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**Papers from the Workshop on Bantu
Relative Clauses**

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Introduction*

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1 The Bantu PSYN project

The papers in this volume were originally presented at the Bantu Relative Clause workshop held in Paris on 8-9 January 2010, which was organized by the French-German cooperative project on the Phonology/Syntax Interface in Bantu Languages (BANTU PSYN). This project, which is funded by the ANR and the DFG, comprises three research teams, based in Berlin, Paris and Lyon. The Berlin team, at the ZAS, is: Laura Downing (project leader) and Kristina Riedel (post-doc). The Paris team, at the Laboratoire de phonétique et phonologie (LPP; UMR 7018), is: Annie Rialland (project leader), Cédric Patin (Maître de Conférences, STL, Université Lille 3), Jean-Marc Beltzung (post-doc), Martial Embanga Aborobongui (doctoral student). The Lyon team, at the Dynamique du Langage (UMR 5596) is: Gérard Philippson (project leader) and Sophie Manus (Maître de Conférences, Université Lyon 2). These three research teams bring together the range of theoretical expertise necessary to investigate the phonology-syntax interface: intonation (Patin, Rialland), tonal phonology (Aborobongui, Downing, Manus, Patin, Philippson, Rialland), phonology-syntax interface (Downing, Patin) and formal syntax (Riedel). They also bring together a range of Bantu language expertise: Western Bantu (Aborobongui, Rialland),

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Eastern Bantu (Manus, Patin, Philippson, Riedel), and Southern Bantu (Downing).

This range of expertise is essential to realizing the goals of our project. Because Bantu languages have a rich phrasal phonology, they have played a central role in the development of theories of the phonology-syntax interface ever since the seminal work from the 1970s on Chimwiini (Kisseberth & Abasheikh 1974) and Haya (Byarushengo et al. 1976). Indeed, half the papers in Inkelas & Zec's (1990) collection of papers on the phonology-syntax interface deal with Bantu languages. They have naturally played an important role in current debates comparing indirect and direct reference theories of the phonology-syntax interface. Indirect reference theories (e.g., Nespor & Vogel 1986; Selkirk 1986, 1995, 2000, 2009; Kanerva 1990; Truckenbrodt 1995, 1999, 2005, 2007) propose that phonology is not directly conditioned by syntactic information. Rather, the interface is mediated by phrasal prosodic constituents like Phonological Phrase and Intonation Phrase, which need not match any syntactic constituent. In contrast, direct reference theories (e.g., Kaisse 1985; Odden 1995, 1996; Pak 2008; Seidl 2001) argue that phrasal prosodic constituents are superfluous, as phonology can – indeed, must – refer directly to syntactic structure.

In spite of this long history, most work to date on the phonology-syntax interface in Bantu languages suffers from limitations, due to the range of expertise required: intonation, phonology, syntax. Quite generally, intonational studies on African languages are extremely rare. Most of the existing data has not been the subject of careful phonetic analysis, whether of the prosody of neutral sentences or of questions or other focus structures. There are important gaps in our knowledge of Bantu syntax which in turn limit our understanding of the phonology-syntax interface. Recent developments in syntactic theory have provided a new way of thinking about the type of syntactic information that phonology can refer to and have raised new questions: Do only syntactic constituent edges condition prosodic phrasing? Do larger domains such as syntactic phases, or even other factors, like argument and adjunct distinctions, play a role? Further, earlier studies looked at a limited range of syntactic constructions. Little research exists on the phonology of focus or of sentences with non-canonical word order in Bantu languages. Both the prosody and the syntax of complex sentences, questions and dislocations are understudied for Bantu languages. Our project aims to remedy these gaps in our knowledge by bringing together a research team with all the necessary expertise. Further, by undertaking the intonational, phonological and syntactic analysis of several languages we can investigate whether there is any correlation among differences in morphosyntactic and prosodic properties that might also explain differences in phrasing and intonation. It will also allow us to investigate whether there are

cross-linguistically common prosodic patterns for particular morpho-syntactic structures. As we show in the next section, the papers in this volume do reveal common prosodic patterns for non-restrictive relative clauses and clefts, while restrictive relative clauses have much more variation in their prosody.

To pursue these goals in a systematic way, each year we concentrate on one syntactic construction. We have chosen the following constructions where previous work has shown that both syntactic and non-syntactic factors play a complex role in conditioning the prosody: relative clauses (comparing restrictive relatives, non restrictive relatives and clefts), question types and dislocations. Each year we have a similar plan of work. In the spring, we have a general meeting in Berlin to develop a common elicitation questionnaire for that year's syntactic construction.¹ The summer is devoted to data gathering in the field (Downing in Malawi; Riedel, Manus in Tanzania; etc.), in Paris (Riolland) and in Lille (Patin), partly in collaboration with colleagues at African universities. In the winter, we have a workshop on the annual theme. This volume presents papers from the workshop on the first year's annual theme. The relative clause elicitation questionnaire, which was used by most project members to collect data presented in their papers, forms the Appendix to this volume.

2 Issues in the phonology and syntax of Bantu relative clauses

All of the papers in the volume except one (Kaji) take up some aspect of relative clause construction in some Bantu language. Kaji's paper aims to account for how Tooro (J12; western Uganda) lost phonological tone through a comparative study of the tone systems of other western Uganda Bantu languages. The other papers examine a range of ways of forming relative clauses, often including non-restrictive relatives and clefts, in a wide range of languages representing a variety of prosodic systems.

In Bantu languages, relative constructions can be formed using several different morpho-syntactic strategies. For instance, they can involve a relative conjugation, as in Chewa, Shingazidja, Símákonde; a relativizer, as in Chewa, Luganda, Shingazidja, Tswana; a relative subject marker as in Zulu; a connective marker, as in Chimwiini, Mbochi or a demonstrative marker as in Bàsàa, among others. A variety of means to indicate prosodic phrases is also illustrated in this volume: penultimate lengthening as in Chewa, Símákonde, Zulu, "abstract" penultimate stress (manifested by an absence of vowel length

¹ The questionnaire is intended for use in a traditional elicitation interview context, where the language consultant is asked to translate and read the questionnaire sentence by sentence. The sentences elicited using this method are expected to have a form consistent with broad or neutral focus.

reduction) as in Chimwiini or tone rules (spreading rules in Luganda and Shingazidja, probably H tone retraction in Tswana, a tonal association rule in Bàsàa).

The papers illustrate interesting cross-Bantu patterns of similarity and variation in the prosody-syntax interface of relative clauses, with restrictive relatives showing the most variation. For example, we find no prosodic break between the head and the relative in Chewa (Downing & Mtenje), Zulu (Cheng & Downing), Bàsàa (Makasso), Shingazidja (Patin) and Luganda (Hyman & Katamba). We find an optional prosodic break in Chimwiini (Kisseberth) and Mbochi (Beltzung et al.), and an obligatory prosodic break in Símákonde (Manus) and, apparently, in Tswana (Zerbian). Other kinds of prosodic variation were found in specific languages and in specific restrictive relative constructions. For example, there is a prosodic break after the head of a locative relative in Zulu (Cheng & Downing), but not after the head of other types of restrictive relatives. There is a prosodic break after the subject of an object relative in Chimwiini (Kisseberth) that is not found in the other languages. There is a prosodic break after a head in object position in Shingazidja (Patin). In contrast, the prosodic patterns for non-restrictive relatives and clefts are identical in the languages discussed. For non-restrictive relatives, one finds an obligatory prosodic break between the head and the relative (vs. the pattern in restrictive relative clauses, where no break is found in these languages) in Chewa (Downing & Mtenje), Zulu (Cheng & Downing) and Shingazidja (Patin). Similarly, in cleft relatives, an obligatory prosodic break occurs between the head and the relative in Chewa (Downing & Mtenje), Zulu (Cheng & Downing), Luganda (Hyman & Katamba), Chimwiini (Kisseberth) and Shingazidja (Patin).

Many of the papers make a theoretical contribution, as well as adding to our descriptive knowledge of cross-Bantu relative clause structures and phrasing patterns. In the area of the phonology-syntax interface, Downing & Mtenje argue for a specific Edge-based approach to the phrasing of relative clauses. Beltzung et al. provide an innovative study of the tone–intonation interface, proposing “superimposed” boundary tones. This paper also provides an analysis of phrasally-conditioned segmental alternations. Hyman & Katamba’s and Zerbian’s papers demonstrate the role of tonal alternations in motivating prosodic phrasing. Innovative syntactic analyses of relative clause constructions are developed in the papers by Cheng & Downing and by Riedel. Both papers deal with the issue of resumptive elements in Bantu relative clauses. Cheng & Downing examine it with regard to the syntactic analysis of relative clauses in Zulu, while Riedel compares the morphosyntactic behaviour of a range of pronominal elements in Haya relative clauses.

We believe that the new data and analyses on Bantu relative clauses found in the papers in this volume provide a useful contribution, both to Bantu and to

general linguistics. We hope they also provide an impetus to engage in further research on this rich and complex topic.

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Les relatives possessives en mbochi (C25)*

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This paper deals with the possessive constructions — either connective or relative — in Mbochi (C25), a Bantu language spoken in Congo-Brazzaville. In Mbochi, as in most languages of the same group (C20), the underlying /CV-/ form of nominal prefixes never surfaces as such but is targeted by two main processes: *consonantal dissimilation* and *vowel elision*. Both processes are in complementary distribution and the alternations triggered by them may explain the surface forms of both connective and relative constructions. In order to provide the necessary background for the study of Mbochi relative clauses, the three subject markers of Mbochi are introduced and the main verbal suffixes are also discussed. Thereafter, a detailed presentation and analysis of the relative constructions is given. Finally, we discuss the prosody of these constructions, showing that relative clauses in Mbochi have no particular tonal markers and we propose a model involving superimposed boundary tones to account for their intonation.

1 Introduction

Le mbochi (ou embósi, C25) est une langue bantoue du groupe C20 parlée au Congo-Brazzaville, dans les régions administrative de la Cuvette et des Plateaux. Nous nous intéresserons plus particulièrement, mais non exclusivement, au dialecte de Boundji (parlé dans la sous-préfecture de Boundji) dont le troisième co-auteur est locuteur natif.

Cet article porte sur les relatives, tant du point de vue segmental que prosodique. Avant d'aborder les relatives proprement dites, il étudie la construction connective, afin de montrer les similarités entre la construction connective et la construction relative. Ces études nécessitent un préalable : une analyse des

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processus de dissimilation consonantique des préfixes et de réduction de hiatus qui opèrent dans ces deux constructions. Cette étape est nécessaire pour identifier les morphèmes en jeu sous leurs diverses variantes. Elle resituera aussi le mbochi dans le contexte plus large des langues bantoues des groupes C et B où apparaissent précisément ces processus de dissimilation consonantique typologiquement rares.

La dernière partie sera consacrée à la prosodie des relatives, qui dépassera aussi le cadre des relatives, dans la mesure où elle illustrera des caractéristiques centrales du système prosodique de la langue, entre autres, la "superposition des tons de frontière", lesquels ne s'inscrivent pas dans la ligne des tons mais se surimposent aux tons lexicaux, les rehaussant ou les rabaissant.

2 Dissimilation consonantique des préfixes

En mbochi (C25), certaines alternances permettent de dégager une distribution complémentaire qui concerne non seulement les préfixes de classe nominale (PN)¹ mais également les constructions possessives (connectif et relatives). Cette distribution complémentaire émerge principalement de l'application de deux processus phonologiques indépendants : *dissimilation* consonantique et *élision* vocalique. Dans cette section, nous examinons l'allomorphie des préfixes de classes nominales provoquée par ces deux règles phonologiques.

2.1 L'allomorphie des préfixes de classes

De manière générale, tous les préfixes de classes nominales du mbochi ont une structure sous-jacente de type /C \hat{V} -. Néanmoins, dans cette langue, cette structure n'apparaît jamais telle quelle mais est soumise à une règle de dissimilation consonantique impliquée par la nature du premier segment des racines auxquelles elle est préfixée ainsi qu'à une règle d'élision de la première voyelle d'une séquence vocalique hétéromorphémique.

Les exemples figurant sous (1) et (2) mettent en évidence le fonctionnement de ces deux processus phonologiques à travers les préfixes de classe nominale 1 et 2 respectivement (les tons bas ne sont pas notés) :

¹ Les abréviations utilisées dans cet article sont les suivantes : **Aux** auxiliaire, **Con** connectif, **Conj** conjoint, **GI** groupe intonatif, **GP** groupe phonologique, **H** ton haut, **HV** harmonie vocalique, **Inf.** infinitif, **MS** marqueur sujet, **PN** préfixe nominal, **PR** préfixe relatif, **Prog.** progressif, **PV** préfixe verbal, **RV** racine verbale et **VF** voyelle finale.

(1) Allomorphes du préfixe de classe 1 /mo-/ (Amboulou 1998:63–64)

a.	mo-ási	→	<u>mw</u> -ási	"épouse"
	mo-ána	→	<u>mw</u> -ána	"enfant"
b.	mo-dímí	→	<u>o</u> -dímí	"cadet"
	mo-kondzi	→	<u>o</u> -kondzi	"chef"
	mo-búru	→	<u>o</u> -búru	"étranger"
	mo-lómi	→	<u>o</u> -lómi	"mari"
	mo-yíri	→	<u>o</u> -yíri	"femme"

(2) Allomorphes du préfixe de classe 2 /ba-/ (Amboulou 1998:65)

a.	ba-ási	→	<u>b</u> -ási	"épouses"
	ba-ána	→	<u>b</u> -ána	"enfants"
b.	ba-kondzi	→	<u>a</u> -kondzi	"chefs"
	ba-kúsu	→	<u>a</u> -kúsu	"tortues"
	ba-nyama	→	<u>a</u> -nyama	"animaux"
	ba-mbusa	→	<u>a</u> -mbusa	"biches"
	ba-kóló	→	<u>a</u> -kóló	"escargots"

Dans ces exemples, la consonne du préfixe s'efface devant une racine à initiale consonantique (1b, 2b) et apparaît telle quelle devant une racine à initiale vocalique (1a, 2a). Ainsi, les préfixes de classe 1 et 2 se réalisent comme [mw-]/[o-] et [b-]/[a-] respectivement². Les autres préfixes nominaux, exceptés les préfixes non marqués morphologiquement (classes 1b, 5b, 9 et 10), sont également soumis à ce type d'alternance (cf. /mo-bura/ → [obura] "chenille (cl.3)", /mi-kili/ → [ikili] "pays (cl.4)", etc.). En mbochi, comme dans la plupart des langues bantu, les séquences vocaliques créées par la concaténation morphologique peuvent être résolues de différentes manières. La première stratégie consiste en une *formation de glide* (cf. 1a). Ainsi, lorsqu'un préfixe qui se termine par une voyelle /i/ ou /o/ précède une racine à initiale vocalique dont la voyelle est différente de la voyelle du préfixe, la voyelle du préfixe se réalise comme un glide correspondant (cf. /mi-ésé/ → [myésé] "soleil (cl.4)"). La seconde stratégie consiste en une *élision vocalique* (cf. 2a) qui efface la première voyelle d'une séquence vocalique hétéromorphémique lorsque la voyelle du préfixe est différente de /i/ ou /o/ (cf. /ma-ína/ → [mína] "dents (cl.6)").

D'après ce que l'on vient d'évoquer, le mbochi présente un cas de distribution complémentaire des préfixes de classes nominales. Cette distribution complémentaire, qui découle d'une application disjonctive des règles de dissimilation et d'élision, pourrait être exprimée de la manière suivante :

² Néanmoins, des formes comme [moro]/[bare] "personne(s)" suggèrent que le matériel segmental des préfixes de classe 1 et 2 est conservé dans les représentations de surface lorsque la racine est monosyllabique. Ainsi, il n'est pas impossible que ces deux formes puissent être dérivées des représentations /mo-ro/ et /ba-re/ (cf. Amboulou 1998:63).

(3) Distribution complémentaire des préfixes mbochi

Préfixe	Racine		Forme de surface	Processus
CV-	CV...	→	<u>V</u> -CV...	C → ∅ / ___ V-C
	VC...	→	<u>C</u> -VC...	V → ∅ / ___ -V

Ce type de distribution met en évidence deux processus indépendants. Le premier processus, qui efface la consonne du préfixe devant une racine à initiale consonantique, peut être analysé comme le résultat d'un processus de *dissimilation* consonantique et le second processus, qui efface la voyelle du préfixe devant une racine à initiale vocalique, peut être interprété comme un simple cas d'*élision* dont le but consiste à éviter la formation d'une séquence vocalique (hiatus) hétéromorphémique.

2.2 Processus identiques dans d'autres langues des zones B et C

Le mbochi ne semble pas être la seule langue de la zone B et C à connaître une telle alternance dans les préfixes de classes nominales. En **orungu** (B11b, Gabon, Ambouroué 2007) par exemple, les préfixes de classes nominales, généralement de type CV-, alternent entre C, CG (où G = glides), V et ∅. Dans cette langue, une séquence vocalique hétéromorphémique est résolue soit par une *élision vocalique* lorsque V₁ est une voyelle {e,a,o} et où /o/ est précédé du glide /w/, soit par une *formation de glide* lorsque V₁ est une voyelle {i,o} et où /o/ est précédé par n'importe quelle consonne exceptée /w/. Comme le montrent les données sous (4), ces deux stratégies de résolution de hiatus s'appliquent lorsque le thème est à initiale vocalique :

- (4) Orungu : élision et formation de glide (Ambouroué 2007:64–65)
- a. e-ze-ó má → e-z-ó má "une chose (cl.7)"
a-wa-á ná → a-w-á ná "des enfants (cl.2)"
- b. i-mi-á ngá → i-my-á ngá "des outils de fer (cl.4)"
o-mo-á ná → o-ŋw-á ná "un enfant (cl.1)"

En revanche, lorsque le thème est à initiale consonantique il y a *homorganie* de la consonne dans les classes 9 et 10 (/N-/), *élision vocalique* dans les classes 1, 3, 4 et 6, lorsque le thème débute par une approximante labiale (V → ∅ / m ___ + {β, w}) mais *élision du préfixe nominal* (PN) dans les autres cas :

- (5) Orungu : élision du PN (Ambouroué 2007:67–70)
- cl.1 o-mo-nomé → o-nomé "un homme"
o-mo-gá → o-yá "un roi, un chef"
- cl.2 a-wa-nomé → a-nomé "des hommes"
a-wa-gá → a-yá "des rois, des chefs"

cl.3	o-mo-tóndó	→	o-tóndó	"un panier"
	o-mo-kili	→	o-kili	"un chemin"
cl.4	i-mi-tóndó	→	i-tóndó	"des paniers"
	i-mi-kili	→	i-kili	"des chemins"

Selon nous, ce que Ambouroué (2007) interprète comme une élision du préfixe pourrait être interprété en terme d'épiphénomène résultant de (i) l'effacement de la consonne du préfixe devant un thème à initiale consonantique (dissimilation) et (ii) l'effacement de la voyelle de l'augment (élision de V₁) devant la voyelle du préfixe. Par conséquent, la dérivation d'une forme comme /o-mo-nómé/ → [onómé] "un homme" pourrait être la suivante :

(6) Dérivation possible pour /o-mo-nómé/ "un homme"

UR	/o-mo-nómé/	"un homme"
Dissim.	o-o-nómé	
Elision	o-nómé	
SR	[onómé]	

Si l'analyse est correcte, l'orungu montre le même cas de dissimilation consonantique par effacement que le mbochi.

Le **doko** (C30, Congo, Grégoire & Janssens 1999) présente le même type d'alternances que le mbochi et l'orungu : lorsque le thème est à initiale vocalique, le préfixe de classe se réalise [C-] (7b,d,f,h) mais lorsque le thème est à initiale consonantique le préfixe se réalise [V-] (7a,c,e,g) :

(7) Doko : allomorphie des PN (Grégoire & Janssens 1999:417)

cl.1	a.	ó-mò-kònzì	→	ó-kònzì	"chef"
	b.	ó-mò-áná	→	ó-m-áná	"enfant"
cl.2	c.	á-bà-kònzì	→	á-kònzì	"chefs"
	d.	á-bà-áná	→	á-b-áná	"enfants"
cl.3	e.	ó-mò-púté	→	ó-púté	"rat"
	f.	ó-mò-èngà	→	ó-m-èngà	"huile"
cl.4	g.	í-mì-púté	→	í-púté	"rats"
	h.	í-mì-èngà	→	í-m-èngà	"huiles"

Grégoire & Janssens (1999:419) évoquent clairement ce type d'alternance. Selon eux, les préfixes de classe nominale du doko portent un ton bas dans les représentations sous-jacentes et l'augment est accompagné d'un ton haut (/V̄-CV̄-/)³. Dans ce cas, il paraît plus probable — et les processus tonals semblent le confirmer ici — que la résolution de hiatus suite à l'effacement de la consonne du préfixe de classe soit résolue par l'effacement de la voyelle du préfixe.

³ Néanmoins, la voyelle de l'augment n'apparaît jamais devant l'interrogatif "combien ?" et dans certains syntagmes exprimant un lien de parenté (cf. /mì-ínó màngó/ → [mínó màngó] "combien de dents ?", *[ámínó]). De la même manière, l'augment n'apparaît jamais lorsque le nom est accompagné d'un déterminant numéral.

En **lempiini** de Eyuga (Blanchon & Alihanga 1992), un dialecte mbaana (B62) parlé au Gabon, la distribution des préfixes de classes nominales est à peu près similaire à celle du mbochi. Dans ce dialecte, la plupart des préfixes de classes, généralement de type /CV-/, alternent entre [C-] et [V-] selon la nature du premier segment de la racine. Si la racine est à initiale consonantique (8a.), le préfixe apparaît comme [V-] dans les représentations de surface ; si la racine est à initiale vocalique (8b.), le préfixe se réalise [C-], [CV-] ou [CG-] selon la voyelle qui suit :

- (8) Lempiini : allomorphie des PN 1–4 (Blanchon & Alihanga 1992:25)
- | | | | | | |
|-------|----|---------|---|----------------|-------------|
| cl.1. | a. | mo-kari | → | <u>o</u> -kari | "épouse" |
| | b. | mo-ana | → | <u>mw</u> -ana | "enfant" |
| cl.2 | a. | ba-kari | → | <u>a</u> -kari | "épouses" |
| | b. | ba-ana | → | <u>ba</u> -ana | "enfants" |
| cl.3 | a. | mo-tʃwi | → | <u>o</u> -tʃwi | "tête" |
| | b. | mo-aya | → | <u>mw</u> -aya | "intestin" |
| cl.4 | a. | me-tʃwi | → | <u>e</u> -tʃwi | "têtes" |
| | b. | me-aya | → | <u>my</u> -aya | "intestins" |

En **yisangu** (B42, Gabon, Ondo-Mebiame 2000), certains préfixes présentent un cas de dissimilation consonantique identique à celle du mbochi. Dans cette langue, l'occlusive vélaire /g/ des classes nominales 7 et 15 — /gi-/ et /gu-/ respectivement — s'efface devant une racine à initiale consonantique. Devant une racine à initiale vocalique, il y a généralement une formation de glide ou une élision vocalique suivie d'un allongement compensatoire de V₂. Les formes suivantes mettent ces différents processus en évidence :

- (9) Yisangu : allomorphie des PN 7 et 15 (Ondo-Mebiame 2000:123–133)
- | | | | | | |
|-------|----|-----------|---|------------------|------------|
| cl.7 | a. | gì-páàlì | → | <u>ì</u> -páàlì | "matin" |
| | | gì-sòòtsù | → | <u>ì</u> -sòòtsù | "bûche" |
| | | gì-lìngà | → | <u>ì</u> -lìngà | "robe" |
| | b. | gì-èdù | → | <u>gy</u> -è:dù | "barbe" |
| cl.15 | a. | gù-lááb-à | → | <u>ú</u> -lá:bè | "voir" |
| | | gù-yì-à | → | <u>ú</u> -yì | "manger" |
| | | gù-yùlù-à | → | <u>ú</u> -yùlù | "entendre" |
| | b. | gù-isì | → | <u>gw</u> -î:sì | "jour" |
| | | gù-èlà | → | <u>gw</u> -ê:là | "ruse" |
| | c. | gù-ògù | → | <u>g</u> -ô:gù | "bras" |

Il est intéressant de remarquer que l'effacement de l'occlusive vélaire des préfixes de classes 7 et 15 laisse une position consonantique flottante. Les exemples sous (10) montrent que cette position flottante bloque l'application d'une règle d'élision qui prend pour cible les séquences vocaliques hétéromorphémiques :

- (10) Yisangu : élision bloquée (Ondo-Mebiame 2000:72,78)
- | | | | | |
|----------|------------|---|---------|---------------------------|
| cl.6+7 | mà-gì-sòtù | → | máísòtù | "petite bûche" (*mí:sòtù) |
| cl.16+15 | và-gù-sù | → | vóúsù | "devant" (*vú:sù) |

Dans ces formes, le fait que la première voyelle ne s'efface pas devant la voyelle du préfixe (*mí:sòtù, *vú:sù) semble confirmer la présence de l'occlusive vélaire voisée au niveau synchronique. En d'autres termes, après l'effacement de l'occlusive vélaire voisée, les deux positions vocaliques ne sont pas adjacentes mais séparées par une position consonantique vide.

En **kisakata** (C34, Congo, Tylleskär 1987), les préfixes des classes 1, 3, 5, 14 et 15 — reconstruits *mu-, *mu-, *di-/yi, *bu- et *ku- respectivement — apparaissent sans consonne initiale dans les représentations de surface (cf. [ù-kíə] "femme" (cl.1), [ù-kê] "queue" (cl.3), [i-bá] "arbre" (cl.5), etc.). Néanmoins, il est difficile de savoir si l'effacement de la consonne initiale est un processus synchronique provoqué par une règle de dissimilation consonantique productive dans la langue ou si ces préfixes ne possèdent pas de consonnes initiales dans les représentations sous-jacentes. Contrairement à ce qui se passe dans les langues que nous avons déjà évoquées, les radicaux du kisakata sont tous à initiale consonantique. Dans ces conditions, il paraît difficile de trouver des alternances dans lesquelles cette consonne réapparaît. Néanmoins, une forme comme [dí] "oeil (cl.5)" (cf. Tylleskär 1987:25) semble suggérer que la consonne du préfixe /dì-/ réapparaît devant l'une des rares racines à initiale vocalique. Par ailleurs, le pluriel de cette forme, [mî] "yeux (cl.6)", semble confirmer cette hypothèse. Ces deux formes mettent en évidence une distribution complémentaire identique à celle du mbochi. Ainsi, la voyelle des préfixes /dì-/ et /mà-/ s'efface devant une racine à initiale vocalique (*élision*) et seule la consonne apparaît en surface. Devant une racine à initiale consonantique, la consonne du préfixe de la classe 6 apparaît toujours en surface mais la consonne du préfixe de la classe 5 n'apparaît jamais. Par conséquent, il est possible que ces formes correspondent aux représentations /dì-î/ "oeil" et /mà-î/ "yeux" respectivement.

Pour terminer, il est important de signaler que la plupart des langues du groupe C20 connaissent également une alternance des préfixes de classes nominales provoquée par la nature du premier segment de la racine. Ainsi, le mboko (C21), l'akwa (C22), le ngare (C23), le koyo (C24) présentent la même distribution que les langues précédemment citées : la consonne d'un préfixe de classe nominale s'efface devant une racine à initiale consonantique (dissimilation par effacement) mais cette consonne réapparaît devant les racines à initiales vocalique. Les données figurant sous (11) mettent en évidence ce type d'alternance en **koyo** (C24, Gazania & Hyman 1996, Ndinga Oba 2004) :

- (11) Koyo : allomorphie des PN 1, 3 et 5 (Gazania & Hyman 1996)
- | | | | | |
|----|-----------|---|----------|--------------------------|
| a. | mo-ndʒwée | → | o-ndʒwée | "abeille" (cl.1) |
| | mo-lómi | → | o-lómi | "mari" (cl.1) |
| | mo-bengi | → | o-bengi | "chasseur" (cl.1) |
| | mo-kóní | → | o-kóní | "malade" (cl.1) |
| b. | mo-ána | → | mw-ána | "enfant (cl.1)" |
| | mo-éri | → | mw-éri | "étoile (cl.1)" |
| | mo-ásí | → | mw-ásí | "épouse (cl.1)" |
| c. | mo-ósa | → | m-ósa | "nom de personne (cl.1)" |
| d. | mo-límu | → | o-límu | "mâne" (cl.3) |
| | mo-sémbá | → | o-sémbá | "termitière" (cl.3) |
| e. | di-lóngó | → | i-lóngó | "sang" (cl.5) |
| | di-húndú | → | i-húndú | "ventre" (cl.5) |
| | di-bóru | → | i-bóru | "cerveau" (cl.5) |

A l'instar de ce qui se passe en mbochi (C25), la consonne des préfixes de classes nominales s'efface devant une racine à initiale consonantique (11a,d,e) mais apparaît telle quelle devant une racine à initiale vocalique (11b,c). En revanche, seules deux langues du groupe C20 ne connaissent pas une telle dissimilation : le likwala (C26) et le likuba (C27).

2.3 Dissimilation consonantique et structure du connectif

En mbochi, la dissimilation consonantique des préfixes est très importante dans l'analyse des constructions possessives (connectifs et relatives). Dans cette langue, le marqueur connectif (con) est composé d'un élément en accord de classe avec le premier nom et *précède* le second nom. Dans sa forme minimale, le connectif apparaît sous la forme de la voyelle /á-/, excepté pour les classes 1 et 9 où le ton est bas.

Fontaney (1988:124) note par exemple que la forme caractéristique de ce marqueur consiste en une consonne initiale correspondant à la classe du premier nom suivie de la voyelle -a (H ou B). Il est intéressant de noter que ce type de construction semble être soumis à la distribution complémentaire observée dans les préfixes de classes nominales du mbochi. Autrement dit, le marqueur du connectif pourrait être analysé comme un clitique de type /CV=/ (cf. Fontaney 1988:125). Ce marqueur possède deux allomorphes : (i) [á-] (très peu représenté), qui apparaît devant une racine à initiale consonantique (précédée par un préfixe de classe /Ø-/) et (ii) [Cá-], que l'on trouve devant un préfixe de classe lui-même soumis à la règle de dissimilation consonantique. Dans ce dernier cas, la voyelle du connectif s'efface en provoquant *l'allongement* de la voyelle du préfixe (élision de V₁ et allongement de V₂). Dans tous les cas, le ton haut associé au marqueur du connectif est conservé. En définitive, la structure du connectif pourrait être analysée de la manière suivante :

(12) Structure du connectif en mbochi (PN morphologiquement marqué)

Connectif	PN	Racine	Forme de surface
Cá-	CV-	CV... → VC... →	CV́V-CV... Cá-C-VC...

Les exemples figurant sous (13) mettent en évidence le fonctionnement de la construction connective dans le dialecte olee du mbochi, laquelle est similaire dans le dialecte mbochi de Boundji :

(13) Dialecte olee (Fontaney 1988:125, Amboulou 1998:55 ff.)

- a. ba-ána bá=mo-yíri → [bána bóoyíri]
 "les enfants de la femme" (cl.2-1)
 ba-ána bá=ba-yíri → [bána báayíri]
 "les enfants des femmes" (cl.2-2)
 ba-loi bá=ba-mbóa → [aloi báambóa]
 "les docteurs des villages" (cl.2-2)
 mi-ína má=ba-yíri → [mína máayíri]
 "les dents des femmes" (cl.4-2)
 bi-ána bá=ma-kɔ → [byána báakɔ]
 "bourgeons de bananiers" (cl.8-6)
 bo-unu bá=mo-bengi → [bunu bóobengi]
 "la machette du chasseur" (cl.14-1)
 mo-umbá má=mo-kondzi → [mumbá móokondzi]
 "le tombeau du chef" (cl.3-1)
- b. Ø-pémbé lá=di-ína → [pémbé ládína]
 "la blancheur de la dent" (cl.5b-5)
- c. ba-loi bá=Ø-mbóa → [aloi ámبóa]
 "les docteurs du village" (cl.2-1b)
 mo-unga má=Ø-mbwándé → [munga ámبwándé]
 "la queue du chien" (cl.3-1b)

Les formes figurant sous (13a) montrent le cas le plus répandu de formation du connectif : la consonne du préfixe de classe s'efface en vertu de la règle de dissimilation consonantique et la consonne du préfixe connectif apparaît dans les représentations de surface. La forme sous (13b) montre quant à elle que lorsque le préfixe de classe nominale du second nom précède un nom à initiale vocalique, la voyelle du préfixe est effacée (élision) et la consonne apparaît dans les représentations de surface. Dans cette forme, la voyelle du préfixe connectif ne peut s'allonger en raison de la présence de la consonne du préfixe de classe nominale. Enfin, les formes figurant sous (13c) montrent que lorsque le préfixe nominal est de type /Ø-/ (cl.1b, 5b, 9 et 10), la consonne du préfixe connectif s'efface en vertu de la règle de dissimilation consonantique évoquée plus haut et la voyelle de ce préfixe est brève dans les représentations de surface.

3 Marqueurs sujet et suffixes temporels

Avant d'aborder la structure des constructions relatives de type possessif en mbochi, nous allons nous intéresser dans cette section aux différents marqueurs sujet ainsi qu'aux suffixes temporels qui forment les constructions verbales du mbochi.

3.1 Les marqueurs sujet

Dans cette langue, les marqueurs sujet indiquent généralement *l'aspect* et doivent s'accorder avec le sujet nominal qui précède. En mbochi, trois types de marqueur sujet coexistent : le marqueur sujet *perfectif* (MS1), le marqueur sujet *imperfectif* (MS2) et le marqueur sujet *statif* (MS3).

Bedrosian (1996/1997:36) note par exemple que le marqueur sujet *perfectif* (MS1), qui exprime une action accomplie, est "[...] formed with the concord vowel and a high tone". En ce qui concerne le marqueur sujet *imperfectif* (MS2), qui exprime une action non accomplie ou sur le point d'être accomplie, celui-ci consiste "[...] of the concord marker syllable with a high tone and the concord vowel with a low tone (CVV with HL tone)" (Bedrosian 1996/1997:37). Enfin, le marqueur sujet *statif* (MS3), exprimé à l'aide de la copule /dí/ "être", "[...] carries the concord tone and the concord marker vowel" (Bedrosian 1996/1997:37).

Fontaney (1988:123) note quant à elle que les préfixes verbaux (i.e. les marqueurs sujet) sont de deux types : "[...] one being a vowel alone, V-, and the other consisting of a consonant and this same vowel, CV-; the latter type being restricted apparently to certain classes, 2, 3, 4, 7, 8, 14, and C being *b y m*". Selon elle, "A verbal prefix, VP, is an element of all finite constructions, except the imperative affirmative singular. It agrees with the subject (except in relative clauses), its form corresponding to the class of the noun represented or the person" (Fontaney 1989:77).

Si, comme nous le pensons, la dissimilation consonantique à l'œuvre dans les préfixes de la langue s'applique également aux marqueurs sujet, la structure sous-jacente des marqueurs perfectif (MS1) et imperfectif (MS2) serait alors la suivante (où RV = racine verbale et VF = voyelle finale/marqueur temporel) :

(14) Marqueurs de sujet perfectif et imperfectif en mbochi

a. <i>Perfectif</i> (MS1) C _i V _i '-RV-VF	b. <i>Imperfectif</i> (MS2) C _i V _i '-C _i V _i -RV-VF
--	---

Dans chacune de ces formes, le marqueur sujet est préfixé à la racine verbale et est déterminé par la classe du nom sujet qui précède. Le MS1 est formé à l'aide du préfixe de classe du nom sujet suivi d'un ton haut flottant et le MS2

est formé à l'aide du préfixe de classe, d'un ton haut flottant et d'un préfixe verbal qui s'accorde avec le nom sujet. D'une manière formelle, ton flottant mis à part, la construction imperfective peut être considérée comme une reduplication segmentale de la construction perfective. Pour prendre un exemple concret, la construction imperfective de la classe 1 aura la forme suivante : /mo-´-mo-RV-VF/. Dans cette construction, la consonne du préfixe verbal s'efface devant une racine à initiale consonantique (dissimilation) et le ton haut flottant s'associe à la première voyelle. La forme de surface attestée en mbochi, [móo-RV-VF], présente une voyelle longue dont la première partie porte un ton haut. Par ailleurs, Bedrosian (1996/1997:36, fn 5) note que les jeunes locuteurs du mbochi ont tendance à remplacer la voyelle du préfixe d'accord par la voyelle [a] dans les formes du perfectif⁴. Quoi qu'il en soit, les exemples figurant sous (15) mettent en lumière la formation du perfectif et de l'imperfectif dans cette langue :

(15) Aspect perfectif et imperfectif en mbochi (Bedrosian 1996/1997:37)

- a. ba- yúru ba- ´- bvé- i Ø- kónjì
cl.2- femme cl2- H.MS1- jeter- VF H.conj cl.9a- arbre

"les femmes ont jeté le bois"
→ [ayúru ábvéé kónjì]

- b. bi- bóβó bi- ´- bi- lé- a bi- bvúa
cl.8- gorille cl8- H- cl8.MS2- grimper- VF cl.8- arbre

"les gorilles grimpent aux arbres"
→ [ibóβó bíléa ibvúa]

Dans la première forme, qui marque le perfectif, la consonne du préfixe verbal — mais également celle du préfixe nominal — s'efface en vertu de la règle de dissimilation consonantique établie plus haut. La voyelle de ce préfixe apparaît comme une voyelle brève dans les représentations de surface. Dans la seconde forme, qui marque l'imperfectif, la consonne du préfixe verbal s'efface en vertu de la règle de dissimilation consonantique et la séquence vocalique qui en résulte apparaît comme une voyelle longue dans les représentations de surface.

3.2 Les suffixes verbaux

Selon Amboulou (1998:173), les suffixes verbaux servent à noter le temps (présent, passé récent, passé lointain) et le mode (subjunctif, impératif) du verbe. Ces suffixes sont également accompagnés d'un marqueur sujet (MS) ou d'un marqueur sujet relatif préfixé au verbe. A l'instar des préfixes, les voyelles des

⁴ Dans le dialecte de Boundji, certaines formes laissent à penser que cette voyelle aurait remplacé la voyelle préfixale originale y compris dans les constructions imperfectives.

suffixes sont soumises à une harmonie vocalique (HV). Les principaux suffixes verbaux de la langue sont listés sous (16) :

(16) Suffixes temporels (Fontaney 1989:80–83, Amboulou 1998)

■ Présent, futur	-à (-è ou -ò selon l’HV)
■ Passé récent	-ì (-è dans les monosyllabes, -ù selon l’HV)
■ Passé lointain	-á (-é ou -ó selon l’HV)
■ Narratif	-í (-ú selon l’HV)
■ habituel	-àà

En observant de plus près les données du mbochi, il est intéressant de remarquer que les suffixes verbaux sont, dans la plupart des cas, indissociables des marqueurs sujet en ce que, par exemple, le suffixe /-à/ du présent implique nécessairement un préfixe sujet à l’imperfectif et le suffixe /-ì/ du passé récent implique nécessairement un marqueur sujet au perfectif. Les données figurant sous (17) mettent cette observation en évidence :

(17) Marqueurs sujet et suffixes verbaux temporels (Amboulou 1998)

- a. *Présent (imperfectif, MS1)*
- | | | | |
|----------------|---|--------------------------|-----------------|
| ba-’-ba-bong-a | → | <u>bá</u> abong <u>a</u> | "brûler (cl.2)" |
| mo-’-mo-bong-a | → | <u>mó</u> obong <u>a</u> | "brûler (cl.3)" |
| mi-’-mi-bong-a | → | <u>mí</u> ibong <u>a</u> | "brûler (cl.4)" |
- b. *Passé récent (perfectif, MS2)*
- | | | | |
|-------------|---|------------------------|-----------------|
| ba-’-bong-i | → | <u>á</u> bong <u>i</u> | "brûler (cl.2)" |
| mo-’-bong-i | → | <u>ó</u> bong <u>i</u> | "brûler (cl.3)" |
| mi-’-bong-i | → | <u>í</u> bong <u>i</u> | "brûler (cl.4)" |

Dans le reste de cet article, les suffixes verbaux porteront, par convention, l’étiquette VF sans plus de précisions concernant la valeur temporelle qu’ils véhiculent.

4 Relatives de construction possessive

En mbochi, la structure des relatives est à peu près similaire à la structure du connectif. Dans cette langue, les constructions relatives sont parallèles aux constructions possessives. On peut reconnaître la séquence suivante de marqueurs :

(18) Structure des relatives en mbochi

<i>Préfixe relatif (PR)</i>	<i>Préfixe verbal (PV)</i>	<i>Thème verbal</i>
$C_iV_i-’-$	$C_iV_i-’-$ $C_ia-’-$	RV-VF

Le marqueur relatif $C_iV_i-’$ est composé d’un marqueur de classe C_iV_i- en accord avec l’antécédent et d’un ton haut — excepté pour les classes 1 et 9, où le ton est bas — que l’on peut supposer être celui du connectif. Dans le parler du troisième co-auteur, qui a les caractéristiques du parler des "jeunes" de Boundji

évoqué par Bedrosian 1996/1997, le préfixe verbal a deux formes principales : C_iV_i- — excepté pour pour les classes 1 et 9, où le ton est bas — et C_ia- ⁵. La forme C_iV_i- du préfixe verbal est segmentalement identique au préfixe relatif et son ton varie en fonction de la classe des préfixes. La forme C_ia- comporte une consonne identique à celle du relatif et donc, en accord de classe avec l'antécédent. Le [á-] est un des "marqueurs sujet" du dialecte des "jeunes" de Boundji.

Dans cette partie, nous avons évité le terme "préfixe sujet" utilisé dans la partie précédente (MS1 et MS2) et nous lui avons préféré le terme de "préfixe verbal" (PV). Ce préfixe, qui est le plus souvent identique aux marqueurs sujet, n'est, en effet, pas un sujet lorsque l'antécédent n'est pas lui-même sujet (cf. section 4.2). Par contre, il a toujours une valeur aspectuo-temporelle. Le terme "préfixe verbal" qui ne renvoie à aucune fonction nous a donc semblé préférable.

Nous allons maintenant considérer la construction des relatives dans le dialecte de Boundji, plus précisément dans le parler du troisième co-auteur, et distinguer deux types de relatives (type 1 et type 2) en fonction de leur préfixe verbal, lequel varie en fonction des temps et des aspects :

(19) Structure des relatives dans le dialecte mbochi de Boundji

	PR	PV	Thème
Type 1 :	Ant. C_iV_i-	C_iV_i-	RV-VF (prés., fut., passé réc.)
Type 2 :		C_ia-	(passé lointain)

Le type 1 exprime le présent, le futur et le passé récent. Il est construit à l'aide de deux préfixes identiques à celui de l'antécédent (Ant.) qui entrent dans la formation du préfixe relatif (PR) et du préfixe verbal (PV). En ce qui concerne les tons, le préfixe relatif et le préfixe verbal sont tous deux accompagnés d'un ton haut flottant, excepté pour les classes 1 et 9, où le ton est bas. Au type 2, le préfixe verbal ne retient de la classe de l'antécédent que la consonne ; sa voyelle est /a/ quelle que soit la classe. A l'instar de la construction relative de type 1, le préfixe relatif et le préfixe verbal sont accompagnés d'un ton haut flottant excepté pour les classes 1 et 9, où le ton est bas. De manière générale, le préfixe verbal est soumis à la règle de dissimilation consonantique évoquée plus haut. La consonne du préfixe est alors effacée devant une racine à initiale consonantique et une voyelle longue apparaît en surface.

⁵ Dans le dialecte olee du mbochi, le marqueur relatif sujet porte un ton polaire (cf. Amboulou 1998:179) qui varie en fonction du ton de la racine verbale : si la voyelle qui suit le préfixe relatif est à ton bas, le préfixe aura un ton haut ; si la voyelle qui suit le préfixe relatif est à ton haut, le préfixe aura un ton bas.

4.1 Constructions relatives dont l'antécédent est sujet (RAS)

Dans ce type de construction, l'antécédent est sujet et le préfixe de classe de celui-ci est exprimé à deux reprises (préfixe relatif et préfixe verbal). Devant une racine à initiale consonantique, la consonne du préfixe verbal est effacée en vertu de la dissimilation consonantique évoquée plus haut. L'effacement de cette consonne crée une séquence vocalique (i.e. un hiatus) qui est résolue par l'effacement de V₁ et l'allongement de V₂. Les données figurant sous (20) montrent le fonctionnement des RAS de type 1 :

(20) RAS de type 1 (passé récent)

- a. mo- kwáyí mo- ' - mo- ' - bom- i ' N- gaŋga
 cl.3- machette PR3- H- PV3- H- tuer- VF H.conj cl.1b- féticheur
 "la machette qui a tué le féticheur"
 → [okwáyí móóbomí ŋgaŋga]
- b. mo- tswétswelé mo- ' - mo- ' - bve- i
 cl.3- orange PR3- H- PV3- H- tomber- VF
 "l'orange qui est tombée"
 → [otswétswelé móóbve]

Ces constructions appellent plusieurs remarques. Le ton haut flottant après la voyelle finale sous (20a) apparaît lorsqu'un objet suit directement le verbe (conjoint). Dans la forme sous (20b), la voyelle finale du passé récent subit un abaissement (/i/ → [e]) dans les monosyllabes et la séquence vocalique qui en résulte est simplifiée.

En ce qui concerne les RAS de type 2, qui apparaissent uniquement lorsque la voyelle finale marque le passé lointain, celles-ci se différencient des constructions de type 1 en ce que la voyelle du préfixe verbal est invariablement une voyelle basse /a/. Les exemples figurant sous (21) montrent le fonctionnement de ce type de relatives :

(21) RAS de type 2 (passé lointain)

- a. mo- kwáyí mo- ' - ma- ' - bom- á ' N- gaŋga
 cl.3- machette PR3- H- PV3- H- tuer- VF H.conj cl.1b- féticheur
 "la machette qui avait tué le féticheur"
 → [okwáyí máábomá ŋgaŋga]
- b. mo- tswétswelé mo- ' - ma- ' - bve- á
 cl.3- orange PR- H- PV- H- tomber- VF
 "l'orange qui était tombée"
 → [otswétswelé máábvá]

Dans les représentations de surface, la consonne du préfixe verbal s'efface devant une racine à initiale consonantique et ce en vertu de la règle de dissimilation consonantique. La séquence vocalique qui résulte de l'application de cette règle

est résolue par l'effacement de la première voyelle et l'allongement subséquent de la voyelle du préfixe verbal (*allongement compensatoire*).

Dans la formation des relatives dont l'antécédent est sujet, il arrive que l'antécédent ne soit pas spécifié. Dans ce cas, celui-ci est exclusivement exprimé par l'accord qui forme la construction relative : / (mo-oro) ye-ye-yémb-i/ → [(moro) yeyémbi] "(la personne) qui a chanté" (cl.1). Cet exemple montre également que les préfixes de classe 1, à l'instar des préfixes de classe 9, ne sont jamais accompagnés d'un ton haut flottant. Dans ce type de relatives, lorsque le verbe est suivi d'un objet quelconque, le sujet apparaît avant le verbe et l'objet est post-posé au verbe : / (mo-oro) ye-ye-sé-a ' mo-ndzɛɛ/ → [(moro) yeeséá ndzɛɛ] "(la personne) qui danse l'Ondzele (un type de danse)".

4.2 Constructions relatives dont l'antécédent est objet (RAO)

Les constructions relatives dont l'antécédent est objet (RAO) ont exactement la même structure que les RAS. Néanmoins, dans ce type de construction, l'objet (antécédent) apparaît avant le verbe et le sujet est post-posé au verbe. L'objet peut être non spécifié (sous entendu) mais le sujet est obligatoire. Les données figurant sous (22) montrent le fonctionnement des RAO de type 1 :

(22) RAO de type 1 (passé récent)

- a. ma- tɔrɔ ma- ' - ma- ' - sómb- i ' ngá
 cl.6- banane PR6- H- PV6- H- acheter- VF H.conj 1sg.
 "les bananes que j'ai achetées"
 → [atɔrɔ máásómbí ngá]
- b. mi- eré mi- ' - mi- ' - bvúŋ- i ' N- góo
 cl.4- chose PR4- H- PV4- H- couper- VF H.conj cl.1b- mère
 "les choses que la mère a coupées"
 → [myeré mííbvúŋú ngóo]

La voyelle finale dans la forme de surface figurant sous (22b) s'harmonise avec la voyelle de la racine et se réalise par conséquent comme une voyelle haute et arrière ([-u]).

A l'instar des RAS de type 2, le préfixe verbal des RAO de type 2 montrent, de manière invariable, une voyelle basse là où les RAS ou RAO de type 1 ont une voyelle identique au préfixe d'accord. Les exemples figurant sous (23) montrent le fonctionnement de ce type de relative :

(23) RAO de type 2 (passé lointain)

- a. ma- tɔrɔ ma- ' - ma- ' - sómb- á ' ngá
 cl.6- banane PR6- H- PV6- H- acheter- VF H.conj 1sg.
 "les bananes que j'avais achetées"
 → [atɔrɔ máásómbá ngá]

- b. mi- eré mi- ´- ma- ´- bvúŋ- á ´ N- góo
 cl.4- chose PR4- H- PV4- H- couper- VF H.conj cl.1b- mère
 "les choses que la mère avait coupées"
 → [myéré máábvúŋá ŋgóo]

Dans ces formes, la consonne du préfixe verbal s'efface devant une racine à initiale consonantique en vertu de la règle de dissimilation consonantique et la séquence vocalique qui en résulte est résolue par l'effacement de la voyelle du préfixe d'accord et l'allongement subséquent de la voyelle du préfixe verbal.

4.3 L'ambiguïté des constructions relatives

Dans certains cas, lorsque le verbe est suivi d'un nominal quelconque, il existe une ambiguïté entre le sujet et l'objet. En mbochi, les exemples figurant sous (24) peuvent être considérées comme étant ambiguës :

(24) Relatives de type 1 (passé récent) ambiguës (RAS ou RAO ?)

- a. mo- mbɔri mo- ´- mo- ´- bér- i ´ Jean
 cl.3- gendarme PR3- H- PV3- H- taper- VF H.conj Jean
 i. "le gendarme qui a tapé Jean" ou
 ii. "le gendarme que Jean a tapé"
 → [ɔmbɔri móóbéri Jean]
- b. N- dzɔyi ye- ye- bom- i ´ mo- beŋgi
 cl.1a- éléphant PR1- PV1- tuer- VF H.conj cl.1- chasseur
 i. "l'éléphant qui a tué le chasseur" ou
 ii. "le chasseur qui a tué l'éléphant"
 → [ndzɔyi yeebomí obeŋgi]

Pour lever l'ambiguïté, le mbochi introduit l'auxiliaire "être" /di/, suivi d'un suffixe verbal, devant le verbe principal. Dans la plupart des cas, cet auxiliaire est réalisé comme une affriquée [dz] lorsqu'il précède une voyelle haute antérieure. Si la construction relative est de type RAS, le verbe principal suit l'auxiliaire et l'objet se place en position finale de la construction (l'objet est souligné) :

(25) RAS de type 1 (passé récent) avec auxiliaire /di/

- mo- mbɔri mo- ´- mo- ´- di -i lá Co- bér -a Jean
 cl.3- gendarme PR3- H- PV3- H- Aux.- VF avec Inf.- taper- VF Jean
 "le gendarme qui a tapé Jean"
 → [ɔmbɔri móódze lóbéré Jean]

En revanche, si la construction relative est de type RAO, le sujet de l'auxiliaire et le verbe principal se placent en position finale de la construction (le sujet est souligné) :

(26) RAO de type 1 (passé récent) avec auxiliaire /di/

mo- mbɔri mo- ' - mo- ' - di -i Jean lá Co- bér- a
cl.1- gendarme PR1- H- PV1- H Aux.- VF Jean avec Inf.- taper- VF

"le gendarme que Jean a tapé"

→ [ɔmbɔri móódze Jean lóbéré]

Outre les cas d'harmonie vocalique, les formes sous (25) et (26) appellent plusieurs remarques. Premièrement, la voyelle haute de l'auxiliaire "être" provoque l'affrication de la consonne coronale voisée /d/. A ce stade, la forme intermédiaire est [dzi-i]. Par la suite, la voyelle haute finale s'ouvre en vertu d'une règle productive en mbochi qui ouvre la voyelle haute antérieure après une racine monosyllabique ([dzi-e]) et la séquence vocalique est résolue par l'effacement de la voyelle de l'auxiliaire ([dz-e]). Deuxièmement, il semble que le préfixe de l'infinitif, qui apparaît toujours comme [o-] dans les formes de surface, puisse être analysé comme un préfixe de type /CV-/ dans les représentations sous-jacentes. La consonne de ce préfixe étant soumise à la règle de dissimilation consonantique, celle-ci ne réapparaît jamais dans les formes de surface puisque toutes les racines verbales du mbochi sont à initiale consonantique. En l'espèce, il est impossible de connaître l'identité de cette consonne et c'est pourquoi nous l'avons signalée à l'aide d'un C majuscule dans les représentations sous-jacentes.

4.4 Synthèse

D'après ce qui a été évoqué plus haut, le mbochi ne possède pas de morphème relatif à proprement parler. A l'instar de la construction connective, les constructions relatives se forment à l'aide de deux préfixes (PR et PV) identiques au préfixe de classe nominale de l'antécédent. La voyelle du second préfixe varie en fonction du temps que prend le verbe (marqué par la voyelle finale) et les deux préfixes sont accompagnés d'un ton haut dans toutes les classes exceptées les classes 1 et 9, où le ton est bas. Toutefois, et contrairement à la construction connective, ces deux préfixes ne sont déterminés que par l'antécédent. Dans la plupart des cas, le préfixe verbal (PV) est soumis à la règle de dissimilation consonantique évoquée dans la section 2 et la voyelle de celui-ci s'allonge pour compenser l'effacement de la voyelle du premier préfixe suite à la création d'une séquence vocalique hétéromorphémique (résolution de hiatus).

5 La prosodie des énoncés avec proposition relative en mbochi

Les relatives mbochi n'ont pas de marqueurs tonals spécifiques, que ce soit des tons ou des processus. Les tons que l'on rencontre sont ceux des morphèmes

impliqués et les processus sont ceux qu'on attend, vu les constituants en jeu. Dans cette partie, nous considérerons l'intonation des relatives et la structuration en groupes phonologiques (PP) et groupes intonatifs (GI) qu'elle manifeste. La présente étude de la prosodie des relatives s'intègre à une étude d'ensemble que nous menons actuellement sur la prosodie du mbochi. Nous présenterons, dans un premier temps, quelques caractéristiques générales du système prosodique de la langue.

5.1 Quelques caractéristiques générales du système prosodique mbochi

Le mbochi est une langue à tons ponctuels (H et B) qui exclut les contours tonals sur une more. La langue a des contraintes fortes contre la formation de tels contours et met en œuvre divers processus pour les éviter. Un des points les plus intéressants est l'absence de downstep (ou downdrift) déclenché par l'alternance des tons H et B. Ceci ne veut pas dire que dans un énoncé tous les tons H ou B soient réalisés sur la même hauteur, mais que dans un domaine donné, ils le sont. Les modifications des réalisations des tons H ou B se font d'un domaine à l'autre, en fonction des changements de registre, comme nous le verrons plus loin.

Notre analyse s'inscrit dans une hiérarchie prosodique qui, au dessus du groupe clitique (caractérisé uniquement par des processus segmentaux) comporte deux niveaux : le Groupe Phonologique (GP) et le groupe intonatif (GI).

■ **Groupe Phonologique (GP).** Les GP sont des domaines caractérisés segmentalement par des réductions de hiatus, lesquelles sont associées à des processus tonals de réduction de contour. Ces domaines ne présentent pas de downstep, c'est-à-dire d'abaissement des tons H par des tons B. Dans chaque PP, les tons sont réalisés dans un registre donné, qui peut être plus ou moins étendu. Les PPs sont les constituants au niveau desquels les registres de réalisations tonales sont définis. Ces registres dépendent de la structure informationnelle (topique, focus, dislocation) et de leur position à l'intérieur du Groupe Intonatif (le dernier PP d'un GI étant régulièrement abaissé).

■ **Groupe Intonatif (GI).** Ils sont caractérisés par un ton de frontière, ce qui est typologiquement une caractéristique commune des GI. Ces tons de frontière du mbochi sont différents des tons lexicaux (ou grammaticaux) : ils ne sont pas réalisés sur les mêmes niveaux que les tons H et B : ils se surimposent aux tons, entraînant la formation de variantes tonales relevées ou rabaisées. Les deux types de ton interagissent : un ton haut de frontière (H%) n'est pas réalisé à la fin du GI mais est attiré par le dernier ton H, lequel ne se trouve pas nécessairement en finale d'énoncé. Un ton bas de frontière (B%) reste sur la dernière syllabe,

qu'elle soit de ton H ou de ton B. Il amène à un niveau bas un ton H final et rabaisse le ton haut préfinal ou la séquence de tons hauts préfinals.

Ce cadre ayant été mis en place, nous allons maintenant considérer la prosodie d'énoncés comportant des relatives.

5.2 Analyse de la prosodie d'énoncés avec relative

Elle est fondée sur un corpus de 90 phrases, établi par l'équipe de BAN-TUPSYN pour explorer les constructions relatives dans les langues bantoues. Ce corpus a été traduit en mbochi par un des co-auteurs de cet article : Martial Embanga Aborongui puis enregistré par lui-même en interaction avec Laura Downing. Les phrases en mbochi ont été lues sans expressivité particulière, comme en réponse à une demande d'information. Dans un premier temps, nous allons analyser des exemples d'énoncés afin de montrer comment les énoncés contenant des relatives peuvent être subdivisés et quels sont les principaux marquages de ces subdivisions.

5.2.1 Énoncés sans subdivision en GP ou GI

La présence d'une relative n'implique pas nécessairement une subdivision intonative. Ainsi, l'énoncé figurant sous (27) n'est divisé ni en GPs ni en GIs (dans cet exemple et les exemples suivants, les propositions relatives apparaissent en gras) :

(27) Énoncé sans subdivision en GP ou GI

ba- ána bá- ba- yúlu ba- ' - ba- ' - βel- a Co- tsáβ -a
C12- enfant C12.con- C12- femme PR2- H- PV2- H- pouvoir- VF Inf.- nager- VF
bó ba- ' - ba- san- áá sa N- dzálé
prog. C12- H- C12.MS2- amuser- VF dans C19- rivière

[bána báayúlu **bááβel** **ɔtsáβa** bó báasanáá sá ndzálé]_{GI}
"Les filles **qui peuvent nager** s'amuse dans la rivière"

La figure 1 montre la courbe mélodique de cet énoncé :

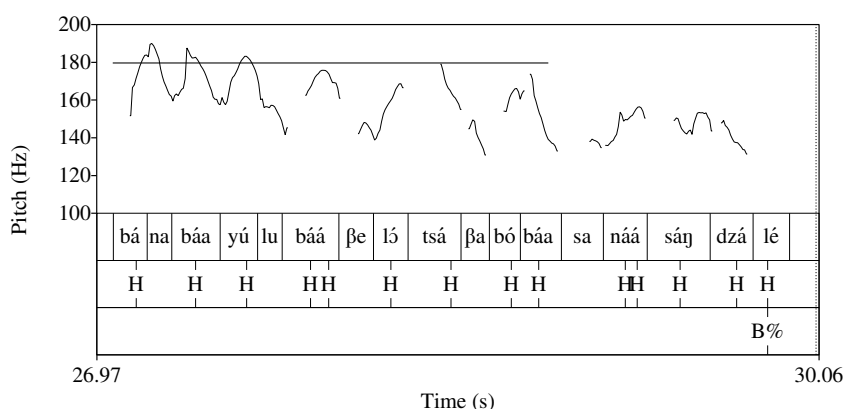


Figure 1 : Courbe mélodique de l'énoncé [bána báayúlu bááβel ɔtsáβa bó báasanáá sá ndzálé] "Les filles qui peuvent nager s'amuse dans la rivière".

