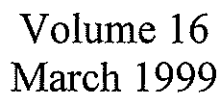


Grammaire Ronga par Henri A. Junod, missionnaire.



Ronga Linguistics

Editors: Sharon Hargus and Manuel Da Conceição

University of Washington Working Papers in Linguistics
Volume 16, March 1999

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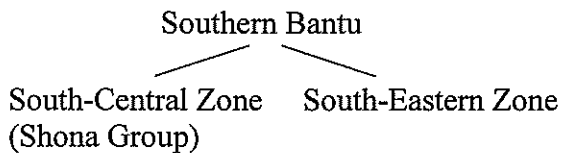
Introduction

Sharon Hargus

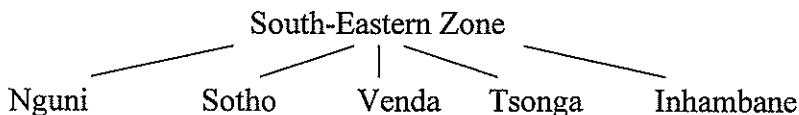
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1 Classification of Ronga

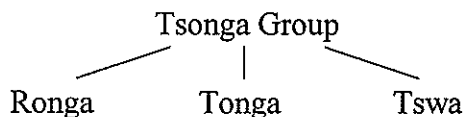
According to Doke 1954, Ronga, or [ʃi-zɔŋga], is a Southern Bantu language. Doke divides Southern Bantu into two Zones, South-Central and South-Eastern.



Doke's South-Central Zone consists exclusively of the Shona Group, whereas his South-Eastern Zone consists of five Groups. Doke defines Group as 'an aggregation of languages possessing common salient phonetic and grammatical features, and having a high degree of mutual understanding, so that members can, without serious difficulty, converse with one another' (p. 20).



Doke's Tsonga Group consists of three Clusters, where a cluster is defined as an 'aggregation of dialects which contribute to, or use, a common literary form' (p. 21). Doke's use of 'Cluster' is then roughly equivalent to 'language':



Doke's Ronga Cluster consists of two dialects, Ronga and Konde, the latter 'a southern dialect influenced by Zulu.' His Tonga cluster consists of Gwamba, Jonga, Hlanganu,

Ngwalungu, and Bila. Notice that Doke uses the term ‘Tsonga’ to refer exclusively to the grouping of languages that includes Ronga, ‘Tonga’ and Tswa.

According to Guthrie 1967-1971, Ronga is a language of the South Eastern area, consisting of two Zones, P and S. Guthrie’s Zone S is comparable to Doke’s Southern Bantu grouping, as Zone S consists of the Shona, Venda, Sotho-Tswana, Nguni, Tswa-Ronga, and Chopi Groups.¹ Ronga is thus a member of Guthrie’s Tswa-Ronga Group, which consists of Tswa (S.51), Gwamba (S.52), and Tsonga (S.53), and Ronga (S.54). The historical/classificatory information about Ronga in Grimes 1992 adopts Guthrie’s terminology.

2 Prior work on Ronga

Previous work on Ronga has resulted in several grammars or grammatical sketches. The earliest of these is the French language grammar by Junod 1896, with relatively recent grammars in Portuguese (Quintão 1951b, Farinha 1946) and English (Baumbach 1970a, Baumbach 1970b). Farinha’s grammatical sketch is accompanied by Ronga texts and a short word list. Quintão’s grammar to have been heavily based on Junod’s work. However, Quintão does not cite Junod directly (there are no references in this work). Neither Junod nor Quintão refers to Ronga as a language. Junod uses the term *langage* (instead of *langue*) and Quintão uses the term *landim* (instead of *lingua*). Farinha refers to Ronga as a *lingua*, but elsewhere denigrates the intelligence of Ronga speakers.

There are two published Ronga dictionaries, that of Quintão 1951a and the more comprehensive dictionary by Sá Nogueira 1960. Both are in Portuguese.

Some additional references to Ronga works can be found in the appendix to Da Conceição this volume.

3 Ronga Field Methods at the University of Washington

The collection of papers in this volume is the outgrowth of a one-quarter Field Methods class at the University of Washington, Spring 1998. There were six students in the class, four of whom have elected to include papers in the present volume.

Manuel Da Conceição is the native speaker of Ronga with whom we have had the pleasure of working. Manuel grew up in Maputo, Mozambique, and Ronga was the only language he spoke until about age 7, when he started to learn Portuguese. By the time he was in his mid-teens, he was a fluent speaker of Portuguese, but continued to speak Ronga with his extended family and neighbors. He left Mozambique for France in his late teens, where he learned to speak French fluently. There he was a student at Université de Montpellier III earning the *Maîtrise des Sciences du Langage* and later the *Diplôme d'Études Approfondies*. To earn these degrees, he wrote theses on sociolinguistics and second language acquisition (Da Conceição 1995) and computational linguistics (Da Conceição 1997). He is currently a graduate student in the Romance Linguistics program at the University of Washington, where he regularly teaches French.

One of the students in Field Methods, Gabe Webster, designed an Access database for the class. The database included tables for Nouns, Verbs, Adjectives, Sentences, and a Sentence/Morpheme link. All students contributed morphemes to the Ronga database, which quickly became a valuable resource for the class. A small amount of class time was devoted each week to resolving discrepancies in the transcription or meaning of various morphemes.

The papers presented here were originally written as term papers for the class, but work continued on them after the class ended. Manuel graciously and patiently continued to answer questions, often by e-mail. As co-editor of the present volume, Manuel read all papers and provided authors with comments and corrections.

4 Overview of this volume

The papers in this volume tackle issues in the phonology, morphology and syntax of Ronga.

In 'A brief look at the sociolinguistics of Ronga and other languages spoken in Mozambique,' Da Conceição describes the Bantu languages of Mozambique and their relationship to Portuguese. This article also discusses dialects of Ronga, and the relationship between Ronga and Tsonga.

¹Guthrie's Chopi Group is thus equivalent to Doke's Inhambane Group.

In ‘Consonant Labialization in Ronga,’ Hargus and Da Conceição consider the theoretical claim that secondary articulations only occur with consonants which are otherwise attested in that language without that secondary articulation. They provide an analysis of the consonant system of Ronga, arguing that problematic sequences [bz^w ps^w] should be analyzed as labialized versions of independently attested phonemes, /dz^w ts^w/.

In ‘Noun classes and agreement in Ronga,’ Hargus, Da Conceição and McBurney provide a non-historical description of this central feature of any Bantu language. The authors argue that the traditional Bleek/Meinhof noun classification system is really a noun prefix classification system.

In ‘The Morphosyntactic Structure of NPs in Ronga,’ Carmichael presents an analysis of noun phrase syntax. Number agreement morphology varies according to the presence of determiners.

In ‘Evidence for weight subcategorization in Ronga,’ Webster examines the distribution of ‘long’ and ‘short’ (or -a and -i) forms of verbal subject prefixes, concluding that the long forms are used when a verb is VP final. This phenomenon provides evidence that phonological weight is relevant to morphosyntactic structure.

In ‘Ronga Relative Clauses and Noun Phrase Accessibility,’ Vondrasek describes Ronga relative clauses in terms of the NP Accessibility Hierarchy of Keenan and Comrie. Vondrasek identifies four strategies for relative clause formation in Ronga, two of which are [-case] (REL + Affix and Passivization strategies) and two of which are [+case] (Pronominal and Adverbial strategies).

5 Orthography used in this volume

Apart from ‘Consonant Labialization in Ronga,’ which uses IPA symbols, the papers in this volume use an orthography in which symbols have the following values:

Non-labialized consonants:

IPA:

	labial	dental	Retroflex	palatal	velar	laryngeal
stops	b ɓ p p ^h	ɗ ɗ̥ t t ^h			g k k ^h	
click				gɗ		
affricates						
central	bʋ pʃ pʃ ^h	dz ts ts ^h	dz̠ tɕ tɕ ^h	dʒ tʃ tʃ ^h		
lateral		dl tɬ tɬ ^h				
fricatives						
central	f v ɣ	s z	z̠	ʃ ʒ		ħ
lateral		ɬ l				
nasals	m ɱ	n ɳ		ɲ		
glides	w ɰ	r		y		

Orthography:

	labial	dental	retroflex	palatal	velar	laryngeal
stops	b B p ph	ɗ D t th			g k kh	
click				!		
affricates						
central	bʋ pʃ pʃh	dz ts tsh	dr tr trh	dj tx txh		
lateral		dl tl tlh				
fricatives						
central	f v vh	s z	zr	x j		h
lateral		hl l				
nasals	m mh	n nh		ny		
glides	w	r		y		

Labialized consonants:

Standard transcription:

	labial	dental	retroflex	palatal	velar
stops		t ^w			k ^w k ^{wh} g ^w g ^w
affricates					
central	bz ^w ps ^w p ^h s ^w		dz ^w tɕ ^w		
lateral		dl ^w			
fricatives					
central		s ^w	z ^w	ʃ ^w	
lateral		ɬ ^w l ^w			
nasals		n ^w ŋ ^w		ɲ ^w	

Orthography:

	labial	dental	retroflex	palatal	velar
stops		tw			kw kwh gw gwh
affricates					
central	bzw psw phsw		drw trw		
lateral		dlw			
fricatives					
central		sw	zrw	xw	
lateral		hlw lw			
nasals		nw nwh		nyw	n'w

6 References

- Baumbach, E.J.M. 1970a. Introduction to the grammar of Xironga. *Limi* 9:8-54.
- Baumbach, E.J.M. 1970b. The phonetics and diachronical phonology of Xironga. *Taalfasette* 11:42-52.
- Da Conceição, Manuel. 1995. *Analyse des critères de motivation dans le choix d'une langue étrangère*. Maîtrise de Sciences du Langage, Sciences du Langage, Université de Montpellier III, Montpellier.
- Da Conceição, Manuel. 1997. *Introduction à l'étude des difficultés morphosyntaxiques du français et de leur traitement par ordinateur*. Diplôme d'Études Approfondies, Sciences du Langage, Université de Montpellier III, Montpellier.
- Da Conceição, Manuel. this volume. A brief look at the sociolinguistics of Ronga and other languages spoken in Mozambique .

- Doke, C.M. 1954. *The Southern Bantu Languages*. London: Oxford University Press.
- Farinha, António Lourenço. 1946. *Elementos de Gramática Landina (Shironga), Dialecto indígena de Lourenço Marques*. Lourenço Marques: Imprensa Nacional de Moçambique.
- Grimes, Barbara F. 1992. *Ethnologue: Languages of the World*. Dallas: Summer Institute of Linguistics.
- Guthrie, Malcolm. 1967-1971. *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages*. London: Gregg Press Ltd.
- Junod, Henri A. 1896. *Grammaire Ronga*. Lausanne: Imprimerie George Bridel & Companie.
- Quintão, José Luís. 1951a. *Dicionários Xironga-Português e Português-Xironga*. Lisboa: Agência Geral das Colónias, Divisão de Publicações e Biblioteca.
- Quintão, José Luís. 1951b. *Gramática de Xironga (Landim)*. Lisboa: Agência Geral das Colónias, Divisão de Publicações e Biblioteca.
- Sá Nogueira, Rodrigo de. 1960. *Dicionário Ronga-Português*. Lisboa: Junta de Investigações do Ultramar, Centro de Estudos Politicos e Sociais.

A brief look at the sociolinguistics of Ronga and other languages spoken in Mozambique*

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1 Introduction

Located in southeast Africa to the north of the Republic of South Africa and bordered on the east by the Indian ocean, Mozambique features a rich variety of languages. According to Grimes 1996, there are more than 33 Mozambican languages (not counting dialects), although other sources (e.g. *Revista Tempo*, June, 1988) refer to 60-70 Mozambican languages.

One of the languages of Mozambique which we propose to study in this volume is called Ronga. It is spoken in southern Mozambique, mostly in the province of Maputo, but also in neighboring areas of Zimbabwe and South Africa. As might be expected, there are different regional varieties of Ronga, just as there are differences in culture throughout this region. Thus the language and culture of Maputo are different from those of South Africa and Zimbabwe. Furthermore, within the province of Maputo different dialects of Ronga are recognized, with differences usually defined in terms of phonetic and lexical factors. For example, varieties of Ronga can be distinguished according to the pronunciation of /zr/, the voiced retroflex fricative. The rhotic [r], instead of fricative [zr], is used in the area of Marracuene, located at the north end of the Province of Maputo. An alveolar [z] is mostly used by people living in downtown Maputo, certainly influenced by the alveolar [z] of Portuguese. The retroflex [zr] is used in the region of Manhiça. Yet in downtown Maputo, because it is a place where many Mozambicans have emigrated,

*Many thanks to Sharon Hargus, whose support in the composition of this paper has been immeasurable, but also for allowing me to rediscover the language in which I pronounced my first words. I also thank all the students who participated in the Spring 98 field methods course (this is for your *many tricky*

resulting in contact between different languages and dialects, there's a variety of Ronga which is characterized by a random use of [zr], [z] and [r]. In this volume the variety of Ronga studied is the one featuring the retroflex [zr], although there is a strong influence of other dialects, due to the fact that I was born and grew up in the city of Maputo.

This paper provides a summary of the sociolinguistic situation in Mozambique with emphasis on Ronga. I begin by looking at the assemblage of African languages spoken in the country, their geographical distribution and their relationship with the only official language in the country, Portuguese. And, by doing so, I will also, naturally, be led to examine, in section 2, aspects related to language planning, the distribution of social groups, diglossia and problems related to the contact between all these languages. The last section for the present paper will then be reserved for Ronga.

