ə́-mə̀-bɔ̀in + mə̀ + mbɔ̀ŋ/ → ə̄-mə̀-bɔ̀in mə̀ mbɔ̀ŋ '... of the dwarf cow'

    f. /ə́-mə̀-bɔ̀in + mə̀ + ŋgòm´/ → ə̄-mə̀-bɔ̀in mə̀ ŋgòm° '... of the porcupine'

    g. /ə́-mə̀-bɔ̀in + mə̀ + ˋŋgvó ˋ/ → ə̄-mə̀-bɔ̀in mə̀ ŋgvō '... of the hen'

(136) a. /ə́-mə̀-ɲù̠´ + mə̀ + ɲàm/ → ə̄-mə̀-ɲù̠ū̠ mə̀ ɲàm 'knives of the animal'

    b. /ə́-mə̀-ɲù̠´ + mə̀ + kàin´/ → ə̄-mə̀-ɲù̠ū̠ mə̀ kàin° '... of the monkey'

    c. /ə́-mə̀-ɲù̠´ + mə̀ + ˋb̥ú̵ɨ ˋ/ → ə̄-mə̀-ɲù̠ū̠ mə̀ b̥ū̵ɨ '... of the goat'

    d. /ə́-mə̀-ɲù̠´ + mə̀ + ˋwáin/ → ə̄-mə̀-ɲù̠ū̠ mə̀ wàin° '... of the child'

    e. /ə́-mə̀-ɲù̠´ + mə̀ + mbɔ̀ŋ/ → ə̄-mə̀-ɲù̠ū̠ mə̀ mbɔ̀ŋ '... of the dwarf cow'

    f. /ə́-mə̀-ɲù̠´ + mə̀ + ŋgòm´/ → ə̄-mə̀-ɲù̠ū̠ mə̀ ŋgòm° '... of the porcupine'

    g. /ə́-mə̀-ɲù̠´ + mə̀ + ˋŋgvó ˋ/ → ə̄-mə̀-ɲù̠ū̠ mə̀ ŋgvō '... of the hen'

There are no surprises here, though the following can be noted:

    (a) Both 'monkey' and 'porcupine' in the (b) and (f) forms are realized L° before pause, coming as they do from underlying LH. In the (d) forms we see that 'child' also is realized L°, since the L of the L + H sequence spreads and then, creating a LM (LH) contour, feeds the simplification rule.

    (b) The L- prefix we needed earlier in this section before H-initial stems is not needed here, but is indicated in order to be consistent. We must suppose that it early on is absorbed (i.e. deleted) by the preceding anchored L tone of the AM.

    (c) In (136) we see once again that the LH stem is realized LM before a L tone CV AM. In the next set this will be slightly different.

3.3.4. V̀ associative

    The final data sets illustrate a L tone V associative before prefixless N2 nouns.

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(137) a. /ə́-`ntə̀ʔ+ ə̀+ ɲàm/ → ə̄-ntə̀ʔ ə̀ ɲàm 'village of the animal'

b. /ə́-`ntə̀ʔ +ə̀ + kàin´/ → ə̄-ntə̀ʔ ə̀ kàin° '... of the monkey'

c. /ə́-`ntə̀ʔ +ə̀ + `bʉ́ɬ`/ → ə̄-ntə̀ʔ ə̀ b̥ʉ̄ɬ '... of the goat'

d. /ə́-`ntə̀ʔ +ə̀ + `wáin/ → ə̄-ntə̀ʔ ə̀ wàin° '... of the child'

e. /ə́-`ntə̀ʔ +ə̀ + mbɔ̀ŋ/ → ə̄-ntə̀ʔ ə̀ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-`ntə̀ʔ +ə̀ + ŋgòm´/ → ə̄-ntə̀ʔ ə̀ ŋgòm° '... of the porcupine'

g. /ə́-`ntə̀ʔ +ə̀ + `ŋgvə́`/ → ə̄-ntə̀ʔ ə̀ ŋgvə̄ '... of the hen'

(138) a. /ə́-`njàm´ + ə̀+ ɲàm/ → ə̄-njàm̄ m̀ ɲàm 'axe of the animal'

b. /ə́-`njàm´ + ə̀+ kàin´/ → ə̄-njàm̄ m̀ kàin° '... of the monkey'

c. /ə́-`njàm´ + ə̀+ `bʉ́ɬ`/ → ə̄-njàm̄ m̀ b̥ʉ̄ɬ '... of the goat'

d. /ə́-`njàm´ + ə̀+ `wáin/ → ə̄-njàm̄ m̀ wàin° '... of the child'

e. /ə́-`njàm´ + ə̀+ mbɔ̀ŋ/ → ə̄-njàm̄ m̀ mbɔ̀ŋ '... of the dwarf cow'

nb ŋ? f. /ə́-`njàm´ + ə̀+ ŋgòm´/ → ə̄-njàm̄ m̀ ŋgòm° '... of the porcupine'

g. /ə́-`njàm´ + ə̀+ `ŋgvə́`/ → ə̄-njàm̄ m̀ ŋgvə̄ '... of the hen'

(139) a. /ə́-`ŋgə́ʔ+ ə̀+ ɲàm/ → ə̄-ŋgə̄ʔ ə̀ ɲàm 'trouble of the animal'

b. /ə́-`ŋgə́ʔ+ ə̀+ kàin´/ → ə̄-ŋgə̄ʔ ə̀ kàin° '... of the monkey'

c. /ə́-`ŋgə́ʔ+ ə̀ +`b̥ʉ́ɬ`/ → ə̄-ŋgə̄ʔ ə̀ b̥ʉ̄ɬ '... of the goat'

d. /ə́-`ŋgə́ʔ +ə̀ + `wáin/ → ə̄-ŋgə̄ʔ ə̀ wàin° '... of the child'

e. /ə́-`ŋgə́ʔ +ə̀ + mbɔ̀ŋ/ → ə̄-ŋgə̄ʔ ə̀ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-`ŋgə́ʔ +ə̀ + ŋgòm´/ → ə̄-ŋgə̄ʔ ə̀ ŋgòm° '... of the porcupine'

g. /ə́-`ŋgə́ʔ +ə̀ + `ŋgvə́`/ → ə̄-ŋgə̄ʔ ə̀ ŋgvə̄ '... of the hen'

(140) a. /ə́-kâf + ə̀ + ɲàm/ → ə̄-káf ə̀ ɲàm 'armpit of the animal'

b. /ə́-kâf + ə̀ + kàin´/ → ə̄-káf ə̀ kàin° '... of the monkey'

c. /ə́-kâf + ə̀ + `bʉ́ɬ`/ → ə̄-káf ə̀ b̥ʉ̄ɬ '... of the goat'

d. /ə́-kâf + ə̀ + `wáin/ → ə̄-káf ə̀ wàin° '... of the child'

e. /ə́-kâf + ə̀ + mbɔ̀ŋ/ → ə̄-káf ə̀ mbɔ̀ŋ '... of the dwarf cow'

f. /ə́-kâf + ə̀ + ŋgòm´/ → ə̄-káf ə̀ ŋgòm° '... of the porcupine'

g. /ə́-kâf + ə̀ + `ŋgvə́`/ → ə̄-káf ə̀ ŋgvə̄ '... of the hen'

bɔ́n̄ cŋ

(141) a. /ə́-kà?' + ə̀ + ɲàm/ → ə̄-ká? ə̀ ɲàm 'crack of the animal'

   b. /ə́-kà?' + ə̀ + kàin'/ → ə̄-ká? ə̀ kàin° '... of the monkey'

   c. /ə́-kà?' + ə̀ + `bʉ́ɫ`/ → ə̄-ká? ə̀ bʉ̄ɫ '... of the goat'

   d. /ə́-kà?' + ə̀ + `wáin/ → ə̄-ká? ə̀ wàin° '... of the child'

   e. /ə́-kà?' + ə̀ + mbɔ̀ŋ/ → ə̄-ká? ə̀ mbɔ̀ŋ '... of the dwarf cow'

   f. /ə́-kà?' + ə̀ + ŋgòm'/ → ə̄-ká? ə̀ ŋgòm° '... of the porcupine'

   g. /ə́-kà?' + ə̀ + `ŋgvɔ́`/ → ə̄-ká? ə̀ ŋgvɔ̄ '... of the hen'

(142) a. /ə́-bʉ́` + ə̀ + ɲàm/ → ə̄-bʉ́ ʉ̀ ɲàm 'dog of the animal'

   b. /ə́-bʉ́` + ə̀ + kàin'/ → ə̄-bʉ́ ʉ̀ kàin° '... of the monkey'

   c. /ə́-bʉ́` + ə̀ + `bʉ́ɫ`/ → ə̄-bʉ́ ʉ̀ bʉ̄ɫ '... of the goat'

   d. /ə́-bʉ́` + ə̀ + `wáin/ → ə̄-bʉ́ ʉ̀ wàin° '... of the child'

   e. /ə́-bʉ́` + ə̀ + mbɔ̀ŋ/ → ə̄-bʉ́ m̀-bɔ̀ŋ '... of the dwarf cow'

   f. /ə́-bʉ́` + ə̀ + ŋgòm'/ → ə̄-bʉ́ ŋ̀-gòm° '... of the porcupine'

   g. /ə́-bʉ́` + ə̀ + `ŋgvɔ́`/ → ə̄-bʉ́ ŋ̀-gvɔ̄ '... of the hen'

(143) a. /ə́-mó + ə̀ + ɲàm/ → ə̄-mó ə̀ ɲàm 'lake of the animal'

   b. /ə́-mó + ə̀ + kàin'/ → ə̄-mó ə̀ kàin° '... of the monkey'

   c. /ə́-mó + ə̀ + `bʉ́ɫ`/ → ə̄-mó ə̀ bʉ̄ɫ '... of the goat'

   d. /ə́-mó + ə̀ + `wáin/ → ə̄-mó ə̀ wàin° '... of the child'

   e. /ə́-mó + ə̀ + mbɔ̀ŋ/ → ə̄-mó ə̀ mbɔ̀ŋ '... of the dwarf cow'

   f. /ə́-mó + ə̀ + ŋgòm'/ → ə̄-mó ə̀ ŋgòm° '... of the porcupine'

   g. /ə́-mó + ə̀ + `ŋgvɔ́`/ → ə̄-mó ə̀ ŋgvɔ̄ '... of the hen'

There are again no surprises. However, some comment is necessary on the realization of the /ə̀/ AM phonetically:

(a) After obstruents it is realized as a schwa (see, e.g. (137), (139), (140) and (141)), independent of what follows.

