

MEEUSSEN'S RULE AT THE PHRASE LEVEL IN KALANGA

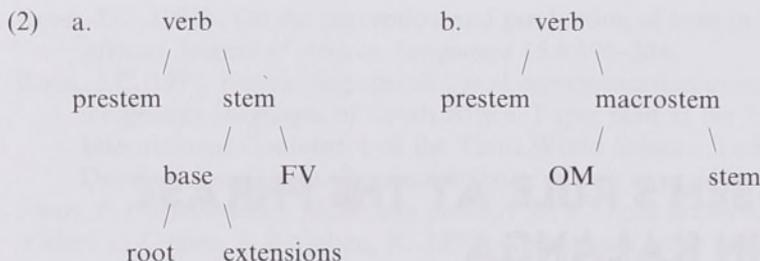
Joyce T. Mathangwane & Larry M. Hyman

1. INTRODUCTION

A number of Bantu languages of the Eastern and Southern zones attest a rule of the form in (1) by which a H tone is deleted when directly preceded by another H:

- (1) μ μ
 | |
 H H
 ↓
 \emptyset

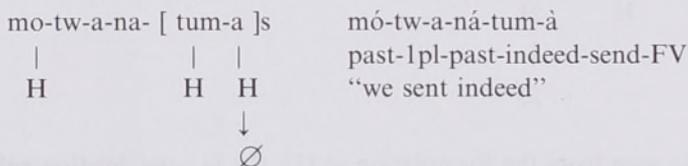
As seen from the formulation in (1), the H tone deletion rule is clearly a dissimilatory process which various authors (e.g. Odden 1980, 1986) have sought to explain as an instantiation of the obligatory contour principle (OCP).¹ This phenomenon, which can be traced back at least to Meeussen's (1963) work on Tonga, has been dubbed "Meeussen's Rule" by Goldsmith (1984). Despite its widespread occurrence within Bantu, the application of MR varies from language to language, especially with respect to the domain within which it operates. This is particularly clear in the case of verbs. In order to see this, consider in (2a) the traditionally assumed morphological structure of Bantu verbs (see, for instance, Meeussen 1967):



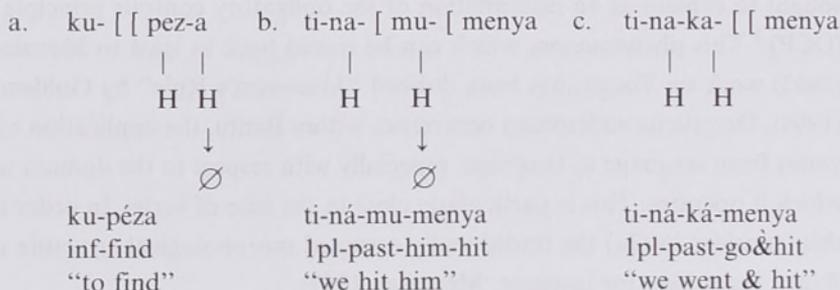
As indicated, a verb consists of a stem preceded by a prestem of one or more prefixes. These prefixes may include a subject marker (SM), negation (NEG), tense/aspect marker(s) (TM), and object marker(s) (OM).² The stem in turn consists of a base followed by an inflectional final vowel (FV), most frequently -a. The base consists of a root possibly extended by derivational suffixes (or “extensions”) such as applicative *-id-, causative *-ic-j-, reciprocal -an-, and so forth. The one modification that is required in some languages is that the OM, last among the prefixes, may form an additional domain, the macrostem, as shown in (2b).³

We thus assume the structure in (2b) and the three domains of increasing inclusion that it defines: the stem, the macro-stem and the word (= the entire verb).⁴ Significantly for our study, different languages restrict MR to applying within each of these domains. The three possibilities considered thus far are briefly illustrated in (3)–(5) from Nande, Cewa and Ganda, respectively.⁵

(3) Stem-level MR in Nande (Hyman and Valinande 1985)



(4) Macro-Stem-level MR in Cewa (Hyman and Mtenje, in press)



(5) Word-level MR in Ganda (Hyman 1982, Hyman & Katamba 1993)

[a-ba-ta-li-	[tu-	[lab-a]s]ms]w	a-bá-tà-lì-tù-làb-a
				IV-3pl-neg-fut-us-see
H	H	H	H	“they who will not see us”
↓	↓	↓	↓	
∅	∅	∅	∅	

In (3a) we see that the H of the FV -a is deleted when preceded by a H root in Nande.⁶ In (4a) we see that when a H occurs on both vowels of a bisyllabic stem in Cewa, the H of the FV is deleted by MR. (4b) shows that the H of an OM also falls prey to MR, while the H of a TM does not. Hyman and Mtenje’s interpretation of this fact is that the H targeted by MR must occur within the macro-stem, which includes -mɛ- in (4b), but not -kɛ- in (4c).⁷ Finally, in (5), one observes that MR applies throughout the verb (stem, macrostem, pre-stem) in Ganda, potentially affecting a sequence of several H’s in a row.

In this paper we take a close look at the domains of MR in Kalanga, an outlying language of the Shona group spoken in Botswana.⁸ The application of MR in closely related Shona has been carefully studied by Myers (1987, 1995, in press). Limiting ourselves to the domains defined by (2b), one aim of Myers’ studies is to show that MR applies only if the H-H sequence occurs across a prestem-macrostem juncture. Thus, MR applies in (6) below deleting the doubly linked H tone of the verb stem -ténɡá “buy”:

(6) MR across prestem-macrostem juncture in Shona (Myers, in press)

[ndi-cha]	[ténɡa]	ndi-chá-ténɡa	“I will buy”
	\ /	I-fut-buy	
H	H		
	↓		
	∅		

In (7a), however, we see that MR fails to delete the H of -ténɡá when it is preceded by the H class 5 OM -rí-, since the latter falls within the macrostem:

(7) MR fails to apply within macrostem and within prestem

a. [ku]	[rí-ténɡa]	b. [va-cha]	[bvunza]
	\ /		
H	H	H	H
ku-rí-ténɡá		vá-chá-bvúnza ⁹	
inf-OM-buy		3pl-fut-ask	
“to buy it”		“they will ask”	

In addition, (7b) shows that the H of the SM *vá-* does not condition the deletion of the H of the TM *-chá-*, since both morphemes occur within the prestem.

Thus, to summarize, MR has generally been seen as a process taking place within (parts of) the phonological word: the stem, the macrostem, the (verbal) word. We shall see that in many respects MR in Kalanga resembles Shona. However, what is quite unusual (perhaps unparalleled within Bantu) is that MR applies across words in Kalanga. In §2 we shall first demonstrate that MR is a phrase-level rule in Kalanga. In §3 we show how MR interacts with clitics. In §4 we take up the issue of the word-internal domains that are relevant for the application or non-application of MR. Finally, in §5, we conclude with a discussion of how MR applies, showing both iterative and cyclic aspects of the rule.

2. MR AS A PHRASE-LEVEL RULE IN KALANGA

As stated, we wish to show in this article that MR applies across phonological words in Kalanga. The contexts that will be used to illustrate the postlexical operation of MR in this section will come first from basic sentence structure: verb + object, object + object, and subject + verb. We will then turn to possessive constructions to show that MR also applies within the noun phrase. In each case we will not be concerned to justify the underlying representations that serve as inputs to MR. Although we introduce the essentials of the tone system in §2.1, for further discussion readers are referred to Hyman and Mathangwane (in press) and Mathangwane (1996).

2.1 MR applies between the verb and its object NP

The examples in (8) below show that MR applies between a verb and its object:

- | | | | | | |
|-----|----|------------------|----------------------|-------------|------------|
| (8) | a. | ku-lóβá goola | “to hit a vulture” | cf. goóla | (< góóla) |
| | | ku-thówá baani | “to hate the forest” | cf. baáni | (< bááni) |
| | | ku-téyá fioobe | “to trap a fish” | cf. fioóbe | (< fióóbe) |
| | b. | ku-lóβá káatsi | “to hit a cat” | cf. káatsi | |
| | | ku-thúsá shúumba | “to help a lion” | cf. shúumba | |
| | | ku-báká léele | “to build a ladder” | cf. lééle | |

Forms are cited as they appear before pause, i.e. with penultimate vowel lengthening and the tone-lowering effect of the breathy or voiced obstruents known as depressor consonants.¹⁰ The examples in (8a) show an infinitive

followed by a noun which begins with a depressor consonant, while the nouns in (8b) begin with a non-depressor. The forms in (8a) transparently exhibit the loss of H by MR, as shown in (9a).

- (9) a. [ku-loβa]w [goola]w b. [ku-loβa]w [kaatsi]w
- | | | | |
|-----|---|-----------|---|
| \ / | | \ / - - - | |
| H | H | H | H |
| | ↓ | | ↓ |
| | | | ∅ |
- ku-lóβá goola “to hit a vulture” ku-lóβá káatsi “to hit a cat”

The nouns in (8b) also undergo MR, as shown in (9b), but, as indicated, a postlexical rule of H tone spreading applies to restore the H. This rule, which Hyman and Mathangwane (in press) refer to as HTS3, is blocked by the depressor consonant in (9a).¹¹

Now consider the similar combinations of infinitive + noun object in (10).

- (10) a. ku-léyá faali “to avoid a pot” cf. fiáali (< fiááli)
- ku-thúmá jiila “to sew a cloth” cf. jiiíla (< jiiíla)
- ku-ŋwá vuula “to drink water” cf. vúulá (< vúúla)
- b. ku-tátá nyáati “to chase a buffalo” cf. nyáati (< nyááti)
- ku-βóná sháato “to see a python” cf. sháató (< sháátó)
- ku-kángá fúupa “to fry a bone” cf. fúupá (< fúúpá)

The nouns in (10a) again begin with a depressor consonant, while those in (10b) do not. The difference here is that the input Hs are linked to both syllables of the nouns.¹² As shown in (11), these Hs also undergo MR:

- (11) a. [ku-leya]w [faali]w b. [ku-tata]w [nyaati]w
- | | | | |
|---|---|---------------|-----|
| ∨ | ∨ | \ / - - - \ / | \ / |
| H | H | H | H |
| | ↓ | | ↓ |
| | | | ∅ |
- ku-léyá faali “to avoid a pot” ku-tátá nyáati “to chase a buffalo”

While the above examples involve an infinitive, MR also applies between a verb and its object in appropriate cases where the verb is fully inflected. The following examples involve the recent past tense:

- (15) [ku - kuma]w [mbudzi]w [kwaazo]w ku-kuma mbúdzí kwáazo
 to-touch goat a lot
 "to touch the goat a lot"
- $\begin{array}{c} \diagdown \quad \diagup \\ \text{H} \quad \text{H} \\ \downarrow \\ \emptyset \end{array}$

we see that the second nominal is adverbial in meaning. Thus, kwáazo, realized HH-L in isolation, becomes kwaazo by MR. By HTS3 the H of mbúdzí spreads onto the adverb, creating the fall in the surface output kwáazo.

In §5 we shall return to other possibilities of nominals in sequence, particularly cases where there are two noun objects and an adverbial. But first let us consider the role of the subject nominal in the next subsection.

2.3 MR applies between subject and verb

It is clear from the preceding subsection that MR applies within the verb phrase. What of the subject? The examples in (16) clearly show that the H of a SM can undergo MR when preceded by a H-final subject NP:

- (16) a. z-o-swiika
 $\begin{array}{c} | \\ \text{H} \end{array}$
 z-ó-swiika
 "they are arriving"
- b. zwi-po z-o-swiika
 $\begin{array}{c} | \\ \text{H} \end{array}$ $\begin{array}{c} | \\ \text{H} \end{array}$
 \downarrow
 \emptyset
 zwi-pó z-o-swiika
 "the gifts are arriving"

In (16) the class 8 SM zwi- fuses with the present tense prefix -o- to produce the H tone syllable z-ó-. In (16a) this H spreads onto the first vowel of the verb stem -swiika by HTS3, as shown. In (16b), however, when the same verb form is preceded by the subject noun zwi-pó "gifts", the H of z-ó- undergoes MR. Since z-o- begins with a depressor, the H of zwi-pó cannot spread onto the verb by HTS3. This differs from the corresponding singular forms in (17).