2 Bantu languages spoken in Mozambique

As I have pointed out in the introduction, the number of languages spoken in Mozambique is not clearly defined. This uncertainty about the exact number of languages spoken in Mozambique is due to several factors:

- Economic problems: Mozambique is a poor country. There are no funds for linguistic research and little interest in the development of this field of research. The few intellectuals that can be found in Mozambique are concerned about domains which are more vital and more remunerative.
- General attitude towards language planning for Bantu languages: A certain amount of indifference about linguistic issues concerning Bantu languages can be found in public and official institutions, including the government, which leads to non-intervention and lack of support for local African languages. This is in contrast to the active government support for European languages (Portuguese, English, French). Portuguese, as the official language of Mozambique, is taught in school and is the official language of instruction in school. French and English are also taught as second languages, typically in high school.

questions...). Apologies to my mother, Isabel Da Conceição, who is behind all this without even knowing what her son is cooking up.

- Linguistic problems: There is difficulty in determining language vs. dialect status of the different linguistic varieties found in Mozambique. For example, in the north of Mozambique, Xishewa, Ngoni and Nsenga are considered full fledged languages by some individuals but dialects of Nyanja by other individuals. The ambiguous status of Xishewa, Ngoni and Nsenga is due to their high degree of mutual intelligibility with each other and with Nyanja, and also due to the fact that Nyanja is the dominant language, in terms of number of speakers. The same situation occurs in the center of the country where Xindau is classified as a language but also as one of the Shona dialects. In the south, a similar confusion arises with Tsonga, Ronga, Changana and Xitswa, where the last three are considered dialects of Tsonga. This all the more interesting considering the fact that Ronga has its own recognized and accepted dialects, which raises the question of whether a dialect can be a dialect of another dialect. I will develop this point in the last section of this paper.

Borrowing definitions given by certain sociolinguists (e.g. Calvet 1981, Jespersen 1976), most of the Bantu languages of Mozambique are 'vernacular' languages as they are spoken only in certain communities. Calvet associates a vernacular language with the identity of a given linguistic community (often referred to as an 'ethny') in a society having several linguistic communities. This language is the mother tongue of the members of this community and is used only among the members of this community. A language used across linguistic communities or ethnies is a 'vehicular' language (i.e. a *lingua franca*)¹. Thus, Portuguese in Mozambique is a vehicular language as it is used for intercommunication across different Mozambican ethnies. None of the Bantu languages of Mozambique bears this function on a national scale. There are, however, some regionally vehicular languages in Mozambique, although even these do not function at the same level as Portuguese. For example, Tsonga could be considered a vehicular language for the south of Mozambique as it is understood throughout Maputo, Gaza and Inhambane. Most residents of cities in Mozambique, particularly if they are recent immigrants to the city, are bilingual in more than one Bantu language, learning a

vehicular language as well as their native language. For example, a Xitswa or Xixopi speaker who immigrates to Maputo will learn Tsonga (i.e. Changana). In the north, Makua, having more speakers than other local languages, is more widespread and is therefore used as a vehicular language. This kind of situation gives rise to individuals who are bilingual in more than one Bantu language.

In this paper I will focus on the 13 registered written languages (all Bantu) of Mozambique: Mwani, Makonde, Yao, Nyanja, Makua (or Macua), Chwabo, Nyungwe, Sena, Shona, Gitonga, Cicopi (or Mashope), Tsonga (or Changana), and Ronga.² First of all let me point out that the writing systems of these languages were developed during missions of colonization. In fact, the first works in these languages were written by catholic or protestant missionaries who wanted to be closer to the indigenous people³. However, the graphic representation of sounds differed from one writing system to another and from one language to another. This is still true today despite 1988 efforts by the University Eduardo Mondlane (EUM) to standardize the orthography of all these Mozambican languages.

These 13 languages are divided in four, geographically distributed groups. Two groups lie in the north of the country (the Makwalomwe group and the Swahili group), one in the center (the Shona group), and one in the south (the Tsonga group). In Table 1 (*Revista Tempo*, June 1988), the languages are listed according to geographic zone:

¹Notice that what he calls a vehicular language can also be a pidgin or creole, i.e. something that allows communication between different linguistic groups.

²This limitation is due to several factors. Information of any kind is difficult to acquire in Mozambique, and linguistic information is even harder to come by. Research in this field is very impoverished in the whole country. No funds are provided to promote research in this field. In fact only certain scientific fields of research, those interesting huge international companies, are promoted.

³A sample of writings about these languages is provided in Appendix I.

Table 1

Zone	Language	Number of speakers (apx.)	Province or area where spoken	Dialects of the language
NORTH	Mwani	50,000	Cabo Delgado	
	Makonde	300,000	Cabo Delgado	
	Yao	1,000,000	Niassa, Cabo Delgado	
	Nyanja	385,000	Niassa, Zambézia, Tete	Shewa, Ngoni, Nsenga
	Makuwa	3,300,000	Nampula, Cabo Delgado, Niassa, Zambézia	
	Chwabo	664,000	Zambézia, Sofala	
CENTER	Nyungwe	262,000	Tete, Manica	
	Sena	1,086,000	Sofala, Manica, Zambézia, Tete	Senatonga, Senacare, Senabangure, Senaphodzo
	Shona	760,000	Manica, Sofala, North of Inhambane	Ndau, Cimanica, Wutewe, Zezuru, Mashanga, Bwane, Mpara, Danda, Nquaka
SOUTH	Gitonga	223,000	Inhambane	Nyambe, Khumbana, Rombe, Sewi
	Cicopi (Mashope)	340,000	Inhambane, Gaza,	Ndoje, Lenge, Tonga, Shopi, Lambwe, Khambani
	Tsonga	1,500,000	Maputo, Gaza, Inhambane, South and Center of Manica and Sofala	Changane, Ronga, Xitswa
	Ronga	424,000	Maputo, Gaza, Inhambane, South and Center of Manica and Sofala	Xikalanga (in Manhiça), Xironga (in Maputo, Marracuene, Matola, Namaacha and Moamba) and Xiputru (from Catembe to Ponta d'ouro)

Keeping in mind that Table 1 only contains a sample of Mozambican languages (the 13 written languages), we can nonetheless make some observations. First, language

boundaries do not coincide with geographic or political boundaries. Secondly, most of the languages also have one or more named dialects, and sometimes a dialect of one language is listed as a separate language. For example, Ronga is listed both as a Tsonga dialect and as a language in its own right. See section 0. Seeing this confusion in the designation of language vs. dialect, it is not surprising that the number of languages spoken in Mozambique is somewhat variable.

3 The influence of Portuguese

3.1 *Portuguese vs. Bantu languages*

Although Table 1 does not represent all the languages spoken in the country, we can immediately see that Mozambique is a multilingual country where several languages are in contact. This represents of course an interesting area of research for sociolinguists. There are more than 17 million people in Mozambique, 85% of whom live in rural areas, although there has been an important movement from rural to urban zones in the last 20 years or so (following the independence of Mozambique from Portugal).

Portuguese is the official language of Mozambique. It is the only language used in administrative, governmental, educational, legal, and journalistic settings. Portuguese serves as the lingua franca for the whole country. However, Portuguese is not the majority language of Mozambique if we consider number of speakers. According to official statistics (*Revista Tempo*, June 1988), 76% of Mozambicans speak only Bantu languages, 24% speak Portuguese and one or more Bantu languages, and only 1% speak Portuguese exclusively. For example, the Makua language has about 3,300,000 speakers (35% of the population of Mozambique). Compare Portuguese at only 25% of the population. This shows that the power of Portuguese is based not on the number of its speakers, as we would expect, but rather on other factors: the colonial history of Mozambique, the notion of unity for the nation, political situation, economy, urbanization.

When Mozambique proclaimed its independence in 1975 from Portugal after 10 years of struggle, the government opted for a linguistic policy of non-intervention, thus maintaining the country's linguistic status quo; i.e. Portuguese retained its official

language status and none of the local, Bantu languages received any special status. After independence, issues concerning the management of ethnicities, languages and education were discussed but only Portuguese was found to be the language capable of reinforcing the unity of the nation. Since then, Portuguese has become the official language in institutions mentioned above, and the local languages have been excluded. This is reminiscent of the situation in France where the French revolution in 1789 decimated the regional languages in favor of the French language, which was proclaimed the official language of French national unity. France is today a largely monolingual country with some linguists working individually or in small regional groups for the preservation of their regional languages. Mozambique may be on its way to the same situation.

We observe in Mozambique that there is neither planning nor politics concerning Mozambican Bantu languages. In fact, although some Mozambican linguists (notably from the UEM) are aware of the danger threatening these languages, there is no action from the government to preserve them. All these languages are just living by themselves, *naturally*. They have different functions than Portuguese, the official language. They are mostly used by people living in rural zones, having no or very low level of education. Portuguese is essentially spoken in urban environments by educated people. This leads to a remarkable difference in the use of languages in urban vs. rural areas. In rural zones there is almost an exclusive usage of local languages, whereas in urban areas there is competition between Portuguese and local Bantu languages, and also between the local Bantu languages. In urban zones, the Bantu languages are used for communication within the family or in intimate relationships, while Portuguese is used outside the family, in more formal interactions, such as school, work, administration, journalism, etc.

Portuguese thus represents the language of science, knowledge, and power. It is the tool for success, leading to the adoption of certain family decisions about language use. Bantu languages have even come to be stigmatized in some circles, not considered full fledged languages like Portuguese. Some parents who are bilingual in Portuguese and a Bantu language have decided not to speak the Bantu language even at home, consciously or unconsciously deciding that this will facilitate their children's future. Their children, therefore, grow up speaking Portuguese and nothing else.

This attitude shows the existence of a certain kind of diglossia in the country, the kind of diglossia characterized by a conflicting relationship between languages (Boyer 1987), where a certain language dominates other languages. This point is developed and exemplified in the next section.

3.2 *Diglossia in Mozambique*

The notion of diglossia, well known from the work of Ferguson (1959), refers to a linguistic situation found in some countries where two varieties of the same language are distinguished according to their communicative functions. In addition to the primary dialects of a language (which may include a standard or regional standards) there may be a very divergent, highly codified superimposed variety, the vehicle of a large and respected body of written literature, which is learned largely in formal education and is used for most written and formal spoken purposes but is not used by any sector of the community for ordinary conversation. This superimposed variety is called High (H), whereas the variety used in informal situations, not learned in formal education, mostly spoken and not written, is called Low (L). Examples given by Ferguson were Classical Arabic (H) vs. spoken Arabic (L) in Saudi Arabia, Katharevousa Greek vs. Dhimotiki (i.e. Modern) Greek in Greece, Standard German vs. Schweizerdeutsch in Switzerland, and Standard French vs. Haitian Creole in Haiti. A list of features distinguishing H and L languages is given in Table 2 (from Britto 1986:8) (although one could dispute the claimed difference in grammatical complexity):

Table 2

<i>Rubric</i>	<i>Characteristic of H</i>	<i>Characteristic of L:</i>
Function	Used for formal speeches, writing, and such H(igh) functions	Used for conversations and such L(ow) functions
Prestige	More prestigious	Less Prestigious
Acquisition	Learned formally at school, in addition to L	Acquired naturally and informally at home or playground
Standardization	Highly standardized by descriptive and normative studies	Poorly standardized, though informal standards may exist

Literary heritage	Vast amount, highly esteemed literature	Small amount, less highly esteemed literature
Stability	Autonomous and stable, with some interference from L	Autonomous and stable, with some interference from H
Lexicon	The bulk of vocabulary is shared L, but there are also words used exclusively or paired with L	The bulk of vocabulary is shared with H, but there are also words used exclusively or paired with H
Phonology	With L constitutes a single phonological structure; features divergent from L are a subsystem or a parasystem	With H constitutes a single phonological structure; L, however, is the basic system
Grammar	More complex	Simpler

Later, the notion of diglossia was extended by Fishman (1967) to include the usage of two different, not necessarily related languages in a given society. The features characterizing this relation of diglossia between the two languages in contact are the same described for varieties as shown in Table 2, but keep in mind that genetically unrelated languages will obviously show more differences in lexicon, phonology, and grammar. Also, the lack of genetic relationship does not completely eliminate linguistic commonalities because languages in contact can come to share phonological, lexical and grammatical features, although the *L* language generally undergoes more changes than the *H* language. This is indeed what has happened in Mozambique, where local languages, having *L* status, exhibit more influence from Portuguese, whose status is *H*, than vice versa.

Portuguese in Mozambique, as a *H* language, has all the classic characteristics listed in Table 2. It is used in formal speeches, writing and such high functions; has more prestige than any other Mozambican languages; is learned formally at school; has descriptive and normative studies with a vast and esteemed literary heritage; is autonomous and stable, but with some interference from other Mozambican languages. The Bantu languages of Mozambique, on the other hand, have the suite of features described for *L* languages. They are used for (intimate) conversations and such low functions; are less prestigious than Portuguese (and all other European languages); are acquired naturally and informally at home or on the playground; are poorly standardized

(many lack standardized orthographies); have small or nonexistent literary heritage (but long oral tradition); are threatened in stability (linguistically and sociolinguistically).

In terms of lexicon and phonology, we observe two trends. (1) There is more lexical borrowing from Portuguese to vernacular languages than vice versa. For example, while Ronga has borrowed various lexical items from Portuguese (e.g. **bulusa** 'blouse', **xi-tarapu** 'rag', **bola** 'soccer ball', **golú** 'goal', **papela** 'sheet of paper', **mota** 'motorcycle'), there do not appear to be any borrowings from Ronga into the Portuguese spoken in Mozambique or even in Maputo. (There are some borrowings into Portuguese from Bantu (e.g. **xi-bomba** 'bus') but apparently not from Ronga.⁴) (2) The phonological structure of the Portuguese spoken in Mozambique has been more influenced by the Mozambican vernacular languages than vice versa. Different accents of Portuguese can be found in different areas of the country. This situation no doubt results from the fact that Portuguese is a second language for most Mozambican Portuguese speakers. See 3.4. I also suspect that in terms of grammatical issues the Portuguese spoken in some areas of Mozambique bears some transfer from vernacular languages. At least everyone agrees that there is a high standard Portuguese, the variety spoken in Portugal (notably in Lisbon, the capital of this country), but that there also exist different varieties of Portuguese as spoken in different regions of Mozambique. People are also judged as to how well they speak Portuguese, leading to distinctions between social classes. Someone who speaks Portuguese well is one respecting all phonological and grammatical aspects of standard Portuguese, the language spoken in Lisbon. Depending on how well a person speaks Portuguese, s/he can be identified as coming from a high (i.e. rich) or low (poor) social class. Portuguese competence also reveals whether and how well a person is academically educated.