(b) After a sonorant and before a C- initial there is a tendency for the schwa to assimilate to this sonorant, e.g. ə̄-njàm̄ m̀ kàin°, ə̄-bʉ́ ʉ̀ kàin°, etc. A schwa has been recorded in this position, though not when the sonorant

is a nasal.

(c) After a sonorant and before a NC- initial one either obtains a schwa or the nasal becomes syllabic carrying the L tone of the associative, e.g. ə̄-bʉ́ m̩-bɔ̀ŋ. One apparently does not obtain lengthening of the preceding sonorant (here a vowel) in this position [to be checked].

The very low level adjustments give the impression of the H of a /-LH/ stem (realized M, of course) going to the right onto the V̌ AM. This clearly did <u>not</u> happen in cases where the AM was CV̌, e.g. in (136). What is proposed is that the H goes to the preceding syllable, but when there is assimilation as there is, e.g. in ...   [this should go earlier].

This completes our survey through the different associative tone patterns.

4. ANALYSIS OF NOUN TONES

In this section we shall present our analysis of the tone of Kom nominals. We shall enlarge the data slightly after accounting for what we have seen in the above paradigms.

4.1. <u>Noun prefix</u>

We have seen three canonical shapes of noun prefixes: CV-, V- and Ø-. As we have seen in the underlying representations in section 3, we conclude that any noun having a M tone prefix has, underlyingly, a H tone on this prefix. This applies, of course, only to CV- and V- prefixes at the moment:

(144) a. (ə́-)fə́-cùo / ə̄-fə̄-cûo   á-lə̀ʔ / ə̄-lə̂ʔ

   b. (ə́-)fə́-ɲʉ̀in′/ə̄-fə̄-ɲʉ́Tn   á-làŋ′ / ə̄-láŋ̄

   c. (ə́-)fə́-bú?` / ə̄-fə̄-bú?         á-yέs` / ə̄-yέs

   d. (ə́-)fə́-tám / ə̄-fə̄-tám   á-yɔ́l / ə̄-yɔ́l

(We will formalize the rule of H-lowering later.)

Concerning CV- and V- prefixes which are not M tone on the surface (and hence for which an underlying H will not in itself due as a tonal represen-

tation, we have slightly different, though parallel realizations: L tone CV-, but ML V- prefixes. In transcriptions we have written these ML V-prefixes as having two vowels. We now claim that the M part of the contour is due to the IV, while the L part is the actual prefix, i.e.

(145) a. /ə́-fə̀-bɔ̀in/ ⎯ ə̄-fə̀-bɔ̀in   /ə́-à-tàm/ ⎯ ā̀à-tàm

b. /ə́-fə̀-ɲʊ̀'/ ⎯ ə̄-fə̀-ɲʊ̀°   /ə́-à-ntɔ̀f'/ ⎯ ā̀ǹ-tɔ̀f°

The justification for this analysis comes from the fact that in the gram-matical contexts where the IV is not present, we obtain L prefixes instead of M-L or ML- (e.g. in subject or prepositional object positions, as well as in N_2 position, where all nouns have an underlying L prefix).

STEM + SUFFIX NOUNS

-HL-L	-H-H(L)

ə̄-cáʔàlə̀ 'mud' 3/6a

T-tɔ́ʔɔ̀nə̀ 'kindness' 5/13

T-cvônə̀ 'promise' 5/13

T-jên̂tə̀ 'foolishness' 5/13

T-yáʔàlə̀ 'rib cage' 5/13

ān̄-ɲâmnə̀ 'hyena' 7/8

ām̄-bā̄ʔàsə̀ 'twin' 7/8

ə̄-ŋwàʔàlə̀ 'book' 9/10

ə̄-ncTnə̀ 'life' T?

ə̄-fə̀-žìnì 'god' 19/6a

ān̄-gàŋtə̀ 'chest' 6=7

ə̄-njTlì 'canerat' 9/10

ān̄-kōnì 'calabash bottle' 7/8

(handwritten: sākúní to refill)

T-lémí 'tongue' 5/6

T-kɔ́ʔí 'illness' 5/13

T-kɔ́ʔɔ́sə́ 'praise' 5/13

T-jə́ŋnə́ 'giddiness' 5/13

T-wúmí 'shame' 5/13

ə̄-ɣúə̀ʔá 'cowry' 7/8

ə̄-túŋlə́ 'ear' 7/8   ə̄-béʔí 'load' 7/8

ə̄-lúŋsə́ 'shadow' 7/8

ə̄-cwíʔtə́ 'sign' 7/8   *(handwritten: <sə̄cwíʔtə̀)*

ə̄-yáŋsə́ 'sugarcane' 7/8

(ə̄-ŋgōmí 'locust' 9/10) *(handwritten: n.c. in N₂ after múú mə̀)*

ə̄-fə̄-cómə́ 'pipe' 19/6a

ə̄-fə̄-sə́sé 'spark' 19/6a

ə̄-yúʔsə́ 'perspiration' 6=7

ə̄-béʔə́/ə̄-búə̀ʔlə́ 'piece' 7/8

REDUPLICATIONS

T-wɔ̀ŋáwɔ̄ŋ 'earthworm' 5/13

T-kèlákél 'hook' 5/13

ə̄-nsə̀ʔàsə̀ʔà 'hiccup' 9/10

ə̄-fə̄-njênjè 'fly' 19/6a

ə̄-fə̄-nénànénà 'gall bladder' 19/6a

(handwritten: ìndvə̀lándvə̄l 'hairy caterpillar')

ān̄-táintáin` 'box' 7/8

ə̄-lɔ́ʔlɔ́ʔ` 'hunting bell' 7/8

ə̄-fə̄-žvókážvók 'mosquito' 19/6a

(ə̄-fə̀-tŭutŭŭ (-tútə̀?) 'story, tale'   T

(handwritten: fə̀)

MISCELLANEOUS

ə̄-fə̀láwà 'flower'   ə̄-tɔ̀làkí 'tortoise'   ə̄-làbá 'loin cloth'
ə̄-hámà 'hammer'   ə̄-dàlá 'garment'   ə̄-cwōókòʔ 'rat'
ə̄-ndàbàʔ 'tobacco'   ə̄-fə̀-ngônlə̄ 'ant'   ə̄-fə̀-ndòmnə̀ 'caterpillar'

APPENDIX

Genitive Tone Patterns

1. N₂ prefix is CV̀-

1.1. Genitive marker is CV́

(1) a. fə-gham : fə tə-foɥn → fə̄-ghâm fə̄ tê-fòɥn 'mat of chiefs'
       H L   H   L L

   b. fə-gham : fə : tə-dzɨ → fə̄-ghâm fə̄ tê-dzɨ̄° 'mat of termites'
       H L   H   L LH

   c. fə-gham fə : tə-bal → fə̄-ghâm fə̄ tê-bā l 'mat of valleys'
       H L   H   L HL

   d. fə-gham fə : tə-wu → fə̄-ghâm fə̄ tê-wù° 'mat of rocks'
       H L   H   L H

(2) a. fə-nywin fə tə-foɥn → fə̄-nywín fə́ tê-fòɥn 'bird of chiefs'
       H   LH H   L L

   b. fə-nywin fə tə-dzɨ → fə̄-nywín fə́ tê-dzɨ̄° 'bird of termites'
       H   LH H   L LH

   c. fə-nywin fə tə-bal → fə̄-nywín fə́ tê-bā l 'bird of valleys'
       H   LH H   L HL

   d. fə-nywin fə tə-wu → fə̄-nywín fə́ tê-wù° 'bird of rocks'
       H   LH H   L H