- (17) a. c-o-swiika
 $\begin{array}{c} | \\ \text{H} \end{array}$
 c-ó-swiika
 "it is arriving"
- b. ci-po c-o-swiika
 $\begin{array}{c} | \\ \text{H} \end{array}$ $\begin{array}{c} | \\ \text{H} \end{array}$
 \downarrow
 \emptyset
 ci-pó c-ó-swiika
 "the gift is arriving"

In (17a) the H of c-ó- (from cí-o-) spreads onto the verb stem -swiika. In (17b), however, the H of c-ó- is deleted by MR, and hence not available for spreading onto the TM. A parallel example is given in (18), where the present tense marker is -no-:

- (18) a. $\beta\text{a-no-buuzwa}$
 |
 H

 $\beta\acute{\text{a-nó-buuzwa}}$
 “they are asking”
- b. $\beta\text{a-lume } \beta\text{a-no-buuzwa}$
 | |
 H H
 ↓
 \emptyset
 $\beta\text{a-lúmé } \beta\acute{\text{a-no-buuzwa}}$
 “the men are asking”

In (18a) the H of the class 2 SM $\beta\acute{\text{a-}}$ spreads onto the progressive TM. On the other hand, in (18b), where there is a subject noun ending in a H tone, MR deletes the H of the SM $\beta\acute{\text{a-}}$, which therefore cannot spread onto -no-. As shown, HTS3 spreads the H of $\beta\text{a-lúmé}$ onto the SM $\beta\text{a-}$. Thus, MR applies across the subject-verb juncture, despite the fact that this juncture is frequently opaque to prosodic rules in other Bantu languages.

We thus conclude with certainty that MR, normally a lexical rule in Bantu languages, has a phrasal or postlexical character in Kalanga. In the following subsection we consider cases of MR that involve a pro- or enclitic.

3 MR AND CLITICS IN KALANGA

Having established that MR applies between phonological words, we now consider structures that involve a host and a clitic (marked by =). As Myers (1987, 1995) has shown, these are prime candidates for the application of MR in Shona. In the following subsections we show the same to be the case in Kalanga.

3.1 MR applies between a host and enclitic

We begin with the one H tone enclitic we have found in the language, = $\beta\acute{\text{o}}$ “too, also”, whose H tone surfaces after the L tone verbs in (19a).

- (19) a. $\text{ku-peta} = \beta\acute{\text{o}}$ “to fold too” b. $\text{ku-túmáá} = \beta\text{o}$ “to send too”
 $\text{ku-ligaa} = \beta\acute{\text{o}}$ “to drop too” $\text{ku-lóbáá} = \beta\text{o}$ “to hit too”
 $\text{ku-sekaa} = \beta\acute{\text{o}}$ “to laugh too” $\text{ku-língáá} = \beta\text{o}$ “to look too”

This H tone fails however to show up in the forms in (19b), where = $\beta\acute{\text{o}}$ is

preceded by a H tone verb. The same alternation is observed when =βó follows nouns:

- (20) a. simbee = βó “charcoal too”
 moyoo = βó “a heart too”
 shathuu = βó “an axe too”
- b. fúpáá = βó “a bone too”
 phépóó = βó “wind too”
 shátóó = βó “a python too”

In both cases the enclitic =βó undergoes MR, as indicated in (21).

- (21) a. ku-tuma = βó
- | | |
|-----|---|
| \ / | |
| H | H |
| | ↓ |
| | ∅ |
- b. fupa = βó
- | | |
|-----|---|
| \ / | |
| H | H |
| | ↓ |
| | ∅ |

To obtain the surface forms, ku-túmáá = βó “to send too” and fúpáá = βó “a bone too”, penultimate lengthening inserts the vowel length which then acquires a H tone by HTS3

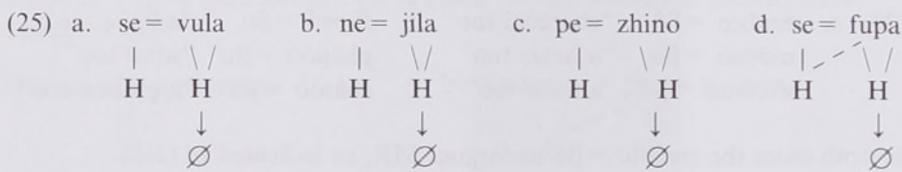
3.2 MR applies between a proclitic and host

Several H tone proclitics have been found, including sé = “like”, né = “with, and”, and -é = “genitive/connective”, the last of which requires a noun class prefix. As seen in (22)–(24), these all condition MR.¹³

- (22) a. sé = vuula “like water”
 sé = jiila “like a cloth”
 sé = zhiino “like a tooth”
- b. sé = fúupa “like a bone”
 sé = phéepo “like wind”
 sé = sháato “like a python”
- (23) a. né = vuula “with water”
 né = jiila “with a cloth”
 né = zhiino “with a tooth”
- b. né = fúupa “with a bone”
 né = phéepo “with wind”
 né = sháato “with a python”
- (24) a. pé = vuula “of water”
 pé = jiila “of a cloth”
 pé = zhiino “of a tooth”
- b. pé = fúupa “of a bone”
 pé = phéepo “of wind”
 pé = sháato “of a python”

All six nouns in (22)–(24) have an underlying H which is ordinarily linked to both of its syllables, e.g. vúlá “water” and fúpá “bone”, pronounced vúlá and fúpá with penultimate lengthening (and application of the HH-H Æ HL-H rule before pause (cf. note 12). The loss of the H by MR is most transparently seen on the nouns in (a), which begin with a depressor consonant (which blocks the subsequent application of H tone spreading). The nouns in (b), which, on

the other hand, begin with a non-depressor, first undergo MR and then H tone spreading. Sample derivations are given in (25).



To obtain the surface outputs penultimate lengthening applies to all forms, and HTS3 applies in (25d), where the noun does not begin with a depressor.

3.3 MR applies between noun and possessive

Having established that MR applies between a host and its enclitic or prolitic, we are now ready to consider the complexities that arise in the analysis of possessive pronouns. We begin by giving a table of possessive pronouns for all the noun classes in Ikalanga for first, second and third persons. We observe that these pronouns show agreement with the noun classes that they modify.

Table 1 Possessive pronouns for all noun classes¹⁴

Class	Noun Prefix	Agreement	1st Pers.	2nd Pers.	3rd Pers.
1	n-	u-	wáŋgu/ wédu	uwó/ wényu	uwé/ wáβo
1a	–	βa-	βáŋgu/ βédu	βaβó/ βényu	βaβé/ βáβo
2	βa-	βa-	βáŋgu	βaβó	βaβé
2a	βó	βa-	βáŋgu	βaβó	βaβé
3	n-	u-	wáŋgu	uwó	uwé
4	mi-	i-	yáŋgu	iyó	iyé
5	[+ voice]/∅	li-	láŋgu	liló	lilé
6	ma-	a-	áŋgu	awó	awé
7	ci-/i-/∅	ci-	cáŋgu	cicó	cicé
8	zwi-	zwi-	zwáŋgu	zwizó	zwizwé
9	N-/∅	i-	yáŋgu	iyó	iyé

In (29) we show how each of the four possessives are realized after both \emptyset and H tone nouns in classes 7 and 8:

(29) a.	ci-thu	cáángu	/	zwi-thu	zwaángu	“my thing(s)”
	ci-thu	céédu	/	zwi-thu	zweédu	“our thing(s)”
	ci-thu	céényu	/	zwi-thu	zweényu	“your (pl.) thing(s)”
	ci-thu	cááβo	/	zwi-thu	zwaáβo	“their thing(s)”
b.	ci-pó	cáángu	/	zwi-pó	zwaángu	“my gift(s)”
	ci-pó	céédu	/	zwi-pó	zweédu	“our gift(s)”
	ci-pó	céényu	/	zwi-pó	zweényu	“your (pl.) gift(s)”
	ci-pó	cááβo	/	zwi-pó	zwaáβo	“their gift(s)”

As seen, these possessives are realized HH- \emptyset whether preceded by a toneless noun stem in (29a) or a H tone noun stem in (29b). As we have seen elsewhere, the forms in class 8 undergo delinking conditioned by the depressor consonant (zwaángu → zwaángu, etc.). The question is why MR appears not to apply in (29b). If it had, we would have obtained forms such as *cipó cáangu and *zwipó zwaangu, where H spreading would have placed a H on cáangu in the first example, but would have been blocked by the depressor in the second.

We are hard-pressed to come up with a satisfactory explanation. We might propose that MR applies only across certain constituents, as we cited from Myers (in press) in (6) and (7). In this case MR would apply across phonological words, between a proclitic and a host, and between a host and an enclitic – but between a noun and a following possessive. However, what would be the nature of this noun + poss domain that would exempt it from MR? It could be considered a tighter bond than some of the word + word combinations we considered in §2. However, it would have to be a looser bond than the clitics + host seen in this section. It therefore is not likely that there will be a motivated place for noun + poss within a hierarchy of domains that will explain its exemption from MR.¹⁵

The only other obvious approach to consider would be the underlying representations. Dividing up the possessives into two parts (e.g. ya + ngu) does not in itself solve the problem. An extra tone-bearing unit might be invoked to block MR from the left, e.g. /ye + á + ngú/, but it would run into numerous difficulties: such sequences typically fuse into a single monomoraic syllable in Kalanga, which does not have a vowel-length contrast, most length deriving from penultimate lengthening.¹⁶ So why should the first syllable of these forms function as two tone-bearing units? Even if this problem could be overcome, we would still have to address why MR does apply when the possessive appears modifying a zero head.

Since no explanation has been found yet as to why MR fails to apply between a noun and its possessive pronoun, we shall simply leave this question for further research. With this problem tucked away, we can now consider the application of MR within words.

4 MR AND THE INTERNAL STRUCTURE OF WORDS

In this section we turn from the “syntactic” application of MR to consider its application within the word. Since most sequences of H arise in verbs, we shall limit our attention to see how MR applies with respect to the stem, macrostem and prestem domains set up in (2). We shall begin by showing that some sequences of H do not undergo MR, while others do.

4.1 Application of MR within the macrostem

The aim of this subsection is to determine whether MR ever applies within the macrostem. To begin, non-reflexive OM's provide a particularly clear case of non-triggering of MR. As seen in (30), the addition of an OM does nothing to the tones of a H tone verb stem:

(30) a.	ku-lóoβá	b.	ku-ń-lóoβá	“to hit / him (cl. 1)”
	ku-túumá		ku-cí-túumá	“to send / it (cl.7)”
	ku-fúmíika		ku-βá-fúmíika	“to cover / them (cl.2)”
	ku-túumá		ku-zwi-túumá	“to send / them (cl.8)”
	ku-dziimá		ku-dzi-dziimá	“to extinguish / them (cl.10)”

The H verbs in (30a) retain their tonal pattern when an OM is added in (30b). The OM is always underlyingly H, although as seen in *ku-zwi-túumá* “to send them (cl. 8)” the H may become delinked because of a depressor consonant. It thus appears that MR cannot apply between OM and stem.

There is one possible exception to this statement. Compare the effect of the reflexive OM *-zwi-* in the following infinitives (Mathangwane 1996):

(31) a.	kuu-cá	b.	ku-zwií-ca	“to fear / oneself”
	ku-túumá		ku-zwi-túuma	“to send / oneself”
	ku-ṭóóla		ku-zwi-ṭóola	“to take /oneself”
	ku-fúmíika		ku-zwi-fúmiiká	“to cover / oneself”
	ku-fúmíkííla		ku-zwi-fúmiikiilá	“to cover for / oneself”
c.	ku-ḍá	d.	ku-zwií-ḍa	“to like / oneself”
	ku-dziimá		ku-zwi-dziima	“to extinguish / oneself”
	ku-baáṭa		ku-zwi-baaṭa	“to catch /oneself”

ku-dzimúúla	ku-zwí-dzimuulá	“to allay / oneself”
ku-gwädziisa	ku-zwí-gwadziisá	“to hurt / oneself”

All of the verb roots in (31) have a H tone. Those in (31a,b) have a non-depressor initial, while those in (31c,d) begin with a depressor. The forms in (31d) show us as the reflexive OM -zwí- is H tone. The H of -zwí- cannot spread through the following depressor in (31d), but does spread in (31b), which is without a depressor consonant, followed by delinking of the H from the OM. As seen, a H tone is placed on the FV of verb stems that have at least three syllables.

What is important about the forms in (31) is that the H of the stem is lost. Could this be a MR effect? If so, this would mean that the H of reflexive -dzí- causes a following H to delete (as well as a final H to be assigned to verb stems consisting of at least three syllables). There is reason to believe that this is not a MR effect. Consider the reflexive form of toneless verbs in (32).