3.3 *Language and social groups*

In Mozambique, individuals of particular socio-economic groups and/or professions use Portuguese vs. Bantu languages in predictable, differing ways.

⁴Additional research may turn up some borrowings from Ronga to Portuguese.

The high society or elite class consists of high-ranking members of the government, managers and executives of public administration and large companies, land-owners, and also doctors, lawyers and some active intellectuals. These people generally live in the city, and use Portuguese exclusively in their communications, although they know vernacular languages, which in general they use with their parents or older close relatives. Their children are mostly Portuguese monolinguals because nobody speaks to them in languages other than Portuguese. Some of the children may become bilingual later in life by learning a European language (usually English or French).

The second class is composed of salaried employees of public service, administration, commercial and industrial companies, and also some intellectuals. People belonging to this class are also urbanized but somewhat closer to traditional values. Their usage of languages is one of the most complex as they can switch from Portuguese to their vernacular languages. However, Portuguese is the language they use for most communication with family members, friends, neighbors, and acquaintances or strangers. In fact, usage of vernacular languages only occurs in certain contexts between adults. Children, in general, are not allowed to speak these languages.

The third class consists mainly of regrouped factory workers, illiterate workers, unemployed people and victims of rural exodus. These individuals are also urbanized but living in suburban zones where they mostly use vernacular languages with family members, children, neighbors, friends, acquaintances or strangers hanging around the area, but switch to Portuguese for certain purposes (with their superiors at work, with administrators, some friends, acquaintances or strangers met in certain contexts).

Finally, there is a fourth group composed of farmers and agricultural workers who, as we have already pointed out, represent the majority of the population and live in the countryside where they exclusively use their vernacular languages, keeping all their traditions and free from external influences.

3.4 *Portuguese as a second or foreign language*

As we have already pointed out, Portuguese is the native language of only 1% of Mozambicans. What about the other 24% of Mozambicans who speak Portuguese?

Should Portuguese be considered a second language or a foreign language for them? According to the definitions of Krashen 1981, a second language is one whose acquisition is *natural and irrational*, i.e., not acquired in an institution but rather in a societal environment. Foreign language learning, on the other hand, is *artificial and rational*, i.e. the foreign language is learned in an institutional context.

In Mozambique, we observe both situations. Portuguese can be considered a foreign language of the people living in the countryside. Their contact with Portuguese occurs only in the school, and the vernacular languages, rather than Portuguese, are used outside this institution. The absence of Portuguese is enhanced by the isolation of people in these areas because of a general lack of transportation, communication and information (radio, television, newspapers). On the other hand, Portuguese is basically a second language of many people living in urban and suburban areas, where the use of Portuguese is very common everywhere, not only in school but also on the street, in stores, and other institutions. The majority of urban residents acquire a vernacular language at home as their first language. This language is then used with family and neighbors up until a certain age (6-8) when children start going to school, where education takes place in Portuguese. It is also in urban areas where we find the 1% of Mozambicans who are native speakers of Portuguese.

3.5 *Relationship of Portuguese to English and French*

As we have seen in sections 3.1 and 3.2, there is a diglossic relationship between Portuguese and the vernacular languages, with the former being the dominant language. This would seem to give Portuguese a place of special accommodation in Mozambique but this is not actually the case.

Mozambique is the only country in southeast Africa where Portuguese is spoken. All the other countries surrounding Mozambique are anglophone countries. Among these countries, Mozambique is the poorest one and many Mozambicans travel to these neighboring countries, notably South Africa, to work. The fact that Mozambique is surrounded by anglophone countries is seen as a threat to the Portuguese language. This is further aggravated by the fact that Mozambique recently entered the Commonwealth, a

community of countries whose official language is English. This action is seen as a first step on the road to abandonment of Portuguese, because Portuguese does not seem to help the economic development of the country.

There has been an interesting reaction from Portugal followed Mozambique's entrance into the Commonwealth. Between the independence of Mozambique (when Portuguese was proclaimed the only official language) and Mozambique's entry to the Commonwealth, Portugal stayed aloof from any linguistic politics in Mozambique, not promoting the use of Portuguese, under the belief that nothing was threatening Portuguese. However, after Mozambique entered the Commonwealth, Portugal saw this as a threat to the language and started to work to preserve Portuguese in the country. Portugal is currently providing financial assistance to Mozambique, especially for the promotion and use of Portuguese. This assistance includes establishment and maintenance of academic programs, construction of schools and libraries, training of teachers, offers of grants and fellowships, establishment of exchange programs with universities, and editing and publication of books in Portuguese. A couple of years ago, an agreement was also signed between Portugal and Mozambique, giving Portugal the responsibility of taking care of tourism in Mozambique. This is seen by certain people as a way of putting the language in a sector that is open to the world. Portuguese in Mozambique is thus seen as being in a fight against English, which is the dominant language in the area where Mozambique is located.

The second threat to Portuguese comes from French. An important campaign to re-introduce⁵ French in Mozambique is being developed by the French government by means of its Ministère des Affaires Étrangères. The program includes offering grants to study in France, establishing exchange programs between Mozambican and French universities, teacher training and intellectual development in diverse scientific fields, organization of francophone gatherings (with invitations extended to neighboring countries), and the construction of French schools and libraries. In fact, Mozambique has the most important French cultural center ('Centre Culturel Français', which includes a

huge French library) in southern Africa. This Centre Culturel was established in Maputo in 1992 and is seen by some individuals as the headquarters for the expansion of French to other countries in the area, including South Africa, which at the end of the apartheid represents an ideal place for investment.

French and English are required disciplines for all high school students. English is introduced at *sétima classe* level [seventh year of school (ages 14-15)] and French in *nona classe* [ninth year of school (ages 16-17)], i.e. three years before the university. These languages are also taught in many other public and private institutions. French and English are attractive to many Mozambicans as they open doors for opportunities, such as finding more interesting jobs, going abroad to study or work, etc. Both English and French place Portuguese in an inferior position. This is shown by the attitude of many Mozambicans as we can see in the following quote (from Da Conceição 1995) from one young Mozambican:

See the position occupied by all the Lusophone countries, that is, Brazil and even Portugal, which made us inherit this language. All these countries lack prosperous economies. So from my point of view I think we should learn English or French, both is even better, if we want to succeed socially. See for example, the labels on imported goods: the labels on these products are always in English or French, sometimes Spanish or German, but never Portuguese, unless the product is for Lusophone countries. So you can see the weakness of our beautiful Portuguese language. We should not limit ourselves only to this language.

The imperiled status of Portuguese in Mozambique indeed stems from economic problems. The evolution of science and technology is associated with English and, to a lesser extent, with French. Also, eighty percent of the Mozambican budget comes from foreign aid. Portugal is not economically prosperous enough to meet the socio-economic needs of Mozambique. France, Great Britain, South Africa and the US possess all the means and power to help Mozambique improve its deplorable economy. The Commonwealth also has the dollars Mozambique needs. In an interview with a

⁵Before the independence of Mozambique from Portugal, French was the second foreign language in the

Portuguese journalist a secretary of foreign affairs once affirmed that Mozambique does not have money to substitute Portuguese with another language. For certain analysts this statement implied that if someone had the money to do so, Portuguese could suffer a different fate in Mozambique.

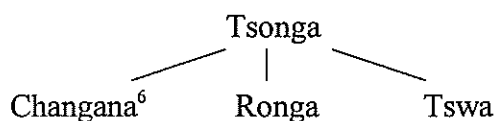
Looking at these issues and recalling Calvet's *Language wars and linguistic politics*, Mozambique looks like a battlefield, but it is a linguistic battlefield fought with languages from afar. We can just imagine the fate of languages like Ronga, Shona, and Gitonga within this war.

4 Ronga dialects

In Mozambique, Ronga is widely considered to be a dialect of Tsonga. What, then, is Tsonga? As summarized in the Introduction to this volume, Tsonga as used by Doke 1954 is the name for a grouping of Bantu languages (Tswa, Ronga, Tonga). However, Guthrie (1967-1971) reserves the term Tsonga for the name of a language, and refers to the language grouping as the Tswa-Ronga Group, which consists of Tswa, Gwamba, Tsonga and Ronga. Baumbach (1987:1) points out the potential confusion in use of the term 'Tsonga', noting that 'the terms Thonga, Tsonga, Shangaan and Gwama' are often used to refer to particular languages, but that 'Tsonga, Tonga, Thonga and Shangaan, are...also used as an embracing term for all the different Tsonga dialects, i.e. an inclusive term for a group of related languages which are spoken in Moçambique, Zimbabwe and the Republic of South Africa'; i.e. in the sense of Doke's Tsonga Group (= Guthrie's Tswa-Ronga Group).

In Mozambique, the usage of the term Tsonga seems to be most comparable to Doke's sense; i.e. it is a grouping of languages. However, Doke's term 'Tonga' is never used with reference to Tsonga in Mozambique. (Tonga, generally known as Gi-Tonga, refers to a language spoken in Inhambane Province in Mozambique.) To refer to the daughters of the Tsonga Group, the terms Changana, Ronga and Tswa are used in Mozambique, as shown below:

country, after English. After independence it was excluded from the educational system.



'Radio Moçambique (RM⁷)' has a Maputo and Gaza inter-provincial radio station which broadcasts in "Tsonga". These broadcasts are intended for people who speak Ronga, Changana and Xitswa in these two provinces, and are mainly broadcast by Changana native speakers. This is probably the reason why Tsonga is identified as Changana. Native speakers of Changana and Ronga can understand each other to a great extent. When my maternal grandmother, a native speaker of Changana, married my maternal grandfather, a Ronga (Xi-ndindindi dialect) speaker, they communicated with a mix of Ronga and Changana. However, my grandmother learned to speak Ronga to better assimilate herself to his family. Thus Ronga, Changana and Xitswa speakers can all understand the Tsonga broadcasts although there may be the occasional word that a Ronga speaker such as myself does not understand.

Although there is a high degree of mutual intelligibility between Ronga and Changana, there are some lexical and other differences. The following vocabulary items can be cited as some examples of lexical differences that might be heard on the radio and on the street and which can be used to identify speakers as Changana or Ronga in the province of Maputo:

⁶The Mozambican term Changana thus seems closest to the definition of Tsonga settled on by Baumbach (1987:1), but he notes that the language described in his grammar is really 'a description of the grammars of the Tsonga dialects Nkuna and Gwamba', somewhat different from the Changana dialect spoken in Mozambique.

⁷RM is a national public radio program with a station which broadcasts nationally in Portuguese. There are also several stations which broadcast provincially or inter-provincially in regional Mozambican languages and Portuguese. In addition to these stations there is also an RM station which broadcasts in English during certain hours of the day. The vernacular languages used in these provincial and inter-provincial stations are Swahili, Makonde, Nyanja, Makua, Chwabu, Nyungwe, Xisena, Shona (Ximanyka, Xindau, Xiutewe), and Tsonga (Changana, Ronga, Xitswa).

<i>gloss</i>	<i>Changana</i>	<i>Ronga</i>
'father'	Bava	tatana
'knife'	xi-khwa	mukwa
'to thank'	ku-bonga	ku-kensa
'to say'	ku-vula	ku-hlaya
'to see'	ku-txuvuka	ku-vona
'to speak'	ku-khuluma	ku-khanela
'to eat'	ku-dja	ku-da
'to want'	ku-lava	ku-djula
'to read'	ku-funda	ku-dondra
'to come'	ku-ta	ku-buya

These terms are widely known and widely used by both Ronga and Changana speakers. Thus, a Ronga speaker like myself may use either **Bava** or **tatana** in a conversation with either another Ronga speaker or a Changana speaker.

Regional dialects of Ronga are recognized in Maputo and the surrounding area. There seem to be six regional dialects although they are popularly known in Mozambique as languages and not as dialects of Ronga.⁸

- Xi-Putru is also known as Xi-Ndindindi, so called because the sound [ndi] is very frequent in this variety. A sentence like **Nitabuya mundruku** 'I will come tomorrow' sounds like this in Xi-ndindindi: **Nditaβa nditabuya munduku**. This dialect is associated with the Katembe, Bella Vista and Ponta d'Ouro districts.
- Xi-Kalanga is the variety identified with Manhiça district. Like the Xironga variety, [zr] is typically pronounced [r]: **aririmu ramina ravava** 'my tongue hurts' corresponds to the sentence **alidrimu dranga dravavisa** in my Xi-zronga dialect.
- Xi-Dzonga is spoken to the north of Maputo. It is one of the varieties mentioned by Quintão 1951b (see Appendix), who calls it Djonga. In this dialect the Xi-zronga subject pronoun [ni]- 'I' is replaced by [ndzi]-: **Ndzitada ndzigama ndziyetlela** 'I will eat and afterwards sleep'.
- Xi-Ronga, Xi-Zronga and Xi-Zonga are sometimes collectively referred to as Xi-N'walungu (lit. 'language of the civilized area'). They are spoken in and around

Maputo. Xi-Ronga is also associated with the Marracuene district, and Xi-Zronga, with the Xirinda district. These varieties differ in their pronunciation of /zr/ and other retroflex sounds, Xi-Ronga speakers pronouncing this sound as [r], Xi-Zonga speakers as [z], and Xi-Zronga speakers as [zr]. Xi-Ronga speakers also use [ri] instead of [dri] and [li], as in Xi-Kalanga: thus **alidrimu** ‘tongue’ is **aririmu** for such speakers; **alirandzu** ‘love’ instead of **alizrandru**.