Dans cet exemple, le ton de frontière final est bas (B%). Il entraîne une réalisation très basse du dernier ton haut porté par [lé] et rabaisse la dernière séquence de tons hauts, soit les tons hauts de [sanáá sándzálé]. Le rabaissement des tons en finale d'énoncé est un mécanisme bien connu : en anglais, on parle de "*final lowering*". Nous l'attribuons à la présence d'un ton bas de frontière final, que nous plaçons sur une ligne différente. Nous verrons plus loin que le ton haut de frontière (H%) a, lui, un effet rehaussant, ce qui ne pouvait qu'être attendu dans cette perspective. Avant cet abaissement final, les tons hauts et bas sont réalisés sur deux hauteurs distinctes, sans beaucoup de changement du début à la fin de la séquence. La ligne droite superposée est un repère, permettant de mieux visualiser la stabilité de la hauteur des tons hauts dans cette alternance de tons hauts et bas. On observe une légère baisse, une "ligne de déclinaison", différente d'un *downdrift*, qui ferait rapidement baisser la hauteur des hauts, (dès la première alternance de tons H et B). On observe aussi que l'énoncé ne comporte pas de *downstep* ou de changement de registre qui marquerait une division en deux Groupes Phonologiques : il forme un Groupe Intonatif non subdivisé. L'énoncé comporte une proposition relative dont les frontières ne sont donc pas marquées prosodiquement.

5.2.2 *Enoncés avec subdivision en GPs*

La présence de la relative peut aussi entraîner une subdivision en GPs, comme dans l'exemple suivant :

(28) Enoncé avec subdivision en GPs

(mo-ána mo-yúlu ye-ye-déf- i ' nɔ ' mo-tó
 C11- enfant C11- femme PR1- PV1- emprunter- VF H.conj 2.Sg H C13- vélo

má wa) (ya- ' le- i βá mó ma- koo)
 CI3.con- 3.Sg.) (CI1- H.MS1- passer- VF ici avec CI8- pied

[(mwánoyúlu yeedéfi nóotó má wa)_{GP} (álii βá máakoo)_{GP}]_{GI}
 "La fille **dont tu as emprunté le vélo**, est passée par ici à pied"

La figure 2 montre la courbe mélodique de cet énoncé :

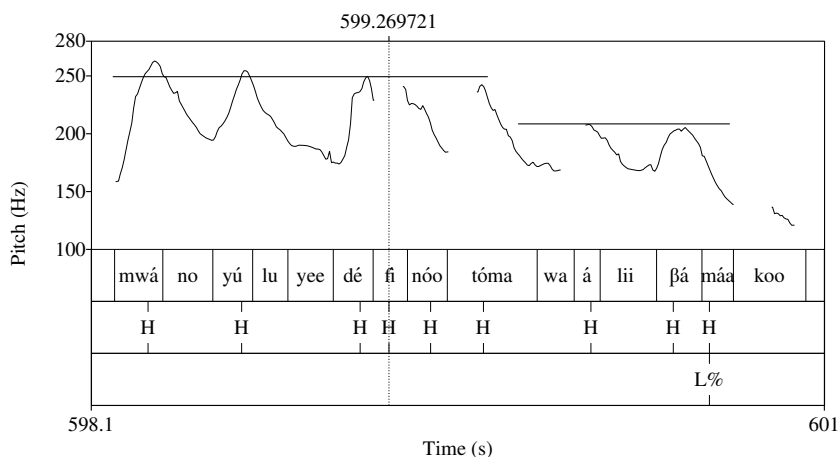


Figure 2 : Courbe mélodique de l'énoncé [(mwánoyúlu yeedéfi nóotó má wa)(álii βá máakoo)] "La fille dont tu as emprunté le vélo, est passée par ici à pied".

L'énoncé est ici divisé en deux groupes intonatifs par un changement de registre. Les deux lignes superposées, marquant le niveau des tons hauts dans chaque groupe accentuel, indiquent clairement cette rupture. Celle-ci s'effectue entre *mo- ána mo- yúlu ye- ye- déf- i ' no ' mo- tó má wa* et *yá- le- i βá mó ma- koo*, c'est-à-dire à la fin de la relative et avant la proposition principale.

5.2.3 Enoncés avec subdivision en GIs

La présence d'une relative peut donner aussi lieu à une division en Groupes Intonatifs, comme dans l'exemple ci-dessous :

(29) Enoncé avec subdivision en GIs

[Marí] [ye- ye- yéβ- a Co- tsáβ- a ' o- bvé] [bó la- ' -
 Marie PR1- PV1- savoir- VF Inf- nager- VF H.conj CI- bien Prog. P3- H-
 la- san- áá sá N- dzálé]
 P3.MS2- amuser- VF dans CI9- rivière

[mjarí]_{GI}[yeyéβó tsáβóobvé]_{GI}[bó láasanáá sá ndzálé]_{GI}
 "Marie, **qui sait bien nager**, joue près de la rivière"

La figure 3 montre la courbe mélodique de cet énoncé :

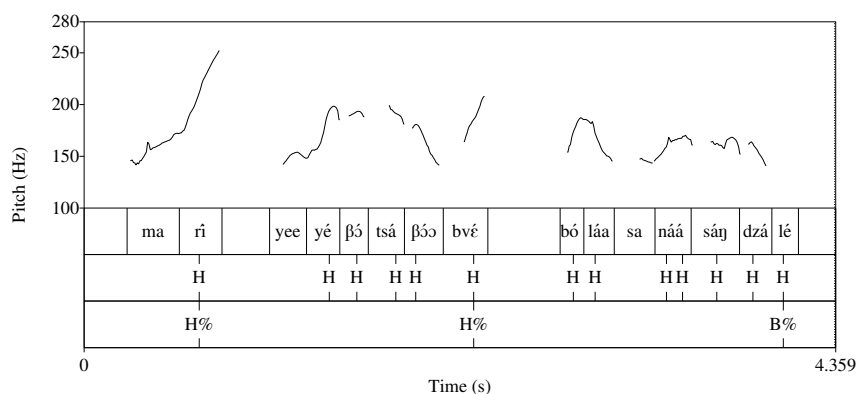


Figure 3 : Courbe mélodique de l'énoncé [Marí][yeeyéβó tsáβóbvé][bó láasanáá sá ndzálé] "Marie, qui sait bien nager, joue près de la rivière".

Dans l'exemple ci-dessus, le dernier ton haut de l'antécédent, ainsi que le dernier ton haut de la relative sont fortement relevés. Nous analysons ces relèvements comme étant dûs à la superposition d'un ton haut de frontière (H%) avec un ton haut lexical final. En d'autres termes, le haut de frontière n'est pas un ton dans la ligne des tons : il s'ajoute toujours au dernier ton haut, qu'il relève. Le ton extra-haut qui en résulte n'est donc pas un simple ton de frontière ou un "continuatif" — auquel il ressemble beaucoup phonétiquement — mais le résultat d'une synchronisation entre ton H et ton de frontière haut (H%). Ce ton peut ne pas être en finale de GI, comme dans l'exemple ci-dessous, qui est parallèle à l'exemple précédent :

(30) Énoncé avec subdivision en GIs

[bo- ola bá- ngá bá- di- baa] [bo- ' - bo- ' - di- i
 (cl14- frère Cl14.con- 1.Sg Cl14.con- Cl15- homme) (PR14- H- PV14- H- être- VF
 nɔ lá Co- tá- a ó N- dée] [bo- ' - di- i ' mo-
 2.Sg avec Inf.- voir- VF prép. Cl9. maison) (Cl14.MS1- H- être- VF H.conj Cl1-
 yésii]
 enseignant)

[bolaangá biibaa]_{GI}[bóódzé nɔ lítóondée]_{GI}[ódóoyésii]_{GI}
 "mon frère, **que tu as vu à la maison**, est enseignant"

La figure 4 montre la courbe mélodique de l'énoncé précédent :

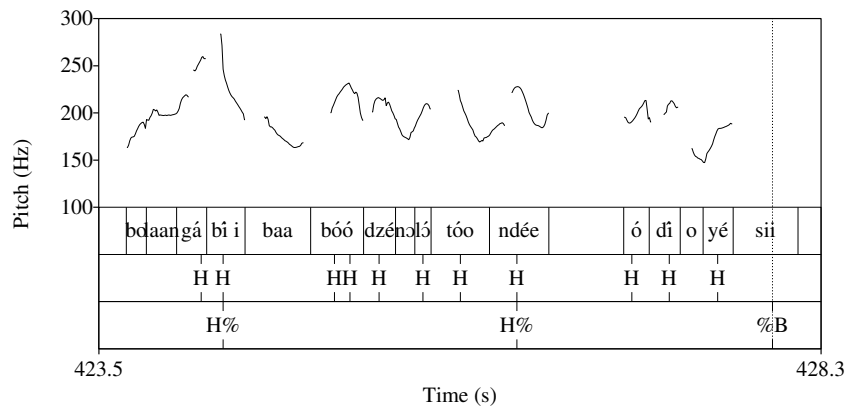


Figure 4 : Courbe mélodique de l'énoncé [bolaangá bíibaa][bóódzé no lótoondée][ódooyésii] "mon frère, que tu as vu à la maison, est enseignant".

Bien que les contours ne soient plus montants mais descendants à la fin des deux premiers groupes, on peut poser la même structure que dans l'énoncé précédent, c'est-à-dire un ton haut de frontière (H%) à la fin de chaque GI, le ton H% du premier GI étant nettement plus haut que celui du deuxième. La différence de contour vient du fait que le H% s'ajoute à des tons hauts en fin de GIs dans l'exemple de la Figure 3, et à des tons hauts non finaux dans le présent exemple. A noter que le H surélevé par le H% émerge clairement à la fin des GIs de la Figure 3, dans le premier GI de la Figure 4 mais moins nettement à la fin du deuxième GI, ce qui pourrait créer une ambiguïté par rapport à une analyse en GP. La forte pause qui suit le deuxième GI plaide cependant en faveur d'un GI. Cet exemple illustre bien en quoi consiste la différence entre un GP interne et un GI interne : la présence du ton haut de frontière (H%).

Ayant présenté des exemples, pour montrer comment les énoncés avec relatives peuvent être subdivisés, nous aborderons la question suivante : quelle est la relation entre ces divisions prosodiques et les frontières impliquant des propositions relatives ?

Une généralisation peut être faite : des frontières de GPs ou de GIs apparaissent aux frontières antécédent/proposition relative et proposition relative/proposition principale. On trouve les configurations figurant sous (31) :

- (31)
- | <i>Antécédent</i> | <i>Proposition relative</i> | <i>Proposition principale</i> |
|-------------------|-----------------------------|-------------------------------|
| [(| |)GP]GI |
| [()GP | ()GP | ()GP]GI |
| [(| |)GP]GI |
| [()GP]GI | [()GP]GI | [()GP]GI |
| [(| |)GP]GI |

Seules deux configurations ne sont pas apparues. Celles-ci sont données sous (32) :

- (32) *Antécédent* *Proposition relative* *Proposition principale*
 [()_{GP} ()_{GP}]_{GI}
 [()_{GP}]_{GI} [()_{GP}]_{GI}

Il semblerait donc que quand il y a une subdivision prosodique dans l'énoncé, elle semble prioritairement se faire entre la relative et la principale, plutôt qu'entre l'antécédent et la relative. Il faut cependant rester prudent dans nos conclusions, dans la mesure où le corpus que nous examinons est un corpus traduit puis lu par un seul locuteur. Nous éviterons aussi de tirer toute conclusion concernant une possible différence entre restrictives et non restrictives, même si dans les exemples que nous avons présentés, nous trouvons la différence attendue entre une frontière forte (GI) entre l'antécédent et la proposition relative en cas de non restrictive (figure 3 et 4) et une frontière plus faible ou une absence de frontière si la relative est restrictive (figure 1 et 2).

6 Conclusion

Nous avons montré que le mbochi ne possède pas de morphème relatif spécifique mais que la construction mise en jeu est similaire à la construction possessive. Ce type de formation des relatives n'est pas inattendu : dans les langues bantoues, on l'a trouvé entre autres en chishona, makwe, makonde et il existe en dehors de l'Afrique, en chinois par exemple (Cheng 2006).

Pour arriver à cette analyse en mbochi et comprendre les constructions en question, il nous a fallu dégager deux processus : dissimilation consonantique par effacement et résolution de hiatus. Un des apports de cet article réside précisément dans l'étude des processus de dissimilation consonantique, non seulement en mbochi mais également dans un ensemble de langues parlées dans la région, des groupes C (koyo C24, doko, C30, kusakata C34) et B (orungu B11b, limpiini, un dialecte mbaana B62, yisangu, B42), et dans l'esquisse d'une aire de diffusion de ce processus typologiquement rare, qui a commencé à se dégager.

Un second apport concerne l'étude prosodique et le modèle qui se trouve introduit à propos de l'examen de l'intonation des relatives, lequel comporte des "tons de frontière" se superposant aux tons lexicaux (et ne venant pas s'ajouter sur la ligne des tons lexicaux).

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Locative Relatives in Durban Zulu

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This paper examines locative relatives in Durban Zulu. We show that locative relatives differ from nominal relatives crucially in prosodic phrasing as well as in resumptive pronoun marking. We propose that the best way to account for locative relatives in Zulu is to resort to the old style adjunction analysis of relative clauses, with an empty operator. The system we propose assumes that such an adjunction analysis co-exists with a head-raising analysis, which accounts for the nominal relative clauses.

1 Introduction

Whether locative phrases in Bantu languages are nominals or adverbials has been a rather controversial issue. Using locative inversion sentences, Bresnan and Kanerva (1989) and Bresnan (1994) argue that locatives in Chichewa are noun phrases. Bresnan (1994) in particular argues that inverted locatives function as grammatical subjects, using evidence from agreement, control and raising, as well as the differences from their counterparts in English. Demuth (1990), on the other hand, shows that inverted locatives in Sesotho do not function as subjects. She then argues that locatives in Sesotho are adverbs.

In this paper, we discuss data from relative clauses, and show that locatives in Zulu are adverbials. We first show that relatives which involve a nominal head noun differ from relatives involving a locative or adverbial head in prosody, and in resumptive pronoun marking. We then discuss different strategies of relative clause formation. We argue that these distinctions in prosody and the resumptive pronoun marking can be accounted for in Zulu, if nominal relatives are derived by a head raising strategy (à la Kayne 1994), while locative or adverbial relatives are derived by an adjunction analysis.

2 Background

In order to understand the special properties of locative relatives in Zulu, we first must take a look at the morphology of locatives and at the prosody and structure of non-locative relatives.

2.1 Locative morphology in Zulu

Zulu differs from some Bantu languages in that it does not have an active morphological contrast between locative classes 16, 17, and 18. Only class 17 is active in the agreement system (see Buell 2007 for more detailed discussion). In Zulu, locatives can be derived from nouns by several morphological strategies. Buell (2007) makes a distinction between “formal” and “semantic” locatives. Formal locatives are the ones that contain locative morphology. For example, in (1), we see examples of locatives derived by prefixing *e* and (optionally) suffixing (*w*)*ini/eni* to the noun. Locatives can also be derived by procliticizing locative particles: *ku*-pronoun/N, *pha*-N, or *kwa*-N/pronoun. In (2a-b) are examples adapted from Buell (2007) illustrating this strategy. There are also a few locative prepositionals in Zulu.

“Semantic” locatives are nominals which are clearly locative in meaning, but which lack locative morphology. An example of this type of locative is *lezi zindlu* ‘these houses’ in (2c):¹

- (1) a. Ú-hlál’ é-dolóbh-e:ni.
 1SM-live LOC-5.city-LOC
 ‘S/he lives in the city centre.’
 b. Ú-nge:n’ é-ndl-i:ni.
 1SM-enter LOC-9.house-LOC
 ‘S/he entered the house.’
- (2) a. Aba-ntu aba-dala ba-hlala ku-lezi zi-ndlu.
 2-people 2-old 2SM-stay LOC-10.these 10-houses
 ‘Old people live in these houses.’

¹ In the data, high tones are marked with an acute accent and low tones are unmarked, except the copular low tone morpheme is marked with a grave accent. Buell (2007) does not mark tone or phrasal lengthening; for this reason, this information is missing from data cited from this source.

The following abbreviations are used in the morpheme glosses: numbers indicate noun agreement class; SM = subject marker; OM = object marker; TAM=tense-aspect marker; NEG = negative; INF = infinitive; COP = copula; REL = relative; LOC = locative; PT = participial; FUT = future; DJ = disjoint; DEM = demonstrative; PREP = preposition.

- b. Ku-lezi zi-ndlu ku-hlala (khona) aba-ntu aba-dala.
 LOC-10.these 10-houses 17SM-stay there 2-people 2-old
 ‘In these houses live old people.’
- c. Lezi zi-ndlu zi-hlala aba-ntu aba-dala.
 10.these 10-houses 10SM-live 2-people 2-old
 ‘Old people live in these houses.’

Postverbal locatives, like other adjuncts, canonically follow all argument complements of the verb, as shown in (3):

- (3) a. Ú-Síph’ ú-phek’ ín-ku:kh’ é-mz-ini wam’ ízo:lo.
 1-Sipho 1SM-cook 9-chicken LOC-3.house-LOC 3.my yesterday
 ‘Sipho cooked chicken at my house yesterday.’
- b. Ó:-thisha bá-theng-é ízin-cwâ:d’ é-dolóbh-en’ ízo:lo.
 2-teacher 2SM-buy-TAM 10-book LOC-5.city-LOC yesterday
 ‘The teachers bought books in town yesterday.’

Cheng and Downing (to appear, b) show that these ordering facts can be accounted for if (non-focused) locative adjuncts are right-adjoined to an XP above the vP.²

2.2 The basics of relative clauses in Zulu

2.2.1 *Relative morphology & prosodic phrasing*

Zulu non-adverbial relative clauses contain a participial verb, with relative subject morphology. (See e.g., Doke 1961 for more detailed discussion of this morphology.) Relatives do not employ relative pronouns or special relative markers. Instead, the relative verb is marked for agreement with what appears to be its head.³ In subject relatives, the agreement is realized in the relative verb’s subject prefix, which accords with the noun class of the head of the relative, as illustrated in (4a,b):

- (4) a. Ín-dod’ [é-gqoke ísí-gqo:ko] í-bon-é ízi-vaká:shi.
 9-man REL9-wear 7-hat 9SM-see-TAM 8-visitor
 ‘The man who is wearing a hat saw the visitors.’

² Focused locatives, like other focused non-subjects, must occur in Immediately After the Verb position, in the case of locatives, left-adjoined to vP. See Cheng & Downing (to appear, b) for detailed discussion.

³ See Zeller (2004) for detailed discussion of the relative morphology of the Nguni languages.

- b. Si-hlek' ábá-ntwán' [ábá-jah' ím-bû:zi].
 we.SM-laugh.at 2-child REL2-chase 9-goat
 'We laugh at the children who are chasing the goat.'

For non-subject relatives, there is no relative agreement with the head of the relative clause. However, either an agreeing object marker (italicized) is prefixed to the relative verb, or some other form of resumptive morphology occurs in the relative clause:

- (5) a. (Si-thánd' ísí-gqok' [ín-dod' é-*si*-gqok-ilê:-yo]).
 we.SM-like 6-hat 9-man REL9-6OM-wear-TAM-REL
 'We like the hat the man is wearing.'
 b. (Ín-dod' [ízi-nj' ézí-yí-jahâ:-yo]) (í-ntshóntsh' í-*qhû*:de).
 9-man 10-dog REL10-9OM-chase-REL 9SM-steal 5-rooster
 'The man who the dogs are chasing stole a rooster.'

The data in (5) also show the prosodic phrasing pattern for restrictive relatives discussed in Cheng and Downing (2007, 2009): the restrictive relative clause and the relative head are parsed into the same prosodic phrase, and the first phrase break falls at the right edge of the relative clause.⁴ The prosodic phrase boundaries can be easily identified in the data by the position of lengthened penult vowels. Vowel length is not contrastive, and long vowels are mainly found in the penult syllables of some words. Work since Doke (1961) analyzes penult length as a correlate of stress, and since Khumalo (1987) it is accepted that penult lengthening is a phrase level (not lexical) process.

The phrasing for restrictive relatives is further illustrated in (6), where we see that the head of the relative clause, regardless of whether it is a subject relative or an object relative, is phrased together with the relative clause (underlined); there is no prosodic phrase break between the head and the relative clause.

- (6) a. (Úm-fúndísi [ó-thól-ê: ín-dánda:tho]) (ú-zo-thóla úm-klóme:lo).
 1-teacher REL1-find-TAM 9-ring 1SM-FUT-get 3-reward
 'The teacher who found the ring will get a reward.'
 b. (Ú-gó:go) (ú-phék' úku-dl' [ábá-ntwan' ábá-ku-thánda:-yo]).
 1-grandmother 1SM-cook 15-food 2-child REL2-15OM-like-REL
 'Grandmother cooks food which the children like.'

Non-restrictive relative clauses, like restrictive relatives, contain a participial verb with relative morphology. Within the non-restrictive subject relative clause,

⁴ Prosodic phrases are indicated by parentheses. Square brackets indicate syntactic constituent edges and are used mainly to highlight the relative clauses.

there is also a relative subject marker of the same noun class as the head, and in the case of object relatives, an agreeing object marker (italicized) is prefixed to the relative verb. However, they manifest a different prosodic phrasing. As shown in (7a, b), the head of the non-restrictive relative clause is phrased separately from the relative clause:

- (7) a. (Ú-nhla:nhlá) ([*ó-théngé á má-tha:ngá*]) (ú-wá-thwéle ng-ó-bhasikí:di).
 1-Nhlanhla REL1-buy 6-pumpkin 1SM-6OM-carry with-1a-basket
 ‘Nhlanhla, who bought the pumpkins, is carrying them in a basket.’
 b. (Si-mem’ ú-Ja:bu) ([*o-m-ázi:-yo*]) é-dil-î:ni).
 we.SM-invite 1-Jabu RELyou-1OM-know-REL LOC-9.party-LOC
 ‘We are inviting Jabu, who you know, to the party.’

Clefts show the same prosodic phrasing as non-restrictive relative clauses. Clefts in Zulu have a bipartite structure, consisting of a copular clause and a relative clause (when the pivot in the copular clause is a non-adverbial).⁵ As we can see in (8 a,b), the relative clause half of the cleft is prosodically phrased separately from the copular clause:

- (8) a. (Ûm-fúndí:si) ([*ó-thól-ê: ín-dándatho e-bí-ngi-láhléké:le*]).
 COP.1-teacher REL1-find-TAM 9-ring REL9-TAM-me.OM-lost
 ‘(It) is the teacher who found the ring that got lost from me.’
 b. (Ûn-kû:kh’) ([*ú-Síph’ á-yí-phékél’ ú-Thá:ndi kwa-m’ ízo:lo*]).
 COP.9-chicken 1-Sipho REL1-9OM-cook 1-Thandi LOC-my yesterday
 ‘It is chicken that Sipho cooked for Thandi at my house yesterday.’

To sum up the phrasing, a restrictive relative clause systematically phrases together with its head. Non-restrictive relative clauses and the relative clause half of a cleft, in contrast, phrase separately.

2.2.2 *Basic syntactic analyses of relative clauses and clefts in Zulu*

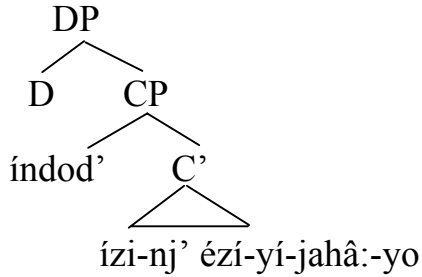
Cheng & Downing (2007; to appear, a) develop syntactic analyses of restrictive relatives, non-restrictive relatives and clefts which account for these prosodic phrasing generalizations. We summarize the analyses in this section.

Assuming a Kaynian analysis of restrictive relative clauses (see Bianchi 2000 among others for variations of Kaynian analyses), the head of a restrictive

⁵ See Cheng and Downing (to appear, a) for more details concerning the structure of clefts in Zulu.

relative is within the CP, and the CP is a complement of the D head, as shown in the structure below:

- (9) [DP (Ín-dod' [ízi-nj' ézí-yí-jahâ:-yo]) (í-ntshóntsh' í-qhû:de).
 9-man 10-dog REL10-9OM-chase-REL 9SM-steal 5-rooster
 'The man who the dogs are chasing stole a rooster.'



Given this structure, the prosodic phrase break following restrictive relative clauses satisfies the constraints in (10) and (11), motivated in detail in Cheng & Downing (2007; 2009; to appear, b), requiring the right edges of Intonation Phrases and vP/CP phases to coincide in Zulu:

- (10) ALIGNR[PHASE, INTPh]: Align the right edge of every phase (vP/CP) with the right edge of an Intonation Phrase (IntPh).
 (11) ALIGNR[INTPh, PHASE]: Align the right edge of every Intonation Phrase (IntPh) with the right edge of a phase (vP/CP).

It also falls out from these constraints that the relative clause portion of a cleft is parsed into a separate Intonation Phrase. As noted above, clefts in Zulu involve a bipartite structure, illustrated with a sentence with a subject cleft in (6a), repeated here as (12a). We suggest that it has the structure in (12b):⁶

- (12) a. (Ùm-fúndí:si) [(ó-thól-ê: ín-dándatho e-bí-ngi-láhléké:le)].
 COP.1-teacher REL1-find-TAM 9-ring REL9-TAM-me.OM-lost
 'It is the teacher who found the ring that got lost from me.'
 b. [CP[IP Ùm-fúndí:si]][DP ø [CP ó-thól-ê: ín-dándatho e-bí-ngi-láhléké:le]].

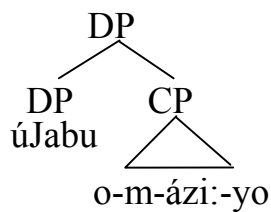
In this structure, the pivot of the cleft is in a copular sentence, and the headless DP with the relative clause is adjoined to the copular sentence. Similar structures have been proposed for cleft sentences in French by Clech-Darbon et al. (1999) and for cleft sentences in Thompson River Salish by Koch (2008). Given this structure, the pivot of the cleft will be at the right edge of a CP. As

⁶ See Cheng & Downing (to appear, a) for detailed motivation for this structure.

the right edge of CP consistently conditions a prosodic phrase break in Zulu, this structure correctly accounts for the prosodic parse of clefts.

The constraints so far, though, do not account for the prosodic phrasing of non-restrictive relative clauses. We follow Demirdache (1991) in assuming that a non-restrictive relative is adjoined to the whole DP. The head noun, thus, is not raised from a CP internal position.

- (13) (Si-mem' ú-Ja:bu) ([o-m-ázi:-yo]) é-dil-î:ni).
 we.SM-invite 1-Jabu RELyou-1OM-know-REL LOC-9.party-LOC
 'We are inviting Jabu, who you know, to the party.'



While the fact that the head noun is positioned outside of CP in non-restrictive relatives in this structure does provide a clear-cut syntactic difference between restrictive relatives and non-restrictive relatives, this distinction alone does not directly translate to the prosodic boundary at the left edge of CP that we find in the case of non-restrictive relatives.

To account for the prosodic break between the non-restrictive relative and its head, Cheng & Downing (2007, 2009) propose that the left edge of the CP phase only plays a role when the CP is not selected, e.g., in a non-restrictive relative clause, with sentential subjects, and in other adjunct clauses. As we can see in the structure in (13), the left edge of CP in a non-restrictive relative is not selected (by a D^0), and so it is aligned with a left Intonation Phrase boundary. This proposal is formalized by the following alignment constraint:

- (14) ALIGNL(PHASE, I):
 Align the left edge of each non-selected phase (vP/CP) with the left edge of an Intonation Phrase (I).

To sum up this section, Zulu prosodic phrases generally show an asymmetric alignment with syntactic phases: the right edge of an Intonation Phrase coincides with the right edge of a phase. This accounts for the phrasing of relative clauses and clefts, given the syntactic analyses sketched here. However, the left edge of a phase coincides with an Intonation Phrase if the phase is not selected. This accounts for the phrasing break preceding a non-restrictive relative.

3 Locative relatives

With this background in mind, let us now turn to relative clauses related to locatives. This includes cases in which the head of the relative is a locative, or cases in which the head noun is associated with a locative expression. Consider first the sentences in (15). In (15a), the head of the relative clause is an expression with locative marking, *endlini* ‘into the house’, while in the relative clause we have typical object marking (agreeing with the head). In (15b), the head of the relative is a noun phrase (without locative marking), but it is associated with a locative resumptive element *kuyona* ‘in there, cl.9’, which agrees with the head in noun class. In (15c) is an example with a locative expression as the head, which is associated with a locative resumptive element in the relative clause:

- (15) a. (Ú-Síphó ú-ngené é-ndl:-iní) (ú-Thém̄ba á-yí-thengí:le).
 1-Sipho 1SM-enter LOC-9.house-LOC 1-Themba REL1-9OM-bought
 ‘Sipho went into the house that Themba bought.’
- b. (Ngi-thánd’ í:n-dl’) (ú-Síphó á-hlálá kú-yo:na).
 I.SM-like 9.house 1-Sipho REL1-live LOC-9.pronoun
 ‘I like the house that Sipho is living in.’
- c. (Ú-yê: kú-lé-máke:thé) (ésí-zo-hlangana
 1SM-go.TAM LOC-DEM-9.market REL.we-FUT-meet
 no-Síphó kú-yo:na).
 with-Sipho LOC-9.pronoun
 ‘She went to the market where we will meet with Sipho.’

In all these cases, regardless of whether the head is marked as a locative or not, the head of the relative clause is prosodically phrased separately from the rest of the relative clause. This pattern of prosodic phrasing differs from that of typical restrictive relatives involving non-locative expressions discussed in the preceding section.

The problem posed by locative relatives is not just limited to the area of prosodic phrasing. Given a head-raising analysis (which we assume for restrictive relative clauses in Zulu), a couple of non-trivial issues arise. First, if either the matrix verb or the verb in the relative clause requires an expression marked as locative, a simple head-raising analysis may generate the wrong form or a mismatch in form. In (15a), a non-locative is required in the relative clause, while in the matrix, a locative form is required. Similarly, in (15b), though a locative form is required within the relative clause, the matrix verb dictates a non-locative. Lastly, as we have indicated above, there are different locative markings. If the marking required by the matrix differs from the marking

required by the relative clause, a mismatch scenario again arises. These “mismatches” are summarized in (16).⁷

- (16) a. [_{CP}^{matrix} ... V LOC_i [_{CP}^{REL} ... V [_{DP} OM_i] ...]] (15a)
 b. [_{CP}^{matrix} ... V DP_i [_{CP}^{REL} ... V LOC-PRON_i ...]] (15a)
 c. [_{CP}^{matrix} ... V LOC_i [_{CP}^{REL} ... V LOC-PRON_i ...]] (15c)

It should be noted that there is another strategy for modifying locative expressions, namely by using an adverbial clause headed by *lapho*, with *khona* in the clause, as in (17):

- (17) a. (Ú-Síphó ú-khwélé phé:zu) (kw-é:ndlu) (lapho ú-Thémba
 1-Sipho 1SM-climb.past on.top LOC-9house *lapho* 1-Themba
 é-hlála kho:na).
 PT1-live there
 ‘Sipho climbed onto the house where Themba lives.’
 b. (Úm-fú:la) (laph’ ú-Síphó é-phónzé kho:n’)(í-bhólá
 3-river *lapho* 1-Sipho PT1-threw there 5-ball
 l-a:khé) (ú-yá-shóna phá:nsi).
 5-his 3SM-DJ-sink down
 ‘The river where Sipho threw his ball is very deep.’
 c. (Ú-yê: é-ndaw-é:ni) (laph’ ú-Síph’ á:-khandelá
 1SM-go.TAM LOC-9.place-LOC *lapho* 1-Sipho PT1.past-fix
 í-motó y-a:khe) (kho:na).
 9-car 9-his there
 ‘He went to the place where Sipho had fixed his car.’

As indicated in (17a-c), the *lapho...khona* clause is prosodically phrased separately from what precedes it, just like the locative relatives in (15), where the relative clause is prosodically phrased separately from the head of the relative clause.

That *lapho...khona* clauses can also be used without locative expressions is shown in (18) and (19):

⁷ One may consider using a distributive morphology or a feature-based analysis to avoid the problems stated. For instance, a simple noun phrase raised from the relative clause can have a locative feature added, leading to the spell-out of a locative expression. However, such an account also runs into problems. In particular, for a locative expression raised from the relative clause to a matrix environment which requires a non-locative, it is unclear how the locative feature can be deleted from the locative expression in the matrix.

- (18) (Ú-su:kú) (lapho ú-Sípho é-phékélé é-mz-ini w-á:kho)
 11-day *lapho* 1-Sipho PT1-cook LOC-3.home-LOC 3-your
 (kho:na) (lú-qalé ka:mbi).
 Adv 11SM-begin badly
 ‘The day when Siphso cooked at your house began badly.’
- (19) Examples from Doke (1961) – *lapho* clauses are adverbial clauses
 a. *Lapho* usu-qed-ile, ma-wu-buye.
 when PT.you-finish-TAM HORT-you.SM-return.SUBJUNCTIVE
 ‘When you have finished, come back.’
 b. Yi-beke in-cwadi *lapho* kade i-khona.
 9OM-put.SUBJUNCTIVE 9-book *where* before COP-there
 ‘Put the book *where* it was before.’

Note that Zulu is not alone in distinguishing locative relatives from non-locative ones. In English, relative pronouns and the complementizer *that* cannot be deleted in locative relatives, if the gap is not preceded by a preposition. (See Rothstein 2006, and Larson 1985.)

- (20) a. [DP The book] which/that/∅ Mary read [DP e] is out of print.
 b. [DP The shop] where/in which/*that/*∅ Mary bought the book [PP e] is on the corner of the street.
 c. [DP The shop] Mary bought the book in [PP e] is on the corner of the street.

3.1 Issues in interpretation

The presence of a locative expression in relative clauses does not just present mismatches in form, but also mismatches in interpretation. Consider first a nominal relative clause in (21), with no mismatches.

- (21) (Ngi-thánd’ í-ndl’ [u-Síph’ á-yí-theng-í:le]).
 I.SM-like 9-house 1-Sipho REL1-9OM-buy-TAM
 ‘I like the house that Siphso bought.’

A nominal such as *indlu* ‘house’ denotes a set of individual (entities), and in (21), it appears as the argument of the verb ‘like’, satisfying the selectional restriction (theta-properties) of the verb. The relative clause *uSiphso á-yí-thengí:le* in (21) denotes the set of individuals/entities that Siphso bought. Combining *indlu* and *uSiphso á-yí-thengí:le* yields the right interpretation, with standard set intersection.

Consider now a case in which the verb in the relative clause requires a locative:

- (22) (Ngi-thánd' [DP í:-ndl']) (ú-Síphó á-hlálá kú-yo:na).
 I.SM-like 9-house 1-Sipho REL1-live LOC-9.pronoun
 'I like the house that Sipho is living in.'

In (22), *indlu* 'house' denotes a set of entities, just as it did in (21). However, the relative clause *ú-Síphó á-hlálá kú-yo:na* denotes a set of locations. In other words, what the nominal *indlu* 'house' denotes and what the relative clause denotes are different sortal types (Rothstein 2009). To account for cases like this, Rothstein (2009) proposes an extra type-shifting mechanism, which can change the denotation of the nominal (from a set of entities to a set of locations) or the denotation of the relative clause (from a set of locations to a set of entities).

In sum, we have seen that locative relatives present problematic issues, including prosodic phrasing (in the case of Zulu), mismatches in terms of form, and mismatches in terms of interpretation.

4 A hybrid analysis

The formation of relative clauses in the case of Zulu locative relatives has to take care of both the mismatches in form/category, as well as the prosodic properties, i.e., the (locative) head is prosodically phrased separately from the (locative) relative clause.

Various types of mismatch in relative clause formation (e.g., mismatches in Case in Polish (Borsley 1997), and categorial mismatches in English and other languages (van Riemsdijk 2005)) have been noted as problematic for a head-raising analysis of relative clauses. Several proposals modifying the head-raising analysis have been put forth in order to solve such mismatches. Below I briefly discuss one recent proposal.

Citko (2001) and Sauerland (2007) independently propose a matching analysis. Though their analyses differ in certain details, we will not distinguish these two proposals here. The matching analysis can be seen as a hybrid analysis: the head noun is base-generated in the matrix, and its corresponding constituent in the relative clause is also generated in the relative clause. Subsequent deletion/ellipsis ensures that the corresponding constituent in the relative clause is not pronounced. This is illustrated in (23):

- (23) a. John saw the picture which he likes.
 b. John saw [DP the picture [CP [DP which ~~picture~~]_i [TP he likes t_i]]]

The DP *the picture* in (23) is base-generated external to the relative CP. Within the relative CP, *which picture* is moved from the object position to the SpecCP in the relative clause. *Picture* in *which picture* is subsequently deleted, yielding the sentence in (23a). Note, however, that the relation between the relative CP and the external head is not explicitly discussed in Citko (2001) and Sauerland (2007).

The matching analysis solves the problem of Case mismatches. Since the head of the relative clause is base-generated in the matrix, it will be “assigned” the appropriate Case. On the other hand, in the relative clause, the relative pronoun can also get assigned the Case appropriate to its original position. Note that this analysis not only solves Case mismatches, it also accounts for the lack of condition C violations in relative clauses. This can be demonstrated with an example like (24) (from Citko 2001), where it is acceptable for the pronoun *he* to refer to the proper name *John*, even though it does c-command *John* in the base position:

- (24) a. The picture of John_i which he_i likes is on the front page.
 b. [TP [DP the picture of John] [CP [which ~~picture of John~~]_i] [TP he likes t_i is...

The idea is that *picture of John* in the relative clause is also deletable at LF at the base position, since it is recoverable from the external head. In other words, at LF, there is no offending proper name anymore after the deletion. The matching analysis thus fares better not only in the case of handling mismatches, but also in accounting for the lack of condition C violations.

4.1 Proposal

Sauerland (2007) notes that the matching analysis and the head-raising analysis are two co-existing derivations for relative clauses. The question that arises here is whether a matching analysis can also account for locative relatives in Zulu. Recall that what needs to be accounted for in locative relatives are the mismatches (in form and in interpretation), as well as prosodic phrasing. Consider first the issue of prosodic phrasing. We have seen above that in locative relatives, the head is phrased separately from the rest of the relative clause (regardless of whether it is the matrix that requires a locative, or the relative clause), making locative relatives look like non-restrictive relatives.

Under a matching analysis of locative relatives, since the head is considered to be an external head, the relative clause is no longer a complement of D. (This is in contrast to the Kaynian analysis of non-locative relatives in s shown in the structure below:

(9), above.) That is, the relative CP is not selected. Thus, given the constraint in (14), we expect the relative CP under a matching analysis to be phrased separately from the head. Note that the *lapho...khona* clauses which can be used to modify a location are also expected to be phrased separately under (14), since they are adverbial (and therefore unselected) clauses.

The matching analysis, together with the alignment constraint in (14), can thus provide us with the correct prosodic phrasing for locative relatives. We turn now to consider the mismatches in more detail. Let us begin with a simple case of nominal relatives, where both the matrix and the relative clause require only a nominal element:

- (25) (Ngi-thánd' í-ndl' [u-Síph' á-yí-thengí:le]).
- I.SM-like 9-house 1-Sipho REL1-9OM-bought
- 'I like the house that Sipho bought.'

As we have noted above, in an object relative like (25), the object is “resumed” by an agreeing object marker. (In (25), it is *yi*.) Under a head-raising analysis, the object marker can be considered to be either an agreement marker or an object clitic.⁸ In a locative relative, when the relative clause requires a locative, we do not have an object marker of the type we see in (25), but rather a strong pronoun, as shown in (26):

- (26) (Ngi-thánd' [DP í:-ndl']) (ú-Síphó á-hlálá kú-yo:na).
- I.SM-like 9-house 1-Sipho REL1-live LOC-9.pronoun
- 'I like the house that Sipho is living in.'

The presence of the strong pronoun in these cases may be due to the fact that there is no locative equivalent to the object marker in Zulu. Instead, what we see in (26) is a strong pronoun with locative marking (i.e., *ku*). Consider now how a matching analysis would handle such cases. One of the important mechanisms needed in the matching analysis is the ellipsis of the internal head. The example in (27) shows that the verb *-hlala* ‘live’ requires a locative of the form *e-N-ini*:

- (27) (Ú-hlálá é-dolóbh-e:ni).
- 1SM-lives LOC-5.city-LOC
- 'She lives in town.'

⁸ See Buell, Cheng and Schadeberg (in prep.) for a discussion on the nature of object markers in Zulu.

Under a matching analysis, with head-raising in the relative clause, we have the structure in (28) for the sentence in (26):

(28) Ngi-thánd' í:-ndl' [_{CP} e-ndl-ini [_{IP} ú-Síphó á-hlálá kú-yo:na]].

Leaving aside the issue of the strong pronoun (and the form *ku-yona* in particular), the structure in (28) highlights the issue of identity under the deletion/ellipsis mechanism which is needed for the matching analysis. If phonological identity is required, ellipsis/deletion would not apply in (28). An alternative to a matching analysis, but maintaining the external head, is in fact the old style relative clause analysis (Chomsky 1977) an adjunction analysis with an empty operator, as in (29):

(29) Ngi-thánd' [_{DP} [_{NP} [_{NP} í:-ndl'] [_{CP} OP ú-Síphó á-hlálá kú-yo:na]]].

With an empty operator, not only is the identity for ellipsis not an issue, the issue of mismatches also does not arise. Furthermore, the prosodic properties of the locative relatives can be easily captured since the relative CP is not a selected CP, and thus is subject to the prosodic Alignment constraint in (14).

4.2 Predictions and further issues

Similar to Sauerland (2007), we consider the empty operator analysis to be another relative formation strategy, co-existing with the head-raising analysis and the matching analysis. Nonetheless, an empty operator analysis differs fundamentally from a head-raising (e.g., Kaynian) or a matching analysis. In particular, while a head-raising or a matching analysis predicts reconstruction effects (that is, the head can be interpreted in the relative clause), an old style empty operator analysis does not.

Following Bhatt (2002), we tested for reconstruction effects through high versus low readings with adjectival modifiers in Zulu. Preliminary results are compatible with our proposal, namely, that nominal relatives are formed using a head-raising analysis while locative relatives are formed with an empty operator. This is illustrated in the sentences in (30):

(30) a. (Í-ncwadi énde kuna-zo zó:-nke) (ú-Sípho â:-th'
 9-book long than-9 9.every 1-Sipho REL1-say
 ú-Síbúsísó Nyémbezi w-á-yi-bhá:la) (yí-le:na.)
 1-Sibusiso Nyembezi 1SM-TAM-9OM-write 9-DEM
 'The longest book that Sipho says that uSibusiso Nyembezi has written
 was this one.'

- b. (Ú-Sí:pho ú-thí í-ndl' éndala kúna-zo zó:nk')
 1-Sipho 1SM-said 9-house 9.old than-9 9.every
 (ú-Thémb' á:-ngena kú-zo:na) (yí-le:na.)
 1-Themba REL1-enter LOC-10.pronoun 9-DEM
 'Sipho said that the oldest house that Themba has gone into is this one.'
- c. #índl' éndala kúnazo zó:nk' ú-Síph' á-th' ú-Thémba w-â:-nge:ná
 kúyo:na yíle:na.

The contrast between (30a) and (30b) shows that in the case of locative relatives, the low reading requires the locative to be lower in the embedding, not in the matrix clause. This implies that the nominal relative and the locative relative have different reconstruction possibilities.

4.2.1 Remaining puzzles

There are some cases of locative relatives where the locative head does not have to be phrased separately from the relative clause.

- (31) a. (Índaw' ú-Síph' â:-khandelá kú-yón' í-mo:t') (í-shí:le.)
 9.place 1-Sipho REL1-fix LOC-9.pronoun 9-car 9SM-burn.TAM
 'The place where Sipho fixed the car burned down.'
- b. In answering the question: *which house do you like?*
 (Ngi-thánda í-ndl' u-Thémb' a-hlálá kú-yo:na)
 I.SM-like 9-house 1-Themba REL1-live LOC-9.pronoun
 'I like the house that Themba lives in.'

These sentences on the surface seem to be entirely contradictory to the data that we have discussed above. Recall that in English, locative relatives do not allow complementizer or relative pronoun deletion. Compare the examples in (32) and (33):

- (32) a. The book *which/that/∅* Mary read is out of print.
 b. The shop *where/in which/*that/*∅* Mary bought the book is on the corner of the street.
- (33) a. The *place* *which/that/∅* I painted [_{DP} t] is on the corner of the street.
 b. The *place* *where/in which/∅* I painted (the picture) [_{PP} t] is on the corner of the street.

When the head of the locative relative is *shop*, as in (32), either a relative pronoun or a complementizer must be used. In contrast, if the head is *place*, the complementizer or the relative pronoun can be deleted. Rothstein (2009) argues that *place* in English is ambiguous in its denotation – both individuals and

locations are possible. Under Rothstein's (2009) analysis, *place*, due to its ambiguous denotation, does not require the relative clause to type-shift, which is apparently the reason why an overt relative pronoun or a complementizer must be present. In English, not all nouns can denote locations: *place* can, but *shop* cannot. Following Rothstein, we suggest that in Zulu, both *indawo* 'place' and *indlu* 'house' can denote locations.

Rothstein (2009) suggests that the ambiguity between an entity and non-entity domain can be extended potentially to other domains, such as manner, reason and temporal domains. The examples in (34) show that *way*, *reason*, as well as *day/hour/moment* can denote in another domain than individuals/entities:

- (34) a. The way /*manner in which/∅ he painted the house [PP t] surprised me.
 b. The reason why/∅ he did it... (cf. *explanation)
 c. The day/hour/moment/*meeting at which/when/∅ he made the announcement upset me.

The sentences in (35) suggest that in Zulu, *usuku* 'day' and *indlela* 'way' can also denote within the temporal domain and the manner domain respectively:

- (35) a. (Ngi-thánd' ín-dlel' á-cúla nga:-yo).
 I.SM-like 9-way REL1-sing PREP-9
 'I like the way he sings.'
 b. (Ú-súk' ú-Síph' á-phekelé nga-l' é-mz-ini wá:kho)
 11-day 1-Sipho REL1-cook PREP-11 LOC-3.home-LOC 3.your
 (lú-qalé ka:mbi).
 11SM-begin badly
 'The day when Sipho cooked at your house began badly.'

In the sentences in (35), the head nouns *usuku* 'day' and *indlela* 'way' do not phrase separately from the rest of the relative clause, suggesting that these elements can denote both individuals and within other domains.

Before closing this section, we would like to briefly compare English and Zulu. In English, according to Rothstein, type-shifting is needed to reconcile the mismatch in interpretation. Since such locative relatives do not allow deletion of the relative pronoun or the complementizer, one may conclude that type-shifting needs to be overtly marked. The question then arises in the case of Zulu as to how type-shifting is marked. Under the analysis proposed here, Zulu locative relatives employ the empty operator strategy. Similar to other relatives in Zulu, there is no overt marking. However, in the cases of unambiguous locative elements in Zulu, type-shifting should still be needed to provide the

correct interpretation. But there does not seem to be any requirement for overtly marking such a type-shifting mechanism.

5 Conclusion

We have shown that locative relatives in Zulu have a different prosodic phrasing than nominal relatives, in that the head of a locative relative is phrased separately from the rest of the relative clause. We propose that the best way to account for locative relatives in Zulu is to resort to the old style adjunction analysis of relative clauses, involving an empty operator.

Turning back to the question concerning the categorical status of locative expressions in Zulu, we have seen that locative relatives differ from nominal relatives, suggesting that we are not dealing with a nominal category. However, the differences we have seen in Zulu can be due to something other than categorical mismatches (for instance, mismatches in interpretation). Further, Zulu has a very impoverished locative system. To get to understand further what drives the differences we have seen above, it is thus essential that we investigate other Bantu languages with a fuller locative system (i.e., with several locative noun classes), and examine the behaviors of locative relatives in contrast with nominal relatives.

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The Prosody of Relative Clauses in Chewa*

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This paper tests three current theories of the phonology-syntax interface – Truckenbrodt (1995), Pak (2008) and Cheng & Downing (2007, 2009) – on the prosody of relative clauses in Chewa. Relative clauses, especially restrictive relative clauses, provide an ideal data set for comparing these theories, as they each make distinct predictions about the optimal phrasing. We show that the asymmetrical phase-edge based approach developed to account for similar Zulu prosodic phrasing by Cheng & Downing also best accounts for the Chewa data.

1 Introduction

Chewa (N30) is one of the three native national languages of Malawi. (The other two are Tumbuka and Yao.) While many aspects of Chewa are relatively well described – see, e.g., Kanerva (1990), Mchombo (2004), and Watkins (1937) – complex constructions like relative clauses have not been described in detail. Further, while Kanerva’s (1990) study of Chewa phrasal prosody has been reanalyzed in subsequent theories of the phonology-syntax interface (Truckenbrodt 1995, Selkirk 2000, Seidl 2001), these theories have not been thoroughly tested on complex constructions like relative clauses.

We have undertaken a research project to fill these gaps. The goal of this paper (which expands on parts of Downing & Mtenje, to appear) is twofold: to illustrate the morphosyntactic properties of relative clauses, in section 2; and to

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provide a prosodic analysis, which tests three different theories of the phonology-syntax interface – Truckenbrodt (1995), Pak (2008) and Cheng & Downing (2007, 2009) – on the relative clause data, in section 3. We will show that the asymmetrical phase-edge based approach developed to account for Zulu prosodic phrasing by Cheng & Downing also best accounts for the Chewa data.

2 Morphosyntactic properties of relative clauses

2.1 Relative morphemes, word order within

Relative clauses are potentially signaled by two segmental relative markers: *-méné*, which occurs at the beginning of the relative clause, and the enclitic *-o*, which occurs at the end of the relative clause or following the first relative *vP*-internal Phonological Phrase.¹ The relative morphemes, *-méné* and *-o*, can co-occur and they can also both be omitted. The distribution of the two relative morphemes is illustrated by the data in (1a-d); (1e) provides an example of *-o* in non-final position.²

- (1) a. with *-mene* only
 ([M-balá *i-méné* í-ná-bá n-dalámá z-àángá])
 CL9-thief CL9-REL 9SUBJ-PST1-steal CL10-money CL10-my
 (i-ku-tháawa.)
 9SUBJ-PROG-run.away
 ‘The thief who stole my money is running away.’
- b. with *-o* only
 ([M-baálá) í-ná-bá n-dalámá z-angáa-yo]) (i-ku-tháawa.)
- c. with both *-mene* and *-o*
 ([M-balá *i-méné* í-ná-bá n-dalámá z-angáa-yo]) (i-ku-tháawa.)
- d. omitting both *-mene* and *-o*
 ([M-baálá) í-ná-bá n-dalámá z-àángá]) (i-ku-tháawa.)

¹ As Nsuka-Nkutsi’s (1982) comprehensive survey of relative clause morphology in Bantu languages notes, the likely historical source of the relative pronoun, *-méné*, in Chewa is the homophonous emphatic demonstrative: e.g., **nyumbá zi-ménee-zo** ‘those very houses’. As we can see in this example, the *-o* relative enclitic is homophonous with the remote demonstrative. (See Watkins 1937: 129 for agreement paradigms.)

² In the data, parentheses indicate prosodic phrase edges, while square brackets highlight the syntactic constituent under discussion. Evidence for the prosodic phrasing includes penult vowel length and tonal alternations (compare, e.g., the length and tone of the penult vowel of the first word in (1a) vs. (1b)). The phonological evidence for the phrasing is discussed in detail in Kanerva (1990), and in Downing & Mtenje (to appear).

- e. with *-mene* and non-final *-o*
 ([A-lendó *a-méné* á-ná-mú-óná Bándaa-wo)
 CL2-visitor CL2-REL 2SUBJ-PST1-1OBJ-see CL1.Banda-CL2.REL
 (dzuulo])
 yesterday
 (a-píítá.)
 2SUBJ/PERF-go
 ‘The visitors who saw Banda yesterday have gone.’

2.2 Relativization out of different positions, use of resumptive OM

The examples in (1) are of subject relatives: i.e., the head of the relative clause is the subject of the relative clause. Other positions can also be freely relativized, with the same relative morphemes, with the same canonical SVO word order in the relative clause as in main clauses *except in possessive relatives*. Indirect object relatives, including some non-human ones, generally require resumptive Object Marking (OM) on the relative verb. These points are illustrated in the data below; the resumptive morphemes are underlined:

- (2) Direct object relatives
- a. (M-waná wá súkúlú a-ná-lémba [káláta i-méné
 CL1-child CL1.of CL9.school 1SUBJ-PST2-write CL9.letter CL9-REL
 m-phunzitsi á-ná-weléenga]) (kwá á-nyúuzi.)
 CL1-teacher 1SUBJ-PST2-read for CL2-newspaper
 ‘A student wrote the letter which the teacher read for the newspaper.’
- b. ([Káláta i-méné m-phunzitsi á-ná-weléenga])
 CL9.letter CL9-REL CL1-teacher 1SUBJ-PST2-read
 (í-ma-néná m-fúumu.)
 5SUBJ-HAB-criticize CL9-chief
 ‘The letter which the teacher read criticizes the chief.’
- (3) Indirect object relatives – note resumptive OMs (underlined)
- a. ([Mw-aná a-méné Bándá á-ná-mu-pátsá m-pháatso])
 CL1-child CL1-REL CL1.Banda 1SUBJ-PST2-1OBJ-give CL9-gift
 (a-ku-mú-thókòózá.)
 1SUBJ-PROG-(1OBJ-)thank
 ‘The child who Banda gave gifts to thanks him.’

- b. (A-ná-kwíyá ndí [m-phunzitsi a-méné a-lendó
2SUBJ-PST2-get.angry with CL1-teacher CL1-REL CL2-visitor
á-ná-mu-gulíla zóováala].)
2SUBJ-PST2-1OBJ-buy.for CL10.clothes
‘They got angry at the teacher for whom the visitors bought clothes.’
- c. ([Sukúlú i-méné a-lendó á-ná-i-pátsá ma-búuku])
CL9.school CL9-REL CL2-visitor 2SUBJ-PST2-9OBJ-give CL6-book
(i-li ku-Zoómbá.)
9SUBJ-is LOC-Zomba
‘The school that the visitors gave the books to is at Zomba.’
- (4) IO possessive relative – note resumptive possessive and word order
([M-tsíkána a-méné njingá yáké mú-ná-bweréeka])
CL1-girl CL1-REL CL9.bicycle CL9.her you.plSUBJ-PST2-borrow
w-a-ngo-dútsá pompano.)
1SUBJ -PERF-just-pass by recently
‘The girl whose bicycle you borrowed just walked past.’
- (5) Head of RC is locative, temporal, instrumental or adjunct
– note, no resumptive morpheme
- a. ([Tsíkú li-méné mw-aná wángá á-ná-baadwá])
cl5.day cl5-rel cl1-child cl1.my 1SUBJ-PAST-be born
(ndi-ná-gwíra ntchiito) (m'-maáwá.)
1SUBJ-PAST.HAB-catch cl9.work in-morning
‘On the day my child was born I worked in the morning.’
- b. ([M'-méné á-ma-imbírá nyimbó iiyi])
in-rel 1SUBJ-HAB-sing cl9.song cl9.this
(zí-ma-ndi-kumbútsá mu-dzi wáanga.)
10SUBJ-HAB-me.OBJ-remind cl3-village cl3.my
‘The way she sings this song reminds me of my home village.’
- c. ([Sitóló i-méné mú-nga-gulé má-búukhu]) (i-li
cl9.shop cl9-rel you.pl.SUBJ-can-buy cl6-book 9SUBJ-be
pafúpi ndí-pókwéléra ma-báasi.)
near with-where.catch cl6-bus
‘The shop where you can buy books is next to the bus stop.’
- d. ([Chi-fukwá chi-méné á-ná-bwéléra kuuno])
(cl7-reason) cl7-rel 1SUBJ-PST-come here
(chi-ku-ndí-dándaulítsa.)
7SUBJ-PROG-me.OBJ-worry
‘The reason that she came here for worries me.’

- e. ([N-dówá i-méné tí-ma-tungírá maádzí])
 cl9-bucket cl9-rel we.SUBJ-HAB-fetch with cl6.water
 (y-a-onongeéká.)
 9SUBJ-PERF-be broken
 ‘The bucket with which we fetch water has broken.’

2.3 Similarity in form of restrictive, free, non-restrictive and clefted RCs

Other relative clause constructions have similar morphosyntax. (See Downing & Mtenje, to appear, for details.) One finds the same relative morphemes in the same positions and the relative morphemes are often optional (except in non-restrictives); one finds the same conditions on the use of resumptive object marking. We also find a similarity in the prosody: all relative clause constructions are followed by a prosodic phrase break. However, as shown in the data below, we find some differences in the prosody: clefts and non-restrictive relative clauses phrase separately from their heads:

- (6) Subject headless (free) relative
 ([A-méné á-ná-mu-óná Báanda) (dzuulo]) (a-piítá.)
 (CL2-REL) 2SUBJ-PST2-1OBJ-see CL1.Banda yesterday 2SUBJ.PERF-go
 ‘The ones who saw Banda yesterday have gone.’
- (7) Subject cleft
 Q: ([A-méné á-ná-gulá nyama y-ówóola]) (ndi ndàání)?
 (CL1-REL) 1SUBJ-PST2-buy CL9.meat CL9.of-spoiled (COP) CL1.who
 ‘The one who bought the spoiled meat is who?’
 A: (Ndi m-fúmú yá í-ngóono) ([i-méné í-ná-gulá
 COP CL9-chief CL9.of CL9-young (CL 9-REL) 9SUBJ-PST2-buy
 nyama y-ówóola].)
 CL9.meat CL9.of-spoiled
 ‘It’s the young chief who bought the spoiled meat.’
- (8) Subject non-restrictive relative
 (A-Báanda) [a-méné á-ná-gulá nyama y-ówóola])
 CL2-Banda CL2-REL 2SUBJ-PST2-buy CL9.meat CL9.of-spoil
 (á-ma-khálá pa-fúpí ndí m-siika.)
 2SUBJ-HAB-live LOC-close to CL3-market
 ‘Mr. Banda, who bought the spoiled meat, lives near the market.’

2.4 Some morphosyntactic puzzles

It is beyond the scope of this paper to take up a morphosyntactic analysis of the relative clause data. Before moving to the prosodic analysis which is the central concern of the paper, though, we would like to briefly point out a couple of issues for future research.