(32) a.	ku-waana	b.	ku-zwí-wáana	“to find / oneself”
	ku-βeeza		ku-zwí-βéeza	“to carve / oneself”
	ku-sumbiika		ku-zwí-súmbiiká	“to conceal / oneself”
	ku-shaluula		ku-zwí-sháluulá	“to choose / oneself”
	ku-shaluliila		ku-zwí-sháluuliilá	“to choose for / oneself”
c.	ku-diila	d.	ku-zwí-diila	“to pour / oneself”
	ku-buuzwa		ku-zwí-buuzwa	“to ask / oneself”
	ku-duβiika		ku-zwí-duβiiká	“to immerse / oneself”
	ku-zunguza		ku-zwí-zunguzá	“to shake / oneself”
	ku-buzwisiisa		ku-zwí-buzwisiisá	“to ask alot / oneself”

A quick perusal of the forms in (32) will verify that they show the exact same tone patterns as in (31).¹⁷ In other words, -zwí- again comes in with its own H and assigns a second H to verbs consisting of at least three syllables. Now it is certainly possible to attribute the loss of the stem H of the verbs in (31) to MR. But it is just as likely that we should view the reflexive as imposing an paradigmatic tone pattern on all verbs. Where the input verb is H, its tone is simply overwritten by the requirements of the reflexive construction. The pattern which assigns a H to the FV is generally associated with dependent tenses, to which we now turn for another potential input to MR.

The evidence is mixed. First consider a comparison of the infinitives and bare imperatives of the H tone verbs in (33).

(33) a.	kuu-cá	b.	ii-cá	“to fear / fear!”
	ku-túumá		túumá	“to send / send!”

	ku-tóóla	tóóla		“to take / take!”
	ku-fúmíika	fúmíika		“to cover / cover!”
	ku-fúmíkiila	fúmíkiilá		“to cover for / cover for!”
c.	ku-dá	d. ii-dá		“to like / like!”
	ku-dziimá	dziimá		“to extinguish / extinguish!”
	ku-baáta	báata		“to catch / catch!”
	ku-dzimúúla	dzimúulá		“to allay / allay!”
	ku-gwádziisa	gwádziisá		“to hurt / hurt!”

As seen, a final H is assigned in all imperatives. The crucial examples for us are the bisyllabic stems. In the infinitive these may have a H linked to both syllables (= the majority pattern), as in (34a) or a H linked only to the first syllable, as in (34b).

(34) a.	tuma	dzima	b.	tol <a >	bat <a >
	\ /	\ /			
	H	H		H	H

These stems are shown prior to the effects of penultimate lengthening and of depressor consonants. It is clear that the stems in (34a) are realized identically in the infinitive and in the imperative. It is less clear whether they keep the representations in (34a) or acquire a second H, as longer verbs do. The stems in (34b) are realized differently in the two constructions: HH-L in the infinitive vs. HL-H in the imperative. Hyman and Mathangwane (in press) argue that verb stems such as in (34b) have final extrametricality and that a stem-level H tone spreading rule (HTS1) cannot reach their final vowel (as they can in (34a) and in the case of the majority of bisyllabic stems). Now this might argue that a second suffixal H is assigned to these verbs, as in (35a).

(35) a.	tola	bata	b.	tola	bata
	HH	HH		H	H

If (35a) is correct, then clearly MR does not apply between root and suffix H tones. However, another interpretation is possible, shown in (35b). One could equally well propose that the extrametricality of verbs such as ku-tóóla and ku-baáta is removed in the imperative. In this view there need not be a suffixal H tone operating on shorter stems – or, if there is, it need not be seen as linking.

A somewhat different situation obtains in “non-bare” imperative forms, all of which involve the FV -e as well as a suffixal H tone. This pattern is illustrated in (36) and should be compared with (33b,d):

(36) a.	ú-ci-cé	“fear it!”	b.	ú-ci-dé	“love it!”
	ú-ci-túúme	“send it!”		ú-ci-dziime	“extinguish it!”
	ú-ci-tóóle	“take it!”		ú-ci-baáte	“catch it!”
	ú-ci-fúmiiké	“cover it!”		ú-ci-dzimúulé	“allay it!”
	ú-ci-fúmiikiilé	“cover for it!”		ú-ci-gwádziisé	“hurt it!”
	/				
	H H H H			H H H H	

The prefixes involved are the second person singular SM *ú-* and the class 7 OM *-cí-*. As seen, the stem-initial H spreads one vowel to the right in (36a), but is blocked by the depressor in the last form in (36b). Bisyllabic verbs apparently also acquire a suffixal H which in this case appears to undergo MR, as indicated:

(37) a.	tume	dzime	b.	tum <e>	dzim <e>
	H H	H H		H	H
	↓	↓			
	∅	∅			

The surface forms are obtained by penultimate lengthening and H tone spreading. The alternative in (37b), where there is an ad hoc extrametricality on the suffixal *-e* of bisyllabic stems is not appealing, since there is no extrametricality on longer stems (which take a H on the final *-é*).

To summarize, MR does not apply between an OM and a H verb stem, but appears to apply within bisyllabic stems in the imperative marked by *-é*. Before commenting further we shall now examine the status of MR within the prestem.

4.2 Application of MR within the prestem

While there was some ambiguity, if not contradiction, in the application of MR within the macrostem, it can be stated with confidence that MR does not apply when both H tones are contained within the prestem. This occurs when a H SM is followed by a H TM, as in the following two pairs of data:

(38) a.	ndi-cá-wáána	“I still find”	b.	ndi-ngá-wáána	“I can find”
	vá-cá-wáána	“they still find”		vá-ngá-wáána	“they can find”
	H H			H H	

In (38a) the TM is the perstitive prefix *-cá-*, while in (38b) it is the potential

prefix -ngá-. Each pair of data first shows the toneless first person singular SM *ndi-* compared with the H tone third person plural (class 2) SM *vá-*. As seen, the Hs of *-cá-* and *-ngá-* are not affected by MR.¹⁸

4.3 Application of MR between the prestem and macrostem

Thus far we have seen that MR is non-existent within the prestem and has a mixed status within the macrostem. We shall now see that the latter is also the case when two Hs meet across the prestem-macrostem juncture. We have already seen a case, in (36), where MR fails to apply between the second person singular SM *ú-* and the class 7 OM *-cí-*. The forms in (39) show that MR also fails to apply when a H SM is directly followed by the verb:

- | | | | | | |
|---------|----------------------|-----------------------|----|---------------------|------------------------|
| (39) a. | <i>váa-cé</i> | “let them fear!” | b. | <i>váa-dé</i> | “let them love!” |
| | <i>vá-túume</i> | “let them send!” | | <i>vá-dziime</i> | “let them extinguish!” |
| | <i>vá-tóóle</i> | “let them take!” | | <i>vá-baáte</i> | “let them catch!” |
| | <i>vá-fúmiiké</i> | “let them cover!” | | <i>vá-dzimúulé</i> | “let them allay!” |
| | <i>vá-fúmiikiilé</i> | “let them cover for!” | | <i>vá-gwádziisé</i> | “let them hurt!” |
| | / | | | | |
| | H H H | | | H H H | |

If MR had applied in (37) the last form of each column would have been realized **vá-fúmiikiilé* and **vá-gwadziisé*, respectively.

From examples in (36), (38) and (39) we can conclude that the SM never triggers MR, whether the following H is part of the stem, the macrostem or the prestem. The situation is however different when the prestem H belongs to a TM. We begin with the perstitive and potential prefixes seen in (38). As seen in (40), both *-cá-* and *-ngá-* may condition the deletion of a H in the verb stem:

- | | | | | |
|---------|------------------------|----|-------------------------|----------------------------|
| (40) a. | <i>ndi-cáa-ca</i> | b. | <i>ndi-ngáa-ca</i> | “I still / can fear” |
| | <i>ndi-cá-túuma</i> | | <i>ndi-ngá-túuma</i> | “I still / can send” |
| | <i>ndi-cá-fúmiika</i> | | <i>ndi-ngá-fúmiika</i> | “I still / can cover” |
| c. | <i>ndi-cáa-ḍa</i> | d. | <i>ndi-ngáa-ḍa</i> | “I still / can like” |
| | <i>ndi-cá-dziima</i> | | <i>ndi-ngá-dziima</i> | “I still / can extinguish” |
| | <i>ndi-cá-baata</i> | | <i>ndi-ngá-baata</i> | “I still / can catch” |
| | <i>ndi-cá-dzimuula</i> | | <i>ndi-ngá-dzimuula</i> | “I still / can allay” |

The forms in (40c,d) which begin with depressors show that these verbs have lost their underlying H tone. Those in (40a,b) have done likewise, but receive a H back from H tone spreading from *-cá-* and *-ngá-*. MR thus applies between a H TM and a H verb stem.

Consider now, however, the corresponding forms in (41) which have the H tone SM $\beta\acute{a}$ - ‘‘they’’:

- | | | | | |
|---------|-------------------------------|----|--------------------------------|---------------------------------|
| (41) a. | $\beta\acute{a}$ -cáa-cá | b. | $\beta\acute{a}$ -ngáa-cá | ‘‘they still / can fear’’ |
| | $\beta\acute{a}$ -cá-túumá | | $\beta\acute{a}$ -ngá-túumá | ‘‘they still / can send’’ |
| | $\beta\acute{a}$ -cá-fúmiika | | $\beta\acute{a}$ -ngá-fúmiika | ‘‘they still / can cover’’ |
| c. | $\beta\acute{a}$ -cáa-ḍa | d. | $\beta\acute{a}$ -ngáa-ḍa | ‘‘they still / can like’’ |
| | $\beta\acute{a}$ -cá-dzímá | | $\beta\acute{a}$ -ngá-dziimá | ‘‘they still / can extinguish’’ |
| | $\beta\acute{a}$ -cá-baáṭa | | $\beta\acute{a}$ -ngá-baáṭa | ‘‘they still / can catch’’ |
| | $\beta\acute{a}$ -cá-dzimúúla | | $\beta\acute{a}$ -ngá-dzimúúla | ‘‘they still / can allay’’ |

For some reason MR does not apply between the TM and the verb stem when there is a preceding H tone SM, whereas it did apply in (40) when the SM was toneless.

When originally faced by this dilemma, our strategy was to say that MR applies between the SM and the TM in forms such as in (41), thereby bleeding the operation of MR between the TM and the verb, as schematized in (42).

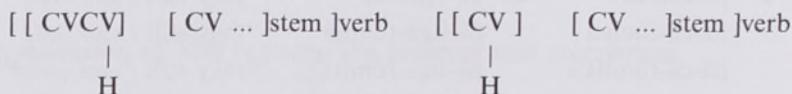
- | | | | |
|---------|--|----|--|
| (42) a. | $\beta\acute{a}$ -ca-tuma | b. | $\beta\acute{a}$ -nga-tuma |
| | $\begin{array}{c} \diagdown \quad \quad \diagup \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$ | | $\begin{array}{c} \diagdown \quad \quad \diagup \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$ |
| | ↓ | | ↓ |
| | ∅ | | ∅ |

The H of the SM would then spread onto the TM’s -ca- and -nga- disguising the loss of H by MR. However we have already seen in (38) that the H of these TM’s must not be deleted by MR, since they are needed to spread onto a toneless verb. This solution is thus not available.

The solution we would like propose in its place is the following: in the phrasal application of MR the two Hs must belong to two different domains. Where MR applies within a verb it is because two Hs meet across a domain. This much we have in common with Myers’ analysis of Shona. Where Kalanga seems to differ is in defining the verb-internal domains. The only way we can avoid MR in forms such as (41) is to say that such verb forms constitute a single domain. The algorithm we propose for dividing up the Kalanga verb is as presented in (43).

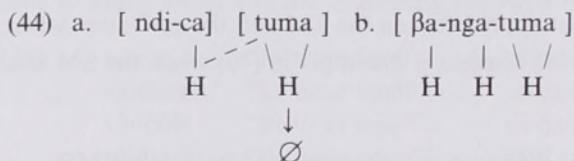
(43) Verb-internal domains:

- (i) A verb consists of two domains if it has a single H syllable or a \emptyset -H bisyllabic sequence preceding the stem, hence:



- (ii) Otherwise a verb consists of a single domain

By this algorithm forms such as in (44a) are two domains, and MR applies, whereas those such as in (44b) constitute a single domain, and MR does not apply:



We have no explanation for why a (\emptyset)-H sequence should be required, nor why it must be directly followed by the stem (i.e. not by a prefix), but suspect that there is something metrical (iambic) about the weak-strong tonal sequence that is required. We shall content ourselves here to show that this account is general.

First, let us demonstrate that the initial (\emptyset)-H sequence will not be bracketed off as a domain if another prefix follows, e.g the OM in (45).

