

# **Tonal Domains in Galwa (Bantu, B 11c)**

G rard PHILIPPSON

Gilbert PUECH

## 1. Introduction

Whereas in the late '70's and during most of the '80's, many phonologists attempted to analyse tonal processes by paying particular attention to the formulation and ordering of sometimes unnecessarily complex and numerous rules, more recent approaches have shifted away from this emphasis and aim rather at establishing principles from which the tonal behaviour of morphemes can be predicted. The approach in terms of domains which we adopt here follows many of the assumptions generally found in the literature (mostly since Selkirk's 1986 seminal work) on the non-congruence between syntactic and prosodic domains, the phonologist's task being to identify the mechanisms by which prosodic domains are parsed out of (or overlapping with) syntactic domains. Since it is not our aim here to enter the general theoretical discussion (as it has been stimulatingly presented in such works as, for instance, Inkelas and Zec (eds.) 1990), we will concentrate on examining tonal data from a particularly interesting and ambiguous language, i.e. Galwa, a Bantu language spoken in Gabon and labelled B 11c in Malcolm Guthrie's Bantu classification. We take our lead from Kisseberth's domain-based analysis of Tsonga tone (Kisseberth, 1994), to which we refer for more details on the approach.

The outline of the paper is as follows : after a brief survey of the principles of domain formation, we will examine in turn the tonal behaviour of nominals, adjectives and verbs; we will devote a special section on what we call the definite tone pattern; and we will try to summarise the various types of phrases leading to the constitution of prosodic domains in the language.

## 2. Principles of domain formation

In accordance with what was said in the Introduction, we will limit ourselves here to the briefest exposition of principles. It being understood that domains in general represent strings of material enclosed by limits of a certain sort, we will distinguish two types of domains in Galwa: prosodic domains (in short P-domains) and high-tone domains (in short H-domains). P-domains are derived from the syntactic structure, although as will be seen below, they are of quite restricted syntactic membership. A P-domain comprises one or several H-

domains; it can comprise a string of non-H syllables at either of its margins, but not *between* H-domains. H-domains comprise only H-tone syllables. Successive H-domains within the same P-domain are demarcated by downstep. In case H-domains belonging to two different P-domains should happen to be adjacent, they need not be thus demarcated.

Domains are bounded by left ('[') and right (']') brackets, appropriately situated at left and right edges of domains respectively. Since there are two types of domains, brackets should properly be indexed accordingly, but since we will seldom introduce examples comprising several P-domains only H-domains will be marked by brackets. Two adjacent P-domains, as we will refer to them from time to time, will be indicated only with the following symbol (||) to separate them. We will not otherwise mark their left or right boundaries. So for example, the phrase  $\gamma o [ l \acute{a} \ n t \acute{o} ] \gamma o l o$  "buy pepper"<sup>1</sup> consists of one P-domain and one H-domain, the first and last two syllables of the P-domain not being included in the H-domain, whereas  $i [ n t \acute{o} ] \gamma o l o \parallel [ s \acute{o} d \hat{u} ]$  'all the peppers', comprises two P-domains and two H-domains and  $[ n d z \circ \gamma \acute{o} n \acute{i} ] \uparrow [ m p \acute{o} ] l o$  'big hen' one P-domain and two H-domains.

### 3. Tone in Galwa

Many Bantu languages are known for their elaborate tonal systems, with spreading of H tones onto non-H syllables, and general change of the tonal profile of a word in relation to its position in the sentence. Galwa is rather less subject to syntactic constraints than some other languages, but at the same time offers some amazing contrasts and neutralisations which are certainly outstanding in Bantu tonology.

We will first present the tone of noun stems and the way they interact with other words. We ought to point out from the start that Galwa makes a fundamental distinction between *indefinite* and *definite* forms of the noun, this being signalled only by tonal means. We will for the time being limit ourselves to the tone of nouns in their indefinite form and tackle the definite later.

3.1. It is obvious at first glance that lexical tone in Galwa is rather restricted : apart from the fact that verbal radicals do not exhibit any tonal distinctiveness (on which see more below), noun (and adjective) stems offer the following patterns

---

<sup>1</sup> High tones are marked with an acute accent thus ( $\acute{a}$ ), falling tones with a circumflex ( $\hat{a}$ ) and low tones are unmarked ( $a$ ). Downstep, i.e. key-lowering of a H relative to a previous H, is represented with a raised exclamation-mark before the syllable concerned ( $\uparrow \acute{a}$ ).

3.1.1. Monosyllabic stems : all are H<sup>2</sup>

o-γá 'chief'                      mbwá 'dog(s)'  
 a-l á 'tall ones (cl. 2 or 6)'      i-γá 'forest'

3.1.2. Disyllabic stems : four patterns are observed

- a) no H

ηgozo 'parrot(s)'                      o-γaηga 'traditional doctor'  
 ndzoyu 'elephant(s)'                  i-wumu 'abdomen'

- b) H on the second syllable

ηgowá 'bush-pig(s)'                  a-γa l í 'oil'  
 ηombá 'porcupine(s)'                  am-ε n é 'other ones (cl. 6)'

- c) H on both syllables

ηkémá 'monkey(s)'                      o-mpéndé 'leg'  
 βóló 'big ones (cl. 8)'                  o-nómé 'husband'

- d) H on the first syllable, falling on the second

o-γúmâ 'manioc'                          e-kúrû 'owl'  
 i-l á s â 'orange'                          mw-á n t ô 'woman'

3.1.3. Trisyllabic stems : three patterns only

- a) no H

e-βελεσε 'head-scarf'      ηgobele 'domestic pig(s)'

- b) H on all syllables

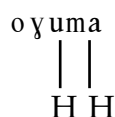
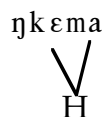
ntóγóló 'pepper(s)'                  o-t á ηgání 'European'

- c) H on penult, falling on final

ndzoyónî 'hen(s)'                          i-βa l á ηgô 'duck'

There are thus far fewer patterns than expected, particularly for monosyllabic (no H-less stems) and trisyllabic stems (3 patterns only instead of nine possible in an unrestricted tone system); but even disyllabic stems which do exhibit four patterns lack the expected HL<sup>3</sup>.

3.2. The tonal structure of disyllabic and trisyllabic H stems<sup>4</sup> in Galwa can be represented thus:



<sup>2</sup> For the sake of clarity, we present here stems separated by a hyphen from their class prefix; this practice will not be found outside this section.

<sup>3</sup> Practically all Common Bantu HL stems surface as HH in Galwa. Note that in Galwa "L" is short for "non-H".

<sup>4</sup> We take monosyllabic stems to be non-problematic (1 syllable, 1 H)

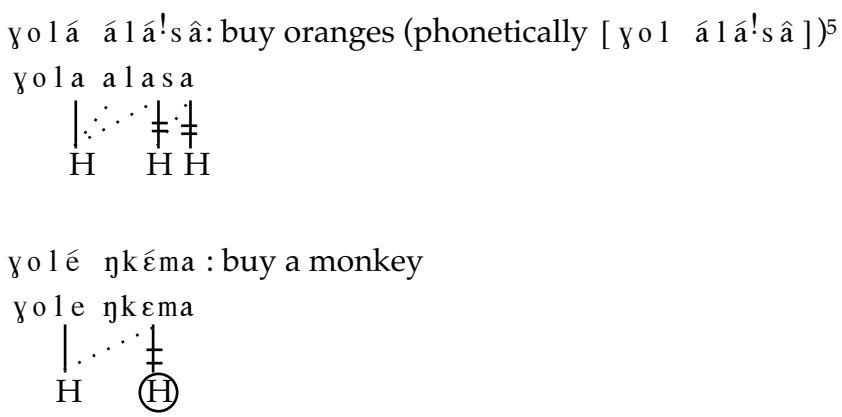


Why do we consider the stems ηkémá and ntóyóló to be linked to a single H each, whereas oyúmâ and ndzoyónî are multiply linked ? The reason is that the characteristic falling tone (FT) contour appearing on the final syllable of the latter two is always conditioned in Galwa by the effect of two successive H tones. This can be easily demonstrated by attaching the proclitic locative element γó to some of the undoubtedly single H stems mentioned in 3.1. :

mbwá > γó mbwâ 'on a dog'  
 ηgowá > γó ηgowâ 'on a bush pig'

As can be noticed from these examples the H spreads from the clitic to the following nominal changing the H on the final syllable into a FT. (We will examine in a moment the exact modalities of tone spreading and their interaction with domains).

The presence of two underlying H in stems with final FT is further confirmed by the fact that, when final in its P-domain, the FT remains even where a single H is deleted; compare :



The lack of trisyllabic LLH stems, parallel to LH stems such as ηgowá may appear surprising, but the wide variability in Galwa nominal tone patterns which will be detailed below makes it likely that coalescence of patterns has occurred in

---

<sup>5</sup> Elision always occurs between two adjacent vowels, even across otherwise strong syntactic boundaries

the history of the language. It is in any case well attested also in the neighbouring and closely related Nkomi and Mpongwe dialects.

3.3. What is of real interest in Galwa nominal tonology is the way tones of different words interact with one another. Contrasting with many Bantu languages where P-domains, without coinciding with syntactic groups, nevertheless do overlap with these to a lesser or greater degree (cf. Philippson, 1992; Odden, 1996, for illustrations), P-domains in Galwa are highly restricted; they generally coincide with noun phrases consisting of a noun followed by a single determiner or qualifier; it is notable that verbal words do not form a P-domain with their subject, which is expected from the behaviour of many other Bantu languages, but neither do they form a domain with their direct object, except when the final syllable of the verb is linked to the only H tone of the verbal word !

Furthermore, P-domains will be broken down into one or several H-domains where the H-donors interact according to principles which seem complex but would appear to follow a maximisation of binarity, i.e. whereas a P-domain comprising five potential H donors can divide into two groups of H-domains covering either the first two donors followed by the next three or vice-versa, a P-domain comprising **four** H donors must break down into two groups of 2 H-donors each, and so must a domain with **six** H donors<sup>6</sup> break down into three groups (for examples see 3.4.2. below).

We will illustrate the mechanisms of domain formation by looking at noun phrases; among these, several always demand that their head noun be in the *definite* tonal pattern which we haven't yet introduced. We will thus focus on constructions with the indefinite nominal pattern, mostly those coinciding with noun phrases of the shape Noun + Adj.

3.4. Adjectives (including the numerals from 1 to 5) exhibit the following tonal shapes in their lexical form: LL (e.g. -aŋgo 'small', -mɔri 'one' or -wani 'two'), HH (e.g. -βóló 'big') and HF (e.g. -náyî 'four'). Monosyllabic adjectival stems are of course H (-βyá 'good, beautiful', -pé 'short', -lá 'long') as are monosyllabic noun stems. (It is a curious fact that we haven't found in our corpus any LH adjective and this absence might be linked to an alternation in tonal pattern of adjectives in their *definite* form that we'll take up again below).

3.4.1. When an all-L nominal precedes any adjective, the tonal shape of the latter is in no way affected:

---

<sup>6</sup> Or more precisely 5 H donors and a first stem syllable, for which see below.