I consider myself to be intermediate between a Xi-Zonga and Xi-Zronga speaker, since I use [zr] and [z] interchangeably. This is due to the fact that I was born and raised in Maputo (where I lived until age 18). The interchangeability of these sounds is probably characteristic of my generation. My mother and other older members of my extended maternal family (aunts, uncles) use both sounds as well but [z] less than [zr]. However, younger members of the family who, like me, speak Ronga as a first language use mostly the sound [z]. I started learning Portuguese in school around age 7, although I had had some prior contact with Portuguese on the playground and neighborhood. My mother’s native language is also Ronga. She also speaks Portuguese but as a second language, as defined above. From about age 12-13 I spoke mainly Portuguese with friends including my brother, and even with other native speakers of Ronga. I continued to speak Ronga only with my maternal extended family and some neighbors (but mainly adults). (This is not an exceptional situation; it is very common in Mozambique to find people with the same history.)

Ronga, and other Bantu languages like it in Mozambique, is a living language only thanks to these latter type of adult speakers. They are the only ones who are using the language in their everyday lives, sustaining and embracing it. Unfortunately, however, for many reasons, and despite themselves, many of these speakers are not passing languages like Ronga on to their descendants.

⁸The terms *dialecto* and *landim* are popularly used in Mozambique to refer to all Bantu languages with a stigmatizing meaning; opposing all as *dialects* to the Portuguese *language*. These social representations concerning languages in Mozambique are related to the colonial history of the country.

5 Conclusion

Looking at what is happening in Mozambique, one cannot ignore the danger that is threatening the multilingualism (and multiculturalism) of the nation. Mozambique is different from some other African countries (e.g. Tanzania, Senegal, Zaire) which have selected an African language as one of the official languages of the country. In Tanzania, both Swahili and English are *lingua franca* languages, whereas in Senegal it is Wolof and French, and in Zaire, Lingala and French. Will it be possible that some day in Mozambique an African language might also co-exist with Portuguese as the *lingua franca* of this nation? It seems unlikely in Mozambique given the present distribution of languages: there is no African language that is spoken throughout the country. Selection of a northern Mozambican language would certainly anger southern Mozambicans, and vice versa.

The (un)conscious stigmatized social representation of all the Bantu languages of Mozambique makes all of them somewhat endangered or at least embattled. Throughout the country their use is stigmatized and knowledge of Portuguese, English or French is widely viewed as the route to socio-economic success. The government does not support the Bantu languages, although they could be used in part as the language of instruction in local schools, or at least as part of the curriculum. People should also be encouraged to use these Bantu languages instead of giving them a stigmatized image. Radio broadcastings in Bantu languages are a good start, but should be extended to other means of information (television, newspapers), whose major role would be to improve the image of the Bantu languages among Mozambican citizens.

6 References

- Baumbach, E.J.M. 1987. *Analytical Tsonga Grammar*. (Studia Originalia, 3.) Pretoria: University of South Africa.
- Boyer, Henri. 1987. Sociolinguistique et politique linguistique, l'exemple catalan. *Études de Linguistique Appliquée* 65. Paris: Didier érudition.
- Britto, Francis. 1986. *Diglossia: A study of the theory with application to Tamil*. Washington, D.C.: Georgetown University Press.

- Calvet, Louis-Jean. 1981. Les langues véhiculaires. *Que sais-je?* Paris: PUF.
- Da Conceição, Manuel. 1995. *Analyse des critères de motivation dans le choix d'une langue étrangère*. Maîtrise de Sciences du Langage, Université de Montpellier III, Sciences du Langage.
- Doke, C.M. 1954. *The Southern Bantu Languages*. London: Oxford University Press.
- Ferguson, Charles A. 1959. Diglossia. *Word* 15: 325-340.
- Fishman, Joshua A. 1967. Bilingualism with and without diglossia; diglossia with and without bilingualism. *Journal of Social Issues* 23.2: 29-38.
- Grimes, Barbara. 1996. *Ethnologue: Languages of the World*. Dallas: Summer Institute of Linguistics.
- Guthrie, Malcolm. 1967-1971. *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages*. London: Gregg Press Ltd.
- Jespersen, Otto. 1976. *Nature, évolution et origine du langage*. Paris.
- Krashen, Stephen D. 1981. *Second language acquisition and second language learning*. Oxford: Oxford University Press.

Appendix: Assorted works on or related to Mozambican languages.

Ciyao:

Abdallah, Yohanna B. 1919. *Chikala Chawayo*.

Nyanja:

Kamtedza J. D.G. 1964. *Éléments de grammaire cinyanja*. Missionaires de la compagnie de Jésus.

Kamtedza J. D.G. date unknown. *Dicionário Portugues - Cinyanja*. Lisboa.

Makonde:

Matos A.V. 1974. *Dicionário Portugues - Maconde*. Lisboa.

Makua:

Prata A.P. 1960. *Gramática da língua Makua e seus dialectos*. Sociedade Missionária Portuguesa.

Reichmut, Macário. date unknown. *A lingua de Quelimane*.

Nyungwe:

Convent of Saint Thomas Aquino. 1890. *Stories in Cinyungwe*. Natal.

Simon, H.M. 1907. *Catéchisme Tete - Portugais*. Imprimerie Borgeois. Nantes.

author unknown. 1899. *Dicionário Portugues - Cafre tetense*. Coimbra.

Sena:

Alves, Albano P. 1957. *Dicionário de Portugais - Chisena e Chisena - Portugais*.

Alves, Albano P. 1939. *Noções gramaticais de chisena*.

Baiberi. [translation of the Old Testament]

Morrend J. 1900. *Grammaire chisena*. Mission catholique de Chipanga.

Parreira, A.A. 1930. *Vocabulário do dialecto shisena*. Lisboa.

Tonga, Tsonga:

Baumbach, E.J.M. 1987. *Analytical Tsonga Grammar, Studia Originalia, 3*. Pretoria: University of South Africa.

Bento Siteo. 1988. *Byi xile!* ['good morning'] Maputo: Université Eduardo Mondlane. [Manual of Tsonga].

Junod, H.A. 1907. *Elementary grammar of the Thonga - Shangaan language*.

Lanhan, L.W. 1955. *A study of Gitonga*. Johannesburg Witwatersrand University Press.

Père Ribeiro, A. date unknown. *Gramática de Changana (Tsonga)*. Caniçado: editorial “evangelisar”.

Theford. 1929. *Bibele*. Casa da bíblia Moçambique.

Ronga:

Baumbach, E.J.M. 1970a. Introduction to the grammar of Xironga. *Limi* 9:8-54.

Baumbach, E.J.M. 1970b. The phonetics and diachronical phonology of Xironga. *Taalfasette* 11:42-52.

Benolt, W. 1907. *Grammaire portugaise en langue ronga. Bukhaneli Portugais - Ronga et dictionnaire Portugais - Ronga et Ronga - Portugais*.

Junod, H.A. 1896. *Grammaire ronga*. Lausanne: imprimerie Georges Bridel et cie.

Père Farinha, A.L. 1946. *Éléments de la grammaire landina (shironga)*. Lourenço Marques imprensa nacional de Moçambique.

Quintão, José Luís. 1951a. *Dicionários Xironga-Português e Português-Xironga*. Lisboa: Agência Geral das Colónias, Divisão de Publicações e Biblioteca.

Quintão, José Luís. 1951b. *Gramática de Xironga (Landim)*. Lisboa: Agência Geral das Colónias, Divisão de Publicações e Biblioteca.

Sá Nogueira, Rodrigo de. 1960. *Dicionário Ronga-Português*. Lisboa: Junta de Investigações do Ultramar, Centro de Estudos Politicos e Sociais.

Consonant Labialization in Ronga

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1 Introduction

It is standardly assumed in phonological theory that secondarily articulated consonants are more marked than consonants which lack such articulations. Thus, Rosenthal 1997 posits a constraint *Secondary Articulation, according to which representations containing ‘the relatively complex structure of the secondary articulation’ are penalized and avoided when possible.

Why are secondary articulations assumed to be more marked? First, not all languages have secondarily articulated consonants. Maddieson 1984:38 notes that in the UCLA Phonological Segment Inventory Database ‘stops with secondary articulations are less common than their simple counterparts’, whereas all (spoken) languages have consonants with some primary place of articulation. Secondly, the distribution of secondary articulations is apparently parasitic on primary articulations, to the extent that the hypothesis in (1) might be proposed.

(1) A consonant C^s , where s is a secondary articulation, is allowed in a particular language iff C occurs independently in that language.

A language may or may not impose additional restrictions on the distribution of secondary articulations. At one extreme is Irish (Ní Chiosáin 1994), in which all consonants occur in one of two forms: palatalized and not palatalized. At the other extreme are languages like Sekani (Hargus 1988) and other Athabaskan languages in which only dorsal stops occur in both labialized and non-labialized form: there are no labialized coronals, for example.

Ronga has a rich inventory of consonants, which come in labialized as well as non-labialized forms. This paper has several goals. One goal is to simply lay out the

consonant system of Ronga. While there are published sources on the consonant system of Ronga and the closely related language Tsonga, we have found some differences between the consonants of MD's Ronga and those of sources such as Baumbach 1970 and Baumbach 1987. Moreover, in works such as these, the line between synchrony and diachrony is often not completely clear. A second goal is to understand the phonological status of labialized consonants in Ronga, particularly some which appear to be problematic for the hypothesis in (1). In Ronga, there are some consonants which exist only in labialized form (e.g. [ŋ^w] but not [ŋ], [ps^w] but not [ps]). Nonetheless, we will argue that if we assume that (1) is basically correct, we are led to a more streamlined albeit slightly more abstract understanding of the phonology of Ronga.

The status of labialization in Ronga is closely related to the analysis of "palatalization" in Southern Bantu languages (see discussion initiated by Stahlke 1976 and Herbert 1977). As noted by these linguists, labials are frequently replaced by palatal affricates in the Southern Bantu languages; e.g. Tswana p+w --> tʃ^w, b + w --> dʒ^w. Only a small amount of data from Ronga have been included in the discussion. Herbert proposes that such alternations do not have a complete phonological source but that morphophonological conditioning must also be recognized. We will see that Ronga diminutive formation, while largely predictable, is not entirely so, as Herbert proposed for S. Bantu.

2 Background

A catalog of the phonetic consonants and vowels of Ronga has been provided by Doke 1954 and by Baumbach 1970.

2.1 Vowels

Baumbach lists seven vowels for Ronga: [i e ε a u o ɔ]. As suggested by the examples Baumbach provides of [ε ɔ] vs. [e o], these two groups of vowels are in complementary distribution. The distribution of [e] vs. [ε], [o] vs. [ɔ] is conditioned by the height of the following vowel, as Doke correctly observes. Consequently, the phonemic inventory of Ronga vowels is that provided in (2):

(2) Ronga vowel inventory

i	u
e	o
a	

Each vowel in (2) occurs in stems:

(3) Ronga vowel phonemes

/nkaka/	(type of root vegetable)
/-kina/	‘(to) dance’
/-koka/	‘(to) pull’
/-kukula/	‘(to) sweep’
/-k ^{wh} eva/	‘(to) drink a hot beverage, to sip’

However, as in other Bantu languages, the mid vowels /e o/ are restricted in distribution, especially /o/. Neither mid vowel occurs in noun class or agreement prefixes (see Hargus, Da Conceição, and McBurney this volume), nor in the verbal prefixes. On the other hand, /e/ but not /o/ occurs in two verbal suffixes –ile (perfective) and –eni (progressive). /e/ is thus slightly less restricted in distribution, as confirmed by (4), which lists possible vowel sequences in disyllabic stems.

(4) Ronga vowel co-occurrence restrictions

	a	e	i	o	u
a	a..a	a..e	a..i	--	a..u
e	e..a	e..e	e..i	e..o	e..u
i	i..a	i..e	i..i	--	i..u
o	o..a	o..e	o..i	o..o	o..u
u	u..a	u..e	u..i	--	u..u

The pattern /e..o/ is relatively rare, found only in [mfanelo] ‘suitability’. Thus, stem-final [o] is almost always preceded by [e].

2.2 Consonants

Baumbach 1970 once again lists more consonants than are phonemically warranted (although his description of these sounds indicates that he is aware of their

restricted distribution). The following consonant inventory is warranted for MD's variety of Ronga:

(5) Ronga consonant phonemes

	labial	dental	retroflex	palatal	velar	laryngeal
stops	b ɓ p p ^h	d d' t t ^h			g k k ^h	
click		ǀ		gɛ		
affricates						
central	bʋ pʃ pʃ ^h	dʒ ts ts ^h	dʒ ʈʂ ʈʂ ^h	dʒ tʃ tʃ ^h		
lateral		dl tɬ tɬ ^h				
fricatives						
central	f v ɣ	s z	ʒ	ʃ ʒ		
lateral		ɬ l				
nasals	m ɱ	n ɳ		ɲ		
glides	w ɥ	r		j		ɦ

There are some differences between (5) and the general Tsonga consonant inventory provided by Doke, who posits ejectives [p' t' k'], contrasting with aspirated and voiced stops, for all languages of the Tsonga group. However, Doke also notes that "ejection is not very marked". In MD's Ronga, these are not ejectives but plain or in Doke's terminology, 'radical', stops. Also Ronga has two implosives and one click, although none of these is of high frequency. Doke posits pɕ and bʒ but for Tonga only.

Baumbach does not list any implosives for Ronga, and they are rare sounds, occurring stem-initially in relatively few lexical items. The following are an exhaustive list of these sounds in our database:

(6) Implosives

/ɓ/	/ɓava/	'dad'
	/ɓala/	'color'
	-/ɓonga/	'(to) thank'
/ɗ/	/ɗijwa/	'orange'

The words in (6) may be loans from Shangana, a neighboring language of the same group.¹

Baumbach reports two clicks for Ronga, dental and alveolar. For MD, there seems to be only one click. Baumbach reports a dental click [ɽ] in –[n|unta] ‘(to) kiss’; in our data this stem is –[njuta]. While MD does not use this sound, he knows that many Ronga speakers do use it, so we have included it in (5). Like the implosives, the click has been found in relatively few lexical items:

(7) Clicks

/mu-gɽomo/	‘receptable for water’
/mu-gɽivela/	‘Saturday’
/ʃi-gɽoko/	‘hat’

At least one of these, –[gɽoko], appears to be a loan from Shangana. While the click sounds and (to MD) feels palatal, as the transcription suggests, the words in (7) can also be pronounced as voiced lateral affricates: [mudlomo], [mudlivila], and [ʃidloko], respectively.