- | | | | | |
|---------|-------------------|----|--------------------|-----------------------------------|
| (45) a. | ndi-cá-cii-cá | b. | ndi-cii-ḍá | “I still fear / love it” |
| | ndi-cá-cí-túumá | | ndi-cá-cí-dziimá | “I still send / extinguish it” |
| | ndi-cá-cí-tóóla | | ndi-cá-cí-baáṭa | “I still take / catch it” |
| | ndi-cá-cí-fúmiíka | | ndi-cá-cí-dzimúúla | “I still cover / allay it” |
| c. | ḃá-cá-cii-cá | d. | ḃá-cii-ḍá | “they still fear / love it” |
| | ḃá-cá-cí-túuma | | ḃá-cá-cí-dziimá | “they still send / extinguish it” |
| | ḃá-cá-cí-tóóla | | ḃá-cá-cí-baáṭa | “they still take / catch it” |
| | ḃá-cá-cí-fúmiíka | | ḃá-cá-cí-dzimúúla | “they still cover / allay it” |

In (45) the OM neither undergoes nor triggers MR. However, the prestem trigger of MR need not however be a TM, as in the cases we have considered thus far. In a very specific case, an OM does trigger MR. This occurs in the recent past tense, which is first illustrated without OM's in (46).

- | | | | | |
|---------|------------|----|-------------|-------------------------|
| (46) a. | nd-aa-cá | b. | nd-aa-ḍá | “I feared / loved” |
| | nd-a-túumá | | nd-a-dziimá | “I sent / extinguished” |

	nd-a-tóola	nd-a-baáta	“I took / caught”
	nd-a-fúmiika	nd-a-dzimúúla	“I covered / allayed”
c.	βá-a-cá	d. βá-a-ḍá	“they feared / loved”
	β-á-túuma	β-á-dziima	“they sent / extinguished”
	β-á-tóola	β-á-baáta	“they took / caught”
	β-á-fúmiika	β-á-dzimuula	“they covered / allayed”

The underlying representations of the pre-stem are /ndi-á-/ in (46a,b) and /βá-á-/ in (46c,d), where -á- is the recent past TM.¹⁹ MR does not apply in (46a,b) since the prestem consists of a single toneless syllable. However, it does apply in (46c,d) where the prestem syllable is H.²⁰ Now compare the corresponding forms with OM in (47).

(47) a.	nd-a-cíi-ca	b. nd-a-cíi-da	“I feared / loved it”
	nd-a-cí-túuma	nd-a-cí-dziima	“I sent / extinguished it”
	nd-a-cí-tóola	nd-a-cí-baáta	“I took / caught it”
	nd-a-cí-fúmiika	nd-a-cí-dzimuula	“I covered / allayed it”
c.	β-á-cíi-cá	d. β-á-cíi-ḍá	“they feared / loved it”
	β-á-cí-túumá	β-á-cí-dziimá	“they sent / extinguished it”
	β-á-tóola	β-á-cí-baáta	“they took / caught it”
	β-á-fúmiika	β-á-cí-dzimúúla	“they covered / allayed it”

This time it is the forms in (47a,b) with ndi- as SM that show the effects of MR: The prestem nd-a-cí (from/ndi-a-cí-/) has the ∅-H tonal contour that is required. Thus the verb stem that follows the OM -cí- undergoes MR. In (47c,d), the prestem β-á-cí- has a H-H tonal contour and hence is not parsed out as a domain.

Tonal forms parallel to (47) are found in the general past tense, whose marker is -aká-. As seen in (48a,b),

(48) a.	nd-akáá-ca	b. nd-akáá-ḍa	“I feared / loved”
	nd-aká-túuma	nd-aká-dziima	“I sent / extinguished”
	nd-aká-tóola	nd-aká-baáta	“I took / caught”
	nd-aká-fúmiika	nd-aká-dzimuula	“I covered / allayed”
c.	β-ákáa-cá	d. β-ákáa-ḍá	“they feared / loved”
	β-áká-túumá	β-áká-dziimá	“they sent / extinguished”
	β-áká-tóola	β-áká-baáta	“they took / caught”
	β-áká-fúmiika	β-áká-dzimúúla	“they covered / allayed”

the prestem nd-aká- has the ∅-H shape that is required to be parsed off as a domain. The prestem β-áká- in (48c,d) is H-H and therefore remains with the

stem. Finally, note in (49) that when an OM is added MR fails to apply, as expected:

- | | | | | |
|---------|-------------------|----|--------------------|-------------------------------|
| (49) a. | nd-aká-cii-cá | b. | nd-aká-cii-dá | “I feared / loved it” |
| | nd-aká-ci-túumá | | nd-aká-ci-dziimá | “I sent / extinguished it” |
| | nd-aká-ci-tóóla | | nd-aká-ci-baáta | “I took / caught it” |
| | nd-aká-ci-fúmíika | | nd-aká-ci-dzimúúla | “I covered / allayed it” |
| c. | β-áká-cii-cá | d. | β-áká-cii-dá | “they feared / loved it” |
| | β-áká-ci-túumá | | β-áká-ci-dziimá | “they sent / extinguished it” |
| | β-áká-ci-tóóla | | β-áká-ci-baáta | “hey took / caught it” |
| | β-á-fúmíika | | β-áká-ci-dzimúúla | “they covered / allayed it” |

In each case the prestem is trisyllabic, hence ineligible as a separate domain by the criteria in (43).

With this last observation we complete our survey of the environments in which MR applies in Kalanga. We turn next to the manner in which MR applies when there are multiple appropriate inputs in sequence.

5 THE MULTIPLE APPLICATION OF MR

In this section we return briefly to the different contexts in which we have seen MR to apply and ask how these applications interact with each other. We will begin with left to right applications of MR and then turn to apparent application by size of domain.

5.1 Multiple application of MR between words

Since many of our inputs to MR have involved bisyllabic words with doubly linked H tones, it is not automatic how MR will apply to inputs such as in (50a).

- | | | | | | |
|---------|---------|---------|---------|---------|-----------------|
| (50) a. | [H-H] | [H-H] | [H-H] | [H-H] | |
| b. | [H-H] | [∅] | [∅] | [∅] | (right-to-left) |
| c. | [H-H] | [∅] | [H-H] | [∅] | (left-to-right) |

If MR applies to this sequence in a right-to-left manner, as in (50b), then only the left-most triggering H tone will survive. This corresponds to what we saw of MR at the word level in Ganda in (5). If, on the other hand, MR applies in a left-to-right fashion, as in (50c), then MR will affect every other word. A third possibility, that MR applies cyclically, could mean that the string in (50a) could come out either as (50b) or as (50c), depending on its internal bracketing.

- (52) [βa-lume] [β-a] [loβa] [nyati] [thudzi] [kwaazo]
- $\begin{array}{cccccc} \backslash / & \backslash / \\ \text{H} & \text{H} & \text{H} & \text{H} & \text{H} & \text{H} \\ & \downarrow & \downarrow & & \downarrow & \\ & \emptyset & \emptyset & & \emptyset & \end{array}$
- βa-lúmé β-á-loβa nyáti thúdzi kwáázo
 “the men hit a buffalo on the shoulder a lot”

we see that there are two applications of MR in a row: one between the subject noun and one between the two parts of the verb. What this suggests is that MR must apply cyclically within the verb before applying outside the verb. In cases such as in (51d), where the interaction is with a postverbal word, there is no difference between cyclic and left-to-right rule application. As seen in (53), however, there is a difference when the potential interaction is with a preverbal word such as the subject:

- (53) [βalume] [βa] [loβa] [IV ... JS] βalúmé βá-loβa “the men hit”
- $\begin{array}{ccc} \backslash / & \backslash / & \backslash / \\ \text{H} & \text{H} & \text{H} \\ & \downarrow & \downarrow \\ & \emptyset & \emptyset \end{array}$

In this example both the H of the preverb and the H of the stem are deleted, though the H of the subject subsequently spreads onto the prestem. We assume that the best way to effect this is to apply MR within the word first, then move out to the phrase. In the next section we shall see additional effects of bracketing when a host and clitics vie for MR.

5.2 Multiple application of MR among host and clitics

Although much of MR applies left-to-right, cyclic application is suggested in the derivations of (52) and (53) as well as in the case of proclitics. Consider the examples in (54)-(56).

- (54) a. [ku-ŋwa [se = [kaatsi]]] b. [ku-linga [se = [nyooka]]]
- $\begin{array}{ccc} | \backslash / & | & \backslash / \\ \text{H} & \text{H} & \text{H} \\ & \downarrow & \downarrow \\ & \emptyset & \emptyset \end{array}$
- ku-ŋwá sé = kaatsi ku-lingá sé = nyooka
 “to drink like a cat” “to look like a snake”
 cf. káátsi, sé = káatsi “(like a) cat” cf. nyóóká, sé = nyóoka “(like a) snake”

- (55) a. [phuka [ne = [shaato]]] b. [sindi [ne = [nyooka]]]
-
-
- phuká né = shaato síndí né = nyooka
 “an animal and a python” “a squirrel and a snake”
 cf. sháátó, né = sháato cf. nyóóká, né = nyóoka
 “(with a) python” “(with a) snake”

- (56) a. [ku-sungga [ye = [mbuudzi]]] b. [ku-tuna [we = [siindi]]]
-
-
- ku-súnggá yé = mbuudzi ku-túná wé = siindi
 “to tie that of the goat’s” “to abstain (from) that of a squirrel’s”
 cf. mbúudzí, yé = mbúudzi cf. síindí, wé = siindi

The clitics involved are sé = “like”, né = “with, and” and yé =, wé = “genitive” (classes 9 and 1, respectively). As seen, it is necessary for the proclitic to condition the loss of the H of the following noun before itself losing its H to the preceding H of the infinitive (which then spreads back onto the proclitic). Had MR applied left to right only the H of the proclitic would have been deleted.

We now return to the one enclitic with a H tone which we found, -βó “too, also, as well”. The examples in (57) recall those seen earlier in (20):

- (57) ku-túmáá = βó “to send as well” ku-súngáá = βó “to tie too”
 ku-lóβáá = βó “to hit too” ku-língáá = βó “to look too”

In each case the H of = βó undergoes MR because of the preceding H tone. However, in cases where a proclitic also precedes the verb, MR applies between the proclitic and the verb, thereby bleeding the operation of MR between the verb and = βó. The nouns in (58) all have an input H linked to both syllables:

- (58) né = síndii = βó “with a squirrel too” cf. síindí, síníi = βó
 né = mbúdzii = βó “with a goat too” cf. mbúuzí, mbúzí = βó
 sé = nyátii = βó “like a buffalo too” cf. nyáatí, nyátí = βó
 sé = vulaa = βó “like water too” cf. vúlulá, vulá = βó

Sample derivations are shown in (59).

- (59) a. [[ne = [sindi]] = βo] b. [[se = [vula]] = βo]
- | | |
|--|--|
| $\begin{array}{c} \quad \backslash \quad / \\ \text{H} \quad \text{H} \quad \text{H} \\ \downarrow \\ \emptyset \end{array}$ | $\begin{array}{c} \quad \vee \quad \\ \text{H} \quad \text{H} \quad \text{H} \\ \downarrow \\ \emptyset \end{array}$ |
| ne = sindii = βó “and a squirrel too” | sé = vula = βó “like water too” |

In each example MR applies. In addition, HTS3 applies in (59a), but not in (59b), where [vula] begins with a depressor consonant. As seen, the bracketing that is needed is one where procliticization occurs within encliticization, exactly as Myers (1987) established for closely related Shona.

5.3 Multiple application of MR within the word

It is difficult to show that MR must apply more than once within the word. First, it may not apply within the prestem, and second, its application within the macrostem is not always clear. What we would like to do in this section is discuss one example where it might appear that MR is applying twice. This concerns the general past TM -ká- in examples such as in (60).

- (60) a. y-ákáa-ŋwá b. nyáti y-ákaa-ŋwá
 dz-akáá-ŋwá dzi-nyáti dz-akaa-ŋwá
 “it/they drank” “the buffalo/buffalos drank”

The tonal representation of the singular appears to be as in (61a).

- (61) a. nyati y-aka-ŋwa b. nyati y-aka-ŋwa
- | | |
|--|--|
| $\begin{array}{c} \backslash \quad \backslash \quad \backslash \quad / \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \downarrow \quad \downarrow \\ \emptyset \quad \emptyset \end{array}$ | $\begin{array}{c} \backslash \quad \backslash \quad \backslash \quad / \\ \text{H} \quad \text{H} \quad \text{H} \\ \downarrow \\ \emptyset \end{array}$ |
|--|--|

The two Hs that delete in (61a) belong, respectively, to the two morphs -a- and -ka- that make up the general past prefix. In addition, there is evidence that the SM i- also carries a H tone. So why are both deleted? The H-H prestem does not qualify as a separate domain, nor do we want to divide it up into two domains, [yá] and [ká], so that the former can condition MR on the latter. Instead, it seems likely that we have to consider that the Hs come together as indicated in (61b) and that the one H feature is deleted by MR. If this is correct then there is no multiple application in this example.²¹

6 CONCLUSION

In this article we have demonstrated that MR applies at the phrase level in Kalanga. It applies between full words as well as between a proclitic or enclitic and its host. Finally, most of the cases of MR that apply within the verb are also attributable to two Hs coming together across a domain juncture. In providing the above description we have attempted to provide an illustration and account of the most salient aspects of MR in the language. We have not exhausted its richness. Finally, in certain areas answers still elude us (e.g. the alternations characterizing possessives).