The first concerns the use of the object marker in the relative verb phrase. According to Mchombo (2004), resumptive object marking is always required for an IO (indirect object) relative. Human IO relative heads do consistently require object marking. At least some non-human IO heads also do, as shown in (3c) but, as we can see in (5e), heads of instrumental relatives, at least, do not. Indeed, human direct object relative heads often occur with object marking on the relative verb (underlined), as shown below, though this appears to be optional:

- (9) (Galú wá-m-kúluu-yo) (a-ná-lúma [m-balá
 cl1.dog cl1.of-cl1.big-cl1.that 1SUBJ-PST2-bite cl9.thief
 i-méné tí-ná-yí-pírikítsá ndí kú-yí-gwíírá].)
 cl9-rel we.SUBJ-PST2-9.OBJ-chase and INF-9.OBJ-catch
 ‘That big dog bit the thief who we chased and caught.’

A second problem concerns the prosody of optional *-méné*. As we can see in comparing (10a) with (10b), when *-méné* is omitted, there is an obligatory phrase break following the head of the relative clause, giving it the same phrasing as a non-restrictive relative:

- (10) Restrictive RC – no phrase break with *-méné*; can omit it
 a. ([A-lendó a-méné á-ná-mú-óná Báanda) (dzuulo])
 CL2-visitor CL2-REL 2SUBJ-PST1-1OBJ-see CL1.Banda yesterday
 (a-píítá.)
 2SUBJ.PERF-go
 BUT – omitting *-méné* requires a phrase break!
 b. ([A-leéndó) (á-ná-mú-óná Báanda) (dzuulo]) (a-píítá.)
 ‘The visitors who saw Banda yesterday have gone.’

- (11) Non-restrictives – cannot omit *-méné* and preceding phrase break required
- a. (A-leéndó) ([a-méné á-ná-mú-óná Bándaa-wo)
CL2-visitor CL2-REL 2SUBJ-PST1-1OBJ-see CL1.Banda-(CL2.REL)
(dzuulo]) (a-piítá.)
yesterday 2SUBJ.PERF-go
- b. *(A-leéndó) ([á-ná-mú-óná Bándaa-wo) (dzuulo]) (a-piítá).
'The visitors, who saw Banda yesterday, have gone.'

The problem is to explain why simply omitting *-méné* in a restrictive relative clause changes the prosodic phrasing, as there is no obvious difference in the syntactic structure.³ To understand better why it is problematic for there to be a mismatch between prosodic phrasing and syntax, we need to know more about prosodic phrasing in Chewa. This is the topic of the next section.

3 Prosodic analysis

3.1 Basic facts of Chewa phonological phrasing in simple clauses

Chewa is a tonal language, like most Bantu languages (Kisseberth & Odden 2003). As demonstrated in Kanerva (1990) and Bresnan & Kanerva (1989), the realization of lexical and grammatical High tones is conditioned by phonological processes which take the Phonological Phrase as their domain. Kanerva (1990) shows that two main factors define the parse into Phonological Phrases: syntax and focus. Syntax determines the prosodic phrasing under neutral (or broad) focus.⁴

In the analyses of Bresnan & Mchombo (1987), Bresnan & Kanerva (1989), Kanerva (1990) and Mchombo (2004), sentences (S) in Chewa have three main XP subconstituents, which can be freely ordered: an optional subject NP, an obligatory VP (i.e., the verb and all its complements), and an optional topic NP. As shown in the data below, each of these three constituents is parsed into its own Phonological Phrase.

³ We would like to thank the audience members at the workshop for proposing two plausible explanations for this phrasing. One is that, without the phrase break, a relative clause which omits *-méné* is often identical to a non-relative clause. The prosodic break serves to identify the string following the head as a relative. The other is that omitting *-méné* in fact gives a non-restrictive interpretation to the following relative, to match the similarity in phrasing with non-restrictives. More research is required to evaluate these proposals.

⁴ We do not take up here the effect of focus on prosodic phrasing. See Kanerva (1990), Truckenbrodt (1995, 1999) and Downing & Mtenje (to appear) for discussion and analysis.

- (12) Subject, Topic and VP are minimal XPs
- a. (Subj) (VP) – Kanerva (1990: 102, fig (112))
 (Fiisi]) (a-na-dyá m-káango].)
 CL1.hyena 1SUBJ-PST1-eat CL3-lion
 ‘The hyena ate the lion.’
 - b. (Subj) (VP) (Top) – (Kanerva 1990: 107, fig (123b))
 (Mwaána]) (a-na-m-pézá kú-dáambo]) (gaálu].)
 CL1.child 1SUBJ-PST1-1OBJ-find LOC-CL5.swamp CL1.dog
 ‘The child found it at the swamp, the dog.’
 - c. (Top) (VP) (Subj) – (Kanerva 1990: 102, fig (110c))
 (A-leenje]) (zi-ná-wá-luuma]) (njúuchi].)
 CL2-hunter 10SUBJ-PST2-2OBJ-bite CL10.bees
 ‘The hunters, they bit them, the bees [did].’

In the data in (12), where the subjects and topics consist of single nouns, and the VPs consist of a verb plus a single complement, Phonological Phrases appear to right-align with minimal XPs. Kanerva (1990) demonstrates that minimal XP edges and Phonological Phrase edges do not always coincide, however. Both complements of the verb in a [V DP XP] verb phrase are parsed with the verb into a single Phonological Phrase. We do not find a phrase break after the first XP complement when the entire VP is in broad focus:

- (13) VPs containing two verbal complements
- a. ([V XP XP]) (Kanerva 1990: 98, fig. (101a))
 ([A-na-ményá nyumbá ndí mw-áála].)
 s/he-PST1-hit CL9. house with CL3-rock
 ‘S/he hit a house with a rock.’
 - b. (Subj) ([VP]) Kanerva (1990: 103, fig (114b))
 (Mwaána]) ([a-na-pézá galú kú-dáambo].)
 CL1.child 1SUBJ-PST1-find CL1.dog LOC-CL5.swamp
 ‘The child found the dog at the swamp.’
 - c. (Subj) ([VP]) Kanerva (1990: 103, fig. (114a))
 (Mfúumu) ([i-na-pátsá mwaná zóováala].)
 CL9.chief 9SUBJ-PST1-give CL1.child CL10.clothes
 ‘The chief gave the child clothes.’

- d. ([V XP XP])
(Ma-kóló [a-na-pátsá mwaná ndalámá zá
CL6-parent 6SUBJ-PST1-give CL1.child CL10.money CL10.of
súkúulu].)
CL9.school
'The parents gave the child money for school.'
- e. ([V XP XP])
(Ma-kóló [a-na-pátsíra mwaná ndalámá zá mú-longo
CL6-parent 6SUBJ-PST1-give CL1.child CL10.money CL10.of CL1 sister
wáake.)
CL1.her
'The parents gave the child money for her sister.'

This is the essential problem to be accounted for in any analysis of Chewa prosodic phrasing. The Phonological Phrase which includes the VP is bigger than we expect because there is no phrase break following the first complement of the verb. The prosodic algorithm must optimize a Phonological Phrase break following subject and topic DPs, yet it must not optimize a Phonological Phrase break following DPs internal to the VP. In the next section, we present three recent theories which have been proposed to account for this phrasing.

3.2 Three phrasing algorithms optimizing: (S) (_{VP}V XP XP) (Topic)

3.2.1 Truckenbrodt (1995, 1999, 2005, 2007)

Truckenbrodt (1995, 1999) reanalyzes Kanerva's (1990) data, formalizing Selkirk's (1986, 1995, 2000) End-based approach to phonological phrasing in terms of Optimality Theory (OT) Alignment constraints (McCarthy & Prince 1993). He proposes that the following constraints, ranked in the order given, optimize the phrasing illustrated in the preceding section:

- (14) a. WRAP XP: An XP_{max} is contained in a (single) PhP.
That is, a maximal XP cannot be split into more than one PhP.
b. ALIGNR(XP, PP):
Align the right edge of each XP with the right edge of a PhP.

The basic asymmetric Edge-based alignment constraint ALIGNR (14b) optimizes aligning the right edge of each XP with the right edge of a Phonological Phrase: (S) (V XP) (XP). WRAP (14a) optimizes parsing each maximal XP into a single Phonological Phrase. Ranking WRAP above ALIGNR (14b) optimizes parsing an

entire maximal VP into a single Phonological Phrase and penalizes a phrase break after each VP-internal XP complement:

- (15) a. \surd (S) ([V XP XP]) satisfies WRAP
b. * (S) ([V XP] (XP)) violates WRAP

WRAP thus has the effect of minimizing the number of prosodic phrases that a maximal XP is parsed into, allowing a VP to be parsed as a single Phonological Phrase.

3.2.2 Pak (2008); Selkirk (2009)

Phase-based syntax provides new ways of thinking about the relation between syntax and prosodic phrasing. Phases – ν P and CP – define derivationally ‘cyclic’ spell-out domains which can map symmetrically to prosodic domains (Kratzer & Selkirk 2007; Ishihara 2007; Pak 2008; Selkirk 2009), and phases also provide a new type of constituent edge for prosodic domains to align with (Cheng & Downing 2007, 2009; Downing & Mtenje, to appear).

Pak (2008) exploits the first possibility in accounting for the domain of what she calls High Tone Anticipation (HTA) in Luganda. According to Pak, the domain for HTA is equivalent to the domains parsed into Phonological Phrases in Chewa. Subject DPs and Topics form a separate prosodic domain from the verb and its complements, which are parsed together into a single prosodic domain. Her proposal (very simplified) is that subjects and topics occur in Spec, CP. This leaves the verb and its complements in the (bolded) spell-out domain of CP: [_{CP} Subj ([_{C'} V XP XP])]. That is, the verb and all its complements are parsed together into a separate prosodic domain from subjects and topics because they occur together in a syntactic spell-out domain which excludes subjects and topics. As Selkirk (2009) points out, Pak’s proposal is consistent with a theory that symmetrically maps syntactic constituent edges with prosodic phrase edge. In this case, the relevant prosodic constraint would be MATCH-CLAUSE: both edges of the clause coincide with the edges of an Intonation Phrase.

3.2.3 Cheng & Downing (2007, 2009)

Cheng & Downing (2007, 2009) and Downing & Mtenje (to appear) pursue an alternative way of incorporating phase-based syntax into prosodic phrasing algorithms, namely, they propose that in Zulu and Chewa, prosodic phrase breaks asymmetrically coincide with the right edges of syntactic phases, ν P and CP: [_{CP} Subj [_{ν P} V XP XP]]). As we can see, this proposal optimizes phrasing

the subject with the VP (vP), and, indeed, this is commonly found in Al Mtenje's variety of Chewa, as shown in (13d, e), for example.

To account for the data where the subject is followed by a phrase break, we propose that the subject is topicalized, adjoined to CP, as illustrated in (16). Note the similarity in the syntactic structure and prosodic phrasing of topicalized subjects and non-restrictive relative clauses:

- (16) a. Topicalized subject: [Topic] ([_{CP}
b. Non-restrictive relative: [_{DP} head N] ([_{DP-REL} [_{CP}

Recall from (8) and (11), above, that in non-restrictive relative clauses, there is a phrase break separating the head from the relative clause. Following Cheng & Downing (2007, 2009), we appeal to the argument (complement)–adjunct distinction which work like Chen (1987) has shown can play a role in conditioning prosodic phrasing to account for the similarity in phrasing of topicalized subjects and non-restrictive relative clauses. Adopting typical X-bar theoretic terminology (see Jackendoff 1977, Chomsky 1981, among others), the difference between an adjunct and a complement rests upon the fact that an adjunct is not syntactically selected by a head, while a complement is. There are two constructions in which CPs are selected: a sentential complement selected by a verb, and a restrictive relative clause. These two contrast with other CPs, which are not selected: e.g., non-restrictive relative clauses, other adjunct clauses, and CPs following left-dislocated topics.

To sum up this approach, the general 'match' between prosodic phrases and syntactic phases is asymmetrical: the right edge of phrases and phases always match. The left edge of phrases and phases only match when the phase is not selected by what precedes it.

3.3 Testing the approaches on Chewa relative clause prosody

Relative clauses provide an ideal testing ground for these theories, as they each make very distinct predictions about the optimal prosodic phrasing. WRAP (Truckenbrodt 1995, 1999) predicts that the VP should be parsed into a single Phonological Phrase no matter how internally complex it might be. A relative clause modifying the first XP complement within VP should have no effect on prosodic phrasing, as an entire maximal VP is optimally WRAP-ed. MATCH-CLAUSE (Pak 2008; Selkirk 2009) predicts that relative clauses should be preceded and followed by a prosodic phrase break, *iff* a relative clause contains a CP (as is usually assumed), as each CP spell-out domain symmetrically coincides with a prosodic phrase. The asymmetrical ALIGNR-PHASE/ALIGNL-NON-SELECTED PHASE (Cheng & Downing 2007, 2009; Downing & Mtenje, to

appear) approach predicts that all relative clauses should be followed by prosodic break, but only non-restrictive relatives (non-selected) should be preceded by a prosodic break; restrictive relatives (selected) should not be.

The facts of Chewa support the asymmetrical alignment of prosodic phrases with phases. In the data set in (17), we find minimal pairs of sentences containing [_{VP} V DP XP] constituents. In the second member of each pair, (17b, d, f), the first verbal complement is not modified by a relative clause; in the first member of each pair, (17a, c, e), it is. As we see, when the first verbal complement is modified by a relative clause, it is consistently followed by a prosodic phrase break, even though this phrase break violates WRAP. It is never preceded by a prosodic phrase break (when *-méné* occurs), even though MATCH-CLAUSE predicts a break:

- (17) a. (M-waná wá súkúlú [_{VP} a-ná-lémba [_{DP} káláta i-méné
CL1-child CL1.of CL9.school 1SUBJ-PST2-write CL9.letter CL9-REL
m-phunzitsi á-ná-weléenga]) ([_{PP} kwá á-nyúuzi].)
CL1-teacher 1SUBJ-PST2-read for CL2-newspaper
‘A student wrote [the letter which the teacher read] for the
newspaper.’
cf.
- b. (M-waná wá súkúlú [_{VP} a-ná-lémba [_{DP} káláta]
CL1-child CL1.of CL9.school 1SUBJ-PST2-write CL9.letter
[_{PP} kwá á-nyúuzi].)
for CL2-newspaper
‘A student wrote the letter for the newspaper.’
- c. (Ma-kóló [_{VP} a-na-pátsíra [_{DP} mwaná a-méné
CL6.parent 6SUBJ-PST1-give CL1.child CL1-REL
á-ná-wa-chezéera]) ([_{DP} ndalámá zá mú-longo wáake].)
1SUBJ-PST2-6OBJ-visit CL10.money CL10.of CL1-sister CL1.her
‘The parents gave [the child who visited them] money for her sister.’
cf.
- d. (Ma-kóló] a-na-pátsíra mwaná ndalámá zá
CL6-parent 6SUBJ-PST1-give CL1.child CL10.money CL10.of
mú-longo wáake].)
CL1-sister CL1.her
‘The parents gave the child money for her sister.’

- e. (Ti-ku-gáníza kutí m-nyamatá [_{VP} á-pézá [_{DP} galú
we-PROG-think that CL1-boy 1SUBJ.FUT-find CL1.dog
a-méné á-ná-mu-sowéetsa]) ([_{PP} ku-dáambo]).
CL1-REL 1SUBJ-PST2-1OBJ-lose LOC-CL5.swamp
‘We think the boy will find [the dog which he lost] at the swamp.’
- cf.
- f. (Subj) (VP) Kanerva (1990: 103, fig (114b))
(Mwaána) (a-na-pézá galú kú-dáambo).
CL1.child 1SUBJ-PST1-find CL1.dog LOC-CL5.swamp
‘The child found the dog at the swamp.’

Pak (2008), in fact, acknowledges that her analysis incorrectly predicts that relative clauses form a separate domain for HTA from a preceding main clause in Luganda. To account for their phrasing, she proposes that in Luganda relative clauses are reduced clauses and so do not contain a CP. Their phrasing is then like other reduced clauses (e.g., infinitival complements). Only non-reduced embedded clauses, like *think/say* clauses, form a separate HTA domain.

Proposing that relative clauses in Chewa are reduced clauses would not save the analysis, however. As Kanerva (1990) and our work shows, all embedded complement clauses, including of *think/say* clauses, phrase with what precedes:

(18) Embedded and recursive (relative) clauses (underlined)

- a. ([_{CP} [_{CP} Mu-nthu a-méné á-ná-bweréká [_{CP} búkhú
CL1-man CL1-REL 1SUBJ-PST2-borrow CL5.book
li-méné ndí-ná-gulá ku-Lilongwe]]) (w-a-pita ku-Mzúuzu).
5-REL I-PST2-buy LOC-Lilongwe 1SUBJ-PERF-leave LOC-Mzuzu
‘The man who borrowed the book which I bought in Lilongwe has moved to Mzuzu.’
- b. (Ti-ku-fúná [_{CP} sitóló i-méné í-ma-gulítsá
we-PROG-look.for CL9.shop CL9-REL 9SUBJ-HAB-sell
[_{CP} n-sápáto zi-méné zí-ma-chokérá ku-Mangoochi]).
CL10-shoes CL10-REL 10SUBJ-HAB-come.from LOC-Mangoochi
‘We are looking for the shop which sells shoes which come from Mangochi.’
- c. ([_{CP} [_{CP} Mu-nthu a-méné á-ná-nená kutí m-balá
CL1-man CL1-REL 1SUBJ-PST1-say that CL9-thief
i-ná-bá ndaláama]) (a-ná-thaawa).
9SUBJ-PST2-steal CL10.money 2SUBJ-PST2-run.away
‘The man who said that the thief stole some money ran away.’

- d. ([_{CP} Mu-nthu a-na-néná kutí m-balá i-méné
 CL1-man 1SUBJ-PST1-say that CL9-thief CL9-REL
í-ná-bá ndaláama] (i-na-tháawa].)
 9SUBJ-PST1-steal CL10.money 9SUBJ-PST1-run.away
 ‘The man said that the thief who stole the money ran away.’
- e. Kanerva (1990: 117)
 (Mavúuto) ([_{vP} a-ku-gáníza kutí mw-alá úu-gwa].)
 cl1.Mavuto 1SUBJ-PRES-think that cl3-rock 3SUBJ-fall
 ‘Mavuto thinks that the rock will fall.’

It is syntactically implausible to account for this phrasing by proposing that all embedded clauses of Chewa are reduced clauses. It follows straightforwardly from the ALIGNR-PHASE analysis, though, that all embedded clauses – whether reduced or not – would phrase with what precedes. Prosodic phrase breaks always align with the first right phase edge, and no prosodic break is expected at the left phrase edge unless it is not selected.

4 Conclusion

As we have seen, the morphosyntax of Chewa relative clauses is straightforward. A noun playing any role can be relativized. All relative clause types contain the same range of relative morphology.

The prosody of Chewa relative clauses is also straightforward. All relative clause types are followed by a prosodic break; only non-restrictive relatives (and clefts) – i.e., non-selected CPs – are preceded by a prosodic break. These generalizations hold true of other embedded clause types. This prosody falls out from an asymmetric Edge-based analysis, aligning the right edge of a Phonological Phrase with the right edge of a syntactic phase (vP or CP). It is problematic for non-phase based approaches (like Truckenbrodt 1995) or symmetrical phrasing approaches (like Pak 2008).

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Tone, Syntax, and Prosodic Domains in Luganda

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“The documentation of... descriptive generalizations is sometimes clearer and more accessible when expressed in terms of a detailed formal reconstruction, but only in the rare and happy case that the formalism fits the data so well that the resulting account is clearer and easier to understand than the list of categories of facts that it encodes.... [If not], subsequent scholars must often struggle to decode a description in an out-of-date formal framework so as to work back to... the facts.... which they can re-formalize in a new way. Having experienced this struggle often ourselves, we have decided to accommodate our successors by providing them directly with a plainer account.” (Akinlabi & Liberman 2000:24)

1 Introduction

Although the interaction between tone, syntax, and prosodic domains in Luganda has been well-worked, both by us and by others (see references), several colleagues have commented to us over the years how useful it would be if the essentials were all assembled in one place. This is our goal here. We begin by presenting an overview of the syntax-phonology interface in Luganda, synthesizing from our previous work. We then turn to relative and other subordinate clauses, where we address the questions of how the prosodic domains within them compare to those in main clauses and how they form prosodic domains with the constituents in a main clause. Our new observations will further confirm that the prosodic phonology of Luganda is among the most intricate and complex of any language. Since some of the facts do not directly fit into any preexisting formal theory of the syntax-phonology interface, we do as the above citation suggests and present the descriptive generalizations relatively

informally via classical autosegmental tonal representations and rules. The outline of the paper is as follows:

- §2. The lexical tone system
- §3. The prosodic domains
 - §3.1. The tone group (TG): defined by L tone deletion (LTD)
 - §3.2. The clitic group (CG): defined by final vowel shortening (FVS)
 - §3.3. The tone phrase (TP): defined by H tone anticipation (HTA)
 - §3.4. Compounds and phrasal words: “rank-shift” effects
- §4. Subordinate clauses
 - §4.1. Subject- and object relative clauses (SRC, ORC)
 - §4.2. Temporal relative clauses
 - §4.3. Subject- and object clefts (S-cleft, O-cleft)
 - §4.4. Other subordinate clauses
- §5. Conclusion

} sometimes marked
by H tone
reduction (HTR)

2 The lexical tone system

The basic elements of Luganda tonology reveal a “2-3-2 system”, where H = high and L = low:

(1)	<i>level of tonal representation</i>	<i>of tonal contrasts</i>	<i>description</i>
a.	underlying input	/H, Ø/	privative
b.	intermediate	H, L, Ø	ternary
c.	surface output	H, L	binary

As seen, the tonal representations depend on the level of representation. Since the intermediate level refers roughly to the output of the lexical phonology, the three levels might be identified as morphophonemic, phonemic, and (systematic) phonetic. Although we show only H and L outputs, a restricted HL falling tone also exists (vs. LH rising, which the language prohibits), and a downstepped \downarrow H can result if one tone group ends with HL and the next begins with H. The tone-bearing unit is the mora.

As seen in (2), Luganda words with an underlying /H/ obligatorily have a H to L pitch-drop:

(2)	# σ 's	underlying	intermediate	output with %L ... H%	
a.	1 σ	/ki-bé/	ki-bê	kì-bê	'jackal'
b.	2 σ	/ki-kópo/	ki-kópò	kì-kópò	'cup'
		/ki-sikí/	ki-sikî	kì-sikî	'log'
c.	3 σ	/ki-sásilo/	ki-sásilo	kì-sásiló	'rubbish'
		/ki-yulífu/	ki-yulífù	kì-yùlífù	'torn' (cl. 7)
d.	4 σ	/ki-bónelezo/	ki-bónèlezo	kì-bónèlézó	'punishment'
		/ki-begábega/	ki-begábèga	kì-bègábègá	'shoulder'

In the above and other examples, an acute (´) accent indicates H tone, a grave (˘) = L, (^) indicates a HL falling tone, and the absence of an accent indicates lexically toneless moras, which receive their tones postlexically. The words in (2) illustrate the major, but not all noun patterns. The nouns in (3) show that Luganda words which lack an underlying /H/ acquire LHⁿ output tones at the phrase level:

(3)	# syllables	underlying	intermediate	output: %L ... H%	
a.	monosyllabic	/ki-de/	ki-de	kì-dé	'bell'
b.	bisyllabic	/ki-tabo/	ki-tabo	kì-tábó	'book'
c.	trisyllabic	/ki-lagilo/	ki-lagilo	kì-lágíló	'command'
	quadrisyllabic	/ki-sanilizo/	ki-sanilizo	kì-sánílízó	'comb'

The output forms in (2) and (3) show that the %L ... H% boundary tones link to moras as follows:

- (4)
- a. %L links L→R on all toneless moras up to a /H/; if there is no /H/, it goes on the first mora
 - b. H% links R→L on all toneless moras up to a L; if the word ends H-L, H% doesn't link
 - c. toneless words (in fact, phrases) acquire a L-Hⁿ pattern (one L, multiply branching H)

It should be noted that pre-pausal H% is "optional", typically indicating "finality".

The verb paradigm in (5) shows the toneless verb root *-sib-* 'tie' occurring with a /H/ or /Ø/ subject marker (SM) and a /Ø/ object marker (OM):

(5)		<i>underlying</i>	<i>intermediate</i>	<i>output: %L ... H%</i>	
a.	SM = Ø	/a-sib-a/	a-sib-a	à-síb-á	‘s/he ties’
b.	OM = Ø	/a-ki-sib-a/	a-ki-sib-a	à-kí-síb-á	‘s/he ties it’
c.	SM = /H/	/bá-sib-a/	bá-sib-a	bá-síb-á	‘they tie’
d.	OM = Ø	/bá-ki-sib-a/	bá-kì-síb-a	bá-kì-síb-á	‘they tie it’

The corresponding forms in (6) involve the /H/ verb root *-láb-* ‘see’:

(6)		<i>underlying</i>	<i>intermediate</i>	<i>output: %L ... H%</i>	
a.	SM = Ø	/a-láb-a/	a-láb-à	à-láb-à	‘s/he sees’
b.	OM = Ø	/a-ki-láb-a/	a-ki-láb-à	à-kì-láb-à	‘s/he sees it’
c.	SM = /H/	/bá-láb-a/	bá-làb-a	bá-làb-á	‘they see’
d.	OM = Ø	/bá-ki-láb-a/	bá-kí-láb-à	bá-kí-láb-à	‘they see it’

H	H	H	L
H	H	H	L

The following is seen from the verb paradigm in (6): (i) When there is a /H-Ø-H/ sequence, a H tone plateau is formed to derive H-H-H, as in (7a). (ii) When there is a /H-H/ sequence, this becomes H-L by Meeussen’s Rule where, as seen in (7b), H → L, not Ø:

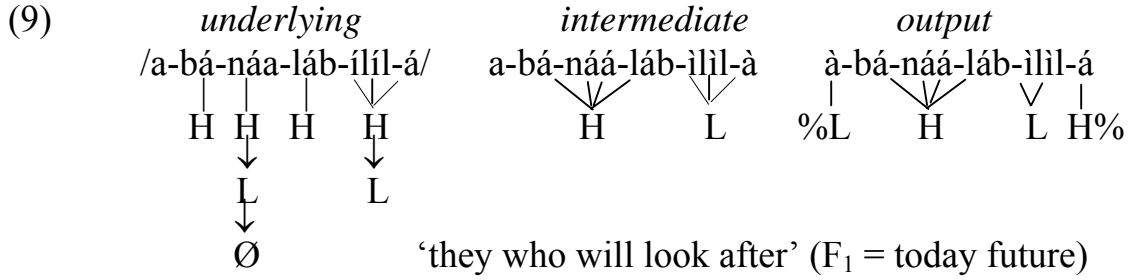
(7)	a. H tone plateauing (HTP)	b. Meeussen’s Rule (MR)
	$\begin{array}{ccc} \mu & \mu^n & \mu \\ & & \\ H & & H \end{array} \rightarrow \begin{array}{ccc} \mu & \mu^n & \mu \\ & \diagdown \quad \diagup & \\ & H & \end{array}$	$\begin{array}{ccc} \mu & \mu^n & \text{e.g. /bá-láb-a/} \\ & & \rightarrow \text{bá-làb-a} \\ H & H & \\ & \downarrow & \\ & L & \\ & & \downarrow \\ & & L \end{array}$

An additional rule needed for some of the forms in (6) is L tone insertion (LTI): If after the application of HTP and MR there is no L, insert a L after the last H: /a-láb-a/ → a-láb-à ‘s/he sees’, /ki-bónelezo/ → ki-bónèlezo ‘punishment’.

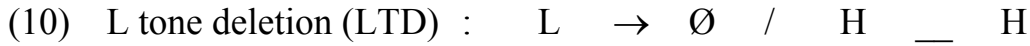
As formulated in (7b), MR creates most of the intermediate Ls and the “globality problem”: the L from MR remains distinct from Ø. This is seen in (8), where the H% boundary tone links to the three final toneless moras, but not to the preceding three L moras which derive from /H/:

(8)	<i>underlying</i>	<i>intermediate</i>	<i>output</i>
	/a-bá-tá-lí-láb-ilil-a/	a-bá-tà-li-làb-ilil-a	à-bá-tà-li-làb-ílíl-á
	H H H H	H L L L	%L H L L L H%
	‘they who will not look after’ (F ₂ = general future)		

The derivational account in (9) starts with a suffixal /H/ linked from the second to final mora of the verb stem and shows the interaction of MR, LTD, and HTP:



As seen, after MR applies, an additional rule is needed to delete a L tone which occurs between Hs:



This is followed by HTP, and the assignment of boundary tones at the phrase level.

The above summarizes the lexical tone system which predicts that the “intermediate” representation of a word should not have the following properties:

- (11) a. a L before a H : but cf. bà-àkà-síbá ‘they have just tied’
 b. exactly two H moras in sequence : but cf. mù-wálábù ‘an Arab’
 c. an all H word : but cf. Wá-ngó ‘Mr. Leopard’

As seen, there are exceptions: (11a) results from a rule of H tone reduction (HTR) discussed in §4.1. A relatively small number of nouns have two Hs in a row (cf. mù-góbâ ‘driver’), while personifications involving the /wa-/ prefix are best analyzed with a preceding toneless floating mora, e.g. /μ wa-ngo/. The lexical tonology predicts that the following should also not occur:

- (12) a. a H without a following L : but cf. /a-sib-a/ → à-síb-á ‘s/he ties’
 (with %L ... H%)
 b. a L without a preceding H : but cf. /a-sib-a/ → à-sìb-à
 (%L without H%)
 c. a H-L-H sequence : but cf. /bá-sib-a/ → bá-sib-á ‘they tie’
 (with ... H%)

As seen, the %L ... H% boundary tones render opaque three of the output generalizations from the lexical tonology, including the prohibition against a H-L-H sequence within a word. In the next section we will see that H-L-H is sometimes prohibited even across words.

3 The prosodic domains

In this section we discuss three prosodic domains: the tone group, the clitic group, and the tone phrase.

3.1 The tone group (TG)

As seen in the following examples, LTD (10) and HTP (7a) also apply postlexically:

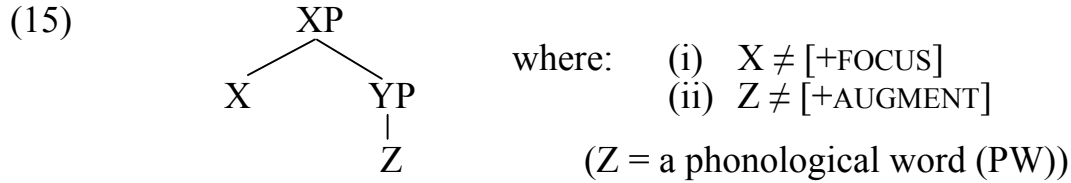
- (13) LTD and HTP also apply postlexically (*italics* = post-verbal focus)
- a. báálàbà + kibê → báálábá kibê ‘they saw *a jackal*’ (P₂)
- b. báálàbà + kikópò → báálábá kíkópò ‘they saw *a cup*’
- c. báálàbà + kisikî → báálábá kísíkî ‘they saw *a log*’
- d. báálàbà + kisásìlò → báálábá kísásìlò ‘they saw *rubbish*’
- | | | | | |
|------|---|---|---|----|
| HH H | H | H | L | H% |
| ↓ ↓ | ↓ | ↓ | ↓ | ↓ |
| L L | L | H | L | H% |
| ↓ ↓ | ↓ | ↓ | ↓ | ↓ |
| Ø Ø | | | | |
- (we indicate a single tone under báá- for graphic convenience)

In (13) both the verb and the following object have a lexical H to L pitch drop. When they are concatenated, however, the verb undergoes MR, loses its Ls and a H plateau spans the two word sequence, which forms a tone group (TG). The sentences in (14a-d), where Ø indicates a deleted L, show that a TG can be formed between the verb and different kinds of complements within the same clause (in the P₂ the prefixal /H/ is on /-á-/ , hence /tu-á-/ → tw-aá- → tw-áá-):

- (14) a. tw-áá-génd-á tútùtú ‘we went slowly’ (P₂)
 H Ø Ø HLH%
- b. tw-áá-génd-á lúlí ‘we went the day before yesterday’
 H Ø Ø HL
- c. tw-áá-génd-á ná= wálúsìmbí ‘we went with Walusimbi’
 H Ø Ø HL H%
- d. tw-áá-láb-w-á wálúsìmbí ‘we were seen by Walusimbi’
 H Ø Ø HL H%
- vs. e. tw-áá-mù-làb-à wálúsìmbí ‘we saw him, Walusimbi’
 H L L L HL H%
- f. *tw-áá-mú-láb-á wálúsìmbí
 H Ø Ø Ø HL H%

The sentence in (14e) consists of two TGs, since the noun object is a right-dislocation falling outside the main clause. (14f) is thus ungrammatical.

The TG, which has parallels in related Bantu languages, e.g. tone reduction in Haya, and is reminiscent of “conjoint” verb forms in others (Cibemba, Citonga, Kirundi etc.), is defined as in (15).



While X must be the head of XP, Z need not be the head of YP, only the first word. As indicated, X must not have an intrinsically focused value for tense-aspect-mood-polarity. Most affirmative verb forms are [-F] and form a TG with what follows; negatives are [+F] and do not form a TG:

(16)	<i>affirmative</i>	<i>negative</i>	
PRES	tú-láb-á wálúsimbí H Ø HL H%	tè-tú-làb-à wálúsimbí %L H L L HL H%	‘we (don’t) see W.’
PERF	tú-láb-yé wálúsimbí H Ø Ø HLH%	tè-tú-láb-yé wálúsimbí %L H Ø HL HL H%	‘we have(n’t) seen W.’
P ₁	tw-áá-láb-yé wálúsimbí H Ø Ø HØ HLH%	tè-twáá-làb-yè wálúsimbí %L H L L HL H%	‘we saw / didn’t see W.’
P ₂	tw-áá-láb-á wálúsimbí H Ø Ø HLH%	tè-twáá-làb-à wálúsimbí %L H L L HLH%	‘we saw / didn’t see W.’
F ₁	tú-náá-láb-á wálúsimbí H Ø H Ø HLH%	tè-tú-ú-láb-è wálúsimbí %LH H L HL H%	‘we will / won’t see W.’
F ₂	tú-lí-láb-á wálúsimbí H Ø Ø HLH%	tè-tú-li-làb-á wálúsimbí %L H L L HL H%	‘we will / won’t see W.’
NARR	nè tú-láb-á wálúsimbí %L H Ø Ø HLH%	nè tú-tà-làb-à wálúsimbí %L H L L L HLH%	‘& we saw / didn’t see W.’
HORT	tù-làb-é wálúsimbí %L HØ HLH%	[no negative; use -lém- ‘fail to’]	‘let’s see W.’

(The F₂ negative shows H tone anticipation from Walúsimbí onto the verb—see §3.3 below.)

The “inherently focused” or [+F] affirmative verb forms in (17) do not form a TG with what follows:

(17)	IMPER	làb-ílil-à wàlúsìmbí %L HL L HL H%	t-ó-làb-ílil-à wàlúsìmbí H L L L L HL H%	‘(don’t) look after W.’
	PERS	tú-kyáá-láb-à wàlúsìmbí H Ø H L HL H%	tè-tú-kyáá-láb-à wàlúsìmbí %L H Ø H L HL H%	‘we (don’t) still see W.’
	INCEP	tw-ààkà-láb-à wàlúsìmbí %L H L HL H%	tè-tú-nná-láb-à wàlúsìmbí %L H H L HL H%	‘we have(n’t) just seen W.’
	INF	ò-kù-láb-à wàlúsìmbí %L H Ø HL H%	ò-bù-tá-làb-à wàlúsìmbí %L H L L HL H%	‘to (not) see W.’

In (18b,c) a minimal pair is presented between the homophonous [+F] plural imperative vs. [-F] hortative, both from /mu-lab-é/:

(18)	a.	/mu-lab-é/	→	mù-làb-ê	‘see (pl.)!’	(L from LTI)
		%L H		HL		
	b.	mù-làb-é wàlúsìmbí			‘see (pl.) Walusimbi!’	
		%L HL HL H%				
	c.	(yàyágàlà) mù-làb-é wàlúsìmbí			‘(he wanted) you (pl.) to see W.’	
		HØ HL H%				

Besides [+F], the second property that can block TG formation in (15) is a [+AUGMENT] designation on Z. This is clearly seen where the [+A] is expressed with the “initial vowel” (IV) augment on Z:

(19)	“even focus”	“post-verbal focus”	
	a. bá-làb-á é-bí-kópò	bá-láb-á bí-kópò	‘they see cups/cups’
	b. bá-làb-á ó-bù-sáàlé	bá-láb-á bù-sáàlé	‘they see arrows/arrows’
	c. bá-làb-á á-bá-sáwò	bá-láb-á bá-sáwò	‘they see doctors/doctors’
	H L H L	H Ø H L	

Although, as seen in (19), [-A] often correlates with post-verbal focus in the affirmative, negatives also require [-A], but do not form a TG with the verb:

(20)	a.	tè-bá-làb-à bì-kópò	‘they don’t see the cups’	*è-bì-kópò
	b.	tè-bá-làb-à bù-sáàlé	‘they don’t see the arrows’	*ò-bù-sáàlé
	c.	tè-bá-làb-à bà-sáwò	‘they don’t see the doctors’	*à-bà-sáwò
		H L L H L		

The table in (21) summarizes the three out of four possible combinations of [±A] and [±LTD] for ‘they (do not) see cups’ (the unmarked vowels in the top right cell receive H tone from the phrasal rule of H tone anticipation):

	Z = [-A]	Z = [+A]	
[-LTD]	tè-bá-làb-à bì-kópò	bá-làb-a a-bì-kópò	= 2 TGs
[+LTD]	bá-láb-á bí-kópò	*	= 1 TG

In (22) we summarize the conditions on [\pm A]. The crucial point is that [-A] needs special licensing, hence having an IV is more common than not:

- (22) a. There are two [-A] licensers: NEG (negation) and FOC (focus)
 b. NEG and FOC have scope only over what follows the verb
 c. [-A] is well-formed only if it is licensed by NEG or FOC
 d. [+A] is well-formed only if it is not so licensed

As a result, nouns are [+A] in citation: *e-bì-kópò* ‘cups’, *o-bu-sáàle* ‘arrows’, *a-ba-sáwò* ‘doctors’. However, in a main clause, when there is either an implicit copula, as in (23a), or an overt copula as in (23b), the noun occurs without an augment by virtue of being in focus. In a relative clause, however, post-verbal focus does not occur, and the noun occurs with an augment, as in (23c).

(23)	(a)	(b)	(c)	
	<i>‘they are ___’</i>	<i>‘they were ___’</i>	<i>‘the ones which were ___’</i>	
	bi-kópò	by-áá-lí bí-kópò	e-by-áá-li è-bì-kópò	‘cups’
	bu-sáàlé	bw-áá-lí bú-sáàlé	o-bw-áá-li ò-bù-sáàlé	‘arrows’
	ba-sáwò	bá-á-lí bá-sáwò	a-bá-á-li à-bà-sáwò	‘doctors’
		H Ø H L	H L H L	

The following additional points need to be made about the TG. First, [\pm A] does not mean the same thing as presence vs. absence of the IV. Specifically, some IVs are not [+A] and some [+A]’s have no IV. The second point is that [+LTD] does not necessarily imply [-FOCUS]. Various word classes show that it is the [+A] that blocks LTD, not “even focus”. First note in (24a,b) that before a name LTD does not apply in either a main clause negative (MCN) or relative clause negative (RCN), which are [+F]:

- (24) a. te-bá-á-làb-à + walúsimbí → tè-bá-á-làb-à wálúsimbí
 ‘they did not see W.’ (P₂)
 b. a-bá-tá-á-làb-à + walúsimbí → à-bá-tá-á-làb-à wálúsimbí
 ‘they who did not see W.’
 c. bá-á-làb-à + wálúsimbí → bá-á-láb-á wálúsimbí
 ‘they saw Walusimbi/Walusimbi’

- d. a-bá-á-làb-à + walúsìmbì → à-bá-á-láb-á wálúsìmbí
‘they who saw Walusimbi’

However, as seen in (24c), LTD does apply before a name in a main clause affirmative (MCA), whether the intention is even or post-verbal focus. Similarly, in (24d) LTD applies in a relative clause affirmative (RCA), where post-verbal focus is not possible. Similar LTD variation is seen with /na/ ~ /ne/ ‘with’ + NP independent of focus: no LTD in a MCN in (25a) or a RCN in (25b), LTD in a MCA independent of focus in (25c), LTD after a RCA verb where post-verbal focus is not possible in (25d).

- (25) a. te-bá-á-gènd-à + na mu-kázi → tè-bá-á-gènd-à nà mù-kázi
‘they did not go with a woman’
b. a-bá-tá-á-gènd-à + na mu-kázi → à-bá-tá-á-gènd-à nà mù-kázi
‘they who did not go with a woman’
c. bá-á-gènd-à + ne ó-mu-kázi → bá-á-gènd-á né ó-mú-kázi
‘they went with a woman’
bá-á-gènd-à + na mu-kázi → bá-á-gènd-á ná mú-kázi
‘they went with *a* woman’
d. a-bá-á-gènd-à + ne ó-mu-kázi → à-bá-á-gènd-á né ó-mú-kázi
‘they who went with a woman’

The last argument that LTD ≠ focus per se is that it also takes place within the noun phrase when a noun occurs in a compound or is possessed (the L tones from %L are not transcribed but can be inferred from their initial position):

- (26) a. N compound : mu-tém-à - bi-sikî → mutémá – bísíkî ‘log-chopper’
b. N + poss. : e-bi-kópò byê → bi-kópó byê ‘(it’s) his cups’
c. N + gen. : bi-kópò byaa= kinénè → bi-kópó byáá= kínénè
H L H L H L
↓
Ø ‘(it’s) Kinene’s cups’

As seen in (27), LTD does not occur when a noun is followed by a modifier, whether the latter begins with an IV or not:

- (27) a. adjectives : e-bi-kópò e-bi-nénè ‘big cups’
bi-kópò bi-nénè ‘they are big cups’
b. numerals : e-bi-kópò bi-sátù ‘three cups’
c. demonstratives: e-bi-kópò bi-lî ‘those cups’

Because of this, a verb + noun may form a TG, excluding a following modifier:

- (28) a. tw-áá-láb-à bi-kópò bi-nénè → [tw-áá-láb-á bí-kópò]_{TG} binénè
 ‘we saw *big cups*’
 H Ø Ø H L H L
- b. mu-wêndo gwaa= bi-kópò bi-nénè
 ↓
 [mu-wéndó gwáá= bí-kópò]_{TG} binénè ‘(it’s) the price of big cups’
 HØ H L H L

The TG thus cannot be said to be “edge-based” in the sense of including V+NP.

A TG can be formed consisting of several PWs, if each PW+PW satisfies the X-Z condition in the configuration in (15):

- (29) a. [tw-áá-láb-á bí-kópó byáá= kínénè]_{TG} ‘we saw *Kinene’s cups*’
 H Ø H Ø H L
- b. [mu-wéndó gwáá= bí-kópó byáá= kínénè]_{TG} ‘the price of the cups
 of Kinene’
 HØ H Ø H L

However, in a sequence of PWs which meet the X-Z criteria, an intervening toneless PW normally blocks LTD, e.g. /bi-tabo/ ‘books’ in (30).

- (30) a. [tw-áá-láb-à bi-tabo byaa= kínénè]_{TG} ‘we saw *Kinene’s books*’
 H L L H L
- b. [mu-wêndo gwaa= bi-tabo byaa= kínénè]_{TG} ‘the price of Kinene’s
 books’
 HL H L

This shows that LTD is a “domain-juncture rule” as formulated in (31).

- (31) $L^n \rightarrow \emptyset /$ TG[... PW[H Lⁿ]_{PW} PW[H Lⁿ]_{PW} ...]_{TG}
 ↓
 Ø

It should be noted, however, that for special emphasis some speakers allow LTD to apply across a (qualifying) toneless PW as a “domain-span rule”:

- (32) a. normal: tw-áá-láb-à mùtúndá - bíkópò ‘we saw a cup-seller /
 H L L H L *a cup-seller*’
- b. emphatic: tw-áá-láb-á mùtúndá - bíkópò ‘we saw *a cup-seller*’
 H Ø Ø H L

With the TG having been thus defined, we can now consider the clitic group.

3.2 The clitic group (CG)

Like most (all?) other Bantu languages, Luganda has both proclitics and enclitics. Proclitics are mostly toneless, but differ in their tonal behavior from both toneless prefixes and PWs. Recall from (3) that the %L ... H% boundary tones map as LHⁿ to a toneless word. In contrast, we see in (33) that %L links to any number of proclitics followed by the LHⁿ realization of the toneless PW:

- (33) a. bà= mùlondó ‘the Mulondos’ (Mulondo and his people)
 b. byàà= bà= mùlondó ‘(it’s) those of the Mulondos’
 c. kù= byàà= bà= mùlondó ‘on those of the Mulondos’
 d. nà= kù= byàà= bà= mùlondó ‘and on those of the Mulondos’
-

There are at least two ways one can think of how to get the above outputs derivationally. The first is to let %L link iteratively to the first syllable after each left bracket, thereby leaving only the non-initial moras free to receive the H% tone. The second is to let H% link to as many moras as it can, with the stipulation that its first link cannot directly follow a left bracket. In this case the Ls which precede the H can be from %L, as in (33d), or from default L tone assignment. For our purposes it is enough to observe that proclitics work differently from (toneless) prefixes.

Proclitics also differ from PWs in that they are not subject to the processes of final vowel shortening (FVS), a subpart of which is formalized in (34).

- (34) Final vowel shortening (FVS): VV → V / _]_{CG}
 e.g. /o-ku-lí-a/ → o-ku-lí-à → o-ku-ly-áà → o-ku-ly-â ‘to eat’

A vowel is shortened at the end of a CG, defined as [proclitics= HOST =enclitics]. We can see in (33c,d) that the long vowel of the proclitic byaa= is preserved, since it not CG-final.

Recall from (30) and (32a) that toneless PWs usually block LTD. In contrast, toneless proclitics are “invisible”, as if forming PWs with their host:

- (35) a. tw-áá-láb-á byáá= wálúsimbí ‘we saw those of Walusimbí’
 H Ø Ø HL H%
- b. tw-áá-génd-á ná= byáá= bá= wálúsimbí ‘we went with those of the
 H Ø Ø HL H% Walusimbis’

Turning to enclitics, all have an underlying /H/. As seen in (36) multiple enclitics are also possible, which each preserving length on what precedes:

- (36) a. y-á-téés-éè → y-á-téés-ê ‘he put’ (P₁)
 b. y-á-téés-é kú= mú-pûnga mu= ki-bya ‘he put some rice in the bowl’
 c. y-á-kí-téés-éé =mû ku= mu-pûnga ‘he put some rice in it’
 d. y-á-kí-téés-éé =múù =kô ‘he put a little in it’
 e. y-á-kí-téés-éé =múù =kòò =kí ‘what did he put a little of in?’
 H Ø Ø HØ HL HL H

As seen in the above examples, the class 18 clitics *ku=* and *=kô* are used to mark partitives. The sentence in (36e) shows that each of the enclitics preserves the length on the preceding syllable.

Another property of the CG is that it may not begin with a H tone vowel. The augment morpheme is a good place to observe this, since augments are all underlyingly /H/. As seen in (37a), the H is not realized CG-initially, but does surface after a proclitic:

- (37) a. /e-bi-tabo/ → è-bí-tábó ‘books’
 H %L H%
 b. /ne= e-bitabo/ → né= é-bì-tábó ‘with books’
 H H L H%

In (38) we observe that the TG and CG potentially intersect, in violation of the Strict Layer Hypothesis:

- (38) a. one TG, one CG: tú-ly-áá =kô ‘we eat a little’
 H Ø HL
 b. two TGs, two CGs: tè-tú-ly-à mù-pûngá ‘we don’t eat rice’
 %L H L HL H%
 c. one TG, two CGs: tú-ly-á mú-pûngá ‘we eat *rice*’
 H Ø HL H%
 d. two TGs, one CG: tè-tú-ly-àà =kô ‘we don’t eat any’
 %L H L HL

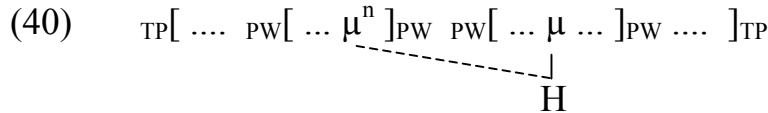
As seen, both the CG and TG define domains just above the PW. The question is which, if either, is invoked in the formation of higher domains. The next higher prosodic domain, the tone phrase, is taken up in the next subsection.

3.3 The tone phrase (TP)

In (39) we recapitulate the different sources we have seen of H and L:

- (39) a. underlying /H, Ø/
 b. Meeussen's Rule (7b) and L tone insertion produce Ls within the lexical word domain
 c. LTD (10) removes Ls within both the lexical word and TG domains
 d. %L & H% boundary tones link to remaining peripheral toneless moras

This raises the question: What about remaining MEDIAL toneless moras? It turns out that PWs are grouped into tone phrases (TPs) defined by the rule of H tone anticipation (HTA) in (40).



HTA affects any string of toneless moras, but must (i) cross a PW boundary, and (ii) leave at least one L mora behind:

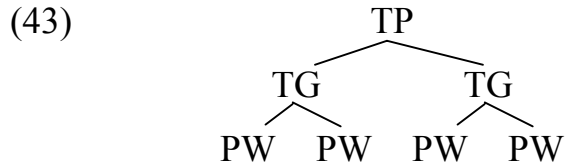
- (41) a. a-bal-a e-bi-kópò → à-bál-á é-bí-kópò 's/he is counting cups'
 H L %L H L
 b. bá-bàl-a e-bi-kópò → bá-bàl-á é-bí-kópò 'they are counting cups'
 H L H L H L H L
 c. à-bá-tà-li-bàl-íl-á mú-lími bí-kópò 'they who will not count cups
 H L L L H L for the farmer'

In the above and subsequent examples, the toneless moras which undergo HTA are underlined. In (41a,b) HTA takes place from one word onto the preceding, whereas in (41c) HTA goes through the toneless noun /mu-limi/ 'farmer' onto the preceding verb. HTA can in principle affect any number of toneless words.

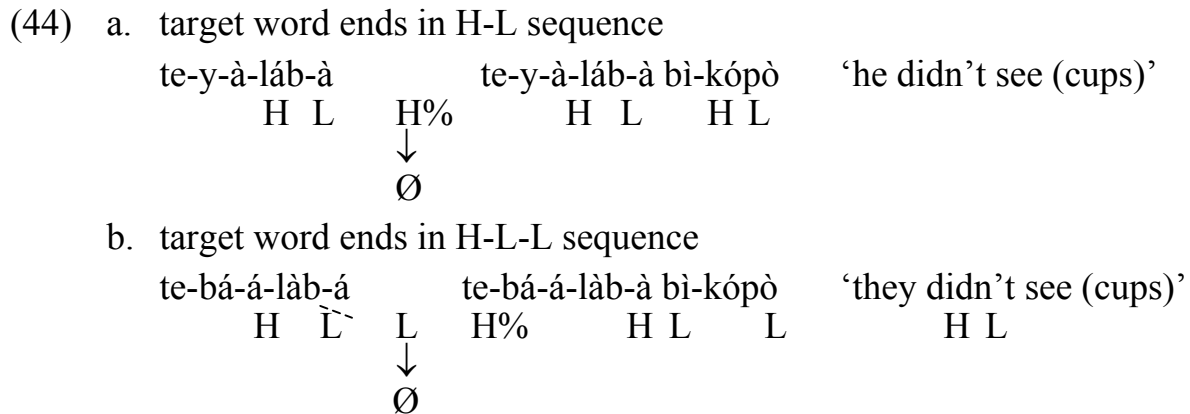
It will have been noticed that (40) is formulated in terms of PWs, not TGs. The reason for this can be seen in the data in (42).

- (42) a. è-bì-kópò 'cups' (*é-bí-kópò, *è-bí-kópò)
 b. mù= bì-kópò 'in the cups' (*mú= bí-kópò, *mù= bí-kópò)
 c. bi-tabo =kí → bì-tábó =kí 'which cups?'
 H %L H
 d. a-bal-a =kô → à-bál-á =kô 's/he counts a little'
 HL %L HL

(42a) shows that HTA will not apply word-internally, while (42b) shows that it also will not apply from a host onto a proclitic. It will, however, apply between an enclitic and its host, as in (42c,d). It is for this reason that (40) must refer specifically to PWs. This raises additional difficulties for the notion of strict layering: Because of the intersection of TG and CG domains in (38), and with HTA having to be formulated as in (40), we can't even firmly establish a limited layering as in (43).



It will have been noticed that there is some similarity between HTA and the linking of H%. Both spread right to left, and both target toneless moras. The two are similar except that H% delinks a word-final L if it is preceded by another L:



Finally, note that moras which fail to become H by HTP, HTA or H% are pronounced L, either by spreading a preceding L (or %L) or by default (both interpretations can work).

Let us now turn to the formation of TPs, where there is a basic left-right asymmetry. Major constituents which precede the verb constitute separate TPs, while those which follow the verb are grouped with the verb (and each other) as one TP:



As seen in (46), there is no HTA from the verb onto the subject, an adverb, or a left-dislocation, whose toneless moras receive L tone

- (46) a. à-bà-lìmi bá-á-làb-à mùlòndó ‘the farmers saw Mulondo’
 %L H L L H%
- b. àmàngwààgò bá-á-làb-à mùlòndó ‘suddenly they saw Mulondo’
 %L H L L H%
- c. mùlòndò bá-á-mù-làb-á ‘Mulondo, they saw him’
 %L H L L H%
- d. àbàlìmi mùlòndò àmàngwààgò bá-á-mù-làb-á
 %L H L L H%
 ‘the farmers, Mulondo, suddenly they saw him’
- e. àbàlìmi wàlúsìmbì bá-á-mù-làb-á ‘the farmers, Walusimbi,
 %L H L L H L L H% they saw him’

(46e) shows that there also is no HTA from *Walúsìmbì* onto the left-dislocated object, *abalimi* ‘farmers’.

On the other hand, HTA applies from an object, adverb or right-dislocation onto the verb (and onto each other):

- (47) a. tè-bá-li-yìmbá lú-yìmbá ‘they will not sing a song’
 %L H L L HL H%
- b. tè-bá-li-yìmbá bú-bî ‘they will not sing badly’
 %L H L L HL
- c. tè-bá-li-lù-yìmbá á-bá-límí ó-lú-yìmbá ‘they will not sing it, the
 %L H L L L HL H% farmers, the song’

Assuming that %L marks the left edge of a TP, there are two views on how TPs are built:

- (48) a. concatenated within IP
 IP[TP[farmers_i] TP[Mulondo_j] TP[they_i-him_j-saw]]_{IP}
- b. nested, right-branching
 TP[farmers_i TP[Mulondo_j TP[they_i-him_j-saw]]]

If the correct interpretation is nested domains, Luganda (and Kinande) become the opposite of Haya (S = a full sentence/assertion):

- (49) a. Luganda marks beginning of each S b. Haya marks end of each S
-

- d. ndábírwáá =mû ‘mirror’ (lit. ‘I am seen in it’)
H Ø HL (= 1 TG : PRES tense = [-F])

As seen, phrasal words form one vs. two TGs depending on the nature of the components, particularly if the verb form is [+F] or [-F]. The following proper nouns consisting of a verb + complement are two TGs either because the verb is [+F] or, in the case of (54c), because the noun is [+A]:

- (54) a. sílivá - kùno (a name — lit. ‘I will not leave here’)
b. wáálábyèè =kí (a name — lit. ‘what have you seen yet?’)
c. túlíná - ómùbéèzí (a name — lit. ‘we have a helper’)
H HL HL H% (the L of túlínâ is realized on [mù])

Names and other non-productive phrasal words consisting of a subject + verb are also necessarily two TGs:

- (55) a. mwáámì - àkóoyè ‘easy-chair’ (lit. ‘chief has tired’)
b. kyáálà - kímpáddè ‘thief’ (lit. ‘fingernail has given me’)
c. nsí - yàléetà (a name) (lit. ‘country brought’)
HL HL H%

However, it should be noted that a SUBJ + VERB, which would be two TPs in a main clause, becomes one TP as a phrasal word. Thus, compare the following where HTA (40) applies only in (56b):

- (56) a. ò-mù-gènzi t-á-zz-ê ‘a/the traveler hasn’t returned’ (2 TPs)
%L H HL
b. mùgénzí - tázzê ‘a delinquent debtor’ (1 TP)
%L H HL

Finally, recall from (26) that a noun + possessor constitutes a single TG. Interestingly, with different speaker preferences, phrasal words with two TGs may become one TG when possessed:

- (57) a. kyaa= kulábira =kô ‘example’ (lit. that which to see from)
kyàà= kùlábírà =kó kyê ~ kyàà= kulábírà =kó kyê ‘his/her
H L H Ø HL H Ø H Ø HL example’
b. mwáámì-àkóoyè ‘easy chair’ (lit. chief has tired)
mwáámì-àkóoyé yáá= kínénè ~ mwáámí-àkóoyé yáá= kínénè
H L H Ø H L H Ø H Ø HL
‘Kinene’s easy chair’

In other words, because of the fact that a possessor normally “takes a noun”, a possessed TG+TG phrasal word may be “rank-shifted” to a single TG as an N^o would be expected to be.

4 Subordinate clauses

In this section we discuss the formation of prosodic domains in subordinate clauses. The questions that arise concerning such clauses are the following:

- (58) a. What is their relation to the TG?
- i. internally: do their constituents divide up into X and Z as in main clauses? (Answer: yes)
 - ii. externally: does their first PW function as Z after a main clause verb? (Answer: yes and no)
- b. What is their relation to the TP?
- i. internally: do their pre-verbal constituents group into separate TPs? (Answer: no)
 - ii. externally: do they group into the same TP as the preceding main clause? (Answer: yes and no)

We begin with relative clauses, then move on to consider temporal clauses, clefts, and other subordinate clauses. Taken together, (56) shows 2 TPs → 1 TP and (57) shows 2 TGs → 1 TG.

4.1 Subject- and object relative clauses

In this section and §4.3 we discuss how relative clauses figure in the formation of TGs and TPs, respectively. Beginning with TGs, we illustrate with subject relative clauses (SRCs) in (59a,b) the fact that [+A] and [+F] block LTD within relative clauses exactly as in main clauses:

- (59) a. à-bà-kázi à-bá-á-làb-à è-bì-kópò ‘the women who saw the
 %L HL HL L HL cups [+A]’
- b. a-ba-kázi à-bá-tá-á-làb-à bì-kópò ‘the women who didn’t [+F]
 %L HL H HL L HL see the cups’
- c. t-á-mányí bà-kázi bá-á-láb-á bí-kópò ‘he doesn’t know the women
 H HL HL H Ø Ø H L [-A] who saw the cups [-A]’
- d. à-mányí bá-kázi bá-á-láb-á bí-kópò ‘he knows *the women who*
 HØ HL HØ Ø HL *saw the cups*’

In (59a,b), which can also occur after *à-mànyî* ‘he knows’, we observe that unlike main clauses, SRCs can take an IV, here *a-*. As expected, the augment is missing after a negative verb in (59c) and when occurring in an NP under post-verbal focus, as in (59d). LTD is thus free to apply.

While SRCs occur without an overt relativizer, non-subject relative clauses require an *-e* relativizer which occurs immediately before the verb. Examples of object relative clauses (ORCs) are seen in (60).