LL noun + LL adjective: ηγοζο παηγο 'small parrot(s)'<sup>7</sup>

LL noun + HH adjective: ndzoyu mpóló 'big elephant(s)'

LL noun + HF adjective: aγaηga anáyî 'four medicine-men

LL noun + H adjective: ηγοζο mbyá 'beautiful parrot(s)'

with LLL nouns: eβελεσε eβóλό 'big head-scarf' etc.

On the other hand, if the preceding nominal contains at least one H, the tonal pattern of the adjective will change:

LH noun + LL adjective: ηgowá παηγό 'small bush-pig(s)'

LH noun + HH adjective: ηombá mpóλο 'big porcupine(s)'

LH noun + H adjective: aγalí ámbyâ 'good oil'

These changes are entirely parallel to what we saw above in 3.2., concerning the spreading of a H tone onto a following H within the same P-domain, thus creating a H-domain; the end of the H-domain coincides with the syllable linked to the second H, thus:

ηgowá mpóλο 'big pig(s)'  
ηgowa mpóλο  
| . . . ‡  
H (H)

The first H spreads onto the second, deleting it in the process, since it is final in its P-domain (we'll see later that a H which signals the end of its H-domain but not of its P-domain is not deleted, but lowered; deletion can in fact be considered as absolute lowering). In the case of a final H, linked to the last syllable of the domain, delinking is indicated by a falling tone:

ηgowá ndâ 'tall pig(s)'<sup>8</sup>  
ηgowa nda  
| . . . ‡  
H (H)

---

<sup>7</sup> There is in principle no difference in the segmental shape of the prefixes of classes 9 (singular) and 10 (plural) hence the indeterminacy in the translation. It should be noted however that class 10 could be indicated by prefixing i- to the noun or the adjective or both (thus iηγοζο παηγο or iηγοζο iπαηγο). This is most frequent - although still optional - with definite forms but is by no means unknown with the indefinite.

<sup>8</sup> Since L tones do not appear in structural forms, we assume that the delinking of a H from the final syllable of any word before pause will be phonetically interpreted as a falling tone.

In the case of all-L adjectives, the H of the nominal spreads to the final syllable in the case of a disyllabic stem:

ηombá mbání ‘two porcupines’  
 ηomba mbani  
 |, ·····  
 H

We would very much like to know whether a preceding H would always spread to the final syllable of a following all-L word. We unfortunately are not aware of any trisyllabic LLL adjective, but a LLL nominal preceded by a H preposition will do just as well:

γó éβέλεσε ‘on a head-scarf’

γó ηγόβελε ‘on a pig’

or even, with an LLLL nominal stem:

γó έςόσσηγολο ‘on a swallow (bird)’

We see here that the H-domain opened by the H will find its limit on the first stem syllable; which follows from the well-attested principle that such syllables are always followed by a right boundary, and so necessarily signal the end of a H-domain<sup>9</sup>:

[γó εβέ]λεσε, [γó ηγο]βελε, [γó εςό]σσηγολο

The behaviour of two-syllable LL stems is thus deviant and a rule must be proposed for such stems, removing the right boundary altogether, when the word is final in its P-domain<sup>10</sup>.

ηγο[wa παηγο, ηο[mba mbani or also [γó ηγοζο ‘on a parrot’  
 realised γó ηγózó

In the same vein, an optional rule transforms the expected - and attested - γó ηγówá ‘on a pig’ into γó ηγówa, with deletion of the right stem boundary in the first case: [γó ηgowá] and retention of the stem boundary but deletion of the final H in the second [γó ηγο]wa.

3.4.2. What now of P-domains consisting of several donor H? We have such configurations arising either from a nominal with a single H preceding a HF adjective, or vice-versa; we find the following examples<sup>11</sup>:

---

<sup>9</sup> This principle is widely attested among Bantu languages in Gabon and neighbouring areas (cf. Paulian, 1975). It is nevertheless a curious fact that the Nkomi dialect has a right boundary not on the first stem syllable but on the *penult* of noun stems (cf. Appendix 1), thus paralleling the behaviour of Bantu languages in Eastern and Southern Africa (cf. Philippson 1992).

<sup>10</sup> When the word is *not* final, the right boundary after the stem is much in evidence; cf. below.

HF noun + LL adjective: a l á s á    a m b a n i ‘two oranges’

HF noun + HH adjective: o γ ú m á    ó<sup>!</sup> m p ó l o ‘a big manioc plant’

HF noun + HF adjective: i γ ú m á    í<sup>!</sup> n á y î ‘four manioc plants’

The same patterns would obtain with a trisyllabic LHF nominal stem, e.g. n d z o γ ó n í    m b a n i ‘two hens’, n d z o γ ó n í    í<sup>!</sup> n á y î ‘four hens’, etc.

LH noun + HF adjective: η γ o w á    n á<sup>!</sup> y î ‘four bush-pigs’

HH noun + HF adjective: η κ é m á    n á<sup>!</sup> y î ‘four monkeys’

H noun + HF adjective: a γ á    á n á<sup>!</sup> y î ‘four chiefs’

With a HHH stem: n t ó γ ó l ó    n á<sup>!</sup> y î ‘four peppers’, etc.

These patterns correspond to the following domain shapes (we show H-domains as they appear before and after vowel elision takes place; in the latter case, the remaining vowel is always included within the boundaries of the H-domain to which the elided vowel itself belonged):

a l á s (á)    á m b a n i	a [ l a s a ]    a m b a n i > a [ l a s a ] m b a n i
o γ ú m (á)    ó <sup>!</sup> m p ó l o	o [ γ u m a ]    o [ m p o ] l o > o [ γ u m o ] [ m p o ] l o
η γ o w á    n á <sup>!</sup> y î	η g o [ w a n a ] [ y i ]
η κ é m á    n á <sup>!</sup> y î	[ η κ ε m a n a ] [ y i ]
a γ (á)    á n á <sup>!</sup> y î	a [ γ a a n a ] [ y i ] > a [ γ a n a ] [ y i ]
n t ó γ ó l ó    n á <sup>!</sup> y î	[ n t o γ o l o n a ] [ y i ]

In all these examples (apart from the first, which offers no difficulty) there are three donor H and two domains; a H tone associates to all syllables of each domain and two H-domains are separated by a downstep; a final syllable coinciding with the end of a P-domain bears a falling tone before pause.

The following examples, on the other hand, each exhibit four donor H, but still two H-domains each

i γ ú m (á)    í <sup>!</sup> n á y î	i [ γ u m a ] i [ n a y i ] > i [ γ u m i ] [ n a y i ]
n d z o γ ó n í    í <sup>!</sup> n á y î	n d z o [ γ o n i ] [ n a y i ]

What is striking in these examples is that there are still only *two* H-domains and not three as might be supposed, thus: \*n d z o [ γ o n i ] [ n a ] [ y i ], whose assumed tonal representation would be:

\*n d z o γ ó n í    í<sup>!</sup> n á<sup>!</sup> y î  
\*n d z o γ o n i    n a y i  
| · † · † · †  
H H H (H)

---

<sup>11</sup> As mentioned above, vowel elision always takes place between two words, so the examples below are realised: a l á s á    a m b a n i, o γ ú m    ó<sup>!</sup> m p ó l o, i γ ú m    í<sup>!</sup> n á y î, etc.



We can formulate the algorithms for the formation of H-domains as follows:

a) in a P-domain, the left boundary of the first H-domain is placed to the left of the first syllable with a H donor in the domain; the right boundary of the first domain will be placed to the right of the next syllable with a H donor or to the right of the first stem syllable of the following word<sup>12</sup>, whichever comes first (N.B. disyllabic LL and - optionally - LH stems are exceptions to this statement.

b) if one H donor only remains in the P-domain, the final right boundary of the second H-domain will be placed to the right of the syllable bearing it or to the right of the radical syllable of the following word whichever comes first

c) if more than one H syllable remains, a left boundary will be placed to the left of the first one and a right boundary to the right of the following one

b and c apply iteratively<sup>13</sup>- although we do not have any evidence of a P-domain including more than 5 H donors (+ a non H first stem syllable).

Examples:

a)

ηκέμα πρόλο 'big monkey'

ηκεμα προλο

    |      |  
    H      H

[ ηκεμα προ ] λο

γό εβελεσε 'on a head-scarf'

γο εβελεσε

  |  
  H

[ γο εβε ] λεσε

ηκέμα 'monkey(s)'

ηκεμα

  |  
  H

[ ηκεμα

---

<sup>12</sup> Which can only be a noun or a nominal determiner. Verbs in predicate function never form a group with any preceding word; relative verb forms do, but always have a H donor on the prefix and so the first stem syllable is out of reach.

<sup>13</sup> If, following the application of these rules, two right boundaries are found immediately succeeding each other, a left boundary will be inserted to the right of the first one

In this last example, there is no interaction with a following H and so the H-domain is left unbounded. This indicates that the H-domain is ready to combine immediately with any following H donor, which will thus provide its right boundary, as in ηkémá mpóló above.

ηkémá náηgó 'small monkey(s)'  
 ηkεma naηgo  
 |  
 H  
 [ηkεma naηgo]

γó ηgówâ / γó ηgówá 'on a bush-pig'  
 γo ηgowa  
 |        |  
 H        H  
 [γo ηgowa] / [γo ηgo]wa

These two examples illustrate the exceptions mentioned above, where the right boundary of the H-domain does not necessarily coincide with the first stem syllable of the next word.

b)

ndzɔγɔní 'mpóló  
 ndzɔγɔni mpolo  
 |    |    |  
 H   H   H  
 ndzɔ[γɔni] mpo]lo > ndzɔ[γɔni] [mpo]lo

γw ílá!sâ 'on orange-trees'  
 γo ilasa  
 |    |    |  
 H   H   H  
 [γo ila]sa] > [γo ila][sa]

c)

4 H donors :

ndzɔyɔnɪ̂ !náyî̂ 'four hens'  
ndzɔyɔni nayi  
    |  |  |  |  
    H H H H  
ndzɔ[ɔni] [nayi]

ɣw ílás̄ !ílâ 'on tall orange-trees'  
ɣo ilasa ila  
    |  |  |  |  
    H  H H  H  
[ɣo ila][sa ila]

5 H donors :

ɣó ndzɔ!yɔnɪ̂ !náyî̂  
ɣo ndzɔyɔni nayi  
    |          |  |  |  |  
    H          H H  H H  
[ɣo ndzɔ][ɔni] [nayi]

ɣw álá's̄ áná'yî̂ 'on four oranges'  
ɣo alasa anayi  
    |  |  |  |  |  
    H  H H  H H  
[ɣo ala][sa ana]yi > [ɣo ala][sa ana][yi]

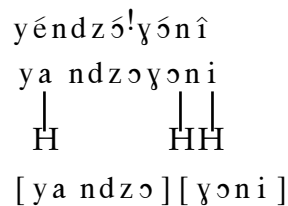
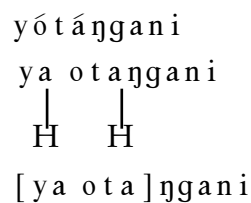
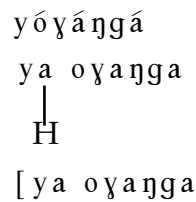
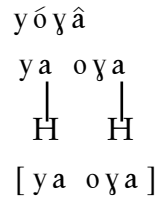
3.5. Genitive phrases: genitive phrases have a tonal behaviour which differs somewhat from what we have seen so far. They are of the shape Possessed + connective + Possessor, the connective consisting in Galwa, as in many other Bantu languages, of an element  $-\acute{a}$ , bearing a class prefix agreeing with the class of the previous nominal (the possessed). This vowel  $-\acute{a}$  amalgamates with the prefix vowel of the following nominal; if the latter belongs to classes 8, 9 or 10 (whose prefix is of shape  $\emptyset-$ ), the connective vowel is  $-\acute{e}$ .