(3) a. fə-buʔ fə tə-foɥn → fə̄-búʔ fə̄ tê-fòɥn 'gorilla of chiefs'
       H HL H   L L

   b. fə-buʔ fə tə-dzɨ → fə̄-búʔ fə̄ tê-dzɨ̄° 'gorilla of termites'
       H HL H   L LH

   c. fə-buʔ fə tə-bal → fə̄-búʔ fə̄ tê-bā l 'gorilla of valleys'
       H HL H   L HL

   d. fə-buʔ fə tə-wu → fə̄-búʔ fə̄ tê-wù° 'gorilla of rocks'
       H HL H   L H

(4) a. fə-tam fə tə-foɥn → fə̄-tám fə́ tê-fòɥn 'fruit of chiefs'
       H H   H   L L

   b. fə-tam fə tə-dzɨ → fə̄-tám fə́ tê-dzɨ̄° 'fruit of termites'
       H H   H   L LH

   c. fə-tam fə tə-bal → fə̄-tám fə́ tê-bā l 'fruit of valleys'
       H H   H   L HL

   d. fə-tam fə tə-wu → fə̄-tám fə́ tê-wù° 'fruit of rocks'
       H H   H   L H

(5) a. fə-boɥn fə tə-foɥn → fə̀-bòin fə̄ tê-fòɥn 'ground squirrel of chiefs'
       L L   H   L L

   b. fə-boɥn fə tə-dzɨ → fə̀-bòin fə̄ tê-dzɨ̄° 'gr.squirrel of termites'
       L L   H   L LH

   c. fə-boɥn fə tə-bal → fə̀-bòin fə̄ tê-bā l 'gr.squirrel of valleys'
       L L   H   L HL

   d. fə-boɥn fə tə-wu → fə̀-bòin fə̄ tê-wù° 'gr.squirrel of rocks'
       L L   H   L H

(6) a. fə-nywì fə tə-foɥn → fə̀-nywì fə́ tə̂-fòɥn   'knife of chiefs'
     L   LH H L L

    b. fə-nywì fə tə-dzɨ → fə̀-nywì fə́ tə̂-dzɨ°   'knife of termites'
     L   LH H L LH

    c. fə-nywì fə tə-bal → fə̀-nywì fə́ tə̂-bāl   'knife of valleys'
     L   LH H L HL

    d. fə-nywì fə tə-wu → fə̀-nywì fə́ tə̂-wù°   'knife of rocks'
     L   LH H L H

(7) a. fə-ncaʔ fə tə-foɥn → fə̀-ncā̄ʔ fə̄ tə̂-fòɥn   'wire of chiefs'
     L HL H L L

    b. fə-ncaʔ fə tə-dzɨ → fə̀-ncā̄ʔ fə̄ tə̂-dzɨ°   'wire of termites'
     L HL H L LH

    c. fə-ncaʔ fə tə-bal → fə̀-ncā̄ʔ fə̄ tə̂-bāl   'wire of valleys'
     L HL H L HL

    d. fə-ncaʔ fə tə-wu → fə̀-ncā̄ʔ fə̄ tə̂-wù°   'wire of rocks'
     L HL H L H

1.2. Genitive marker is V́

(8) a. a-ləʔ á tə-foɥn → ā-ló̝ʔ ā tə̂-fòɥn   'place of chiefs'
     H L H L L

    b. a-ləʔ a tə-dzɨ → ā-ló̝ʔ ā tə̂-dzɨ°   'place of termites'
     H L H L LH

    c. a-ləʔ a tə-bal → ā-ló̝ʔ ā tə̂-bāl   'place of valleys'
     H L H ·L HL

    d. a-ləʔ a tə-wu → ā-ló̝ʔ ā tə̂-wù°   'place of rocks'
     H L H L H

(9) a. a-laŋ a tə-foɥn → ā-láŋ á tə̂-fòɥn   'cocoyam of chiefs'
     H LH H L L

    b. a-laŋ a tə-dzɨ → ā-láŋ á tə̂-dzɨ°   'cocoyam of termites'
     H LH H L LH

    c. a-laŋ a tə-bal → ā-láŋ á tə̂-bāl   'cocoyam of valleys'
     H LH H L HL

    d. a-laŋ a tə-wu → ā-láŋ á tə̂-wù°   'cocoyam of rocks'
     H LH H L H

(10) a. a-yes a tə-foɥn → ā-yés ā tə̂-fòɥn   'broom of chiefs'
      H HL H L L

     b. a-yes a tə-dzɨ → ā-yés ā tə̂-dzɨ°   'broom of termites'
      H HL H L LH

     c. a-yes a tə-bal → ā-yés ā tə̂-bāl   'broom of valleys'
      H HL H L HL

     d. a-yes a tə-wu → ā-yés ā tə̂-wù°   'broom of rocks'
      H HL H L H

(11) a. a-vəf a tə-foɥn → ā-və́f á tə̂-fòɥn   'bone of chiefs'
      H H H L L

     b. a-vəf a tə-dzɨ → ā-və́f á tə̂-dzɨ°   'bone of termites'
      H H H L LH

     c. a-vəf a tə-bal → ā-və́f á tə̂-bāl   'bone of valleys'
      H H H L HL

     d. a-vəf a tə-wu → ā-və́f á tə̂-wù°   'bone of rocks'
      H H H L H

(12) a. a-ntas a tə-foɥn → à-ntàs ā tâ-fòɥn 'spoon of chiefs'
        L   L H   L L

    b. a-ntas a tə-dzɨ → à-ntàs ā tâ-dzɬ° 'spoon of termites'
        L   L H   L LH

    c. a-ntas a tə-bal → à-ntàs ā tâ-bāl 'spoon of valleys'
        L   L H   L HL

    d. a-ntas a tə-wu → à-ntàs ā tâ-wù° 'spoon of rocks'
        L   L H   L H

(13) a. a-ntan̄ a tə-foɥn → à-ntàn á tâ-fòɥn 'insect of chiefs'
        L LH H   L L

    b. a-ntan a tə-dzɨ → à-ntàn á tâ-dzɬ° 'insect of termites'
        L LH H   L LH

    c. a-ntan̄ a tə-bal → à-ntàn á tâ-bāl 'insect of valleys'
        L LH H   L HL

    d. a-ntan a tə-wu → à-ntàn á tâ-wù° 'insect of rocks'
        L LH H   L H

(14) a. a-ŋkaŋ a tə-foɥn → à-ŋkāŋ ā tâ-fòɥn 'lie of chiefs'
        L HL H   L L

    b. a-ŋkaŋ a tə-dzɨ → à-ŋkāŋ ā tâ-dzɬ° 'lie of termites'
        L HL H   L L

    c. a-ŋkaŋ a tə-bal → à-ŋkāŋ ā tâ-bāl 'lie of valleys'
        L HL H   L HL

    d. a-ŋkaŋ a tə-wu → à-ŋkāŋ ā tâ-wù° 'lie of rocks'
        L HL H   L H

1.3. Genitive marker is CV̀

(15) a. mə-gham mə tə-foɥn → mə̄-ghâm mè tà-fòɥn 'mats of chiefs'
        H   L   L   L L

    b. mə-gham mə tə-dzɨ → mə̄-ghâm mè tà-dzɬ° 'mats of termites'
        H   L   L   L LH

    c. mə-gham mə tə-bal → mə̄-ghâm mè tà-bāl 'mats of valleys'
        H   L   L   L HL

    d. mə-gham mə tə-wu → mə̄-ghâm mè tà-wù° 'mats of rocks'
        H   L   L   L H

(16) a. mə-nywin mə tə-foɥn → mə̄-nywín̄ mè tà-fòɥn 'birds of chiefs'
        H LH L   L L

    b. mə-nywin mə tə-dzɨ → mə̄-nywín̄ mè tà-dzɬ° 'birds of termites'
        H LH L   L LH

    c. mə-nywin mə tə-bal → mə̄-nywín̄ mè tà-bāl 'birds of valleys'
        H LH L   L HL

    d. mə-nywin mə tə-wu → mə̄-nywín̄ mè tà-wù° 'birds of rocks'
        H LH L   L H

(17) a. mə-buʔ mə tə-foɥn → mə̄-búʔ mè tà-fóɥn 'gorillas of chiefs'
        H HL L   L L

    b. mə-buʔ mə tə-dzɨ → mə̄-búʔ mè tà-dzɬ° 'gorillas of termites'
        H HL L   L LH

    c. mə-buʔ mə tə-bal → mə̄-búʔ mè tà-bāl 'gorillas of valleys'
        H HL L   L HL

    d. mə-buʔ mə tə-wu → mə̄-búʔ mè tà-wù° 'gorillas of rocks'
        H HL L   L H

(18) a. mə̄-tam mə tə-fojⁿ → mə̄-tám mə̀ tə̀-fòjⁿ 'fruits of chiefs'
      H H   L   L L

    b. mə̄-tam mə tə-dzɨ → mə̄-tám mə̀ tə̀-dzɨ° 'fruits of termites'
      H H   L   L L H

    c. mə̄-tam mə tə-bal → mə̄-tám mə̀ tə̀-bā l 'fruits of valleys'
      H H   L   L H L

    d. mə̄-tam mə tə-wu → mə̄-tám mə̀ tə̀-wù° 'fruits of rocks'
      H H   L   L H

(19) a. mə-bojⁿ mə tə-fojⁿ → mə̀-bòjⁿ mə̀ tə̀-fòjⁿ 'gr.squirrels of chiefs'
      L L   L   L L

    b. mə-bojⁿ mə tə-dzɨ → mə̀-bòjⁿ mə̀ tə̀-dzɨ° 'gr.squirrels of termites'
      L L   L   L L H

    c. mə-bojⁿ mə tə-bal → mə̀-bòjⁿ mə̀ tə̀-bā l 'gr.squirrels of valleys'
      L L   L   L H L

    d. mə-bojⁿ mə tə-wu → mə̀-bòjⁿ mə̀ tə̀-wù° 'gr.squirrels of rocks'
      L L   L   L H