In addition to the synchronic sorting out that is required one naturally asks why Kalanga should be different from other Bantu languages. Our suspicion is that MR is a secondary diachronic development replacing earlier downstepping of Hs. It is our contention that Hs were downstepped between words and that these !Hs later became L (cf. Hyman 1978). Now it is possible that downsteps were not tolerated within words, or were tolerated only in a corner of the verb system (where the notorious TM *-á- resides). Perhaps these issues could be clarified by a full-scale comparison with other languages and dialects of the Shona cluster which clearly differ from Kalanga in important respects.

ENDNOTES

- 1 In the Bantu languages under consideration the binary tonal contrast is between H and \emptyset rather than between H and L. Thus, MR deletes a H tone rather than changing a H to L.
- 2 In some languages the SM may also be preceded by an initial element: the so-called augment or initial vowel element, a negative prefix, a past tense marker, etc. In addition, an overt prefix may be lacking in the case of a singular imperative verb. We ignore here possible pro- and enclitics that may also accompany a verb form.
- 3 For further discussion see Clements and Goldsmith 1984, also Kisseberth 1984, Mutaka 1990, Odden 1996, Hyman and Ngunga 1990 and others for further evidence.
- 4 An issue raised in Myers (1987, 1995, in press) is whether the "prestem" (referred to as the "inflectional stem" in Myers, in press) also constitutes a domain.
- 5 All tones are indicated as they appear at the exit of the lexical phonology, i.e. before phrase-level tone rules apply.
- 6 Mutaka (1990) presents a different analysis to account for the loss of H in such forms. Despite differences in synchronic interpretation, presumably all can agree that MR is correct diachronically, and that it is limited to the stem domain.
- 7 When occurring in context, the forms in (4b,c) undergo a rule of H tone spreading (HTS) to be pronounced ti-ná-mú-ménya ... and ti-ná-ká-ménya ... respectively.
- 8 Guthrie (1967-71) assigns Kalanga (or Ikalanga with prefix) to S.16 within the

Shona group. According to Chebanne et al (1995), there are at least four dialects of Kalanga. The present article deals with the Lilima dialect, as spoken by the first author. Despite the similarity of name, Kalanga should not be confused with the Karanga dialect of Shona, spoken in Zimbabwe.

- 9 The H on the stem -bvúnza results from a rule of H tone spreading (see Odden 1980, Myers 1987, Hewitt & Prince 1989), which, as we shall see, has a direct analogue in Kalanga.
- 10 The one exception to this statement is that we do not transcribe the predictable conversion of H to a LH rising tone after a depressor consonant. In Kalanga these depressors include the voiced obstruents /b, bz, d, dz, j, g, dzw, gw, v, z, zw, ʒ/, as well as breathy consonants, e.g. /h̥, tʰ/. (see Mathangwane 1996). Although a voiced bilabial fricative /β/ is very common in this language, it is not a depressor consonant. The nouns to be the right of (8a) are actually realized LH-L because of the lowering effect of the depressor consonants. In presenting the relevant facts in this study we have tried to choose examples which most transparently show the effects of Meeussen's Rule. Many times these involve depressor consonants. Both the behaviour of these latter as well as the tone system in general (which contains three separate rules of H tone spreading, HTS₁, HTS₂, and HTS₃) require more than the discussion we can provide here. For more information, as well as any questions arising about the data presented in this study, readers should consult Hyman and Mathangwane (in press) and Mathangwane (1996).
- 11 The reason why káátsi 'cat' has a HH-L contour is that the H of /ká/ spreads onto the mora introduced in intonational-phrase-penultimate position. The realization káátsi, with a penultimate falling tone, is due to the fact that the H of the verb kulóbá spreads onto the first mora of the noun, which has first become kaatsi by MR.
- 12 The reason why such nouns are realized hááli and nyáatí, rather than fááli and nyáátí is that the language does not permit an intonational-phrase-final HH-H sequence (which is thus automatically simplified to HL-H).
- 13 The underlying form pé = of the genitive/connective is pa-é = , where pa- represents the class 16 (locative) agreement that would be obtained, for instance, when these forms follow the head noun pathu 'place', e.g. pathu pé = vuula 'the place of water'.
- 14 The plural form is indicated for classes 1 and 1a only. This is the form which will be assumed for all the other noun classes in the plural with a change in the initial syllable which has to show agreement with the agreement marker of that particular class. It is also seen in table 1 that classes 1a and 2a, used for names, kinship terms, etc. take plural class 2 agreements.
- 15 Note that there is no syntactic definition of noun + possessive that would single it out either, since MR has been seen to operate between head and complement as well as across major constituent phrases.
- 16 In addition there seems to be no clear argument in favour of treating the lengthened penultimate as a single syllable rather than as two.
- 17 The only transitive toneless monosyllabic verbs in the language are kuu-nya 'to defecate' and kuu-bza 'to belch', which if occurring with a reflexive OM would be realized ku-dzii-nya and ku-dzii-bza.
- 18 In fact these Hs spread twice from the TM onto the stem. Hyman and

Mathangwane (in press) account for this by positing two separate H tone spreading rules, HTS₂ and HTS₃, only the second of which is blocked by a depressor consonant. Thus compare ndi-cá-sháluúla ‘I am still choosing’ vs. ndi-cá-lízaanya ‘I am still trying on’. In the second form HTS₂ spreads the H of -cá- onto the syllable [li], but the depressor /z/ blocks HTS₃.

- 19 We assume that the H of -á- is lost in (46a,b) because of the tonelessness of the SM ndi- with which it fuses.
- 20 Since βá-a-dá are obtained, this means that we must not bracket these as [βá-á] [cá] and [βá-á] [dá]. Otherwise MR would apply to the monosyllabic stems as it has in other examples above – and crucially HTS₃ may not spread a H onto a final syllable (Hyman and Mathangwane, in press). The only constraint we can think of to block this is to say that a bisyllabic verb form cannot be parsed into two (monosyllabic) domains.
- 21 We also wonder whether the H of the OM might not fuse with a following H tone verb as another way to capture that MR does not apply between them (except in the one case where the OM is parsed with the prestem).

REFERENCES

- Chebanne, A. M., M. K. Rodewald & K. W. Pahlen. 1995. *Ngatikwaleni Ikalanga: a manual for writing Ikalanga as spoken in Botswana*. Gaborone, Botswana: The Botswana Society.
- Clements, George N. & John Goldsmith. 1984. *Autosegmental studies in Bantu tone*. Dordrecht: Foris.
- Goldsmith, J. 1984. Meeussen’s rule. In Mark Aronoff and Richard Oerle (eds), *Language sound structure*, Cambridge, Mass: M.I.T. Press: 245–259.
- Guthrie, Malcolm. 1967–71. *Comparative Bantu*, Vols. 1–4. Farnborough Heights: Gregg International Publishers.
- Hewitt, Mark & Alan Prince. 1989. OCP, locality, and linking: the N. Karanga verb. *Proceedings of the West Coast Conference on Formal Linguistics* 8:176–191.
- Hyman, Larry M. 1978. Historical tonology. In Victoria A. Fromkin (ed.), *Tone: a linguistic survey*, New York: Academic Press: 257–269.
- Hyman, Larry M. 1982. Globality and the accentual analysis of Luganda tone. *Journal of Linguistic Research* 2:3: 1–40.
- Hyman, Larry M. and Francis X. Katamba. 1993. A new approach to tone in Luganda. *Language* 69:34–67.
- Hyman, Larry M. & Joyce T. Mathangwane. In press. Tonal domains and depressor consonants in Ikalanga. In L.M. Hyman & C. Kisseberth (eds), *Theoretical aspects of Bantu tone*. Stanford: C.S.L.I.
- Hyman, Larry M. & Al Mtenje. In press. Prosodic morphology and tone: the

- case of Chichewa. *Proceedings of Prosodic Morphology Conference*, Utrecht, 1994.
- Hyman, Larry M. & Armino Ngunga, "On the Non-Universality of Tonal Association 'Conventions': Evidence from Ciyao". *Phonology*: 25–68.
- Hyman, Larry M. & Nzama Valinande. 1985. Globality in the Kinande tone system. In Didier L. Goyvaerts (ed.), *African linguistics: essays in memory of M.W.K. Semikenke*, Amsterdam, Benjamins: 239–260.
- Kisseberth, Charles. 1984. In Clements & Goldsmith. *Autosegmental studies in Bantu tone*. Dordrecht: Foris:105–182.
- Mathangwane, Joyce. 1996. Phonetics and phonology of Ikalanga: a diachronic and synchronic study. Ph.D. Dissertation, University of California, Berkeley.
- Meeussen, A.E. 1963. Morphotonology of the Tonga verb. *Journal of African Languages* 2:72–92.
- Meeussen, A. E. (1967). Bantu grammatical reconstructions. *Annalen van het Koninklijk Museum voor Midden-Afrika* 61:79–121.
- Mutaka, Ngessimo. 1990. The lexical tonology of Kinande. Ph.D. dissertation, University of Southern California.
- Myers, Scott. 1987. Tone and structure of words in Shona. Ph.D. Dissertation, University of Massachusetts, Amherst.
- Myers, Scott. 1995. The phonological word in Shona. In Francis Katamba (ed.), *Bantu phonology and morphology*, LINCOM Studies in African Linguistics 06. München-Newcastle: LINCOM EUROPA: 69–92.
- Myers, Scott. 1998. AUX in Bantu Morphology. In L.M. Hyman & C. Kisseberth (eds), *Theoretical aspects of Bantu tone*. Stanford: C.S.L.I: 231–264.
- Odden, David. 1980. Associative tone in Shona. *Journal of Linguistics Research* 1:2.37–51.
- Odden, David. 1986. On the obligatory contour principle. *Language* 62:353–383.
- Odden, David. 1996. *The Phonology and Morphology of Kimatuumbi*. Oxford: Clarendon Press. Series: The Phonology of the World's Languages.

LOANWORDS IN AFRICAN LANGUAGES

Jan Knappert

One of the most interesting subjects in the vast field of sociolinguistics is the study of acculturation as it is reflected in language or the study of languages in contact. This subject, which forms only a small part in the whole spectrum of sociolinguistic phenomena, is again divisible into a number of sub-branches, each of them specialising in one of the degrees of influence of one culture upon another. It is evident that this branch of sociolinguistics must lean heavily on its sister-science, psycholinguistics, which studies the function of language in the psychological processes of human beings. The knowledge of a second language, however superficial, has an influence on the attitudes and concepts of a person. If such a knowledge is accepted as normal by his/her (part of) society, then bilingualism becomes a sociolinguistic phenomenon as well as a psycholinguistic one.

At one end of the scale there are the small communities in a country where one language – not their own – is prevalent, such as the United States, where many languages of immigrant communities still linger (although they usually disappear in two or three generations). In East Africa, especially in some parts of Tanzania, the younger generation prefer to speak Swahili rather than their own tribal language.

Another example of the powerful impact one language can have on another is that of creolization, as we find in the creole languages of West Africa and the Caribbean. Creolization is more than the wholesale adoption of foreign vocabulary, it is a complete restructuring of the morphology and syntax, contemporaneous with a cultural revolution.

An example from antiquity is the rise of the Romance languages out of Latin under the impact of the Germanic invasions. The French language arose out of a simplified Latin used by the Romance speakers in their dealings with their Frankish rulers.

The conquest of England by the Norman invaders and the subsequent rule by a foreign – language minority changed the English language almost beyond recognition. The fact that English is such a mixed language makes it of special interest to the etymologist.

In some languages in Central Africa and Polynesia and other remote areas of the world, only a very small number of loanwords can be found. This suggests that culturally these peoples are relatively “pure” of foreign influences. Nevertheless, reading through the dictionaries – where they are available – of a number of neighbouring Central African languages will yield a surprisingly large number of loanwords of different origins. It is of these that I want to give you a few examples, tracing each word back to its ultimate origin – as far as we have records from the past – and it will be seen that this past is sometimes as far back as 3 000 years. But first a few points of methodology must be explained to show that we can create method in this network of data from the dictionaries of 26 African languages, each of which contains at least a few dozen loanwords.