- (60) a. tw-áá-gùl-à è-bì-kópò wálúsìmbì byè y-à-léetà ‘we bought the cups
 H L L H L H L L HL H% that W. brought’
 b. tw-áá-gúl-á bí-kópò wálúsìmbì byè y-à-léetà ‘we bought *the cups*
 H Ø Ø H L H L L HL H% that *W. brought*’

In (60) the relativizer /bi-e/ [byè] agrees with the class 8 of the noun *e-bi-kópò* ‘cups’. Since it must occur directly before the verb, we regard it as a syntactic clitic. However, since the vowel of *byè* is short, the non-subject relativizer /-e/ is not a phonological proclitic.

A rule not yet discussed, H tone reduction (HTR), optionally targets a SRC verb whose head is [-A]:

- (61) a. tú-làb-á á-bá-kázì à-bá-zìn-á ‘we see the women [+A] who are
 H L H L H L H% dancing’ (*à-bà-zìn-â)
 b. tè-tú-làb-à bà-kázì bá-zìn-á ‘we don’t see the women [-A] who
 %L H L L H L H L H% are dancing’
 c. tè-tú-làb-à bà-kázì bà-zìn-â ‘we don’t see the women [-A] who
 %L H L L H L L L HL are dancing’

(61a) shows a SRC with an augment on the verb after the affirmative verb. After a negative, the verb lacks an augment. The tones in (61b) are comparable to those in (61a), while those in (61c) have undergone HTR, which lowers a word-initial sequence of Hs. The derivations we propose for (61b,c) are given in (62).

- (62) a. normal realization [bá-zìn-à]b. realization with HTR [bà-zìn-â]
 /ba-zin-a/
 | | =H
 H H =H
 ↓ ↓ ↓
 L L L (MR) L (HTR, LTI)
 (→ bá-zìn-á with H%)

In (62a) the enclitic =H tone links to the final vowel, followed by two applications of MR. In (62b) HTR applies before the enclitic =H links. The result with LTI is a final HL falling tone.

As now shown in (63), H tone reduction (HTR), also optionally targets an ORC verb whose head is [-A]:

- (63) a. tú-gùl-á é-bí-kópò byè tú-làb-á ‘we buy the cups [+A] that we see’
 H L H L H L H% (*tù-làb-â)
- b. tè-tú-gùl-á bì-kópò byè tú-làb-á ‘we don’t buy the cups [-A] that
 %LH HL H L H L H% we see’ (from tú-làb-à + H%)
- c. tè-tú-gùl-á bì-kópò byè tù-làb-â ‘we don’t buy the cups [-A] that
 %LH HL H L L L HL we see’

The same HTR variations are observed on a headless SRC verb in (64) and on a headless ORC verb in (65).

- (64) a. tú-làb-á á-bá-zìn-á ‘we see the ones [+A] who are dancing’
 H L H L H% (*à-bà-zìn-â)
- b. tè-tú-làb-à bá-zìn-á ‘we don’t see the ones [-A] who are
 %LH L L H L H% dancing’ (from bá-zìn-à + H%)
- c. tè-tú-làb-à bà-zìn-â ‘we don’t see the ones [-A] who are
 %LH L L L L HL dancing’ (with HTR)
- (65) a. tú-gùl-á byè tú-làb-á ‘we buy the ones [+A] that we see’
 H L H L H% (*tù-làb-â)
- b. tè-tú-gùl-á byè tú-làb-á ‘we don’t buy the ones [-A] that we see’
 %LH HL H L H% (from tú-làb-à + H%)
- c. tè-tú-gùl-á byè tù-làb-â ‘we don’t buy the ones [-A] that we see’
 %LH HL L L HL (with HTR)

Turning now to how relative clauses participate in TG formation, note in (66) that LTD can take place between the main verb, the /-e/ complementizer, and the relative verb:

- (66) a. tú-gùl-á byè tú-làb-á ‘we buy the ones that we see [+A]’
 H L H L H% = even focus (with HTA)
- b. tú-gùl-á byè tú-làb-á ‘we buy *the ones that we see* [-A]’
 H Ø H L H% = post-verbal focus (with LTD, HTP)
- c. tú-gùl-á byè tú-làb-â ‘we buy *the ones that we see* [-A]’
 H Ø Ø Ø HL = post-verbal focus (with HTR, LTD, HTP)

LTD does not apply in (66a) since the ORC is [+A] (as can be seen from the even focus interpretation). With post-verbal focus the ORC becomes [-A] and LTD is observed straightforwardly in (66b). LTD also applies in (66c) where the

ORC first undergoes HTR to become *tù-làb-â* via HTR followed by LTD and HTP.

4.2 Temporal relative clauses

Although we have thus far exemplified /-e/ only with ORCs, the same complementizer is used for any non-subject relative clause (NSRC), including temporal clauses relativized on unexpressed head nouns, e.g. *lu-nákù* ‘day’ (class 11):

- (67) a. *tw-áá-bùúz-á lwè y-à-gwâ* ‘we asked (on) the day he fell’ [+A]
 H LL L H L HL
- b. *tw-áá-búúz-á lwè y-à-gwâ* ‘we asked *when* (they day) he fell’
 H ØØ Ø HL HL [-A]
- c. *tw-áá-búúz-á lwé y-à-gwâ* ‘we asked *for the day he fell*’
 H ØØ Ø H Ø HL [-A]

In (67a,b) the floating H of /‘lu-e/ links to the final vowel of the verb which otherwise would have ended with a L derived by MR. The L of *lwè* results from LTI. As seen, LTD applies in (67b). In (67c) HTP occurs throughout the sentence (making it hard to verify that the floating H is present). A number of grammatical morphemes in Luganda are preceded by a floating H. Another is the ‘near speaker’ demonstrative /‘-nò/ ‘this/these’ which is inherently [-A]:

- (68) a. LTD after an affirmative verb with either even or post-verbal focus
 bá-á-làb-à + ‘ bì-nò → *bá-á-láb-á bì-nó* ‘they saw
 H L L HL L H Ø H L H% these/*these*’
- b. no LTD after a negative verb
 te-bá-á-làb-à + ‘ bì-nò → *tè-bá-á-làb-á bì-nó* ‘they did not see
 H L L HL L %L H L H L H% these’ (P₂)
- c. no LTD after [+A] relative clause verb which assigns [+A]
 a-bá-á-làb-à + ‘ bì-nò → *à-bá-á-làb-á bì-nó* ‘they who saw
 H L L HL L %L H L H L H% these’

As seen in (68a), /‘-nò/ is not capable of being [+A] in main clause affirmatives, whether with even or post-verbal focus. Hence LTD applies. LTD fails to apply in (68b) since the verb is negative. The surprise is (68c), where we see that /‘-nò/ is capable of being [+A] when following a [+A] relative clause affirmative. There thus are two issues concerning grammatical morphemes: Which have a preceding floating H and how do they function with respect to [±A]?

Up until now the element Z in (15) has belonged to the same clause as the preceding verb. Although proper nouns such as *Walúsìmbì* obligatorily condition LTD as object of the verb, we see in (69a) that LTD does not apply when *Walúsìmbì* is the subject of a relative clause under even focus:

- (69) a. y-à-génd-à wálúsìmbì lwè y-á-jj-à ‘he left the day Walusimbi came’
 %L H L HL L H L
 b. y-à-génd-á wálúsìmbì lwè y-á-jj-à ‘he left *the day Walusimbi came*’
 %L H Ø HL L H L

Since LTD does apply in (69b) under post-verbal focus, we can assume that the subject of the relative clause, here *Walúsìmbì*, has undergone a raising process to occur as a sister to the verb. The same contrast is seen with *bwè* ‘when, how’, relativized on the head noun *búddè* ‘time’ (class 14):

- (70) a. tw-áá-sèk-à wálúsìmbì bwè y-à-zín-à ‘we laughed when
 H L L HL L H L Walusimbi danced’
 b. tw-áá-sék-á wálúsìmbì bwè y-à-zín-à ‘we laughed *only when/at the*
 H Ø Ø HL L H L *way Walusimbi danced*’

Finally, consider the following sentences which have a temporal adverb:

- (71) a. à-láb-à è-bì-kópò jjô byè tw-áá-gùl-á ‘s/he sees the cups that
 %L H L H L HL H L H% yesterday we bought’
 b. à-láb-à jjó byè tw-áá-gùl-á ‘s/he sees what yesterday we bought
 %L H L HL H L H%
 c. à-láb-á jjó byè tw-áá-gùl-á ‘s/he sees what *yesterday* we bought
 %L H Ø HL H L H%

As seen in (71a), although *jjô* ‘yesterday’ clearly goes with the relative clause, if occurring before the relativized verb, it must also precede the relativizer (**byè jjô*). Under even focus in (71b), LTD does not apply between the main clause verb and the [+A] adverb *jjô*. Crucially, (71c) shows that LTD does apply before [-A] adverb *jjô* under post-verbal focus, which, recall, originates in the relative clause. The conclusion is unmistakable: Raised elements from a relative clause can serve as Z in TG formation. This possibility accounts also for how LTD potentially distinguishes between direct and indirect questions:

- (72) a. y-à-búùz-à àní gwè w-à-láb-à ‘he asked who you saw’
 %L HL L HL H L
 b. y-à-búú-z-á ání gwè w-à-láb-à ‘who did he ask that you saw?’ ~
 %L HØ Ø HL H L ‘he asked *who you saw*’

In (72a), where LTD doesn’t apply, *aní* ‘who’ must belong to the lower clause, hence an indirect question. In (72b), where LTD does apply, *aní* either belongs to the upper clause, forming a direct question, or it belongs to the lower clause as an indirect question under post-verbal focus.

4.3 Subject and object clefts

To some extent clefts resemble relative clauses, but there are also some important differences. In order to appreciate the comparison, note first that unlike main clauses, HTA applies from the verb onto the subject of a SRC:

- (73) a. à-bà-lìmi bá-á-zìn-á ‘the farmers danced’ (= 2 TPs)
 %L H L H%
 b. à-bá-límí á-bá-á-zìn-á ‘the farmers who danced’ (= 1 TP)
 %L H L H%

Similarly, HTA applies through the /-e/ complementizer onto the relativized noun of an ORC/NSRC, as in (74a).

- (74) a. à-bá-límí bé tw-áá-làb-á ‘the farmers that we saw’
 %L H L H%
 b. à-bá-límí wálúsìmbì bè y-a-láb-à ‘the farmers that Walusimbi saw’
 %L H L L H L

In addition, (74b) shows that HTA applies from the subject of a relative clause onto the relativized noun. Consider now the sentences in (75).

- (75) a. te-bá-bál-á bì-kópò byè tù-làb-â ‘they don’t count the cups that
 %L H HL H L H H =HL we see’
 ↓ ↓
 L L
 b. te-bá-bál-á bì-tábó byé tú-láb-â ‘they don’t count the books
 %L H HL L L that we see’
 =H L

In (75a) HTR applies to the [-A] relative verb, which is realized L-L-HL. HTR also applies in (75b), but this time the enclitic =H is able to trigger HTA right

through the L tones created by HTR and onto the toneless PW /bi-tabo/ ‘books’. We know that HTR has applied in (75b) because of the final HL of *tú-láb-â*, as we saw in (62b). As a result of such forms, we have to revise HTA: the H is anticipated onto preceding toneless moras across a PW in the TP, even through L tones from HTR. In other words, the only thing that stops HTA is a L (or sequence of Ls) which is preceded by a H or is TP-initial.

We are now prepared to compare clefts and relative clauses. In (76a) we recall that an ORC forms a single TP with HTA applying from the verb onto a toneless relativized noun:

- (76) a. ò-mú-límí gwé bá-làb-á ‘the farmer that they see’
 %L H L H% (from bá-làb-â + H%)
 b. mù-límì gwè bà-làb-â ‘it’s a farmer that they see’
 %L H H =HL
 ↓ ↓
 L L

As seen in (76b), the same /-e/ relativizer is used in non-subject (e.g. object-) clefts, which however require HTR. Since HTA does not apply across the derived L tones as in (75b), the resulting structure constitutes two TPs, i.e. much like a main clause. A similar contrast between a non-subject relative vs. cleft is seen in (77).

- (77) a. wàno wè tú-bá-súz-à [wálúngì ‘here where we house them is nice’
 %L L H H L %LH L
 b. wàno wè tù-bà-súz-à ‘it’s here that we house them’
 %L L H H L
 ↓
 L
 c. gwè bá-súz-á gwè b-ààgál-à ‘it’s the one they house that
 %L H L H L H H L they want’
 ↓
 L

Again, HTR does not apply to the relative clause in (77b), but does apply to the non-subject cleft in (77b). (77c) shows a succession of a headless non-subject relative clause followed by a non-subject cleft. Appropriately, HTR applies only to the latter part of the sentence.

There is one exception to the above generalization: WH-clefts do not undergo HTR. Thus compare the following, where HTR does not apply in (78b).

- (78) a. bá-láb-á ání ‘who do they see?’ (lit. they see who?)
 H Ø H
 b. àní gwè bá-làb-à ‘who do they see?’ (*àní gwè bà-làb-â)
 %L H L H L L

(76b) also has no H% since the latter marks finality and this is a question.

Contrasting with their non-subject counterparts, subject-clefts do not undergo HTR:

- (79) a. bà-lìmi bèè= bá-zìn-á ‘it’s the farmers who are dancing’
 %L H L H% (*bèè= bà-zìn-â)
 b. bì-kópò byèè= bí-náá-gw-â ‘it’s cups that will fall’
 %L H L H Ø HL (*byèè= bì-nàà-gw-â)

Another difference with non-subject relative and cleft clauses is that the relativizer /-e/ is a phonological proclitic. In this case, when /bi-e/ becomes *byèè=* it keeps its length.

4.4 Other subordinate clauses

In the preceding subsections we have briefly treated relative, temporal relative, and cleft clauses. In this section we continue with a few more clause types. The first concerns clauses with /'nga/ ‘while’. As seen in (80), the subject may precede or follow /'nga/, whose floating H may condition LTD, as appropriate:

- (80) a. tw-áá-tùùk-á ngà à-bà-lìmi bá-yìmb-á ‘we arrived while the
 H L H L H L H% farmers were singing’
 b. tw-áá-tùùk-à à-bá-límí ngà bá-yìmb-á (= same)
 H L L H L H L H%
 c. tw-áá-túúk-á ngà à-bà-lìmi bá-yìmb-á ‘we arrived *while the*
 H Ø Ø H L H L H% *farmers were singing*’
 d. tw-áá-túúk-á à-bà-lìmi bá-yìmb-á (= same)
 H Ø Ø H L H L H%
 e. tw-áá-túúk-á à-bá-límí ngà bá-yìmb-á (= same)
 H Ø Ø H L H L H L H%

In (80a), the floating H of /'nga/ delinks the final L of *tw-áá-tùùk-à*, while in (80b) the underlined moras of toneless *a-ba-limi* have undergone HTA triggered by the floating H. (80c) is the same as (80a) except that LTD has applied on the matrix verb, indicating post-verbal focus. (80d) is the same as (80c) except that *nga* has been deleted. (80e) is particularly intriguing as it has a floating H both

before and after *a-ba-limi*, as if there were two *nga*'s, the first of which is deleted. Alternatively, when *a-ba-limi* is raised between the floating H and /*nga*/, it splits the H in two!

We have already seen that other grammatical morphemes have a preceding floating H which enters into the phrasal tonology. Sometimes this floating H can “travel”, as in the case of /'bùli/ ‘every’:

- (81) a. $t\grave{e}\text{-}y\text{-}\grave{a}\text{-}t\grave{u}\grave{u}k\text{-}\grave{a} \rightarrow t\grave{e}\text{-}y\grave{a}\text{-}t\grave{u}\grave{u}k\text{-}\acute{a}$ $b\grave{u}l\grave{i} \ l\grave{u}n\acute{a}k\grave{u}$ ‘he didn’t arrive
 %L HL L %L HL H L L H L every day’
- b. $t\grave{e}\text{-}y\text{-}\grave{a}\text{-}t\grave{u}\grave{u}k\text{-}\grave{a} \ n\grave{a}=\ m\grave{u}\text{-}l\acute{i}m\acute{i}$ ‘he didn’t arrive with
 %L HL L H% a farmer’
- c. $t\grave{e}\text{-}y\text{-}\grave{a}\text{-}t\grave{u}\grave{u}k\text{-}\grave{a} \ n\grave{a}=\ by\grave{a}\grave{a}=\ m\grave{u}\text{-}l\acute{i}m\acute{i}$ ‘he didn’t arrive with those
 %L HL L H% of the farmer’
- d. $t\grave{e}\text{-}y\text{-}\grave{a}\text{-}t\grave{u}\grave{u}k\text{-}\acute{a} \ n\grave{a}=\ by\grave{a}\grave{a}=\ b\grave{u}l\grave{i} \ m\grave{u}\text{-}l\acute{i}m\acute{i}$ ‘he didn’t arrive with those
 %L HL H L H% of every farmer’

As seen in (81a), the floating H of /'bùli/ delinks the L of the final -*à* of the verb. There also is no HTA onto prenominal *bùli*, suggesting that both moras must have a L tone, perhaps from MR (vs. a final Ø). The sentences in (81b,c) are designed to show that the toneless proclitics *na=* and *byaa=* do not place a H tone onto the preceding verb. However, in (81d) we see that when *bùli* is present, it triggers a final H on the verb—even if at some distance!

Moving on to other subordinate clause types, we see in (82a) that the subjunctive verb paradigm appears to be subject to initial HTR:

- (82) a. $y\text{-}\grave{a}\text{-}y\grave{a}g\grave{a}l\text{-}\grave{a} \ t\grave{u}\text{-}l\grave{a}b\text{-}\acute{e} \ m\grave{u}l\acute{o}n\acute{d}\acute{o}$ ‘he wanted us to see Mulondo’
 %L H L L L L HL H% (‘that we see Mulondo’)
- b. $y\grave{a}\text{-}y\grave{a}g\grave{a}l\text{-}\acute{a} \ t\acute{u}\text{-}l\grave{a}b\text{-}\acute{e} \ m\grave{u}l\acute{o}n\acute{d}\acute{o}$ ‘he wanted *us to see Mulondo*’
 %L L L HL H% (‘that we see Mulondo’)
- ↓ ↓
 Ø Ø

As seen in (82b) there may be HTA from the subjunctive verb onto what precedes (again crossing the L tones from HTR). In addition, some speakers allow the subject of a subjunctive clause to condition LTD, as appropriate:

- (83) a. $y\text{-}a\text{-}y\grave{a}g\grave{a}l\text{-}\grave{a} \ w\grave{a}l\acute{u}s\grave{i}m\grave{b}\acute{i} \ \grave{a}\text{-}j\grave{j}\text{-}\acute{e}$ ‘he wanted Walusimbi to come’
 %L H L L H L L HL (‘that Walusimbi come’)
- b. $y\text{-}a\text{-}y\grave{a}g\grave{a}l\text{-}\acute{a} \ w\grave{a}l\acute{u}s\grave{i}m\grave{b}\acute{i} \ \grave{a}\text{-}j\grave{j}\text{-}\acute{e}$ ‘he wanted *Walusimbi to come*’
 %L H Ø Ø H L L HL (‘that *Walusimbi* come’)

Finally, let us briefly consider complement clauses which are introduced by /'nti/ 'that, namely'. These have the same properties as main clauses:

- (84) a. y-à-gâmb-á nti à-bà-limì bá-á-gùl-à è-bí-tábó
 %L HL H L H L L H%
 'he said that the farmers bought books'
- b. t-á-kkírìz-à lù-gámbo nti à-bà-limì bá-á-f-à
 H HL L H L H L
 'he doesn't believe the rumor that the farmers died'

In both sentences the subject /a-ba-limi/ remains all L in the 'that' clause. While /'nti/ has a floating H which goes onto the verb in (84a) and onto the toneless noun /lu-gambo/ 'rumor' in (84b), there is some variation between /nti/ and /'nti/, the latter potentially conditioning LTD:

- (85) a. y-à-gâmb-à nti bá-á-gw-à 'he said that they fell' (no floating H)
 %L HL L H L
- b. y-à-gâmb-á nti bá-á-gw-à (=same) (floating H)
 %L HL H L H L
- c. y-à-gámbo-á nti bá-á-gw-à 'he said *that they fell*' (floating H+LTD)
 %L HØ H L H L

The complementizer *mbu*, which introduces reported hearsay ('apparently, people say') shows the same properties as *nti*.

5 Conclusion

The above completes our "tutorial" on tone, syntax and prosodic domains in Luganda—as far as we have been able to take it to date. While we skipped many of the finer points of our previous studies, the basics have been presented in enough detail to appreciate the complexity of the system as well as the outstanding problems which must still be resolved. In presenting the data we have taken the liberty of presenting words without showing vowel coalescences which occur on V # V sequences across words. We also have not discussed the role of pauses and the different "intonemes" which mark the ends of intonational phrases and utterances. A rough approximation of the intonemes which may be superimposed on output tones is given in (86).

- (86) a. H% : finality d. \uparrow HL% : exclamative (\uparrow H = superhigh)
b. L% : non-finality e. \uparrow H% : yes-no interrogative
c. LH%: paused list f. \emptyset H% : WH interrogative (\emptyset = loss
of final HL pitch drop)

However, the above is only tentative. A more definitive statement must await further detailed investigation.

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A Comparative Study of Tone of West Ugandan Bantu Languages, with Particular Focus on the Tone Loss in Tooro

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1 Introduction

In Western Uganda, some closely related Bantu languages such as Ankole (J.13), Kiga (J.14), Tooro (J.12) and Nyoro (J.11) are spoken. These languages plus Haya (J.22) of Tanzania which is spoken to the south of Ankole are sometimes referred to as Kitara (using the old name of Bunyoro-Kitara kingdom) as a group. However, when we look at the tone system of these languages, we easily notice some striking differences. The most particular is the fact that Tooro has completely lost its original lexical tone distinction, where the penultimate syllable of the word is always high-pitched in isolation, whereas Haya, and also Ankole to a certain point, retains a relatively old system, in which the disyllabic -HL, -LH and -LL noun stems are differentiated. Nyoro which is spoken to the north of Tooro shows an intermediate stage; it has two patterns only, namely penultimate high-toned (...HL) and final high-toned (...LH) patterns.

The aim of this paper is to try to explain how the Tooro system, which phonologically lacks tone, has come into being, by examining comparatively the tone system of each language itself and also by closely looking at the differences which exist among the Haya, Ankole and Nyoro systems (Kiga data insufficient) in order to look for phonetic reasons of the tone changes.

Generally speaking the tone system becomes simpler as we proceed from south to north. This may have relation to the fact that this group of Bantu languages is the northern most one of this area and to the north of it Nilotic languages like Acholi, Lango and Alur are spoken. In this paper, however, we



Figure 1: Location of the languages dealt with in this paper

will look for internal causes of tone simplification, putting aside external factors of language contact.

2 Haya

The characteristics of Haya tone include the following.¹

1. The Haya tone system is the oldest among these languages.
2. There are words which have no high tone (...ss).²
3. If a word has high tone, it appears only in one syllable underlyingly (...śsssss, ...śssss, ...śsss, ...śss, ...śs).
4. Underlying distinctions are kept phonetically in isolation.
5. High tone in the ultimate syllable is anticipated by one syllable, and high tone in the penultimate syllable is realized falling in isolation.
6. When the possessive adjective *-ange* “my” qualifies a noun, a syntactic H is inserted.

The Haya tone and its phonetic realization are illustrated from (2.1) to (2.5). The nouns are arranged according to the length of the stem. A hyphen is inserted between the prefix and the stem in isolation forms. The tone bearing unit is the syllable. The noun forms are given in two ways, one as pronounced in isolation and the other in the construction with the qualifying possessive adjective *-ange* “my” which comes after the head noun. We note that this noun phrase construction reveals the underlying tone patterning which gets behind in isolation. The underlying high-toned syllable is underlined.

We notice that the number of patterns increases in function of the length of the stem. The pattern of the type *ekí-laba* 7,8 “species of tree”, which has an underlying H in the prefix, is rare.

2.1. one-syllable stem words

- | | | |
|---------------|------|---------------------------|
| a. omu-zi 3,4 | root | cf. omuzí gwange 3 “my ~” |
| b. omú-tí 3,4 | tree | cf. omutí gwange 3 “my ~” |

2.2. two-syllable stem words

- | | | |
|-----------------|-----------------|-----------------------------|
| a. omu-nofu 3,4 | flesh | cf. omunofú gwange 3 “my ~” |
| b. eki-zíla 7,8 | prohibition | cf. ekizilá kyange 7 “my ~” |
| c. omu-kâma 1,2 | king | cf. omukâma wange 1 “my ~” |
| d. ekí-laba 7,8 | species of tree | cf. ekílabá kyange 7 “my ~” |

¹ See Byarushengo et al. (1976) and Kaji (2000) for more details.

² Here “s” stands for syllable.

2.3. three-syllable stem words

- | | | | |
|----|-------------------|------------|--------------------------------|
| a. | omu-guruka 3,4 | snare trap | cf. omuguruká gwange 3 “my ~” |
| b. | aka-ningíli 12,14 | lute | cf. akaningilí kange 12 “my ~” |
| c. | omu-gurúsi 1,2 | old man | cf. omugurúsi wange 1 “my ~” |
| d. | eki-kójozi 7,8 | plantain | cf. ekikójozi kyange 7 “my ~” |

2.4. four-syllable stem words

- | | | | |
|----|--------------------|----------------------------|----------------------------------|
| a. | eki-gendelelo 7,8 | intention | cf. ekigendeleló kyange 7 “my ~” |
| b. | eki-kankabána 7,8 | male bud of
banana tree | cf. ekikankabaná kyange 7 “my ~” |
| c. | eki-ju:mapûmi 7,8 | shadow | cf. ekiju:mapûmi kyange 7 “my ~” |
| d. | olu-julúluzi 11,10 | species of tree | cf. olujulúluzí lwange 11 “my ~” |
| e. | eki-kálakamba 7,8 | scale | cf. ekikálakambá kyange 7 “my ~” |

2.5. five-syllable stem words

- | | | | |
|----|----------------------|-------------------------|---|
| a. | em-puru:tulilo 9,10 | loose knot | cf. empuru:tuliló yange 9 “my ~” |
| b. | aka-ifeikogóto 12,14 | tortoise | cf. akaiifeikogotó kange 12 “my ~” |
| c. | VCV-CVCVCVCVCV | no examples | |
| d. | VCV-CVCVCVCVCV | no examples | |
| e. | VCV-CVCVCVCVCV | no examples | |
| f. | oku-búnda:miliza 15 | stooping (to serve tea) | cf. okubúnda:milizá
kwange 15 “my ~” |

3 Ankole

The Ankole system basically remains the same as the Haya system, but has moved one step or two toward tone simplification. The characteristics of Ankole tone include the following.

1. As far as the system is concerned the Ankole tone system is the same as the Haya system.
2. There are words which have no high tone (...ss).
3. If a word has high tone, it appears only in one syllable underlyingly (...sásss, ...sásss, ...sásss, ...sáss, ...sá).
4. Underlying distinctions are generally kept in isolation except in one pattern. That is, although when a word's penultimate syllable is long and H-toned, this H is realized as F (falling) like Haya, when a word's penultimate syllable is H-toned but short, this underlying H is realized as H, and not F like Haya, thus confusing the ...HL pattern with the ...LH

patterns in isolation. Both become ...HL. See (3.6) for examples of H-toned long penultimate syllables.

5. In the noun phrase construction with the possessive adjective *-an/e* “my”, a syntactic H is inserted only when the noun has no high tone, thus avoiding low flat configurations.
6. In a number of words high tone is lost in comparison with Haya.

3.1 one-syllable stem words

- | | | |
|---------------|-------------|---------------------------|
| a. omu-zi 3,4 | root | cf. omuzí gwanje 3 “my ~” |
| b. omú-si 3,4 | vein, nerve | cf. omusí gwanje 3 “my ~” |

3.2 two-syllable stem words

- | | | |
|-----------------|----------|-----------------------------|
| a. omu-hara 1,2 | daughter | cf. omu-hará wanje 1 “my ~” |
| b. ama-ríra 6 | mourning | cf. amarirá ganje 6 “my ~” |
| c. omu-káma 1,2 | king | cf. omukáma wanje 1 “my ~” |

3.3 three-syllable stem words

- | | | |
|-----------------------------|----------------|---------------------------------------|
| a. aka-gobora 12,14 | elephant tusk | cf. akagoborá kanje 12 “my ~” |
| b. eci-tentére 7,8 | young hen | cf. ecitenteré canje 7 “my ~” |
| c. oru-tongána 11,10 | index finger | cf. orutongána rwanje 11 “my ~” |
| d. aka-tádo <u>ba</u> 12,14 | hand-made lamp | cf. akatádo <u>ba</u> kanje 12 “my ~” |
| e. ebí-runjire 8 | sauce | cf. ebírunjire byanje 8 “my ~” |

3.4 four-syllable stem words

- | | | |
|--------------------------------|------------------|---|
| a. aka-hungabebe 12,14 | termite | cf. akahungabebé kanje 12 “my ~” |
| b. oru-to;neré <u>ra</u> 11,10 | drizzle | cf. oruto;nererá rwanje 11 “my ~” |
| c. aka-samu <u>n</u> íga 12,14 | skunk | cf. akasamu <u>n</u> íga kanje 12 “my ~” |
| d. eci-gungú <u>n</u> iro 7,8 | threshed corncob | cf. ecigungú <u>n</u> iro canje 7 “my ~” |
| e. eci-sí <u>s</u> isiro 7,8 | small clay pot | cf. ecisí <u>s</u> isiro canje 7 “my small ~” |

3.5 five-syllable stem words

- | | | |
|----------------------------|--------------------|-------------------------------------|
| a. oku-si:tagirira 15 | crashing with feet | cf. okusi:tagirirá kwanje 15 “my ~” |
| b. VCV-CVCVCVCV <u>C</u> V | no examples | |
| c. VCV-CVCVCVCV <u>C</u> V | no examples | |
| d. VCV-CVCVCV <u>C</u> VCV | no examples | |
| e. VCV-CVCV <u>C</u> VCVCV | no examples | |
| f. en-tá:gurukane 9,10 | crossroads | cf. entá:gurukane yanje 9 “my ~” |

3.6 words with a H-toned long penultimate syllable

- | | | |
|---|-------|-----------------------------------|
| a. eci- <u>í</u> :ko (*eci- <u>í</u> :ko) 7,8 | spoon | cf. eci <u>í</u> :ko canje “my ~” |
|---|-------|-----------------------------------|

- b. eci-tô:ma (*eci-tó:ma) 7,8 bark cloth cf. ecitó:ma canje “my ~”
 c. e-tû:tu (*e-tú:tu) 9,10 sweat cf. etú:tu yanje “my ~”

4 Tooro

The characteristics of Tooro tone include the following.

1. Tooro has lost its lexical tone.³ All nouns are pronounced with high tone on the penultimate syllable in isolation (...śs).
 2. H tone in isolation disappears when the noun is followed by the possessive adjective *-ánge* “my”, which has a high tone.
 - 4.1. one-syllable stem words

omú-twe 3,4	head	cf. omutwe gwángo 3 “my ~”
omú-ti 3,4	tree	cf. omuti gwángo 3 “my ~”
 - 4.2. two-syllable stem words

omu-kázi 1,2	woman, wife	cf. omukazi wángo 1 “my ~”
oku-gúru 15,6	leg	cf. okuguru kwángo 15 “my ~”
 - 4.3. three-syllable stem words

omu-gurúsi 1,2	old man	cf. omugurusi wángo 1 “my ~”
omu-sigázi 1,2	male youth	cf. omusigazi wángo 1 “my ~”
 - 4.4. four-syllable stem words

omu-role:rézi 1,2	bishop	cf. omurole:rezi wángo 1 “my ~”
aka-sirimúko 12,14	downhill slope	cf. akasirimuko kángo 12 “my ~”
 - 4.5. five-syllable stem words

obu-juna:nizíbwa 14	responsibility	cf. obujuna:nizibwa bwángo 14 “my ~”
en-konkomerézi 9,10	woodpecker	cf. enkonkomerezi yángo 9 “my ~”

5 Nyoro

The characteristics of Nyoro tone include the following.

1. Nyoro has two tone patterns underlyingly regardless of the length of the word (...śs, ...ś), namely H either in the penultimate or ultimate syllable. The underlying High tone is realized falling in isolation.

³ Tone still fulfills grammatical functions in Tooro. See Kaji (2009).

2. There are no low flat words (...ss).
3. The underlying H is realized as F in isolation.⁴
4. High tone anticipation is remarkable.⁵
5. The underlying H and the anticipated H remain H even when followed by the possessive adjective *-áŋge* “my”, which has a high tone.
 - 5.1. one-syllable stem words

a.	omú-tî 3,4	tree	cf. omú <u>tí</u> gwâŋge 3 “my ~”
b.	obû-ne 14	liver	cf. obú <u>ne</u> bwâŋge 3 “my ~”
 - 5.2. two-syllable stem words

a.	eki-gé <u>rê</u> 7,8	foot	cf. ekigé <u>rê</u> kyâŋge 7 “my ~”
b.	ama-z <u>îga</u> 6	tears	cf. amaz <u>îga</u> gâŋge 6 “my ~”
 - 5.3. three-syllable stem words

a.	obu-horó <u>kô</u> 14	chicken lice	cf. obuhoró <u>kó</u> bwâŋge 14 “my ~”
b.	omu-gú <u>rûsi</u> 1,2	old man	cf. omugú <u>rûsi</u> wâŋge 1 “my ~”
 - 5.4. four-syllable stem words

a.	e-ŋamunú <u>ŋû</u> 9,10	porcupine	cf. eŋamunú <u>ŋû</u> yâŋge 9 “my ~”
b.	oru-kanak <u>âna</u> 11,10	dewdrop	cf. orukanak <u>âna</u> rwâŋge 11 “my ~”
 - 5.5. five-syllable stem words

a.	aka-gongabahá <u>râ</u> 12,14	wagtail.	cf. akagongabahá <u>râ</u> kâŋge 12 “my ~”
b.	eki-tabujú <u>gûta</u> 7,8	species of civet	cf. ekitabujú <u>gûta</u> kyâŋge 7 “my ~”

6 Comparison of Haya, Ankole, Nyoro and Tooro

There are several patterns of tonal correspondence among Haya, Ankole and Nyoro, but the following three from (6.1) to (6.3) with examples of two-syllable stem nouns are the most numerous. Note that whereas the original patterns -HL and -LH are kept differentiated in Nyoro, the -LL pattern has received high tone on the penultimate syllable, a default position in Bantu (?). The result is that there are only two patterns in Nyoro, namely the -HL pattern and the -LH pattern.

⁴ In some words this falling is hardly heard.

⁵ The exact nature of high tone anticipation remains to be determined.

	Haya	Ankole	Nyoro	Tooro	
6.1.	-HL	-HL	-HL	-HL	
a.	amaz <u>í</u> ga 6	amaz <u>í</u> ga 6	amaz <u>í</u> ga 6	amaz <u>í</u> ga 6	tears
b.	olul <u>í</u> mi 11,10	orur <u>í</u> mi 11,10	orul <u>í</u> mi 11,10	orul <u>í</u> mi 11,10	tongue
c.	emb <u>ú</u> zi 9,10	emb <u>ú</u> zi 9,10	emb <u>ú</u> zi 9,10	emb <u>ú</u> zi 9,10	goat
6.2.	-LL	-LL	-HL	-HL	
a.	omumiro 3,4	omumiro 3,4	om <u>ú</u> m <u>í</u> ro 3,4	omum <u>í</u> ro 3,4	throat
b.	ekijon <u>í</u> 7,8	ekijon <u>í</u> 7,8	ekijon <u>ô</u> ni 7,8	ekijon <u>ó</u> ni 7,8	bird
c.	ejama 9,10	ejama 9,10	ej <u>â</u> ma 9,10	ej <u>á</u> ma 9,10	meat
6.3.	-LH	-LH	-LH	-HL	
a.	etá: <u>ba</u> 9	etá: <u>ba</u> 9	etá: <u>bâ</u> 9	etá: <u>ba</u> 9	tobacco
b.	ebit <u>ŵ</u> ánta 8	amat <u>ŵ</u> ánte 6	ebit <u>ŵ</u> ántâ 8	ebit <u>ŵ</u> ánta 8	spit
c.	emé: <u>za</u> 9,10	emé: <u>za</u> 9,10	emé: <u>zâ</u> 9,10	emé: <u>za</u> 9,10	table

As for patterns with an original high tone before the antepenultimate syllable, we note that high tone has moved to the penultimate syllable of the word. This also confirms the fact that Nyoro has only two patterns, ...HL and ...LH.

	Haya	Ankole	Nyoro	Tooro	
6.4.	...HLL	...HLL	...LHL	...LHL	
a.	enk <u>ó</u> kola 9,10	enk <u>ó</u> kora 9,10	enk <u>ó</u> k <u>ô</u> ra 9,10	enkok <u>é</u> ra 9,10	elbow
b.	omut <u>á</u> bani 1,2	omut <u>á</u> bani 1,2	omut <u>á</u> b <u>â</u> ni 1,2	omutab <u>á</u> ni 1,2	son
c.	omus <u>í</u> gazi 1,2	omus <u>í</u> gazi 1,2	omus <u>í</u> g <u>â</u> zi 1,2	omusig <u>á</u> zi 1,2	male youth
6.5.	...HLLL	...HLLL	...LLHL	...LHL	
a.		oruz <u>í</u> ramere 11,10	enzir <u>á</u> m <u>í</u> ra 9,10	enzirm <u>í</u> ra 9,10	python
b.	ekik <u>á</u> lakamba 7,8		ekigarag <u>â</u> mba 7,8	(ekikarak <u>á</u> :ta 7,8)	scale

There are other types of correspondence among Haya, Ankole and Nyoro, like those listed from (6.6) to (6.9) though their examples are not numerous. The examples in (6.6) are a different development from those in (6.1) in which Nyoro reflexes are -HL. Also, the examples in (6.7) show a different development from those in (6.2) in which Nyoro reflexes are -HL. The examples in (6.8) and (6.9) indicate that it is rather Ankole which has deviated from the normal development. It is of particular interest to note that in (6.8) Ankole has lost H in words in which Haya and Ankole have H. We also note that in all these examples Nyoro reflexes are the -LH pattern.

	Haya	Ankole	Nyoro	Tooro	
6.6.	-HL	-HL	-LH	-HL	
a.	ekij <u>ĩ</u> ko 7,8	ekij <u>ĩ</u> :ko 7,8	ekijí:k <u>ô</u> 7,8	ekigí:ko 7,8	spoon
b.	eng <u>â</u> ta 9,10	eng <u>â</u> ta 9,10	engát <u>â</u> 9,10	engáta 9,10	headpad
c.	ekit <u>ê</u> be 7,8	ekit <u>ê</u> be 7,8	ent <u>ê</u> bê 9,10	entébe 9,10	chair
6.7.	LL	-LL	-LH	-HL	
a.	olugino 11,10	engino 9,10	engún <u>û</u> 9,10	engúnu 9,10	gum
b.	omuguwa 3,4	omuguha 3,4	omugú <u>h</u> â 3,4	omugúha 3,4	rope
c.	oluba:o 11,10	rubá:ho 11,10	rubá:h <u>ô</u> 11,10	rubá:ho 11,10	board, plank, timber
6.8.	-LH	-LL	-LH	-HL	
a.	omuh <u>á</u> ra 1,2	omuhara 1,2	omuh <u>á</u> râ 1,2	omuhâra 1,2	daughter
b.	ekig <u>é</u> le 7,8	ekijere 7,8	ekig <u>é</u> rê 7,8	ekigêre 7,8	foot, sole
c.	emp <u>ú</u> nu 9,10	empunu 9,10	emp <u>ú</u> nû 9,10	empúnu 9,10	pig
6.9.	-LH	-HL	-LH	-HL	
a.	eng <u>é</u> ge 9,10	en <u>ę</u> ęje 9,10	eng <u>é</u> gyê 9,10	engége 9,10	tilapia
b.	ekis <u>ú</u> fu 7,8	ekis <u>ú</u> fu 7,8	ekisú <u>s</u> û 7,8	ekisúsu 7,8	bark
c.	eik <u>ó</u> po 5,6	ekik <u>ó</u> po 7,8	ekik <u>ó</u> pô 7,8	ekikópo 7,8	cup

7 Step from Nyoro to Tooro

As we confirmed in the previous section, Nyoro has only two patterns: ...HL and ...LH. Only one step is necessary to arrive from the Nyoro stage at the Tooro stage, which always has high tone in the penultimate syllable in isolation, namely merger of the ...HL and ...LH patterns. This merger must have happened by changing the ...LH pattern to the ...HL pattern. This may happen without much difficulty if we consider the phonetic realizations of these two patterns. The ...LH pattern, which is realized as ...HF in isolation in Nyoro, is sometimes heard as ...HL, and in fact it is ...HL in Ankole. The ...HL pattern is realized as ...HF in isolation in Nyoro but sometimes heard as ...HL and it is ...HL in Ankole in isolation when the H-toned syllable is a short one.

8 Summary by way of conclusion

In Haya, with the oldest system, the underlying ...LH and ...HL patterns are differentiated even in isolation, but the difference between their respective phonetic realizations ...HL and ...FL is slight (see for example, 2.2.b. *eki-zíla* 7,8 “prohibition” and 2.2.c. *omu-kâma* 1,2 “king”). In Ankole, these two patterns are differentiated underlyingly as in Haya, but when the penultimate H-toned syllable is short they are pronounced in the same way in isolation (see for example 3.2.b. *ama-ríra* 6 “mourning” and 3.2.c. *omu-káma* 1,2 “king”).

In Nyoro we note one big change, namely that all the patterns except the ...LH have become ...HL (except some exceptions). In particular the ...LL pattern has become ...HL (cf. 6.2), with the result that Nyoro has only two patterns, which are ...HL and ...LH. The Tooro state can be reached by one step from Nyoro by changing the underlying ...LH to ...HL. This change must have been realized without much difficulty if we consider the subtlety of the phonetic difference between these two patterns, namely ...FL and ...HF in Nyoro and the sameness in Ankole, both being ...HL

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Phrasing and Relative Clauses in Chimwiini¹

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We focus in this paper on two prosodic phenomena in Chimwiini: vowel length and accent (or High tone). Vowel length is determined in part by a lexical distinction between long and short vowels, and also by various morphophonemic processes that derive long vowels. Accent is penult in the default case, but final under certain morphosyntactic conditions. In order to account for the distribution of vowel length and the location of accents in a Chimwiini sentence, it is necessary to segment sentences into a sequence of phonological phrases. This paper examines the phonological phrasing of both canonical relative clauses and what we refer to as “pseudo-relative” clauses. An account of relative clause phrasing is of critical importance in Chimwiini due to the extensive use of pseudo-relatives in the language. Close examination of the pseudo-relatives reveals that their phrasing is not exactly the same as the phrasing of canonical relative clauses.

1 Introduction

In this paper we initiate an exploration of the phonological phrasing of relative clauses in Chimwiini, a Bantu language closely related to Kiswahili but differing from it in significant ways, particularly in regards to prosody (the central topic of this paper). By “phonological phrasing,” we refer to the fact that in order to successfully account for the prosodic pattern of a Chimwiini sentence, the sentence must be exhaustively parsed into a sequence of segments which we label phonological phrases. Although most sentences do not have a unique phrasing, the possible phrasings of any given sentence is highly restricted.

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Research into the possible phrasings of a Chimwiini sentence aims at (a) finding the principles that separate possible from impossible phrasings and (b) determining what factors lead to one phrasing versus another.

There are two prosodic phenomena whose description demands a sentence be segmented into a series of phonological phrases. One of these phenomena is *accent* (characterized by high pitch). Chimwiini has an accentual contrast between penultimate (second syllable from end) and ultimate (final syllable). This accentual contrast is dependent mostly on morphosyntactic considerations, but what is crucial for the concerns of the present paper is that it is a phrasal rather than a word-level phenomenon. Kiswahili lacks this accentual contrast entirely. The second prosodic phenomenon is *vowel length*. Chimwiini contrasts short and long vowels in underlying representation (unlike Kiswahili), and it has various morphophonemic processes that create long vowels. However, long vowels are restricted in terms of where they may appear. Roughly, they may appear only in the penult or the antepenult syllable. But once again it is not the word, but rather the phrase that determines whether a syllable is penult or antepenult.

In this paper, we examine two principal types of relative clauses: “canonical” relative clauses and “pseudo”-relative clauses. Canonical relative clauses involve a head that is modified by a relative clause, although this head may be absent in the surface structure. The relative verb is not the main verb of the sentence. Pseudo-relatives, on the other hand, do not modify a head. Whether the pseudo-relative verb is the main verb of the sentence is not always clear. In some cases, there is an overt copular verb *ni* which might be taken to be the main verb of the sentence. These cases of pseudo-relativization might be regarded as “cleft” sentences. But the copular *ni* can be omitted and in some cases may not even be allowed. In these cases where the copular is absent or impossible, the pseudo-relative verb may be regarded as the main verb in the sentence. There is a third sort of relative clause structure in Chimwiini, adverbial relative clauses, which we do not discuss due to space limitations.

2 Essentials of Chimwiini Prosody

This paper assumes broad familiarity with the prosody of Chimwiini (cf. Kisseberth and Abasheikh 1974, 2004; Kisseberth 2005, 2010). We will restrict ourselves to a summary of the most critical points in this section.

2.1 Accent

At the (prosodic) word level, each word bears an accent. In the default case, accent is on the penult (if there is a penult, otherwise on the only syllable).

Under specific morphosyntactic conditions, accent is final. The accented syllable may also be referred to as the H-toned syllable, since its only consistent phonetic marking is a pitch level that is higher than the preceding syllable (though in ordinary connected speech the pitch may rise on the pre-accent syllable and sometimes the pitch may even be flat over these two syllables). The accented syllable may be emphasized, in which case its pitch is higher but there are doubtless additional phonetic cues.

Default penult accent is illustrated in (1). The acute sign indicates the accent.

(1) *nouns and infinitives*

[maskíini] ‘poor person’	[m-láango]	‘door’
[safári] ‘trip’	[m-saafíri]	‘traveler’
[k-oowéla] ‘to swim’	[kú-fa]	‘to die’

certain finite verb forms

[sh-ta-x-píka] ‘we will cook’	[wa-ta-ku-bigána]	‘they will beat each other’
[hú-ja] ‘x eats’	[hu-láala]	‘x sleeps’
[já] ‘eat!’	[sóoma]	‘read!’

Two cases of final accent are illustrated in (2). First or second person subject forms in the present and past tenses trigger final accent, and all relative verb forms (regardless of their subject marking or verb tense) trigger final accent.

(2) *person-marking final accent: first/second person, present or past tenses*

[n-jiilé] ‘I ate’	[jiilé] ‘you (sg.) ate’
cf. [jíile] ‘(s)he ate’	

[n-someelé] ‘I read’	[someelé] ‘you read’
cf. [soméele] ‘(s)he read’	

[n-na-k-aandiká] ‘I am writing’	[na-k-aandiká] ‘you are writing’
cf. [wa-na-k-aandíka] ‘they are writing’	
[n-na-x-pakulilá] ‘I am dishing out with’	
[na-x-pakulilá] ‘you are dishing out with’	
cf. [wa-na-x-pakulíla] ‘they are dishing out with’	

relative-clauses marked by final accent

[jiiló] ‘the one who ate’

[mw-ana nth-a-k-aandiká] ‘the boy who did not write’

[chi-buku ch-uziizá/ n-chha Núuru]

‘the book that was sold/ belongs to Nuuru’

At the sentence level, some prosodic words are accented and some are not. It turns out, that the generalization that explains this is the following: sentences are exhaustively parsed into a series of phrases, and the last prosodic word in the phrase bears an accent and no other word does. Again, the default accent is penult, but under specific morphosyntactic conditions, the accent is final. The sentences in (3) illustrate some typical phrasings in Chimwiini.

(3) ***a VP consisting of just a Verb bears accent; a subject NP consisting of just a Noun bears accent***

[hóosi/ i-chi-gúura] ‘if the shade/ moves’

[hokómu/ i-tindishíle] ‘a verdict/ has been given’

[mw-áana/ oloshéle] ‘the boy went’

a verb does not bear accent when it is followed by a complement, rather the last word of the complement bears the accent

[n-jilee n_áma] ‘I ate meat’, [jilee n_áma] ‘you ate meat’

vs.

[jilee n_áma] ‘(s)he ate meat’, [wa-jilee n_áma] ‘they ate meat’

[n-uzile chi-buku ch-a Hamad_í] ‘I bought Hamadi’s book’

vs.

[uzile chi-buku ch-a Hamad_í] ‘he bought Hamadi’s book’

[n-inenzele xaribu y-aa wow_í] ‘I walked near the river’

vs.

[inenzele xaribu y-aa wówi] ‘he walked near the river’

[chi-mera n-d_íl_áa n-khúlu/ y-a múu-yi]

‘he looked for the main street/ of the town’

a NP bears an accent on the final word in the NP

[ni-m-pele Jaam_á/ chi-buukú] ‘I gave Jaama/ a book’

[ni-m-pele Jaam_á/ zi-buku s-tatú] ‘I gave Jaama/ three books’

[ni-wa-pele w-aaná/ zi-l_úti s-tatu zi-lee zi-lé]

‘I gave the children/ the three long sticks’

[Núuru/ pele mad_rása/ péesa] ‘Nuuru/ gave the school/ money’

[wé/ na-ku-biga boolí/ mali y-a waa-nthú]
'you/ are looting/ people's wealth [lit. wealth of people]'

It will be noticed that the phrase containing an element that triggers final accent has final accent, while in the absence of a final-accent trigger the accent is penult. However, the situation is a bit more complicated. For instance, if the trigger is the verb, then (in the default case) final accent occurs not just on the phrase containing the verb but also on each phrase in the verb phrase: [**ni-m-pele Jaamá/ chi-buukú**]. We give an account of this in Kisseberth (2010), where it is suggested that phrasing may be recursive in Chimwiini and that both complements in the example above are included inside a larger phrase that enfolds the entire verb phrase. In this paper, we do not indicate this proposed larger phrasing.

There are additional complexities in connection with the appearance of final accent in phrases and we shall look at some of these in the course of this paper. But the preceding summary of accent is sufficient for the introductory purposes of this section. Let us turn next to a rather more complex prosodic phenomenon: vowel length.

2.2 Vowel length

Chimwiini contrasts short and long vowels. Long vowels may be underlying or derived by morphophonemic principles. We indicate a long vowel by doubling the vowel symbol.

(4) *underlying long vowels*

[x-kúula] 'to extract'	cf. [x-kúla] 'to grow'
[sóomu] 'fasting'	[sómo] 'namesake'

derived long vowels

/ku+ala/: [k-áala] 'to plant'	/ku+iwa/: [k-íiwa] 'to know'
[ku+uluka/: [k-uulúka] 'to fly'	/ku-eleza/: [k-eeléza] 'to explain'

When we look at words in isolation, it is immediately clear that long vowels are restricted in the environments in which they may occur. They may appear in either the penult or the antepenult syllable, but not both at the same time (except in a restricted set of borrowed words):

(5) *penult long:*

[x-shíinda] ‘to defeat’, [x-sóoma] ‘to read’, [ku-bóola] ‘to steal’,
[máashe] ‘blind’

antepenult long:

[ku-miimína] ‘to pour’, [x-taambúla] ‘to understand’,
[ku-liingána] ‘to be equal’

both penult and antepenult long:

- absent in native words,
- absent under morpheme concatenation,
- found only in loanwords: [taawúusi] ‘peacock’, [faanúusi] ‘lamp’,
[faalúuta] ‘a kind of gruel’

An underlying or derived long vowel will shorten if it is in a pre-antepenult syllable or if it is in an antepenult syllable followed by a long penult. Selkirk (1986) accounts for these shortening phenomena by postulating that there is abstract stress that is assigned by the Latin Stress Rule (stress the penult if long, otherwise stress the antepenult). Unstressed vowels must be short. Thus pre-antepenult syllables, as well as antepenult syllables followed by a long penult, are all unstressed syllables and thus must be short. We shall adopt Selkirk's analysis. (It should be emphasized that the “stress” here referred to is entirely abstract; there is *no* phonetic characteristic that is a necessary element of a so-called stressed syllable, and furthermore these stressed syllables play no role in the language's intonational system or indeed any other system beyond their role in permitting vowel length.)

Abstract stress is not a word-level matter, but a phrasal matter. The stressed syllable is calculated from the right edge of the phrase. Furthermore, stress is not calculated by looking just at the last prosodic word in the phrase, but rather at the entire phrase. The phrases that are relevant for abstract stress assignment are the same phrases as are relevant for the assignment of accent. Some example sentences:

(6) [sultani w-aa noka/ chi-m-uza Hasíibu/ xabarí=z-e]

‘The king of the snakes/ asked Hasiibu/ his news.’

[ni-wa-wene wa-nthu w-iingí/ wa-na-kuu-yá] ‘I saw many people/ coming.’

[n-filatilile kuwa Nuurú/ ta-kuu-yá] ‘I expected that Nuuru/ would come.’

In the phrase *sultani waa noka* ‘the king of snakes’, the noun *sultaani* has a long penult vowel in its underlying form, but the length must be lost in this phrase since it is not stressed (since no pre-antepenult vowel is stressed). Notice that there is a long vowel in the associative marker *waa*. This does not represent lexical length, but is a consequence of a principle that requires word-final

vowels to be long when they occupy a stressed position. We do not discuss this principle in the present paper. In the phrase *chi-m-uza Hasiibu*, the verb has an input structure /chi-mu-uza/. If the verb were to appear in phrase-final position, the morphophonemic rules would fuse *mu-u* into a long vowel: *chi-m-uuza*. However, in the phrase *chi-m-uza Hasiibu*, this long vowel must shorten because it is in an unstressed syllable. (Remember: the notion of stress here is a completely abstract one. The stressed syllable bears no phonetic characteristic other than it is possible for this syllable to be long, though not necessary.) The other two sentences in (6) also illustrate shortening of unstressed syllables (cf. the isolation forms: *ni-wa-weené* ‘I saw them’, *wáa-nthu* ‘people’, *n-filajjilé* ‘I expected’).

We have now summarized the two independent sources of evidence for phrasing in Chimwiini: accent and vowel length. Let us now say something about the principles behind the phrasing of Chimwiini sentences.

2.3 Phrasing: Align-XP Right

To a large extent, the basic phrasing of a Chimwiini sentence is determined by the *Align-XP Right* principle first articulated in Selkirk (1986). This principle says that the right edge of a lexical maximal projection must stand at the right edge of a phonological phrase. The most obvious effects of this principle are that

- the subject of a sentence is phrased separately from a following verb;
- a verb is grouped with the first complement, but other complements are phrasally separated;
- pre-verbal XP's are phrasally separated from one another.

As discussed above, two prosodic phenomena are reliant on these phrases. First of all, a long vowel occurs only in the penult or the antepenult syllable of the phrase. Second, each of the phrases defined by Align XP-R bears an accent on the final word of the phrase. If that final word is a monosyllable, then it always bears the accent. If the final word is bisyllabic or longer, it bears penult accent in the default case, but final accent in the presence of a final-accent trigger (e.g. first/second person present or past tense verb, or a relative verb).

Before we illustrate the predictions that Align-XP R makes, we need to say something about the transcriptions that will be used in the remainder of the paper. All example sentences in the rest of this paper will be written with slant marks separating phrases. The beginning of a sentence is the beginning of a phrase and the end of a sentence is the end of a phrase. We write long vowels whenever they occur in pronunciation. With regard to accent, we do not indicate accent when it is entirely predictable; thus we do not indicate the accent on a phrase-final monosyllabic word, since such words are necessarily accented. We

also do not write an accent mark in the default case, i.e. when it resides on the penult syllable of the last word in the phrase. We only write accent in the marked case, i.e. when it is word-final (in a bisyllabic or longer word). Of course, all words that are not final in the phrase do *not* bear an accent.

It is crucial that the reader remember that in the rest of this paper, if a phrase does not have an accent mark, then accent is on the only syllable of a phrase-final monosyllabic word and on the penult of a polysyllabic word. There are no phrases that in pronunciation do not have an accented syllable (ignoring some instances where monosyllabic pronouns may be deaccented).

The representation of segments does not require much discussion. There is a contrast between three dental sounds (underlined): t d l and their alveolar counterparts: *t d l*. There is a fairly rare bilabial fricative we write as **b**. The voiced interdental fricative is also written with a strikethrough: ~~d~~. Aspiration, which only occurs on voiceless stops when prenasalized, is indicated by the symbol *h* after the stop consonant.

Let us cite now examples where *Align-XP Right* predicts the observed phrasing.

(7)

(a) *subject phrased separately from verb*

sultani uyu/ sulile m-loza mw-aanawe/ mu-ke

‘This sultan/ wanted to marry his son/ to a woman.’

chi-zeele/ chi-m-paa dawa ‘The old woman/ gave him medicine.’

(b) *verb and first complement are grouped together*

m-phete chi-buku ch-a Muusá ‘I got Muusa's book.’

w-ote/ wa-sh-pokezanya ku-vula m-aayi ‘All/ took turns boiling water.’

(c) *successive complements are phrasally separated*

wa-m-pokeze m-geeni/ mi-zigo=y-e ‘They gave to the guest/ his luggage.’

Hamadi/ mw-andikilile mw-aana/ xati/ ka Nuuru

‘Hamadi/ wrote for the child/ a letter/ to Nuuru.’

(d) *successive preverbal XP's are phrasally separated*

teena/ sku mooyi/ ma-sku/ mkula=z-e/ wa-chi-weka majlisi

‘Then/ one day/ at night/ his elder brothers/ held a meeting.’

Abú/ sh-koopa/ chi-m-gafiile ‘Abu/ alcoholic drink/ missed (getting).’

In (7a) we see that the subject NP **sultani uyu** is a phrase since **uyu** is accented on its initial vowel, while **sultaani** ‘king’ loses length from its penult syllable and also bears no accent, indicating that it must not be at the end of a phrase. In (7b), we see that the verb, which in isolation would be pronounced **m-pheeté** ‘I

got', must be in the same phrase as its complement since the verb shortens its vowel and lacks any accent. In (7c), we see that the first complement of the verb, *m-geeni*, must be at the end of a phrase since it retains its long vowel and also bears accent. If it formed a phrase with *mi-zigo=y-e*, then its long vowel would have to shorten since it would be in an unstressed position and *m-geeni* would also lack an accent due to its not being phrase-final. Finally, in (7d), *teena* must be in a separate phrase from *sku mooyi* as shown by the fact that it retains its long vowel and bears an accent.

2.4 Phrasing: Focus

Although *Align-XP Right* is the bedrock of phrasing in Chimwiini, there is another consideration that leads to phrases that are smaller than those predicted by *Align-XP Right*. Specifically, the presence of focus (or more generally, emphasis) on a word leads to that word being at the end of a phrase even if it is not at the end of an XP. (This same phenomenon was observed by Kanerva in his important work on Chichewa; see Kanerva (1990).) Some examples are given in (8).

(8)

(a) emphasized verb separated from its complement

m-taana/ sh-faanya/ z-aa ye/ amuriilá

'The servant/ *did*/ what she/ was told.'

chi-lawa/ karka muu-yi/ oyo 'He *left*/ from town/ that.'

(n)-na-x-suulá/ we/ k-enda naami/ ku-ja uki

'I *want*/ you/ to go with me/ to eat honey.'