(20) a. mə-nywi mə tə-fojⁿ → mə̀-nywɨ̄T mə̀ tə̀-fòjⁿ 'knives of chiefs'
      L L H L   L L

    b. mə-nywi mə tə-dzɨ → mə̀-nywɨ̄T mə̀ .tə̀-dzɨ° 'knives of termites'
      L L H L   L L H

    c. mə-nywi mə tə-bal → mə̀-nywɨ̀T mə̀ tə̀-bā l 'knives of valleys'
      L L H L   L H L

    d. mə-nywi mə tə-wu → mə̀-nywɨ̀T mə̀ tə̀-wù° 'knives of rocks'
      L L H L   L H

(21) a. mə-nca? mə tə-fojⁿ → mə̀-ncā? mə̀ tə̀-fòjⁿ 'wires of chiefs'
      L H L L   L L

    b. mə-nca? mə tə-dzɨ → mə̀-ncā? mə̀ tə̀-dzɨ° 'wires of termites'
      L H L L   L L H

    c. mə-nca? mə tə-bal → mə̀-ncā? mə̀ tə̀-bā l 'wires of valleys'
      L H L L   L H L

    d. mə-nca? mə tə-wu → mə̀-ncā? mə̀ tə̀-wù° 'wires of rocks'
      L H L L   L H

.1.4. Genitive marker is V̀

(22) a. ⁿtə? ə tə-fojⁿ → ntə̀? ə̀ tə̀-fòjⁿ 'village of chiefs'
      L L L   L L

    b. ⁿtə? ə tə-dzɨ → ntə̀? ə̀ tə̀-dzɨ° 'village of termites'
      L L L   L L H

    c. ⁿtə? ə tə-bal → ntə̀? ə̀ tə̀-bā l 'village of valleys'
      L L L   L H L

    d. ⁿtə? ə tə-wu → ntə̀? ə̀ tə̀-wù° 'village of rocks'
      L L L   L H

(23) a. ⁿjam ə tə-fojⁿ → njàm̄ m̀ tə̀-fòjⁿ 'axe of chiefs'
      L L H L   L L

    b. ⁿjam ə tə-dzɨ → njàm̄ m̀ tə̀-dzɨ° 'axe of termites'
      L L H L   L L H

    c. ⁿjam ə tə-bal → njám̄ m̀ tə̀-bā l 'axe of valleys'
      L L H L   L H L

    d. ⁿjam ə tə-wu → njàm̄ m̀ tə̀-wù° 'axe of rocks'
      L L H L   L H

(24) a. ŋgə? ə tə-foᶦn → ŋgə̄? ə̀ tə̀-fòᶦn 'trouble of chiefs'
     L HL L   L   L

   b. ŋgə? ə tə-dzɨ → ŋgə̄? ə̀ tə̀-dzɨ° 'trouble of termites'
     L HL L   L   LH

   c. ŋgə? ə tə-bal → ŋgə̄? ə̀ tə̀-bāl 'trouble of valleys'
     L HL L   L   HL

   d. ŋgə? ə tə-wu → ŋgə̄? ə̀ tə̀-wù° 'trouble of rocks'
     L HL L   L   H

(25) a. wul ə tə-foᶦn → wúl ə̀ tə̀-fòᶦn 'person of chiefs'
     H L L   L   L

   b. wul ə tə-dzɨ → wúl ə̀ tə̀-dzɨ° 'person of termites'
     H L L   L   LH

   c. wul ə tə-bal → wúl ə̀ tə̀-bāl 'person of valleys'
     H L L   L   HL

   d. wul ə tə-wu → wúl ə̀ tə̀-wù° 'person of rocks'
     H L L   L   H

(26) a. bom ə tə-foᶦn → bóm m̀ tə̀-fòᶦn 'cup of chiefs'
     H LH L   L   L

   b. bom ə tə-dzɨ → bóm m̀ tə̀-dzɨ° 'cup of termites'
     H LH L   L   LH

   c. bom ə tə-bal → bóm m̀ tə̀-bāl 'cup of valleys'
     H LH L   L   HL

   d. bom ə tə-wu → bóm m̀ tə̀-wù° 'cup of rocks'
     H LH L   L   H

(27) a. bɨ ə tə-foᶦn → bɨ́ ɨ̀ tə̀-fòᶦn 'dog of chiefs'
     H HL L   L   L

   b. bɨ ə tə-dzɨ → bɨ́ ɨ̀ tə̀-dzɨ° 'dog of termites'
     H HL L   L   LH

   c. bɨ ə tə-bal → bɨ́ ɨ̀ tə̀-bāl 'dog of valleys'
     H HL L   L   HL

   d. bɨ ə tə-wu → bɨ́ ɨ̀ tə̀-wù° 'dog of rocks'
     H HL L   L   H

(28) a. mo ə tə-foᶦn → mó ò tə̀-fòᶦn 'lake of chiefs'
     H H L   L   L

   b. mo ə tə-dzɨ → mó ò tə̀-dzɨ° 'lake of termites'
     H H L   L   LH

   c. mo ə tə-bal → mó ọ̀ tə̀-bāl 'lake of valleys'
     H H L   L   HL

   d. mo ə tə-wu → mó ò tə̀-wù° 'lake of rocks'
     H H L   L   H

2. N₂ prefix is V̀-

2.1. Genitive marker is CV́

(29) a. fə-gham fə a-kos → fə̄-ghâm f' ā-kòs 'mat of slave'
        H   L   H L L

   b. fə-gham fə a-ku → fə̄-ghâm f' ā-kù° 'mat of forest'
        H   L   H L LH

   c. fə-gham fə a-bas → fə̄-ghâm f' ā-bās 'mat of lizard'
        H   L   H L HL

d. fə-ghâm   fə a-kof   →   fə̄-ghâm f' ā-kōf   'mat of tick'
   H L   H L H

(30) a. fə-nywin   fə a-kos   →   fə̄-nywín f' á-kòs   'bird of slave'
      H   LH H L L

    b. fə-nywin   fə a-ku   →   fə̄-nywín f' á-kù°   'bird of forest'
      H   LH H L LH

    c. fə-nywin   fə a-bas   →   fə̄-nywín f' á-bās   'bird of lizard'
      H   LH H L HL

    d. fə-nywin   fə a-kof   →   fə̄-nywín f' á-kūf   'bird of tick'
      H   LH H L H

(31) a. fə-bu?   fə a-kos   →   fə̄-bú? f' ā-kòs   'gorilla of slave'
      H HL H L L

    b. fə-bu?   fə a-ku   →   fə̄-bú? f' ā-kù°   'gorilla of forest'
      H HL H L LH

    c. fə-bu?   fə a-bas   →   fə̄-bú? f' ā-bās   'gorilla of lizard'
      H HL H L HL

    d. fə-bu?   fə a-kof   →   fə̄-bú? f' ā-kūf   'gorilla of tick'
      H HL H L H

(32) a. fə-tam   fə a-kos   →   fə̄-tám f' á-kòs   'fruit of slave'
      H H H L L

    b. fə-tam   fə a-ku   →   fə̄-tám f' á-kù°   'fruit of forest'
      H H H L LH

    c. fə-tam   fə a-bas   →   fə̄-tám f' á-bās   'fruit of lizard'
      H H H L HL

    d. fə-tam   fə a-kof   →   fə̄-tám f' á-kūf   'fruit of tick'
      H H H L H

(33) a. fə-boyn   fə a-kos   →   fə̀-bòyn f' ā-kòs   'gr.squirrel of slave'
      L L H L L

    b. fə-boyn   fə a-ku   →   fə̀-bòyn f' ā-kù°   'gr.squirrel of forest'
      L L H L LH

    c. fə-boyn   fə a-bas   →   fə̀-bòyn f' ā-bās   'gr.squirrel of lizard'
      L L H L HL

    d. fə-boyn   fə a-kof   →   fə̀-bòyn f' ā-kūf   'gr.squirrel of tick'
      L L H L H