The study of loanwords belongs to the branch of linguistic science that studies the origins of words called *etymology*. This comes from the Greek word *etymon* (the truth), implying that for the Greeks the true meaning of a word was its original meaning, that modern development of a language is a deviation from the true and genuine forms of the language of the ancestors. Since about 1900, however, linguists and ethnologists have begun to realise that an objective scientific approach to other peoples and their languages required linguistic and cultural relativism. The present state of a language is neither better nor worse than any of its previous forms, nor is any present-day language better than any other language in the same period of history. It is the cultures that differ and develop, while the evolution of a language is merely a reflection of the changes in the culture for which it serves as a vehicle of expression. If the speakers of a language modify their culture, this change will be reflected in the history of their language. In most cases this change will result from contact with another culture: the discovery of objects and activities, of skills and ideas in a foreign people, will cause the people of our own culture to covet these things and so to acquire them, adopting at the same time the words for them. In each human society the totality of its language expresses the totality of its culture. The study of the language of a people is the best method of studying its culture: ethnolinguistics is a double term for a single subject.

In Africa, the study of loanwords is of interest not only to the student of languages and cultures, but also to the student of history. African historical records in written form are extremely rare. Apart from the Semitic languages in Africa (Arabic, Amharic, and a few other Ethiopian languages), chronicles

have been found only in Hausa, Fula, Malagasy and Swahili. It is because of this scarcity of recorded historical material that the oral traditions in Africa are the main source material for the historian. The most important treasure-house of oral traditions is the language itself. By comparing a given African language to the non-related languages in the area, we shall find a number of common words that we may assume are loanwords. Of course, this material needs checking and rechecking, as we shall see presently.

The term *loanword* is not a satisfactory one. Obviously a word that people have "borrowed" cannot be returned after use. The German *Fremdwort* (lit. "alien word") seems more appropriate since our first task will be to note the foreign quality of certain words in the languages we are studying. But for how long may such a word be regarded as foreign? Are the English words *chair* and *school* still to be regarded as Greek words? If not, at what date in history did they become English words? These two words do not *sound* foreign to the English speaker, but many other borrowed words do, such as *cocoa*, *banana*, *pawpaw*. These words denote products that will not grow in the British Isles and therefore do not form part of the original Anglo-Saxon culture and language. But there is another criterion by which we can recognise these words as of foreign origin – their shape. In English the reduplication of syllables has a foreign ring about it and this unusual morphophonemic form is the symptom of an overseas origin. In nine cases out of ten, the exceptional shape of a word gives it away as a *Fremdwort*. In African languages it is often an unusual tonal pattern that guides the searcher for loanwords onto the right track. Yet, for a more profound study, especially of the older and therefore more interesting loanwords, the criterion of structure is too narrow, because the oldest loanwords are no longer recognisable from their form (as we have seen from the English examples). Yet, as long as we cannot trace the origin of a suspected loanword to some other language, there is nothing we can do.

Another method for the detection of loanwords is the following: if we suspect that a given word in *language A* is of foreign origin (on the grounds either of its shape or of its meaning), we can look for a similar word with a similar meaning in *language B* (spoken in a territory adjacent to that of *language A*). If we find it, then we can look for it in *language C* (a neighbour of *B*, although already some distance away from *A*). If the word *is* a loan, then there is a good chance that we shall find it not only in *language C* but in *D*, *E* and possibly in a whole chain of languages across part of the African continent. We shall see how the word may gradually change in shape and sometimes also in meaning, but these changes must always be accounted for. In this way we shall see that not just one word but whole clusters of words – belonging to some well definable provinces of meaning – travel a long way over the surface of the continent of Africa, gradually changing in form.

For such words I would propose the term *travel-words*. Once a word has left its homeland – because the speakers of a neighbouring language found it a useful term – it may start on a journey of a thousand miles or more, not without damage to both its shape and meaning, and often to the extent that it becomes unrecognisable. For instance, if someone should be tempted to compare the Rwanda word *zuzi* with Kikuyu *njanji* (of the same meaning), he may be surprised to find that their origin is ultimately the Latin word *iudex* (a judge), one word having been introduced via the east coast by English and the other word via the west coast by French. The Lingala word *yema* (tent) and the Hausa word *alaima* (tent) are both from Arabic *khayma* (tent), the Hausa word having preserved the Arabic article *al-*. The Lingala word arrived in the Congo via Swahili, travelling upcountry from the east coast; the Hausa word has been carried across the Sahara, possibly via Twareg, hence my term *travel-words*.

An example of a more sophisticated change in shape is the following. The Luba word for a “box” or “chest” is *mushete*. Its meaning aroused my suspicion from the start, but I was unable to pin down its origin. When I found it in Kimbundu as well, I was certain it must be a loanword and that its origin must be Portuguese. The Portuguese word for this article is *caixete* and this would become something like **kashete* in a Bantu language. But the Bantu speakers seem to have disagreed with this form of the word, since the first syllable *ka-* has the shape of the prefix of class 12, which denotes only small things; for big things and for things made of wood, the *mu-* prefix is used and has therefore been substituted, cp. Shona *mufarinya* (cassava) from Portuguese *farinha*, “flour”.

The following may be cited as examples of changes of meanings in loanwords: the Swahili word for “a lamp” (*taa*) comes to mean “brass” in some of the languages of Eastern Zaire (probably because lamps were the only articles of brass the upcountry people ever saw). Similarly, the Swahili word for “thread” (*uzi*) has become the word for “cotton” in East-Zairean languages. It is interesting to note in this connection that the English word “silk” is derived from Arabic *silka* (thread). The Luganda word *éppeesà* (a button) is derived from Swahili *pesa* (a coin, money) via Hindustani from Portuguese *pesa*. The ultimate origin of the word is again Latin, i.e. *pensa* (a weight) from *pendere* (to hang). That the word has travelled to East Africa via India is proved by its shape: if it had come directly from Portuguese, it would have been pronounced with a “z” instead of “s” – compare Swahili *meza* (table) via Portuguese *mesa* from Latin *mensa*. In Hindustani, this type of “z” is identified with the *s*-phoneme. The Swahili word *unga* (flour) comes to mean “gunpowder” in Tswa, Lala and some other East African languages because, having a word for “flour” in their own languages, these peoples adopted the Swahili word for “flour” or “powder” in the special sense “gunpowder”, possibly for

euphemistic reasons. It shows that the peoples of the northern half of Moçambique learned the art of shooting with guns from the Swahili and so they probably learned it before the Portuguese arrived. This is confirmed by other words in the same cultural context, such as *muzinga* (gun). Both words have penetrated into Shona.

A third method of identifying loanwords is to make lists of words classified in certain categories of meaning such as tools, clothes, fruits, spices, weapons, furniture, parts of the house, metals, cereals – and then find the words for these meanings in the various languages of a given area. One will find loanwords among these words in all African languages.

Two interesting historical conclusions can be drawn from a collection of loanwords, if one has a large number of them in a variety of languages spoken over a wide area in Africa. The first conclusion is about the route and the direction that a word or a group of words has taken on its journey through the continent. Normally one will find that such words travel inland from the coasts of Africa, up-river along the Nile, the Zaire, the Zambezi and the Senegal, and finally from the riverbanks into the interior. In parts of West Africa, however, we find that some loanwords (mostly Arabic) arrive at the coast from the northern inland regions.

As we have seen, the shapes and the meanings of these words change *en route*, but something else changes as well – their quantity – and that is highly indicative of the direction in which a group of words has travelled, as well as of the extent to which the speakers of that language have become accessible to the influence of foreign culture and which culture it was that brought them these particular articles. Examples of this are the words for “horse” and “donkey” in Central Zaire. Both have been introduced from the east coast via Swahili, but in the languages of the central Zaire Basin there is only the word for donkey (*punda*), used for both donkey and horse indiscriminately.

Another important guide for establishing the route of a group of loanwords is their phonetic form. On purely linguistic grounds we can determine the direction of loaning if we know the phonemic systems of the languages concerned. We can thus indicate the *giver-language* and the *receiver-language* and observe how a group of words and meanings that describe a particular aspect of life (e.g. horse-riding or the money-economy) have been adopted *en bloc* from one *giver-language*. In Bantu Africa the principal *giver-languages* are all spoken along the coast: Nguni (Zulu-Xhosa), Swahili, Kongo and Kimbundu (Ngola). Trade languages such as Hausa, migrant-labour languages such as Nyanja, and administrative languages such as Lingala and Luganda will also function as *giver-languages* in the area where they are employed outside their home territory, so that the socio-economic situation in a given

part of Africa has a direct effect on the linguistic and culture-historical situation. All the languages mentioned acted in fact as mediators, as *passer-on* languages. Their speakers handed on the culture of the Europeans and Orientals to the other Africans. So the Arabic word *fitila* (lamp) was brought to Yorubaland by the Hausa traders. All oriental words in the languages of East and Central Africa show by their shapes that they have come via Swahili. Many Afrikaans words in Shona have come in via Zulu. European words in Northern Central Africa have been brought by the Arabs, i.e. the French word *vapeur* (steamboat) became in Arabic *bâbûr* and this form travelled up the Nile as far as the Zande language in north-east Zaire.

Perhaps the most important result of historical interest that we gain from a comprehensive study of loanwords in a large portion of Africa (for example Africa south of the equator) is that, if one draws the extreme extent of loanwords on a map of the continent, one can show with fair precision the sphere of influence of the *giver*-languages. In this way we discover four main spheres of cultural influence in precolonial (that is, pre-mid-nineteenth century) Africa. Indian words extend from the east, brought by Swahili traders; in West-Central Zaire, they meet the Portuguese words that travelled inwards from the west coast. Afrikaans-Dutch words spread north from the Cape and stop at the Zambezi. But by far the largest cultural area of Africa is shown by long lists of loans from Arabic, extending over the whole of northern Africa into the Central-African Republic, in the west as far as Dakar and Sierra Leone, in the east as far as Madagascar.

We may safely assume that the words did not travel without the objects they denote. The Portuguese word *mesa* (table) is found over most of Central and East Africa as far north-east as Somali (*miis*). Some groups of people preferred to create a word of their own, i.e. Herero in Namibia has for "table" *otyriro* (a thing to eat from or at), side by side with *otyitafela* from Afrikaans *tafel*. But if the word is there in the language we can be sure that the object has arrived in the country, so that the lexicon of the language still gives us exact information on the stage of acculturation of its users.

How can we prove that a word is a loanword? Similarly, close resemblance between two words in two otherwise unrelated languages is not in itself a proof for borrowing. For instance, in Amharic and in Hindi the word for "to be" is *hona*. A word of that meaning, however, is rarely borrowed and we therefore exclude it from our list. In Swahili all words that contain one of six special phonemes are borrowed from Arabic, because these phonemes have themselves been adopted from Arabic. Words with two non-homorganic consecutive consonants (*m-* excepted) are foreign in most Bantu languages. For example, the Swahili *mstari* (a line on paper) is from Arabic *mistâr*; the impression of

being a class 4 plural prefix that was subsequently replaced by a class 3 singular prefix. I suspect that this is the origin of the Shona word *mutara* (a line).

A third argument for the foreign origin of a word is its occurrence in unrelated neighbouring languages (note the plural). For example, the word *somo* (to read) in both Alur and Luo – two closely related Nilotic languages – might tempt the investigator to enter it in his or her list of proto-Nilotic starred forms. However, its presence in most other East African languages such as Luganda, Kikuyu, Sukuma and Masai marks it out as a loanword from Swahili.

Obviously a loanword must resemble its equivalent in the giver-language, and if it does not, rules must be established to explain why it was altered. For instance, the reluctance of the speakers to pronounce certain phonetic combinations, or their preference for monosyllabic words. The Luganda word *emmúndú* (rifle) looks like a loan from Swahili *bunduki*, itself a loan from Turkish via Arabic. The origin of this word is the Greek *pontikòn* (hazelnut), referring to the shape of a musket bullet. The Ganda form of the word can be explained by the “law of Meinhof”, which states that the first of two consecutive voiced pre-nasalized plosive consonants must become a nasal. The loss of the last syllable is already found in Luo *bunde*; the Nilotic languages prefer words of one or two syllables.