The tones of the group "connective + possessor" pose no difficulty as regards the rules we presented in the previous section: the connective element is a H

donor which interacts with any subsequent H to form H-domains, thus (with an assumed referent in class 9):

- yóγâ 'of a chief'
- yóγáŋgá 'of a medicine-man'
- yótáŋgani 'of a European'
- yéndzɔ̌!γɔ̌nî 'of a hen'

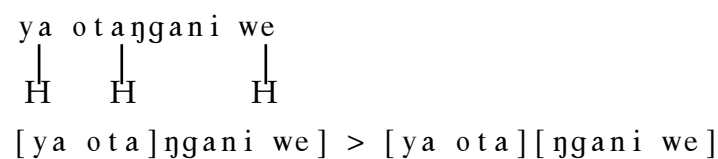
whose representations in terms of H-domains would be:



The few examples we have of such phrases followed by a determiner do not exhibit any unexpected behaviour; e.g.:

yótá!ŋgání wê 'of which European?'

which analyses as:



On the other hand, nouns in “possessed” position, i.e. standing *before* the connective do not seem to interact, as far as H-domains are concerned, with the connective group; e.g.:

náyó ‘house’ > náyó yóyâ ‘chiefly house, house belonging to / worthy of a chief’

ηkémá yótáŋgani ‘a European’s monkey’

owá ró wónóme ‘a man’s boat, i.e. not a woman’s’

whose H donors are located as follows:

náyó ya oya  
 |     |     |  
 H    H    H

ηkema ya otanngani  
 |     |     |  
 H    H    H

owaro wa onome  
 |     |     |  
 H    H    H

In spite of the fact that these phrases all contain 3 H donors, they all form only *one* H-domain, instead of the expected two ! Their behaviour would tend to suggest that it is the H of the connective which doesn’t play its domain-forming role, and the following example seems to confirm this:

náyó yóyáŋgá ‘a medicine-man’s house’  
 náyó ya oyannga  
 |     |  
 H    H

where an open-ended domain is formed on the whole phrase (like in e.g. náyó náŋgó ‘a small house’), instead of the expected \*náyó yóyannga.

In the case of a further H donor at the beginning of the group, we get:

yó ná’yó yóyâ ‘in a chief’s house’

y ówá’r ó wónóme ‘in a man’s boat’, etc.

Here we do find the expected pattern, with two H-domains grouping 2 H-donors each (cf. 3.3), thus:

yó náyó ya oya  
 |     |     |     |  
 H    H    H    H

[ɣo na]ɣo [ya oɣa] > [ɣo na][ɣo ya oɣa]

ɣo owa ro wa onome  
 | | | |  
 H H H H

[ɣo owa]ro [wa ono]me > [ɣo owa][ro wa ono]me

So that it is only when the genitive phrase is not preceded by another H that its behaviour appears anomalous. In cases like náɣó yóɣâ, owáró wónóme, etc., the connective seems devoid of any H donor. This behaviour should be stipulated as an exception<sup>14</sup>.

### 3.6. Variability:

We have so far presented tones in Galwa according to realisations which maximise lexical differentiation (and happen to be etymological as well). Nevertheless, most tone patterns of nominals exhibit optional variants which neutralise to a greater or lesser extent these lexical contrasts; namely:

A) disyllabic nominals of the lexical patterns LL, HH or LH can freely alternate between these three patterns when they are not preceded by another H in the P-domain. Note that this does not apply to HF stems.

B) trisyllabic nominals of the tonal shapes LLL and HHH can freely alternate between these two patterns in the same context as A. Note that this does not apply to LHF stems

C) although (L)HF stems are not much subject to variability, they can optionally organise the domains in which they are included in different ways. For instance, we find the following examples:

i ɣúm í'ná'yî ~ i ɣúm í'ná'yî 'four pieces of manioc'  
 ɣw ílǎ's ímbani ~ ɣw ílǎ's ímbání 'on two orange-trees'  
 ndzɔɣóní 'mpólo ~ ndzɔɣóní 'mpóló 'big hen(s)'

In each case, the first variant is the one we introduced earlier. The other variants would seem to offer the following properties:

---

<sup>14</sup> Such divergent tonal behaviour is by no means rare in Bantu languages, at least in Eastern Bantu. In Shambaa (G 23) for instance, a connective (of whatever class) is always H when preceded by a nominal ending in a L tone; cf. muzi wǎ mntu 'somebody's homestead'. But if the preceding nominal ends in a H, no downstep will intervene between this H and the (H) connective, whereas the normal realisation in Shambaa -as in Galwa - is for two successive H domains to be demarcated by a downstep: pumbá yǎ mntu 'somebody's house' (vs. for instance pumbá 'ntátú 'three houses). The situation is similar in Remi (F 32). Cf. Philippson, 1992, ch. 5.

i yúm íná'yî  
 i yuma inayi  
   |  |  |  |  
   H H  H H  
 i[ɣuma] i[nayi] > i[ɣuma ina][yi]

Here, in spite of the fact that we expect the first H-domain to have its right boundary *before* the first stem syllable of the adjective - as it has in the “regular” variant, this boundary is located *after* the stem syllable in question, as if the noun were HH instead of HF.

ywílá's ímbání  
 yo ilasa imbani  
   |  |  |  
   H  H H  
 [ɣo ila]sa] imbani > [ɣo ila][sa imbani

ndzɔɣɔní 'mpóló  
 ndzɔɣɔni mpolo  
   |  |  |  
   H H  H  
 ndzɔ[ɣɔni]mpo]lo > ndzɔ[ɣɔni][mpolo

In both these examples, the nominal retains its tone pattern, but we are faced with an irregularity in domain formation: the third H donor should be demarcated by a right boundary, but it changes it for a *left* boundary, creating an open-ended H-domain in the process !

After having taken a quick look at what happens to (L)HF stems, let us come back to the main lexical tone groups, whose variability is mentioned under B) and C).

ηgozo mpóló ~ ηgozó mpólo ~ ηgózó mpólo ‘big parrot(s)’  
 ηgowá ná'yî ~ ηgowa náyî ‘four bush-pigs’  
 γó ná'γó mbání ~ γó náγo mbani ‘in two houses’  
 ntóγóló mpóló ~ ntoγolo mpóló ‘big pepper(s)’  
 βελεσε wani ~ βέλέςε wání ‘two head-scarves’

In each case, the first variant is the basic one. As can be seen, ηgozo - whose etymological tone-pattern is LL - can be realised LH or HH, and so on for the other nouns. This variability seems to be connected, at least in part, with

pragmatic factors, but a complete analysis would require a knowledge of the language we do not claim to possess.

These optional variants must be sharply distinguished from the obligatory neutralisation imposed by certain verb forms (in our corpus the negative present - including negative forms of the copula - and the negative imperative). Any object of these verb forms will not undergo the formation of a H-domain, whatever the number of its lexical H donors; thus:

wayole ηgozo 'don't buy a parrot/parrots'  
 wayole ndzoyoni 'don't buy a hen / hens'  
 erékole ndzoyoni 'he isn't buying a hen / hens'  
 erékole ndzoyoni mpolo 'he isn't buying a big hen / big hens'  
 wérékole ntoyolo mbani 'they aren't buying two peppers'  
 myázel ompolo 'I'm not big'  
 azélé ηkema mpolo 'there aren't any big monkeys'

### 3.7. Tone in verb forms:

Verbal words exhibit patterns which are sometimes identical with those of simple nominals, but more often differ from the latter. This is understandable in view of the fact that a given verb form generally contains more than one H donor.

3.7.1. Verb stems are not tonally distinctive, but most of them appear in two alternants "weak" and "strong". "Weak" alternants have as their initial stem consonant either a continuant or a non-nasal sonorant; "strong" alternants have a non continuant obstruent (the continuants f,s,z, the nasal and pre-nasalised consonants never alternate). We find the following alternating pairs ("weak" alternants are mentioned first):

β/p	r/t	γ/k
w/b	l/d	y/ʃ

Morphological verb forms are differentiated according to the alternant they select: thus the remote past, jussive, hypothetical and imperative select the "weak" alternant; the present, near past, perfect, future, subjunctive and infinitive select the "strong" one.

It is interesting that these alternations are also found in noun stem-initial consonants in one pair of classes, namely gender 11/10a (class 11 does not in any way differ in either prefix or agreement shapes from classes traditionally numbered 3 and 14, but is identified - apart from comparison with other Bantu languages - by its class pairing: whereas class 3 pairs with class 4 and class 14 with



6, class 11 pairs with 10a; we do not question here this traditional class assignment). Class 10a is so labelled because it takes the very same set of agreements as class 10 (the plural member of the 9/10 gender), but differs from the latter in not exhibiting any nasal cluster in C1 position in noun stems assigned to it (whereas gender 9/10 nouns all have pre-nasalised first stem consonants, apart from a handful of exceptions, mostly recent loans or a few kinship terms). What is notable however is that class 10a C1 all belong to the inventory of “strong” alternants given above, whereas their counterpart in class 11 (singular forms) are “weak”; examples:

ɣ/k

oyembé (11) / ikembé (10a) ‘turtle sp.’;

oyendo (11) / ikendo (10a) ‘journey’

r/t

orémbó (11) / itémbó (10a) ‘river’

oróβé (11) / itóβé (10a) ‘savanna’

w/b

oweɣa (11) / ibeɣa (10a) ‘shoulder’

owɔlɛ́ (11) / ibɔlɛ́ (10a) ‘tsetse fly’

y/ʝ

oyémbó (11) / iʝémbó (10a) ‘song’

oyánó (11) / iʝánó (10a) ‘kinship’

What is important in this similarity between noun and verb stems is that there are many deverbative nouns, taking either “weak” or “strong” C1 according to their class membership, i.e. according to the nature of the class prefix. So for example the verb radical for ‘marry’ is in Galwa –yomb–/–ʝomb– (with weak and strong alternants as explained before). From this radical can be formed *inter alia* the following deverbative stems:

oyombano (3) / iyombano (4) ‘marriage’ (with “weak” alternant)

iʝomba (10a - no pairing) ‘marriage’ (with “strong” alternant)

In other words, what appears as conditioning by the class prefix in noun stems appears as morphological alternation without any such phonological conditioning in verbs. Blanchon (1991) followed by Gregoire et Rekanga (1994) has postulated a common origin for the nominal class prefixes of classes 10 et 10a (whose agreements, we recall, are identical), both with a nasal element, which remains in class 10 but has been dropped in 10a due to reanalysis, leaving behind an obstruent (there are no pre-nasalised continuants in Galwa). We will follow Blanchon here, and we refer the reader to his article for development of his argument.