(34) a. fə-nywi   fə a-kos   →   fə̀-nywì f' á-kòs   'knife of slave'
      L LH H L L

    b. fə-nywi   fə a-ku   →   fə̀-nywì f' á-kù°   'knife of forest'
      L LH H L LH

    c. fə-nywi   fə a-bas   →   fə̀-nywì f' á-bās   'knife of lizard'
      L LH H L HL

    d. fə-nywi   fə a-kof   →   fə̀-nywì f' á-kūf   'knife of tick'
      L LH H L H

(35) a. fə-nca?   fə a-kos   →   fə̀-ncā? f' ā-kòs   'wire of slave'
      L HL H L L

    b. fə-nca?   fə a-ku   →   fə̀-ncā? f' ā-kù°   'wire of forest'
      L HL H L LH

    c. fə-nca?   fə a-bas   →   fə̀-ncā? f' ā-bās   'wire of lizard'
      L HL H L HL

    d. fə-nca?   fə a-kof   →   fə̀-ncā? f' ā-kūf   'wire of tick'
      L HL H L H

2.2. Genitive marker is V́

(36) a. a-lə? a a-kos → ā-lə́? 'ā-kòs 'place of slave'
      H L H L L

   b. a-lə? a a-ku → ā-lə́? 'ā-kù° 'place of forest'
      H L H L LH

   c. a-lə? a a-bas → ā-lə́? 'ā-bās 'place of lizard'
      H L H L HL

   d. a-lə? a a-kuf → ā-lə́? 'ā-kūf 'place of tick'
      H L H L H

(37) a. a-laŋ a a-kos → ā-láŋ 'á-kòs 'cocoyam of slave'
      H LH H L L

   b. a-laŋ a a-ku → ā-láŋ 'á-kù° 'cocoyam of forest'
      H LH H L LH

   c. a-laŋ a a-bas → ā-láŋ 'á-bās 'cocoyam of lizard'
      H LH H L HL

   d. a-laŋ a a-kuf → ā-láŋ 'á-kūf 'cocoyam of tick'
      H LH H L H

(38) a. a-yes a a-kos → ā-yés 'ā-kòs 'broom of slave'
      H HL H L L

   b. a-yes a a-ku → ā-yés 'ā-kù° 'broom of forest'
      H HL H L LH

   c. a-yes a a-bas → ā-yés 'ā-bās 'broom of lizard'
      H HL L L HL

   d. a-yes a a-kuf → ā-yés 'ā-kūf 'broom of tick'
      H HL H L H

(39) a. a-vəf a a-kos → ā-və́f 'á-kòs 'bone of slave'
      H H H L L

   b. a-vəf a a-ku → ā-və́f 'á-kù° 'bone of forest'
      H H H L LH

   c. a-vəf a a-bas → ā-və́f 'á-bās 'bone of lizard'
      H H H L HL

   d. a-vəf a a-kuf → ā-və́f 'á-kūf 'bone of tick'
      H H H L H

(40) a. a-ntas a a-kos → à-ntàs 'ā-kòs 'spoon of slave'
      L L H L L

   b. a-ntas a a-ku → à-ntàs 'ā-kù° 'spoon of forest'
      L L H L LH

   c. a-ntas a a-bas → à-ntàs 'ā-bās 'spoon of lizard'
      L L H L HL

   d. a-ntas a a-kuf → à-ntàs 'ā-kūf 'spoon of tick'
      L L H L H

(41) a. a-ntan a a-kos → à-ntàn 'á-kòs 'insect of slave'
      L LH H L L

   b. a-ntan a a-ku → à-ntàn 'á-kù° 'insect of forest'
      L LH H L LH

   c. a-ntan a a-bas → à-ntàn 'á-bās 'insect of lizard'
      L LH H L HL

   d. a-ntan a a-kuf → à-ntàn 'á-kūf 'insect of tick'
      L LH H L H

(42) a. a-ŋkaŋ a a-kos → à-ŋkāŋ 'ā-kòs 'lie of slave'
       L HL H L L

    b. a-ŋkaŋ a a-ku → à-ŋkāŋ 'ā-kù° 'lie of forest'
       L HL H L LH

    c. a-ŋkaŋ a a-bas → à-ŋkāŋ 'ā-bās 'lie of lizard'
       L HL H L HL

    d. a-ŋkaŋ a a-kuf → à-ŋkāŋ 'ā-kūf 'lie of tick'
       L HL H L H

2.3. Genitive marker is CV̀

(43) a. mə-ghâm mə a-kos → mə̄-ghâm m' à-kòs 'mats of slave'
       H L   L L L

    b. mə-ghâm mə a-ku → mə̄-ghâm m' à-kù° 'mats of forest'
       H L   L L LH

    c. mə-ghâm mə a-bas → mə̄-ghâm m' à-bās 'mats of lizard'
       H L   L L HL

    d. mə-ghâm mə a-kuf → mə̄-ghâm m' à-kùf° 'mats of tick'
       H L   L L H

(44) a. mə-nywin mə a-kos → mə̄-nywî̄n m' à-kòs 'birds of slave'
       H LH   L L L

    b. mə-nywin mə a-ku → mə̄-nywî̄n m' à-kù° 'birds of forest'
       H LH   L L LH

    c. mə-nywin mə a-bas → mə̄-nywî̄n m' à-bās 'birds of lizard'
       H LH   L L HL

    d. mə-nywin mə a-kuf → mə̄-nywî̄n m' à-kùf° 'birds of tick'
       H LH   L L H

(45) a. mə-buʔ mə a-kos → mə̄-búʔ m' à-kòs 'gorillas of slave'
       H HL   L L L

    b. mə-buʔ mə a-ku → mə̄-búʔ m' à-kù° 'gorillas of forest'
       H HL   L L LH

    c. mə-buʔ mə a-bas → mə̄-búʔ m' à-bās 'gorillas of lizard'
       H HL   L L HL

    d. mə-buʔ mə a-kuf → mə̄-búʔ m' à-kùf° 'gorillas of tick'
       H HL   L L H

(46) a. mə-tam mə a-kos → mə̄-tám m' à-kòs 'fruits of slave'
       H H   L L L

    b. mə-tam mə a-ku → mə̄-tám m' à-kù° 'fruits of forest'
       H H   L L LH

    c. mə-tam mə a-bas → mə̄-tám m' à-bās 'fruits of lizard'
       H H   L L HL

    d. mə-tam mə a-kuf → mə̄-tám m' à-kùf° 'fruits of tick'
       H H   L L H

(47) a. mə-bòyn mə a-kos → mè-bòyn m' à-kòs 'gr.squirrels of slave'
       L L   L L L

    b. mə-bòyn mə a-ku → mè-bòyn m' à-kù° 'gr.squirrels of forest'
       L L   L L LH

    c. mə-bòyn mə a-bas → mè-bòyn m' à-bās 'gr.squirrels of lizard'
       L L   L L HL

d. mə-bòɥn mə a-kuf → mə̀-bòɥn m' à-kùf°ʷ 'gr.squirrels of tick'
   L L L L H

(48) a. mə-nywi mə a-kos → mə̀-nywìT m' à-kòs 'knives of slave'
     L   LH L L L