(b) emphasized noun separated from a demonstrative modifier

waa-nthu/ awo/ wa-chi-'i-tukula/ sanduuxu/ iyo/ mpaka/ lfuwooni

'People/ those/ carried/ box/ that/ up to/ the shore.'

chi-m-pa m-fazi/ shilingi xamsiini/ izo/ ku-m-fulila sh-kooya.

'She gave a blacksmith/ fifty shillings/ those/ to forge for [e.g. his wife] a necklace.'

sh-funga safari/ chi-lawa/ karka muu-yi/ oyo

'He set out on a journey/ and left/ from town/ that.'

In elicitation, it is very common to find phrases that are maximal, with the right edge of the phrase almost always being the right edge of a maximal projection. However, in narratives, it is very common to find smaller phrases, sometimes to the point where nearly every word in the sentence constitutes a phrase (cf. the first example in (8b)).

A significant special case of the above phenomenon is negative verbs, which seem to have inherent focus and thus to typically be at the end of a

phrase. (The literature contains references to other Bantu languages where negative verbs have inherent focus; see, for instance, Hyman (1999).)

- (9) *marti w-iitu/ nth-aa-ku-ya/ numbaa=ni* ‘Our guest/ did not go/ home.’
mu-kee=w-e/ nth-a-x-shiika/ miimba ‘His wife/ did not become/ pregnant.’

There are other factors that affect a sentence's phrasing, but we omit discussion here since they do not bear on the matters discussed in this paper. It is, however, necessary to discuss a major connection between the appearance of final accent and focus. This is the topic of the next section.

2.5 Final Accent and the Accentual Law of Focus

The principal topic of this paper requires that we look closely at final accent. As mentioned earlier, final accent is triggered by certain morphosyntactic factors. It was noted earlier, and we will soon see in more detail, relative clause structure is one of these factors. But in this section we will discuss just person-marking final accent.

In a verb phrase where there is no focus on a VP-medial element, first and second person subject forms in the present and past tenses exhibit final accent at the end of each phrase in the VP:

- (10) *ni-wa-pele w-aaná/ maandá* ‘I gave the children/ bread.’
ni-m-bozele mw-aaná/ chi-buukú ‘I stole from the child/ a book.’

In these examples, the logical indirect object occupies the post-verbal position in the default word order and governs the agreement on the verb.

A very important principle determines the scope of final accent in the VP, however. We refer to this principle as the Accentual Law of Focus. What this principle says is that the final accent triggered by first or second person present or past tense verb forms has no effect beyond a focused element in the verb phrase.

It is possible, in examples such as those in (10), to emphasize the indirect object, in which case the final accent appears on it and not on the second complement (i.e. the logical object). In the following examples, we place the symbol " in front of the focused word.

- (11) *ni-wa-pele "w-aaná/ maanda* ‘I gave the *children*/ bread.’
ni-m-bozele "mw-aaná/ chi-buuku ‘I stole from the *child*/ a book.’

If focus is on the logical object, that word must occur in post-verbal position, where it will exhibit final accent and the following phrase will not.

- (12) *ni-wa-pele "maandá/ w-aana* 'I gave *bread/* to the children.'
ni-m-bozele "chi-buukú/ mw-aana 'I stole a *book/* from the child.'

There is more that can be said about the pitch pattern here in addition to the matter of the location of accents. In sentences lacking any sort of special focus, the accents in a sentence display a typical downstep pattern: each phrase's accent is lowered relative to the accent in the preceding phrase. However, when there is focus/emphasis present, the pitch on the focused element is raised and does not show the usual downstep. Furthermore, the pitch lowering on the next phrase seems to be more radical than in the normal default downstep pattern. It should be noted that in the absence of a final-accent trigger, all phrases will have default penult accents, but the pitch pattern described here will still obtain. For example, in *Muusa/ wa-pele "maanda/ w-aana* 'Muusa gave *bread/* to the children', *maanda* has a penult accent that is raised rather than downstepped, and the pitch on the penult syllable of *waana* is radically lowered in pitch.

To return to the sentences in (12), it is not possible for the final accent to be on both the focused post-verbal NP and the following XP:

- (13) **ni-m-bozele "chi-buukú/ mw-aaná* 'I stole a *book/* from the child.'

In Chimwiini, (person-marking) final accent does not pass to a phrase following a focused element. Further support for this claim comes from examples where the verb is focused. In that event, the verb will display final accent (if it is a verbal form that triggers final accent) and all the following phrases will have default accent.

- (14) *"ni-wa-peelé/ w-aana/ maanda* 'I *gave/* the children/ *bread.*'
"ni-wa-peelé/ maanda/ w-aana 'I *gave/* *bread/* to the children.'

There is another restriction on the scope of final accent that deserves mention before we turn to the main theme of this paper: the special behavior of time adverbials, which is discussed in the next section.

2.6 Final Accent and Time Adverbials

Align-XP Right predicts that a time adverbial phrase will be phrased like any other XP. This is not entirely correct. Although time adverbials are like other XP's in that they are phrasally separated from a preceding XP (and a following XP, though this is not a matter that needs discussion here), they differ in that (in the default case) they are separated phrasally from a preceding verb. The data in (15a) illustrates the expected separation from a preceding XP, while the data in (16) illustrates that a time adverbial also separates from a preceding verb.

(15)

- (a) *Muusa/ na-ku-jaa nama/ isa*
 ‘Muusa/ is eating meat/ now.’
ma-poliisi/ wa-m-shishile mw-iizi/ yana
 ‘police/ caught thief/ yesterday.’
mw-aana/ bashize chi-buuku/ yuuzi
 ‘the child/ lost book/ day before yesterday.’
- (b) *n-tha-x-sooma/ keesho* ‘I will study/ tomorrow.’
Haliima/ pishile/ yuuzi ‘Haliima/ cooked/ day before yesterday.’

It is likely that the pitch pattern in (15a), if examined closely, would provide some evidence that the time adverbial is distinct from other XP’s in the same linear position. Fortunately, there is more obvious evidence. This evidence is provided by the case of verb phrases where there is a final-accent trigger. Look at the data in (16).

- (16) *we/ pishilé/ yuuzi* ‘You/ cooked/ day before yesterday.’
ni-m-pele mw-aaná/ chi-buukú/ yuuzi
 ‘I gave the child a book the day before yesterday.’
mi/ na-ku-jaa namá/ isa ‘I/ am eating meat/ now.’
n-na-x-saafiri / leelo ‘I am leaving on a trip/ today.’
n-andishilee xatí/ yana ‘I wrote a letter/ yesterday.’
mi/ ndazile Miini/ yana ‘I left Brava yesterday.’
waawé/ mi/ m-bene n-dootó/ yana ma-sku
 ‘My father/ I/ saw dreams/ last night.’

In these examples, we see that while ordinarily the final accent triggered by certain verb forms extends to the end of the verb phrase, here the accent stops in front of the time adverbial.

From these data, one could perhaps conclude that the time adverbials are outside the verb phrase. However, if one focuses on the time adverbial, then the time adverbial is brought within the scope of final accent (and furthermore, if it is after the verb, within the same phonological phrase as the verb):

- (17) *n-na-x-safira "leeló* ‘I am leaving on a trip *today*.’
m-phanzilee mu-tí/ "yuuzí ‘I climbed a tree/ *the day before yesterday*.’
n-andishilee xatí/ "yaná ‘I wrote a letter/ *yesterday*.’
mi/ n-dazile Mwiini/ "yaná ‘I left Brava/ *yesterday*.’
nth-a-x-soma "keesho ‘I will study *tomorrow*.’

The conclusion that we draw is that in the default case, a time adverbial is out of focus, and the scope of final accent always reflects the focus structure of the VP in main clause sentences.

3 The Phrasing of Relative Clauses

In this section we turn to the primary theme of the present paper: the phrasing of relative clauses in Chimwiini. Before looking at this matter in detail, it is necessary to make some general observations about relative clauses in Chimwiini.

The relative verb can be identified by two surface characteristics. The first characteristic is that in many tenses, a relative verb ends in the vowel *o*, even though in corresponding non-relative forms the final vowel is *a* or *e*. The major exceptions to the use of *o* are in the passive perfect relative (where the final vowel is *a*) and in negative tenses. Thus while *o* occurs frequently in relative constructions, it is not invariably present. The second characteristic of a relative verb is that it triggers final accent. This is an invariable property of a relative verb. There are no exceptions. (This final accent appears at the end of each phonological phrase in the relative verb phrase, but not necessarily on the relative verb itself).

Initially it will be useful to recognize two distinct relative structures. In all relative clause structures in Chimwiini, the head of the relative clause precedes the relative verb. When the head of the relative clause is a NP that also functions as the subject of the relative verb, then we have the overt sequence *head-relative verb*. We will refer to this as subject relativization. When the head of the relative clause functions inside the relative clause in a non-subject role, we will refer to this as non-subject relativization. In this type of relativization, the head is ordinarily linked to the subject of the relative verb by means of the so-called “associative particle” *AGR-a*, resulting in the following sequence: *head - AGR-a - subject - relative verb*. The AGR element on the associative particle is determined by the noun class of the head.

We will examine the phrasing of subject relatives first.

3.1 The Phrasing of Subject Relative Clauses

As indicated above, when the head of a relative clause refers to the subject of the relative verb, it immediately precedes the relative verb. It is not always the case that the head is phrased with the relative verb, but it certainly *may* be. It is this possibility that differentiates the head in subject relativization from the subject of a non-relative verb. The subject of a non-relative verb can never be grouped together with that verb if it precedes the verb (this, of course, is a consequence of the *Align-XP Right* principle).

The following are a few examples where we recorded the head grouped together with the relative verb:

(18)

(a) *Halima liziló*

‘the Haliima who cried’ (cf. *Haliima/ lizile* ‘Haliima/ cried.’)

(b) *mu-nthu na-ku-meroowá/ ni uyu*

‘The person who is being looked for/ is this one.’

(cf. *muu-nthu/ na-ku-meroowa* ‘The person/ is being looked for.’)

(c) *mu-nthu ofeto x-fakatá/ na-x-pumula*

‘The man who is tired from running/ is resting now.’

(cf. *muu-nthu/ ofete x-fakata* ‘The man/ is tired from running.’)

(d) *mw-aḷimu bozelo chi-buukú/ ni Huseeni*

‘The teacher who stole the book/ is Huseeni.’

(cf. *mw-aalimu/ bozele chi-buuku* ‘The teacher/ stole a book.’)

In these examples, the heads lack an accent since they are not phrase-final and their long vowels are shortened since these vowels are located in unstressed syllables.

Although the head of the subject relative clause may be grouped phrasally with the relative verb, it is not uncommon to find it being phrasally separated.

(19) *ni-m-wene mw-aalimú/ bozelo chi-buku ch-a mw-aaná*

‘I saw the teacher/ who stole the child's book.’

muu-nthu/ na-x-suloowá/ ni uyu ‘The person/ who is wanted/ is this one.’, as well as

mu-nthu na-x-suloowá/ ni uyu

‘The person who is wanted/ is this one.’

basi/ mu-ke/ chi-lawa/ masku/ ch-enda wowii=ni/ ku-m-talaa noka / ubleelá

‘So/ the woman/ went out/ at night/ (and) went to the river/ to pick up the snake/ that was killed.’

mafta/ ya-lazilo ka namaa=ni/ sh-taala/ chi-ya-tila/ karka zi-balaasi/ saba

‘The oil/ that she took from the meat [e.g. of the snake]/ she took/ and put it/ in clay jars/ seven.’

suxuu=ni/ baaba/ chi-m-pataa mu-ke/ xiriḷo x-kala na mw-aana=we

‘At the market/ father/ found a woman/ who agreed to stay with his child.’

ni-m-tambiilé/ muu-nthu/ x-ambilo jawabu izi/ nii dafa

‘I recognize that/ the one/ who told you these answers/ is the kite.’

n-thale/ i-laziló/ ha-y-ruudi/ chi-nume

‘An arrow/ that has left/ does not return/ back.’ (A proverb.)

chi-buuku/ ch-uziizá/ n-chha Nuuru

‘The book/ that was sold/ belongs to Nuuru.’

mw-aana/ m-bozelo Nuurú/ chi-buukú

‘The child/ who stole from Nuuru/ the book.’

ye/ sulile kumloola/ mwanaamke/ lazilo ka ahli

‘He/ wanted to marry/ a girl/ who came from his clan.’

muu-nthu/ fanyiizó/ hu-liwala/ fanyiizá/ h-a-liwali.

‘The one/ who has done something wrong/ forgets/ (but) the one who has been wronged/ does not forget.’ (A proverb.)

We will have something to say about the phrasing of the relative verb and its complements later, but for now we turn to non-subject relatives.

3.2 The Phrasing of Non-Subject Relative Clauses

When the head of a relative clause functions as a non-subject in the relative verb phrase, and the verb has an overt pre-verbal subject, there is an *AGR-a* element linking the head to the relative verb's subject. The overt subject of the relative verb is of course always phrasally separated from the verb, but the head may be separated from the *AGR-a NP* or phrased with it.

(20)

(a) head phrased separately

Nuuru/ inenzeze/ gaari/ y-a Haaji/ uziló

‘Nuuru /drove/ the truck/ that Haaji/ bought.’

ni-m-wene mw-aaná/ w-aa mí/ ni-m-bozelo chi-buukú

‘I saw the child/ who I/ stole a book from’

n-uzize chi-buukú/ ch-a Nuuru/m-bozelo mw-aaná

‘I sold the book/ that Nuuru/ stole from the child.’

*laakini/ mw-aana/ iize/ ku-m-loola/ mw-anaamke/ w-a waawa=y-e/
m-suliliiló*

‘But/ the boy/ refused/ to marry/ the girl/ that his father/ wanted for him.’

- (b) head phrased with AGR-a NP
chi-su ch-aa mi/ n-uuziló ‘the knife that I/ bought’
chi-su ch-aa mi/ ni-ch-uuziló ‘the knife that I/ bought (it)’²
n-uzize chi-buku ch-aa mi/ ni-m-bozelo mw-aaná
 ‘I sold the book that I/ stole from the child.’
n-uziizé/ chi-buku ch-aa mí/ ni-m-bozelo mw-aaná
 ‘I sold / the book that I / stole from the child.’
n-uzize chi-buku ch-a Nuurú/ m-bozelo mw-aaná
 ‘I sold the book that Nuuru /stole from the child.’
n-uziizé/ chi-buku ch-aa Nuuru/ m-bozelo mw-aaná
 ‘I sold/ the book that Nuuru /stole from the child.’
pesa z-aa mi/ n-xirile ki-zi-ruudá ‘the money that I/ agreed to return [it]’
ni-m-wene mw-ana w-aa mi/ ni-m-bozelo chi-buukú
 ‘I saw the child who I/ stole a book from.’
ni-m-weené/ mw-ana w-aa mi/ ni-m-bozelo chi-buukú
 ‘I saw/ the child who I/ stole a book from.’
*Nuuru/ inenzeze gari ya Haaji/ uziló*³
 ‘Nuuru/ drove the truck that Haaji/ bought.’

3.3 Differences in Phrasing Between Relative VP and Non-Relative VP

At first blush, a relative verb phrase seems to phrase in much the same fashion as a main-clause verb phrase. In particular, *Align-XP Right* separates post-verbal XP's from one another, while not separating the relative verb from its first complement. However, differences do emerge. In the following sections we discuss the main differences that we have so far observed.

3.3.1 Postposed subjects

Postposing of subjects in main clauses is usually possible, but postposed subjects typically do not phrase with a preceding verb in active clauses.

- (21) *fíile/ Muusa* ‘Died/ Muusa.’ (**file Muusa*)
tulushile/ mu-nthu oyo ‘Fell/ that man.’ (**tulushile mu-nthu oyo*)
tezeze/ Muusa ‘Played, danced/ Muusa.’ (**tezeze Muusa*)
n-jiilé/ mi ‘Ate/ I.’ (**njilee mí.*)

² Notice that an object prefix referring to the head may appear on the relative verb.

³ The final accent on *Haaji* in this example has been noted only in recent work. Further research is required to determine its use as opposed to *inenzeze gari ya Haaji*, which is the sort of pronunciation we generally recorded in our earlier work with MI.

The ill-formed sentences that would result from grouping the postposed subject with the preceding verb in the above examples is shown by the examples marked with an asterisk. The reader is reminded that the difference in pronunciation between *tulushile/ mu-nthu oyo* and **tulushile mu-nthu oyo* is that in the former case there is an accent (H tone) on the penult syllable of *tulushile* while in the latter case there is no accent at all. It cannot be stressed too much: only the last vowel of a phrase bears an accent and it always bears an accent. No word that is not final in the phrase ever bears accent. The phrasing thus tells us directly whether a word is accented or not. With regard to accent location, that is contrastive only when the phrase ends in a word with two or more syllables. As discussed earlier, in that situation, we indicate only the marked case where accent is final. In the absence of a final accent, default penult accent occurs.

It would be incorrect to say that a postposed subject never phrases with the verb. A rather common case is in passive sentences where a non-subject NP is fronted and the subject of the passive verb postposed after the verb. We give examples in (22a). (It should be noted that the passive extension *oow* in Chimwiini is superficially missing in the perfect tense used in the examples below; it does, however, have two notable effects: it induces a change of a preceding alveolar *l* to a dental *ɺ*, and it requires the final vowel *a* instead of the usual *e* that occurs in the perfect tense.) In addition to the case of passive verbs, we can find examples like those in (22b) where it appears that the postposing is rendered acceptable by the subsequent clausal unit. More research is necessary into these instances where a postposed subject is grouped with the verb.

(22)

(a) examples from passive sentences:⁴

chi-buuku/ peɺa mw-aana/ na mw-aalimu

‘Book/ was given the child/ by the teacher.’

=*mw-aana/ peɺa chi-buuku/ na mw-aalimu.*

‘The child/ was given a book/ by the teacher.’

Ch-aakuja/ pikilila Jaama/ na Hamadi.

‘Food/ was cooked-for Jaama/ by Hamadi.’

=*Jaama/ pikilila ch-aakuja/ na Hamadi.*

‘Jaama/ was cooked-for food/ by Hamadi’

Wa-tumila ma-'askari/ xfitisha nuumba.

‘Was sent policemen/ to search the house.’

⁴ In both of the first two sentences in this data set, *mw-aana* is subject of the sentence and controls subject agreement on the verb *peɺa*, though in this case the agreement is phonologically null.

=*Ma-'askari/ wa-tumila x-fitisha nuumba.*
 'Policemen/ were sent to search the house.'

- (b) examples from non-passive sentences:
lizile Haliima/ mpaka/ maa-to/ ya-m-furiile
 'Cried Haliima/ until/ (her) eyes/ swelled'
file Muusa/ Nuuru/ oloshela
 '(As soon as) died Musa/ Nuuru/ left.'
tulushile mu-nthu oyo/ ta-ku-yaawata
 '(The way) fell man that/ will shock you'

When we turn to relative clauses, postposed subjects do occur, but when they occur in post-verbal position, they are typically phrased with the verb. Moreover, they always occur within the scope of the final accent shown by relative verbs, whether they occur immediately after the verb or later. When the subject is postposed, the head of the object relative clause is located directly in front of the relative verb and there is no *AGR-a* link since there is no subject for the *AGR-a* to join together with.

(23)

- (a) *fatuura/ y-a Nuuru/ ta-k-uuló* 'the car/ that Nuuru/ will buy'
fatūra y-a Nuuru/ ta-k-uuló 'the car that Nuuru/ will buy'
fatuura/ ta-k-ulo Nuurú 'the car/ (that) will buy Nuuru'
fatūra ta-k-ulo Nuurú 'the car (that) will buy Nuuru'

- (b) *gaari/ pakizo Nuurú/ ma-jiwé*
 'the truck/ that was loaded (i.e. by) Nuuru/ with stones'
gaari/ uzilo Haaji/ s-paandi
 'The truck/ that bought Haaji/ I will not ride (in it).'
Nuuru/ inenzeze gaari/ uzilo Haaji
 'Nuuru/ drove the truck/ (that) bought Haaji.'

- (c) *zi-buuku/ bozelo mw-iizi/ nz-aaká*
 'The books/ (that) stole the thief/ are mine.'
zi-buku bozelo mw-iizi/ nz-aaká
 'The books (that) stole the thief/ are mine.'

- (d) *fatuura/ inenzezo Nuuru/ kila muunthí/ nd-aaká
 ‘The car/ (that) drove Nuuru/ each day/ is mine.’
*fatura inenzezo Nuuru/ kila muunthí/ nd-aaká
 ‘The car (that) drove Nuuru/ each day/ is mine.’
*fatuura/ inenzezo kila muu-nthí/ Nuuru/ nd-aaká
 ‘the car/ (that) drove each day/ Nuuru/ is mine.’***
- (e) *zi-jo/ pishilo Faatimá/ mi/ speendi
 ‘The food/ cooked Faatima/ I/ do not like it.’
*pesa bozelo mw-iizi/ s-taali
 ‘The money stole the thief/ I won't take it.’**
- (f) *n-guwo/ fuzilo Faatimá/ nz-aaká
 ‘The clothes/ washed Faatima/ are mine.’
*n-guwo fuzilo Faatimá/ nz-aaká
 ‘The clothes washed Faatima/ are mine.’
 cf. *n-guwo z-a Faatimá/ fuziló/ n-zaaká
 ‘The clothes that Faatima/ washed/ are mine.’***

The data in (23) illustrates a number of points. The fact that the postposing of the subject leads to the absence of the *AGR-a* link can be seen from comparing *n-guwo z-a Faatima/ fuziló/ nz-aaká* ‘the clothes that Faatima/ washed/ are mine’ and *n-guwo fuzilo Faatima/ nz-aaká* ‘the clothes washed Faatima/ are mine.’ When the head is adjacent to the relative verb, it is possible to separate it phrasally, as in *n-guwo/ fuzilo Faatima/ nz-aaká*, but it is also possible to join it into the same phrase as the verb: *n-guwo fuzilo Faatima/ nz-aaká*.

The postposed subject, if located immediately after the verb, is (typically) in the same phrase as the verb and thus in the scope of the final accent of the verb. It is possible, however, for the postposed subject to follow a complement of the verb, cf. *fatuura/ inenzezo kila muu-nthí/ Nuuru/ nd-aaká* ‘the car/ (that) drove each day/ Nuuru/ is mine.’ What we see from this example is that the postposed subject is still within the scope of the final accent on the relative verb.

3.3.2 Negative verbs

As we discussed earlier, the default case is that a main clause negative verb is separated phrasally from any following complement. (24) provides examples:

- (24) *marti w-iitu/ ile numbaa=ni*
'Our guest/ went home.' vs.
marti w-iitu/ nth-aa-ku-ya/ numbaa=ni
'Our guest/ did not go/ home.'

mu-kee=w-e/ shishile miimba
'His wife/ became pregnant.' vs.
mu-kee=w-e/ nth-a-x-shiika/ miimba
'His wife/ did not become/ pregnant.'

uyu/ ta-k-infa kaazi
'This one/ is suitable for the job.' vs.
uyu/ h-a-ta-k-iinfa/ kaazi
'This one/ is not suitable/ for the job.'

In relative clauses, however, the negative verb does not typically stand at the end of a phrase:

- (25) *ha-fundowi na maama=y-é/ hu-m-fundo l-mweengú*
'The one who is not taught by his mother/ is the one whom the world teaches.' (A proverb.)
muu-nthu/ nth-a-x-tindaa namá 'the man/ who did not cut meat'
variations: *mu-nthu oyo/ nth-a-x-tindaa namá*
(*oyo* is a demonstrative element)
mu-nthu nth-a-x-tindaa namá
mu-nthu oyo nth-a-x-tindaa namá
mu-nthu ha-ta-x-fanya kaazi 'the man who won't work'
(cf. *ha-ta-x-fanya/ kaazi* 'He won't do/ work.')
- mu-ke (/) nth-a-m-fulila mw-aaná/ n-guwó/ ni Haliima*
'The woman(/) who did not wash for the child/ clothes/ is Haliima.'
(cf. *Haliima/ nth-a-m-fulila/ mw-aana/ n-guwo*
'Haliima/ did not wash for/ the child/ clothes.')

The explanation for the failure of the negative verb in a relative clause to be at the end of a phrase seems to be this: in the default case, a relative verb phrase lacks internal focus. This principle is apparently stronger than the principle that a negative verb is focused in the default case.

In the following data set, we combine the issue of negative phrasing in relative clauses with subject postposing:

- (26) *n-guwo z-a Haliima/ nth-a-x-fulá/ nz-aaká*
 ‘The clothes that Haliima/ did not wash/ are mine’
n-guwo nth-a-x-fula Haliimá/ nz-aaká
 ‘The clothes (that) did not wash Haliima/ are mine.’

What we see from (26) is that a postposed subject is joined with a negative verb into the same phrase. This example supports the general proposition that a negative verb in a relative clause behaves in a fashion just like an affirmative verb, whereas the two are quite distinct in their main clause behavior.

3.3.3 Time Adverbials in Relative Clauses

As we discussed earlier, in main clause verb phrases, time adverbials typically are separated phrasally from the preceding verb and are always separated from a preceding XP in a fashion that is made obvious in the case of the final-accent triggered by person. In relative clauses, time adverbials always fall within the scope of the final accent and also join into a phrase with an immediately preceding verb.

- (27) *mw-aana/ bashizo chi-buukú/ yuuzi*
 ‘the child/ who lost the book/ yesterday’
mw-ana oyo/ bashiizó/ chi-buukú/ yuuzi
 ‘that child/ who lost/ the book/ the day before yesterday’
Musa nth-a-na-ku-ja isá ‘the Muusa who is eating now’
mw-iizi/ oyo/ shishilaa yaná ‘thief/ that one/ who was caught yesterday’
mw-iizi/ shishila na ma-polüisi/ yaná
 ‘the thief/ who was caught by the police/ yesterday’
mu-nthu na-x-safira leeló/ ni Nuuru
 ‘The person who is leaving on a trip today/ is Nuuru.’
mw-anaamke/ pishiloo namá/ yaná/ ni Haliima
 ‘The girl/ who cooked meat/ yesterday/ is Haliima’

An example like *mw-iizi/ oyo/ shishilaa yaná* shows that the time adverbial is not separated from the verb inside a relative clause. An example like *mw-iizi/ shishila na mapolüisi/ yaná* shows that the time adverbial falls within the scope of the final accent of the relative verb. Both of these behaviors separate time adverbials in relative clauses from time adverbials in main clause.

3.3.4 The Accentual Law of Focus and Relative Clauses

In this section we consider the issue of whether the Accentual Law of Focus is applicable to relative clauses. The issue is rendered somewhat difficult by the

fact that in the usual case, relative clauses do not exhibit phrasing that indicates the presence of a focused element inside the relative verb phrase. In our work with Mohammad Imam Abasheikh, we almost never encountered such sentences in our elicitation sessions. There are, however, occasional examples in our text collection that suggest that it might be possible to have some sort of internal focus. Consider, for instance, the following examples:

(28)

- (a) *maha₁laa we/ ta-m-tiló/ hatá/ n-thupaa=ni/ mw-aachisi/ ta-x-tomola ch-aala*

‘The place where you/ put him/ even though/ (is) in a bottle/ a bastard/ will stick out his finger (showing he is there).’ (A proverb.)

- (b) *Sku mooyi/ mw-anaamke/ naayé/ kaleenthó/ nthi/ naxsuko msalá...⁵*

‘One day/ the girl/ while she/ was sitting/ on the floor/ knitting a mat...’

- (c) *Tawalishiizo=pó/ u-sultaani/ mw-aana/ chi-m-vila waziiri/ m-kulu.*

‘When he was installed/ as king/ the boy/ called the minister/ chief.’

- (d) *Fungaa=ni/ safari/ endaa=ni/ karkaa nthi/ mbili/ huyo ba'ada ya nthi yiitú/ iyi.*

‘You (plural) set off/ on a journey/ and go/ to the lands/ two/ which come after our land/ this’

In each of these examples what we see is that the final accent associated with the relative clause extends to the end of the relative clause even if there is a focused element that occurs at the end of a phonological phrase not predicted by *Align-XP Right*.

In our elicitation sessions with Jeylaani Mohamed Diini, it is clear that his first preference is that there be no internal focus inside the relative clause. Thus in the optimal case, the relative verb should be grouped with the immediately following complement and should not stand at the end of a phonological phrase unless it is also the end of the verb phrase. However, Jeylaani accepts focus on the verb, but in that case prefers that the final accent associated with the relative continue past the focused verb to the end of the relative clause. Pronunciations where the accent obeys the Accentual Law of Focus and stops at the focused word were considered of dubious validity. (29) illustrates:

⁵ This is an example of an adverbial relative clause, a type of relative we have omitted from discussion for the most part in this paper, but it still indicates the possibility of internal focus in a relative clause. (28c) provides another example from the domain of adverbial relative clauses, which appear more extensively in texts than do ordinary relative clauses. (28d) comes from an ordinary relative clause, but the internal focus involved is one that sets off the demonstrative element *iyi* from the phrase *nthi yiitu* ‘our land’.

(29)

- (a) *mw-aana/ bashizo chi-buukú* ‘the child/ who lost the book’
 variants: *mw-ana oyo/ bashizo chi-buukú*
mw-ana bashizo chi-buukú
mw-ana oyo bashizo chi-buukú
 but also:
mw-ana oyo/ bashiizó/ chi-buukú ‘that child/ who *lost*/ the book’
- (b) *mu-ke (/) nth-a-m-fuḷilá/ mw-aaná/ n-guwó/ ni Haliima*
 ‘The woman (/) who did not wash for/ the child/ clothes/ is Haliima.’
 cf. (with final accent stopping at the verb)
**mu-ke nth-a-m-fuḷilá/ mw-aana/ n-guwo/ ni Haliima*
 ‘The woman who did not wash for/ the child/ clothes/ is Haliima.’
- (c) *mu-nthu nth-a-x-tiindaá namá/* ‘the man who did not cut the meat’
 (best version)
mu-nthu nth-a-x-tiindaá/ namá/ ‘the man who did not *cut*/ the meat’
 (acceptable version)
 cf.
**mu-nthu nth-a-x-tiindaá/ nama/* ‘the man who did not *cut*/ the meat’
 (dubious version, where final accent stops at the verb)
- (d) *mw-aana/ uziizó/ chi-buukú* ‘the child/ who *sold* / book’
muu-nthu/ m-weenó/ mw-iizi ‘the man/ who *saw*/ thief’
mw-aana/ naa=ch-ó/ chi-buukú ‘the child/ who *has*/ the book’
- (e) *n-guwo fuziló/ Faatimá/ nz-aaká* ‘The clothes *washed*/ Faatima/ are mine.’
 (with subject postposing)
**n-guwo fuziló/ Faatima/ nz-aaká*
 ‘The clothes *washed*/ Faatima/ are mine.’
 (with final accent not passing the verb)
- (f) *fatuura/ inenzeezó/ Nuurú/ kila muu-nthi/ nd-aaká*
 ‘the car/ that *drove*/ Nuuru/ each day/ is mine’

What these data suggest is that even when there is focus internal to the relative clause, the final accent extends to the end of the relative VP. This in turn indicates that the Accentual Law of Focus does not apply to the relative clause.

4 Pseudo-Relative Clauses

There are a variety of sentential types where a main verb is put into a relative form. We call these relative verb forms *pseudo-relatives*. In some cases of

pseudo-relativization, the main verb of the sentence may be considered to be the copular *ni*. The sentences with *ni* may, however, appear with the *ni* omitted. Since it is not unusual for *ni* to be elided even in simple copular expressions, one might continue to regard the relative verb clauses in these sentences to be embedded rather than main verbs. However, in some cases of pseudo-relativization, it is not possible for the copular to be used and in these cases it is less evident that the pseudo-relative verb is not the main clause of the sentence. In any case, we shall explore the phrasing of pseudo-relative verbs and consider their connection to main clause verbs as well as true relative clauses.

4.1 Cleft Structures

Cleft sentences of the form *ni XP - (YP) - (relative) verb phrase* provide a typical example of the pseudo-relative. Look at the examples in (30). The final accent on the verb phrase is the most consistent indication that the verb is treated as a relative. In addition, the verb ends in the vowel *o* in affirmative finite active tenses.

(30) *ni Muusa/ kodeeló*

‘It is Muusa/ who spoke.’

ni Muusa/ nth-a-x-koodá

‘It is Muusa/ who did not speak.’

ni Muusa/ kodelo ka l-kele

‘It is Muusa/ who spoke loudly.’

ni Muusa/ nth-a-x-koda ka l-kele

‘It is Muusa/ who did not speak loudly.’

ni Muusa/ hu-pendo n-tholokó

‘It is Muusa/ who likes beans.’

ni chi-buuku/ ch-uziizá

‘It is a book/ that was sold.’

ni Muusa/ na=y-o chi-buukú

‘It is Muusa/ who has a book.’

ni Muusa/ lumila naa noká

‘It is Muusa/ who was bitten by a snake.’

ni Nuuru/ bozelo chi-buukú

‘It is Nuuru/ who stole book.’

ni waawa=y-e/ m-loweezó

‘It is his father/ who financed his wedding.’

ni Muusa/ wa-pelo w-aaná/ maandá

‘It is Muusa/ who gave the children/ bread.’

ni w-aana/ Muusa/ wa-pelo maandá

‘It is the children/ whom Muusa/ gave bread.’

ni ch-olokoo=ni/ Suufi/ latilo i-jiwé

‘It is at a window/ that Suufi/ threw a stone.’

Each of the examples in (30) involves locating a subject or a complement NP at the beginning of a sentence, preceded by the copular *ni*, and then casting the verb in a relative form (i.e. with the final vowel *o* in a range of cases and a final accent that extends to the end of the verb phrase).

In our data, the *ni* precedes the first phrase in the sentence, but not a subsequent phrase:

(31) ***ni zi-buku z-iingi/ mw-aalimu/ someeló***

‘It is many books/ that the teacher/ has read.’

ni z-iingi/ zi-buuku/ mw-aalimu/ someeló

‘They are many/ the books/ that the teacher/ has read.’

****z-iingi/ ni zi-buuku/ mw-aalimu/ someeló***

‘Many/ it is the books/ that the teacher/ has read.’

ni w-aana/ Muusa/ wa-pelo maandá

‘It is the children/ that Muusa/ gave bread.’

****w-aana/ ni Muusa/ wa-pelo maandá***

‘The children/ it is Muusa/ who gave them bread.’

The NP preceded by the copular *ni* is typically emphasized, which means that the pitch height is abnormally raised. We have not indicated this aspect of the pronunciation here.

4.2 Questions and Pseudo-Relativization

In the preceding section we looked at overt cleft structures. There are, however, various types of sentences which are like cleft sentences in that the verb is converted into relative form, but the *ni* is absent, or at least may be absent. One of the cases where the *ni* is commonly absent is in the equivalent of English *wh*-questions. We will illustrate with the question word *naani* ‘who(m)?’ and *gani* ‘which?’.

When question words precede the verb, the verb is put into pseudo-relative form. (Notice that there is no pseudo-relativization of the verb when *naani* or *gani* is post-verbal):

(32) ***naani/ kodeeló***

‘Who/ spoke?’

naani/ pishiló

‘Who/ cooked?’

naani/ kodelo ka l-kele

‘Who/ spoke loudly?’

naani/ nth-a-x-koodá

‘Who/ did not speak loudly?’

chi-buku ch-a naani/ peetó

‘Whose book/ did you find?’

naani/ uzilo chi-buukú

‘Who/ bought the book?’

<i>naani/ pishiloo zi-jó</i>	‘Who/ cooked <i>zi-jó</i> ?’
<i>naani/ fanyizo kaazí</i>	‘Who/ did work?’
<i>naani/ vunzilo m-naangó</i>	‘Who/ broke down the door?’
<i>naani/ fuziloo n-guwó</i>	‘Who/ washed clothes?’
<i>naani/ bozelo peesá</i>	‘Who/ stole money?’
cf. postverbal <i>naani</i>	
<i>Muusa/ m-bozele naani/ chi-buuku</i>	‘Muusa/ stole from whom/ the book?’
<i>chi-buku gani/ chi-beeló</i>	‘Which book/ is lost?’
<i>chi-buku gani/ wé/ naxsuuló</i>	‘Which book/ do you/ want?’
<i>chi-buku gani/ karka zaa wé/ uziló/ wé/ someeló</i>	‘Which book/ among those that you/ bought/ have you read?’
cf. postverbal <i>gani</i>	
<i>uzile gaari/ lamna gain</i>	‘You bought car/ which kind?’

Questions may also have an overt cleft structure – *ni naani/ kodeeló* ‘it is who that spoke?’ – but these were not the forms first offered by our consultants. The accent on the question word in the above example is higher than in the case of a non-question word, but we have not indicated this pitch raising.

4.3 Pseudo-Relativization Triggered by Various Pre-verbal Elements

There are many other elements in addition to question words which, when located in pre-verbal position, trigger pseudo-relativization. A few pre-verbal triggers are illustrated here. We should stress that these examples of pseudo-relativization are frequent in the data recently collected, but not in the data collected from Mohammad Imam Abasheikh in the 1970's and 1980's. The trigger in these examples most likely can be preceded by the copular *ni*, but they generally were volunteered without the copula being present.

Note that the symbol " is used to indicate raised pitch on a subject noun that has been emphasized and triggers pseudo-relativization. We have not used this symbol when the subject is preceded by *ni* or when the subject is a question word or when it is a non-subject element that triggers pseudo-relativization.

(33)

(a) emphasized subject

"*Muusa/ kodeeló* ‘(It is) Muusa/ who spoke.’

(cf. *Muusa/ kodeele* ‘Muusa/ spoke.’)

- "*Nuuru/ fiłó* ' (It is) Nuuru/ (who) died.'
 (cf. *Nuuru/ fiłe* 'Nuuru/died.')
- "*Haliima/ uzilo chi-buukú* ' (It is) Haliima/ (who) bought the book.'
 (cf. *Haliima/ uzile chi-buuku* 'Haliima/ bought the book.')
- "*Muusa/ someloo ch-iwó* 'Muusa/ (is the one) who read the book'
 (cf. *Muusa/ somele ch-iwo* 'Muusa/ read the book.')
- "*mw-aana/ uzizo chi-buukú* 'The child/ (is the one) who sold the book'
 (cf. *mw-aana/ uzize chi-buuku* 'The child/ read the book.')
- "*Nuuru/ bozelo chi-buukú* ' (It is) Nuuru/ who stole the book.'
 (cf. *Nuuru/ bozele chi-buuku* 'Nuuru/ stole the book.')

(b) *tu*-marked NP

- zi-buuku/ tu/ Haliima/ uziló* 'Books/ only/ Haliima/ bought.'
Haliima/ zi-buuku/ tu/ uziló 'Haliima/ books/ only/ bought.'
- w-aana/ tu/ Haliima/ wa-'ulilo zi-buukú*
 'Children/ only/ Haliima/ bought for them books.'
- zi-buuku/ tu/ Haliima/ wa-'ulilo w-aaná*
 'books/ only/ Haliima/ bought for the children.'
- Haliima/ tu/ uzilo chi-buukú* 'Haliima/ only/ bought a book.'
 (cf. *Haliima/ uzile chi-buuku* 'Haliima/ bought a book.')
- cf.
Haliima/ uzile zi-buuku/ tu 'Haliima/ bought books/ only.'
 (post-verbally, *tu* does not trigger pseudo-relativization)
- Haliima/ tu/ wa-'ulilo w-aaná/ zi-buukú*
 'Haliima/ only/ bought for the children/ books.'
- (cf. *Haliima/ wa-'ulile w-aana/ zi-buuku*
 'Haliima/ bought for the children/ books')

cf. post-verbal *tu* does not trigger pseudo-relativization

- Haliima/ wa-'ulile w-aana/ tu/ zi-buuku*
 'Haliima/ bought for the children/ only/ books.'
- Haliima/ wa-'ulile w-aana/ zi-buuku/ tu*
 'Haliima/ bought for the children/ books/ only.'

(c) *Muusa/ tu/ na-x-sulo mw-aaná/ ku-já* 'Muusa/ only/ wants child/ to eat.'
 (cf. *Muusa/ na-x-sula m-aana/ ku-ja* 'Muusa/ wants child/ to eat.')

(d) preposed complement NP

- "*Muusa/ chi-buuku=ch-e/ m-pheetó* 'Muusa/ his book/ I found.'
 "*chi-buku ch-a Muusa/ m-pheetó* 'Muusa's book/ I found (it).'
 "*maayi/ Muusa/ leeseló* ' (It is) water/ Muusa/ brought.'
 "*w-aana/ Muusa/ wa-pelo maandá*
 'The children/ Muusa/ gave them bread.'

4.4 Pseudo-Relativization Lacking a Cleft Variant

We have seen that various pre-verbal elements trigger pseudo-relativization. The issue here is whether in such cases we are *always* dealing with reduction of a cleft construction, i.e. do all cases of pseudo-relativization involve an underlying copular *ni* that has been (optionally) omitted? Some insight into this question may be gotten from considering verb tenses that (a) do not appear in ordinary relative clauses and (b) are not compatible with the cleft structure, i.e. cannot employ the copular *ni* when used in a pseudo-relative. Consider the imperative verb data below:

- (34) *fanya gaari=y-a* 'Fix my truck!'
"gaari=y-a/ faanyá 'My truck/ fix (it)!'
fanya gaari=y-a/ ka hima 'Fix my truck/ quickly!'
"ka hima/ fanya gaari=y-á 'Quickly/ fix my truck!'
fanya gaari=y-a/ tu 'Fix my truck/ only!'
gaari=y-a/ tu/ faanyá 'My truck/ only/ fix!'
 * *"gari yaa wé/ faanyá/ ndaaká*
 'The car that you/ fix it!/ is mine' (no true relative possible)
 * *ni gaari=y-a/ faanyá* 'It is my car/ fix it!' (no *ni* is possible)

The data in (34) show that, in the absence of a pre-verbal element, an imperative verb phrase has default penult accent: *fanya gaari=y-a*, *fanya gaari=y-a/ ka hima*, *fanya gaari=y-a/ tu*. If the object is moved to initial position, as in *"gaari=y-a/ faanyá* or *gaari=y-a/ tu/ faanyá*, then the imperative verb phrase displays final accent. This makes sense if we assume that the verb is being put into a pseudo-relative form. If an adverbial element is put into initial position, as in *ka hima/ fanya gaari=y-á*, we also see the verb phrase shift to final accent. Finally, it is significant that an imperative verb does not seem to ever appear in an ordinary relative clause. Furthermore, the proposed element that triggers pseudo-relativization may not be preceded by the copular *ni*. We seem, therefore, to have a situation where the pseudo-relative is transparently independent of the copular.

Another class of examples making the same point is the subjunctive verb:

- (35) *Muusa/ na-'oloke* 'Let Muusa/ go.'
"Muusa/ na-'oloké 'It is Muusa/ that should go.'
 * *ni Muusa/ na-'oloké* (no overt *ni* is possible in this example)
Muusa/ tu/ na-'oloké 'Muusa/ only/ should go.'

- Nuuru/ na-'ule gari iyi* 'Nuuru/ should buy this car.'
"Nuuru/ na-'ule gari iyi 'It is Nuuru/ that should buy this car.'
"gari iyi/ Muusa/ na-'ulé 'This car/ Muusa/ should buy it.'
**"ni gari iyi/ Muusa/ na-'ulé* (*ni* is not permitted in this case)
**gari ya Nuuru/ na-'ulé/ ni ndaaká*
 'The car that Nuuru/ should buy/ is mine.'
 (subjunctive does not appear in a true relative clause)

The data in (35) show that a subjunctive verb is just like an imperative verb in that it is cast into a pseudo-relative form when there is a pre-verbal trigger, even though subjunctives neither appear in true relatives nor are they compatible with a copular *ni* in front of the trigger. We conclude, therefore, that pseudo-relativization does not necessarily involve a cleft structure.

4.5 Phrasing of Pseudo-Relatives

In this section we look at the phrasing of the pseudo-relative verb. It should be pointed out immediately that no XP in front of the pseudo-relative verb groups together with that verb into the same phonological phrase. Thus we can only say *gaari=y-a/ faanyá* 'my truck/ fix (it)!' and never **gari=y-a faanyá*. Given this fact, then we are concerned only with the issue of the phrasing and accentual properties inside the pseudo-relative verb phrase. In particular, is the phrasing like main clause verb phrases or like ordinary relative clauses? We explore this question in the subsections below, but the data are not entirely clear cut at present. More research is required.

4.5.1 Postposed Subjects and Pseudo-Relativization

Consider first the matter of postposed subjects. In main clauses, a postposed subject ordinarily does not join with the verb into a single phrase. In ordinary relative clauses, on the other hand, a postposed subject does join with the relative verb into a single phrase and is within the scope of the final accent that the relative verb triggers. Our consultant rejected including a postposed subject in the same phrase as a pseudo-relative verb and also rejected including the postposed subject in the scope of the final accent of the pseudo-relative verb. (36) illustrates these points:

- (36)
 (a) *fatuura/ takuuló/ Nuuru* '(It is) a car/ that bought/ Nuuru.'
**fatuura/ takulo Nuurú*
 (no joining of postposed subject to the pseudo-relative verb)
**fatuura/ takuuló/ Nuurú*
 (no extension of final accent to the postposed subject)

- (b) *zi-jo/ pishiló/ Faatima* ‘(It is) the *zi-jo/* cooked/ Faatima.’
**zi-jo/ pishilo Faatimá*
 (no joining of postposed subject to the pseudo-relative verb)
**zi-jo/ pishiló/ Faatimá*
 (no extension of final accent to the postposed subject)
 cf.
zi-jo/ pishile/ Faatima ‘The food/ cooked/ Faatima.’
 (main clause postposing)
**zi-jo/ pishile Faatima*
 (no joining of postposed subject to the main clause verb)
- (c) *peesa/ boozeló/ maskiini* ‘(It is) the money/ that stole/ the poor man.’
**peesa/ bozelo maskiini*
 (no joining of postposed subject to the pseudo-relative verb)
**peesa/ boozeló/ maskiini*
 (no extension of final accent to the postposed subject)
 cf.
peesa/ boozele/ maskiini ‘Money/ stole/ the poor man.’
 (main clause postposing)
**peesa/ bozele maskiini*
 (no joining of postposed subject to the main clause verb)
- (d) *m-naango/ vuunziló/ mw-iizi* ‘(It is) the door/ broke/ the thief.’
**m-naango/ vunzilo mw-iizi*
 (no joining of postposed subject to the pseudo-relative verb)
**m-naango/ vuunziló/ mw-iizi*
 (no extension of final accent to the postposed subject)
 cf.
m-naango/ vuunzile/ mw-iizi ‘The door/ broke down/ the thief.’
 (main clause postposing)
**m-naango/ vunzile mw-iizi*
 (no joining of postposed subject to the main clause verb)
- (e) *kaa n-khele/ anziizó/ Muusa/ ku-la* ‘Loudly/ began/ Muusa/ to cry.’
kaa n-khele/ anzizoo ku-lá/ Muusa ‘Loudly/ began to cry/ Muusa.’
**kaa n-khele/ anzizo Muusá/ ku-lá*
 (no joining of postposed subject to the pseudo-relative verb)
**kaa n-khele/ anzizo ku-lá/ Muusá*
 (no extension of final accent to the postposed subject)

These examples contrast with the case of a true relative clause, where the postposed subject may be phrased with the relative verb and in any case falls

within the scope of the final accent. In pseudo-relativization, the postposing facts (with regard to phrasing and accent scope) parallel main clauses.

4.5.2 Negative Verbs and Pseudo-Relativization

Recall that in the case of negative verbs, the default phrasing is for the negative verb to be at the end of a phonological phrase. We assume that there is an inherent focus on the negative verb. *Muusa/ haapiki/ maanda* ‘Muusa/ does not cook / bread’. However, it is possible to include the complement in the phrase with the negative verb when the complement is being focused: *Muusa/ hapiki maanda* ‘Muusa/ does not cook bread’. However, this clearly represents a phrasing that is out of the ordinary. In true relative clauses, the negative verb typically is not separated from its complement and certainly is within the scope of the final accent of the negative verb. In the case of pseudo-relativization, the negative verb may or may not be at the end of the phonological phrase. However, the data below indicates that the Accentual Law of Focus is obeyed (but more research is required due to the fact that there is some uncertainty in our data on this point):

- (37) *naani/ nth-a-m-wona Omari* ‘Who/ did not see Omari?’
naani/ nth-a-m-woná/ Omari ‘Who/ did not see/ Omari?’
 (apparently, the Accentual Law of Focus is enforced)
**naani/ nth-a-m-woná/ Omari* ‘Who/ did not see/ Omari?’
 (unacceptable because of the Accentual Law of Focus violated)
 cf. *Nuuru/ nth-a-m-wona/ Omari* ‘Nuuru/ did not see/ Omari.’
 (canonical main clause phrasing)

(ni) Muusa/ hapiki maandá ‘(It is) Muusa/ (who) did not cook bread.’
(ni) Muusa/ haapiki/ maanda ‘(It is) Muusa/ (who) did not cook bread.’
 (Accentual Law of Focus obeyed)

**(ni) Muusa/ haapiki/ maandá* (Accentual Law of Focus violated)
 cf.

Muusa/ haapiki/ maanda ‘Muusa/ did not cook/ bread.’
 (main clause canonical phrasing)

Muusa/ tu/ ha-ji m-bogá ‘Muusa/ only/ does not eat greens.’
Muusa/ tu/ haa-ji/ m-boga ‘Muusa/ only/ does not eat/ greens.’
 (this pronunciation obeys Accentual Law of Focus)

**Muusa/ tu/ haa-ji/ m-boga*
 (this pronunciation would violate Accentual Law of Focus)
 cf.

Muusa/ haa-ji/ m-boga ‘Muusa/ does not eat/ greens.’
 (main clause canonical phrasing)

naani/ nth-a-m-pá/ Omari/ peesa ‘Who/ did not give/ Omari/ money?’
(Accentual Law of Focus obeyed)

naani/ nth-a-m-pa Omari/ peesá ‘Who/ did not give Omari/ money?’
(Accentual Law of Focus obeyed since there is no VP-internal focus)

**naani/ nth-a-m-pá/ Omari/ pees* ‘Who/ did not give/ Omari/ money?’
(Accentual Law of Focus violated)

cf.

Nuuru/ nth-a-m-pa/ Omari/ peesa ‘Nuuru/ did not give/ Omari/ money.’
(main clause canonical phrasing)

The examples above show the variation between whether the negative pseudo-relativized verb is phrase-final or not: cf. *(ni) Muusa/ hapiki maandá* versus *(ni) Muusa/ haapikí/ maanda*. But when the negative verb is phrase-final, these data show that the final accent of the pseudo-relative verb does not extend through the complement to the verb. In other words, the negative pseudo-relative parallels in behavior a main clause negative verb and not a negative true relative verb.

4.5.3 Time Adverbials and Pseudo-Relativization

Recall that time adverbials in main clauses do not cohere with a preceding verb and are outside the scope of final accent in the default case, while in true relative clauses time adverbials did not behave differently from any other XP. The data from pseudo-relatives has lacked consistency. The data below in (38) includes two examples where the time adverbial is preceded by a complement to the pseudo-relative verb and the final accent triggered by the verb extends to the time adverbial (just like in true relative clauses). In the third example, the time adverbial is immediately after the verb and groups with, receiving the final accent.

- (38) *naani/ m-shishilo mw-iizí/ yaná* ‘Who/ caught the thief/ yesterday?’
"Muusa/ m-shishilo mw-iizí/ yaná
 ‘Muusa/ caught the thief/ yesterday.’
gari iyi/ n-uzilo leeló ‘This truck/ I bought today.’

But we have also recorded variation in whether the accent does in fact extend to the time adverbial:

(39) *ni mw-anaamke/ pishiloo namá/ yana*
 ‘It is the girl/ who cooked meat/ yesterday.’

but also:

ni mw-anaamke/ pishiloo namá/ yaná
 ‘It is the girl/ who cooked meat/ yesterday.’

mw-anaamke/ tu/ pishiloo namá/ yana
 ‘The girl/ only/ cooked food/ yesterday.’

but also:

mw-anaamke/ tu/ pishiloo namá/ yaná
 ‘The girl/ only/ cooked food/ yesterday.’

naani/ pishiloo namá/ yana ‘Who/ cooked meat/ yesterday?’

but also:

naani/ pishiloo namá/ yaná ‘Who/ cooked meat/ yesterday?’

Much more work remains to be done on the behavior of time adverbs in pseudo-relative clauses, but the initial evidence does suggest that there is a difference between pseudo-relative verbs and true relative verbs when it comes to time adverbials.

4.5.4 The Accentual Law of Focus and Pseudo-Relativization

The Accentual Law of Focus is generally obeyed in our data on pseudo-relativization, in contrast to true relativization. There is however considerable room for further investigation to make sure that all cases of pseudo-relativization behave the same.

The case of preverbal question words and the Accentual Law of Focus is illustrated in (40):

(40) <i>naani/ fuziloo n-guwó</i>	‘Who/ washed clothes?’
<i>naani/ fuziló/ n-guwo</i>	‘Who/ washed/ clothes?’
<i>*naani/ fuziló/ n-guwó</i>	‘Who/ washed/ clothes?’

<i>naani/ bozelo chi-buukú</i>	‘Who/ stole the book?’
<i>naani/ boozeló/ chi-buuku</i>	‘Who/ stole/ the book?’
<i>*naani/ boozeló/ chi-buukú</i>	‘Who/ stole/ the book?’

<i>naani/ <u>ta</u>-k-ulo fatuurá</i>	‘Who/ will buy a car?’
<i>naani/ <u>ta</u>-k-uuló/ fatuura</i>	‘Who/ will buy/ a car?’
<i>*naani/ <u>ta</u>-k-uuló/ fatuurá</i>	‘Who/ will buy/ a car?’

cf. the behavior of true relatives:

muu-nthu/ ta-k-ulo fatuurá/ ni Hamadi

‘The man/ who will buy a car/ is Hamadi.’

muu-nthu/ ta-k-uuló/ fatuurá/ ni Hamadi

‘The man/ who will buy/ a car/ is Hamadi.’

In each of the questions above, the verb may be joined with its complement, in which case the final accent goes to the complement. However, the verb may be separated from its complement, and as a consequence the final accent is restricted to the verb.

Other cases of pseudo-relativization also obey the Accentual Law of Focus.

- (41) *"Nuuru/ ta-k-ulo fatuurá* ‘Nuuru / will buy a car.’
"Nuuru/ ta-k-uuló/ fatuura ‘Nuuru/ will buy/ a car.’
**"Nuuru/ ta-k-uuló/ fatuurá* ‘Nuuru/ will buy/ a car.’
- Faatima/ tu/ fuziloo n-guwó* ‘Faatima/ only/ washed clothes.’
Faatima/ tu/ fuziló/ n-guwo ‘Faatima/ only/ washed/ clothes.’
**Faatima/ tu/ fuziló/ n-guwó* ‘Faatima/ only/ washed/ clothes.’
- muu-nthu/ m-weene mw-iizi* ‘The man/ saw the thief.’
muu-nthu/ m-weene/ mw-iizi ‘The man/ saw/ the thief.’
"muu-nthu/ m-weno mw-iizi ‘The man/ saw the thief.’
"muu-nthu/ m-weenó/ mw-iizi ‘The man/ saw/ the thief.’
**"muu-nthu/ m-weenó/ mw-iizi* ‘The man/ saw/ the thief.’
- mu-ke/ tinzilee nama* ‘The woman/ cut meat.’
mu-ke/ tiinzíle/ nama ‘The woman/ cut/ meat.’
"mu-ke/ tiinziló/ nama ‘The woman/ cut/ meat.’
**"mu-ke/ tiinziló/ namá* ‘The woman/ cut/ meat.’
 (cf. *mu-ke/ tiinziló/ namá/ ni m-buja*
 ‘The woman/ who cut/ the meat/ is my sister.’)
- ntho/ kazá* ‘Hard/ drive it in!’
ntho/ kaza musmaari ‘Hard/ drive in the nail!’
ntho/ kazá/ musmaari ‘Hard/ drive in/ the nail!’
- ntho/ kaza musmaari/ n-thunduu=ni*
 ‘Hard/ drive the nail/ into the hole!’
ntho/ kazá/ musmaari/ n-thunduu=ni
 ‘Hard/ drive/ the nail/ into the hole!’
- Omari/ shalayete chiza ku-m-pa mw-aana/ peesa.*

- ‘Omari/ regretted not giving the child/ money.’
"Omari/ shalayeto chiza ku-m-pa mw-aaná/ peesá.
‘Omari/ regretted not giving the child/ money.’
"Omari/ shalayeetó/ chiza ku-m-pa mw-aana/ peesa.
‘Omari/ regretted/ not giving the child/ money.’

Although there is significant evidence that the Accentual Law of Focus restricts the accent in pseudo-relative verbs, we have encountered data that suggest more detailed research is necessary. (42) illustrates this point:

- (42) *ni naani/ kodelo ka l-kelé* ‘It is who/ that spoke loudly?’
ni naani/ kodeelo/ ka l-kelé ‘It is who/ that spoke/ loudly?’
Muusa/ tu/ kodeelo/ ka l-kelé ‘Muusa/ only/ spoke/ loudly.’

When the adverb *ka lkele* groups into a phrase with the pseudo-relative verb, it displays the final accent as expected. When the pseudo-relative verb is separated prosodically from the adverb, we see that, contrary to the Accentual Law of Focus, the final accent extends to the adverb. This behavior appears to contrast with the behavior of the complements in (41). It is not clear at present how to interpret this contrast in our data.

5 Conclusion

In this paper we have demonstrated that true relative verb clauses display striking differences with respect to phrasing and the scope of final accent in comparison with non-relative verb phrases. We also noted that there is variation with respect to the phrasing of the heads of true relative clauses. A head located immediately in front of the relative verb may phrase with the verb; this never happens in the case of an XP located in front of a non-relative verb.

There is an extensive use of pseudo-relative clauses in Chimwiini. Pseudo-relative clauses show the same morphological use of the final vowel *-o* and the final accent as in true relative clauses. However, there are significant differences. There is no ‘head’ of the pseudo-relative verb and thus no variation in the phrasing of this non-existent head. Furthermore, the phrasing and scope of final accent in the pseudo-relative verb phrase is more similar to main clause verb phrases than to true relative clause verb phrases.

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Processus de relativisation en bàsàa: de la syntaxe à la prosodie¹

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ZAS

Cet article propose une réflexion sur la manière dont la langue bàsàa (Bantu A 43 parlée au Cameroun) exprime la relativisation. En l'absence d'une classe grammaticale de pronoms relatifs la langue utilise la classe des démonstratifs. La stratégie démonstrative mise en place peut selon les cas, associer la classe des locatifs pour déterminer les degrés de définitude. La langue distingue également les relatives restrictives des relatives non-restrictives qui sont soit descriptives, soit emphatiques. Du point de vue prosodique, la fin de la relative en bàsàa coïncide avec une finale de Groupe Intonatif.

This article provides a sketch of the morphosyntax and prosody of relative clauses in Bàsàa, a Bantu language (A 43) spoken in Cameroon. The language does not have a class of relative pronouns like French or English. Rather, the language borrows from the demonstrative class to form relatives. Also, the language can involve locatives in the demonstrative strategy to express relative definiteness. Two varieties of relatives can be found in Bàsàa: restrictive relatives and non-restrictive relatives, which can be descriptive or emphatic. Prosodically, we find an Intonational Phrase boundary at the end of the relative clause.