A three-way laryngeal contrast is possible for the non-glottalic stops and affricates:

(8) Laryngeal contrasts for stops and affricates

/p/	/mpama/	‘slap’ (n.)
/p ^h /	/mp ^h ama/	‘(kind of tree)’
/b/	/-buja/	‘to come back’
/t/	/-ta/	‘to come’
/t ^h /	/-t ^h a/	‘to play’
/d/	/-dondza/	‘to study’
/k/	/-kana/	‘to dip (water)’
/k ^h /	/k ^h ala/	‘charcoal’
/g/	/-ganga/	‘to hit on’
/bv/	/-bvavula/	‘to force open’
/pf/	/-pfala/	‘to close’
/pf ^h /	/-pf ^h ana/	‘to break in’

¹Compare the alternative terms [tatana] ‘father’ and –[kensa] ‘(to) thank’.

/dʒ/	/dʒafia/	‘young man’
/tʃ/	/tʃana/	‘tea’
/tʃʰ/	/-tʃʰava/	‘to be afraid’
/dl/	/-dlaja/	‘to kill’
/tɬ/	/-tɬanga/	‘to joke, to play’
/tɬʰ/	/-tɬʰava/	‘to pierce’

Fricatives, contrasting for voicing, occur at the same place+stricture combinations as affricates. However, there are some gaps in the expected inventory of fricatives. [ʃ] is common in the native vocabulary, but [ʒ] occurs only in loan vocabulary. [z] is common in the native vocabulary, but there is no [s]. Note that Doke lists [ʃ] as a segment of all languages of the Tsonga group.

(9) Fricatives

/f/	/futsi/	‘again’
/s/	/nsinja/	‘tree’
/z/	/zama/	‘cheek’
/ʒ/	/ʃi-zonga/	‘the Ronga language’
/ɬ/	/-ɬeka/	‘to laugh’
/l/	/lembe/	‘year’
/ʃ/	/ʃini/	‘what, which (x-/xw class)’
/ʒ/	/ʒornal/	‘newspaper’

Affricates have either central or lateral release, and three places of articulation---alveolar, retroflex and palato-alveolar---are possible for sibilant affricates. To MD, the retroflex affricates and fricatives can be pronounced without retroflexion.

(10) Retroflex obstruents

/-dzafia/	[-dzafia] ~ [dzafia]	‘to smoke’
/-tɕema/	[-tɕema] ~ [tɕema]	‘to cut’
/-tɕʰemba/	[-tɕʰemba] ~ [tɕʰemba]	‘to believe’
/zonga/	[ʃi-zonga] ~ [ʃi-zonga]	‘the Ronga language’

While he has no preference for the retroflex over the non-retroflex pronunciation, or vice versa, he feels certain that older generations of speakers and/or less urban speakers use

mainly the retroflex pronunciations. See Da Conceição this volume for more information. Note that underlying alveolar sibilant affricates cannot be pronounced with retroflexion:

(11) Alveolar affricates

/ketse/	-[ketse], *-[ketʂe]	‘pineapple’
/-ts ^h ima/	-[ts ^h ima], *-[tʂ ^h ima]	‘to reinforce, make strong’

As its transcription suggests, [fɪ] is breathy. Nasals, glides and the voiced labial fricative may contrast for breathiness. As noted by Traill and Jackson 1988 for Tsonga, breathy consonants lower the pitch of a following vowel, and while this has not been instrumentally investigated for Ronga, the pitch drop on a following vowel is quite audible.

(12) Sonorants

/fɪ/	/fɪni/	‘we’
/v/	/amova/	‘car’
/v/	/amova/	‘sugar cane’
/m/	/mamana/	‘mother’
/m/	/munu/	‘person’
/n/	/nenge/	‘leg’
/ŋ/	/ŋava/	‘countryside, forest’
/p/	/pava/	‘mountain’
/w/	/wene/	‘you (sg.)’
/w/	/weti/	‘month’
/j/	/jini/	‘what, which (0/ti- class)’

Finally, /r/ is found only in loans; e.g. /marabenta/ (type of Ronga music).

Maddieson notes that ‘the total number of consonants in an inventory varies between 6 and 95 with a mean of 22.8.’ The ratio of vowels to consonants in an inventory ‘varies between 0.065 and 1.308 with a mean of 0.402.’ As might be suspected, Ronga has a larger than average consonant inventory, and a relatively small ratio of vowels to consonants compared to the UPSID languages.

(13) Ronga vowel and consonant statistics

Consonants	48	(including rare and loan-restricted consonants)
Vowels	5	
Vowels/Consonants	.104	

Note also that the total number of consonants in (13) does not include the labialized consonants.

2.3 Prosodic phenomena

In addition to pitch effects caused by breathy consonants, Ronga has what sounds like penultimate stress, the phonetic correlates of which have not been determined. However, we note unpredictable accent in certain verbs:

(14) Stress in verbs

expected	[aúdi]	‘you’re not eating’
unexpected	[áuda]	‘you used to eat’

3 Labialized consonants in Ronga

Baumbach 1970 notes that labialization in Ronga can occur with stops, fricatives and nasals. Doke refers to [w] as the ‘velar glide’, and notes that it can occur with ‘a very wide range of consonantal combinations.’ Baumbach does not list affricates among the sounds that can occur with labialization. However, he does devote a section to sounds he transcribes [pɕ], [pɕʰ] and [bz] and mentions that “the articulation of the two consonants...occurs simultaneously” (p. 47). The task of this section is to provide a coherent account of labialization in which the role of these sounds (which we will suggest have a slightly different place of articulation) receives clarification.

3.1 Labial vowel devocalization

In Ronga, some labialized consonants are clearly the product of labial vowel devocalization that occurs in certain morphologically complex vowel sequences. When

pre-vocalic, stem-final vowels /u o/ labialize a preceding consonant and lose their syllabicity. This can be seen with a variety of vowel-initial suffixes.

First, we establish the general form of the diminutive suffix and treatment of vowel sequences. As can be seen from (15), the diminutive suffix is invariably -ana (and requires the $\text{ʃi-/s}^w\text{i-}$ noun class prefixes). Root-final vowels [i e a] are deleted before the vowel initial suffix, with the exception of root-final [i] which is preceded by [j] (but not by any other palatal consonants):

(15) Diminutive formation

<i>root-final</i>	<i>noun</i>	<i>diminutive</i>	
C	bar	ʃi-bar-ana	‘bar’
a	-maka	ʃi-mak-ana	‘problem’
	ʃi-kofa	ʃi-kof-ana	‘old person’
	-luva	ʃi-luv-ana	‘glove’
	-moja	ʃi-moj-ana	‘wind’
e	li-nʃije	ʃi-nʃij-ana	‘eyebrow’
	-lembe	ʃi-lemb-ana	‘year’
	ʃi-k ^h ele	ʃi-k ^h el-ana	‘hole’
ji	t ^h aji	ʃi-t ^h aji-ana	‘tie’
	navaji	ʃi-navaji-ana	‘blade’
i	bantʃi	ʃi-bantʃ-ana	‘jacket’
	nyofɪ	ʃi-nyof-ana	‘bee’
	ɸuɲi	ʃi-ɸuɲ-ana	‘wood’
	ɲimp ^h i	ʃi-ɲimp ^h -ana	‘war’
	mbivi	ʃi-mbiv-ana	‘wave’
	nguluvi	ʃi-nguluv-ana	‘pig’
	ntombi	ʃi-ntomb-ana	‘daughter’
	mbuti	ʃi-mbut-ana	‘sheep’
	bandi	ʃi-band-ana	‘belt’
	zɪbz ^w i	ʃi-zɪbz ^w -ana	‘stone’
	hosi	ʃi-hos-ana	‘chief, king’
	ʃi-hazɪ	ʃi-hazɪ-ana	‘animal’
	ɲaki	ʃi-ɲak-ana	‘mother’

The forms in (16) illustrate devocalization before the diminutive suffix -[ana].

(16) Diminutive formation with root-final [u o]

<i>noun</i>	<i>diminutive</i>	
[wu-siku]	[ʃi-sik ^w -ana]	‘night’
[ntuzu]	[ʃi-ntuz ^w -ana]	‘women’s head scarf’
[kantʃu]	[ʃi-kantʃ ^w -ana]	‘dress’
[mbilu]	[ʃi-mbil ^w -ana]	‘heart’
[li-tifu]	[ʃi-tifi ^w -ana]	‘finger’
[muɲu]	[s ^w i-muɲ ^w -ana]	‘salt’
[meleku]	[s ^w i-melek ^w -ana]	‘milk’
[voko]	[ʃi-vok ^w -ana] ²	‘hand’
[nɬoko]	[ʃi-nɬok ^w -ana]	‘head’
[mɯnu]	[ʃi-mɯn ^w -ana]	‘person’
[yanu]	[s ^w i-yan ^w -ana]	‘persons’

Devocalization likewise occurs before the locative ‘in, on’ suffix, which has two alternants. The alternant –[ini] is used after root final vowels which are high (even if phonetically deleted or devocalized); –[eni] is used elsewhere.

(17) Locatives –[eni] ~ –[ini]

<i>noun</i>	<i>locative</i>	
[jindlu]	[jindl ^w -ini]	‘house’
[ma-zaku]	[ma-zak ^w -eni]	‘buttocks’
[mintu]	[mint ^w -ini]	‘roots’
[voko]	[vok ^w -eni]	‘hand’
[lisu]	[lis ^w -ini]	‘face’
[mati]	[mat-ini]	‘water’

Labialized retroflex affricates which result from /u o/ devocalization can be pronounced without retroflexion, like their non-labialized counterparts:³

(18) Labialized retroflex affricates (morphologically complex)

	labialized	non-labialized
/tʃ/	[amintʃ ^w ini] ~ [amints ^w ini] ‘in the	[mintʃu] ~ [mintsu] ‘root’

²Note that diminutives of /o..o/ nouns behave just like stems ending in /..o/ or /..u/ nouns, contrary to Baumbach’s statement [drovo ‘skin’, xidrovana ‘small skin’, according to Baumbach].

³Occasionally MD has reported a preference for [dz^w] over [dz^w] if the sequence is morphologically complex.

root'	
/dz/	[ankondz ^w eni] ~ [ankondz ^w eni] 'on the foot' [mpundz ^w ini] ~ [mpundz ^w ini] 'in the morning'
	[ankondz ^o] ~ [ankondz ^o] 'foot'

3.2 Non-alternating labialized consonants

In addition to these morphologically complex labialized consonants, non-alternating [C^w] is also attested verb stem initially in monosyllables. Such consonants might also be considered the product of devocalization, since other Ronga verb roots are clearly consonant final with an obligatory vowel initial suffix:

(19) Verbal root + -a

		<i>analysis</i>
-[l ^w a]	'(to) fight'	/lu-a/
-[t ^w a]	'(to) hear'	/tu-a/
-[n ^w a]	'(to) drink'	/nu-a/

Other labialized consonants have no plausible synchronic source, but are found entirely within one morpheme:

(20) Morpheme-internal labialized consonants

[s ^w]-	sw- class prefix
[ng ^w epa]	'crocodile'
[ng ^w endza]	'bachelor'
[nk ^w ak ^w a]	'Monkey Orange tree'
[n ^w ala]	'fingernail'
[mu-sot ^w a]	'soldier'
[ŋ ^w ala]	'louse'
[s ^w os ^w i]	'now'
-[k ^{hw} eva]	'(to) drink a hot beverage'
-[ʃ ^w ela]	'(to) be late'
-[t ^w ela]	'(to) have been late'
-[s ^w eka]	'(to) cook'
-[k ^{hw} aja]	'(to) scrape'
-[n ^w aja]	'(to) scratch'
-[k ^w ata]	'(to) be mad'

Morpheme-internal, non-alternating labialized retroflex affricates and fricatives are also found. As with other retroflexes, both alveolar and retroflex pronunciations sound equally acceptable to MD:

(21) Labialized retroflex affricates (morpheme-internal)

[tʂʷ]~[tsʷ]	[ntsʷamba] ~ [ntʂʷamba]	‘milk’
[dzʂʷ]~[dzʷ]	[andzʷalu] ~ [andʂʷalu]	‘burden’
[ʂʷ]~[zʷ]	[akuzʷala] ~ [akuzʂʷala]	‘to carry on the head’

Finally, morpheme-internal [bzʷ psʷ pʰsʷ] are also found:

(22) [bzʷ psʷ pʰsʷ]

-[bzʷeka]	‘(to) lean, bend’
-[bzʷekela]	‘(to) slide down’
-[bzʷala]	‘(to) plant; alcoholic beverage’
-[mbzʷana]	‘dog’
-[psʷonpsʷa]	‘(to) suck’
-[psʷala]	‘(to) give birth’
[mu-pʰsʷana]	‘nephew’
-[pʰsʷa]	‘(to) burn’

As mentioned above, Baumbach describes the fricative component of these sounds as retroflex. However, this does not seem to be appropriate for MD. Auditorily, the fricative component sounds more like [s] than either [ʂ] or [ʃ].⁴ An acoustic investigation must await a future date.