If the “strong” alternants in class 10a nouns are to be explained by the former presence of a nasal segment, then it would seem not unreasonable to explain such alternants in the infinitive (a verbo-nominal form) in similar terms. Infinitives in Galwa exhibit the following shapes:

- CV stems:  $\gamma\acute{o}p\hat{a}$  ‘to give’
- CVCV stems:  $\gamma\acute{o}k\acute{o}l\hat{a}$  ‘to buy’
- CVCVCV stems:  $\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}$  ‘to sell’
- CVCVCVCV stems:  $\gamma\acute{o}t\acute{a}t\acute{a}m\acute{i}n\hat{a}$  ‘to tremble’

As mentioned before, all verb stems are alike in their tonal behaviour, for a given number of syllables. It can be seen that all infinitive stems are preceded by a prefix  $\gamma\acute{o}$ - (most probably identical to the usual locative preposition  $\gamma\acute{o}$  - cf. the use of ‘to’ in English) followed by a “strong” initial stem consonant. Tonally, there is a H donor on the prefix  $\gamma\acute{o}$  and another one on the second (or only) stem syllable, thus:

$\gamma\acute{o}p\hat{a}$   
 $\gamma\acute{o}p\hat{a}$   
 $\begin{array}{c} | \quad | \\ \text{H} \quad \text{H} \end{array}$   
 $[\gamma\acute{o}p\hat{a}]$

$\gamma\acute{o}k\acute{o}l\hat{a}$   
 $\gamma\acute{o}k\acute{o}l\hat{a}$   
 $\begin{array}{c} | \quad | \\ \text{H} \quad \text{H} \end{array}$   
 $[\gamma\acute{o}k\acute{o}l\hat{a}]$

$\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}$   
 $\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}$   
 $\begin{array}{c} | \quad | \\ \text{H} \quad \text{H} \end{array}$   
 $[\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}]$

$\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}n\hat{a}$   
 $\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}n\hat{a}$   
 $\begin{array}{c} | \quad | \\ \text{H} \quad \text{H} \end{array}$   
 $[\gamma\acute{o}k\acute{o}l\acute{i}z\hat{a}n\hat{a}]$

Since the infinitive is a verbo-nominal form it is quite possible that the stem should be in the shape normal for class 10a nominals, all the more so since as

seen before there are many deverbative stems in just that class, with a meaning like “action of ...ing”. In this case the presence of the “strong alternant” in the infinitive would be explained by the same “latent” nasal prefix we postulated for class 10a.

3.7.2. As mentioned in 3.3 above, verbs do not normally form P-domains with their objects unless the verbal word ends with an open-ended domain: this is the case of most relative forms, of the future, of the subjunctive, of the imperative singular and of some forms of the remote past positive.

3.7.2.1. The imperative singular being relatively unproblematic, we’ll take it as an example of the way a verb interacts with its object. This in no way differs from what we found in combinations noun + adjective for instance; examples with *yo lá* ‘buy!’<sup>15</sup>:

- yo lé* *ngózo* ‘buy a parrot / parrots!’
- yo lé* *ngówa* ‘buy a bush pig/ bush pigs!’ (also *yo lé* *ngówa*)<sup>16</sup>
- yo lé* *nkéma* ‘buy a monkey / monkeys!’
- yo lá* *á lá* ‘sá ‘buy oranges!’
- yo lé* *ndzɔ* *ʔɔni* ‘buy a hen / hens!’
- yo lé* *βελεσε* ‘buy head-scarves’
- yo lé* *nto* *yo lo* ‘buy a pepper / peppers’

The H-domains are easily defined and identical to what we saw earlier (cf. 3.4.2):

- yo*[le *ngozo*
- yo*[le *ngowa*] / *yo*[le *ngo*]wa
- yo*[le *nkε*]ma
- yo*[la *ala*]sa] > *yo*[la *ala*][sa]
- yo*[le *ndzɔ*][*ʔɔni*]
- yo*[le *βε*]λεσε
- yo*[le *nto*]yo lo

In the case of a determiner following the noun, we have:

- yo lé* *ngózo* *mpóló* / *yo lé* *ngó* *zó* *mpó lo* ‘buy a big parrot’<sup>17</sup>
- yo lé* *ngó* *wá* *na ngó* / *yo lé* *ngówa* *na ngo* ‘buy a small bush pig’

<sup>15</sup> The final vowel becomes –e before most nominals of classes 8, 9 and 10, as mentioned above for the connective under 3.5.

<sup>16</sup> Cf. above 3.4.1.

<sup>17</sup> A plural interpretation is possible in this and following examples of gender 9/10

ɔlɛ̃ ɲkɛ́má mbání<sup>18</sup> ‘buy two monkeys’, etc.

### 3.7.2.2. Remote past

Other verb forms are somewhat more difficult to analyse; we do not propose a complete study, which would be of monograph length; rather we will focus on selected delicate problems, starting with the remote past tense (furthermore we will ignore for the moment verb forms with a first person singular subject which appear even more intractable than most; we will argue later that they probably involve a particular construction).

Leaving aside then first person singular subjects, remote past forms divide into two groups from the tonal point of view:

- forms with 1st person plural, 2nd person singular and plural and (3rd person) class 1 subjects exhibit the following tonal shapes whose analysis offer no special difficulty:

waɔlɛ̃́ ‘you bought’; wayɛnɛ̃́ ‘you saw’  
zwaɔlɛ̃́ ‘we bought’; zwayɛnɛ̃́ ‘we saw’  
nwaɔlɛ̃́ ‘you people bought’; nwayɛnɛ̃́ ‘you people saw’  
aɔlɛ̃́ ‘he/she bought’; ayɛnɛ̃́ ‘he/ she saw’

zwawolánɛ̃́ ‘we fought’  
nwawolánɛ̃́ ‘you people fought’  
wayandzízí ‘you made sb. work’  
ayandzízí ‘she made sb. work’

zwawolánɛ̃́ɣí ‘we were fighting’  
nwawolánɛ̃́ɣí ‘you people were fighting’  
wayandzízíɣí ‘you used to make sb. work’  
ayandzízíɣí ‘he used to make sb. work’

The infinitive of the verbs involved would be (with “strong” alternants, whereas the remote past has “weak” alternants): ɔ́kólâ ‘to buy’, ɔ́jénâ ‘to see’, ɔ́búlána ‘to fight’, ɔ́ǰándzízá ‘to make sb. work’ (N.B. the prefinal -iɣ- - - aɣ- in other tenses - indicates imperfective aspect).

It is clear that each of the above remote past forms contains only one H donor located on the second stem syllable, forming in each case an open-ended H-domain, thus: waɔ[li, aya[ndzizi, nwawo[laniɣi, etc. As expected these

---

<sup>18</sup> The variant ɔlɛ̃́ ɲkɛ́ma mbani is possible, but felt as odd

forms can enter into P-domains with a following object, according to mechanisms which should be familiar by now:

wayɛnɪ́ ónóme ‘you saw a man’

ayandzízíyí í tǎŋgani ‘she used to make Europeans work’

nwayolí́ ηkɛ́<sup>l</sup>má mpólo ‘you people bought a big monkey’

In terms of domains:

wayɛnɪ́ ónóme

wayɛni onome

    |   |  
    H   H

wayɛ[ni ono]me

ayandzízíyí í tǎŋgani

ayandziziyi itaŋgani

    |          |  
    H          H

aya[ndziziyi ita]ŋgani

nwayolí́ ηkɛ́<sup>l</sup>má mpólo

nwayoli ηkɛma mpolo

    |   |   |  
    H   H   H

nwayo[li ηkɛ]ma mpo]lo > nwayo[li ηkɛ][ma mpo]lo

On the other hand, forms whose (3rd person) prefix belongs to all other classes can optionally have either of two tonal alternants, provided the stem contains more than two syllables. The first one derives readily from the tonal shapes we introduced above by adding a H donor on the prefix; since it now contains more than one H donor, the H-domain on the verb form will not be open-ended and so the verb will not form a P-domain with its object (cf. above 3.3. and 3.7.2.):

sáwólániyí ‘they (cl. 10 subject - for instance dogs or monkeys) were fighting’

wáyólízí ‘they sold’

wáyándzízí || í tǎŋgání ‘they made Europeans work’

I.e.:

[sawola]niyi, [wayoli]zi, [wayandzi]zi

The other tonal option consists in deleting the second stem syllable H donor; only one H donor remains in the verb which thus coincides with an open-ended domain - it will then naturally form a P-domain with its object. This is an option for stems of three syllables and more, but it is obligatory for disyllabic stems:

sáwóláníyí 'they (cl. 10) were fighting'  
wáyólízí 'they sold'  
wáyándzízí í táṅgani 'they made Europeans work'  
wáyólí 'they bought'  
wáyéní ánóme 'they saw men'

The H-domains being:

sáwóláníyí  
sawolaniyi  
|  
H  
[ sawolaniyi

wáyándzízí í táṅgani  
wayandzizi itaṅgani  
| |  
H H  
[ wayandzizi ita ]ṅgani

wáyólí  
wayoli  
|  
H  
[ wayoli

This second tonal form of the stem is also the one used for relative constructions which will be dealt with later.

### 3.7.2.3. The recent past tense:

The tone patterns are easily understandable if we keep in mind the difference between the two prefix series we saw earlier.

The first series of prefixes does not contain a H donor; we get the following forms:

wakólâ 'you bought'; wafénâ 'you saw'  
zwakólâ 'we bought'; zwafénâ 'we saw'  
nwakólâ 'you people bought'; nwafénâ 'you people saw'

akólâ 'he/she bought'; aǰɛnâ 'he/she saw'

zwabólâna 'we fought'

nwabólâna 'you people fought'

waǰándzízâ 'you made sb. work'

aǰándzízâ 'he made sb. work'

zwabólânaɣa 'we were fighting'

nwabólânaɣa 'you people were fighting'

waǰándzízâɣa 'you used to make sb. work'

aǰándzízâɣa 'she used to make sb. work'

These patterns conform readily enough to what we expect of two H donors: one on the first stem syllable, the second on the next syllable. Analysis:

wakólâ  
wakolâ  
| |  
H H  
wa[kolâ]

zwabólâna  
zwabolâna  
| |  
H H  
zwa[bolâ]na

aǰándzízâɣa  
aǰandzizâɣa  
| |  
H H  
a[ǰandzi]zâɣa

There is of course no formation of P-domains with following objects:

aǰándzízâɣa || itâŋgânî 'she was making Europeans work'

a[ǰandzi]zâɣa i[tâŋgani]

The second series of subject prefixes contributes a further H to the forms, which here again obey the patterns seen previously. Examples:

sábó!lânaɣa 'they (cl. 10) were fighting'

wākó!líz a ‘they sold’

wáʃá!ndzíz a ʧ || i t áŋgání ‘they made Europeans work’

which analyse:

sábó!lána ʧ a

sabolána ʧ a

↓ ↓ ↓  
H H H

[sabo]la]na ʧ a > [sabo][la]na ʧ a

wākó!líz a

wakolíz a

↓ ↓ ↓  
H H H

[wako]líz a > [wako][líz a

wáʃá!ndzíz a ʧ a

wáʃandzíz a ʧ a

↓ ↓ ↓  
H H H

[waʃa]ndzíz a ʧ a > [waʃa][ndzíz a ʧ a

#### 3.7.2.4. The present tense:

For this tense, the second series of prefixes - the one with H donors - does not offer any difficulty; its pattern is in fact identical to what we have just seen for the near past. Examples:

sébó!lána ʧ a ‘they (cl. 10) always fight’

wékó!líz a ‘they are selling’

wéʃá!ndzíz a ʧ || i t áŋgání ‘they are making Europeans work’

As can be seen, the only difference with the recent past resides in the formative element -e- amalgamated with the prefix; everything else including the tone pattern is the same.