In spite of all our efforts in comparing probable loanwords with their potential originals in the *giver*-languages, there is a large number of words the origin of which remains undecided, or at least, unproven. The Wolof word *frastu* (bottle) sufficiently resembles the Portuguese *frasco* to be acceptable as a loanword from that language. The Wolof *sondel* (candle) is close enough to the French *chandelle* to be listed as a French loan. But can we equate Wolof *munas* (perfume) with the Arabic *marash*? Is Wolof *gelem* (camel) from the Arabic *gämäl*? This last equation seems attractive but we still have to show that metathesis is a rule or at least a common phenomenon in Wolof. Similarly in Wolof *fas* (horse) and Arabic *faras* there are too many resembling features to discard borrowing, and too few to accept it.

The Portuguese *manihoco* – one of the forms of the Brazilian word for cassava – must be the origin of the Swahili *mahogo*, but what happened to the syllable *ni*? In this case there can be little doubt about the question of borrowing, for extra-linguistic reasons, and we are left with the realisation that loanwords suffer a great deal on their long journeys from language to language.

An important criterion for determining the giver-language is the fact that a word “makes sense” in its own language, e.g. it is analysable and fits into the morphological system of that language. For instance, although the Tsonga

word *xitimela* looks acceptable enough as a Bantu word, with a class 7 prefix and what looks like an extension *-ela*, it is a loan from the English “steamer” via Zulu. English and Afrikaans words with the initial *s* + consonant are invariably remorphologized and assigned to class 7, i.e. *isitolo* (from “store”), *isipunu* (from “spoon”), *isipinashi* (from “spinach”), *isipanji* (from “sponge”). When travelling north into other Bantu languages, these words retain their allegiance to noun class 7, and change the prefix according to the prevailing sound-laws, so that the Shona word for “store” becomes *chitoro*, which looks completely Bantu to the uninitiated, and is no longer recognisable as an English word.

The Swahili form *vilabuni* means “in the nightbars” and is derived from the English “club”, Bantuized to *kilabu*, plural *vilabu*, locative *vilabuni*, which looks like an indigenous form.

The Luganda word *óbúsuúlu* (tax, ground-rent) has been connected with the Ganda verb *ókúsolooza* (to gather tribute, levy taxes), but in reality it is a loan from the Swahili *usuhuru*, which is in turn from the Arabic *cushr* (tithe, tax), connected with the Arabic *cashara* (ten). It would be tempting to link the Afrikaans *kraal* (cattle enclosure) with Ganda *ékiraàlo* (cattle enclosure), whereas in fact the latter is connected with a pure Bantu verb *ókùlaàla* (to settle down) (note the conformity in tone pattern), while the Afrikaans word is from the Portuguese *corral*, connected with the verb *correr* (to run), whence *corral* (a place to run about in). In the case of the word for tax the suggested Ganda derivation of the word was unsatisfactory, so that the word must be called a loan, in the latter instance the Ganda derivation is the more likely one.

Some popular etymologies are quite astonishing, i.e. Swahili *motokaa* (from “motor car”); the Swahili word looks like a compound contracted from *moto wa kaa* (charcoal fire) very appropriate if one remembers how hot motor cars become in the tropical sun!

As we have seen, nouns need plurals and so do verbs. For example in Arabic we find *finishnâ* (we have finished) from *finisht*, from the English “finished” – which looks like a first person singular form of the perfect tense. Arabic *jyib* (jeep) forms its plural inevitably as *jyub*; *tâksi* becomes *takâsi* (taxis), quite regularly, once one accepts the word as native Arabic. Parsons gives *sukuruderebobi* as the plural of Hausa *sukurudereba* (screwdriver). In Swahili I found *wamishe* (missionaries), plural of *mmishe*, which is formed by prefixing from *mishe* (mission station), which is in turn formed from *misheni* (mission) by what looks to the Swahili like a locative suffix *-ni*.

It will now be clear why loanwords must always be studied in groups and in groups of languages together. It is necessary to record all the intervening links

in order to show why a particular word has adopted the form and meaning represented in the receiver-languages at the end of the chain. For instance, in Ganda, the word for railway becomes *leerwe* because there is a rule in this language that an *r* may occur only after *e* or *i*. In those positions *l* is impossible.

These three criteria then – the shape of a word (its morphophonemic form), its meaning and the fact that it is widespread, i.e. that similar forms are found in neighbouring languages – help us to determine whether a particular word is a loanword. Two of these criteria are linguistic, one is geographical, *none* is cultural. We omit a cultural criterion because we wish to avoid the logical snare of first categorising a word as a loanword because it denotes an object foreign to the “pure” native culture and then later using this loanword to prove that the native culture did not have the object. In some cases “vicinity” may seem a rather loosely used term, as when a wide stretch of forest, desert, a lake, or a mountain range separates two language areas. We have to accept this until we have dictionaries of the adjacent languages; in some cases these may be spoken by hill tribes or nomads who never participated in the exchange of culture that went on between the more powerful nations. On the other hand, what may seem a barrier to us may not in reality have been one. Lake Tanganyika did not stop Swahili culture from spreading into Kivu; the Sahara was crossed by several trade routes.

Sometimes it is obvious that a word under consideration is borrowed from a European language, most frequently English, French, Portuguese or Dutch (in order of frequency), but it is not always clear from which language. There are, however, linguistic criteria to ascertain the origin, i.e. Malagasy *bènitra* (bayonet) and *bizimfofo* (bismuth) must be from English and not from French because of the phonetic forms of the words in Malagasy. This is clear in spite of the fact that Abinal and Malzac rubricise these words as *du Français* in their dictionary.

In Ganda the word for “blue” is *bbululû*, which looks like the English, but it cannot have been borrowed directly because it has a syllable too many. The Swahili word is *buluu* which is directly from English; where Swahili has a double vowel, Ganda has the custom of putting in an extra *l*, cf. *kyoòoni* from the Swahili *chooni* (latrine) and *ètaala* (lamp) from the Swahili *taa*.

It is these results of careful linguistic research that, I hope, will be of interest to the historian: the presence of a large body of loanwords from languages other than the coloniser’s language.

In the case of the English loans in Malagasy, these can be explained by two factors. In the first place a small group of English technicians, including an army officer at the court of the Hova king in the first half of the nineteenth

century (see Hubert Deschamp's *Histoire de Madagascar*, p. 161). Secondly, a small group of English Protestant missionaries preceded the French Catholic missionaries on the island. It would be interesting in this connection to investigate the relationship between the occurrence of early European loanwords and the arrival of the first missionaries: each missionary had his own idiosyncrasies.

In Bemba words like *ibotolo* (bottle) and *ibuuku* (book) could have been borrowed from either English or Afrikaans. However, as it appears that most European loans (not counting those from Portuguese) in Bemba are directly from English – as is made probable by their phonetic form – one is led to accept the English origin of these two words as well. The word for “store” in Bemba, for instance, is *shitoolo* (not in class 7), so that the word did not travel all the way north through the other Bantu languages but was brought directly from England.

Often the form of the loanword is so corrupted that only meticulous study will detect it as such. The Malagasy word for “oil” is *diloilo*, which can be only understood if one remembers the French *de l'huile*. Similarly we find *dipilō* (shot for a shotgun) from the French *du plomb* (lead), *dipoávatra* (pepper) from the French (*du poivre*), *dité* (tea) from *du té*, and *diváy* (wine) from *du vin*. This latter word finally solves an old problem: what is the origin of the Swahili word *divai* (wine)? The answer is that it has not come the long way from the Belgian Congo where the Europeans drink more beer than wine, but from Madagascar.

The Malagasy word *aràfana* (palmwine) puzzled me for some time. It looks like a passive noun and could well be native from a morphophonological point of view. But it also looks deceptively like the Arabic *'araq*, Swahili *araki*, Malay *arak* (palmwine, gin) – but how to account for the *f*? Finally I found Malagasy passive forms like *doafana* (what has been beaten) from a basic form *doàka* (to beat). It follows that one can regard the Malagasy *aràfana* as a derivate from the presumed loanword **àraka* not now recorded in the language in that form.

We have seen that the largest part of Africa falls within the sphere of influence of the Arabs, the centre of which is Mecca. In the course of history three secondary centres have developed, no less important for our African studies, viz. Morocco, Egypt and South Arabia. From these, further tertiary foci of radiation of Arabic scholarship were created, such as Timbuktu, Kano, Khartoum and Mombassa.

In contrast with the specifically technical influence exercised by some European languages, Arabic influence has gradually spread through all aspects of native culture. It aims at encompassing ultimately the total life of the community as well as that of the individual. On the outer fringes of this circle

of radiation of Arabic influence there live the peoples who have adopted only a few cultural objects with their names, such as “money”, “gold”, “cotton”. They have received these things through the traders – who belong usually to particular tribes – chiefly the Swahili, the Hausa and the Mandingo, as well as the Arabs themselves.

The peoples who have had more intensive contact with the Arabs already show a long list of loanwords, mostly in semantic clusters as, for instance, names for different types of cloth, the parts of a rifle, the objects connected with saddlery, and words belonging to book culture.

Finally, there are the peoples who live in the inner sphere of Arabic influence. These tribes have been converted almost entirely to Islam. The best-known examples are the Hausa, the Fulani, the Mandingo, the Swahili and the Somali.

With Islam, a flood of Arabic words comes into the language. A complete revolution has taken place and now there is only one step left to total assimilation – the adoption of the Arabic language, as we see it going on in the Sudan and elsewhere.

In many ways the Arabs did not create the culture they brought to Africa. They merely handed on what they had previously acquired from other peoples, mainly the peoples of antiquity. That is why we find today in African languages words of such diverse origin as the words for pen, money, army and shirt from *Latin*; for philosophy, paper, diamond and list from *Greek*; for lead, temple, poor man and sulphur from *Babylonian*; for offering, angel, praise and prayer from *Syriac*; for soap, sugar, banana and musk from *Sanskrit* – but most of the words they brought are genuinely Arabic such as grape, copper, cotton (*katani*), ink (*dawati*), kettle (*ibriga*) and gold (*dhahabu*).

The second important area of foreign influence in Africa that is still discernible today is the Portuguese sphere that once extended along the entire coast from Cabo Guardafogo in the east. The commonest Portuguese loanwords one finds are in the first place *meza* (table) from the Latin *mensa*; *zapata* (shoe) from Persian via Turkish and Italian; *chumbo* (lead) from the Latin *plumbum*; *igreja* (church) from the Greek *ekklesia* (this word now means “prison” in Swahili); *ouro* (gold) from the Latin *aurum*; *prata* (silver); *chapeu* (hat) – itself a loan from French – travelled inland as far as Buganda (*èssèppeèwo*); *carreta* (car) travelled as far as Bembaland (*iceleeta*).

Perhaps the most valuable contribution of the Portuguese to the cultures of Africa was the importation of American fruits and other foods such as cassava, guava, pineapple (*ananas*), pawpaw (*papaia*), maize (*milhos*), chilli, cocoa, groundnuts, tomatoes and cashew nuts.

Fruits were brought to Africa by the Indians too, mainly, of course, to East Africa. There is the mango (*embe*) and the grenadilla (*sitafeli*). The Indians brought cereals as well (white rice and wheat) and everything that appertains to curry, such as pepper, chutney and pickles. The Indians brought administrative terms (government, clerk), terms of trade (insurance, invoice), for travelling (carriage, litter), for betel chewing and all that is connected with its rites.

The Dutch occupied the Gold Coast in 1637 and South Africa in 1652, the same year in which they abandoned Madagascar. On this island they left only the word for a musket (*basi* or *busi*); on the Gold Coast the words for veranda (*stoep*), cloth (*doek/duku*) and a few others. The main impact of the Dutch language was felt in southern Africa.

The Shona language contains 120 Dutch words, most of which have been carried north through other Bantu languages. These comprise terms for the farm (donkey, ewe); household terms (pail, yarn and button); words for clothes (trousers, shirt, handkerchief).

The two languages that now have by far the most powerful influence on African languages – English and French – arrived last and not before the nineteenth century was well under way (except on the west coast). The process of borrowing is still going on and with it the process of adaptation or rephonemization.

What we can learn from loanwords adds up to a considerable amount of data in the field of cultural history.

We can now assess the level of civilisation of a people before it came into contact with the giver-language culture. This assessment can, it is true, never be absolute, but it will always permit us to draw a fair overall picture of the “native” culture of the people concerned.

For instance, the Swahili prefer to use the Arabic word for God *Ilahi* or *Allahu*. There is a word of Bantu origin – *Mungu* – which has been used exclusively by the Christian missionaries, who naturally did not feel inclined to use an Islamic term. Mohammedans would point out that *mungu* has a plural *miungu* (gods, i.e. idols). A plural of Allah is absolutely inconceivable and this may explain the preference of the Swahili Islamic writers for this word.