3.3 Summary: phonetic labialized consonants

The attested phonetic labialized consonants, from both morphologically complex

⁴Baumbach seems to suggest that there is a contrast between two types of labialized sibilant fricative. One type is transcribed [ʂ] or [ʂʷ], but presented with the labials and described as ‘voiceless bilabio-alveolar “whistling” fricative’. Another type is transcribed [sʷ] and described as ‘voiceless labialized alveolar fricative’, the latter apparently occurring only ‘on morpheme boundaries namely when the locative or diminutive is formed from nouns ending on –so/-su’ (p. 46). However, we fail to detect a phonetic difference between [sʷ] which arises from devocalization of a high vowel and [sʷ] which has no such apparent source; both are transcribed [sʷ] here.

and simplex sources, are summarized in (23).

(23) Labialized consonants in Ronga

	labial	dental	retroflex	palatal	velar	laryngeal
stops		t ^w			k ^w k ^{wh} g ^w g̃ ^w	
affricates						
central	bz ^w ps ^w p ^h s ^w		dz _ɿ ^w tʂ ^w	tʃ ^w		
lateral		dl ^{w5}				
fricatives						
central		s ^w	z ^w	ʃ ^w		ħ ^w
lateral		ɬ ^w l ^w				
nasals		n ^w ŋ _ɿ ^w		ɲ ^w	ŋ ^w	
glides						

As the transcription suggests, we regard labialized consonants in Ronga as single consonants with secondary articulation ([C^w]) rather than bisegmental clusters ([Cw]). If [C^w] were a cluster, we might expect to find other consonants in C₂ position besides /w/, but [Cj], for example, does not occur, despite Doke's statement (p. 182) that [ty dy t^hy py by] occur in Ronga. Ronga syllable structure is relatively uncomplicated: syllables can be characterized as (C)V(C), where coda consonants are restricted to nasals (except in a few loans). Onset or coda clusters are not permitted. [Cr] clusters in loans are pronounced as clusters or not depending on the speaker's foreign language competence. For example, MD, who also speaks Portuguese, French and English, pronounces 'France' [ʃi-fransa] but believes that his mother, who speaks Ronga and Portuguese but is dominant in Ronga, says [ʃi-faransa]. Syllable structure considerations thus lead us not to analyze [bz^w] [ps^w] etc. as clusters. If these were clusters, then [b p] might be expected to occur as C₁ in other clusters, and this is not the case.

If secondary articulations can occur freely with primary articulations, as does palatalization in Irish, for example, then we might expect every consonant in (5) to have a labialized counterpart. That this is not (yet) the case is not particularly troubling; that is,

we consider the absence of certain labialized consonants (e.g. $-[d^w]$) to be purely accidental. On the other hand, there are certain gaps in (23) which appear to be systematic, such as the absence of labialized glides, labialized $[r]$, and apart from $[bz^w]$ etc., labialized labials. Herbert (p. 154) also notes a “general incompatibility of labial consonants and w ” in S. Bantu, which we restate in):

(24) $*[Labial]_{V-Place} [labial]_{V-Place}$

Since sequences like $[bu]$, $[mu]$ are common, the prohibition against labial sequences must be a prohibition against adjacent vocalic labials.

Not only are there systematic and accidental gaps in (23), there are unexpectedly filled cells. Compare (5) and (23), Ronga appears to have some consonants which only occur labialized: $[\eta^w]$,⁶ $[\text{g}^w]$, and of course the puzzling $[bz^w]$ $[ps^w]$. However, the absence of $[\text{g}]$ is probably accidental, since breathy voiced consonants are generally rare. As for $[\eta^w]$, many instances of this sequence are clearly the result of round vowel devocalization, a common enough phenomenon in Bantu to have been mentioned by Meinhof 1932. Baumbach also notes that “when a noun ends on $-mo/-mu$, the vowel consonantalizes and the nasal velarizes to n' $[\eta]$ ”. In MD’s Ronga, we find strict velarization of the labial nasal accompanying labial vowel devocalization:

(25) Prevocalic $/mu/$, $/mo/$

<i>noun</i>	<i>diminutive</i>	
mu-g tomo	$\text{fi-g}^w\text{to}\eta^w\text{-ana}$	‘calabash’
mbomu	$\text{fi-mbo}\eta^w\text{-ana}$	‘lemon tree’
li-dzimu	$\text{fi-dzi}\eta^w\text{-ana}$	‘language, tongue’
li-simu	$\text{fi-si}\eta^w\text{-ana}$	‘song’
η amu	$\text{fi-}\eta\text{a}\eta^w\text{-ana}$	‘back of neck’
fi-tsamu	$\text{fi-tsa}\eta^w\text{-ana}$	‘chair’
nomo	$\text{fi-no}\eta^w\text{-ana}$	‘mouth’

⁵ $[dl^w]$ is attested only when prenasalized.

⁶Baumbach provides some exx. of non-labialized $[\eta]$. MD never pronounces these with $[\eta]$, which sounds “Zulu” to him.

Note that one noun which ends in /mu/ avoids creation of a labialized consonant altogether, through a preference for prefixation:

(26)

ṇamu	‘neck, back/nape of’
ka-ṇamu	‘on the neck’

Creation of [ŋ] in this context thus makes perfect phonological sense: it is a response to (24).

Note that there are also a small number of non-alternating [ŋ^w] in our data.

(27) Non-alternating [ŋ^w]

mu-kon ^w ana	‘son/daughter-in-law’
-ṇuŋ ^w a	‘(to) smell, stink’
-nonon ^w a	‘(to) be difficult’

Is the hypothesis in (1) challenged by the existence of [ŋ^w] and absence of [ŋ]? If (1) regulates phonetic representations, then yes, the existence of [ŋ^w] suggests that (1) is not entirely correct.

3.4 [bz^w], [ps^w] and /bu-V/ (etc.)

Another challenge to (1) is presented by the problematic sequences [bz^w] etc. Baumbach 1970 notes that some of these sounds have developed from labialized labials:

“When a noun ends on –bu, the u consonantalizes to w and the resulting consonant combination *bw then becomes br [bzw]:

nambu	‘river’	xinambrana ⁷	‘small river’
rumbu	‘intestine’	xirumbrana	‘small intestine’
likambu	‘branch’	xikambrana	‘small branch’

⁷Baumbach transcribes [bzw]
.

...When a noun ends on -ve/-vu/-vo, a morphonological process of *plosifricativization* takes place since the voiced bilabial fricative *v* changes into a voiced bilabial explosive as well:

mpfuvu	‘hippo’	ximpfubrana	‘small hippo’
xihlovo	‘well’	xihlobrana	‘small well’
nguluve	‘pig’	xingulubrana	‘small pig’

When *vu-* is prefixed to a vowel noun stem, the *u* consonantalizes and then the consonant combination **vw* develops into a voiced bilabial explosive followed by a voiced retroflexive fricative, i.e. *br* [bz]: **vuala* > **vwala* > *brala* ‘beer’; **vuanyi* > **vwanyi* > *branyi* ‘grass’ ”

In our data we do not find consistent creation of [bz^w] etc. when labial oral stops or fricatives precede /o u/. In (28), the best form(s) are underlined, impossible forms are starred, and acceptable but less preferred forms are neither starred nor underlined. Although a bigger sample of nouns ending in labial consonant+labial vowel would undoubtedly clarify the picture, some preliminary hypotheses are possible. With nouns containing two labial vowels, or [m]+labial sequence, and in which the final consonant is a stop, deletion is the preferred strategy (e.g. *ʃi-gub-ana*). Otherwise, devocalization occurs (e.g. *ʃi-tarap^w-ana*). An exception to the preference for deletion is found in the diminutive of ‘river’, *ʃi-nambz^w-ana*. This lexical item might be a high frequency noun with a specially marked diminutive form. With stem final affricate or fricative + labial vowel nouns, deletion of the labial vowel is always preferred (e.g. *ʃi-nɬov-ana*), but sometimes a ‘plosifricativized’ consonant is also possible (*ʃi-nɬobz^w-ana*). Devocalization is not an option with such consonants:

(28) Labial consonants + labial vowel + V

<i>C</i>	<i>noun</i>	<i>diminutive</i>			
		<i>deletion</i>	<i>devocalization</i>	<i>plosifricativization</i>	
b	ʃi-gubu	ʃi-gub-ana	*ʃi-gub ^w -ana	ʃi-gubz ^w -ana	‘drums’
	nambu	*ʃi-namb-ana	*ʃi-namb ^w -ana	ʃi-nambz ^w -ana	‘river’
	li-vambu	ʃi-vamb-ana	*ʃi-vamb ^w -ana	*ʃi-vambz ^w -ana	‘rib’
	ʃi-mombo	ʃi-momb-ana	*ʃi-momb ^w -ana	*ʃi-mombz ^w -ana	‘forehead’
	li-kambu	ʃi-kamb-ana	*ʃi-kamb ^w -ana	*ʃi-kambz ^w -ana	‘trunk’
	zumbu	ʃi-zumb-ana	*ʃi-zumb ^w -ana	*ʃi-zumbz ^w -ana	‘guts’
	ʃi-fambu	ʃi-famb-ana	*ʃi-famb ^w -ana	*ʃi-fambz ^w -ana	‘shoe’
p	ʃi-tarapu	*ʃi-tarap-ana	ʃi-tarap ^w -ana	*ʃi-taraps ^w -ana	‘rag’
	nsipu	*ʃi-nsip-ana	ʃi-nsip ^w -ana	*ʃi-nsips ^w -ana	‘soup’
pf	ʃi-lepfu	ʃi-lepf-ana	*ʃi-lepf ^w -ana	*ʃi-leps ^w -ana	‘chin’
f	k ^h ofu	ʃi-k ^h of-ana	*ʃi-k ^h of ^w -ana	*ʃi-k ^h ops ^w -ana	‘cabbage’
v	nɬovo	ʃi-nɬov-ana	*ʃi-nɬov ^w -ana	ʃi-nɬobz ^w -ana	‘piece of coral’
	ʃi-ɬovo	ʃi-ɬov-ana	*ʃi-ɬov ^w -ana	ʃi-ɬobz ^w -ana	‘well’
	fiavu	ʃi-fiav-ana	*ʃi-fiav ^w -ana	*ʃi-fiabz ^w -ana	‘monkey’
	mpfuvu	ʃi-mpfuv-ana	*ʃi-mpfuv ^w -ana	ʃi-mpfubz ^w -ana	‘hippo’
	ndzovo	ʃi-ndzov-ana	*ʃi-ndzov ^w -ana	*ʃi-ndzobz ^w -ana	‘fishhook’

Ronga diminutive formation is thus consistent with Herbert 1977’s hypothesis that diminutive formation is a morphophonological, not completely phonological, phenomenon in the Southern Bantu languages. Moreover, there are differences between speakers.⁸

Returning to (1), according to this hypothesis, the existence of [ps^w], [bz^w] implies the existence of [ps], [bz]. However, this is an incorrect prediction as the latter do not occur. However, note that [ts^w] [dz^w], contrasting with [tɕ^w dʒ^w], are not attested either. Only [ts^w] [dz^w] in free variation with [tɕ^w] and [dʒ^w] are attested. We thus

⁸MD solicited diminutive forms from a fellow native speaker and found a number of differences. MD’s friend reported the following diminutive forms: ʃi-gub^wana, ʃi-nsip^wana, ʃi-nambz^wana~ʃi-namb^wana, ʃi-mpuvana, ʃi-nguluvana, ʃi-momb^wana, ʃi-kamb^wana, ʃi-tarap^wana, ʃi-zumb^wana, ʃi-hawana ‘monkey’ (dim.), ʃi-ɬovana. Comparing this list with those in (28), we can see differences in a number of forms, particularly in the acceptability of labial consonant + [w]. MD strongly suspects that generational differences may be a factor, with older speakers having more instances of [bz^w] and younger speakers allowing [b^w].

suggest that synchronically, non-alternating [bz^w] etc. are the labialized counterparts of /dz/.

(29) [bz^w ps^w] as /dz^w ts^w/

/dz ^w / [bz ^w]	[bz ^w ala]	‘alcoholic beverage’
/ts ^w / [ps ^w]	[ps ^w ala]	‘(to) give birth’

I.e., synchronically the primary stop component of /dz^w/ is labial. Doke (p. 182) notes that “the ‘whistling’ fricatives, ɕ and ʑ , are typical of Tsonga, as well as their affricative counterparts tɕ ’ and perhaps dʑ , though Ts. seems to favour a labial rather than an alveolar commencement, using pɕ ’ and bz respectively.”

We suggest that the place of articulation of the stops in [bz^w] and [ps^w] (our /dz^w/ and /ts^w/) is phonetically labial perhaps because of the way in which labialization is phonetically implemented. As noted above, Baumbach, Doke 1954 and others use the descriptive term “whistling fricative”, which suggests simultaneity of pronunciation of fricative and labialization. In accord with Baumbach, we find that with a central fricative like [s^w], labialization is simultaneous or more nearly so with preceding fricative. If labialization is simultaneously realized with a preceding central fricative, this could pave the way for transfer of labialization from the labialized fricative to the immediately preceding consonant. A future instrumental investigation of the realization of labialization might compare the duration of labialization of post-vocalic and post-consonantal [w]. We would predict that [w] following stops would have a longer duration than following fricatives.

The existence of [dz^w] and [ts^w] as variant pronunciations of the retroflex affricates suggests a second possible explanation for the labialization of the stop portion of /dz^w/ and /ts^w/.

Stop labialization might enhance the distinctiveness of the contrast between /dz^w/ and /dz_l^w/, /ts^w/ and /tɕ_l^w/, since the latter can be pronounced without retroflexion.

4 Conclusion

Labialization is a central feature of the complex consonantal phonology of Ronga. We have examined the hypothesis that secondary articulations like labialization are constrained to occur with consonants which are otherwise attested without the secondary articulation. We have seen that Ronga both refutes and supports this hypothesis. On the one hand, [ɲ^w] but not [ɲ], exists in Ronga. On the other hand, we have suggested that the problematic sounds [bz^w], [ps^w] can be viewed as labialized versions of independently attested affricates /dz^w ts^w/. The advantage of this analysis is that it allows us to maintain a relatively uncomplicated statement about the syllable structure of Ronga: no onset clusters allowed.