1 Introduction

Le Bàsàa est une langue Bantu (A 43) parlée au Cameroun, en Afrique Centrale. Le nombre de locuteurs de cette langue est estimé à environ 230 000 personnes installées dans les régions du Centre, du Littoral et du Sud.

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Comparativement à la vaste majorité des langues camerounaises, le bàsàa est assez bien décrit (Bot ba Njock 1970, Dimmendaal 1988, Hyman 2003, Ngo Ndjeyiha 2006, Makasso 2008, entre autres).

Dans cette réflexion, nous traitons de la relativisation en bàsàa, qui, pour s'exprimer, convoque des éléments aussi bien morphosyntaxiques qu'intonatifs. La relativisation dans cette langue a été analysée par Madeleine Ngo Ndjeyiha dans sa thèse de doctorat (2006). Cette auteure reconnaît en bàsàa 6 possibilités pour exprimer les relatives:

- Présentatif + Nom + Démonstratif + ...
- Présentatif + Nom + ...
- Présentatif + Nom + Démonstratif + Pa + locution relative + ...
- Démonstratif + Nom + ...
- Nom + Nom + ...
- Nom + Complémenteur.

Notre point de vue est que la langue bàsàa dispose, en fait, d'une seule stratégie morphosyntaxique lui permettant d'exprimer la relativisation : la stratégie démonstrative. Comme le bàsàa ne possède pas de classe de pronoms relatifs comme en français ou en anglais, le processus de relativisation utilise des marques qui ne lui sont pas propres, mais sont empruntées à la classe des démonstratifs. Cet article vise donc principalement à montrer comment les démonstratifs s'emploient pour construire des relatives, lesquelles impliquent aussi certains paramètres prosodiques.

Cet article se structure de la manière suivante : après une section 2 consacrée à la description des caractéristiques morphosyntaxiques de la relativisation, la section 3 initie une réflexion sur le sens à donner au démonstratif dans ce processus. La section 4 s'intéresse à la prosodie dans la construction des relatives.

2 Caractéristiques morphosyntaxiques de la relativisation en bàsàa

2.1 Le démonstratif en bàsàa

Trois références spatiales peuvent être relevées en bàsàa concernant la monstration :

- (a) Près du locuteur,
- (b) Près du récepteur,
- (c) Loin du locuteur et du récepteur.

La deuxième catégorie est celle qui sert dans le processus de relativisation. Le démonstratif peut précéder ou suivre le nominal qu'il modifie et, dans un cas comme dans l'autre, il s'accorde selon la classe du nom. Il est alors adnominal.

Mais il peut être pronominal quand il se réalise isolément, sans le nom. Il importe cependant de noter que les démonstratifs adnominal et pronominal ont les mêmes formes en bàsàa.

Premier cas:

Dem + Nom

Quand le Nom est précédé du démonstratif, il s'agit d'un démonstratif adnominal. La forme pronominale qui rend l'idée de *celui-ci* ou *celui-là* n'est pas de la forme Dem+nom. Ainsi, l'exemple (1) suivant, comporte une forme adnominale /adjectivale du démonstratif avec *cet enfant-ci*.

- (1) núnú màṅgé à ndzòp
 Dem enfant acc pr-entrer
 'Cet enfant-ci rentre.'
- (2) núnú à ndzòp núnú à ndzòp béé
 Dem acc pr-entrer Dem acc pr-entrer neg
 'Celui-ci rentre, celui-ci ne rentre pas.'
- (3) mè ḡ!gwés ìní !ndáp lél ìí
 je pr-aimer Dem maison dépasser Dem
 'Je préfère cette maison-ci à celle-là.'

L'énoncé (2) présente deux fois le démonstratif pronominal *núnú celui-ci* qui se substitue au groupe nominal *núnú màṅgé cet enfant-ci*. L'énoncé (3) présente également un démonstratif pronominal *ìí celle-là*.

Tableau 1: distribution spatiale du démonstratif préposé

Près du locuteur	Près du récepteur	Loin des deux
núnú mùràá <i>cette femme-ci</i>	nú mùràá <i>cette femme-là</i>	núú mùràá <i>cette femme là-bas</i>
ìní !ndáp <i>cette maison-ci</i>	ì ndáp <i>cette maison-là</i>	ìí !ndáp <i>cette maison là-bas</i>
híní hìlójá <i>ce garçon-ci</i>	hí hìlójá <i>ce garçon-là</i>	híí hìlójá <i>ce garçon là-bas</i>

Deuxième cas:

í + Nom + Dem

Le nom s'insère dans une construction de type *í.....Dem.* Cette construction qui est de nature adnominale montre comment le nom s'associe à la marque du locatif *í* et au pronom démonstratif.

Tableau 2: distribution spatiale du démonstratif postposé

Près du locuteur	Près du récepteur	Loin des deux
í mùràá núnú <i>cette femme-ci</i>	í mùràá nù <i>cette femme-là</i>	í mùràá núú <i>cette femme là-bas</i>
í !ndáp ìní <i>cette maison-ci</i>	í !ndáp ì <i>cette maison-là</i>	í !ndáp ìí <i>cette maison là-bas</i>
hí'łóyá (í hìlóyá) híní <i>ce garçon-ci</i>	hí'łóyá (í hìlóyá) hì <i>ce garçon-là</i>	hí'łóyá (í hìlóyá) híí <i>ce garçon là-bas</i>

La nature de la particule $\acute{í}$ ² suscite beaucoup de controverses. C'est d'abord Dimmendaal (1988: 58), suivi par Hyman (2003) qui l'ont analysée. Pour ces auteurs, le préfixe nominal de classe acquiert un ton haut quand le démonstratif est postposé. Ainsi, devant un nom à préfixe 0, un $\acute{í}$ sous-jacent apparaît. Cette position n'éclaire ni sur la nature, ni sur la fonction de la particule.

Par ailleurs, Van de Velde (2005) pose que le démonstratif en bàsàa est essentiellement adnominal, étant donné qu'il existerait un augment rattaché au nom. Cela voudrait dire, selon lui, que pour le cas de *hí'łóyá híní* "ce garçon-ci", le démonstratif adnominal *híní* étant postposé, le ton flottant haut de l'augment se rattacherait au nom qui ainsi, présenterait un comportement différent de la version *híní hìlóyá* "ce garçon-ci". Le problème de cette position est que l'augment, s'il a existé en bàsàa, a totalement disparu. La morphologie nominale du bàsàa comporte des préfixes nominaux, mais pas de pré-préfixe ou augment. Le démonstratif dans notre analyse est soit adnominal quand il est modificateur d'un nom, soit pronominal quand il est utilisé isolément.

Sur un plan purement dialectal, la partie sud du territoire bàsàa, le pays des Babimbi qui, d'après la légende, sont restés près du rocher dont les Bàsàa sont issus, est considéré comme très conservatrice d'un point de vue linguistique. La forme *hí'łóyá hì* "ce garçon-ci" n'est pas facilement acceptée chez eux, on trouve plutôt *í hìlóyá hì* pour "ce garçon-ci". Cet usage montre bel et bien l'existence de cette particule dans la construction du démonstratif. Ngo Ndjeyiha (2006) a dénommé cette particule le *présentatif*, mais de notre point de vue, et nous le verrons ci-dessus, il s'agit d'une marque du locatif.

² La particule du locatif porte un ton bas flottant après le ton haut et se transcrit phonologiquement / í-/. C'est à cause de ce ton bas flottant qu'il y a des downsteps sur les premières syllabes à ton haut des mots adjacents.

2.2 Le locatif dans la construction démonstrative en bàsàa?

Comme beaucoup de langues bantoues, la langue bàsàa possède une classe de locatifs. Les locatifs expriment la localisation dans l'espace ou le temps, le lieu ou le moment où se déroule le procès véhiculé par le verbe.

- (4) í òm *au marché* í ndzèl *en route*
 í ngì *au-dessus* í kòsí *à midi*

Phonologiquement, le marqueur du locatif / í -/ a un ton bas flottant après son ton haut. Ainsi, quand le nominal qui le suit porte un ton haut sur la première syllabe, il se produit un downstep.

- (5) í 'ndáp *à la maison* í 'páŋ *près*

S'agissant de la construction démonstrative, le locatif peut subir ou occasionner des transformations dans son environnement phonologique. Dans le cas de *hí'ɔ́yá hí* "ce garçon", deux processus phonologiques ont été réalisés : d'abord, la particule /í-/ a fusionné avec le préfixe nominal [hì-], amenant un ton haut sur ce-dernier. Ensuite, le ton bas flottant du locatif fusionné avec le préfixe nominal cause un downstep sur la première syllabe du radical nominal.

2.3 Usages anaphorique et déictique du démonstratif en bàsàa?

La fonction principale du démonstratif est d'attirer l'attention du récepteur sur des éléments autour de lui. Il peut aussi s'agir d'éléments déjà présents dans le contexte linguistique ou dans sa mémoire. D'après une distinction proposée par Himmelmann (1996) et Diessel (2006), il existe deux interprétations pragmatiques possibles du démonstratif: l'usage anaphorique et l'usage exophorique. La version *Démonstratif* + *Nom* correspond à un usage anaphorique parce que généralement, elle renvoie à une réalité déjà présente dans le contexte linguistique. Ainsi, le groupe nominal [núnú màŋgɛ́] *cet enfant-ci* ne peut se comprendre que s'il a été question des enfants au préalable. Il peut s'agir également de l'expression d'un contraste du genre *celui-ci et aucun autre*.

L'autre version par contre (/í-/ + *Nom* + *Démonstratif*) a un usage exophorique ou déictique, car le locuteur indique un élément présent dans le contexte immédiat ou social du récepteur. Cette distinction nous sera utile plus loin lors de l'analyse des relatives.

2.4 La stratégie démonstrative

Les démonstratifs en bàsàa contribuent à restreindre la référence d'un nom, en le localisant dans le contexte spatial ou référentiel lié au locuteur ou au récepteur, ou à tous les deux. Ainsi donc, la langue utilise de manière non-équivoque la stratégie démonstrative pour exprimer les relatives. Plusieurs autres langues bantu se comportent comme le bàsàa (Zeller 2004 pour le Sotho, Demuth et Harford 1999 pour le Sotho, Chumbow 1977 pour le Ngemba, Mutaka 2000 pour le Bafut, Cheng et Kula 2006 pour le Bemba).

Dans les sections suivantes, nous verrons comment la relative en bàsàa s'exprime à travers le démonstratif. Il faut toutefois noter que la relative ne comporte pas toujours le démonstratif post-nominal qui est facultatif. Le démonstratif dans les énoncés ci-dessous sera marqué *Dem*, et le locatif sera marqué *Loc*.

2.4.1 Relatives sujets ou objets

Qu'il s'agisse des relatives en fonction sujet ou objet, la marque formelle est la même. La seule différence repose sur les accords entre l'antécédent et la proposition principale. Pour les relatives sujets (cf. (6) et (7)), l'accord est le même entre la relative et la principale car le sujet est le même, ce qui n'est pas le cas pour les relatives objets (cf. (8) et (9)).

(6) í bòrà (bá) bá ò-té'hê wê bá ò-kè í !nhóyá
 Loc femmes Dem acc p1-voir 2sg-obj acc pr-partir loc nager
 'Les femmes qui t'ont vu vont nager.'

(7) í gwǒm (bí) mè m-óéyèl bí í-jèr
 Loc choses Dem 1sg-subj p1- porter 3pl-subj pr-peser
 'Les choses que j'ai portées pèsent lourd.'

La présence du Dem (entre parenthèses) est facultative. De même, on voit pour les relatives sujets, que le même morphème d'accord sert de sujet pour la principale et pour la subordonnée.

(8) í bòrà (bá) ù ò-té'hê bá ò-kè í !nhóyá
 Loc femmes Dem 2sg p1-voir 3pl pr-partir loc nager
 'Les femmes que tu as vues vont nager.'

- (9) m̀è ɲ-¹gwés í ɓòm (í) ɓá ń-tìp óɲ
 1sg-subj pr- aimer Loc marché Dem 3pl-subj pr- finir bâtir
 ‘J’aime le marché qu'on vient de construire.’

On voit bien que la présence du Dem (entre parenthèses) est facultative. La différence ici avec les relatives –sujets vient de ce que le sujet n’est pas le même entre la relative et la subordonnée.

2.4.2 *Catégories sémantiques des relatives*

En bàsàa, il existe aussi bien des relatives restrictives que des relatives non-restrictives. Les relatives restrictives définissent l’antécédent en donnant une information assez détaillée tout en limitant la portée sémantique du mot (antécédent). Les relatives non-restrictives quant à elles apportent des informations additionnelles sur l’antécédent, sans le définir. La différence entre les deux types de relatives est marquée par l’insertion d’une particule emphatique dans la non-restrictive. Les relatives des exemples 10, 11 et 12 ne présentent pas de particule emphatique et elles donnent lieu à une interprétation restrictive :

- (10) ɓ̀ɲ̀gɛ́ (ɓ́á) ¹ɓ́á ń-¹jí hók ɓ́á ń-là t̀úk í pán !lép
 Enfants Dem acc pr-savoir nager acc pr-pouvoir jouer loc bord rivière
 ‘Les enfants qui savent nager peuvent jouer près de la rivière.’

- (11) ndz̀èl (í) ì ń-s̀èndì ì ɲ-àp ɲgándàk
 Chemin Dem acc pr-glisser acc pr-allonger beaucoup
 ‘Une route qui glisse paraît de plus en plus longue.’

Pour que les enfants puissent jouer au bord de la rivière, ils doivent avoir une caractéristique qui les définit: savoir nager. De même, la route n’est pas simplement longue, elle glisse aussi.

- (12) m̀è ɲ-áɲ ǐ káàr ì ɓák ì ɓèrí háá
 1sg pl-lire Dem livre acc pl-être acc poser dem
 ‘J’ai lu ce livre qui était posé là.’

Evidemment, le livre qui était posé là est différent des autres livres tout autour de par sa position. Et c’est celui-là précisément qui a été lu. Ainsi, ce livre est défini par rapport à sa position. Les énoncés 13 et 14 suivants ont une interprétation non-restrictive, du fait de la présence en leur sein d’une particule emphatique :

- (13) paul nú 'ɲé à ɲ-⁺gwéh dzé à βí-βòk í tɛ̀βlè
 Paul Dememph acc pr- aimer manger acc p2- être 1er loc table
 'Paul, qui aime manger, était le premier à table.'
- (14) bàúrú bêm bá 'bó bá βí-⁺sál lóŋgê bá βí-nèr bóbásô
 élèves poss Dem emphaccp2-travailler bien acc p2-réussir tous
 'Mes élèves, qui ont bien travaillé, ont tous réussi.'

Les énoncés en (13) présentent une emphase sur le nom (antécédent de la relative). Les particules emphatiques utilisées: [ɲé'] pour (13) et [b'ó] pour (14) attirent l'attention sur le nom et plutôt que de le définir, le décrivent. Ainsi, dans (13), il ne s'agit pas d'un *Paul* parmi d'autres qui aimerait manger, il s'agit d'un *Paul* spécifique.

2.4.3 Autres relatives

Comme c'est le cas dans beaucoup d'autres langues Bantu, le bàsàa peut relativiser des noms dont la référence est possessive ou locative. Il y a alors introduction d'un marqueur résomptif.

- (15) í mùr ɲgònd jèé ì ɲ-kòn à ɲ-kèná jó í dòktà
 Loc homme fille poss acc pr-malade acc pr-amener 3sg loc hôpital
 'L'homme dont la fille est malade est entrain de la conduire à l'hôpital.'

Dans l'énoncé ci-dessus, nous avons une relative possessive. Le résomptif présenté ici est *jèé*.

- (16) paul à m-βíí káàr í ɲgìí tɛ̀βlè
 Paul acc p1-poser livre loc dessus table
 'Paul a pose le livre sur la table.'

- (17) í tɛ̀βlè paul à m-βíí káàr í ɲgìí (jé'é) í m'-pùm
 Loc table Paul acc p1-poser livre loc dessus poss acc pr-être sale
 'La table sur laquelle Paul a pose le livre est sale.'

L'énoncé (17) présente une relative locative qui combine aussi bien le locatif résomptif (loc+dessus) que le possessif résomptif. Il est important de noter ici que dans cette phrase, le possessif résomptif n'est pas obligatoire.

3 Sémantique des relatives

Notre objectif dans cette section est de tenter d’expliquer comment le locuteur bàsàa conçoit la relativisation. Dans le cadre de la restriction de la référence d’un nom comme le propose la définition de la relative, le locuteur bàsàa fixe cette référence sur un espace, convoquant les sens ou l’attention de son allocataire (ce que nous avons appelé plus haut l’usage anaphorique ou exophorique de la relative). Les relatives en bàsàa peuvent se classer selon leur degré de définitude.

3.1 Quand l’antécédent est défini

Nous avons une structure comme suit:

Loc + Nom + (Dem) + acc + relative

La notion de définitude telle qu’utilisée ici renvoie à la présence (actuelle ou virtuelle) de la référence du nom, ou de son absence complète. Quand il y a la particule locative [í] qui accompagne le démonstratif, l’attention du récepteur est attirée sur une réalité qui existe quelque part. Ceci se rapporte à la notion de démonstratif à usage exophorique, qui attire l’attention de l’auditeur sur un élément présent dans le contexte immédiat ou social.

(18) í òḡḡé bá ‘bá n-‘jí hók bá n-tùk í ‘pán lép
Loc enfants Rel acc pr-savoir nager acc pr- jouer loc côté rivière
‘Les enfants qui savent nager jouent près de la rivière.’

(19) mè ḡ-án í kààr ĩ ì bèrí háá
1sg p1-lire Loc livre Dem acc statif-poser Dem
‘J’ai lu le livre qui est posé là.’

Dans (18), on considère un groupe d’enfants précis, que la caractéristique de “savoir nager” distingue d’autres enfants. De même dans l’énoncé (19), on doit voir le livre que le locuteur indique avec son doigt.

3.2 Quand l’antécédent n’est pas défini

La non-définitude peut être entendue comme une absence de restriction, une généralité. En somme, il s’agit d’une réalité englobant le contexte immédiat et le

rattachant à un univers plus vaste. La structure de la relative non-définie est la suivante:

Nom + (Dem) + acc + Relative

(20) ɓ̀ɔŋgɛ́ ɓá ʔɓá n-ʔj́ hók ɓá n-là tũk í !páŋ lép
 Enfants Dem acc pr-savoir nager acc pr-pouvoir jouer loc côté rivière
 ‘Les enfants qui savent nager peuvent jouer au bord de la rivière.’

(21) mɛ̀ ɲ-áŋ káàr ĩ ɓák ì ɓèrí háá
 1sg p1-lire livre acc p1-être acc statif-poser Dem
 ‘J’ai lu un livre qui était posé là.’

Dans (20), il s’agit de n’importe quel enfant. C’est sans limite déterminée, car non-défini. Tout enfant sachant nager peut jouer près de la rivière. On ne voit ni n’imagine pas un groupe d’enfants précis. De même, (21) ne renvoie pas à un livre précis, et probablement que le récepteur n’est pas au courant de l’existence même de ce livre.

On voit bien que le démonstratif post-nominal est facultatif, qu’il s’agisse d’un antécédent défini ou pas. Toutefois, dans une relative enchâssée, le démonstratif post-nominal est obligatoire pour séparer les deux relatives, comme nous pouvons le voir dans (22) ci-dessous.

(22) í mùră (nú) mɛ̀ pórłák nú à ɓ́í-!sóm̩b wóm...
 Loc femme Rel 1sg ppr-parler dem acc p1-acheter champ
 ‘La femme dont je te parlais, qui a acheté un champ...’

*ĩ mùră mɛ̀ pórłák à ɓ́í-!sóm̩b wóm...
 Rel femme 1sg ppr-parler acc p1-acheter champ
 ‘La femme dont je te parlais, a acheté un champ...’

On voit à l’exemple ci-dessus que l’absence du démonstratif amène à envisager une relative simple.

4 Prosodie des relatives

Une caractéristique importante des relatives en bàsàa est leur organisation prosodique, en particulier le fait que leur frontière droite coïncide avec la fin d’un Groupe Intonatif. Le corpus utilisé pour la prosodie des relatives est constitué d’un enregistrement de parole lue de deux locuteurs (une femme et un homme) du questionnaire sur les relatives développé autour du projet BANTUPSYN.

La finale de Groupe Intonatif est, entre autres marquée par des réalisations tonales caractéristiques. Considérons le cas du pronom *wɛ̀* “toi” et de ses diverses réalisations en fonction des contextes. Au sein du Groupe Intonatif et en dehors de la position objet suivant immédiatement le verbe, il porte simplement son ton bas lexical, comme l’illustre l’exemple (23).

- (23) *mɛ̀* *ɓák ní* *wɛ̀* *í* *ɓòm*
 1sg être avec toi loc marché
 ‘J’étais avec toi au marché.’

Il reçoit un ton haut lorsqu’il est objet immédiatement après le verbe, son ton bas lexical devenant flottant. Ce dernier provoque le downstep lorsqu’un ton haut suit comme dans l’exemple (24)

- (24) *mɛ̀* *pórlák* *wɛ́* *!kóp*
 1sg ppr-parler 2sg obj poulet
 ‘Je te parlais d’un poulet.’

Devant un mot à ton bas, ce même ton bas n’est pas réalisé, comme dans l’exemple suivant.

- (25) *mɛ̀* *pórlák* *wɛ̀* *mùrǎ*
 1sg ppr-parler 2sg obj femme
 ‘Je te parlais d’une femme.’

En finale d’énoncé de *wɛ́* porte un contour descendant, car le ton bas lexical se réalise.

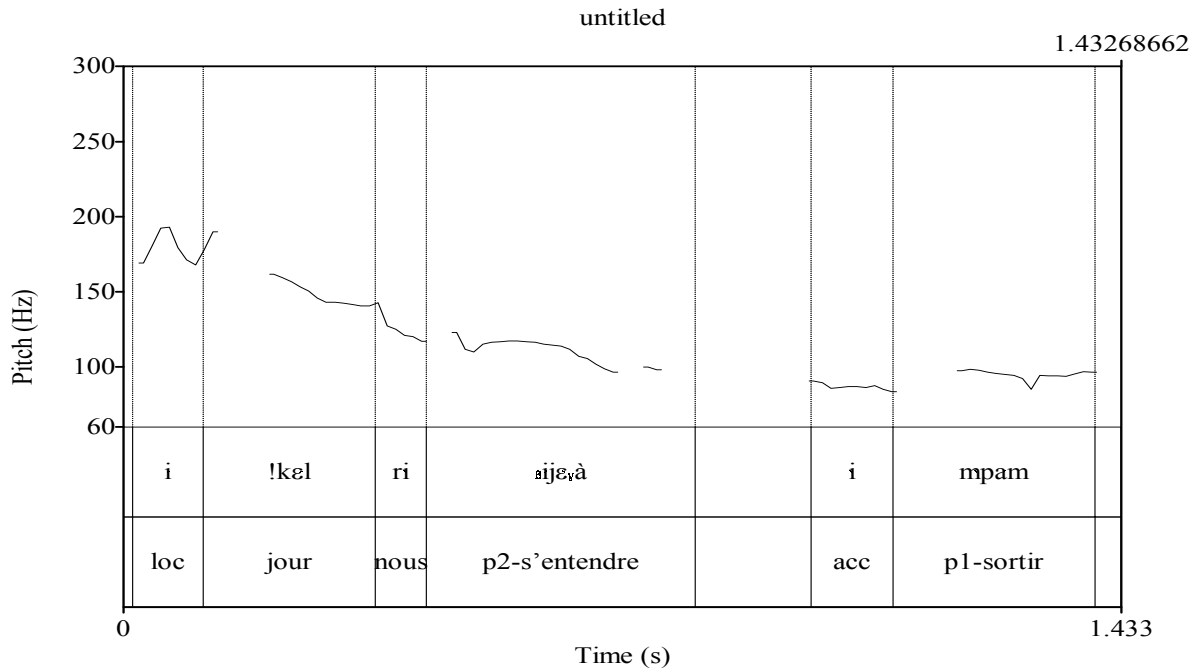
- (26) *mɛ̀* *pórlák* *wɛ̀*
 1sg ppr-parler 2sg obj acc p1-acheter champ
 ‘je te parlais’

Dans le cas de la relative en (27), la réalisation de *wɛ́* est la même qu’en fin de l’énoncé (26). Cela démontre que la fin de la relative coïncide avec la fin d’un Groupe Intonatif.

- (27) *í* *mùrǎ* *mɛ̀* *pórlák* *wɛ́* *à* *βí-!sómb* *wóm*
 Loc femme 1sg ppr-parler 2sg obj acc p1-acheter champ
 ‘La femme dont je te parlais a acheté un champ.’

En bàsàa les Groupes Intonatifs sont également séparés par des pauses. Dans notre corpus, les Groupes Intonatifs (entre la proposition principale et la relative) convoquent une pause majeure à 97% des cas, ainsi que l'illustre la figure ci-après:

- (28) í !kél rì ßí-jèyà ì m̀- pám
 Loc jour nous p2-entendre acc p1-sortir
 'Le jour qu'on a prévu est arrivé.'



5 Conclusion

Dans cette réflexion, il était question de déterminer la manière dont la langue bàsàa exprime la relativisation. La langue ne dispose pas d'une classe de pronoms relatifs, elle adapte une stratégie basée sur l'utilisation du démonstratif. La langue distingue des relatives restrictives des relatives non-restrictives marquées par un pronom emphatique. La langue permet également de déterminer le degré de définitude des relatives marqué notamment par la présence ou l'absence du locatif avant le nominal antécédent. Par ailleurs, du point de vue prosodique, la fin d'une proposition relative coïncide le plus souvent avec une finale de Groupe Intonatif.

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The Prosody of Símákonde Relative Clauses¹

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Símákonde is an Eastern Bantu language (P23) spoken by immigrant Mozambican communities in Zanzibar and on the Tanzanian mainland. Like other Makonde dialects and other Eastern and Southern Bantu languages (Hyman 2009), it has lost the historical Proto-Bantu vowel length contrast and now has a regular phrase-final stress rule, which causes a predictable bimoraic lengthening of the penultimate syllable of every Prosodic Phrase. The study of the prosody / syntax interface in Símákonde Relative Clauses requires to take into account the following elements: the relationship between the head and the relative verb, the conjoint / disjoint verbal distinction and the various phrasing patterns of Noun Phrases. Within Símákonde noun phrases, depending on the nature of the modifier, three different phrasing situations are observed: a modifier or modifiers may (i) be required to phrase with the head noun, (ii) be required to phrase separately, or (iii) optionally phrase with the head noun.

1 Introduction

This paper investigates the prosody/syntax interface in Símákonde Relative Clauses. I will start in Section 2 by giving some background on Símákonde, presenting its genetic affiliation, its geographic range, the existing studies available currently on various Makonde dialects and the data displayed here. In Section 3, I will examine stress and phrasing and inventory the number of Prosodic Phrases contained in Noun Phrases (NPs) made of a noun and one modifier and in NPs made of a noun and more than one modifier. Then, in Section 4, I will detail the structure and the morphology of relative clauses,

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giving the morphology of subject and object relatives. Finally, in Section 5, I will discuss the prosody of subject and object relative clauses and propose an analysis of the complex phrasing possibilities displayed by relatives.

2 Background on Símákonde

2.1 Genetic affiliation

Makonde is an Eastern Bantu language coded as P23 in Guthrie's referential classification (1948), which has been confirmed by Maho in 2003.

2.2 Geographic range

Símákonde is a variety of Makonde spoken by immigrant Mozambican communities in Zanzibar (Unguja island) and on the Tanzanian mainland (Dar es Salaam, Bagamoyo, Tanga).

It is claimed to have been rather protected from external linguistic influences and seems to be much less permissive than other dialects in the phrasing options that it offers (cf. Patin & Rialland 2006).



Figure 1: Map of the Makonde speaking area²

² © Dynamique du Langage Laboratory 2009, edited by the author in 2010.

2.3 Existing studies on various Makonde dialects

Quite a few articles and books on various dialects of Makonde are currently available : Odden 1990a and 1990b on *Chimaraba* and *Chimahuta* respectively, which are spoken in Southern Tanzania, Liphola 2001 on Shimakonde, spoken in Southern Mozambique, Manus 2003 on Símákonde, spoken in Mozambican communities settled in Northern & Central Eastern Tanzania & in Zanzibar, Devos 2004 on Kimakwe, spoken in Northern Mozambique, and Kraal 2005 on Chinnima, spoken in Southern Tanzania.

2.4 Data

All data presented here have been elicited and recorded by the author from Yoáána Píliisi and his relatives in Tanzania in 2000, 2003, 2008, 2009 and 2010.

3 Phrasing

3.1 Stress

Like other Makonde dialects and other Eastern and Southern Bantu languages (Hyman 2009), Símákonde has lost the historical Proto-Bantu vowel length contrast and now has a regular phrase-final stress rule, which causes a predictable lengthening of the penultimate syllable of every Prosodic Phrase. The penult lengthened by stress is bimoraic.

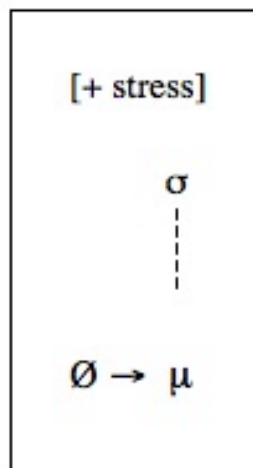


Figure 2: Penult lengthening rule

Examples in (1) show penultimate lengthening in Símákonde.

- (1) a. kúlúúma ‘to bite’
 b. kúlúmúúla ‘to cut’
 c. kúlúmúláánga ‘to cut into small pieces’
 d. kúlúmúlángíila ‘to cut into small pieces for someone’

3.2 To phrase or not to phrase

The main question is to find out what constitutes a Prosodic Phrase (P-Phrase) in the language and what does not. Prosodic Phrases will be indicated with parentheses as shown in example (2)³.

- (2) (sílóólo) (síkúmeêne) (sindiîgwa)
 7⁴.mirror 7.big 7.past.fall
 ‘(A/the) big mirror fell’

In this example made of a noun, an adjective and a verb, there are three distinct Prosodic Phrases, each element constituting an independent P-Phrase.

Let us first have a look at Noun Phrases (NPs) containing *one* modifier.

3.2.1 Noun Phrases (NPs) made of a noun and one modifier

A Noun Phrase made of a noun and one modifier can either form a single Prosodic Phrase or two distinct Prosodic Phrases.

Depending on the nature of the modifier, three different phrasing situations are observed: demonstratives are required to phrase with the head noun, adjectives, genitives and numerals are required to phrase separately, and possessives and intensifiers *optionally* phrase with the head noun (i.e. both a single P-Phrase and two P-Phrases are in these cases accepted by the speakers).

³ The following abbreviations are used in this paper :

Adj	Adjective	Obj	Object
Dem	Demonstrative	OM	Object Marker
CO	Connective	PL	Plural
Dis dei	Discourse Deictic	Poss	Possessive
Gen	Genitive	ProN	Pronoun
H	High tone	Prest	Present
Int	Intensifier	P-Phrase	Prosodic Phrase
Loc	Locative	Rel	Relative
Mod	Modifier	SG	Singular
Neg	Negative	SM	Subject Marker
NP	Noun Phrase	Suff	Suffix
Num	Numeral	TAM	Tense Aspect Mood marker
		V	Verb

⁴ Numbers refer to the Bantu Noun Classes.

3. 2. 1. 1. (Noun + demonstrative) => one P-Phrase

If the modifier is a demonstrative, it must phrase with the noun as shown in (3) a. and can never phrase separately as shown in (3) b.

(3) a. (Noun + Dem)
(líjémbé aliilá)
5.hoe Dem5⁵
'that hoe'

b. *(Noun) + (Dem)

There are three different demonstratives in Símákonde (proximal, distal and anaphoric) and they all phrase exactly the same way. The demonstrative given in (3) a. is the distal one.

3. 2. 1. 2. (Noun) + (adjective, genitive or numeral) => two P-Phrases

If the modifier is an adjective (4), a genitive (5) or a numeral (6), it can never phrase with the noun.

(4) a. (Noun) + (Adj)
(lyoônga) (líkúmeêne)
5.arrow 5.big
'(a) big arrow'

b. *(Noun + Adj)

(5) a. (Noun) + (Gen)
(lyoônga) (lyá ŋkoôngwe)
5.arrow 5.CO 1.woman
'the woman's arrow'

b. *(Noun + Gen)

⁵ The point (.) marks a morphematic boarder (as in "5.hoe" there is a clear cut between "5", the class prefix *li-* and "hoe", the noun stem *-jembe*). Contrarily, Dem5 only indicates the presence of a demonstrative in class 5 and does not mean that the class marker is suffixed. I gloss "Dem5" to simplify when the structure is a bit more complex, as here: *a-li-la* actually corresponds to Dem-5-Dem.

(6) a. (Noun) + (Num)
(lyoônga) (líimo)
5.arrow 5.one
'one arrow'

b. *(Noun + Num)

Numerals do behave like adjectives morphologically speaking (they take the same concords) and prosodically speaking (since they never phrase with the noun they modify).

3. 2. 1. 3. *Noun + possessive or intensifier => one or two P-Phrases*⁶

If the modifier is a possessive or an intensifier (meaning "himself, herself, itself"), it can either phrase with the noun and constitute a single prosodic phrase with it as in (7) a. and (8) a. or not phrase with the noun and be parsed in an independent P-Phrase as in (7) b. and (8) b.

(7) a. (Noun + Poss)
(iposó yaángu)
9.present 9.possSG1
'my present'

b. (Noun) + (Poss)
(ipooso) (yáangu)
9.present 9.possSG1
'my present'

(8) a. (Noun + Int)
(ípósó yeene)
9.present 9.int
'the present itself'

b. (Noun) + (Int)
(ipooso) (yéene)
9.present 9.int
'the present itself'

⁶ The question of the semantic difference between (Noun X + modifier Y) constituting a single P-Phrase as in (7) a. and (8) a. and (Noun X) + (modifier Y) constituting two separate P-Phrases as in (7) b. and (8) b. is too complex to be summarized briefly in this paper.

Note that it is always possible to add a verb in the examples (3), (4), (5), (6), (7) and (8) cited above.

Whatever happens in the subject Noun Phrase prosodically, the verb will always constitute an independent Prosodic Phrase as shown in the examples (9) a. and (9) b. It will never phrase with the preceding Noun Phrase, as shown in (9) c., even if the Noun Phrase is restricted to only a noun, not followed by any modifier, as shown in (9) d. and (9) e.

- (9) a. (Noun + Poss) + (Verb)
 (iposó yaángu) (indiîgwa)
 9.present 9.possSG1 9.past.fall
 ‘my present fell’
- b. (Noun) + (Poss) + (Verb)
 (ipooso) (yáangu) (indiîgwa)
 9.present 9.possSG1 9.past.fall
 ‘my present fell’
- c. *(Noun + Poss + Verb)
 *(iposo yangu indiîgwa)
- d. (Noun) + (Verb)
 (ipooso) (indiîgwa)
 9.present 9.past.fall
 ‘(a) present fell’
- e. *(Noun + Verb)
 *(iposo indiîgwa)

Note that if a Noun Phrase and the verb that follows never phrase together *(Noun Phrase + Verb), so-called *conjoint verbs* do phrase with what follows (Verb + Noun Phrase), whether what follows is a subject pronoun, an object noun or Noun Phrase, an adverb or an interrogative (Manus 2007). The example in (10) a. illustrates the case of a conjoint verb phrasing with its object noun.

- (10) a. (Conjoint Verb + Object Noun)
 (ngúsúmá sílóólo)
 (SG1.buy 7.mirror)
 ‘I am buying (a) mirror’
- b. *(Conjoint Verb) + (Object Noun)

According to Buell (2006), "the terms conjoint and disjoint are due to Meeussen (1959). (...) The conjoint form cannot appear clause-finally, while the disjoint form canonically does appear in clause-final position."

Creissels (1996, 1997) uses the terms "conjunctive" and "disjunctive". According to him (1997), "(...) only the disjunctive form can be used in final sentence position and more generally in prepausal position, whereas in non-prepausal position both forms can occur (...)".

(11) below summarizes the various phrasing options in a Noun Phrase made of a noun and a single modifier, whether the modifier is an adjective, a genitive, a numeral, a demonstrative, a possessive or an intensifier.

(11)

2 P-Phrases	1 P-Phrase	1 or 2 P-Phrase(s)
(N) + (Adj)	(N + Dem)	(N + Poss) <i>or</i> (N) + (Poss)
(N) + (Gen)		(N + Int) <i>or</i> (N) + (Int)
(N) + (Num)		

Let us now have a look at Noun Phrases made of a Noun and *more than one* modifier.

3.2.2 Noun Phrases (NPs) made of a noun and more than one modifier

In Noun Phrases made of a noun and *more than one* modifier, the Noun Phrases can either be split into *more than one* Prosodic Phrase or constitute a single Prosodic Phrase. Let us first look at the cases when the presence of *more than one* modifier creates *more than one* P-Phrases.

In 2007, Downing & Mtenje established that in Chichewa "NPs which contain more than one modifier are generally parsed into more than one Phonological Phrase (...)".

This applies in Símákonde in many cases, as shown in the following examples. A Noun Phrase made of a noun and two modifiers can either constitute three distinct P-Phrases as in 3. 2. 2. 1. (*as many P-Phrases as there are elements* in the utterance) or only two P-Phrases as in 3. 2. 2. 2.

3. 2. 2. 1. *Noun + two modifiers => three P-Phrases : (Noun) + (mod) + (mod)*

In (12) a. and (13) a., the Noun Phrases made of a noun and two different modifiers (adjective and numeral or possessive and numeral) are parsed into three distinct P-Phrases and could not phrase together as shown in (12) b. and (13) b.

(12) a. (Noun) + (Adj) + (Num)
 (vǐjúulu) (vǐdíkídǐíki) (viviíli)
 8.hat 8.small 8.two
 ‘two small hats’

b. *(Noun + Adj + Num)

(13) a. (Noun) + (Poss) + (Num)
 (vǎdyóóko) (vǎako) (vaviíli)
 2.child 2.possSG2 2.two
 ‘your two children’

b. *(Noun + Poss + Num)

Remember that possessives can also phrase together with the noun as shown above in (7) a., (9) a. and as you will also see in (15) a. and (17) a.

If a verb is added in (12) a. or (13) a., it will constitute an independent Prosodic Phrase as you can see in (14) a. (and in (9) above).

(14) a. (Noun) + (Poss) + (Num) + (Verb)
 (vǎdyóóko) (vǎangu) (vaviíli) (vandaiída)
 2.child 2.possSG1 2.two 2.fut.come
 ‘my two children will come’

b. *(Noun + Poss + Num + Verb)

3. 2. 2. 2. *Noun + two modifiers => two P-Phrases : (Noun + mod) + (mod)*

A Noun Phrase made of a noun and two different modifiers, a possessive and an adjective for example, can also be parsed into only two P-Phrases, as you can see in (15) a.

- (15) a. (Noun + Poss) + (Adj)
 (lijembé lyaáko) (lídíkídiîki)
 5.hoe 5.possSG2 5.small
 ‘your small hoe’
- b. *(Noun + Poss + Adj)

Let us now look at longer Noun Phrases, made of a noun and three modifiers. They can either constitute four distinct P-Phrases as in 3. 2. 2. 3. (*as many P-Phrases as there are elements* in the utterance) or only three P-Phrases as in 3. 2. 2. 4.

3. 2. 2. 3. *Noun + three modifiers => four P-Phrases :*
 (Noun) + (mod) + (mod) + (mod)

The following example in (16) a. illustrates the case of a Noun Phrase, made of a Noun and three distinct modifiers (a numeral, an adjective and an adverb), that is parsed into four distinct P-Phrases.

Note that it cannot constitute a single P-Phrase as shown in (16) b.

- (16) a. (Noun) + (Num) + (Adj) + (Adv)
 (vítóólo) (viviíli) (vídíkídiîki) (nameêne)
 8.mirror 8.two 8.small very
 ‘two very small mirrors’
- b. *(Noun + Num + Adj + Adv)

3. 2. 2. 4. *Noun + three modifiers => three P-Phrases :*
 (Noun + mod) + (mod) + (mod)

The example in (17) a. illustrates the case of a Noun Phrase, made of a Noun and three distinct modifiers (a possessive, an adjective and an adverb), that is parsed into three distinct P-Phrases, the head noun and the first modifier phrasing together.

Note that it cannot constitute a single P-Phrase as illustrated in (17) b.

- (17) a. (Noun + Poss) + (Adj) + (Adv)
 (sílóngó saángu) (síkúmeêne) (nameêne)
 7.pot 7.possSG1 7.big very
 ‘my very big pot’
- b. *(Noun + Poss + Adj + Adv)

Examples (12), (13), (14), (15), (16) and (17) above have shown various cases in which an NP made of a noun and *more than one* modifier is necessarily parsed into *more than one* P-Phrase and could *not* constitute a single P-Phrase. Let us now consider the cases when an NP made of a noun and *more than one* modifier can be parsed into *a single* P-Phrase.

3. 2. 2. 5. *Noun + more than one modifier => one P-Phrase :*
(*Noun + mod + mod + mod*)

As summarized and discussed by Downing & Mtenje (to appear), Kanerva (1990) and Truckenbrodt (1995, 1999) both analysed prosodic phrasing in Chichewa (Bantu, N30) and claimed that "All NPs, no matter how long and complex, are parsed into a single Phonological Phrase"⁷.

This actually works *as an exception only* in Símákonde, when the last modifier is a demonstrative⁸, since Noun Phrases made of a noun and two, three or four modifiers are always parsed into a single Prosodic Phrase *when the last modifier is a demonstrative*.

This phenomenon in Símákonde could be formalized as follows :

(18)

in NPs with N + x modifiers,
x = 2, 3 or 4:
(N + x mod + DEM)

Examples (19) and (20) clearly show the amazing phrasing power of the final demonstrative that activates both the phrasing process and a High plateau neutralizing the various tone patterns of all the other elements of the Noun Phrase, ie the noun and all its modifiers : numeral, possessive, adjective, etc.

(19) (Noun + Num + Poss + DEM)
(sílóngó símó sángú áási)
7.mirror 7.one 7.possSG1 Dem.7
'this one mirror of mine'

⁷ Note that the prosodic situation in Chichewa is much more complex than that, as shown in Downing and Mtenje (to appear) who demonstrate "that Kanerva (and Truckenbrodt) only reached this conclusion about Chichewa because they only considered NPs that consist of a noun followed by a single nonclitic modifier".

⁸ Any of the three existing demonstratives (proximal, distal or anaphoric).

- (20) (Noun + Adj + Gen + Num + DEM)
 (vílóngó víkúméné vyá náswé vívílí aviilá)
 8.pot 8.big 8.Gen white 8.two Dem8
 ‘those two big white pots’

Let us have a look at what would happen to (20) tonally and prosodically if one withdrew the final demonstrative:

- (21) (Noun) + (Adj) + (Gen) + (Num)
 (viloôngo) (víkúmeêne) (vyá naáswe) (viviíli)
 8.pot 8.big 8.Gen white 8.two
 ‘two big white pots’

In (21), without the final demonstrative, there are four distinct Prosodic Phrases that each have their full tone patterns and their bimoraic penult.

In (20), it is only the presence of the demonstrative that reduces the four P-Phrases to only one with one phrase-final bimoraic penult only and a High plateau neutralizing the tone patterns.

The most probable explanation of the High plateau in (21) is the fact that the demonstrative triggers the presence of an initial High tone which is a trace of the ancient augment (Bantu pre-prefix) which does not exist in Símákonde anymore.

In conclusion, it has been shown in this section that Noun Phrases which contain *more than one* modifier are generally parsed into *more than one* Prosodic Phrase, *except if the last modifier is a demonstrative*.

We will now consider Relative Clauses.

4 Structure and morphology of the Relative Clauses

In this section I will give a brief presentation of the morphology of Subject and Object Relatives.

4.1 Subject Relatives

There is no relative pronoun in Símákonde.

A Subject Relative Clause is identified by specific verb forms that are dedicated to the relative context and have the following structure :

(22)

SM I or SM II⁹ - TAM - V

Example of a subject relative verb form:

(23) (áloôla)
a.Ø.lola
1.prest.watch
'who is watching'

Compare this to the equivalent subject non-relative verb form:

(24) (aŋkulóola)
a.ŋku.lola
1.prest.watch
'he/she is watching'

4.2 Object Relatives

An Object Relative Clause is identified by specific verb forms that are dedicated to the relative context and introduced by the connective *-a* as shown here :

(25)

CO -a + V

Note that the connective *-a* is also used in genitive constructions similar to the one shown in (5) above. Genitive constructions and object relative clauses introduced by the connective *-a* are all parsed into separate P-Phrases.

In Object Relative Clauses, there is a morphological distinction between animates in 1/2¹⁰ and animates in other genders or non-animates. Let us first consider animates in 1/2.

⁹ There are two series of subject markers in Símákonde: SM I & SM II. See Manus (2003) for a detailed inventory.

¹⁰ In Símákonde, only the animates in 1/2 will trigger an animate concord in 1/2 and require the presence of an Object Marker. Animates in 9/10 such as animals for example will only trigger a concord in 9/10 and will not require the presence of an Object Marker.

4.2.1 *Animates in 1/2*

Animates take the first series of Subject Markers and a *compulsory* Object Marker as summarized here :

(26)

CO -a + SM I - TAM - OM - V

Example of an object relative verb form:

(27) (wá nínnóola¹¹)
w.a ni.Ø.n.lola
1.CO SG1-prest.OM1.watch
'whom I am watching'

Compare this to object non-relative verb forms, with (29) and without (28) an object marker:

(28) (niŋkulóóla)
ni.ŋku.lola
SG1.prest.watch
'I am watching'

(29) (niŋkuúnóóla)
ni.ŋku.n.lola
SG1.prest.OM1.watch
'I am watching him'

4.2.2 *Animates in other genders and non-animates*

Animates that are not in 1/2 and non-animates take the second series of Subject Markers and *no* Object Marker :

¹¹ Note that the insertion of the nasal Object Marker nasalizes the initial consonant of the verb stem that follows.

(30)

CO -a + SM II - TAM - Ø - V
--

Example of a relative verb form:

(31) (vyá válóola)
vy-a va.Ø.lola
8.CO 2-prest.watch
'that they are watching'

Compare this to the equivalent non-relative verb form:

(32) (vaŋkulóola)
va.ŋku.lola
2.prest.watch
'they are watching'

5 Prosody of Relative Clauses

After summarizing the general phrasing principles in Símákonde in Section 3 and the structure and morphology of Relative Clauses in Section 4, I will now present the prosody of Relative Clauses.

5.1 Subject Relatives

Just as in the non-relative context, where subject and verb never phrase, the head noun and the relative verb never phrase together.

A noun followed by various modifiers phrases exactly as seen in Section 3 above.

But the situation between a conjoint relative verb and its object(s) is a bit more complex as we will see in the next examples.

Let us start with a simple example¹².

¹² In the following examples, the glosses of the verb forms are simplified to focus on the phrasing. Note that the TAMs of the conjoint and the disjoint presents are -Ø- and the TAM of the past is -ndi-.

(Noun) + (Rel Verb) + (Verb):

- (33) (ńdyóóko) (átukuûta) (andiîgwa)
 1.child 1.prest.run 1.past.fall
 ‘the child who is running (just) fell’

In the absence of an object in (33), nothing phrases. Head, relative verb and verb constitute three distinct P-Phrases.

Let us now add an object to the relative verb.

(Noun) + (Rel Verb + Obj Noun) + (Verb):

- (34) (ńdyóóko) (áńnola ńnéembo) (andiîgwa)
 1.child 1.prest.OM1.watch 1.elephant 1.past.fall
 ‘the child who is watching (the) elephant (just) fell’

The relative verb spontaneously takes its conjoint form to phrase with its object noun and constitutes a single P-Phrase with it.

Note that if we add modifiers to the subject noun, they all phrase together if the last modifier is a demonstrative as seen in Section 3.2.2.5.

(Noun + Adj + Dem) + (Rel Verb + Obj Noun) + (Verb):

- (35) (ńdyókó ńdíkidíkí ááju) (áńnola ńnéembo) (andiîgwa)
 1.child 1.small Dem.1 1.prest.OM1.watch 1.elephant 1.past.fall
 ‘this small child who is watching (the) elephant (just) fell’

Let us now have a look at what happens when one adds a modifier to the object noun of the relative verb form. We will first look at an example with an animate object in 1 (ńnéembo = *elephant*). Note the presence of the Object Marker in the verb.

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Dem) + (Verb):

- (36) (ńdyókó ńdíkidíkí ááju) (áńnola ńnéembó
 1.child 1.small Dem.1 1.prest.OM1.watch 1.elephant
 aiijá) (andiîgwa)
 Dem1 1.past.fall
 ‘this small child who is watching that elephant (just) fell’

In this case, the relative conjoint verb form phrases with both the noun and its modifier, since the final modifier here is a demonstrative.

Let us now look at a similar example with a non-animate object in 7 (*sínu, thing*).

(37) (ńdyókó ńdíkidíkí áájú) (álola sínú asiilá)
 1.child 1.small Dem.1 1.prest.watch 7.thing Dem7

(andiŋgwa)

1.past.fall

‘this small child who is watching that thing (just) fell’

Of course the phrasing does not change and the relative verb form appears under its conjoint form and phrases with its object noun and the final demonstrative.

As we have seen in Section 3.2.2.5. above, a final demonstrative has a strong phrasing power on what precedes it.

Let us now look in (38) at an example in which the modifier following the object noun of the relative verb is not a demonstrative - necessarily constituting a single P-Phrase with its head noun - but a possessive, that can *optionally* phrase or not phrase with its head noun.

Note that in this sentence, the object is an animate in 10 (*dímbúúdi, goats*). As a consequence it behaves like a non-animate since it does not activate a concord in 1/2 nor the presence of an Object Marker.

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Poss) + (Verb):

(38) (ńdyókó ńdíkidíkí áájú) (álola dímbúdí dyaángu)
 1.child 1.small Dem.1 1.prest.watch 10.goat 10.Poss

(andiŋgwa)

1.past.fall

‘this small child who is watching my goats (just) fell’

In this case, the relative verb is conjoint and phrases again with its object noun and the modifier (the possessive) that follows.

We have seen in Section 3 that in the case of possessives, the head noun and its modifier can either phrase together and form a single P-Phrase or phrase separately and form two distinct P-Phrases. It is the same here?

Apparently, the situation in a relative context is different since the only other phrasing option accepted by the speakers is one where the possessive still phrases with the noun it modifies but the relative verb phrases separately in its disjoint form, as you can see in (39).

(Noun + Adj + Dem) + (Rel Verb) + (Obj Noun + Poss) + (Verb):

(39) (ńdyókó ńdíkidíkí ááju) (áloola) (dímbúdí dyaángu)
 1.child 1.small Dem.1 1.prest.watch 10.goat 10.Poss

(andiígwa)

1.past.fall

‘this small child who is watching my goats (just) fell’

Interestingly, what is rather puzzling here is that the *optional phrasing* does *not* apply *between the noun and its modifier* as we saw in Section 3.2., *but between the relative verb and its object noun phrase*.

Before trying to explain this phenomenon, let us look at what happens when the relative verb is followed by a noun and an adjective (which, as we saw in Section 3, can never phrase with the noun it modifies).

(Noun + Adj + Dem) + (Rel Verb + Obj Noun) + (Adj) + (Verb):

(40) (ńdyókó ńdíkidíkí ááju) (áńnola ńnéembo) (ńkúmeêne)
 1.child 1.small Dem.1 1.prest.watch 1.elephant 1.big

(andiígwa)

1.past.fall

‘this small child who is watching (a) big elephant (just) fell’

The relative verb and its object noun phrase together, without the adjective.

What happens now when a noun is followed by an adjective plus another modifier, for example a demonstrative (which always phrases with what precedes it)?

There are two phrasing options in this case: one where the adjective persists in phrasing separately (41) and the other one where the demonstrative - being in a final position this time - has, as we would expect, all that precedes it phrase in a single P-Phrase (42).

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Dem) + (Adj) + (Verb):

(41) (ńdyókó ńdíkidíkí ááju) (áńnola ńnémbó aijá) (ńkúmeêne)
 1.child 1.small Dem.1 1.prest.watch 1.elephant Dem1 1.big

(andiígwa)

1.past.fall

‘this small child who is watching that big elephant (just) fell’

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Adj + Dem) + (Verb):

- (42) (ńdyókó ńdíkidíkí ááju) (ánnola ńnémbó ńkúméné aijá)
 1.child 1.small Dem.1 1.prest.watch 1.elephant 1.big Dem1

(andiîgwa)

1.past.fall

‘this small child who is watching that big elephant (just) fell’

Let us look at other examples of an object noun followed by two modifiers, the last one still being a demonstrative.

(Noun + Adj + Dem) + (Rel Verb) + (Obj Noun + Poss + Dem) + (Verb):

- (43) (ńdyókó ńdíkidíkí ááju) (áloola) (dímbúdí dyángú)
 1.child 1.small Dem.1 1.prest.watch 10.goat 10.Poss

adiilá) (andiîgwa)

Dem10 1.past.fall

‘this small child who is watching those goats of mine (just) fell’

The relative verb spontaneously appears with its disjoint form thus phrasing separately and the object noun and its two modifiers phrase together.

But the corpus shows that in this case the relative verb can also take its conjoint form and phrase with its object noun and the two modifiers that follow, as shown in (44) and (45).

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Num + Dem) + (Verb):

- (44) (ńdyókó ńdíkidíkí ááju) (álola dímbúdí mbílí¹³)
 1.child 1.small Dem.1 1.prest.watch 10.goat Num10

áádi) (andiîgwa)

Dem.10 1.past.fall

‘this small child who is watching these two goats (just) fell’

¹³ Fast speech rate : (álola dímbúdí mbíly' áádi) (i > y). (cf. Manus (2003).

(Noun + Adj + Dem) + (Rel Verb + Obj Noun + Poss + Dem) + (Verb):

- (45) (ńdyókó ńdíkidíkí ááju) (álola dímbúdí dyángú
 1.child 1.small Dem.1 1.prest.watch 10.goat 10.Poss
 adiilá) (andiîgwa)
 Dem10 1.past.fall
 ‘this small child who is watching those goats of mine (just) fell’

A relative verb phrasing with its object noun and the two modifiers that follow is also found in cleft relatives as shown in (46).

(ProN) + (Dem) + (Noun) + (Rel Verb + Obj Noun + Num + Dem¹⁴):

- (46) (jóojo) (aajó) (ńdyóóko) (álola dímbúdí mbílí
 ProN1 Dem1 1.child 1.prest.watch 10.goat Num10
 áádi)
 Dem.10
 ‘this is the child who is watching these two goats’

Other clefts in the corpus show that the relative verb and its object do not necessarily phrase together in such contexts. The phrasing as a single P-Phrase and the conjoint form of the verb are not compulsory as we can see in the following examples. In (47) and (48), verb and object NP do phrase together constituting a single P-Phrase, whereas in (49) the verb and the object NP phrase separately.

(ProN) + (Dem) + (Noun) + (Rel Verb + Obj Noun)

- (47) (jóojo) (aajó) (ńdyóóko) (áńnola ńńéembo)
 ProN1 Dem1 1.child 1.prest.OM1.watch 1.elephant
 ‘this is the child who is watching (the) elephant’

(ProN) + (Dem) + (Noun) + (Rel Verb + Obj Noun + Poss)

- (48) (jóojo) (aajó) (ńdyóóko) (álola dímbúdí dyaángu)
 ProN1 Dem1 1.child 1.prest.watch 10.goat 10.PossSG1
 ‘this is the child who is watching my goats’

¹⁴ Keep in mind that a Noun Phrase ending with a demonstrative can phrase even if it contains 5 elements ie if the Noun is followed by 4 modifiers, as we saw above in (20).

(ProN) + (Dem) + (Noun) + (Rel Verb) + (Obj Noun + Poss)

(49) (joojo) (aajó) (ndyóoko) (áloola) (dímúdí dyaángu)
 ProN1 Dem1 1.child 1.prest.watch 10.goat 10.Poss
 ‘this is the child who is watching my goats’

Summary:

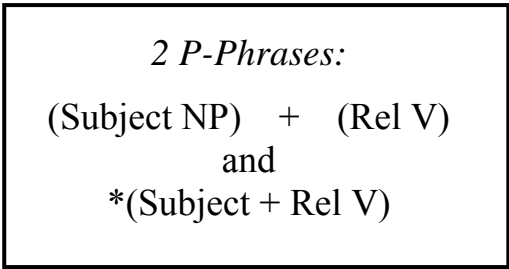
Here is a summary and an analysis of phrasing in the Subject Relatives. We will first look at what happens within the Subject Noun Phrase and between the Subject Noun Phrase and the relative verb. Then we will look at what happens between the relative verb and its Object Noun Phrase.

Subject Noun Phrase & relative verb:

The first two simple things to summarize concern the Subject Noun Phrase:

- the Subject Noun Phrase and the relative verb that follows always constitute two P-Phrases and can never phrase together as shown in (50):

(50)



- the Subject Noun Phrase itself behaves exactly as shown in Section 3, ie a Noun Phrase is generally parsed into *more than one* Prosodic Phrase when it contains *more than one* modifier, *except if the last modifier is a demonstrative*.

Relative verb & its object Noun Phrase:

Between the relative verb and its object Noun Phrase, the alternation between phrasing together as a single P-Phrase and phrasing separately as two distinct P-Phrases is a bit more complex and can be summarized as follows:

- as soon as there is an object noun following the relative verb, the relative verb always takes its conjoint form and phrases with its object noun,
- except if the relative verb is followed by at least two elements that can phrase together (an object noun followed by x modifiers with $x \geq 1$).

It works as if *at least one of the phrasing options has to be fulfilled*: the phrasing of the relative verb with its object noun or the phrasing of the object noun with its modifier(s).

(51) below summarizes the various phrasing possibilities between the relative verb and its Object Noun Phrase:

(51)

<p><i>1 P-Phrase:</i></p> <p>Subject + (Conjoint Rel V + Object Noun) and *Subject + (Disjoint Rel V) + (Object Noun)</p> <p><i>1 or 2 P-Phrases:</i></p> <p>Subject + (Conjoint Rel V + Object Noun + x mod) or Subject + (Disjoint Rel V) + (Object Noun + x mod), with $x \geq 1$</p>

But of course the phrasing is not optional when the modifier is a type of modifier that can never constitute a single P-Phrase with what precedes, for example an adjective as shown in (40).

The structure will then be:

(Noun + Adj + Dem) + (Rel Verb + Obj Noun) + (Adj) + (Verb),
with the adjective having to phrase separately as a distinct P-Phrase,
unless there is a final demonstrative as shown in (42).

The structure will then be:

(Noun + Adj + Dem) + (Rel Verb + Obj N + Adj + Dem) + (Verb),
with the final demonstrative having everything that precedes phrase as a single P-Phrase.

This can be summarized as follows:

(52)

2 P-Phrases:

Subject + (**Conjoint** Rel V + Object Noun) + (mod = Adj)
 because *(Noun + Adj),
 unless the Adj is followed by a Dem:
 => *1 P-Phrase:*

Subject + (**Conjoint** Rel V + Obj N + ADJ + Dem)

5.2 Object Relatives

The prosody of Object relatives is much simpler than the one of Subject Relatives detailed above in 5.1.