b. mə-nywi mə a-ku → mə̀-nywìT m' à-kù° 'knives of forest'
   L   LH L L LH

c. mə-nywi mə a-bas → mə̀-nywìT m' à-bās 'knives of lizard'
   L   LH L L

d. mə-nywi mə a-kuf → mə̀-nywìT m' à-kùf° 'knives of tick'
   L   LH L L H

(49) a. mə-nca? mə a-kos → mə̀-ncā? m' à-kòs 'wires of slave'
     L HL L L L

b. mə-nca? mə a-ku → mə̀-ncā? m' à-kù° 'wires of forest'
   L HL L L LH

c. mə-nca? mə a-bas → mə̀-ncā? m' à-bās 'wires of lizard'
   L HL L L HL

d. mə-nca? mə a-kuf → mə̀-ncā? m' à-kùf° 'wires of tick'
   L HL L L H

2.4. Genitive marker is V̀

(50) a. ntə? ə a-kos → ntə̀? 'à-kòs 'village of slave'
     L L L L L

b. ntə? ə a-ku → ntə̀? 'à-kù° 'village of forest'
   L L L L LH

c. ntə? ə a-bas → ntə̀? 'à-bās 'village of lizard'
   L L L L HL

d. ntə? ə a-kuf → ntə̀? 'à-kùf° 'village of tick'
   L L L L H

(51) a. njam ə a-kos → njàm 'ā̀à-kòs 'axe of slave'
     L LH L L L

b. njam ə a-ku → njàm 'ā̀à-kù° 'axe of forest'
   L LH L L LH

c. njam ə a-bas → njàm 'ā̀à-bās 'axe of lizard'
   L LH L L HL

d. njam ə a-kuf → njàm 'ā̀à-kùf° 'axe of tick'
   L LH L L H

(52) a. ŋgə? ə a-kos → ŋgə̄? 'à-kòs 'trouble of slave'
     L HL L L L

b. ŋgə? ə a-ku → ŋgə̄? 'à-kù° 'trouble of forest'
   L HL L L LH

c. ŋgə? ə a-bas → ŋgə̄? 'à-bās 'trouble of lizard'
   L HL L L HL

d. ŋgə? ə a-kuf → ŋgə̄? 'à-kùf° 'trouble of tick'
   L HL L L H

(53) a. wul ə a-kos → wúl 'á-kòs 'person of slave'
     H L L L L

b. wul ə a-ku → wúl 'à-kù° 'person of village'
   H L L L LH

c. wul ə a-bas → wúl 'à-bās 'person of lizard'
   H L L L HL

d. wul ə a-kuf → wúl 'à-kùf° 'person of tick'
   H L L L H

(54) a. bom ə a-kos → bóm 'à-kòs 'cup of slave'
       H LH L L L

b. bom ə a-ku → bóm 'à-kù° 'cup of forest'
   H LH L L LH

c. bom ə a-bas → bóm 'à-bās 'cup of lizard'
   H LH L L HL

d. bom ə a-kuf → bóm 'à-kùf° 'cup of tick'
   H LH L L H

(55) a. bɨ ə a-kos → bɨ 'à-kòs 'dog of slave'
       H HL L L L

b. bɨ ə a-ku → bɨ 'à-kù° 'dog of forest'
   H HL L L LH

c. bɨ ə a-bas → bɨ 'à-bās 'dog of lizard'
   H HL L L HL

d. bɨ ə a-kuf → bɨ 'à-kùf° 'dog of tick'
   H HL L L H

(56) a. mo ə a-kos → mó 'à-kòs 'lake of slave'
       H H L L L

b. mo ə a-ku → mó 'à-kù° 'lake of forest'
   H H L L LH

c. mo ə a-bas → mó 'à-bās 'lake of lizard'
   H H L L HL

d. mo ə a-kuf → mó 'à-kùf° 'lake of tick'
   H H L L H

3. N₂ prefix is ∅́

3.1. Genitive marker is CV́

(57) a. fə-gham fə nyam → fə̄-ghâm fə̄ nyâm 'mat of animal'
        H L H L L

b. fə-gham fə kaɥn → fə̄-ghâm fə̄ káɥn 'mat of monkey'
      H L H L L H

c. fə-gham fə bzɨ → fə̄-ghâm fə̄ bzɨ̄ 'mat of goat'
      H L H L HL

d. fə-gham fə waɥn → fə̄-ghâm fə̄ wāɥn 'mat of child'
      H L H L H

e. fə-gham fə mboŋ → fə̄-ghâm fə̄ mbòŋ 'mat of dwarf cow'
      H L H L L

f. fə-gham fə ŋgom → fə̄-ghâm fə̄ ŋgòm 'mat of porcupine'
      H L H L LH

g. fə-gham fə ŋgvɨ → fə̄-ghâm fə̄ ŋgvɨ̄ 'mat of hen'
      H L H L HL

(58) a. fə-nywin fə nyam → fə̄-nywín fə́ nyâm 'bird of animal'
        H LH H L L

b. fə-nywin fə kaɥn → fə̄-nywín fə́ káɥn 'bird of monkey'
    H   LH   H L L H

c. fə-nywin fə bzɨ → fə̄-nywín fə́ bzɨ̄ 'bird of goat'
    H   LH   H L H L

d. fə-nywin fə waɥn → fə̄-nywín fə́ wā̄ɥn 'bird of child'
    H   LH   H L H

e. fə-nywin fə mboŋ → fə̄-nywín fə́ mbòŋ 'bird of dwarf cow'
    H   LH   H L L

f. fə-nywin fə ŋgom → fə̄-nywín fə́ ŋgòmᵒ 'bird of porcupine'
    H   LH   H L L H

g. fə-nywin fə ŋgvɨ → fə̄-nywín fə́ ŋgvɨ̄ 'bird of hen'
    H   LH   H L H L

(59) a. fə-buʔ fə nyam → fə̄-búʔ fə̄ nyâm 'gorilla of animal'
         H H L H L L

     b. fə-buʔ fə kaɥn → fə̄-búʔ fə̄ káɥn 'gorilla of monkey'
         H H L H L L H

     c. fə-buʔ fə bzɨ → fə̄-búʔ fə̄ bzɨ̄ 'gorilla of goat'
         H H L H L H L

     d. fə-buʔ fə waɥn → fə̄-búʔ fə̄ wā̄ɥn 'gorilla of child'
         H H L H L H

     e. fə-buʔ fə mboŋ → fə̄-búʔ fə̄ mbòŋ 'gorilla of dwarf cow'
         H H L H L L

     f. fə-buʔ fə ŋgom → fə̄-búʔ fə̄ ŋgòmᵒ 'gorilla of porcupine'
         H H L H L L H

     g. fə-buʔ fə ŋgvɨ → fə̄-búʔ fə̄ ŋgvɨ̄ 'gorilla of hen'
         H H L H L H L

(60) a. fə-tam fə nyam → fə̄-tám fə́ nyâm 'fruit of animal'
         H H   H L L

     b. fə-tam fə kaɥn → fə̄-tám fə́ káɥn 'fruit of monkey'
         H H   H L L H

     c. fə-tam fə bzɨ → fə̄-tám fə́ bzɨ̄ 'fruit of goat'
         H H   H L H L

     d. fə-tam fə waɥn → fə̄-tám fə́ wā̄ɥn 'fruit of child'
         H H   H L H

     e. fə-tam fə mboŋ → fə̄-tám fə́ mbòŋ 'fruit of dwarf cow'
         H H   H L L

     f. fə-tam fə ŋgom → fə̄-tám fə́ ŋgòmᵒ 'fruit of porcupine'
         H H   H L L H

     g. fə-tam fə ŋgvɨ → fə̄-tám fə́ ŋgvɨ̄ 'fruit of hen'
         H H   H L H L

(61) a. fə-boɥn fə nyam → fə̀-bòɥn fə̄ nyâm 'gr.squirrel of animal'
         L L   H L L

     b. fə-boɥn fə kaɥn → fə̀-bòɥn fə̄ káɥn 'gr.squirrel of monkey'
         L L   H L L H

     c. fə-boɥn fə bzɨ → fə̀-bòɥn fə̄ bzɨ̄ 'gr.squirrel of goat'
         L L   H L H L

     d. fə-boɥn fə waɥn → fə̀-bòɥn fə̄ wā̄ɥn 'gr.squirrel of child'
         L L   H L H

     e. fə-boɥn fə mboŋ → fə̀-bòɥn fə̄ mbòŋ 'gr.squirrel of dwarf cow'
         L L   H L L

     f. fə-boɥn fə ŋgom → fə̀-bòɥn fə̄ ŋgòmᵒ 'gr.squirrel of porcupine'
         L L   H L L H

g. fə-boin   fə   ŋgvɨ   →   fə̀-bòin fə̄ ŋgv̄ɨ   'gr.squirrel of hen'
   L   L   H   L H L

(62) a. fə-nywi   fə   nyam   →   fə̀-nywì fə́ nyâm   'knife of animal'
        L   L H H   L L
     b. fə-nywi   fə   kauɟn →   fə̀-nywì fə́ káɟn   'knife of monkey'
        L   L H H   L L H
     c. fə-nywi   fə   bzɨ   →   fə̀-nywì fə́ bz̄ɨ   'knife of goat'
        L   L H H   L H L
     d. fə-nywi   fə   wauɟn →   fə̀-nywì fə́ wāɟn   'knife of child'
        L   L H H   L H
     e. fə-nywi   fə   mboŋ   →   fə̀-nywì fə́ mbòŋ   'knife of dwarf cow'
        L   L H H   L L
     f. fə-nywi   fə   ŋgom   →   fə̀-nywì fə́ ŋgòm°   'knife of porcupine'
        L   L H H   L L H
     g. fə-nywi   fə   ŋgvɨ   →   fə̀-nywì fə́ ŋgv̄ɨ   'knife of hen'
        L   L H H   L H L

(63) a. fə-nca?   fə   nyam   →   fə̀-ncā? fə̄ nyâm   'wire of animal'
        L   H L H   L L
     b. fə-nca?   fə   kauɟn →   fə̀-ncā? fə̄ káɟn   'wire of monkey'
        L   H L H   L L H
     c. fə-nca?   fə   bzɨ   →   fə̀-ncā? fə̄ bz̄ɨ   'wire of goat'
        L   H L H   L H L
     d. fə-nca?   fə   wauɟn →   fə̀-ncā? fə̄ wāɟn   'wire of child'
        L   H L H   L H
     e. fə-nca?   fə   mboŋ   →   fə̄-ncā? fə̄ mbòŋ   'wire of dwarf cow'
        L   H L H   L L
     f. fə-nca?   fə   ŋgom   →   fə̄-ncā? fə̄ ŋgòm°   'wire of porcupine'
        L   H L H   L L H
     g. fə-nca?   fə   ŋgvɨ   →   fə̄-ncā? fə̄ ŋgv̄ɨ   'wire of hen'
        L   H L H   L H L

3.2. Genitive marker is V́

(64) a. a-lə?   a   nyam   →   ā-lə́? ā nyâm   'place of animal'
        H L   H   L L
     b. a-lə?   a   kauɟn →   ā-lə́? ā káɟn   'place of monkey'
        H L   H   L L H
     c. a-lə?   a   bzɨ   →   ā-lə́? ā bz̄ɨ   'place of goat'
        H L   H   L H L
     d. a-lə?   a   wauɟn →   ā-lə́? ā wāɟn   'place of child'
        H L   H   L H
     e. a-lə?   a   mboŋ   →   ā-lə́? ā mbòŋ   'place of dwarf cow'
        H L   H   L L
     f. a-lə?   a   ŋgom   →   ā-lə́? ā ŋgòm°   'place of porcupine'
        H L   H   L L H
     g. a-lə?   a   ŋgvɨ   →   ā-lə́? ā ŋgv̄ɨ   'place of hen'
        H L   H   L H L