On the other hand, forms with the first series of prefix - that which does not contain H donors - exhibit a very curious pattern, paralleled by no other form, nominal or verbal, that we have seen so far. Examples:

wekóla ‘you buy’; weʃéna ‘you see’

ekóla ‘she buys’; eʃéna ‘he sees’

zwebólana ‘we’re fighting’



we j á n d z i z a ‘you’re making sb. work’  
 nweb ó l a n a γ a ‘you people always fight’

This pattern is unexpected in that no mechanism we have seen can associate a single H donor to a single syllable. According to 3.4.2., one H donor should create an open-ended domain, so we would expect *all* the stem syllables to be H. If the H-domain has a right boundary after the first stem syllable, we should expect a left boundary somewhere to the left of it. Yet we see no other H donor.

The tone pattern of the prefixes with a H donor seems to imply a right boundary to the right of the first stem syllable anyway, so it seems reasonable to postulate a H donor for this syllable. We can see that the segmental shape of the subject prefixes which included the vowel –a– in all previous examples appears here as –e–.<sup>19</sup> So we could postulate the coalescence of the prefix vowel with another segment, –i– for instance (although –e– itself would do just as well), in accordance with the natural rule  $a + i > e$ . If this –i– segment (the present tense formative) is a H donor, then we could analyse our troublesome forms thus:

w e k ó l a  
 w a i k o l a → w e k o l a  
 $\begin{array}{ccc} | & | & \\ \text{H} & \text{H} & \\ \text{H} & & \text{H} \end{array}$   
 w a [ i k o ] l a > w e [ k o ] l a

We may assume that the desyllabification of the –i– segment would leave its H tone stranded. A similar reasoning could then apply to the forms with H donor prefixes - with the added complication that in these forms the second stem syllable is also a H donor<sup>20</sup>:

w é k ó ! l í z a  
 w a i k o l i z a → w e k o l i z a  
 $\begin{array}{cccc} | & | & | & | \\ \text{H} & \text{H} & \text{H} & \text{H} \\ \text{H} & & & \text{H} \end{array}$   
 [ w a [ i k o ] l i ] z a > [ w e k o ] [ l i ] z a

---

<sup>19</sup> We may note here that it appears impossible to decide on the basic form of subject prefixes in Galwa, since these always appear in coalescence with a formative (Tense-Aspect-Mood) vowel, either –a– or –e–, with no justification for considering either of these vowels as more basic. Note that independent personal pronouns as well as postposed subject markers (on which more below) exhibit different shapes altogether.

<sup>20</sup> Verb forms where the tone on the prefix is echoed on one of the final stem vowels are not rare in Bantu languages.

Here too the H of -i- presumably coalesces with the prefix H as resyllabification occurs.

### 3.7.2.5. Perfect

The last tense that we will consider here, the perfect, shows a further type. The forms with non-H subject prefixes are tonally identical with those of the recent past:

wakólî 'you have bought'; waǰɛnî 'you have seen'  
 apóswî 'she has fallen'; akéndî 'he has gone'  
 zwabólânî 'we have fought'

On the other hand, forms with H subject prefixes have the following pattern:

ɲábɔ́nî 'it (cl. 5 - e.g. a banana) is rotten'  
 mábɔ́nî 'they (cl. 6) are rotten'  
 wákéndî 'they have gone'  
 wábólânî 'they have fought'

Both sets of forms, obviously have one H-domain, so two H donors, the last one being located on the second stem syllable. The question is: where is the first? H subject prefix forms would of necessity have it on the prefix, but non-H subject prefix forms would seem to have it on the first stem syllable. One possibility, drawing on the analysis we offered for the present tense, would be to assume that here the -a- formative, coalesced with the subject prefix, is a H donor:

wakólî  
 waakoli → wakoli  
 | |                    † †  
 H H                    H ⊕  
 wa[akoli] > wa[koli]

mábɔ́nî  
 maabɔni → mabɔni  
 | | | |                    | |  
 HH H                    H H  
 [maabɔni] > [mabɔni]

Of course, it must be admitted that there is no independent evidence for this analysis!

### 3.7.2.6. Relative forms

We will not pursue any further this survey of tense forms in Galwa, our aim not being here to produce a monograph of the language but rather to introduce some of its most salient tonal characteristics. Nevertheless, we feel compelled to say a few words about relative constructions. Galwa, like many Bantu languages, has relative verb forms, which are segmentally similar to main-clause forms but often differ tonally, in some cases with quite striking effects.

Morphologically, relative verb forms consist of a subject prefix, most often identical with the subject prefix of independent forms, but with at least one difference in class 1, which has wa-/we--(according to tense) for a-/e-; also all relative prefixes are H donors, so the twofold division of main-clause subject prefixes does not hold. The (coalesced) formatives are identical to main-clause verbs, as are the alternants of the first stem consonant.

Relative forms whose head is the subject of the relative verb also have endings identical to those of verbs of main clauses, but if the antecedent is the object, the suffix on the relative verb is -ó (i.e. the passive suffix, a relative form such as “the dog that the man saw” being rendered in Galwa by “the dog that was seen (by) the man” with the preposition optionally and most frequently left out). Note that we will not take the head noun into consideration in the following discussion since it is in the definite form (to be introduced later) in all our examples.

We will start with the relative of the remote past, which has a most simple and - surprising - tonal shape. Examples:

...yánomi myé '(the dog) that bit me'

...yánomi ngozo '(the dog) that bit a parrot/parrots'

...yánomi nkémá '... that bit a monkey / monkeys'

...wáyandzizi ítángání '(the person/people) who made Europeans work'

...sáyéni ngowá '(the dogs) that saw a bush pig/bush pigs'

Recall that main-clause variants of the same sentences would be:

yánómí myê 'it bit me'

yánómí ngózó 'it bit a parrot/parrots'

yánómí nkéma 'it bit a monkey / monkeys'

ayandzízí ítángani 'she made Europeans work'

wáyandzízí || ítángání / wáyandzízí ítángani 'they made Europeans work'

sáyéní ngówâ / ngówa 'they saw a bush pig'

The tonal behaviour of the relative *stems* is not problematic here: it simply corresponds to the variant with no H donor which we saw in 3.7.2.2. to be an option for forms with H donor prefixes. The differences being that here it seems

to be obligatory and not optional, and that in non-relative forms it only applied to stems of more than two syllables, whereas this restriction does not obtain here. Yet there is nothing in this tone pattern to surprise us.

More challenging is the behaviour of the prefixal H. First of all let us dispel one possible source of misunderstanding: if the head noun of the relative clause stands immediately before the relative verb it is to be expected that it will form a P-domain with the latter, since this acts as a determiner; if however the head noun is otherwise determined (for example ‘the *big* dog that bit me’, the adjective will stand between the noun and the relative verb form thus preventing the formation of a P-domain (let us recall that a P-domain in Galwa can only be comprised of a noun + *one* determiner, never more - cf. 3.3.). In these circumstances it is obvious that the relative verb will not be part of any preceding P-domain but will initiate its own. But in all cases - whether the relative verb forms a P-domain with its antecedent or not - we see one single H associated to the prefix syllable (in coalescence, as assumed, with the formative -a-), and which does not extend to successive syllables. Now this is rather puzzling because, as seen in the non-relative forms in 3.7.2.2. above, we expect a prefixal H to associate to all syllables of an otherwise H-less verb.

There is more, and we will find illustrations for this in the passive relative forms, the ones where the head noun stands for the patient (the agent appears directly after the verb):

...wáyεnó !myê ‘(the medicine-men) that I saw / that were seen (by) me’

...yánomó !ηkε!má mpólo ‘(the dog) that a big monkey bit / that was bitten (by) a big monkey)

...záγολίζυό ί!táηgani ‘(the parrots) that Europeans sold / that were sold (by) Europeans’

What do we find here ? First of all, even in verb forms such as wáyεnó and yánomó which are only comprised of one post-radical stem syllable, there must be two H donors, in order to account for the end-of-domain lowering preceding the agent (wáyεnó !myê, yánomó !ηkε!má..., záγολίζυό ί!táηgani). If we assume that the -o- passive suffix is added onto the -i- suffix of the remote past (which seems justified by stems like -γολίζυο < -γολίζι+ο), we can propose the following analysis of those stems:

$$\begin{array}{c} -y\epsilon n\acute{o} \\ -y\epsilon n i + o \\ \quad | \quad | \\ \quad H \quad H \end{array}$$

-yε [ ni+o ]

-nomó

nomi+o

↓ ↓  
H H

-no [ mi+o ]

-yolízzyó

-yoliziz+o

↓ ↓  
H H

-yo [ liziz+o ]

The only assumption we have to make to justify this analysis is that here it is the variant *with* a second stem syllable H donor which is selected.

But the most puzzling is now the tonal behaviour of the *whole* verb form. Note that in each case the first stem (or radical) syllable is realised on a L phonetic tone, which means that it stands entirely outside a H-domain, and hence outside a P-domain, since H-domain boundaries within P-domains are always readjusted to include syllables which might be left stranded in their midst. We are thus faced with the very surprising statement that *relative subject prefixes are not in the same P-domain as the verb stem* ! (Note that although we do not intend to present a complete analysis of all relative verb forms in Galwa, all tenses exhibit the same behaviour of the relative prefix which is always followed by either a L tone or a downstep, e.g. relative recent past (with agent head) yá<sup>!</sup>nómá 'myé 'which bit me' ≠ yánó<sup>!</sup>má 'myé 'it bit me'; present (with patient head) yé<sup>!</sup>kó<sup>!</sup>l ó myé 'which I buy' ≠ yékó<sup>!</sup>l ó 'it is being bought', etc.)

This may seem absurd from the point of view of many Bantu languages, yet support for this analysis can be found in an entirely independent set of data, namely verb forms with a first person singular subject which we have kept aside up to now. First person singular subject prefixes, too, are always demarcated by either a L or a downstep from the rest of the verbal word. Examples:

present: myé<sup>!</sup>ǰ é na 'I see'; myé<sup>!</sup>k ó l a ya 'I usually buy'

recent past: my á<sup>!</sup>ǰ é n â 'I saw'; my á<sup>!</sup>k ó l á ya 'I used to buy'

remote past: my á y ε n í 'I saw'; my á y o l í y í 'I used to buy'

perfect: my á<sup>!</sup>k é n d î 'I have gone'; my á<sup>!</sup>k ó l î 'I have bought'

These forms obviously do not pattern with forms with a H donor prefix; rather they are reminiscent of forms with L subject prefixes, as we can see by presenting again some examples with a first person plural prefix :

zwe ʃɛ̃na 'we see'  
 zwa ʃɛ̃nâ 'we saw (recent)'  
 zwayɛnɪ́ 'we saw (remote)'  
 zwa ʃɛ̃nî 'we have seen'

Indeed forms with 1st sg. subjects look very much as if an initial H had been added to the normal pattern for L subject prefixes, without otherwise disturbing the latter. The only explanation we see for this behaviour is that the first person singular subject, instead of being an affix on the verb (like the other subject markers) is instead the independent pronoun *myɛ̃* 'I, me' (For information the other independent pronouns are: *awɛ̃* 'you', *ayɛ̃* 'he, she', *azwɛ̃* 'we, us', *anwɛ̃* 'you people', *wáwó* 'they, them'). Being an independent pronoun, it behaves as all subjects in not forming a P-domain with the predicate. But since the verb form does not have a subject prefix (an anomalous situation all told !) the pronoun coalesces with the - now verb-initial - formative; thus:

*myɛ̃* || *e ʃɛ̃na* > *myɛ̃<sup>1</sup>ʃɛ̃na*  
*myɛ̃* || *ayɛnɪ́* > *myáayɛnɪ́*, etc.