Again, a noun followed by various modifiers phrases exactly as seen in Section 3 above.

We have seen that in a non-relative context, subject and verb never phrase, and that the head and the relative verb never phrase either in Subject Relatives. It is exactly the same for Object Relatives since *(Head + Rel Verb). Note that the pause (# in the example below) between the head and the relative verb is often shorter than the pause (##) between the relative verb and the verb that follows as shown in (53).

(Noun) + (CO + Rel Verb) + (Verb):

(53) (ńdyóóko) # (wá nínnóola) ## (andiîgwa)
 1.child 1.CO SG1.prest.OM1.watch 1.past.fall
 ‘the child whom I am watching (just) fell’

Let us add modifiers to the Subject Noun Phrase.

(Noun + Poss + Dem) + (CO + Rel Verb) + (Verb):

(54) (ńdyókú wángú ááju) (wá únnoola) (andiîgwa)
 1.child 1.possSG1 Dem.1 1.CO SG2.prest.OM1.watch 1.past.fall
 ‘this child of mine whom you are watching (just) fell’

We will now look at other examples of Object Relatives exhibiting various other structures: a demonstrative as head and a post-posed Subject Noun in (55), an

Object Noun with modifiers and a locative noun in (56), a Subject Noun, an Object Noun and a discourse deictic¹⁵) in (57).

(Dem) + (CO + Rel Verb) + (Subj Noun) + (Adj):

- (55) (aviilá) (vyá vyásúuma) (váyóóko) (vídíkííki)
 Dem8 8.CO 8.prest.buy 2.child 8.small
 ‘those ones that the children are buying are small’

(Verb) + (Obj Noun + Poss + Dem) + (CO + Rel Verb) + (Loc Noun):

- (56) (nímwoôna) (ńdyókó wákó aijá) (wá
 SG1.prest.OM1.see 1.child 1.possSG2 Dem1 1.CO
 únnáliike) (paiṅoóma)
 SG2.past.OM1.invite 16.9.drum
 ‘I saw that child of yours whom you invited to the party’

(Noun) + (CO + Rel Verb) + (Obj Noun) + (dis dei) + (Verb):

- (57) (siloôngo) (sá tútálákeela) (dyeénga) (nasanaasó)
 7.pot 7.CO PL1.prest.cook 10.rice dis dei 7
 (sinditumbuúka)
 7.past.split
 ‘The pot with which we cook the rice has split’

These three last examples show that the phrasing in Object Relatives is regular and as expected.

6 Conclusion

It has been shown that in Relative Clauses Head and Verb never phrase together and that the various Subject or Object Noun Phrases - made of a noun and one modifier or a noun and more than one modifier - follow the three different phrasing patterns exhibited in matrix clauses as well, since they can either form a single P-Phrase, or phrase separately in distinct P-Phrases, or optionally constitute a single P-Phrase or separate P-Phrases, depending on the quality of the modifiers and on their order.

¹⁵ Term proposed by G. Philippson, com. pers. 2010. Can be translated by "with it".

It has also been shown that the prosody of Subject Relatives is more complex and unexpected than the one of Object Relatives, which is quite regular. Indeed, in Subject Relatives only, the relative verb can be either conjoint or disjoint, depending on what follows, with a *minimal obligatory phrasing*. The relative verb can be either conjoint and thus phrase with its Object noun when followed by an Object noun only, or phrase also with all the modifiers following the Object Noun if the last modifier is a demonstrative. Or the relative verb can be disjoint thus phrasing separately if the Object noun is followed by at least one element with which it can phrase.

It seems one of the two single P-Phrases is compulsory in this context: either the one between the relative verb and its Object NP or the one between the Object Noun and its modifier(s).

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The Prosody of Símákonde Relative Clauses

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The Prosody of Shingazidja Relatives

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This paper constitutes a first descriptive account of the prosody of Shingazidja relative clauses. After a short description of the morphology of the relative verb, it shows that there is no prosodic boundary between a restrictive relative and its head, on the one hand, but that the non-restrictive relative and the cleft phrase separately from their heads, on the other hand. These results are similar to those of corresponding works on other Bantu languages, such as Bemba or Zulu. However, Shingazidja differs from these languages in that the phrasing of the restrictive relatives varies according to the function of the head: when the head of the non-restrictive relative is the object of the matrix clause, it phrases separately from what follows.

1 Introduction¹

This paper constitutes a first descriptive account of the prosody of Shingazidja relative clauses.

Shingazidja is a Bantu language which is spoken on Grande Comore (or Ngazidja, the largest island of the Comoros). The language is coded G44a in Guthrie (1967-71)'s referential classification and belongs to the Sabaki group, which also notably contains Kiswahili. Data for this paper were gathered and recorded in Paris (France) from the native speaker Ibrahim Barwane between July 2006 and July 2009, except for the data illustrating the Southern dialect of Shingazidja in (19) and (20), which were obtained from Saïd Bacarzme in July 2008.

The paper is organized as follows. In section 2, I present an overview of the tone rules and phrasing patterns of Shingazidja. In section 3, I provide a short

¹ For helpful discussion of several aspects of this work, I wish to thank Sophie Manus, Katia Paykin, Lisa Selkirk and everybody in the SynPhonI project as well as in the audience of the first workshop of the SynPhonI project. Many thanks to my main informant, Ibrahim Barwane: this work could not have been done without his help.

description of the morphology of the relative verb, and a detailed account of the phrasing parameters of the restrictive relatives. It is shown that these relatives prosodically phrase with their heads. Section 4 is dedicated to the phrasing asymmetry that distinguishes the restrictive relatives that specify the subject of the matrix clause from the relatives that specify the object of the matrix clause, where a boundary separates the head from the relative. In section 5, I describe the prosody of non-restrictive relatives and clefts, where the head is also followed by a prosodic boundary.

2 Background: tone and phrasing

In this section, I will provide a short description of the main prosodic parameters of Shingazidja, focusing on the tone rules (the shift of the tone, and the deletion of the even-numbered surface tones) and the phonological and intonational phrasing parameters.

Because of space restrictions, I will not discuss some of the aspects of the prosodic system that relate to intonation (e.g. the downstep that is commonly associated with the last tone of the utterance).

2.1 Tone rules

The major characteristics of the Shingazidja tone system are well known. The system has been extensively discussed in Tucker & Bryan (1970), Cassimjee & Kisseberth (1989, 1992, 1993, 1998), Philippson (1988, 2005) and Patin (2007, 2008).

In Shingazidja, a high tone shifts to its right up to the end of a Phonological Phrase,² except if an underlying tone-bearing unit blocks it. The shift of the tone leads to the deletion of every even-numbered tone (in respect of the Obligatory Contour Principle). In (1bi)³ for instance, the tone of the noun *maβáha* ‘cats’ shifts to the penult of the adjective *mailí* ‘two’, and the tone of the adjective is

² In this study, a tone-bearing unit is underlined. In (1aiii), for instance, both vowels of the stem are underlined, meaning that the word has the following underlying form: /mi-pírá/.

³ The following abbreviations are used in the glosses (numbers refer to agreement classes):

PAST	past	PRES	present	AT	augment
REL-PA	relative past	REL-PR	relative present	STAB	stabilizer
1SG	first person singular	OM	object marker	REL	relative
FV	final vowel	IMP	imperfective	PAS	passive
ɸ	deleted lexical tone	POSS	possessive	N	noun
QF	Quantifier	DEM	demonstrative	ADJ	adjective
ADV	adverb				

⁴ When a Shingazidja word appears in the text outside the examples, it is transcribed as it is in isolation.

thus deleted. In (1-c-i), however, the tone of the adjective is free to appear because the tone of the noun has been deleted by the tone of the verb *tsi(w)óno* ‘I saw’.

- (1) a. i. -ilí ‘two’
 ii. ma-βáha ‘cats’ (6)
 iii. mi-píra ‘balloons’ (4)
- b. i. ma-βaha ma-íli
 6-cat 6-two
 ‘Two cats.’
 ii. mi-píra mi-ilí
 4-balloon 4-two
 ‘Two balloons.’
- c. i. tsi-(w)ón-o má-βaha ma-ilí
 1SG(PAST)-see-FV 6-cat 6-two
 ‘I saw two cats.’
 ii. tsi-(w)ón-o mí-píra mi-ilí
 1SG(PAST)-see-FV 4-balloon 4-two
 ‘I saw two balloons.’

Beside these regular phenomena, the Moroni dialect has a certain number of tone rules that seem to apply depending on parameters such as the style, the length of the sentence or the speech rate. The precise nature of these rules, never discussed until now to my knowledge, is the subject of ongoing research. For these reasons, I will not consider their effects in the transcription of the examples. However, I will briefly discuss them here, because their effects are visible in the figures.⁵

- TONE SPREAD: a non-phrase final surface tone spreads on the following vowel, most of the time if this vowel is an [i] or when the two high-toned vowels are identical (e.g. uCu)

⁵ However, I will not discuss some other phenomena such as the deletion and/or the insertion of underlying tones (see (17a) here, where the noun *ndóvu* ‘elephant’ has an underlying tone on its penult, while it has usually no tone (17b)).

- (2) ze = m-buda m-bíli n-dziro ⇨ [zembudambííndziro]
 AT₁₀=10-stick 10-two 10-heavy
 ‘Two heavy sticks.’

- PEAK DELAY: a tone that is supposed to appear on one of the first two syllables shifts to the following syllable, especially when the latter syllable is stressed, if the sentence consists of more than two prosodic words

- (3) nd⁶ = e = má-βaha ma-ilí ⇨ [ndemaβáhamailí]
 STAB=AT₆=6-cat 6-two
 ‘It is the two cats.’

- PENULT RAISING: the penult of a prosodic word is raised when the last syllable of the same word bears a surface high tone, especially if the syllable is an underlying tone-bearing unit and if the word is phrase-final

- (4) ye = ma-βahá pia ⇨ [yemaβáhápia]
 AT₆=6-cat all
 ‘All the cats.’

2.2 Phonological phrases

As in many other Eastern Bantu languages (Philipsson 1991), tone is not bounded by the limits of the prosodic word in Shingazidja. In (1), the tones of the nouns and/or verbs are free to move to the following word(s). More precisely, the tone shifts in Shingazidja as far as it can towards the end of the phrase. In (5), for instance, the tone of the verb *ha(w)óno* ‘he saw’ shifts to the penult of the phrase, through the noun *ndóvu* ‘elephant’.

- (5) ha-(w)on-o n-dovu m-bíli
 1(PAST)-see-FV 10-elephant 10-two
 ‘He saw two elephants.’

However, a tone cannot cross the boundaries of the phonological phrases. In (6a) – the symbol ‘)ϕ’ signals the end of a phonological phrase –, the tone of the subject NP stops on the last syllable of the noun while the first syllable of the

⁶ The augment is associated with a lexical high tone when the stabilizer precedes it.

verb *haréme* ‘he beat’ is not a tone-bearing unit, and thus a possible target (6b). The example is illustrated in Figure 1, showing the F₀ curve.

- (6) a. (m̄-limad̄jí)_ϕ (ha-r̄em-é páha)_ϕ
 1-farmer 1(PAST)-beat-FV (5-)cat
 ‘A farmer beat a cat.’
 b. *(m̄limad̄ji háreme páha)_ϕ

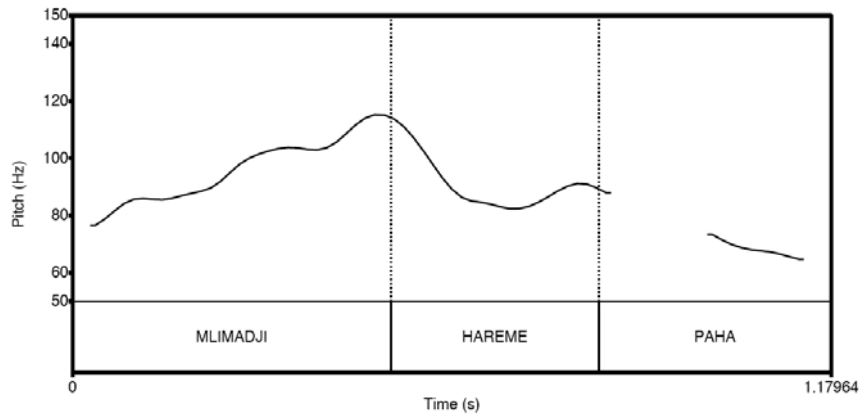


Figure 1: (m̄-limad̄jí)_ϕ (ha-r̄em-é páha)_ϕ ‘A farmer beat a cat.’ – cf. (6a)

The shift of the tone is thus the clue for phonological phrase boundaries in Shingazidja.

As in other languages, the maximal syntactic phrase and the phonological phrase are coextensive. For instance, in (7), the tone of the verb shifts onto the direct object *mapésá* ‘money’ through the beneficiary *wánda* ‘persons’, indicating that the whole VP forms a single phonological phrase.

- (7) (tsi-n̄ik-a wa-ndu má-pesá)_ϕ
 1SG(PAST)-give-FV 2-person 6-money
 ‘I gave money to people.’ (Cassimjee & Kisseberth 1993)

The tone of a subject NP, however, cannot shift onto a following verb (6a), indicating that there is a phonological phrase boundary between the subject NP and the VP. A phonological phrase boundary also separates, for instance, a dislocated element from its host, or two coordinated elements. It should be noted that a phonological phrase boundary is also associated with the augment (also known as ‘preprefix’). The boundary will precede the augment when it cliticizes to a following noun (8a), and follow the augment when it cliticizes to a preceding element (8b).

- (8) a. (ha-nik-á)_ϕ (ye = n-uŋgu n-dzíro)_ϕ
 1(PAST)-give-FV AT₉=9-pot 9-heavy
 ‘He gave the heavy cooking-pot.’
- b. (ha-nik’ = é)_ϕ (n-uŋgu n-dzíro)_ϕ
 1(PAST)-give= AT₉ 9-pot 9-heavy
 ‘He gave the heavy cooking-pot.’

Finally, the phrasing is also conditioned in Shingazidja by focus (Patin 2007, 2008), as it is in other Bantu languages such as Chicheŵa (Kanerva 1990, Downing *et al.* 2005), and by eurythmic constraints.⁷ Due to space restrictions, these aspects will not be discussed in this paper.

2.3 Intonational phrases

In (9ai), the tone stays on the penultimate syllable of the sentence. The tone does not shift to the last syllable (9a_{ii}). Moreover, the shift of a tone also stops on the penult – as in (8a), here repeated as (9bi).

- (9) a. i. (ze = m-buda ṃ-titi piá)_ϕ
 AT₁₀=10-stick 10-small all
 ‘All the small sticks.’
- ii. *(ze = m-buda ṃ-titi piá)_ϕ
- b. i. (ha-nik-á)_ϕ (ye = n-uŋgu n-dzíro)_ϕ
 1(PAST)-give-FV AT₉=9-pot 9-heavy
 ‘He gave the heavy cooking-pot.’
- ii. *(ha-nik-á)_ϕ (ye = n-uŋgu n-dziró)_ϕ

The fact that a tone cannot shift to (in Shingazidja, or in the Bantu language Giryama – cf. Cassimjee & Kisseberth 1998) or spread to (in the Bantu language Shambaa – cf. Philippon 1991, 2005) the last syllable of the utterance is sometimes called ‘extraprosodicity’ (but the term is unsatisfactory, since a

⁷ There is for instance a constraint against sequences of words lacking surface tones that may lead to the insertion of an underlying tone or a phonological phrase boundary. In the latter case, a surface tone is inserted on the penult of the phonological phrase. For an introduction to eurythmic effects on phrasing, see Truckenbrodt (2007).

‘lexical’ tone can appear on the last syllable of an utterance – e.g. (1-c-i), (7), etc.). This phenomenon relates to the NONFINALITY constraint family in OT (see, among others, Cassimjee & Kisseberth 1998).

This non-finality effect has been claimed to be the clue for Intonational Phrases in Patin (2007, 2008), following Cassimjee & Kisseberth (1998). However, it is not clear if, in Shingazidja, the domain of the Intonational phrase is the clause or the sentence. While NONFINALITY always applies at the end of a sentence, it optionally applies at the end of a clause. A matrix clause, for instance, can be separated from an embedded clause by a phonological phrase boundary or an intonational phrase boundary. In (10a), the tone of the verb *ngudju(w)o* ‘I know’ shifts to its last syllable, meaning that it is followed by a phonological boundary. In (10b), however, the tone remains on the penult of the verb, meaning that the word is followed by an intonational phrase boundary – the symbol ‘),’ signals the end of an intonational phrase.

- (10) a. ((ng-u-dju(w)-ó)_φ (ndo = βi yá-lim-a)_φ),_i
 PRES-2ND(SG)-know-FV who=which 1(REL-PA)-cultivate-FV
 ‘You know who cultivated.’
- b. ((ng-u-dju(w)-o)_φ),_i ((ndo = βi yá-lim-a)_φ),_i
 PRES-2ND(SG)-know-FV who=which 1(REL-PA)-cultivate-FV
 ‘You KNOW who cultivated.’

It seems that the difference between the two examples in (10) relates to focus and/or emphasis. An argument in favor of such an analysis is the fact that NONFINALITY may occur when there is no evidence for a clause boundary (e.g. when two VPs are coordinated). This point is the object of current research, and will not be discussed in detail here.

3 Restrictive relatives

In this section, I will describe the morphological structure of the relative verb, and discuss the phrasing parameters that are associated with the restrictive relative clause.

3.1 The form of the relative verb

If we compare example (11a) to its relative counterpart (11b), we find that the two sentences differ with regard to the following properties: i. the form of the

subject marker, as in many other Bantu languages⁸ – *ya-* vs. *ha-* ii. the form of the final vowel iii. the phrasing pattern (the phrasing of the relative clause will be discussed in the following sections).

- (11) a. (ye = m-leví)_ϕ (ha-húZ-u)_ϕ
 AT₁=1-drunkard 1(PAST)-sell-FV
 ‘The drunkard sold.’
- b. (ye = m-levi yá-huz-a)_ϕ
 AT₁=1-drunkard 1(REL-PA)-sell-FV
 ‘The drunkard who sold.’

There is little to say about the form of the final vowel. The final vowel of many verbs harmonizes with the vowel of the root in the past tense, e.g. *hawóno* ‘he saw’, *halimí* ‘he cultivated’, etc. This is, as far as I know, never the case when the verb is in the relative form, e.g. *yahúza* ‘(that) he sold’, *yawóna* ‘(that) he saw’, *yalíma* ‘(that) he cultivated’, etc. Moreover, the final vowel of many verbs does not harmonize in the past tense, e.g. *haníka* ‘he liked’, *hahéza* ‘he sang’, *hafúsa* ‘he chased’, etc. Thus, the final vowel alone cannot distinguish the relative verb from the corresponding matrix verb.

What does signal the relative form of the verb is the form of the subject marker. In (12), the paradigms of the past and relative (past) forms of the verb (*h*)urénga ‘to take’ are presented.⁹

(12)	PAST		RELATIVE (PAST)	
	tsi-réng-é	‘I took’	na-réng-a	‘(that) I took’
	hu-réng-é	‘you took’	wa-réng-a	‘(that) you took’
	ha-réng-é	‘(s)he took’	ya-réng-a	‘(that) (s)he took’
	ri-réng-e	‘we took’	ra-réng-a	‘(that) we took’
	m-déng-e	‘you (pl) took’	mwa-réng-a	‘(that) you (pl) took’
	wa-réng-e	‘they took’	wa-réng-a	‘(that) they took’

When considering the paradigms of the past and the relative (past) forms of the verb (*h*)urénga ‘to take’ in example (12), the reader might wonder why the relative markers are presented as a unit instead of being split into two parts, e.g.

⁸ Cf. Cheng & Downing (2007: 21), about Zulu: ‘the relative clause is identified by having the relative form of the subject marker on the relative verb for both subject and object relatives’.

⁹ It should be noted that besides the differences in the form of the subject marker and the final vowels, the paradigms diverge according to their tone patterns.

n-a-, *w-a-*, etc., which would mean that we postulate the existence of a morpheme *-a-* between the subject marker and the root. The latter analysis receives support from the fact that the relative markers of the other classes follow the same pattern: *la-rénga* (5), *za-rénga* (8, 10), *fa-rénga* (7), etc. Moreover, some of the corresponding subject markers of the present form exhibit a different vowel: *li-* (5), *zi-* (8, 10), *fi-* (7), etc.

Nevertheless, some of the markers in the present form exhibit an *-a-* (*wa-* (2), *ya-* (6)), and the marker of classes 3 and 11 is *u-*. Last but not least, the marker of the third singular person in the present form varies according to the function of the relative: *(w)u-* in a subject relative (13a) but *ya-* in an object relative (13b).

- (13) a. (ndʔ = e = m-lévi (w)u-wón-o)_ϕ
 STAB=AT₁=1-drunkard 1(REL-PA)-see-FV
 ‘It is the drunkard who sees.’
- b. (ndé = lé = paha ya-lí-wón-a-ó)_ϕ
 STAB=AT₅=5-cat 1(REL-PR)-OM₅-see-FV-FV
 ‘It is the cat that he sees.’

In (13), there is a morpheme *-ó/-ó* at the end of the verbs. There is a corresponding morpheme that clearly behaves as an enclitic in several other Bantu languages (e.g. Chitumbuka (Downing 2006)), but this is not the case in present-day Shingazidja. Some of its properties seem to indicate that it behaves like the other so-called ‘final vowels’ of the language.¹⁰ For example, it always appears in the present tense, whether the verb is in a relative or in a matrix clause (e.g. *ngamník-o* ‘I give’, *ngariwoná-o* ‘we see’). Moreover, it cannot occur in Arabic loan words (*ngamtímízi* ‘I finish’). Once again, only the subject marker (and to a small degree the underlying tone patterns) indicates that the verb is in the relative form: *ngu¹¹-wón-o* ‘he sees’ vs. *(w)u-wón-o* ‘(that) he sees’, *ngwa-won-á-o* ‘they see’ vs. *wa-won-á-o* ‘(that) they see’, *ngali-won-á-o* ‘it (e.g. a cat) sees’ vs. *li-won-á-o* ‘(that) it (e.g. a cat) sees’, etc.

There is an interesting difference between the past and the present relative forms according to the object markers. In Shingazidja, the object marker is

¹⁰ The morpheme varies according to its tone properties (compare for instance the examples in (13): the morpheme is underlyingly high in (13a), but lacks its underlying tone in (13b)).

¹¹ The morpheme consists of the combination of the imperfective morpheme *nga-* with the subject marker *-u-*.

- b. (e = mw-idz' yá-ib-a n-dovu)_ϕ (ha-táw-a)_ϕ
 AT₁=1-thief 1(REL-PA)-steal-FV 9-elephant 1(PAST)-r. away-FV
 ‘The thief who stole an elephant ran away.’

In (17a), the tone of the noun *mwidzǐ* ‘thief’ cannot shift onto the verb, while the subject marker is a possible target (since its vowel is not underlyingly high-toned), signaling the presence of a phonological phrase boundary. In (17b), however, the tone of the head of the relative is free to shift onto the subject marker of the relative verb *yaíba* ‘(that) he stole’.

Compare Figure 1 to Figure 2, illustrating the example (18). In the former, the highest pitch is associated with the last syllable of the subject *mlimádjǐ* ‘farmer’. In the latter, the highest pitch appears on the first syllable of the relative verb *la(w)óna* ‘(that) it [5] saw’.

- (18) (le = paha lá-(w)ona)_ϕ
 AT₅=(5-)cat 5(REL-PA)-see-FV
 ‘The cat that saw.’

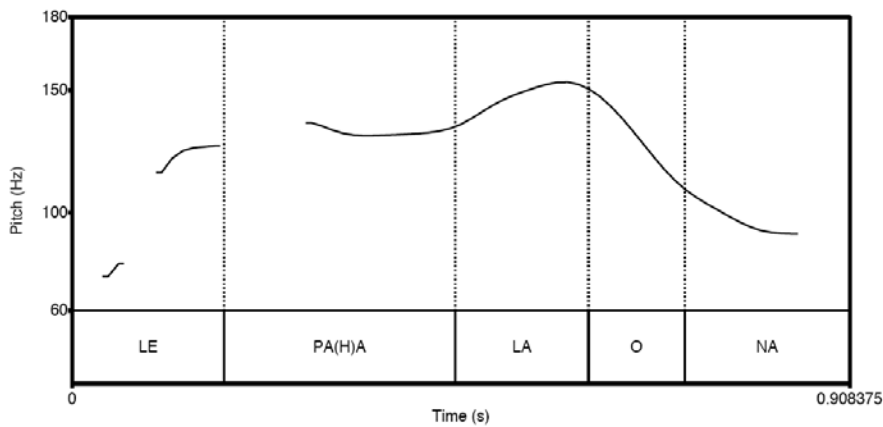


Figure 2: (le = paha lá-(w)ona)_ϕ ‘The cat that saw.’ – cf. (18)

The lack of prosodic break between the head of a restrictive relative and the verb of the relative has been noted for several other Bantu languages – e.g. Bemba (Cheng & Kula 2006), Chicheŵa (Downing & Mtenje, *to appear*), Chimwiini (Kisseberth, *this volume*), Embosi (Beltzung et al., *this volume*), Luganda (Hyman, *this volume*), Zulu (Cheng & Downing 2007). In many cases, however, the head optionally phrases with the verb of the relative (Bemba, Chimwiini, Embosi). The Bantu languages where the head phrases separately seem to constitute an exception – e.g. Simakonde (Manus, *this volume*) (but the head

phrases with the relative verb in other varieties of Makonde, e.g. Shimakonde (Liphola 2001), Mahuta (Odden 1990a), Maraba (Odden 1990b)).

It seems, however, that there is a prosodic boundary between the head and the verb of the relative in the Southern variety of Shingazidja (19), but more research is needed to confirm this. Nevertheless, it would not be a surprise since this variety is less permissive than the others as far as the prosodic phrasing is concerned. For instance, a phonological phrase regularly separates the noun from an adjective that follows it (20).

(19) *Southern Shingazidja*

(e = mw-idzi)_ϕ (ya-ib-a n-dovú)_ϕ (ha-táw-a)_ϕ
 AT₁=1-thief 1(REL-PA)-steal-FV 9-elephant 1(PAST)-run away-FV
 ‘The thief who stole an elephant ran away.’

(20) *Southern Shingazidja*

(ha-nik-á)_ϕ (ze = n-ungú)_ϕ (m-bilí)_ϕ
 1(PAST)-give-FV AT₁₀=10-pot 10-two
 ‘He gave the two cooking-pots.’

In Shingazidja, as in several other languages (e.g. Zulu (Cheng & Downing 2007)), the function of the head in the relative has no effect on the phrasing parameters of the clause (21).

- (21) a. (wo = wa-levi wa-wá-(w)on-a)_ϕ
 AT₂=2-drunkard 2SG(REL-PA)-OM₂-see-FV
 (ŋgwa-djó-(h)w-tung-a)_ϕ
 IMP.2-IMP-FUT-swim-FV
 ‘The drunkards who you saw are going swimming.’
- b. (wa-djeni wa-wá-nik-a ma-6ambú)_ϕ
 2-stranger 2SG(REL-PA)-OM₂-give-FV 6-present
 (wa-djíβ-iw-a)_ϕ
 2(PAST)-please-PS-FV
 ‘The visitors to whom you gave (some) gifts are pleased.’

- c. (le = paha na-li-vúmbu(w)-a)_ϕ (lí-y-u)_ϕ
 AT₅=(5-)cat 1SG(REL-PA)-OM₅-speak about-FV 5(PAST)-fall-FV
 ‘The cat I talked about fell.’

In (21), there is no prosodic boundary between the head of the relative and the relative verb, whether the head is the direct object of the relative, as in (21a), or the indirect object of the relative, as in (21b). In these examples, the tone of the head shifts up to the object marker *-wa-* (recall that an object marker appearing in the past relative verb lacks its usual underlying tone).

It should be noted that in both (21a) and (21b) the last vowel of the head is slightly lengthened. This pattern appeared frequently in my main informant’s productions, combined with what seems to be an increasing of the speech rate on the remaining part of the relative clause.

Finally, it has to be said that all the tones of a relative but the last tend to disappear, especially at a high speech rate. This is shown in (22), illustrated in Figure 3, where the tones of the head and the relative verb are deleted, and only the tone of the discourse deictic *ni = yó* remains.¹⁴

- (22) (ye = n-ungu na-tsaβu(h)-a ni = y-ó)_ϕ ((i)-y-ú)_ϕ
 AT₉=10-pot 1SG(REL-PA)-play-FV by=9-ref 9(PAST)-fall-FV
 ‘The cooking-pot I played with fell.’

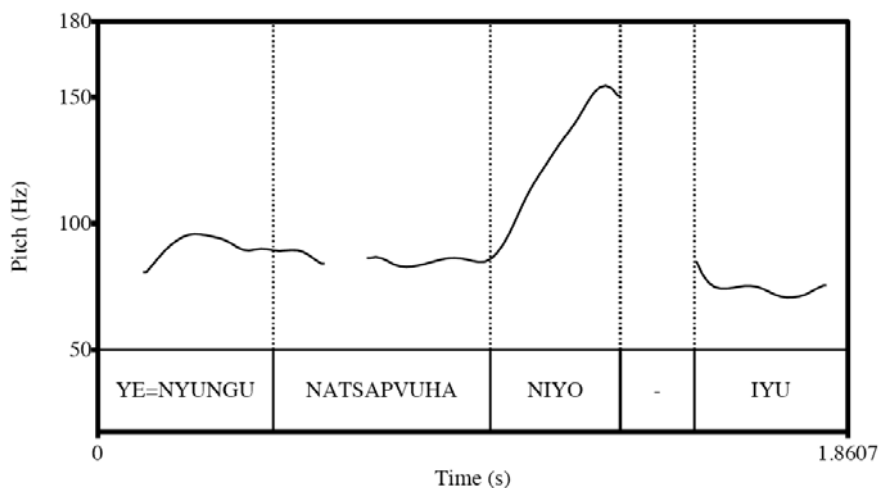


Figure 3: (ye = nungu natsaβu(h)a ni = yó)_ϕ ((i)yú)_ϕ
 ‘The cooking-pot I played with fell.’ – cf. (22)

¹⁴ It has to be noted that the surface tone of the subject marker of the matrix verb is deleted in (22). The rule that deletes every even tone optionally applies through the phonological phrase boundaries.

3.3 The phrasing of a complex restrictive relative clause

In the preceding section, I discussed the phrasing of the ‘simple’ restrictive relative clauses, i.e. the restrictives that involve a verb immediately following the head. I will now turn to the ‘complex’ restrictive relatives, which refer to relatives involving a verb that is separated from the head by an NP.

Example (23) demonstrates that there is no difference according to phrasing between the ‘simple’ and the ‘complex’ relatives.

- (23) a. (w-ana-wá-ſe Marí ya-wá-won-a)_ϕ
 2-child-2-woman Mary 1(REL-PA)-see-FV
 ((ŋg)wa-djó-(h)w-tsung-a)_ϕ
 INA.2-IMP-FUT-swim-FV
 ‘(some) girls who Mary saw are going swimming.’
- b. (wo = wa-levi Mári ya-wa-won-á)_ϕ
 AT₂=2-drunkard Marie 1(REL-PA)-see-FV
 ((ŋg)wa-djó-(h)w-tsung-a)_ϕ
 INA.2-IMP-FUT-swim-FV
 ‘(some) drunkards who Mary saw are going swimming.’

In (23a), the tone of the noun *Marí* ‘Mary’ shifts to the object marker of the following relative verb. Such a shift is only possible if there is no phonological phrase boundary separating the subject of the relative from the verb. This phrasing pattern is consistent with what has been observed in other Bantu languages such as Bemba (Cheng & Kula 2006), Chicheŵa (Downing & Mtenje, *to appear*) or Zulu (Cheng & Downing 2007). However, Shingazidja differs from the closely related language Chimwiini, where the subject of the relative phrases separately from the relative verb (Kisseberth, *this volume*).

Example (23b), illustrated in Figure 4, shows that there is no boundary either between the head of the relative and the subject of the relative, since the tone of the noun *waleví* ‘drunkards’ shifts to the first syllable of the noun *Mári* ‘Mary’. Once again, this result corresponds to similar patterns in other Bantu languages, including Chimwiini, where the head optionally phrases with the subject of the relative.

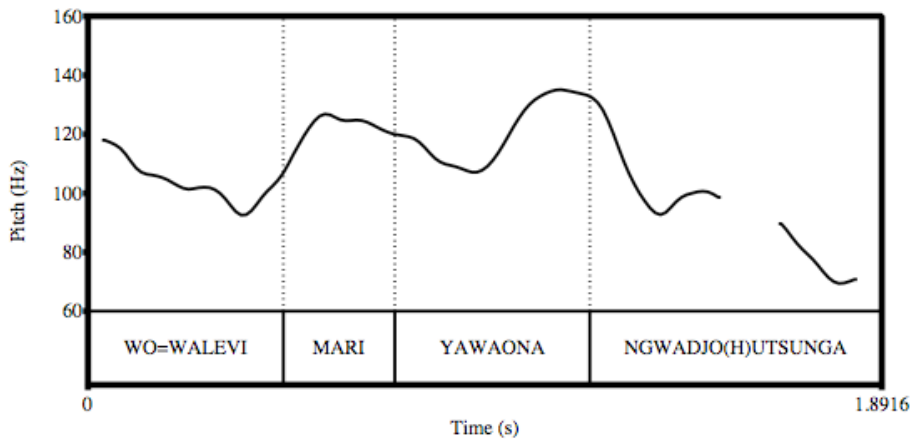


Figure 4: (wo = walevi Mári̇ yawaóná)_ϕ ((ŋg)wadjó(h)wtsun̄ga)_ϕ
 ‘(some) drunkards who Mary saw are going swimming.’ – cf. (23b)

I can thus conclude from the foregoing discussion that there is no obligatory prosodic boundary between the head and the relative, whether the relative involves an overt subject NP or not, nor between a fully realized subject NP and the relative verb. This was expected considering the phrasing properties of Shingazidja, a language where the phonological phrase and the syntactic phrase largely correspond (Patin 2007).

However, up to now, I have only considered the relatives that specify the subject NP of the matrix clause. We will see in the following section that a relative that specifies an object NP does not phrase with its head.

4 The subject-object asymmetry

In the preceding section, I demonstrated that a restrictive relative and its head are not necessarily separated by a prosodic boundary in Shingazidja. In (24), however, the head of the relative phrases separately from the following verb.

- (24) a. ((ŋg)wa-ŋ-saí̄diya-ó)_ϕ (ri-balīy-é)_ϕ (ze = zi-ndú)_ϕ
 2(PRE)-OM_{1SG}-help-FV 1PL-carry-FV AT₈=8-thing
 (na-reŋg-á)_ϕ (ho = dá̄h̄o = ni)_ϕ
 1SG(REL-PA)-take-FV AT₁₇=(5-)house=in
 ‘They are helping me carry the things which I took from the house.’

- b. (tsi-won-ó)_ϕ (ye = mw-andzaní)_ϕ (wa-m-lalik-á)_ϕ
 1SG(PAST)-see- AT₁=1-friend 2SG(REL-PA)-OM₁-invite-FV
 FV
 ((h)arumwa = zé)_ϕ (n-tsaβúwo)_ϕ
 inside=AT₁₀ 10-party
 ‘I saw the friend whom you invited to the party.’

In (24b), for instance, the tone of the noun *mwandzaní* ‘friend’ stops on the last syllable of the noun, and does not shift to the relative verb that follows. It thus seems that the phrasing properties of a restrictive relative that specifies the object of the matrix clause differ from the phrasing properties of a restrictive relative that specifies the subject of the matrix clause.

The data in (25), which involve a ‘complex’ relative, support this distinction. While there was no phonological phrase boundary between the head and the relative nor inside the relative in (23), both the head and the subject of the object relative phrase separately from the following word in (25), illustrated in Figure 5.

- (25) (m-nafoní)_ϕ (ha-n(d)zi-á baruá)_ϕ (m-leví)_ϕ
 1-student 1(PAST)-write-FV (9-)letter 1-drunkard
 (ya-sóm-a)_ϕ
 1(REL-PA)-read-FV
 ‘The student wrote a letter that a drunkard read.’

Only the presence of a phonological phrase boundary between the head of the relative *barua* ‘letter’ and the subject of the relative *mleví* ‘drunkard’ explains why the tone of the former does not shift onto the latter.

Moreover, the tone of *mleví* ‘drunkard’ does not shift either to the verb of the relative, while example (23) demonstrated that there is no obligatory boundary inside the relative.

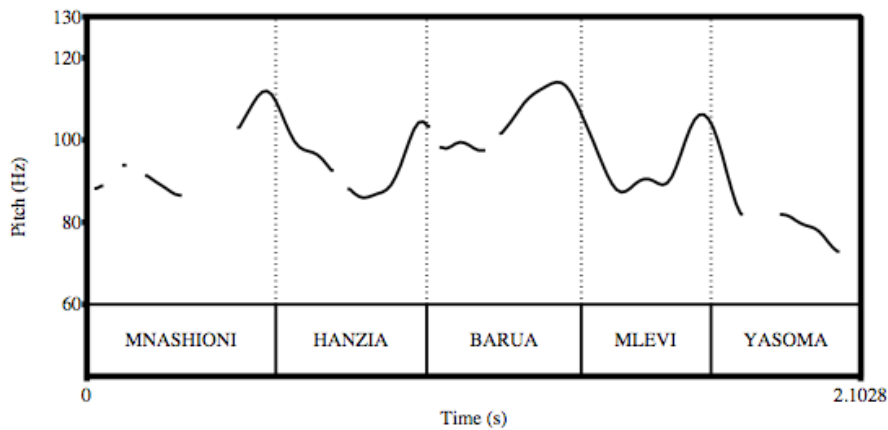


Figure 5: (mnaʃ^yoní)_ϕ (han(d)ziá b̄aruá)_ϕ (mleví)_ϕ (yasóma)_ϕ
 ‘The student wrote a letter that a drunkard read.’ – cf. (25)

Example (26) shows that this boundary is not obligatory either inside the relatives that specify the object of the matrix clause.

- (26) (m-naʃ^yoní)_ϕ (ha-n(d)zi-á)_ϕ (e = b̄aruá)_ϕ
 1-student 1(PAST)-write-FV AT₉=(9-)letter
 (e = f̄undi yá-som-a)_ϕ
 AT₁=(1-)teacher 1(PAST)-read-FV
 ‘The student wrote the letter that the teacher read.’

In (26), the tone of the noun *f̄undi* ‘teacher’ is free to shift to the verb of the relative, illustrating the lack of prosodic boundary between the two words. Further research is needed in order to understand why there is a boundary inside the relative in (25) but not in (26).¹⁵

However, the boundary that separates the head and the relative when the head is the object of the matrix clause is consistent in my data. As far as I know, such a difference in phrasing due to the function of the head has not been observed in other Bantu languages. More research will be necessary to determine if this boundary is obligatory or simply frequent.

¹⁵ The difference in phrasing between the two examples may result from the role of eurythmic constraints. In (25), a tone appears on the last syllable of every prosodic word but the last, while there is in (26) no tone on the last syllable of the word *b̄aruá* ‘letter’, which precedes the subject of the relative.

5 Non-restrictive relatives and clefts

In this section, I will deal with two kinds of relatives that exhibit a phrasing pattern that differs from the one of the restrictive relatives in several other Bantu and non-Bantu languages: non-restrictive relatives, on the one hand, and clefts, on the other hand. For these types of relative clauses, I will briefly address prosodic issues other than phrasing.

5.1 Non-restrictive relatives

In Shingazidja, non-restrictive relatives differ from restrictive relatives in their phrasing. In (27), the non-restrictive relative phrases separately from the head. In (27b), for instance, the tone of the noun *walimádji* ‘farmers’ does not shift to the verb *wafanáo* ‘who [they] do’ of the relative – the example is illustrated in Figure 6.

- (27) a. (Marí)_ϕ (u-djɔ-(h)ú-ʃind-a ya-tsunɔ-é)_ϕ
 Marie 1(REL-PR)-IMP-FUT-can-FV 1-swim- FV
 (n-dó)_ϕ (ye = mw-an(d)zani w-á (h)anɔ́)_ϕ
 well AT₁=1-friend 1-of my
 ‘Marie, who can [will be able to] swim well, (is) my friend.’
- b. (wa-limádji’)_ϕ (wa-faná-á-o hazí)_ϕ (wa-lém-ew-a)_ϕ
 2-farmer 2(REL-PA)-do-FV work 2(PRE)-tire-PAS-FV
 ‘Farmers, who work, are tired.’

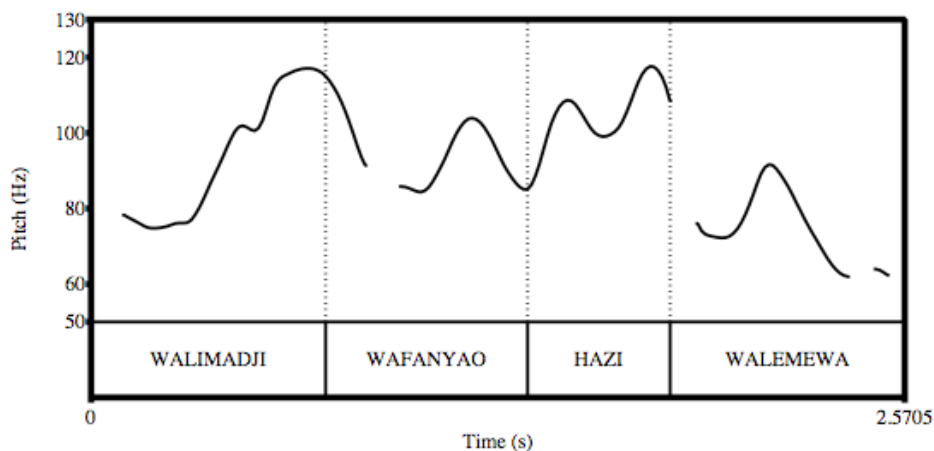


Figure 6: (walimádji’)_ϕ (wafanáo hazí)_ϕ (walémewa)_ϕ
 ‘Farmers, who work, are tired.’ – cf. (27b)

The difference in phrasing between the restrictive and non-restrictive relatives has been observed in several other Bantu languages, such as Bemba (Cheng & Kula 2006: 43), Chicheŵa (Kanerva 1990) or Zulu (Cheng & Downing 2007: 58-59, Cheng, *this volume*), and beyond (see, among others, Nespor & Vogel 1986, Truckenbrodt 1995).

Besides the phrasing parameters, the non-restrictive relative exhibits other peculiarities. In particular, it is frequently realized in a higher register than the matrix clause (see Figure 6). However, the rising of the register does not seem to be obligatory, contrary to the presence of a boundary after the head.

In addition, depending on parameters such as the speech rate or emphasis, the non-restrictive relative is regularly delimited on its left and its right by pauses. In (28) for instance, where the head is emphasized, the non-restrictive relative is surrounded by two clear pauses, as can be observed in Figure 7. In this example, the tones of the head *walimádji* ‘farmers’ and the word *házi* ‘work’ do not shift to the last syllables of their prosodic groups, which indicates that they are both followed by intonational phrase boundaries.

- (28) ((wa-limádji)_ϕ)_i § ((wa-fan-á-o házi)_ϕ)_i §
 2-farmer 2(REL-PA)-do-FV work
 ((wa-lém-ew-a)_ϕ)_i
 2(PRE)-tire-PAS-FV
 ‘FARMERS, who work, are tired.’

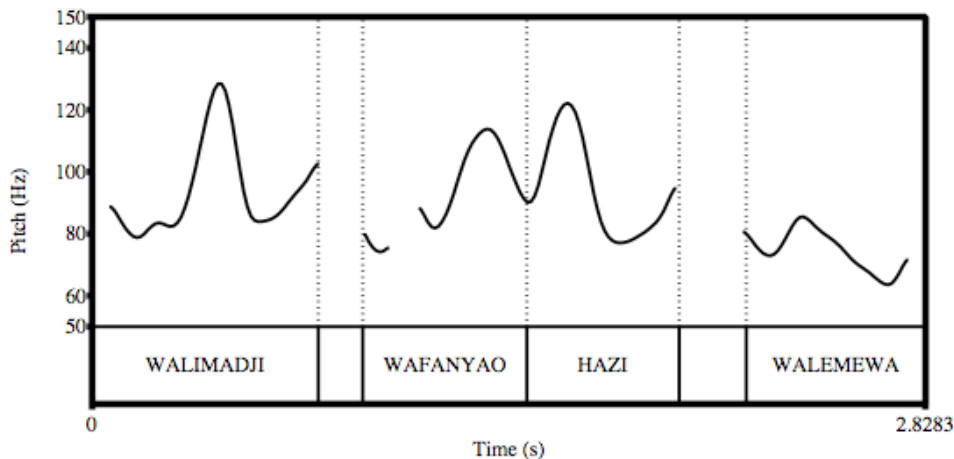


Figure 7: ((walimádji)_ϕ)_i((wafanáó házi)_ϕ)_i((wálémewa)_ϕ)_i,
 ‘Farmers, who work, are tired.’ – cf. (28)

5.2 Clefts

In several Bantu languages such as Bemba (Cheng & Kula 2006: 43), Chimwiini (Kisseberth, *this volume*) or Zulu (Cheng & Downing 2007: 58-59, Cheng, *this volume*), the head of a cleft, just as the head of a non-restrictive relative, is followed by a prosodic boundary. As expected, Shingazidja also follows this pattern.

In (29), the cleft is introduced by the so-called ‘stabilizer’ *ndĕ*. In this example, the head of the cleft is followed by a phonological phrase boundary, which prevents the shift of the tone to the verb of the relative.

- (29) (*ndĕ* = *ó* = *w-ana-wa-ſé*)_ϕ (*wa-tsaβu(h)-á-ó*)_ϕ
 STAB=AT₂=2-child-2woman 2(REL-PA)-play-FV
 (*karibu* = *n* = *ó*)_ϕ (*m-d(ó) w-á m-adjí*)_ϕ
 near=with=AT₃ 3-river 3-of 6-water
 ‘It is the girls who play by the river.’

The non-restrictive relative and the cleft thus share the same phrasing properties: both are associated with the presence of a prosodic boundary after the head. It is important to say, in addition, that it is the very presence of this boundary that characterizes the cleft. In ‘presentative’ sentences, which also involve the stabilizer, there is no prosodic break between a head and a relative (30).

- (30) (*ndĕ* = *zĕ* = *n-dovu* *wa-zí-won-a*)_ϕ
 STAB=AT₁₀=10-elephant 2(REL-PA)-OM₁₀-see-FV
 ‘This is the elephants which they saw.’

In (30), the tone of the augment shifts through the noun *ndóvu* ‘elephant’ to the relative.

The nature of the boundary that separates the head of the cleft from the relative also depends on parameters such as emphasis or focus. Compare the sentence in (31a) with (31b), where the head is focalized.

- (31) a. (*ndĕ* = *zĕ* = *ŋ-guwó*)_ϕ (*o* = *wa-djení*)_ϕ (*wa-huliy-á*)_ϕ
 STAB=AT₁₀=10-cloth AT₂=2-stranger 2(REL-PA)-buy-FV
 (*ye* = *fúndi*)_ϕ
 AT₉=(9-)teacher
 ‘It is the clothes the visitors bought for the teacher.’

- b. ((zinú)_φ (ndē = ze = η-gúwo)_φ)_i ((o = wa-djení)_φ)
 DEM.10 STAB=AT₁₀=10-cloth AT₂=2-stranger
 (wa-huliy-á)_φ (ye = fund(i))_φ)_i
 2(REL-PA)-buy-FV AT₉=(9-)teacher
 ‘THESE ARE THE CLOTHES the visitors bought for the teacher.’

In (31b), the head is separated from the subject of the relative by an intonational phrase boundary. The fact that the tone of the head *ngúwo* ‘clothes’ does not shift on its last syllable, as in (31a), provides evidence for the presence of this boundary. Example (31b) is illustrated in Figure 8.

Interestingly, the relative in (31b), which was *given* – i.e. previously mentioned in the discourse –, is characterized by a reduced register that goes along with a reduced intensity.

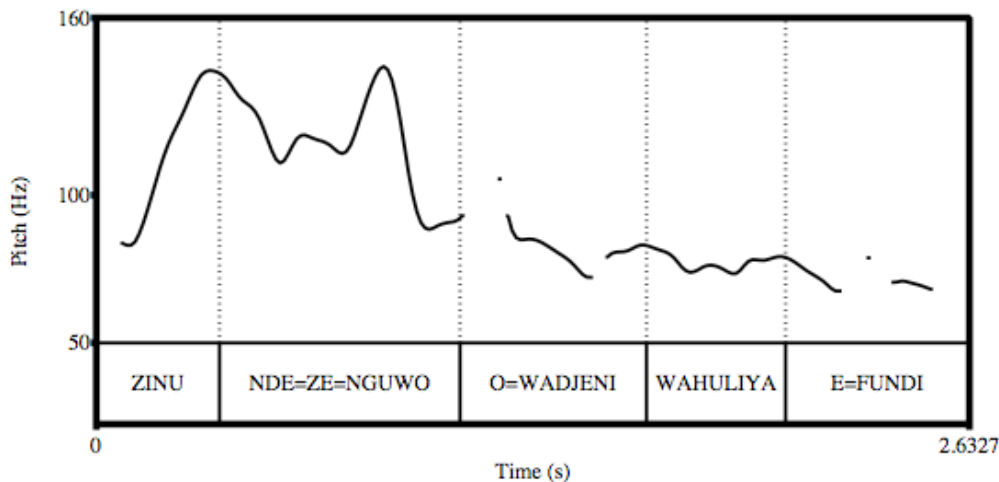


Figure 8: ((zinú)_φ (ndē = ze = η-gúwo)_φ)_i ((o = wa-djení)_φ (wa-huliy-á)_φ (ye = fund(i))_φ)_i ‘THESE ARE THE CLOTHES the visitors bought for the teacher.’ – cf. (31b)

6 Conclusion

In this paper, I proposed a first descriptive account of the phrasing of relatives in Shingazidja. I have shown that the head of a relative phrases with the relative in restrictive relatives, whether they are subject or object relatives and whether they involve an overt NP or not, but not in non-restrictive relatives or clefts. These results are consistent with the results that were obtained in several other Bantu languages, such as Bemba, Chicheŵa or Zulu.

However, Shingazidja differs from these languages by exhibiting an asymmetry between the relatives that specify the subject of the matrix clause and relatives that specify the object of a matrix clause. In the latter case, the relative phrases separately from its head.

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Relative Clauses in Haya*

Kristina Riedel

ZAS

This paper gives an overview of the morphology and syntax of Haya relative clause constructions. It extends previous work on this topic (Duranti, 1977) by incorporating data from a number of different dialects and by introducing new data on locative relative clauses. The dialects discussed in addition to the Kihanja data from Byarushengo *et al.* (1977) include Kiziba, Muleba and Bugabo dialects. Nyambo data taken from Rugemalira (2005) is also compared to Haya in places. The focus of the discussion is on the grammaticality of pronominal elements attached to the verb that refer back to the relativized entity with different types of relativized constituents in Haya. It is shown that there are differences between subjects, objects and locatives in terms of this kind of morphology inside the relative clause, as well as differences between these kinds of morphemes and resumptive pronouns.

1 Introduction

Haya, a language spoken in Kagera Region in Tanzania (Guthrie code – following the Tervuren system – J22), has two main morphological strategies for marking relative clauses. The first one uses a relative marker that is attached to the verb (which will be referred to as “verbal relative marker” here), as in (1a), or a copula.¹ The second strategy, which is illustrated in (1b), uses a demonstrative (which will be referred to as the “relative pronoun” here). A third strategy,

* Thanks to Henry R. T. Muzale for data and discussion regarding locatives, and to my Haya language consultants Peter Ndyetabula, Mwombeki Gaspardus, Judith Matembe, Twahili Kajugusi and Frolence Rutechura.

¹ Abbreviations used in glosses: APPL = applicative; AUG = augment; COMP = complementizer; CONJ = conjunction; COP = copula; DEM = demonstrative; FUT = future; HAB = habitual; INF = infinitive; NC = noun class prefix; NEG = negation; OM = object marker (numbers refer to noun classes); P = (person) plural; PAST = past (followed by 1-3, where 3 is the most remote past); PRES = present; PRO = pronoun; PROG = progressive (aspect); REL = relative; RM = relative marker; S = (person) singular; SM = subject marker (numbers refer to noun classes); STAT = stative

using *mbali*, is restricted to locative relative clauses. This is shown in (1c).²

- (1) a. A- ba- shaija a- ba- guz- ile e- bi- tabo ...
 AUG- NC2- man RM- SM2- buy- PAST2 AUG- NC7- book
 ‘The men who bought books...’ [Bugabo Haya]
- b. E- mótoka éy’ ó- mu- sháíja y- a- gúla ...
 AUG- 9car 9REL.DEM AUG- NC1- man SM1- PAST1- buy
 ‘The car that the man has bought...’
 [Kihanja Haya, Durante 1977, 121]
- c. Lushoto **mbali** n- a- ikalaga e- njura e- gwa muno.
 Lushoto where SM1S- PAST1- live.HAB AUG- 9rain SM9- fall a lot
 ‘In Lushoto, where I used to live, it rains a lot.’ [Kiziba Haya]

In Haya, the verbal relative marker appears with subject relatives, while the strategy using the relative pronoun is used for objects and most adjuncts. For locative adjuncts, *mbali* can be used instead of the relative pronoun. There is subject marking in (1a). Subject marking for the relativized subject is obligatory in Haya. But there is no object marking for the object relative in (1b). In fact, object marking any kind of relativized object is ungrammatical in Haya. There is no “agreement” with the locative inside the relative clause in (1c). However, it is possible to have an enclitic on the verb that refers back to the relativized locative adjunct. This is shown in (2). The locative enclitic is always optional.

- (2) E- sehemu eyo n- a- m- tangaiwe- (ho) e- induk-
 AUG- 9place 9REL.DEM SM1S- PAST1- OM1- meet.PAST2- LOC16 SM9- become-
 ire ku- ba bulime.
 PAST2 INF- be 14farm
 ‘The place where I met him has been turned into farmland.’
 [Kiziba Haya]

Haya, then, shows three different patterns with regard to the grammaticality of resuming a relativized entity inside the relative clause: obligatory morphological marking (for subjects), ungrammatical morphological marking (for objects), and optional morphological marking (for locatives). These patterns will be discussed in detail in turn. Haya data from speakers of the Kiziba, Bugabo and Muleba varieties is compared to the Kihanja dialect discussed in Byarushengo *et al.* (1977) and Nyambo data from Rugemalira (2005). Section 1.1 gives a brief overview of the relative morphology in Haya. Section 2 discusses subject relatives. Section 3 introduces object relatives. Section 4 presents the patterns found with relativized prepositional phrases. Section 5 discusses Haya locative

² The “word” *mbali* might be based on *mba* ‘where’ and *-li* ‘be’. This word is not generally used in *where*-questions and, while *mbali* was used by speakers of all dialects that I collected data on, the word *mba* rarely appears. Because the relative clauses using *mbali* do not appear to have a cleft structure, I gloss it as ‘where’ here.

constructions and locative relative clauses.

1.1 The morphology of Haya relative clauses

Table 1: Haya relative morphology (following Muzale 2006; Grégoire 1975)

Class	Aug	NC	SM	OM	enclitic	RM	Rel Dem
1	o-	mu-	a- / (y-)	-mu-	∅	á- / (é-)	ówó
2	a-	ba-	ba-	-ba-	∅	á-	ábó
3	o-	mu-	gu-	-gu-	∅	ó-	ógwó
4	e-	mi-	e-	-gi-	∅	é-	éyó
5	e-	ri-	ri-	-ri-	∅	é-	éryó
6	a-	ma-	ga-	-ga-	∅	á-	ágó
7	e-	ki-	ki-	-ki-	∅	é-	ékyó
8	e-	bi-	bi-	-bi-	∅	é-	ébyó
9	e-	∅/N	e-	-gi-	∅	é-	éyó
10	e-	∅/N	zi-	-zi-	∅	é-	ézó
11	o-	lu-	lu-	-lu-	∅	ó-	órwó
12	a-	ka-	ka-	-ka-	∅	á-	ákó
13	o-	tu-	tu-	-tu-	∅	ó-	ótwó
14	o-	bu-	bu-	-bu-	∅	ó-	óbwó
15	o-	ku-	ku-	(-ku-)	∅	ó-	ókwó
16	a-	ha-	ha-	-ha-	-ho	á-	áhó
17	o-	ku-	ha-	-ha-	∅	ó-	ókwó
18	o-	mu-	ha-	-ha-	-mu	ó-	ómwó
25	e-	∅	ha-	-ha-	-yo	?	?

An overview of the verbal morphology and the free relative pronouns is presented in table 1. There are some morphological and phonological differences between relative clauses and non-relatives in Haya. These hold for all dialects studied. But the verbal relative marker of class 1 has different patterns in Haya and Nyambo,³ as well as in the various dialects of Haya. The relative pronoun is morphologically identical to the demonstrative 3 but has the tone pattern HH in Haya and LH in Nyambo (Rugemalira, 2005, 103), while the non-relative demonstrative 3 has LL.

Haya only has remnants of a conjoint/disjoint system. The language has only one “pair” of tense markers that receive a conjoint/disjoint reading respectively (Hyman, 1999). All other tense markers are neutral. However, Haya also has tonal reduction in the verb phrase under certain conditions, which patterns similarly to the conjoint tense (Hyman & Byarushengo, 1984; Hyman, 1999) and this also holds for relative verbs. This means there is no clear connection between relativization and either part of the conjoint/disjoint system. In spite of this, the far past (past 3) *-ka-* and the progressive marker *ni-* – both of which are neutral in terms of conjoint/disjoint distinctions – are not used in relative

³ Nyambo is spoken in Karagwe district, Tanzania and its Guthrie code (following the Ter-
vuren system) is J21.

clauses (cf. also Duranti 1977, 132 and Muzale 1998). There is also a special auxiliary in relative clauses, *-li/i* ‘be’,⁴ while the auxiliary *-ba* ‘be’ that appears in non-relatives is apparently never used in relative clauses. Most dialects of Haya, other than Muleba Haya, also have a zero copula, but, although its use is grammatical in relative clauses, it is less commonly used here. *Ni* ‘be’ and *ti* ‘not be’ tend to be used instead.

The use of the zero copula in clefts is illustrated in (3). In this case, as in any other zero copula contexts, there is no augment on the noun.

- (3) Ba- isiki a- ba- i ku- zanira a- ha- nyanja.
 NC2- girl RM- SM2- be INF- play.APPL AUG- LOC16- 9river
 ‘It’s the girls who are playing by the river.’ [Kiziba Haya]

In Muleba Haya, instead of a augment-less noun the overt copula *ni* is used:

- (4) n’ a- ba- isiki
 COP AUG- NC2- girl
 ‘it’s the girls’ [Muleba Haya]

When the overt copula is used in cleft constructions, the relative pronoun cliticizes to it, as in (5).