(65) a. a-laŋ   a   nyam   →   ā-láŋ á nyâm   'cocoyam of animal'
        H L H H   L L

b. a-laŋ a kaŷn → ā-láŋ á káŷn 'cocoyam of monkey'
   H LH H L L H

c. a-laŋ a bzɨ → ā-láŋ á bzɟ 'cocoyam of goat'
   H LH H L HL

d. a-laŋ a waŷn → ā-láŋ á wāŷn 'cocoyam of child'
   H LH H L H

e. a-laŋ a mboŋ → ā-láŋ á mbòŋ 'cocoyam of dwarf cow'
   H LH H L L

f. a-laŋ a ŋgom → ā-láŋ á ŋgòm° 'cocoyam of porcupine'
   H LH H L LH

g. a-laŋ a ŋgvɨ → ā-láŋ á ŋgvɟ 'cocoyam of hen'
   H LH H L HL

(66) a. a-yes a nyam → ā-yés ā nyâm 'broom of animal'
      H HL H L L

b. a-yes a kaŷn → ā-yés ā káŷn 'broom of monkey'
   H HL H L L H

c. a-yes a bzɨ → ā-yés ā bzɟ 'broom of goat'
   H HL H L HL

d. a-yes a waŷn → ā-yés ā wāŷn 'broom of child'
   H HL H L H

e. a-yes a mboŋ → ā-yés ā mbòŋ 'broom of dwarf cow'
   H HL H L L

f. a-yes a ŋgom → ā-yés ā ŋgòm° 'broom of porcupine'
   H HL H L LH

g. a-yes a ŋgvɨ → ā-yés ā ŋgvɟ 'broom of hen'
   H HL H L HL

(67) a. a-vəf a nyam → ā-vә́f á nyâm 'bone of animal'
      H H H L L

b. a-vəf a kaŷn → ā-vә́f á káŷn 'bone of monkey'
   H H H L L H

c. a-vəf a bzɨ → ā-vә́f á bzɟ 'bone of goat'
   H H H L HL

d. a-vəf a waŷn → ā-vә́f á wāŷn 'bone of child'
   H H H L H

e. a-vəf a mboŋ → ā-vә́f á mbòŋ 'bone of dwarf cow'
   H H H L L

f. a-vəf a ŋgom → ā-vә́f á ŋgòm° 'bone of porcupine'
   H H H L LH

g. a-vəf a ŋgvɨ → ā-vә́f á ŋgvɟ 'bone of hen'
   H H H L HL

(68) a. a-ntas a nyam → à-ntàs ā nyâm 'spoon of animal'
      L L H L L

b. a-ntas a kaŷn → à-ntàs ā káŷn 'spoon of monkey'
   L L H L L H

c. a-ntas a bzɨ → à-ntàs ā bzɟ 'spoon of goat'
   L L H L HL

d. a-ntas a waŷn → à-ntàs ā wāŷn 'spoon of child'
   L L H L H

e. a-ntas a mboŋ → à-ntàs ā mbòŋ 'spoon of dwarf cow'
   L L H L L

f. a-ntas a ŋgom → à-ntàs ā ŋgòm° 'spoon of porcupine'
   L L H L LH

g. a-ntas a ŋgvɨ → à-ntàs ā ŋgvɨ̄ 'spoon of hen'
   L   L   H L   H L

(69) a. a-ntan a nyam → à-ntàn á nyâm 'insect of animal'
     L LH H L L

b. a-ntan a kaɥn → à-ntàn á káɥ̄n 'insect of monkey'
   L LH H L L H

c. a-ntan a bzɨ → à-ntàn á bzɨ̄ 'insect of goat'
   L LH H L H L

d. a-ntan a waɥn → à-ntàn á wāɥn 'insect of child'
   L LH H L H

e. a-ntan a mboŋ → à-ntàn á mbòŋ 'insect of dwarf cow'
   L LH H L L

f. a-ntan a ŋgom → à-ntàn á ŋgòm° 'insect of porcupine'
   L LH H L LH

g. a-ntan a ŋgvɨ → à-ntàn á ŋgvɨ̄ 'insect of hen'
   L LH H L H L

(70) a. a-ŋkaŋ a nyam → à-ŋkāŋ ā nyâm 'lie of animal'
     L HL H L L

b. a-ŋkaŋ a kaɥn → à-ŋkāŋ ā káɥ̄n 'lie of monkey'
   L HL H L L H

c. a-ŋkaŋ a bzɨ → à-ŋkāŋ ā bzɨ̄ 'lie of goat'
   L HL H L H L

d. a-ŋkaŋ a waɥn → à-ŋkāŋ ā wāɥn 'lie of child'
   L HL H L H

e. a-ŋkaŋ a mboŋ → à-ŋkāŋ ā mbòŋ 'lie of dwarf cow'
   L HL H L L

f. a-ŋkaŋ a ŋgom → à-ŋkāŋ ā ŋgòm° 'lie of porcupine'
   L HL H L LH

g. a-ŋkaŋ a ŋgvɨ → à-ŋkāŋ ā ŋgvɨ̄ 'lie of hen'
   L HL H L H L

3.3. Genitive marker is CV̀

(71) a. mə-gham mə nyam → mə̄-ghâm mè̀ nyàm 'mats of animal'
      H L   L   L L

b. mə-gham mə kaɥn → mə̄-ghâm mè kàɥn° 'mats of monkey'
    H L   L   L L H

c. mə-gham mə bzɨ → mə̄-ghâm mè bzɨ̄ 'mats of goat'
    H L   L   L H L

d. mə-gham mə waɥn → mə̄-ghâm mè wàɥn° 'mats of child'
    H L   L   L H

e. mə-gham mə mboŋ → mə̄-ghâm mè mbòŋ 'mats of dwarf cow'
    H L   L   L L

f. mə-gham mə ŋgom → mə̄-ghâm mè ŋgòm° 'mats of porcupine'
    H L   L   L LH

g. mə-gham mə ŋgvɨ → mə̄-ghâm mè ŋgvɨ̄ 'mats of hen'
    H L   H   L H L

(72) a. mə-nywin mə nyam → mə̄-nywĩ́n mè nyàm 'birds of animal'
      H LH L L L

b. mə-nywin mə kaɥn → mə̄-nywĩ́n mè kàɥn° 'birds of monkey'
    H LH L L L H

c. mə-nywin mə bzɨ → mə̄-nywɪ́n̄ mə̀ bzɨ̄ 'birds of goat'
   H   LH L L HL

d. mə-nywin mə wayn → mə̄-nywɪ́n̄ mə̀ wày n° 'birds of child'
   H   LH L L H

e. mə-nywin mə mbon → mə̄-nywɪ́n̄ mə̀ mbò ŋ 'birds of dwarf cow'
   H   LH L L L

f. mə-nywin mə ŋgom → mə̄-nywɪ́n̄ mə̀ ŋgò m° 'birds of porcupine'
   H   LH L L LH

g. mə-nywin mə ŋgvɨ → mə̄-nywɪ́n̄ mə̀ ŋgvɨ̄ 'birds of hen'
   H   LH L L HL

(73) a. mə-buʔ mə nyam → mə̄-bú ʔ mə̀ nyàm 'gorillas of animal'
       H HL   L L L

b. mə-buʔ mə kayn → mə̄-bú ʔ mə̀ kày n° 'gorillas of monkey'
   H HL   L L L H

c. mə-buʔ mə bzɨ → mə̄-bú ʔ mə̀ bzɨ̄ 'gorillas of goat'
   H HL   L L HL

d. mə-buʔ mə wayn → mə̄-bú ʔ mə̀ wày n° 'gorillas of child'
   H HL   L L H

e. mə-buʔ mə mbon → mə̄-bú ʔ mə̀ mbò ŋ 'gorillas of dwarf cow'
   H HL   L L L

f. mə-buʔ mə ŋgom → mə̄-bú ʔ mə̀ ŋgò m° 'gorillas of porcupine'
   H HL   L L LH

g. mə-buʔ mə ŋgvɨ → mə̄-bú ʔ mə̀ ŋgvɨ̄ 'gorillas of hen'
   H HL   L L HL

(74) a. mə-tam mə nyam → mə̄-tám mə̀ nyàm 'fruits of animal'
       H H   L L L

b. mə-tam mə kayn → mə̄-tám mə̀ kày n° 'fruits of monkey'
   H H   L L L H

c. mə-tam mə bzɨ → mə̄-tám mə̀ bzɨ̄ 'fruits of goat'
   H H   L L HL

d. mə-tam mə wayn → mə̄-tám mə̀ wày n° 'fruits of child'
   H H   L L H

e. mə-tam mə mbon → mə̄-tám mə̀ mbò ŋ 'fruits of dwarf cow'
   H H   L L L

f. mə-tam mə ŋgom → mə̄-tám mə̀ ŋgò m° 'fruits of porcupine'
   H H   L L LH

g. mə-tam mə ŋgvɨ → mə̄-tám mə̀ ŋgvɨ̄ 'fruits of hen'
   H H   L L HL

(75) a. mə-boyn mə nyam → mə́-bòyn mə̀ nyàm 'gr.squirrels of animal'
       L L   L L L

b. mə-boyn mə kayn → mə̀-bòyn mə̀ kày n° 'gr.squirrels of monkey'
   L L   L L L H