The downstep does not here signify just the end of a H-domain, but the elision of vowels *across* P-domain boundaries. (Note that this phenomenon is independently attested in the very few cases<sup>21</sup> where vowel elision occurs in the same conditions between a nominal subject and a following predicate, e.g.:

*omwántô* || *ebɛ̃na* > *omwántw é<sup>1</sup>bɛ̃na* 'the woman is planting')

The conclusion to which we are led is surprising, but it seems to account too well with the facts to be lightly discarded. We'll observe that although there are very few examples of verb forms without a subject prefix in Bantu languages, some languages nevertheless obligatorily use the forms with an independent subject pronoun as well in the absence of a nominal subject (e.g. Mboshi, for which see Fontaney 1989); furthermore, temporal relative verb forms in Galwa (that we won't deal with here) also have their subject displaced to the right of the verb form, their place being taken by the conjunction  $\gamma^<$  (most probably sharing a common origin with the locative preposition  $\gamma\acute{o}$ ), for instance:  $\gamma\acute{a}yɛnɪ́$   $\gamma\acute{ɛ̃}$  'when he saw' <  $\gamma\acute{o}$  || *ayɛnɪ́*  $\gamma\acute{ɛ̃$  (?); so here too we find prefixless verb forms. All in

---

<sup>21</sup> The reason for the scarce occurrence of such cases is that subjects, being thematised, are typically definite and, as we'll see presently, very few definite nouns have a final H.

all, we assume ours to be the best explanation, for the tonal behaviour of both 1st sg. subjects and relative prefixes.

### 3.8. Definite nouns:

As mentioned several times above, nouns and adjectives can appear under two different forms that we call here indefinite and definite. Although there is certainly more to be said about the matter, we'll be content here to point out that by and large, definite forms would tend to be rendered in French (or for that matter English) by preposing the definite article, whereas indefinite forms would not be so rendered. In this the contrast between definite and indefinite forms is strikingly reminiscent of what would be expressed in many other Bantu languages by the use of the "augment" or "initial vowel", accompanied more often than not by tonal change as well. In Galwa there is no segmental augment<sup>22</sup> and the only marker of definiteness is tonal. It must be said that the tonology of the definite differs rather notably from the principles we have established so far.

3.8.1. We will start by examining the patterns of noun stems, as we did for the indefinite and taking the same nouns as exemplification. We'll leave out adjectives for the moment, since they behave quite differently from nouns here:

#### 3.8.1.1. Monosyllabic stems:

o γ â 'the chief'	mbwâ 'the dog(s)'
i γ â 'the forest'	

#### 3.8.1.2. Disyllabic stems

η γ ó z o 'the parrot(s)'	o γ á η g a 'the medicine-man'
nd z ó γ u 'the elephant(s)'	i w ú m u 'the abdomen'
η γ ó w a 'the bush pig(s)'	a γ á l i 'the oil'
η ó m b a 'the porcupine(s)'	
η k é m a 'the monkey(s)'	o m p é n d e 'the leg'
o n ó m e 'the husband'	
o γ ú m a 'the manioc'	e k ú r u 'the owl'
i l á s a 'the orange'	

#### 3.8.1.3.

e β é l ε s ε 'the head-scarf'	η γ ó b e l e 'the pig(s)'
n t ó γ o l o 'the pepper(s)'	o t á η g a n i 'the European'
nd z ó ! γ ó n î 'the hen(s)'	i β á ! l á η g ô 'the duck'

The most striking feature emerging at first glance from this list is that *all* disyllabic stems have neutralised their lexical tones in favour of a HL pattern

---

<sup>22</sup> For possible reasons for this see Blanchon (1991)

which was not exhibited by any indefinite noun. Furthermore, the monosyllabic stems universally present a falling tone on their only syllable, and only with the trisyllabic stems is some remnant of distinctiveness to be found in so far as the LHF stems have turned into H<sup>!</sup>HF, whereas both LLL and HHH stems have neutralised to HLL !

If we ignore for a moment the H<sup>!</sup>HF nouns, we are also faced with a situation we already experienced with verbs, namely that only one H surfaces whereas the tonal pattern would suggest two (recall that H-domains have their right boundary closed only if two H donors are present; otherwise the domain remains open-ended). The analogy with the role of the augment in other languages might suggest to us that the marker of definiteness in Galwa is a H donor which isn't identified with any segmental morpheme, and would presumably be inserted just to the left of the stem; thus:

mbwâ  
 mbwa → mbwa  
 H H      H (H)  
 [mbwa]

oγáŋga  
 oγaŋga → oγaŋga  
 H      H  
 o[γa]ŋga

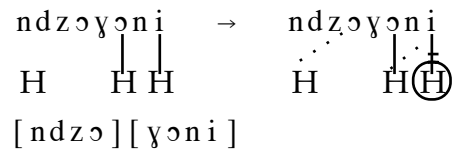
where the right boundary is provided by the first stem syllable.

ŋkéma  
 ŋkεma → ŋkεma  
 H H      H (H)  
 [ŋkε]ma

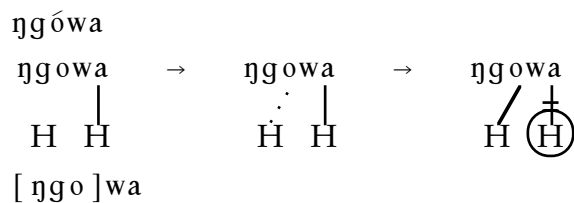
ntóyolo  
 ntoyolo → ntoyolo  
 H H      H (H)  
 [nto]yolo

ndzɔ!γónî



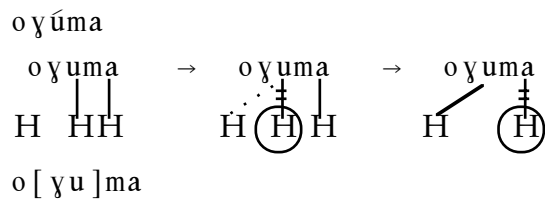


In all the above examples, the insertion of this H gives good results, entirely compatible with principles a) to c) in 3.4.2. . Since there is no variability in this case (compare 3.4.6. above), we might want to assume that the definite tone pattern always operates on the HH variants of ηg<sup>o</sup>z<sup>o</sup> and ηg<sup>o</sup>wa. If for the latter stem, we started with the LH variant, we would have something like:



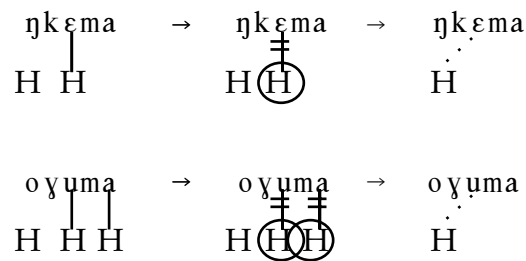
Where we would have to stipulate the special delinking of the final lexical H (and note that we would still not get any pattern like ηg<sup>o</sup>wâ which is a valid option when a H donor precedes the noun in its indefinite pattern !). The selection of the HH variant (thus with a lexical form identical to ηkεma) would remove this difficulty.

Most unfortunately, no such option is available for the stems with a HF pattern in the indefinite, since we saw that these stems do not seem to have variants and we should then have to analyse the definite pattern as:



The above analysis not being satisfactory, we will simplify these tonal interactions by stipulating only that in the definite the pre-stem H in all cases associates to the first stem syllable thus forming one H-domain and simultaneously deleting all subsequent H. This approach has independent merits as we will see presently and also emphasises the striking fact that all tone patterns in the definite are neutralised in favour of this typical HL(L) pattern. However,

we will then have to mark stems like  $ndz\acute{o}^{\downarrow}\gamma\acute{o}n\hat{i}$  as exceptions to the deleting process (much the lesser of two evils, in our opinion). We would thus have



### 3.8.2. Definite nouns not initial in their P-domains.

The analysis proposed above helps us understand certain complications in the definite tone pattern of nominals when not initial in their P-domains. Let us see a few examples:

- $a \gamma o l \acute{i}$  mbwa 'he bought the dog(s)'
- $a \gamma o l \acute{i}$   $\eta g o z o$  'he bought the parrot(s)'
- $a \gamma o l \acute{i}$   $\eta k \acute{\epsilon} m a$  'he bought the monkey(s)'
- $a \gamma o l \acute{i}$   $\acute{a} \gamma a l i$  'he bought the oil'
- $a \gamma o l \acute{i}$   $\acute{o} \gamma u m a$  'he bought the manioc'
- $a \gamma o l \acute{i}$   $n t \acute{o} \gamma o l o$  'he bought the pepper(s)'
- $a \gamma o l \acute{i}$   $\beta \acute{\epsilon} l \acute{\epsilon} s \acute{\epsilon}$  'he bought the head-scarves'

but:

- $a \gamma o l \acute{i}$   $^{\downarrow} n d z \acute{o} \gamma \acute{o} n \hat{i}$  'he bought the hen(s)'

As we notice, in all these examples, there is a right domain boundary at the left of the first stem syllable of the nominal. Recall that when initial in their P-domains, e.g. after a verb in the present tense -which does not enter into a P-domain with its object, cf. 3.7.2.4. - these nominals would exhibit the following tone patterns:

- $ek\acute{o}l\acute{e}$  || mbwâ 'he's buying the dog(s)'
- $ek\acute{o}l\acute{e}$  ||  $\eta g \acute{o} z o$  'he's buying the parrot(s)'
- $ek\acute{o}l\acute{e}$  ||  $\eta k \acute{\epsilon} m a$  'he's buying the monkeys'
- $ek\acute{o}l$  ||  $a \gamma \acute{a} l i$  'he's buying the oil'
- $ek\acute{o}l$  ||  $o \gamma \acute{u} m a$  'he's buying the manioc'
- $ek\acute{o}l\acute{e}$  ||  $n t \acute{o} \gamma o l o$  'he's buying the pepper(s)'
- $ek\acute{o}l\acute{e}$  ||  $\beta \acute{\epsilon} l \acute{\epsilon} s \acute{\epsilon}$  'he buying the head-scarves'
- $ek\acute{o}l\acute{e}$  ||  $ndz\acute{o}^{\downarrow}\gamma\acute{o}n\hat{i}$  'he's buying the hen(s)'

Since the first H-domain in the  $a\gamma o l i \dots$  forms has its right boundary to the left of the first stem syllable of the nominal, it means two H donors must interact: the first one is of course the one coinciding with the final syllable of the verb; the other must then be our ‘floating’ definite H (augment). We would thus have something like:

$$\begin{array}{l}
 a\gamma o l i \acute{\epsilon} \beta \epsilon l \epsilon s \epsilon \text{ ‘he bought the head-scarf’} \\
 a\gamma o l i \epsilon \beta \epsilon l \epsilon s \epsilon \\
 \quad \quad \quad \begin{array}{c} | | \\ \text{H H} \end{array} \\
 a\gamma o [ l i \epsilon ] \beta \epsilon l \epsilon s \epsilon
 \end{array}$$