This analysis of Ronga is consistent with the idea of violable universals, a centerpiece of Optimality Theory. Proposed universals do not have to be found in every language, nor even need to be surface true in languages that have them, in order to be interesting and useful to phonological theory.

5 References

- Baumbach, E.J.M. 1970. The phonetics and diachronical phonology of Xironga. *Taalfasette* 11:42-52.
- Baumbach, E.J.M. 1987. *Analytical Tsonga Grammar, Studia Originalia*, 3. Pretoria: University of South Africa.
- Da Conceição, Manuel. this volume. A brief look at the sociolinguistics of Ronga and other languages spoken in Mozambique.
- Doke, C.M. 1954. *The Southern Bantu Languages*. London: Oxford University Press.
- Hargus, Sharon. 1988. *The Lexical Phonology of Sekani*. New York: Garland.
- Hargus, Sharon, Manuel Da Conceição, and Susan McBurney. this volume. Noun classes and agreement in Ronga.
- Herbert, Robert K. 1977. Morphophonological palatalization in Southern Bantu: A reply to segmental fusion. *Studies in African Linguistics* 8:143-171.

- Maddieson, Ian. 1984. *Patterns of Sounds*, *Cambridge Studies in Speech Science and Communication*,. Cambridge: Cambridge University Press.
- Meinhof, Carl. 1932. *Introduction to the Phonology of the Bantu Languages*. Berlin: Dietrich Reimer.
- Ní Chiosáin, Máire. 1994. Irish palatalization and the representation of place features. *Phonology* 11:89-106.
- Rosenthal, Sam. 1997. The distribution of prevocalic vowels. *Natural Language and Linguistic Theory* 15:139-180.
- Stahlke, Herbert F.W. 1976. Segment sequences and segmental fusion. *Studies in African Linguistics* 7:41-63.
- Traill, Anthony and Michel Jackson. 1988. Speaker variation and phonation type in Tsonga nasals. *Journal of Phonetics* 16:385-400.

Noun classes and agreement in Ronga

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1 Introduction

The noun class and agreement systems of Bantu languages have been described by Doke 1954:14 as the ‘all-important principle of Bantu grammatical structure’. It is widely agreed that an understanding of these systems is essential for success in investigating virtually all other morphological and syntactic structures, due to widespread nominal agreement of other lexical categories.

Descriptions of the noun class system of Ronga have appeared in Junod 1896, Farinha 1946, Quintão 1951 and Baumbach 1970. Moreover, the description of Tsonga in Baumbach 1987 might be expected to form a close parallel. However, all of these works mix synchronic and historical analysis to a certain extent. For example, Baumbach posits a class 9 prefix *yiN-* (for Ronga) and *ni, ny-* (for Tsonga). However, in the Ronga examples provided by Baumbach, this prefix is never separable from a noun stem with which it occurs, suggesting that it has been reanalyzed as part of the stem. Baumbach admits that the Tsonga cognate is an admittedly “illusionary prefix”.

In this paper we describe the morphological and phonological properties of modern Ronga noun classification and agreement in purely synchronic terms, with the goal of providing a handy reference on this topic for future students of Ronga (including ourselves) and/or for historical/comparative studies. Along the way, we point out that the traditional Bleek/Meinhof noun classification system is really a system for the classification of nominal prefixes, and we adopt another system (‘mu/va class’ etc.) for referring to noun classes that is often used in Bantu linguistics. We also discuss variation in the shape of noun class prefixes, multiple prefixation, and predictability/redundancy in the noun class and agreement system.

Because one source on Ronga, Junod 1896, is based on data that was collected at least 100 years ago, we also have an opportunity to see whether and how the noun class

and agreement systems have changed over time. We will see that two of the noun class prefixes have been lost, and that some mergers of agreement morphemes have taken place.

2 Noun class prefixes

Analyses of noun class prefixes in Bantu languages generally use a numbering system devised by Bleek 1862 and expanded by Meinhof 1932. Reconstructions of the noun class prefixes may vary slightly in later articles (e.g. Meeussen 1967). Most analysts subdivide classes 1 and 2 into two subclasses, 1 and 1a, 2 and 2a, for reasons which will become apparent in section 5.

Doke 1954, following Meinhof's reconstructions, and using data from Ronga supplied by Junod 1896, summarizes the development of the Proto-Bantu noun classes in Tsonga and other Southern Bantu languages. In (1) we have incorporated Doke's Proto-Bantu and Tsonga group reconstructions, and have added Ronga data from several sources. (Singular classes which are no longer phonologically marked with a prefix are indicated in (1) with 0-.) The following abbreviations are used in (1): Baum = Baumbach 1970, HDM = this article. As can be seen from (1), there are some differences between our Ronga and that of previous analysts. Some differences between our data and Junod's may be due to the fact Junod's Ronga data was collected over 100 years ago. However, some differences may also be due to the mixing of historical and synchronic analysis by previous analysts.

(1) Noun class prefixes of Proto-Bantu, with Tsonga group and Ronga reflexes							
	P-B	Tsonga group	Junod	Quintão	Farinha	Baum	HDM
1.	mu	mu	mu	mu	mu	mu	mu
1a.							0, n
2.	βa	ǃa	ba	ba	ba	va, βa	va
2a.			ba				va
3.	mu	mu	mu	mu	mu	mu	mu
4.	mi	mi	mi(n)	mi	mi	mi	min
5.	li	[ri]	ɖi	dji	dya	ri[zɛ]	0
6.	ma	ma	ma	ma	ma	ma	ma
7.	ki	ši	ši	xi	shi	xi	xi
8.	βi	ši	ši	bsi	psi	xwi	swi
9.	ni	yi[N]	yi(n)	yi	yi	yiN	0
10.	l̥ni	ti[N]	ti(n)	ti	ti	tiyiN, ti, tiN	ti (~ 9); ti(n) (~ 11)
11.	lu	ri	li	li	li	li	li
12.	tu	--		ti	ti	tiN	
13.	ka	--					
14.	βu	ǃu	bu		bu	vu	wu
15.	ku	ku	ku	ku	ku	ku	ku
16.	pa	ha					
17.	ku	ku					ku
18.	mu	mu					
19.	p̥i	--					
20.	yu	--					
21.	yi	--					

We differ from all previous analysts of Ronga in analyzing prefixes 5 and 9 as phonologically null in Ronga: these prefixes no longer exist in Ronga. Note that Baumbach agrees that “most of the nouns in class 5 do not show the class prefix” (p. 12). Note that **dri-**, the agreement prefix which corresponds to the noun class prefix for prefix 5, is suspiciously close to the class prefix 5 which is posited by many previous analysts. Also, in our analysis, prefix 10 is **ti-** when it is the plural prefix corresponding to prefix 9, but **ti(n)-** when it is the plural corresponding to prefix 11. Junod’s and Farinha’s singular **bu-** prefix is paired with a **ma-** plural prefix. These correspond to our **wu/mi** class

prefixes.¹ There are also some minor differences in the pronunciation of prefixes 2, 4, 8 and 14 that could well be due to dialect variation, historical change, or analyst knowledge of historical allophony.

Meeussen suggests that the following singular/plural noun class prefix correspondences can be reconstructed for Proto-Bantu:

(2) Singular/plural noun class correspondences in Proto-Bantu

<i>sg</i>		<i>pl</i>		<i>note</i>
1	mu-	2	ba- (=Meinhof's βa-)	
3	mu-	4	mi-	
5	ɿ- (= Meinhof's li-)	6	ma-	
7	ki-	8	bɿ- (= Meinhof's βi-)	
9	ni-	10	n- (= Meinhof's lɿni-)	
11	du- (= Meinhof's lu-)	10	n- (= Meinhof's lɿni-)	
12	tu-	13	ka-	
14	bu- (= Meinhof's βu-)	6	ma-	
15	ku-	6	ma-	
19	pɿ- (= Meinhof's pɿ-)	13	ka-	"probably also"

(3) shows attested singular-plural prefix correspondences for the noun stems in our Ronga corpus, along with statistics on the relative frequency of each pattern. (Note that our corpus was collected in a random way, not systematically eliciting nouns of a particular historical class.) As can be seen from (3), some singular-plural patterns are more widespread than others:

¹Junod gives **byala** 'beer' and **-lombe** 'sugar' as examples of this class. In our data, only **-lombi** 'honey' belongs to the wu/mi- class. **bzwala** 'alcoholic beverage' belongs to the 0/ma- class.

(3) Frequency of noun classes in Ronga

<i>sg</i>		<i>pl</i>		<i># stems</i>	<i>example</i>	<i>our class</i>
1.	mu-	2.	va-	18	phswana 'nephew'	mu/va
1a.	0-	2a.	va-	8	malumi 'uncle'	
	n-		va-	2	tukulu 'grandchild'	
3.	mu-	4.	mi-	3	zimba 'body'	mu/min
	mu-		min-	1	sumbuluku 'Monday'	
	0-		mi-	47	nkwama 'purse, bag'	
5.	0-	6.	ma-	72	doropa 'village'	0/ma
3.	mu-	6.	ma-	1	sotxwa 'soldier'	mu/ma
7.	xi-	8.	swi-	29	hazri 'animal'	xi/swi
9.	0-	10.	ti-	44	hosi 'chief, king'	0/ti
11.	li-	10.	ti-	3	vambu 'rib'	li/tin
	li-		tin-	8	phapha 'wing'	
14.	wu-	4.	mi-	4 ²	gamu 'end'	wu/mi
17.	ku-			2	suhi 'near'	ku
15.	ku-			191	kina 'dance'	

In (3), 242 non-verbal nouns are listed for Ronga, according to class. This figure does not include an additional 21 nouns in our database which are proper nouns or temporal expressions (possibly not nouns), which we have not attempted to fit into this system. Some classes, such as our mu/ma class, are very small. The noun which exhibits this pattern is a loan, but other loans belong to the 0/ma class; e.g. **sokisi** 'sock', **viola** 'guitar', **buku** 'book', **jornal** 'newspaper'. Our **ku-** class consists of two locative nouns, **ku-suhi** 'near' and **ku-le** 'far', as well as all infinitives or deverbal nouns. However, infinitives of active verbs do not have exactly the same distribution as other nouns in Ronga, as will be discussed in section 5.³

How many noun classes are there in Ronga? If 'class' is defined by singular or plural noun prefix together with an agreement pattern (below), as in the Bleek/Meinhof system, then there are 13 classes: mu/0/n-, va-, mu-, min-, ma-, xi-, swi-, 0-, li-, ti-, tin-, wu-, ku-. However, if 'class' is defined by the choice of singular and plural prefixes, as well as agreement morphology, as in some treatments of Bantu nominal morphology (e.g. Purvis 1907, Farinha 1946, Doke 1982), then there are 9 classes, as reflected in our

²Our wu/mi- class also includes two nouns, **-wu-lombe** 'sugar' and **wu-xa** 'dawn', which only occur in the singular, wu- form.

³Generally a verb must be nominalized with **-ela**, in which case it changes to the 0/ma class, in order to occur in all the contexts where other nouns occur. See section 5.

labeling of the rightmost column of (3).⁴ Farinha also refers to the noun classes as *mu-ba*, etc., but recognizes 8 classes (lacking our *mu/ma* class). Thus, in our lexical database for Ronga, which was organized by lexical category, we entered a singular and a plural class prefix for each noun.

We suggest that the Bleek/Meinhof scheme is a system for classifying nominal prefixes, not nouns. It is a useful system for describing the distribution of particular prefixes. For example, **mu-** of the *mu/va* class and **mu-** of the *mu/ma* class are identical in terms of agreement properties, but not in terms of correspondence to a plural prefix. Ronga is more economically described when both **mu-** are recognized as instances of the same prefix. Also, most (but apparently not all) nouns can be prefixed with **wu-** to create an abstract noun; e.g. **mu-pfana** ‘boy’, **va-pfana** ‘boys’, **wu-pfana** ‘boyiness, acting like a boy’. Thus, it would be uneconomical to list *pfana* as a **mu/va/wu-** noun, since most nouns can undergo a **wu-** derivation. One could similarly argue that the plural **va-** is predictable from **mu-**. We return to the issue of predictability in the noun class system in section 7.

3 Noun class prefix variation

In this section we discuss variation in the form of singular and plural noun class prefixes found in three of our nine nominal classes.

3.1 *Mu/va subclasses*

Three subclasses of the *mu/va* class, including the traditional Bantu 1a, must be recognized, based on the form of the singular prefix: *mu/va*, *0/va* and *n/va*. The unity of this class is revealed by the fact that all trigger the same agreement pattern (section 5).

The largest and most productive of these subclasses is the *mu/va* subclass. This is the subclass into which all deverbal human agentive nouns fall, for example; cf. **ku-txhaya** ‘to play (music)’, **mu-txhayi** ‘musician’, **va-txhayi** ‘musicians’.

Exhaustive lists of members of the *0/va* and *n/va* subclasses in our database are provided in (4)-(5):

⁴This seems to be a typical number of classes for a Bantu language. Doke 1982 notes 8 classes for Zulu and Swahili, and 10 for Ganda. However, very small classes, such as our *mu-/ma-* class, do not seem to be

(4) 0/va subclass of mu/va nouns

<i>sg</i>	<i>pl</i>	
kokwana	va-kokwana	'grandfather'
makwezru	va-makwezru	'(my) sibling'
malumi	va-malumi	'uncle'
makwenu	va-makwenu	'brother'
zrazrana	va-zrazrana	'aunt'
wansati	va-sati	'wife'

Note that we have included 'wife' in the 0/va subclass, considering its irregular plural to be a matter of stem suppletion.