c. mə-boyn mə bzɨ → mə̀-bòyn mə̀ bzɨ̄ 'gr.squirrels of goat'
   L L   L L HL

d. mə-boyn mə wayn → mə̀-bòyn mə̀ wày n° 'gr.squirrels of child'
   L L   L L H

e. mə-boyn mə mbon → mə̀-bòyn mə̀ mbò ŋ 'gr.squirrels of dwarf cow'
   L L   H L L

f. mə-boyn mə ŋgom → mə̌-bòyn mə̀ ŋgò m° 'gr.squirrels of porcupine'
   L L   H L LH

g. mə-boyn mə ŋgvɨ → mə̀-bòyn mə̀ ŋgvɨ̄ 'gr.squirrels of hen'
   L L   L L HL

(76) a. mə-nywi mə   nyam   →   mə̀-nywɪ̄T mə̀ nyàm   'knives of animal'
         L   LH L   L L

     b. mə-nywi mə   kaɥn   →   mə̀-nywɪ̀T mə̀ kàɥn°   'knives of monkey'
         L   LH L   L L H

     c. mə-nywi mə   bzɨ   →   mə̀-nywɪ̀T mə̀ bzɨ̄   'knives of goat'
         L   LH L   L HL

     d. mə-nywi mə   waɥn   →   mə̀-nywɪ̀T mə̀ wàɥn°   'knives of child'
         L   LH L   L H

     e. mə-nywi mə   mboŋ   →   mə̀-nywɪ̀T mə̀ mbòŋ   'knives of dwarf cow'
         L   LH L   L L

     f. mə-nywi mə   ŋgom   →   mə̀-nywɪ̀T mə̀ ŋgòm°   'knives of porcupine'
         L   LH L   L LH

     g. mə-nywi mə   ŋgvɨ   →   mə̀-nywɪ̀T mə̀ ŋgvɨ̄   'knives of hen'
         L   LH L   L HL

(77) a. mə-nca? mə   nyam   →   mə̀-ncā? mə̀ nyàm   'wires of animal'
         L   HL L   L L

     b. mə-nca? mə   kaɥn   →   mə̀-ncā? mə̀ kàɥn°   'wires of monkey'
         L   HL L   L L H

     c. mə-nca? mə   bzɨ   →   mə̀-ncā? mə̀ bzɨ̄   'wires of goat'
         L   HL L   L HL

     d. mə-nca? mə   waɥn   →   mə̀-ncā? mə̀ wàɥn°   'wires of child'
         L   HL L   L H

     e. mə-nca? mə   mboŋ   →   mə̀-ncā? mə̀ mbòŋ   'wires of dwarf cow'
         L   HL L   L L

     f. mə-nca? mə   ŋgom   →   mə̀-ncā? mə̀ ŋgòm°   'wires of porcupine'
         L   HL L   L LH

     g. mə-nca? mə   ŋgvɨ   →   mə̀-ncā? mə̀ ŋgvɨ̄   'wires of hen'
         L   HL L   L HL

3.4. Genitive marker is V̀

(78) a. ntə? ə   nyam   →   ntə̀? ə̀ nyàm   'village of animal'
         L L L   L L

     b. ntə? ə   kaɥn   →   ntə̀? ə̀ kàɥn°   'village of monkey'
         L L L   L L H

     c. ntə? ə   bzɨ   →   ntə̀? ə̀ bzɨ̄   'village of goat'
         L L L   L HL

     d. ntə? ə   waɥn   →   ntə̀? ə̀ wàɥn°   'village of child'
         L L L   L H

     e. ntə? ə   mboŋ   →   ntə̀? ə̀ mbòŋ   'village of dwarf cow'
         L L L   L L

     f. ntə? ə   ŋgom   →   ntə̀? ə̀ ŋgòm°   'village of porcupine'
         L L L   L LH

     g. ntə? ə   ŋgvɨ   →   ntə̀? ə̀ ŋgvɨ̄   'village of hen'
         L L L   L HL

(79) a. njam ə   nyam   →   njàm̄ m̀ nyàm   'axe of animal'
         L LH L   L L

     b. njam ə   kaɥn   →   njàm̄, m̀ kàɥn°   'axe of monkey'
         L LH L   L L H

     c. njam ə   bzɨ   →   njàm̄ m̀ bzɨ̄   'axe of goat'
         L LH L   L HL

d. ₗnjam ə ₗwayn → njàm̄ m̀ wàyn° 'axe of child'
    L LH L LH

e. ₗnjam ə ₗmboŋ → njàm̄ m̀ mbòŋ 'axe of dwarf cow'
    L LH L L L

f. ₗnjam ə ₗŋgom → njàm̄ m̀ ŋgòm° 'axe of porcupine'
    L LH L LLH

g. ₗnjam ə ₗŋgvɨ → njàm̄ m̀ ŋgvɨ̄ 'axe of hen'
    L LH L L HL

(80) a. ₗŋgəʔ ə ₗnyam → ŋgə̄ʔ ə̀ nyàm 'trouble of animal'
         L HL L L L

b. ₗŋgəʔ ə ₗkayn → ŋgə̄ʔ ə̀ kàyn° 'trouble of monkey'
    L HL L LLH

c. ₗŋgəʔ ə ₗbzɨ → ŋgə̄ʔ ə̀ bzɨ̄ 'trouble of goat'
    L HL L L HL

d. ₗŋgəʔ ə ₗwayn → ŋgə̄ʔ ə̀ wàyn° 'trouble of child'
    L HL L LH

e. ₗŋgəʔ ə ₗmboŋ → ŋgə̄ʔ ə̀ mbòŋ 'trouble of dwarf cow'
    L HL L L L

f. ₗŋgəʔ ə ₗŋgom → ŋgə̄ʔ ə̀ ŋgòm° 'trouble of porcupine'
    L HL L LLH

g. ₗŋgəʔ ə ₗŋgvɨ → ŋgə̄ʔ ə̀ ŋgvɨ̄ 'trouble of hen'
    L HL L L HL

(81) a. ₕwul ə ₗnyam → wúl ə̀ nyàm 'person of animal'
         H L L L L

b. ₕwul ə ₗkayn → wúl ə̀ kàyn° 'person of monkey'
    H L L LLH

c. ₕwul ə ₗbzɨ → wúl ə̀ bzɨ̄ 'person of goat'
    H L L L HL

d. ₕwul ə ₗwayn → wúl ə̀ wàyn° 'person of child'
    H L L LH

e. ₕwul ə ₗmboŋ → wúl ə̀ mbòŋ 'person of dwarf cow'
    H L L L L

f. ₕwul ə ₗŋgom → wúl ə̀ ŋgòm° 'person of porcupine'
    H L L LLH

g. ₕwul ə ₗŋgvɨ → wúl ə̀ ŋgvɨ̄ 'person of hen'
    H L L L HL

(82) a. ₕbom ə ₗnyam → bóm m̀ nyàm 'cup of animal'
         H LH L L L

b. ₕbom ə ₗkayn → bóm m̄ kàyn° 'cup of monkey'
    H LH L LLH

c. ₕbom ə ₗbzɨ → bóm m̀ bzɨ̄ 'cup of goat'
    H LH L L HL

d. ₕbom ə ₗwayn → bóm m̀ wàyn° 'cup of child'
    H LH L LH

e. ₕbom ə ₗmboŋ → bóm m̀ mbòŋ 'cup of dwarf cow'
    H LH L L L

f. ₕbom ə ₗŋgom → bóm m̀ ŋgòm° 'cup of porcupine'
    H LH L LLH

g. ₕbom ə ₗŋgvɨ → bóm m̄ ŋgvɨ̄ 'cup of hen'
    H LH L L HL

(83) a. bɕ̆ ə nyam → bɕ ɬ nyàm 'dog of animal'
       H H L L L L

    b. bɕ̆ ə kaɥn → bɕ ɬ kàɥn° 'dog of monkey'
       H H L L L L̂ H

    c. bɕ̆ ə bzɬ → bɕ ɬ bz‗ 'dog of goat'
       H H L L L H L

    d. bɕ̆ ə waɥn → bɕ ɬ wàɥn° 'dog of child'
       H H L L L Ĥ

    e. bɕ̆ ə mboŋ → bɕ ɬ mbòŋ 'dog of dwarf cow'
       H H L L L L

    f. bɕ̆ ə ŋgom → bɕ ɬ ŋgòm° 'dog of porcupine'
       H H L L L̂L H

    g. bɕ̆ ə ŋgvɬ → bɕ ɬ ŋgv‗ 'dog of hen'
       H H L L L H L

(84) a. mo ə nyam → mó ò nyàm 'lake of animal'
       H H L L L

    b. mo ə kaɥn → mó ò kàɥn° 'lake of monkey'
       H H L L L H

    c. mo ə bzɬ → mó ò bz‗ 'lake of goat'
       H H L L H L

    d. mo ə waɥn → mó ò wàɥn° 'lake of child'
       H H L L Ĥ

    e. mo ə mboŋ → ´mó ò mbòŋ 'lake of dwarf cow'
       H H L L L

    f. mo ə ŋgom → mó ò ŋgòm° 'lake of porcupine'
       H H L L̂L H

    g. mo ə ŋgvɬ → mó ò ŋgv‗ 'lake of hen'
       H H L L H L