Another example is the Bantu word for “boat, canoe” (**bwato*), not found in Swahili. The commonest boat on the Swahili coast is the *ngalawa*, the outrigger canoe, which is ideally suited to navigation on the Indian Ocean. The river canoe was discarded, together with its name. By this method of historical

interpretation we can explain why a language has adopted a foreign word even though a native word was available.

The total body of loanwords in a language yields a fair picture of the material and spiritual culture that its speakers have acquired since they settled in that part of Africa, or in any other way became accessible to trade and the exchange of ideas. The linguist can usually establish the route which the word has taken through Africa and often the relative age of loanwords, which have a habit of coming in waves.

A few examples taken from Shona may help to illustrate the type of culture-historical conclusions that we can draw from our collection of loanwords. Shona is particularly fortunate in that it is situated in Central Africa, literally on the crossroads of cultural influences. In Shona we find 120 Afrikaans loanwords that trickled in from the south, many of them evidently via Zulu. They denote in the first place articles of clothing, e.g. *bachi* (jacket), *bande* (belt), *burúku* (trousers), *chipereti* (pin), *nariti* (needle), *roko* (skirt), *makorosibandi* and *makurubandi* (braces), *fasikoto* (apron), *hembe* (shirt), *jasi* (coat), *kamu* (comb), and *konopera* (to button). The word *gumbeze* (blanket) is French *couverts* via Afrikaans.

There are words for *household* articles and *farming tools* such as the saw, hammer, sieve, kettle, knife, bolt, nail, scissors, spoon, rake, hoe; *textiles* – cloth, duster, cottonwool; *foodstuffs* – bread, salt, *dapura* (potato), tomato; *animals* – donkey, turkey, goose (*hanzi*); and *parts of the house* – brick, window. The words for window (*fasitera*), pan (*pani*) and mug (*bikiri*) are originally loans from Latin via Afrikaans.

Several hundred Shona words are borrowed from English. The process of cultural borrowing is, of course, still continuing owing to the sociolinguistic situation in Zimbabwe.

There are 60 Portuguese words in Shona which refer to *smoking* (*fodya*: tobacco, *kasha*: snuffbox, *fofo*: matches, ultimately from the Greek *phosphoros*); *household goods* (candle, bottle); *metals* (*rata*: sheet-tin, *kóbiri*: copper, *chumbu*: lead); *dress* (*chapewa*: hat, itself a loan from French, *tsapato*: shoe, itself a loan from Persian via Turkish and Italian, *samburera*: umbrella, *borosa*: pocket).

The Shona word for rubber (*mupira*) is a loan via Swahili from Portuguese and, ultimately, from the Latin *pila* (ball), which also gave rise to the Dutch *pil* (pill), diminutive *pilletje*, which arrived in Shona in the form *piritsi* (pill), so that the same Latin word resulted in two Shona words of very different

meanings, arriving along different routes, many centuries after Latin, their language of origin, became extinct.

Most interesting of all are the 45 loanwords of oriental origin, viz. 30 Arabic, 10 Hindi and 5 original Swahili words (including *ngege*, *muzinga*, *mupunga*). All these oriental words have apparently come in via Swahili. The Arabs brought several words from the classical languages, e.g. *hanzu* (ultimately from the Latin *camisa*); *ndarama*, "gold" and *ngarava*, "ship" from Greek.

Hindi gave hemp, chilli, rice, lemon and *pesa* (cloth). This last word has a long history behind it. Cloth is used for payment in many parts of Africa, hence the change in meaning.

CONCLUSION

1. Loanwords

All languages possess loanwords, some a few dozen, others many hundreds. As long as the speakers of a language retain their cultural coherence, even thousands of loanwords do not seriously affect the structure of the language or its identity.

When the number of words of foreign origin rises to the 50% mark, one may speak of a mixed language. Usually at that stage the grammar of the language is also influenced by loan-morphemes, such as plural affixes, new phonemes and syntax.

In most cases such a drastic restructuring of a language takes place as a result of severe social upheavals, often the result of conquest by a foreign nation or culture. Examples of such conquests are the Arab conquest of Persia in 656, the Norman conquest of England and the Roman conquest of Gaulle, great events which were the original causes of the modern Persian, modern English and French languages respectively. The structures of these languages are rather different from Old Persian, Old English and Latin respectively.

2. Pidginization

Pidginization of a language happens when it is used between people whose home language is different, and who know only a few words of the one language they have in common with the persons they want to speak to. The result is that wherever there are multilingual socio-economic conditions, the dominant language of the region is pidginized, so that we hear pidginized

English, pidginized Afrikaans, pidginized Swahili and Arabic. I have heard pidginized German and pidginized Russian in eastern Europe. The pidgin language of India is *bazaar* Hindustani; in Indonesia and Malaysia one hears Melayu Pasar, Market Malay.

3. Creole

A creole language is the result of a very different social situation. It is the language of a group of people who want to speak not to outsiders but to each other, to their wives and husbands and to their own children. They have no common language so they have to use what they know of the dominant language, mixed with whatever words they remember from their own languages insofar as these can be made commonly understood. This was the situation of the African slaves in the Americas. Wherever the dominant language remained present, the creoles that were based on it tended to reabsorb it. Thus, the creoles of Jamaica, Sierra Leone and the U.S. are gradually becoming more grammatical English; the creoles based on Spanish such as those spoken in Cuba are becoming Spanish.

Several creole languages on the other hand, are isolated from the once dominant language and so they are forced to survive and develop according to their own tendencies. Examples of this type are Papiamentu in Curaçao (based on Spanish), Takitaki in Surinam (based on English), and the French-based creoles of Haiti and Mauritius. They will survive since they have become the common languages of new nations.

4. Language development

Like all historical events, these developments are completely unpredictable. For instance, the Latin language was once spoken in one town only. In the days of Hadrian it dominated western Europe and North Africa. Today it is a dead language. Babylonian, once the dominant language of the Middle East, is likewise dead. All the living languages of today were once insignificant. Examples: Arabic exploded from the Arabian desert to become the dominant language of the Middle East after 634. Castillian, the language we now call Spanish, was once spoken only in the hills of Amaya northwest of Burgos. It expanded and became one of the world languages, with English, Russian and Chinese. Russian as we know it today, was once the language of just Moscow, a vassal state of the Mongol empire. Anything can happen in history!

APPENDIX

Some notes on South African etymologies

The following are some reflections on the etymologies of certain Afrikaans words with a long history. They are "loanwords" or, as Dietrich Westermann called them, "Wanderwörter", travel-words, words that have been passed on from one language to another, and are now being passed on from Afrikaans and English into the languages of Africa.

After fifty years of studies in Oriental and African languages, this writer thinks he can recognise a loanword whenever he meets one. In reading through Boshoff and Nienaber's excellent dictionary of *Afrikaans etimologieë* (Uitg. Suid-Afrikaanse Akademie vir Wetenskap en Kuns 1967), it occurred to me that after thirty years a few comments on some of the etymologies in this vast scholarly work might offer some additional points to the discussion.

The reader is invited to join in a journey through this dictionary and enjoy the shining facets of some added meanings.

Aalwyn, *Aloe* in English and several other European languages, this genus of plants is represented by half a dozen species in South Africa. The word *aloe* originates from *al-d*, from which we also have *lute*, the musical instrument that was made from the wood of the trunk. This is not the South African aloe but a distinct species of the same genus, called *Aloe vera*, true aloe; it is native in north-eastern Africa and Socotra where its juice was called *alo* by the Copts and Greeks, *sabr* or *sabir* in Arabic and *Shubiri* in Swahili. It was used medicinally as a purgative and for healing inflammations of the skin, sores and burns (Manniche 1989:72).

However, this plant of the *Liliaceae* family is totally distinct from the aloe of the Bible. Grieves (1992:29) writes:

The word aloes, in Latin *Lignum Aloes* is used in the Bible and many ancient writings to designate a substance totally distinct from the modern aloes, namely the resinous wood of *Aquilaria agalloch*, a large tree growing in the Malayan Peninsula. Its wood constituted a drug which was, down to the beginning of the present century, generally valued for use as incense, but now is esteemed only in the East.

Akasia, Acacia of the *Leguminosae* family, is likewise a tree native in all of eastern Africa, well known to the ancient Egyptians, and valued for its resin. It is distinct from the Robinia of the same family which is known as acacia in Europe but originates from America. The Latin name comes from the Greek *akakia*, which is derived from *akakia*, the Coptic word

- for the juice of this tree, Arabic *q qiya*. The tree: Ar. *sant*, from Coptic *sonte*. Manniche 1989:65. Hepper 1990:22 gives three species of Egyptian acacia trees.
- Albaste, from Greek *alabastos* from ancient Egyptian *A -la-baste* "vessel of the goddess Ebaste, also called Bubaste" (Klein 1967 I p. 43)
- Amabele, *Sorghum caffrorum*. The Tsonga equivalent *mabele* is used for maize; Swahili *mawele* is "bullrush millet", *pennisetum*. The plant originates from the Sudan, and was brought to tropical Africa by the Nilotes, who call it *bel*, or *bele*, but they mean yet another genus of millet, *eleusine*.
- Amandel from Greek *amygdalos* which is from Hebrew *meqed-el* "divine fruit" (Klein).
- Banaan, Eng. *banana*, from *bànáani* in Susu (spoken in Guinea), see Knappert 1972, p. 268, n. 6.
- Baobab, from Sudanic Arabic *abab* or *abuab* "calabash"; perhaps *b-habhab* "father of calabashes".
- Bobbejaan, Latin name *Papio*. This may be South African in origin. There is no Arabic word from this simian.
- Brensie, "rise", comes ultimately from Sanskrit *vrihi*, via Persian *birinj* and / or Malay *beras* "uncooked rice". The Hindi word *brinjal* is a conflation; it means "aubergine", both words come from Persian *b ding n*, from which we have also Swahili *mbilingani*. The Latin name is *Solanum melongena esculentum*, in Sanskrit *vatinganah*.
- Dragoman via Greek and Arabic from Aramaic *turgemana* which comes from Babylonian *targum nu* "caller, interpreter".
- Esel, ass, from Latin *asinus*, Greek *onos* from **osonos*. This animal was first domesticated in eastern Asia Minor; the Armenian word is *sh*, pl. *ishank*. (Klein).
- Ghitaar, guitar, Latin *cithara*, from which German *zither*, which is a different instrument, with 72 strings. English "guitar" comes from Spanish and Portuguese *guitarra*, from Arabic *qit ra* which is, like the Latin form, from Greek *kithára* "cither". The Indian *s tr* is a different instrument. Its origin is Persian *s* "three" + *t r* "string".
- Gnoe. The French spelling of this word, *gnou*, is pronounced *nyu*, which is the first syllable of the Swahili word for this animal, *nyumbu*. I am told that this syllable is onomatopoeic for the gnu's call.
- Jasmyn form Persian *yasm n*, perh. from Skr. *ya as-v n* "beautiful, splendid".
- Kameel, Camel. Nubian has *kam* "camel", plural *kam-li*, from which the Romans may have made *cameli*, and a singular *camelus* from that.
- Kapot "broken". In Dutch. also *kapoeres*, from Yiddish Hebrew *kappures*, Hebr. *kapp reth*, a sacrificial offering. A broken thing was good enough for an offering.
- Karakoel is from Turkish *kara kul* "black slave", name of one of the tribes

- which nomadised in the region of Astrakhan in the late Middle Ages, raising sheep with a particular type of curly wool.
- Karwats, Turkish *kirbaç*, cp. *kirba-ci* "leatherworker".
- Khedive, title of the ruler of Egypt during the nineteenth century, from Middle Persian *hwa-diwa* "his own lord".
- Kobang (also *koebang*), from Malay *kupang* "a ten cents piece". A Javanese *koepang* was worth less, c. 2½ Netherlands cents.
- Koemkwat from Cantonese *kam kwat* "Golden orange". (R. Jones).
- Koffie from Ar. *b n kaff* "bean from Kaffa". Coffee shrubs are native in the Ethiopian kingdom of Kaffa. The habit of drinking coffee to stay awake during nocturnal prayers was brought to Arabia from Ethiopia by *Al-Ah dhil* (b. 1096).
- Kongsi, from Chinese *g ngs* "company, corporation", referring to trading, mining or services company, or a clan association.
- Kramat, "Graf van een heilige Islamiet", from Ar. *kar ma*, Pers. *kar mat* "generosity", esp. God's gracious gift to a saint which enables the latter to work wonders, even after death.
- Laskaar "Oriental sailor, marine". Mal. *lashkar* "soldiery", via Persian from Ar. *askar* "belonging to the army", from *askar* "army", which is from Latin *exercitus* "army".
- Padie from Malay *padi* "paddy, riceplant in the field, rice-seed in the husk".
Pari