- (5) A- ba- isiki ni- **bo** y- a- tweeke- ire e- bi-
 AUG- NC2- girl COP- 2REL.DEM SM1- PAST1- send.APPL- PAST2 AUG- NC8-
 gemuro.
 present
 ‘It’s the girls who she sent presents to.’ [Kiziba Haya]

2 Subject relative clauses

Subject marking is obligatory in (subject) relatives in Haya. This can be seen in (6a), (6b) – where the two adjacent vowels are merged in a phonological process not specific to relative clauses – and (6c). Subject marking patterns in the same way in relative clauses as in non-relative clauses. It does not appear to be affected by the extraction of the head. The subject marker is commonly considered to be an agreement morpheme in Bantu languages such as Haya. Because of that, the subject marker would not generally be considered to be a resumptive pronoun. This is in contrast to the way the object marker in Haya is analysed in the literature (Hyman & Duranti, 1982; Byarushengo *et al.*, 1977), as well as for the Bantu languages in general, where object markers are considered to be resumptive elements (Henderson, 2006).

⁴ This auxiliary is also used in locative constructions where a locative enclitic follows it.

- (6) a. O- mu- hyo o- gw- a- hendek- ile gu- kulu.
 AUG- NC3- knife RM- SM3- PAST1- break.STAT- PAST2 NC3- big
 ‘The knife which broke (is) big.’ [Bugabo Haya]
- b. mba a- ta- li a- hango
 where RM.SM16- NEG- be NC16- big
 ‘the place that is not big’ [Bugabo Haya]
- c. e- ki- ntw’ é- ki- tá- li ki- hângo
 AUG- NC7- thing RM- SM7- NEG- be NC7- big
 ‘the thing that is not big’ [Kihanja Haya, Duranti 1977, 120]

The verbal relative marker that is used with subject relatives looks rather like the augment on nouns. Duranti (1977) claims that the verbal relative marker agrees in noun class with the head noun. This works for sentences such as (6a), (6b) and (6c), because with these noun classes the relative marker has exactly the same form as the augment on the head of the relative clause. However, in class 1, as shown in (7), the two morphemes differ. The augment on the noun is *o-*, but the relative prefix on the verb is *a-*. Duranti (1977) calls class 1 an exception.

- (7) o- mu- sháj’ á- y- a- bon’ ó- mu- kâzi
 AUG- NC1- man RM- SM1- PAST1- see AUG- NC1- woman
 ‘the man who saw the woman’ [Kihanja Haya, Duranti 1977, 120]

Instead of agreeing with the noun class of the head of the relative clause, one might think of the verbal relative marker as matching the vowel quality of the subject prefix or first syllable of the verb it attaches to, in the case of an initial glide. This would predict the patterns in (6a), (6b) and (6c) as well as (7). In Nyambo and in Bugabo Haya, on the other hand, the pattern is phonologically conditioned in a more complex way. Here, and in Haya in general, the subject marker for class 1 is *y-* when followed by a tense marker which starts with a vowel and *a-* when followed by a tense marker that has an initial consonant. In Nyambo, this creates a special pattern in relative clauses: the *e-* marker is used with *y-* and *a-* is used where the subject prefix is *a-*. This is illustrated in (8a) and (8b).

- (8) a. á- rima
 RM.SM1.HAB- cultivate
 ‘one who cultivates’
- b. e- y- a- rim- íre
 RM- SM1- PAST1- cultivate- PAST2
 ‘one who cultivated’ [Nyambo, Rugemalira 2005, 101]

In Bugabo Haya, the *a-/e-* alternation is also observed, as shown in (9a) and (9b).

- (9) a. o- mw- isiki e- y- a- boine e- ki- tabo
 AUG- NC1- girl RM- SM1- PAST1- see.PAST2 AUG- NC7- book
 ‘The girl who saw the book’
- b. o- mw- isiki a- li ku- bona e- ki- tabo
 AUG- NC1- girl RM.SM1- be INF- see AUG- NC7- book
 ‘The girl who is seeing the book’ [Bugabo Haya]

In Duranti (1977, 120), first and second person plural forms are shown with *á-*. In my data from Bugabo Haya, the second person singular appears with *o-*, as in (10).

- (10) o- rug- ile- yo kala
 RM.SM2S- leave- PAST2- LOC25 early
 ‘you who left early’ [Bugabo Haya]

The relative pronoun, on the other hand, has just one form for each noun class, as shown in table 1, and it can be said to agree with the head of the relative clause, while the verbal relative marker just seems to receive its phonological shape from the prefix it attaches to.

Duranti (1977) and Rugemalira (2005) state that all subject relatives take the verbal prefix. However, it is apparently possible in some cases to use the relative pronoun with subject relatives, as in (11a), or both the pronoun and the prefix, as in (11b). But using the verbal prefix in non-subject relatives seems to be entirely ungrammatical.

- (11) a. A- ba- ntu **abo** ba- boine e- ki- ntu ekyo ...
 AUG- NC2- person 2REL.DEM SM2- see.PAST2 AUG- NC7- thing DEM7
 ‘The people who saw that thing...’ [Bugabo Haya]
- b. **abo** a- ba- guzile
 2REL.DEM RM- SM2- buy.PAST2
 ‘the ones who bought’ [Bugabo Haya]

3 Object relative clauses

Let us now turn to object relative clauses. As shown in section 1, these use a relative pronoun that agrees in noun class with the head of the relative clause. If there is a lexical subject, it appears in the preverbal position, as in (12).

- (12) O- mw- isiki **owo** Juma y- a- ha- ire e- ki- tabo
 AUG- NC1- girl 1REL.DEM 1Juma SM1- PAST1- give- PAST2 AUG- NC7- book
 mu- rungi.
 NC1- nice
 ‘The girl whom Juma gave the book is nice.’ [Kiziba Haya]

In non-relative clauses, object marking is rather free. However, in relative clauses, object marking the relativized object is entirely ungrammatical in Haya, as shown in (13). This is a restrictive relative clause.

- (13) O- mu- ntu **owo** n- a- (***mu**)- letela e-
 AUG- NC1- person 1REL.DEM SM1S- PAST1- OM1- bring.APPL AUG-
 shokolate ...
 9chocolate
 ‘The person whom I gave chocolate ...’ [Bugabo Haya]

The same pattern is observed in non-restrictive relative clauses, as shown in (14).

- (14) Juliette **owo** n- a- (***mu**)- ha- ile e- shokolate n-
 1Juliette 1REL.DEM SM1- PAST1- OM1- give- PAST2 AUG- 9chocolate PROG-
 a- ba- keisa.
 SM1- OM2- greet
 ‘Juliette, whom I gave (the) chocolate, sends her greetings.’ [Bugabo Haya]

The ungrammaticality of object marking only holds for the relativized object, not for any other objects in the relative clause. For example, in (15) the direct object, which is not relativized is object-marked and this is grammatical.

- (15) o- mu- nda **mbali** tw- a- **mu**- boine
 AUG- LOC18- inside where SM1P- PAST1- OM1- see.PAST2
 ‘inside where we saw him...’ [Bugabo Haya]

Duranti (1977) argues that this is because object marking is pronominal in Haya. In Riedel (2009), I provide evidence against that view. More generally, Henderson (2006) argues that not allowing object marking for a relativized object is evidence for pronominal object marking in a Bantu language. In the seminal paper by Bresnan & Mchombo (1987), object marking a relativized object is not used as a test for the agreement/pronoun distinction. As shown in Riedel (2009), there is no consistent relationship between allowing object marking in relative clauses and having other features associated with pronominal object marking. Chichewa, for example, allows and at times requires object marking a relativized object (Mchombo, 2004). In the case of Haya, this would also lead to a bizarre conclusion, because non-locative object marking would be considered pronominalization while locative “object” marking would be considered agreement.

Object marking a relativized object in Haya is ungrammatical. But can this be related to resumption? In the next section, we look at prepositional phrases where there are resumptive pronouns. A special case of object marking in relative clauses, with a locative “object marker”, will be discussed below.

4 Prepositional Phrases

Bantu languages generally have very few prepositions. There are typically just two elements which function as prepositions: the conjunction *na* and the associative marker of class 17 (and potentially of other locative classes). Free pronouns can be cliticized onto the preposition *na* and this is required whenever there is no lexical noun phrase following *na* in Haya. In Bantu, prepositions generally cannot be fronted or stranded, neither in relativization nor in other kinds of extraction environments. When a PP is relativized while retaining its preposition (as opposed to being incorporated with an applicative) a resumptive pronoun is required. This phenomenon has been observed for many different types of languages, and has been described as far back as (Ross, 1967), where PPs were proposed to be islands (that is to be constituents from which extraction is impossible). Let us now look at the pattern found with prepositional phrases in Haya.

With applied instrumentals, resumption is optional if the preposition *na* is not spelled out. This is illustrated in (16a). Crucially, these are applicative objects. The prepositional element is not required for the sentence to be grammatical. But when the preposition is spelled out, the resumptive pronoun is obligatory, as illustrated in (16b).

- (16) a. O- mu- hyo **ogwo** tw- a- sharira o- mu- kate ti-
AUG- NC3- knife 3REL.DEM SM1P- PAST1- cut.APPL AUG- NC3- bread NEG-
 gw- i ku- shara.
SM3- be INF- cut
 ‘The knife with which we cut bread has become blunt.’ [Bugabo]
- b. O- mu- hyo **ogwo** tw- a- sharira o- mu- kate
AUG- NC3- knife 3REL.DEM SM1P- PAST1- cut.APPL AUG- NC3- bread
na- *(gwo) ti- gw- i ku- shara.
CONJ- PRO3 NEG- SM3- be INF- cut
 ‘The knife with which we cut bread has become blunt.’ [Bugabo]

However, with committatives or discontinuous reciprocals, resumption is obligatory. In these constructions, the prepositional phrase is required to get a grammatical sentence.

- (17) a. o- mu- isiki **owo** a- rwaine ***(na- we)**
AUG- NC1- girl 1REL.DEM SM1- fight.PAST2 CONJ- PRO1
 ‘The girl who he fought with...’ [Muleba Haya]
- b. a- ba- tayi bange boona **abo** n- a- shom-
AUG- NC2- friend 2POSS.1S 2ALL 2REL.DEM SM1S- PAST2- read-
 ire ***(na- bo)**
PAST1 CONJ- PRO2
 ‘The friends who I studied with...’ [Muleba Haya]

The commitative phrases are not objects and cannot be object-marked. However, they must be resumed under relativization. The same pattern is found in Bantu languages like Swahili, where object marking is grammatical and in some cases obligatory.

These resumptive elements appear in the position where a lexical noun phrase would occur, not on the verb. Resuming an instrumental object is grammatical, and is required in island contexts, whereas object marking is not.

5 Locative relative clauses

As shown in table 1, Haya has 4 locative classes in its noun class system. However, class 25 nominal morphology only appears on a small set of positional nouns that take a genitival complement, apart from the *-yo* enclitic which is productive.⁵ In the verbal and adjectival domains, on the other hand, there is only one locative noun class, namely class 16. This means there is only one locative object prefix,⁶ one locative subject marker, and one locative adjectival prefix (see Trithart 1977). Besides these prefixes, there are two “double noun class prefixes”: *omu-* and *aha-*, which are morphologically identical to the near-speaker demonstratives (Trithart, 1977). These morphemes are not prefixes, but proclitics that take an entire noun phrase (DP) as their complement. There are also three locative enclitics, class 16 (*-ho*), class 18 (*-mu*) and class 25 (*-yo*), which can attach to verb stems and are somewhat similar to object markers in their meaning and use. In this section, I briefly present the morphosyntax of Haya locatives before discussing locative relative clauses. As will be shown here, unlike other object markers co-referential with a relativized object, locatives can be “object marked”, apart from being “resumed” by a locative enclitic.

In Haya, unlike in Bantu languages such as Smbaa (Riedel, 2009), the locative object prefix cannot always be used. In contrast, the locative enclitics are productive. The locative object marker *-ha-* is shown in (18a) and (18b). In these sentences, the locative is object-like or a clear direct object (18a). However, in other contexts which are very similar, the class 16 marker is ungrammatical. This is illustrated in (18c) and (18d). In contrast, the locative enclitics are grammatical here, as shown in (18e) and (18f). The same pattern is observed with the intransitive verb ‘sleep’ in (18g) and (18h). In languages like Swahili and Smbaa, the verb ‘sleep’ can be used with a locative object marker.

- (18) a. N- ka- **ha-** gula.
 SM1S- PAST3- OM16- buy
 ‘I bought it (the place).’

⁵ This Haya pattern is different from that found in many other J zone languages in this respect (Grégoire, 1975, 170).

⁶ This applies to all of zone J (Grégoire, 1975).

- b. N- ka- **ha-** goba.
SM1S- PAST3- OM16- arrive
'I arrived there.'
- c. *N- ka- **ha-** ruga.
SM1S- PAST3- OM16- leave
Int: 'I left there.'
- d. ??Nda- **ha-** gya
SM1S.FUT- OM16- go
Int: 'I will go there.'
- e. Nda- gya- **ho.**
SM1S.FUT- go- LOC16
'I will go there.'
- f. Nda- gya- **yo.**
SM1S.FUT- go- LOC25
'I will go there.'
- g. ?N- ka- **ha-** nyiama.
SM1S- PAST3- OM16- sleep
Int: 'I slept there.'
- h. N- ka- nyiama- **ho.**
SM1S- PAST3- sleep- LOC16
'I slept there.'

[Bugabo Haya]

In Haya, these locative enclitics can be derived from the demonstratives *aho* 'there' and *omu* 'in' and an equivalent for class 25 (which appears to be no longer in use) that have lost their initial vowel and appear in a fixed position (Muzale, 1998, 89).

- (19) a. Ti- n- ka- gyaa- ga- **yo.**
NEG- SM1S- PAST3- go- HAB- LOC25
'I have never gone there.' [Haya, Muzale 1998, 162]
- b. Ba- gura- **ho.**
SM2- buy- LOC16
'They buy (from) there.' [Haya, Muzale 1998, 89]

In the neighbouring and closely related Nyoro language, the locative even precedes certain verbal suffixes, such as the habitual.

- (20) Ti- n- ka- genda- **yo-** ga.
NEG- SM1S- PAST3- go- LOC- HAB
'I have never gone there.' [Nyoro, Muzale 1998, 162]

As in (19), a locative enclitic can replace an argument and sometimes even receive an applicative reading, as in (19b). But in other contexts the locative enclitic can appear together with an object marker. For example, in Nyambo, an object prefix and a locative enclitic referring to the same entity can optionally

co-occur, as shown in (21a) and (21b).

- (21) a. Ecaaro a- ka- **cí-** goba.
 7village SM1- PAST3- OM7- arrive
 ‘The village, he arrived at it.’
- b. Ecaaro a- ka- **ci-** goba- **mu**.
 7village SM1- PAST3- OM7- arrive- LOC18
 ‘The village, he arrived in it.’ [Nyambo, Rugemalira 2005, 96]

Here too, as can be seen from (22b), the enclitic can replace a lexical object, shown in (22a), just like the object marker in (22c).

- (22) a. A- ka- reebá omu- nyungu.
 SM1- PAST3- look.into LOC18- 9pot
 ‘He looked in the pot.’
- b. A- ka- reebá- **mu**.
 SM1- PAST3- look.into- LOC18
 ‘He looked in there.’
- c. (Omu- nyungu) a- ka- **há-** reeba.
 LOC18- 9pot SM1- PAST3- OM16- look.into
 ‘(The inside of the pot,) he looked at it.’
 [Nyambo, Rugemalira 2005, 96]

Similar data is also reported for the Ziba dialect of Haya in Rubanza (1988). But Bugabo Haya differs from the Nyambo pattern in (21). The non-locative object marker is only acceptable with a non-locative topicalized phrase (23a), while the locative enclitic is ungrammatical here (23b). With the locative noun, the non-locative marker is ungrammatical, as shown in (23c), but either the locative object marker or the enclitic or both are acceptable, as shown in (23d), (23e) and (23f) respectively. The non-locative object marker is ungrammatical (23g), even in combination with a locative enclitic.

- (23) a. E- nju yange n- ka- **gi-** bona.
 AUG- 9house 9POSS.1S SM1- PAST3- OM9- see
 ‘My house, I have seen it.’ (non-locative OM)
- b. *E- nju yange n- ka- **gi-** bona- **mu**.
 AUG- 9house 9POSS.1S SM1- PAST3- OM9- see- LOC18
 Int: ‘My house, I have seen in it.’ (OM and locative)
- c. *O- mu- nju yange n- ka- **gi-** bona.
 AUG- LOC18- 9house 9POSS.1S SM1- PAST3- OM9- see
 Int: ‘Inside my house, I have seen it.’ (non-locative OM)
- d. O- mu- nju yange n- ka- **ha-** bona.
 AUG- LOC18- 9house 9POSS.1S SM1- PAST3- OM16- see
 ‘Inside my house, I have seen it.’ (locative OM)

- e. O- mu- nju yange n- ka- bona- **mu**.
 AUG- LOC18- 9house 9POSS.1S SM1- PAST3- see- LOC18
 ‘Inside my house, I have seen it.’ (locative enclitic)
- f. O- mu- nju yange n- ka- **ha**- bona- **mu**.
 AUG- LOC18- 9house 9POSS.1S SM1- PAST3- OM16 see- LOC18
 ‘Inside my house, I have seen it.’ (two locative markers)
- g. *O- mu- nju yange n- ka- **gi**- bona- **mu**.
 AUG- LOC18- 9house 9POSS.1S SM1- PAST3- OM9 see- LOC18
 Int: ‘Inside my house, I have seen it.’ (OM and locative enclitic)
 [Bugabo Haya]

This means that, aside from the differences in acceptability with particular verbs, the locative enclitics seem to be able to be used interchangeably with the locative object marker in Haya and Nyambo.

Turning now to the pattern with locative relative clauses, we see that the locative enclitics and the locative object prefix referring to a relativized constituent can be used, but non-locative object markers that refer to the head of the relative clause are ungrammatical.

Consider locatives suffixes first. In locative relative clauses such as (24a) and (24b), the locative enclitic can optionally be added.

- (24) a. Omwo o- mu- nda **mbali** tw- a- mu- boine-
 18DEM AUG- LOC18- inside where SM1P- PAST1- OM1- see.PAST2-
 (**mu**) a- li- mu o- mw- ilima.
 LOC18 LOC16- be- LOC18 AUG- NC3- darkness
 ‘In there, where we saw him it is dark (lit. there is darkness).’
- b. E- sehemu **eyo** n- a- mu- tangaiwe- (**ho**) e-
 AUG- 9place 9REL.DEM SM1S- PAST1- OM1- meet.PAST2- LOC16 SM9-
 induk- ire ku- ba bu- lime.
 become- PAST2 INF- be NC14- farm
 ‘The place where I met him has been turned into farmland.’
 [Bugabo Haya]

More surprisingly, the same holds for locative prefixes. A locative prefix is shown in (25a). Again, it can co-occur with a locative enclitic, as in (25b). The non-locative prefix referring to ‘house’, on the other hand, is ungrammatical. This holds both if it appears on its own, as in (25c), and when it appears with a locative enclitic, as in (25d).

- (25) a. O- mu- nju **omwo** n- ka- **ha**- bona ha-
 AUG- LOC18- 9house 18REL.DEM SM1S- PAST3- OM16- see NC16-
 lungi.
 nice
 ‘The house which I saw the inside of is nice.’ (locative prefix)

- b. O- mu- nju **omwo** n- ka- **ha-** bona- **mu**
 AUG- LOC18- 9house 18REL.DEM SM1S- PAST3- OM16- see- LOC18
 ha- lungi
 NC16- nice
 ‘The house which I saw the inside of is nice.’ (locative prefix and locative enclitic)
- c. *O- mu- nju **omwo** n- ka- **gi-** bona ha- lungi.
 AUG- LOC18- 9house 18REL.DEM SM1S- PAST3- OM9- see- NC16- nice
 Int: ‘The house which I saw the inside of is nice.’ (non-locative prefix)
- d. *O- mu- nju **omwo** n- ka- **gi-** bona- **mu**
 AUG- LOC18- 9house 18REL.DEM SM1S- PAST3- OM9- see- LOC18
 ha- lungi
 NC16- nice
 Int: ‘The house which I saw the inside of is nice.’ (non-locative prefix and locative enclitic) [Bugabo Haya]

Locative prefixes are grammatical but not non-locative class prefixes, even when they refer to a locative noun. This indicates that, although there are differences in their use with particular verbs, locative enclitics are more similar to locative object markers than to non-locative object prefixes.

Locative enclitics and prefixes are grammatical with relativized entities, unlike object markers, but optional, unlike subject markers or resumptive elements with prepositions.

A pattern which is similar to the one found with Haya relative clauses has also been reported for Bukusu (Diercks, 2009). In Bukusu, object markers appear to be pronominal, insofar as doubling an object marker with a lexical object is generally ungrammatical (unlike in Haya). Object marking is also ungrammatical in relative clauses. But, as shown in (26a), just like in Haya, locative clitics are grammatical in relative clauses while non-locative object markers are not, as shown in (26b). There are more differences between the two patterns. In Bukusu locative clitics can also double an agreeing “subject”, for example in locative inversion. This does not hold for Haya.

- (26) a. Mu- nju ni- **mwo** Peter a- la- bona- (**mo**) ba-
 18- house COMP- 18 1Peter SM1- FUT- see- LOC18 AUG2-
 baandu...
 2people
 ‘The house in which Peter will see the people...’ (locative RC)

- b. Ka- matunda ni- ko ba- bandu ba- a- (*ka)- kula
AUG6- 6fruit COMP- 6 AUG2 -2people SM2- PAST- OM6- buy
likoloba. . .
yesterday
'The fruit that the people bought yesterday...' (object RC)
[Bukusu, Diercks 2009, 2]

Note that this relativization strategy resembles the Haya cleft construction in (5), but there is a clear difference in the structure assumed and the meaning it has in the two languages.

6 Conclusions

This paper has presented an overview of the relativization patterns found in Haya. It has been shown that there are differences between subjects and non-subjects in terms of the relativization strategy, as well as with the morphological marking of the relativized constituent inside the relative clause. Subjects, objects and locatives differ in terms of the acceptability or obligatoriness of verbal “agreement” morphology. In Haya, apart from subject markers and object markers, there are more clear-cut resumptive elements which differ in their syntactic properties from subject and object markers.

Locatives have special properties in relative clauses in Haya, as well as in Bukusu, both of which do not allow object marking of a relativized element in general. Bantu locative object markers also have special properties in general. They do not interact with the verbal argument structure in the same way as other object markers. More research is needed on the properties of the different types of locative morphemes and their differences from morphologically similar non-locative elements in order to understand better how subject and object marking work in languages like Haya and Bukusu.

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The Relative Clause and its Tones in Tswana¹

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The morpho-syntax of relative clauses in Sotho-Tswana is relatively well-described in the literature. Prosodic characteristics, such as tone, have received far less attention in the existing descriptions. After reviewing the basic morpho-syntactic and semantic features of relative clauses in Tswana, the current paper sets out to present and discuss prosodic aspects. These comprise tone specifications of relative clause markers such as the demonstrative pronoun that acts as the relative pronoun, relative agreement concords and the relative suffix. Further prosodic aspects dealt with in the current article are tone alternations at the juncture of relative pronoun and head noun, and finally the tone patterns of the finite verbs in the relative clause. The article aims at providing the descriptive basis from which to arrive at generalizations concerning the prosodic phrasing of relative clauses in Tswana.

1 Introduction

The morphological, morpho-syntactic and syntactic characteristics of the relative clause in Tswana (and in the Sotho-Tswana group S30 in general) are well-described in reference grammars of the languages, such as Cole (1955: 171ff) for Tswana or Ziervogel et al. (1969: 105ff) for Northern Sotho. This is due to the fact that relative clauses in Sotho-Tswana are clearly marked morphologically and morpho-syntactically by a relative suffix and a relative pronoun, as will be illustrated in section 2. Phonological and tonal characteristics of the relative clause and its prosodic embedding into the phrase

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are considerably less well-described for two reasons, namely the lack of a comprehensive tonal grammar of any of the Sotho languages and the disjunctive orthography. First, no complete tonal grammar of the Sotho-Tswana languages exists as yet. Reference grammars in general do not mark tone, thus although they provide a thorough description of the morpho-syntax, they do not cover phonological aspects such as phrasing or tone. Specialized studies on different aspects of the tonal system and phrasing in the Sotho-Tswana languages are available (Chebanne et al. 1997, Mmusi 1992, Khoali 1991, Monareng 1992, Lombard 1976). But given their place at the intersection of syntax, verb morphology and phrasal phonology hardly any phonological and tonal aspects of the relative clause have been covered in these treatments. Second, the disjunctive writing system, which is used in Tswana and which treats verbal prefixes as independent orthographic words, obscures the prosodic constituency in the verb complex.

The aim of this article is therefore to provide an outline of the morphological, morpho-syntactic and phonological properties of the relative clause in Tswana. It concentrates on phonological and tonal aspects in order to fill a gap in the descriptive literature of this language. Although reference to other languages of the Sotho-Tswana group will be made at times, especially to Northern Sotho, it cannot be claimed that this article makes an independent investigation into the other Sotho-Tswana varieties obsolete.

The article is structured as follows: Section 2 provides a brief review of the morpho-syntactic and morphological characteristics of the relative clause in Tswana. Section 3 provides examples of relative clauses which exemplify the general points made in section 2 in several different syntactic constellations. Section 4 briefly addresses the linguistic uses of the relative clause in Tswana, which correspond to uses in other Bantu languages. Section 5 and 6 address phonological characteristics of the relative clause. Section 5 discusses the phrasing of the relative clause with respect to its head noun as well as with respect to following constituents. Section 6 discusses the tones of the verbal tenses in the relative clause. Section 7 summarizes the observations made and points out areas for further research.

2 Morpho-syntactic characteristics of the relative clause in Tswana

The phrase in (1) shows a head noun followed by a relative clause by means of which the morphological and morpho-syntactic characteristics of the relative clause in Tswana will be exemplified. In all examples, high tones are marked by acute accent and underlying tones are underlined. **The circumflex does not**

indicate tone but refers to vowel quality and differentiates the mid vowels *e* and *o*.²

- (1) mo-ńna y^ó- ó- bú^ua- ńg...
 1-man DEM1 SC1 speak REL
 ‘the man who is talking’

Relative clauses in Tswana show an obligatory relative pronoun (Zeller 2004) – in the example in (1) y^ó- – which is identical in form and tone to the demonstrative pronoun; however, it has lost its demonstrative significance (Cole 1955). In Northern and Southern Sotho, the relative pronoun occasionally merges with the following subject marker in direct relative clauses (Mischke 1998; see Doke 1954, Cole 1955 for terminology and example (2) for an exemplification of a direct relative). The use of the relative pronoun is similar to relative clause formation in the eastern neighbor Tsonga but different from the pattern found in the southern neighbor Zulu (cf. Zeller 2004).

The obligatory subject concord (SC in the glosses, for a list of abbreviations see footnote 3) in relative clauses is formally and tonally identical to the one in subordinate tenses but with ^ó (instead of ^á) in noun class 1, at least as an alternative (Chebanne et al. 1997 list it as free variation, Cole 1955: 173 lists it as dialectal variation).

The finite verb of the relative clause is in the participial tense (Cole 1955, Chebanne et al. 1997), as will be discussed in section 6 in more detail. The most important marker of the participial tense in comparison to the principal tense is tone.

Tswana has the relative clause affix *-ng* (in Northern Sotho also *-go*) which is obligatorily suffixed to the finite verb of the relative clause and thus consistently marks the relative clause formally. This is again similar to Tsonga *-ko*, but in contrast to Zulu where a relative suffix *-yo* is only found in some tenses and only if the verb is final in the relative clause (Zeller 2004).

² The glosses used in this paper are the following:

<i>number</i>	referring to noun class or person	SG	singular
DEM	demonstrative	PL	plural
SC	subject concord	PROP	proper name
REL	relative suffix	PERF	perfect
POSS	possessive concord	PASS	passive
OC	object concord	NEG	negation
ABS	absolute pronoun	FUT	future
REFL	Reflexive pronoun	PR	pronoun

3 Examples of relative clauses in Tswana

This section provides examples that illustrate the morpho-syntactic and morphological characteristics presented in section 2. As a rule of thumb the head noun of the relative clause, i.e. the antecedent for the relative pronoun, is always represented twice in the relative clause in Tswana and is marked in bold in examples (2)-(11) for ease of reference. For the same reason, the relative clause is delineated by square brackets. The terminology for (2) and (3) has been introduced by Doke (1954) and Cole (1955).

- (2) *Subject relative – ‘direct relative’*
 mo-**ńna** [y**ó**- **ó**- bú**á**- **ńg**]
 1-man DEM1 SC1 speak REL
 ‘the man who is talking’

In object relative clauses, as in (3), an object concord (OC) on the relative verb is obligatory, although object marking might otherwise be considered pronominal in Tswana, just as it is in Chichewa (Bresnan & Mchombo 1987). Also note that in contrast to e.g. Luganda (Hyman & Katamba, this volume) or Shona (Demuth & Harford 1999), subject inversion is not possible in relative clauses in Tswana.

- (3) *Object relative – ‘indirect relative’* (Cole 1955, §10.13)
 di-lô [ts**é**- k**é**- d**í**- rá**ta**- **ńg**]
 10-thing DEM10 SC1SG OC10 like REL
 ‘the things that I like’

Note that in all relative clauses the resumption of the head noun in the relative clause is obligatory (marked in bold).

- (4) *Subjectival possessive* (Cole 1955, §10.14)
 mo-s**ádi** [y**ó**- ngwan**á** w**á**- **gágwé** **ó**- lw**ála**- **ńg**]
 1-woman DEM1 1.child POSS1 POSSPR1 SC1 be.sick REL
 ‘the woman whose child is sick’

- (5) *Objectival Possessive* (Cole 1955, §10.15)
 di-thaba [ts**é**- ma-f**ika** **á**- **tsôná**
 10-mountain DEM10 6-stone POSS6 ABS10
 r**é**- b**óna**- **ńg** k**ájênó**]
 SC1PL see REL today
 ‘the mountain whose rocks we see today’

- (6) *Associative adverbial* (Cole 1955, §10.17)
 ba-nna [bá- ré- dúmélána- ng lé- bôné]
 2-man DEM2 SC1PL agree REL with ABS2
 ‘the men with who we agree’
- (7) *Instrumental adverbial* (Cole 1955, §10.18)
 thipá [é- ré- séga- ng nama ká- yôné]
 9.knife DEM9 SC1PL cut REL 9.meat with ABS9
 ‘the knife with which we cut the meat’
- (8) *Locative adverbial* (Cole 1955, §10.21)
 Tshwane [kwá- ké- na- ng têng³]
 PROP DEM18 SC1SG live REL there
 ‘Tshwane where I live’ (Tshwane= Pretoria)

In some dialects of Haya (Riedel, this volume) the relative marker and the subject marker match even in the first and second person. In Tswana, this kind of agreement pattern is not possible as no demonstrative pronoun exists for first or second person. If a first or second person pronoun is relativized, the relative pronoun of classes 1 (SG) or 2 (PL) is used, as exemplified in (9).

- (9) *1st and 2nd person* (Mascher, Conv 46E III)
 [Bá- ló- ráta- ng di-kúkú]
 DEM2 SC2PL love REL 10-biscuit
 lo- tlaa- sényégêl-wa ké-mênó.
 SC2PL FUT damage-PASS by-teeth
 ‘You (pl.) who like biscuits will get the teeth damaged.’
 (cf. Cole 1955: 171)

In Tswana there also exists a shortened form of the relative clause in which the auxiliary verb can optionally be dropped, as exemplified in (10). However, this is only possible in the present positive tense.

³ Note that this *-ng* does not mark a relative form nor does it mark a locative, which has a low-toned *-ng* suffix.

- (10) *Short form* (Mascher, Conv 46C III)
 Re-ítshwáréla [bá- bá- mélató lé-roná].
 SC1PL-forgive DEM2 SC2 5.problem with-ABS1PL
 < bá- bá- le-ńg
 DEM2 SC2 be.with-REL
 ‘We forgive those who owe us’

With compound verb tenses, the relative suffix *-ng* only suffixes onto the first verb stem, as exemplified in (11).

- (11) *With compound verb tense*
 Ma-gôdu [á- á- nê- ńg á- tšhwér-wé málôba] á-golóts-wé.
 6-thief DEM6 SC6 be REL SC6 arrest-PASS recently SC6-release-PASS
 ‘The thieves who had been arrested the other day have been released.’

4 Use of relative clauses

Relative clauses are used for noun modification as shown in the examples in section 3. Given that in general Bantu languages only have a very small class of genuine adjectives (Cole 1955: 138), relative clauses in Tswana are frequently used for nominal modification that would be expressed through adjectives in languages such as English. An example is given in (12).

- (12) *Short relative clauses as “adjectives”* (Cole 1955: 175)
 ba-ná bá- bá- maaka
 2-child DEM2 SC2 lie
 ‘untruthful children’

Relative clauses are also used for clefting. Also here, an increased frequency of occurrence might be observed due to the fact that one way of focusing or questioning logical subjects is by use of a cleft sentence, as illustrated in (13).

- (13) *Relative clauses in clefts*
 Ké máng yó- á- fihla- ńg?
 COP who DEM1 SC1 arrive REL
 Lit. ‘It is who that arrives?’ = ‘Who arrives?’

Diachronically, Creissels derives the last mentioned use of clefts, namely for focusing, from the primary use as modifiers by stating that “les formes relatives du verbe tswana s’emploient typiquement comme noyau prédicatif de relatives restrictives, et il semble raisonnable de penser que leurs autres emplois

(notamment dans les phrases clivées exprimant une focalisation) sont historiquement dérivés de leur emploi dans la relativisation” (2002:106).

Although there is generally a semantic distinction between restrictive and non-restrictive relative clauses, this distinction does not seem to have prosodic consequences in Tswana. This is in contrast to Bemba where tonal marking can only occur on restrictive relative clauses (Cheng & Kula 2005 for Bemba). Likewise, the grammaticalization of clefts as focus constructions for subjects could have resulted in prosodic consequences. This is the case in Zulu where there are differences in prosody concerning cleft and restrictive/non-restrictive relative clause in that clefts and non-restrictive relative clauses but not restrictive relative clauses show a prosodic phrase break between head noun and relative clause (Cheng & Downing 2007, to appear). Again, this does not seem to be the case in Tswana.

In Tswana it seems as if the prosody of modified nouns, relative clauses, and clefts is purely syntactically determined, without prosodic modifications due to semantics of the kind mentioned above for Bemba or Zulu. The prosody will be spelt out in the following section in more detail. A reason why the prosodic embedding of a relative clause resembles modification so closely in Tswana might lie in the diachronic development of the relative clause from a demonstrative pronoun which is still clearly evident synchronically (cf. Zeller 2004) even though the demonstrative has lost its meaning and might even be merged phonologically with the following verb word in some Sotho-Tswana varieties (cf. Mischke 1998).

5 Tonal embedding of the relative clause

Tonal modifications can be observed when a relative clause is embedded in a phrase, again exemplified with the sentence in (1), here repeated as (14).

- (14) mo-**ń**na [y**ó**- ó- bú**á**- **ń**g...]
1-man DEM1 SC1 speak REL
'the man who is talking'

The final syllable of the head noun, if low-toned, is exempt as a target of high tone spread (cf. Creissels 1998: 187). High tone spread (HTS) is a tonal rule which spreads an (underlying) high tone onto right-adjacent syllables (the number of syllables which act as target for HTS differs, cf. Creissels 1998, 1999, 2000). In Tswana this is possible within and across words, as exemplified in (15a+b) respectively (marked in bold).

(15) examples from Cole & Mokaila (1962: 7)

- a. Ó-ápayá di-j[́]ó.
 SC1-cook 10-food
 ‘She is cooking food.’
- b. Ó-dí-sá dí-kgômó.
 SC1-herd 10-cow
 ‘He herds the cattle.’

If the targeted syllable is word-final and a word which starts with a high tone follows the targeted syllable, HTS is only possible at the juncture of subject and verb, (16a), and verb and object, (16b), as marked in bold.

(16) examples from Cole & Mokaila (1962: 7)

- a. Mo-sá**dí** ó-ápayá di-j[́]ó.
 1-woman SC1-cook 10-food
 ‘The woman is cooking food.’
- b. Ke-tla-r[́]éká p[́]ódi.
 1SG-FUT-buy 9.goat
 ‘I will buy a goat.’

High tone spread onto the final syllable of word when it is followed by a high-tone initial word is not possible in modification structures, such as object-locative sequences, (17a), instrumental modification, (17b), modal modification, (17c), noun-modifier sequences, (17d), or head noun-relative clause sequences, (17e).

(17) examples from Cole & Mokaila (1962: 30, 26, 10, 24, 47)

- a. Ngwêd[́]í ó-ts[́]én-ye m[́]ó-má-ru-ng.
 9.moon 1-enter-PERF LOC-6-cloud-LOC
 ‘The moon has gone into the clouds.’
- b. A o-tshá**méka** ká-mó-gomá?
 Q 2SG-play with-3-plough
 ‘Are you playing with the plough?’
- c. Ba-sétsána bá-bú**a** tháta.
 2-girl SC2-talk much
 ‘Girls talk a lot.’

- d. Mo-rúti wá-ba-ná ó-gôróg-ilê léng?
 1-teacher POSS1-2-child SC1-arrive-PERF when
 ‘When has the school teacher arrived?’
- e. Ke-rákán-ye lé-mo-ńna yó-ó-ségô.
 1SG-meet-PERF with-1-man DEM1-SC1-luck
 ‘I met a lucky man.’

The asymmetry between (16) and (17) calls for an analysis in terms of prosodic phrasing. However, a possible analysis is not straightforward. Given the occurrence of HTS in sequences of verb-object, a first hypothesis would be that the blocking of HTS in (17) occurs at phrase boundaries and is thus indicative of them. This approach would assume a phrase boundary after the head noun of the relative clause in (14) and more generally after every modified head noun. Though not implausible, this is contrary to what has been found in other Bantu languages, such as Chichewa (Kanerva 1990) and Xhosa (Jokweni 1995), and therefore needs careful investigation. For now, we take note of this observation only and leave the detailed analysis a topic for future research.

As for the demonstrative pronoun which acts as a relative pronoun, it is procliticized to what follows (either verb or noun, Cole in press: §172). It is always high-toned. Subject concords in the relative clauses are also always high-toned (see section 5). If a high-toned verb stem follows the subject concord, as in (14), a sequence of three adjacent underlying high tones occur. This is rare in the verbal grammar of Tswana. If, for example, three consecutive high tones occur in other structures, as in (18), the middle high tone is regularly lowered.

(18) examples from Cole & Mokaila (1962: 38, 40)

- a. Ga-bá-**bo**-rát-e.
 NEG-SC2-OC14-like-NEG
 ‘They don’t like it, e.g. beer.’
- b. Ke-batla go-sé-**i**-thékéla.
 1SG-want 15-OC7-REFL-buy.for
 ‘I want to buy it for myself.’

Again, the observation that three high tones can occur consecutively in verbs in the relative clause is telling for the prosodic constituency in this construction, although details of an analysis must remain a topic for future research.

Another observation is that the suffixation of the relative marker *-ng* prevents the preceding syllable from acting as a target for high tone spread, i.e. *

mo-nna yó -ó-búá-ng. It thus regularly enforces a low tone on the verbstem-final, new penultimate syllable (Chebanne et al. 1997: 199; with the common restrictions, i.e. LH-*ng* → *LL-*ng*). This word-internal phenomenon is parallel to the phrase-level phenomenon illustrated in (17).

Finally, one can observe high tone spread from the high-toned relative suffix *-ng* onto a following low-toned noun prefix, as illustrated in (19).

- (19) HTS (Cole & Mokaila 1962: 66f)
- | | | | | | |
|------------------------------|----------------|--------------|-----------------|------------|----------------------------|
| Di-ta <u>ú</u> | [ts <u>é</u> - | d <u>í</u> - | j- <u>é</u> lê- | <u>n</u> g | dí -kgô <u>mó</u>] |
| 10-lion | DEM10 | SC10 | eat-PERF | REL | 10-cow |
| ‘the lions who ate the cows’ | | | | | |

6 The tone pattern of the “relative tenses”

6.1 Relative and participial tenses

The current section has a closer look at the tone patterns on the verb stem itself which are due to its appearance in a relative clause. First, it needs to be noted that some languages, e.g. Bemba (Cheng & Kula 2005), indicate restrictive subject relative clauses solely by tone-marking. Although the tones of the subject marker also change in relative clauses in Tswana, one cannot say that relative clauses can be indicated solely by tone in Tswana because first, the tones of the subject marker are mostly ambiguous between participial tense and relative tense as will be shown below, second, there is also the relative pronoun (although it can be dropped in specific instances, cf. Cole 1955), and third the relative suffix *-ng* is obligatory. Only perception tests can show which of the cues – tone or suffix – is more important in Tswana.

Cole (1955: 178) states that “direct relatives and relative clauses are formed from participial verb tenses by substituting the relative concord for the subjectival concord, and suffixing *-ng* to the verb.” He shows that relatives are based on the participial forms of the verb tenses, i.e. on those tense forms which occur in subordinate clauses, and not on the principal form. He shows this by reference to the negative form in which the relative, just as the participial form, has the negative morpheme *-sa-*, whereas the principal form has *ga-*, as marked in bold in (20).

- (20) Ngwana **ga**-a-lel-e ‘The child is not crying’ (principal tense)
 Fa ngwana a-**sa**-lel-e... ‘If the child does not cry...’ (participial tense)
 ngwana yô-o-**sa**-lel-e-ng ‘the child who does not cry’ (relative tense)

The verb forms in the relative tense and the participial tense do not only correspond to each other in negative formation by having the same negation particle *-sa-* in the same position, namely following the subject concord, but they also largely correspond in their tone patterns. There are two differences though: the subject concord of CL1 is *ó-* instead of *á-* in all tenses (at least as free variation or as dialectal variation) and the tone pattern in the Present Positive. Section 6.2 first shows the correspondence of tone patterns in most of the tenses, and then discusses the case of the Present Positive in section 6.3.

6.2 Correspondence between relative and participial tenses

The present tense and the perfect tense are the only two synthetic tenses in Tswana. All other tenses, such as the future tense, the past perfect etc., are compound tenses and are composed of at least one of the tenses mentioned in the first sentence (Cole 1955). Only the synthetic tenses will be discussed in this paper.

6.2.1 Present negative

In the present negative, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, the negative particle *-sa-* and a verb stem ending in *-e*. Tonally, they show grammatical tone on the second verb stem syllable, and iterative tone spread to the end of the domain (cf. Khoali 1991). As mentioned in section 5, the stem-final syllable is always low before the high-tone relative suffix *-ńg*. Apart from the lowered syllable before *-ńg*, the participial tense and the relative tense are identical in tone, as illustrated in (21) in the bold marked verb forms. The conjunction *fá* introduces a subordinate clause in Tswana which takes the participial verb form in the respective tense.

(21) all examples from Cole & Mokaila (1962: 49f)⁴

- | | | | | |
|----|-----------|---|---------------------------|-------------------|
| a. | Particip. | | fá bá-sa-útlwé... | |
| | Relative | Ga-ké-ráté baná | [bá-bá-sa-útlwe-ńg | batsádi bá-bôné]. |
| | | I do not like children | DEM2-SC2-NEG-listen-REL | their parents |
| | | ‘I don’t like children who do not listen to their parents.’ | | |

⁴ For reasons of space and ease of reference, morpheme boundaries in words other than the relative verb word are only indicated for those morphemes that are written separately in Tswana orthography in examples (21)-(23).

- b. Particip. **fá á-sa-ítsé...**
 Relative A gó-na lé-mótho **[yó -ó-sa-ítse-ńg** ngwêdí lé-létsatsí]?
 There is noone DEM1-SC1-NEG-know-REL moon and sun
 ‘Is there a person who does not know moon and sun?’
- c. Particip. **fá sé-sa-í-tiréle...**
 Relative Mothibi ké-sétshwakga **[sé-sé-sa-í-tiréle-ńg** sépê].
 Mothibi is a lazy person DEM7-SC7-NEG-REFL-do_for-REL thing
 ‘Mothibi is a lazy person who does not do anything for himself.’

6.2.2 Perfect positive

In the perfect positive, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, grammatical tone on the second stem syllable, and iterative tone spread (cf. Khoali 1991). Again, the stem-final syllable is always low before the high-toned relative suffix *-ńg*. Otherwise, participial tense and relative tense are identical in tone, as illustrated in (22) in the verb forms marked in bold.

(22) all examples from Cole & Mokaila (1962: 66f)

- a. Particip. **fá á-ág-il-wé...**
 Relative Ke-rátá matlo **[á-á-ág-il-wé-ńg** ká-seténá].
 I like houses DEM6-SC6-build-PERF-PASS-REL with-brick
 ‘I like houses which are built of brick.’
- b. Particip. **fá é-bês-íts-wé ...**
 Relative Batho bá-rátá nama **[é-é-bês-íts-wé-ńg** ká-mólelô].
 people like meat DEM9-SC9-roast-PERF-PASS-REL with-fire
 ‘People like meat which has been roasted on the fire.’
- c. Particip. **fá bó-apé-il-wé...**
 Relative Ke-rátá bogôbe **[jó-bó-apé-il-wé-ńg** ká-maši].
 I like porridge DEM14-SC14-cook-PERF-PASS-REL with-milk
 ‘I like porridge which has been cooked with milk.’

6.2.3 Perfect negative

In the perfect negative, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, negative particle *-sa-* and verb stem ending in *-a* (ga-SC-aa-R-a in the Principal tense). Tonally, they show grammatical tone on the second stem syllable, and iterative

tone spread (cf. Khoali 1991). Again, the stem-final syllable is always low before the high-tone relative suffix *-ńg*. Otherwise, the participial tenses and the relative tenses are identical in terms of tone, as illustrated in (23) in the bold marked verb forms.

(23) Examples from Cole & Mokaila (1962: 66f)

- a. Particip. **fá dí-sa-ómá...**
 Relative ga-ó-batlé dikgóng [tsé-dí-sa-óma-ńg] tháta].
 It does not want DEM10-SC10-NEG-be_dry.PERF-REL very
 ‘It (i.e. a fire) does not want wood which is not very dry.’
- b. Particip. **fá á-sa-íthúta ...**
 Relative Ga-á-batlé Makgóa [á-á-sa-íthúta-ńg] Setswána].
 It doesn’t want Whites DEM6-SC6-NEG-learn.PERF-REL Tswana
 ‘It (e.g. the government) does not want Europeans who have not learnt Tswana.’
- c. Particip. **fá bá-sá-rupá ...**
 Relative BáBatswána gabáráte bańna [bá-bá-sá-rupá-ńg].
 DEM2-SC2-NEG-initiate.PERF-REL
 ‘The Tswana (women) do not like men who have not gone through initiation.’

For the tenses above, one can generalize that the relative forms do not only correspond to the participial forms in morpho-syntax but also in tone.

6.3 The present positive in the relative

The following table follows Chebanne et al. (1997) and shows the tonal differences in the comparison of participial tense (termed “gérondif”) and relative tense in high-toned verb stems in the present positive.

Table 1: Tone patterns of the present positive

<i>Chebanne et al. 1997</i>	participial	relative tense
monosyllabic H	lóo-já	[bá bá-ja-ńg]
disyllabic H	ó-biná	[bá bá-kwála-ńg]
trisyllabic H	ó-bêréká	[bá bá-béréka-ńg]
quattrosyllabic H	ló-bêrékéla	[bá bá-tshámékísa-ńg]
monosyllabic L	ó-tlá	[bá ré-ya-ńg]

disyllabic L	á-límá	[bá bá-bála-ńg]
trisyllabic L	ló-tsámáya	[bá bá-étéla-ńg]
quatrosyllabic L	bá-tlhálóganya	[bá bá-dúmédísa-ńg]

Mascher (in prep.: Gram 100) adds the observation that the high tone spread in the present positive relative tense takes place iteratively, just as in other tenses in which a grammatical high tone is inserted. This is exemplified in (24) for low-toned verb stems (in contrast to [bá bá-dúmédísa-ńg] in table 1).

(24) Iterative High Tone Spread (marked in bold)

a. [bá ké-**bá**tlísísa-ńg]

b. [bá ké-**lé**kálékánya-ńg]

Thus, two differences emerge in the comparison of participial tense and relative tense in the present positive: First, with high-toned verbs, the stem-initial syllable is never lowered in the relative tense, and second, with low-toned verbs HTS takes place iteratively (just as in the present negative, perfect positive and negative), at least in the Rolong variety (Cole & Mokaila 1962, Mascher in prep.).

The first observation is explicitly confirmed by Chebanne et al. (1997: 199) and Creissels (2002: 104) by stating that “Le gérondif [= participial, SZ] des verbes à tons lexical haut est caractérisé au présent positif par une alternance tonale qui ne se retrouve pas dans la forme relative correspondante (par exemple, le gérondif présent de *-símólóla* “commencer” avec un indice de sujet de classe 1 est *á-símólóla*, mais la forme relative correspondante est *á-símólóla-ńg*.”

Chebanne et al. (1997: 185ff) account for the lowered stem-initial syllable of high-toned verb stems in the Present Participial Tense by positing an underlying empty syllable at the junction between the subject concord and the stem. If the subject concord is immediately followed by a lexically toneless stem, however, the tonal melody is not the one which would be expected if an empty syllable were still present after the subject concord as the spreading of the high tone of the subject concord reaches the second syllable of the stem. They do not see any other solution than to posit two variants of the structure of this tense.

Mascher (in prep., Gram 40C) analyses the participial tense as being formed with a “lingering” low tone which pulls down the first syllable of a high stem but vanishes into a low stem. The subject marker to its left is nevertheless able to spread its high tone.

In the present positive of the relative tense, however, this empty syllable or the lingering low tone (depending on the analysis) are obviously absent. Thus, this tense is not identical to the participial tense. Further evidence is needed from diachrony and/or other Bantu languages that would support such an earlier morpheme in the participial tense, and/or a characteristic tone pattern in the relative clause.

7 Conclusion

Relative clauses in Tswana are marked unambiguously by the presence of a relative pronoun and the relative suffix, except for “short relatives” in the present tense. The tone pattern of the verb word in the relative clause corresponds to the tone patterns occurring in the participial tenses, with the exception of the present positive tense which shows an idiosyncrasy in lacking the low stem-initial syllable of the participial present tense. As for its prosodic embedding into the head phrase, the relative clause behaves parallel to other (nominal) modifiers in that the last syllable of the preceding head noun cannot become the target for high tone spread. This might be due to phrasing or the tonal environment and is a question that awaits further research by developing a coherent analysis of tonal alternations in Tswana. Another area for further research in connection with tones of the relative clause is the difference in the tonal patterns of the relative present tense and the participial present tense. Here it is cross-Bantu data, both synchronic and diachronic, that is needed to reach at a better-informed classification and evaluation of the two observable tone patterns.

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Appendix: Relative Clause Questionnaire*

BantuPsyn Project Members

ZAS, Berlin & LPP, Paris & Université Lyon 2

This questionnaire is intended as an aid to eliciting different relative clause types – restrictive, non-restrictive, free, cleft. We have taken care to include examples where the head plays a variety of grammatical functions in the relative clause (subject, object, indirect object, possessor, adjunct). We have also taken care to include examples where the relative clause is in different positions in the sentence: initial, medial and extraposed. The questionnaire is intended as a guide, only, as every language will have its own set of possibilities and complications. At the end of the questionnaire is a checklist, as well as some illustrative examples in English and Swahili of the basic relative clause types. While we had Bantu languages in mind in devising the questionnaire, we hope it could also be useful to linguists with an interest in other languages.

1 Head of RC is the subject of the RC

1.1 Restrictive relative

The girls who can swim are playing by the river.

We don't know who is playing by the river.

I told them what I like to eat.

The man whose daughter is sick is taking her to the clinic.

Men who enter politics become corrupt.

The woman who has bought the farm is planning to cultivate maize.

The woman who has bought the farm is planning to cultivate this season.

* While all project members contributed to the questionnaire, special thanks go to Cédric Patin and Kristina Riedel, who were mainly responsible for coordinating suggestions and developing the final version. We would also like to thank Muhsina Alleesaib, Frédéric Laurens, Thilo Schadeberg and Tonjes Veenstra for helpful suggestions.

1.2 Non-restrictive relative

Mary, who can swim well, is my friend.

1.3 Cleft

It's the girls who are playing by the river.

It's the girls who are playing the drums.

1.4 Free relative

The one who arrived late is the doctor.

I saw the one that was coming towards me.

Who(ever) has stolen my money will have to pay for it. [test for both human and animal subject]

2 Head of RC is direct object of RC

2.1 Restrictive relative

The girls who you saw are going swimming.

The girls who Mary saw are going swimming.

The things which I took are very heavy.

The book which Mary gave me is nice.

The book which Mary gave me bores me.

The books which Mary likes bore me.

2.2 Non-restrictive relative

My brother, who you saw at the house, is a teacher.

My brother, who Mary saw at the house, is a teacher.

My brother, who Mary saw at the house, teaches English.

2.3 Cleft

It's the girls that you saw.

It's the mangoes that the children ate up.

2.4 Free relative

I know who he likes.

I told them who Mary likes.

2.5 Head of the RC is the possessor of the object

The girl whose bicycle you borrowed is here.

The girl whose bicycle you borrowed just walked past.

3 Head of RC is indirect object of RC

3.1 Restrictive relative

The girl to who(m) he gave the book is nice.

The girl to who(m) Juma gave the book is nice.

The girl to who(m) Juma gave the book will come over later.

3.2 Non-restrictive relative

Mary, to who(m) he gave the book, is nice.

Mary, to who(m) Juma gave the book, is nice.

Mary, to who(m) Juma gave the book, loves reading.

3.3 Cleft

It's the girls that she sent the presents to.

It's the girls that Mary sent the presents to.

3.4 Free relative

I know who he showed the picture to.

I know who Mary showed the picture to.

3.5 Head of the RC is the possessor of the indirect object

The boy whose friend you introduced me to is here.

The boy whose friend you introduced me to brought bananas for us.

4 Head of RC is locative, temporal or other adjunct

4.1 Restrictive relative

The day my daughter was born was the happiest day of my life.

On the day my daughter was born I worked in the morning.

The way she sings this song is very traditional.

The way she sings this song reminds me of my home village.

The shop where you can buy books is next to the bus stop.

The shop where you can buy books also sells newspapers.

The reason that she came here for is to see her mother.
The reason that she came here for worries me.
The place where I met her is close to here.
The place where I met her has been turned into farmland.
The place where we like to go on weekends is by the sea.
Land which can be used for growing food has become expensive.
Land which can be used for cultivating has become scarce in this area.
The table on which you're writing is really dirty.
I would like to visit the country where you come from.

4.2 Non-restrictive relative

Sunday, when I arrived here, it was raining all day.
In Lushoto, where I used to live, it rains a lot.

4.3 Cleft

It's on Sunday that Mary will come here.
It's in Lushoto that it rains a lot.

4.4 Free relative

I don't know where she lives.
I don't know when they will arrive.
I don't know how they got here.

5 Head of RC is an Instrumental object

The knife with which we cut the bread has become blunt.
The bucket in which we fetch water has broken.
The pot with which we cook rice has split.
The pot with which we cook rice usually won't hold enough rice for all these guests.

6 Relative verb is potentially reciprocal in form

The friend who I met last year will visit us tomorrow.
The girl she fought with is still angry.
The friends who I studied with have all got married.

7 Negative relative clauses

The girls who can't swim are playing by the river.

It's not the heat which is making me sick.

It's the girls who can't swim.

The woman who I did not introduce you to works at the bank.

The book which I did not buy was too expensive.

8 Sentential head of the RC

He hasn't come, which bothers me a lot.

What bothers me is that she has left.

9 Constructions to test the prosody of relative clauses

9.1 Non-initial or non-subject relative clauses

I saw the friend whom you invited to the party.

The students met with the teacher who they like.

I brought the knife with which he likes to cut bread.

The one who arrived late is the doctor.

They are helping me carry the things which I took from the house.

9.2 Embedded and recursive relative clauses

I asked the students who are going to the meeting to excuse me.

I asked the students who are going to the meeting which is at the main hall to excuse me.

I asked the students who are going to the meeting what time it will start.

The teachers who are on strike who have met with the headmistress are returning to work tomorrow.

The person to whom I think she has spoken lied to me.

I remember the songs which we heard our parents sing.

Those that I have eaten yesterday that were good, I took them with me to the fields.

I promised her a letter that I must not forget to write.

The cat who chased the mouse who ate the rice caught it.

It's a big book, but one which can be read fast.

9.3 Relative clauses compared to other types of clauses

The girls who can swim are playing by the river.

The girls are playing by the river.

Mary, who can swim well, is my friend.

Mary is my friend.

The man whose daughter is sick is taking her to the clinic.

The father of the sick girl is taking her to the clinic.

9.4 Combining demonstratives, modifiers, colour verbs with RCs

Those two big girls who can swim are playing by the river.

The students like the long black skirts that we bought.

Large cities which are by the ocean usually have water problems.

I know a book on this subject that she will like.

I know a book on this subject that will please her.

10 Coordination

10.1 Coordinated heads

The girls or the boys who can swim are playing by the river.

Men and women who enter politics became corrupt.

I saw the girl and the boy whom you invited to the party.

10.2 Coordinated RCs

The students who have read the book and who have finished their homework can go home.

The patients who have received their medication or who have paid their bills should come back next week.

11 Extraposed RCs (these might not be possible in every language)

The man came into the room who we all knew.

The song was sung that we all hate.

Several ideas were proposed, that were divided into two groups.

I have eaten some yesterday that were delicious.

Several persons came, of which one (came) yesterday.

12 Dislocations

The friend whom you invited (to the party), I saw him.

The teacher who we like, the students met with him.

13 Checklist

- Pay special attention to the behaviour of an overt lexical subject in object relatives (such as 2a.ii). Does the word order of the subject and the verb change?
- Pay special attention to tense. Do only some tenses appear in relative clauses? Does the relativization strategy change depending on the tense? Is there any extra morphology?
- In object relatives, is object marking on the relative verb grammatical? If so, is it obligatory?
- When the relative clause is the object of the main verb, is object marking obligatory? Check for variation and the effect on interpretation.
- Is there a complementizer? Does it always appear? How are any relative complementizer or demonstratives different from complementizers or demonstratives used elsewhere?
- Is there any conjoint/disjoint morphology?
- Is there an augment on the relative head? Is it obligatory? Does it appear with both restrictive and non-restrictive relative clauses?

14 Illustrative examples in English and Swahili

Restrictive relative clause: The friends who are going to Tervuren with us go to our university.

Marafiki	wa-na-o-kuja	Tervuren	na	sisi	wa-na-hudhuria
6.friends	SM2-PRES-RM2-come	Tervuren	with	we	SM2-PRES-attend
chuo kikuu	chetu.				
7.university	7.our				

‘The friends who are going to Tervuren with us go to our university.’

Non-restrictive relative clause: The director, who is going to Tervuren with us, will give a speech.

Mkurugenzi, ambaye a-ta-kuja Tervuren na sisi,
1.director REL.1 SM1-FUT- come Tervuren with we
a-ta-toa hotuba.
SM1-FUT-give 9.lecture
'The director, who is going to Tervuren with us, will give a speech.'

Cleft: It's the director who is going to Tervuren with us.

Ni mkurugenzi a-na-ye-kuja Tervuren na sisi.
COP 1.director SM1-PRES-RM1-come Tervuren with we
'It's the director who is going to Tervuren with us.'

Headless (free) relative: We don't know who is going to Tervuren.

Ha-tu-m-jui a-na-ye-kwenda Tervuren.
NEG-SM1P-OM1-know SM1-PRES-RM1-go Tervuren
'We don't know who is going to Tervuren.'

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