We assume here that the definite H is linked to the prefix. Even in the case where the definite noun is initial in its P-domain, it is possible to posit that the definite H links to the prefix before delinking from it and associating to the first stem syllable. In the case of a nominal without segmental prefix, we will assume that the H links to an empty pre-stem position:

$$\begin{array}{l}
 a\gamma o l i \acute{\beta} \epsilon l \epsilon s \epsilon \text{ ‘he bought head-scarves’} \\
 a\gamma o l i \beta \epsilon l \epsilon s \epsilon \\
 \begin{array}{c} | | | | | | | \\ \text{x x x x x x x} \end{array} \\
 \quad \quad \quad \begin{array}{c} | | \\ \text{H H} \end{array} \\
 a\gamma o [ l i ] \beta \epsilon l \epsilon s \epsilon
 \end{array}$$

With just two H donors, a H-domain can canonically be formed and the story ends there. However, in the case of a HH or HF stem, we would normally expect other H-domains to be formed, giving the unattested utterances:

$$\begin{array}{l}
 *a\gamma o l i \acute{\eta} k \acute{\epsilon} m a \\
 *a\gamma o l i \eta k \epsilon m a \\
 \begin{array}{c} | | | | | | \\ \text{x x x x x x} \end{array} \\
 \quad \quad \quad \begin{array}{c} | | | | \\ \text{H H H} \end{array} \\
 *a\gamma o [ l i ] [ \eta k \epsilon ] m a
 \end{array}$$

$$*a\gamma o l i \acute{o} \gamma \acute{u} m \hat{a}$$

\*a γ o l i o γ u m a  
   ↓  ↓  ↓  ↓  ↓  ↓  
   x  x  x  x  x  x  
       ↓  ↓  ↓  ↓  
       H H H H  
 \*a γ o [ l i o ] [ γ u m a ]

On the other hand, this is exactly what we find with a γ o l í ¹ndzɔ̌γɔ̌nî:

a γ o l i n d z ɔ̌ γ ɔ̌ n î  
   ↓  ↓  ↓  ↓      ↓  ↓  ↓  
   x  x  x  x      x  x  x  
       ↓  ↓          ↓  ↓  
       H H          H H  
 a γ o [ l i ] n d z ɔ̌ [ γ ɔ̌ n î ] > a γ o [ l i ] [ n d z ɔ̌ γ ɔ̌ n î ]

We thus seem justified in analysing definite forms as having deleted their stem H tones, the ndzɔ̌¹γɔ̌nî items being exceptional in not undergoing this deletion.

### 3.8.3. Genitive phrases

We find the same behaviour of genitive phrases with definite nouns as we found with indefinite ones. On the part of the possessor noun (the one preceded by the connective) its behaviour is exactly that of a definite noun preceded by another H donor (cf. 3.8.2. above). Examples:

- yóγa ‘of the chief’
- yéηgozo ‘of the hen(s)’
- yéηkema ‘of the monkeys’
- yóγuma ‘of the manioc’
- yé¹ndzɔ̌γɔ̌nî ‘of the hen(s)’, etc.

This phrase itself integrates into a P-domain with the previous noun; as we saw (cf. 3.5.) the connective contributes a H, provided it is initial in its domain: this is necessarily the case here, since the definite H always forms a domain whose right boundary is to the right of the first stem syllable of the possessed noun and lexical H tones are deleted - in the exceptional case of ndzɔ̌¹γɔ̌nî, there are two H-domains on the noun anyway. Examples:

- ekóle || ηgó¹zó yóγa ‘she is buying the chief’s parrot
- ekóle || ntó¹γóló yónome ‘he’s buying the man’s pepper’
- ekóle || ndzɔ̌¹γɔ̌nî ¹yóγaηga ‘she’s buying the medicine-man’s hen’

a γ o l í ¹ηgózó yóγa ‘he bought the chief’s parrot’

aɣolí !ntóɣóló yónome 'she bought the man's pepper'

aɣolí !ndzɔɣɔní !yóɣaŋga 'he bought the medicine-man's hen'

Sample analyses:

ηγó!zó yóɣa  
 ηγo zo ya oɣa  
 . . . | |  
 H H H  
 [ηγo]zo [ya o]ɣa > [ηγo][zo yo]ɣa

ndzɔ!ɣɔní !yóɣaŋga  
 ndzɔɣɔni ya oɣaŋga  
 . . . | | | |  
 H H H H H  
 [ndzɔ][ɣɔni] [ya o]ɣaŋga > [ndzɔ][ɣɔni] [yo]ɣaŋga

aɣolí !ntóɣóló yónome  
 aɣoli ntoɣolo ya onome  
 | | | | | | |  
 x x x x x x x x  
 | | | | |  
 H H H H H  
 aɣo[li ]ntoɣolo [ya o]nome > aɣo[li ][ntoɣolo  
 yo]nome

#### 3.8.4. Adjectives with the definite pattern

Contrary to the situation found in the indefinite, where the tones of adjectives and nouns belonged to the same category, the tone patterns of definite adjectives are idiosyncratic. One first point must be noted: whereas indefinite disyllabic adjectives were either LL, HF or HH, with no LH pattern (in contradistinction to nouns), there are no definite adjectives with the LL pattern. The LL adjectives we saw above appear in the definite as LH! Indefinite HH adjectives appear in the definite as LL (in which they would seem to share the fate of HH nouns) whereas HF adjectives are apparently not affected (contrary to HF nouns!).

Second, although it appears that definite adjectives, like nouns, are marked by a pre-stem H, this is firmly linked to the agreement prefix (or to an empty pre-stem position for vowelless class prefixes) from which it spreads only if it is

followed by another H-donor - a first stem syllable as such is not targeted.  
Examples:

ηγό<sup>!</sup>zό mpolo 'the big parrot'  
 ηγό<sup>!</sup>zό mbánî / ηγό<sup>!</sup>zw ímbánî 'the two parrots'  
 βέ<sup>!</sup>lεsε ná<sup>!</sup>yî 'the four head-scarves'  
 ηκέ<sup>!</sup>má náηγô 'the small monkey'

The analysis would be as follows:

ηγό<sup>!</sup>zό mpolo  
 ηγοzο mpolο  
 ↓ ↓ ↓  
 x x x  
 . . .  
 H H  
 [ηγο]zο ]mpolo > [ηγο][zο ]mpolo

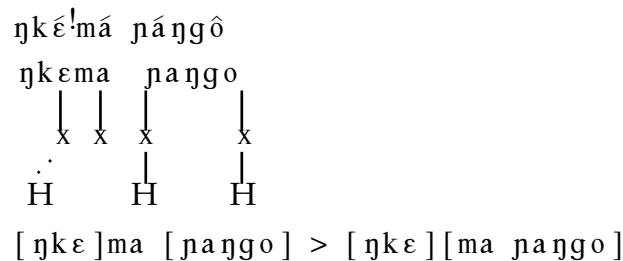
This is straightforward from the point of view of the behaviour of definite noun stems.

ηγό<sup>!</sup>zw ímbánî  
 ηγοzο imbani  
 . . .  
 H H H  
 [ηγο]zο [imbani] > [ηγο][zw imbani]

We see clearly that the stem *-wani*, undoubtedly LL in the indefinite, appears here as LH. The only apparent anomaly in domain formation is that the definite H of the adjective goes to form a domain with the final H of the stem ignoring the first stem syllable (while we might have supposed a form such as \*ηγό<sup>!</sup>zw ímbá<sup>!</sup>nî - but recall that we saw a similar irregularity with LH and LL nominals in the indefinite pattern, when a previous H could spread to the final syllable, e.g. aγολί ηγówâ, aγολί ηγózó).

βέ<sup>!</sup>lεsε ná<sup>!</sup>yî  
 βελεσε nayi  
 | | | | | |  
 x x x x x x  
 . . .  
 H H H H  
 [βε]lεσε [na]yi > [βε][lεσε na][yi]

Here there are three H donors on the adjective (the definite H and the two stem syllables) and the behaviour is as predicted; note that the two “stranded” final syllables of the noun are gathered into the limits of the next H-domain.



The same remarks apply here as for *mbani*.

It is more difficult to draw conclusions from the behaviour of *ndzɔ̌ʎɔ̌nî*-type nominals, since they represent the only possible configuration where the initial tone of the adjective coalesces with a final nominal H (since the lexical H tones of all other nouns get deleted). The expected downstep between the final syllable of the noun and a following syllable (attested in all other contexts) is not present. This is of course impossible to evidence with adjectives like *mpolo*, who are devoid of any following H in the definite, but appears clearly with the other two categories. Examples:

- ndzɔ̌ʎɔ̌nî* *mpolo* ‘the big hen(s)’
- ndzɔ̌ʎɔ̌nî* *mbânî* ‘the two hens’
- ndzɔ̌ʎɔ̌nî* *náʎî* ‘the four hens’

As a matter of fact, the last two examples, at least, could just as well be transcribed *ndzɔ̌ʎɔ̌n ímbânî*, *ndzɔ̌ʎɔ̌n ínáʎî*, since adjectives in class 10 are normally preceded by an “augment” *í-*. Assuming the domain analysis to be  $[ndzɔ̌][\gammaɔ̌ni][imbanî]$ ,  $[ndzɔ̌][\gammaɔ̌ni][ina][yi]$ , a downstep should be expected between the final *-i* of the nominal and the *i-* of the adjective. As there is coalescence of the two vowels, the H-domain boundary is perhaps deleted<sup>23</sup> (although one might just as well expect it to be shifted to the right...).

3.9. To round up this presentation of tone in Galwa, let us give a general survey of P-domains in their relation to syntactic phrases.

3.9.1. The following are members of the same P-domain:

---

<sup>23</sup> The same reasoning would apply if any other vowels were involved (*ampáʎáŋgw ámbânî* ‘the two ducks’) since resyllabification takes place in all cases.

- noun + (qualifying and numeral) adjective phrases, both in the indefinite and the definite, as seen above

- noun + genitive phrases, both indefinite and definite

- prepositional phrases, both indefinite and definite

- noun (always indefinite) + interrogative –é ‘which?’ or ndé ‘what kind of’

- noun + possessive, both definite and indefinite, e.g. ompé<sup>1</sup>ndé wāmi ‘my leg’, ompéndé wāmi ‘one of my legs, a leg of mine...’ (seem to operate on the same tonal principles as genitive phrases)

- noun + noun phrases, both definite and indefinite: we found this with numeral stems from five upwards, which are not rendered by adjectival stems; e.g. ηγo z o r w á γ é n ô ‘seven parrots’, i η γ ó<sup>1</sup> z ó r w á<sup>1</sup> γ é n ô ‘the seven parrots’

- noun + relative pronoun (always definite) - but as we saw above, the rest of the verb form is not included; e.g. i η γ ó<sup>1</sup> m b á s á γ o m b í z w í m b w a ‘the porcupines that were chased by the dogs / that the dogs chased’ (perhaps more properly i η γ ó<sup>1</sup> m b á s á || a γ o m b í z w... ?)

- verb + first complement noun, provided the verb terminates with an open-ended H-domain

### 3.9.2. Never members of the same P-domain

- noun (always definite) + demonstrative; e.g. o n ó m e || w í n ó ‘this man’, e z ó m b o l o || z ó n ó ‘that broom’, η γ ó w a || γ ó n ó ‘that bush pig’

- noun (always definite) + quantifier –ódû ‘all’; e.g. i n t ó γ o l o || s ó d û ‘all the peppers’, a k ó n d o || m ó d û ‘all the bananas’

- subject (normally definite) + predicate; e.g. a n ó m e || w é b é<sup>1</sup> n â ‘the men are sowing’, o m w á<sup>1</sup> n t ó<sup>1</sup> w ó γ a η γ a || w ó n ó ||<sup>1</sup> r || ó<sup>1</sup> l á < ...erê || o l á ‘that medicine-man’s wife is tall’

- determiner + determiner; e.g. i η γ ó<sup>1</sup> z ó n t s á r o || s ó n ó || s á k é n d î ‘those three parrots have gone’

On the other hand, if two genitive phrases are connected, each having as its head the previous nominal, one P-domain can be formed; e.g.

i n t ó<sup>1</sup> γ ó l ó s á<sup>1</sup> n ó m é w á n t o ‘the peppers of the women’s husbands’

In conclusion, it can be appreciated that tone in Galwa does indeed offer many obstacles to generalisations. Although Galwa shares with many neighbouring (and also more remote) Bantu languages the neutralisation of the Common Bantu \*HH / \*HL contrast, it seems to be moving towards a drastic reduction in *lexical* tonal distinctiveness, as well as a tendency to make the pitch profiles of its utterances coincide with pragmatic factors (as an example, our Galwa consultant



felt that the realisation  $\eta\text{gowá mpólo}$  'big bushpig(s)', with etymological LH tones, was rather neutral whereas  $\eta\text{gowa mpóló}$  with a LL pattern on the noun, put more emphasis on the adjective). The almost complete neutralisation of the definite nominal patterns would of course have to be understood in the same context. The ultimate point of evolution would then be a purely accentual system, with no trace of lexical distinctiveness (the Mpongwe tonal system, briefly presented in Appendix 2 below seems already to be at a further stage in that direction). This course of evolution is certainly not unexpected in Bantu, considering that many languages from all over the Bantu area show signs of a similar tendency.

## BIBLIOGRAPHY

- BLANCHON, J. 1991. Le pounou (B 43), le mpongwé (B 11a) et l'hypothèse fortis-lenis. *Pholia* (Université Lyon 2), 6.49-83.
- FONTANEY, L. 1989. Mboshi: steps towards a grammar, part 2. *Pholia* (Université Lyon 2), 4.71-132.
- GREGOIRE, C. et J.-P. REKANGA. 1994. Nouvelles hypothèses diachroniques sur la classe 10b du myene-nkomi (B 11e). *Africana Linguistica* (Tervuren), 11.71-77.
- INKELAS, S. & D. ZEC (eds.). 1990. *The phonology-syntax connection*. Chicago & London, The University of Chicago Press.
- KISSEBERTH, C. 1994. On domains. In COLE, J. & C. KISSEBERTH (eds.) *Perspectives in phonology*. 133-166. Stanford, CSLI Publications.
- ODDEN, D. 1996. *The phonology and morphology of Kimatuumbi*. Oxford, Clarendon Press.
- PAULIAN, C. 1975. *Le kukuya, langue teke du Congo*. Paris, SELAF.
- PHILIPPSON, G. 1992. *Tons et accent dans les langues bantu d'Afrique Orientale : étude comparative typologique et diachronique*. Doctorat d'Etat dissertation, Université Paris-V.
- SELKIRK, E. 1986. On derived domains in sentence phonology. *Phonology Yearbook*, 3.371-405

Appendix 1  
Tone in Nkomi (B 11e)

Among Myene dialects, we also investigated, more briefly, the Nkomi and Mpongwe dialects. Mpongwe tone is succinctly introduced in Appendix 2. As for Nkomi, it differs from Galwa in two main ways.

The most striking - indeed amazing - difference is the following: whereas Galwa algorithms of domain formation target as the right boundary of a domain (apart from a second H donor, cf. above 3.4.1.) the first stem syllable of the following word, in Nkomi the syllable selected is the penult<sup>24</sup>. We consider this fact amazing, since in all neighbouring languages in zones B (groups B 30, B 40, etc.) as well as in more remote languages such as B 70 (cf. for example Paulian, 1975 for Kukuya B 77) the first stem syllable is universally targeted as limit for H-domains. Of course, the penult is the normal target for practically all Eastern Bantu languages (cf. Philippson 1992 pp. 478 ff).

We thus get the following forms:

a γ o l í η γ ó z ó 'he bought a parrot / parrots'  
a γ o l í η γ ó w a<sup>25</sup> 'she bought a bush pig / bush pigs'  
a γ o l í η κ é m a 'he bought a monkey / monkeys'  
a γ o l í n t ó γ o l o 'she bought a pepper / peppers/

These realisations hold nothing surprising for us - we even notice the spreading to the final syllable that we already know to be characteristic of LL stems in such circumstances. Now observe the following forms:

a γ o l í é β é l é s ε 'he bought a head-scarf'  
a γ o l í β é l é s ε 'she bought head-scarves'  
a γ ε n í é s ó s ó η γ ó l o 'he saw a swallow (contrast Galwa a γ ε n í é s ó s o η γ o l o).

The second difference is also fairly striking: Nkomi does not exhibit any -HF pattern, either in nominals, or verbals, or indeed in phrases; instead we find either -HL or -HH, according to context, namely -HL before pause or following H, -HH before following L:

- nominals

n d z o γ ó n i 'hen(s)' (cf. Galwa n d z o γ ó n î)  
o η w á n t o 'woman' (Galwa o m w á n t ô)  
-n á y i 'four' (Galwa -n á y î)

---

<sup>24</sup> Which is also much lengthened pre-pausally, and more slightly elsewhere.

<sup>25</sup> Everytime a H tone is located pre-pausally on a penult, it has a strong tendency to be realised as falling. We don't indicate this fall, which we hold not to be significant.

a l á s a ‘oranges’ (Galwa a l á s â)  
 a l á s á ma ŋ o ‘small oranges’ (Galwa id.)  
 a l á s ampó lo ‘big oranges’ (Galwa a l á s á mpó lo)

- verb forms

s á k é n d i ‘they (cl. 10) have gone’ (Galwa s á k é n d î)  
 w á p ó s w i ‘they have fallen’ (Galwa w á p ó s w î)  
 a k ó l é || ŋ g o z o ‘he bought a parrot / parrots’ (Galwa id.)  
 a k ó l e || ŋ k é m á ‘she bought a monkey / monkeys’ (Galwa a k ó l é ||  
 ! ŋ k é m á)

-phrases

ŋ g o z o n d á ‘a tall parrot’ (Galwa id.)  
 ŋ k é m á n d a ‘a tall monkey’ (Galwa ŋ k é m á n d â)  
 i γ o ŋ g í l a ‘a long spear’ (Galwa i γ o ŋ g í l â < i γ o ŋ g á + i l á)  
 ŋ k é m á n d e ‘which monkey?’ (Galwa ŋ k é m á n d ê)

In spite of these surface realisations, it shouldn’t be assumed that there are fewer H donors in Nkomi. Indeed, the following show that it couldn’t be so:

nd z o γ ó n i mpó lo ‘big hen(s)’ (Galwa nd z o γ ó n í ! mpó lo)

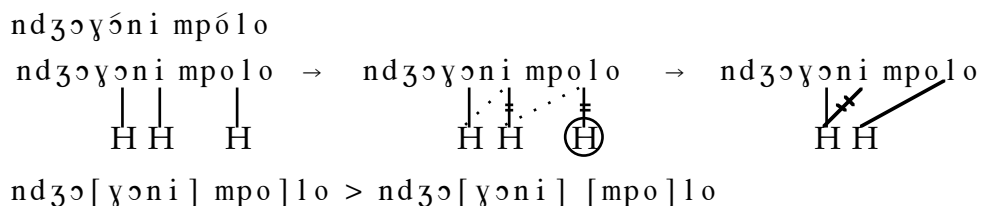
compare with:

n t ó γ ó l ó mpó lo ‘big pepper(s)’  
 ŋ g o w á mpó lo ‘big bush pig(s)’

and contrast:

ŋ g o z o mpó l ó ‘big parrot(s)’  
 β ε l ε s ε β ó l ó ‘big head-scarves’

These last examples show that when no H tone precedes, the adjective has its lexical HH pattern. Since it is realised HL after nd z o γ ó n i, just as it is with the HHH stem n t ó γ ó l ó or the LH ŋ g o w á, there must be a second H donor in Nkomi -HL stems. Compared with Galwa, the principles of domain formation are probably identical, the only difference being that a domain H does not associate to (or preferably disassociates from ?) the syllable situated just to the left of the right domain boundary if this is at the same time word final, thus:



Otherwise, Nkomi tonology is not much different from what we saw in Galwa. In particular, H-domains in the definite mode are organised like in

Galwa, with neutralisation of tone patterns (apart from nominals of the ndʒɔγɔni type) and the definite H anchoring to the first stem syllable (not the penult !). Contrast:

aγo1í βé1éσε 'he bought head-scarves' [indefinite]

ekó1e || βé1εσε 'he's buying the head-scarves' [definite]

Appendix 2  
Tone in Mpongwe (B 11a)

Although our Mpongwe data aren't as complete as we might wish, a few statements can be made on the relationship of the tonal system to that of the other two dialects.

First, distinctiveness is much reduced for disyllabic nominal stems. LL and LH tone patterns of the other dialects have apparently entirely collapsed into a LH pattern. The HH pattern is still distinct, but is optionally (and frequently in some contexts) reduced to LH as well. On the other hand the HF pattern is kept distinct. Examples:

gíga<sup>26</sup> || ré || síndzɔgú 'in the forest, there are elephants'  
 gíga || ré || síngowá 'in the forest there are bush pigs'  
 gíga || ré || síŋkéwá 'in the forest, there are monkeys'  
 ogúwâ 'manioc'  
 akólé || ŋgozó 'he bought a parrot'  
 akólé || ŋkéwá 'he bought a monkey'

But

akólé || ŋgozó náŋgó 'he bought a small parrot'  
 akólé || ŋkéwá náŋgó / !ŋkéwá náŋgó 'he bought a small monkey'  
 akólé || ŋgozó mpólo 'he bought a big monkey'  
 akólé || !ŋkéwá mpólo / ŋkéwá mpólo 'he bought a big monkey'  
 nágó 'house'; oge ndá 'guest > nagó yó géndâ 'guest-room'

Principles for domain formation appear similar to Galwa. However verbs in the remote past, although apparently identical to their Galwa and Nkomi counterparts, do not enter into P-domains with their objects:

ayɛní || ndzɔgú mpólo || gíga 'he saw a big elephant in the forest'  
 (Galwa ayɛní ndzɔ!yú mpólo || yíya)  
 wágólí || ntogóló mbyâ 'they bought good pepper' (Galwa wáyólí  
 ntó!yóló mbyâ)

---

<sup>26</sup> The voiced velar obstruent is most frequently realised as a stop, although our consultant occasionally used the fricative.