(5) n/va subclass of mu/va nouns

<i>sg</i>	<i>pl</i>	
n-tukulu	va-tukulu	'grandchild'
n-kata	va-kata	'spouse'

The commentary of Baumbach 1970 on nouns like those in (5) suggests that the **n-** form of the noun class prefix might be synchronically predictable. As background, first note that the **mu-** class prefix has a variant [n'w], which regularly appears prevocally (e.g. [n'w-ingi] 'daughter-in-law', [v-ingi] 'daughters-in-law'). For nouns such as those in (5), Baumbach suggests that 'regressive assimilation of the *m* of the class prefix takes place when it is juxtaposed to the initial consonant of the noun stem after the *u* of the class prefix has undergone elision' (p. 9):

(6) Baumbach's analysis of n-

*mukata	> nkata	(spouse)	vakata	(spouses)
*musati	> nsati	(wife)	vasati	(wives)

However, while **u-** is devocalized prevocally (Hargus and Da Conceição this volume), **u-** is not regularly elided before a consonant, as the nominalized verbs in (7) attest:

recognized as classes per se in Doke's summary.

(7) Derived nominals

<i>verb</i>	<i>agent noun</i>
ku-tha 'play (a game)'	mu-th-i 'one who plays (a game)'
ku-kina 'dance'	mu-kin-i 'dancer'
ku-suka 'leave, go away'	mu-suk-i 'one who leaves'
ku-lota 'sculpt, sharpen'	mu-lot-i 'sculptor'
ku-yaka 'build'	mu-yak-i 'builder'
ku-yendra 'visit'	mu-yendr-i 'visitor'
ku-yentxa 'do'	mu-yentx-i 'one who does'
ku-zruma 'send'	mu-zrum-i 'one who sends'

Although we recognize that [mu] is the most basic form of the singular of this class, other forms of the singular mu/va class prefix are not predictable from noun stem initial consonant:

(8) Variation in singular noun class prefix, mu/va class

<i>sg</i>	<i>pl</i>	
mu-kon'wana	va-kon'wana	'son- or daughter-in-law'
n-kata	va-kata	'spouse'
kokwana	va-kokwana	'grandfather'

Hence morphological subclasses of the mu/va class must be recognized.

3.2 *Mu/min subclasses*

Unlike the mu/va class, variation in the form of the mu/min class prefixes is predictable from phonological properties of the stem initial consonant. When the stem initial consonant is a nasal or [v], the singular noun class prefix is phonologically null:

(9) mu/min class: 0- in singular

<i>sg</i>	<i>pl</i>	
nhloti	mi-nhloti	'teardrop'
nkantxu	mi-nkantxu	'dress'
nwala	mi-nwala	'fingernail'
mintru	mi-mintru	'root'
nenge	mi-nenge	'foot, leg'
vangu	mi-vangu	'place'

When the stem initial consonant is other than [v] or a nasal, **mu-** is used in the singular:

(10) mu/min class: mu- in singular

<i>sg</i>	<i>pl</i>	
mu-!omo	mi-!omo	'calabash'
mu-!ivela	mi-!ivela	'Saturday'
mu-zimba	mi-zimba	'body'
mu-sumbuluku	min-sumbuluku	'Monday'

One can also see from (10) that the **min-** form of the plural is used only when the stem initial consonant is a voiceless fricative.⁵

The absence of **mu-** in the singular forms in (9) cannot be considered a phonological phenomenon, because **mu-** of the mu/va class obeys a different distributional restriction. As can be seen from (11), **mu-** of the mu/va class does occur before noun stem initial nasals:

(11) mu/va class: mu in singular

<i>sg</i>	<i>pl</i>	
mu-nandra	va-nandra	'slave'
mu-nganu	va-nganu	'friend'
mu-nu	va-nu	'person'

Hence the absence of **mu-** in the singular of **mu/min**, nasal initial nouns is a peculiarity of that class.

3.3 *Li/ti subclasses*

Variation in the form of the **ti-tin-** plural prefix follows rules similar to those seen for **mu-/0-** in 3.2. When a noun stem begins with [v] or a nasal, the plural form of the noun class prefix is [ti]-:

(12) li/tin class: ti- in plural

<i>sg</i>	<i>pl</i>	
li-vambu	ti-vambu	'rib'
li-mhondro	ti-mhondro	'horn'
li-nxiye	ti-nxiye	'eyebrow'

⁵The plural prefix, **mi-**, of our wu/mi class is apparently historically identical to the plural of the mu/min class. Currently there is no evidence for a final nasal consonant [min]- for the plural wu/mi class prefix. Hence we continue to refer to it as the wu/mi class.

Otherwise, the plural of this class prefix is tin-:

(13) li/tin class: tin- in plural

<i>sg</i>	<i>pl</i>	
li-xaka	tin-xaka	'family'
li-phapha	tin-phapha	'wing'
li-hohe	tin-hohe	'eyelash'
li-drimu	tin-drimu	'tongue'
li-simu	tin-simu	'song, music'
li-kambu	tin-kambu	'branch'
li-tihu	tin-tihu	'finger, toe'

3.4 Summary

The preceding variation in form of the noun class prefixes is summarized in (14)-

(16):

(14) Mu/va prefix variation

<i>sg</i>		<i>pl</i>	
n	lexically specified		
0	lexically specified		
mu	elsewhere	va	everywhere

(15) Mu/min prefix variation

<i>sg</i>		<i>pl</i>	
0	___nasal, v	min	___voiceless fricative
mu	elsewhere	mi	elsewhere

(16) Li/tin prefix variation

<i>sg</i>		<i>pl</i>	
li	everywhere	ti	___nasal, v
		tin	elsewhere

Variants of mu/min and li/tin are phonologically conditioned, whereas variants of mu/va must be lexically listed for particular stems of this class.

4 Nominal position class restrictions

At first glance, it appears that only one noun class prefix can appear on a noun. The diminutive class prefixes **xi-** (singular)/**swi-** (plural) regularly replace the noun class prefix, as in the paradigm in (17):

(17) Diminutive of a consonant-initial noun stem

mu-phswana	‘nephew’
va-phswana	‘nephews’
xi-phswan-ana	‘nephew’ (dim.)
swi-phswan-ana	‘nephews’ (dim.)

However, diminutivization of other nouns indicates that more than one class prefix can be present in a surface form, subject to phonological restrictions. When two prefixes occur on a noun stem, they must obey the position class restrictions given in (18):⁶

(18) Diminutive - noun class - stem

Evidence for (18) is provided by diminutives of certain mu/va nouns:

(19) Diminutive - noun class - stem examples

<i>type</i>	<i>sg</i>	<i>pl</i>	
<i>vowel-initial stem</i>	n’w-ingi xi-n’w-ing-ana	v-ingi swi-v-ing-ana	‘daughter-in-law’ dim.
<i>n- class prefix</i>	n-tukulu xi-n-tukulw-ana	va-tukulu swi-tukulw-ana	‘grandchild’ dim.
	wa-nsati xi-n-sat-ana	va-vasati swi-vasat-ana	‘wife’ dim.

We suggest that nouns must also obey the phonological restriction in (20): in Ronga a noun stem can only be preceded by a single syllable:

(20) $\sigma_{N \text{ stem}}$

⁶Baumbach also reports an augmentative. This does not exist in MD’s form of Ronga.

Thus, more than one prefix to a noun stem is possible, but only if both prefixes do not exceed one syllable, a possibility which arises only when a noun class prefix is segmental rather than syllabic.

5 Agreement prefixes

In this section, we illustrate the system of ‘concord’ or agreement with the noun classes of Ronga. Unlike the noun class prefixes to nouns, there are no phonologically null agreement prefixes.

In Ronga, the following lexical items and lexical categories exhibit agreement with nouns: **-ini** ‘which’, possessive pronouns (‘my’ etc.), possessive nouns (‘Manuel’s’ etc.), verbs, demonstratives, and the universal quantifier (‘all’, ‘the whole’). Agreement is generally in a left-right direction: the agreement-triggering noun is to the left of the category which agrees with the noun, except in the case of verbal objects and ‘which N’. Note that the following, which precede rather than follow nouns, do not agree with a noun: **akuna** ‘no’ and certain prepositions (e.g. **ni** ‘with’).

5.1 **-ini** ‘which’

We first illustrate agreement which holds between a noun and the **wh-** morpheme **-ini** ‘which’. Notice that **-ini** precedes the noun with which it agrees:

(21) Syntax of ‘which’

hi	vani	vana	lava	vabuyaka?	‘which children are coming?’
<i>COP</i>	<i>v-which</i>	<i>children</i>	<i>these</i>	<i>3p-come</i>	

Infinitives cannot occur in this context.⁷ However, we analyze **kwini** ‘which place, where’ as consisting of **ku-** of the locative class + **-ini** ‘which’.

For most noun classes, the agreement prefix added to **-ini** is not phonologically similar to the prefix on the noun with which it agrees. However, for a minority of noun classes, highlighted in (22), the noun class prefix and agreement prefix might be considered the same morpheme.

⁷Cf. **a-ma-kin-ela wa-ni**, ***a-ku-kina kw-ini** ‘which kind of dancing’.

(22) Agreement prefixes on –ini ‘which’

	<i>-ni ‘which’</i>	<i>noun prefix</i>	<i>noun stem</i>		<i>class</i>
<i>sg</i>	wini	mu-	phswana	‘nephew’	mu/va
<i>pl</i>	vani	va-	phswana		
<i>sg</i>	wini	0-	malumi	‘uncle’	
<i>pl</i>	vani	va-	malumi		
<i>sg</i>	wini	n-	tukulu	‘grandchild’	
<i>pl</i>	vani	va-	tukulu		
<i>sg</i>	wini	mu-	zimba	‘body’	mu/min
<i>pl</i>	yini	mi-	zimba		
<i>sg</i>	wini	mu-	hloti	‘teardrop’	
<i>pl</i>	yini	min-	hloti		
<i>sg</i>	wini	0-	nkwama	‘purse, bag’	
<i>pl</i>	yini	mi-	nkwama		
<i>sg</i>	drini	0-	doropa	‘village’	0/ma
<i>pl</i>	wani	ma-	doropa		
<i>sg</i>	wini	mu-	sotxwa	‘soldier’	mu/ma
<i>pl</i>	wani	ma-	sotxwa		
<i>sg</i>	xini	xi-	hazri	‘animal’	xi/swi
<i>pl</i>	swini	swi-	hazri		
<i>sg</i>	yini	0-	hosi	‘chief, king’	0/ti
<i>pl</i>	tini	ti-	hosi		
<i>sg</i>	drini	li-	vambu	‘rib’	li/tin
<i>pl</i>	tini	ti-	vambu		
<i>sg</i>	drini	li-	phapha	‘wing’	
<i>pl</i>	tini	tin-	phapha		
<i>sg</i>	drini	wu-	gamu	‘end’	wu/mi
<i>pl</i>	yini	mi-	gamu		
<i>sg</i>	kwini	ku-	--	--	ku

Baumbach does not comment on the shape of agreement in this context. However, the list in (22) is comparable to those provided by Junod, Quintão, and Farinha with the following differences: **ba-** for our **va-** (mu/va class); **lwi-** or **dri-** (Junod), **lwi-** (Quintão), **li-** (Farinha) for our **dri-** (sg. of 0/ti class); **dy-** (Farinha) for our **dri-** (sg. of 0/ma class); and **byi-** for our **dri-** (sg. of wu/mi class) (Junod, Quintão and Farinha). There are also some differences which we take to be purely transcriptional, such as Farinha’s **ps-** (cf. our **sw-**) for plural agreement with the xi/swi class.

Note that agreement with the mu/va, mu/min, and li/tin nouns does not vary regardless of the shape of the noun class prefixes. This is one of the main pieces of evidence for the unity of these classes, particularly the mu/va class, in which allomorphs

of the singular class prefix are not predictable from phonological context. Hereafter, only one representative of the *li/tin* and *mu/min* classes will be included in agreement tables.

5.2 *Post-nominal nouns*

Nominal or pronominal possessors agree with preceding nouns. By way of orientation to the system, the pronominal possessive stems are listed in (23):

(23) Pronominal possessive stems

<i>sg</i>		<i>pl</i>	
-anga	'my'	-ezru	'our'
-aku	'your (sg.)'	-enu	'your (pl.)'
-akwe/ake ⁸	'his/her'	-avu	'their'

Notice that the pronominal possessive stems are all vowel-initial. Agreement appears as a single consonant affixed to one of these pronominal stems. In (24), the agreement prefix is **dr-**.

(24) Syntax of pronominal possession

<i>sg</i>		<i>pl</i>	
adoropa dr anga	'my village'	adoropa dr ezru	'our village'
adoropa dr aku	'your (sg.) village'	adoropa dr enu	'your (pl.) village'
adoropa dr akwe/ dr ake	'his/her village'	adoropa dr avu	'their village'

Nominal possessors are preceded by what is traditionally called a 'connector', a vowel-initial morpheme **-a** (or **-a ka**), which takes the same set of agreement prefixes as the pronominal possessors. According to Quintão 1951, this **-a** is a genitive marker.⁹

(25) Syntax of nominal possession

adoropa dra (ka) Manuel	'Manuel's village'
adoropa dra mamana wanga	'my mother's village'

⁸MD prefers **-akwe** but notes that **-ake** is also possible.

⁹According to Doke 1982, 'the possessive concords wa-, etc. are not prepositions and cannot stand alone', but no reasons for this analysis are given.

Adjectives are like nominal possessors in that the adjective is also preceded by **-a**. An agreement prefix is added both to **-a** as well as to the adjectival stem (**-kulu** ‘big’ in (26)):

- (26) Syntax of [noun adjective]_{NP}
 [adoropa]_N **dra** [drikulu]_{Adj} ‘big village’

The locative **ku-suhi** ‘near’ can be followed by a possessor, as can infinitives of stative verbs such as **-xonga** ‘be beautiful’:

- (27) ku-suhi kw-anga ‘near me’
 a-ku-xonga kw-anga ‘my beautifulness’
 a-ku-xonga ka Manuel ‘Manuel’s beautifulness’

However, infinitives of active verbs like **-kina** ‘dance’ must become members of the 0/ma class of nouns in order to be possessed:

- (28) a-ma-kin-ela ya Manuel ‘Manuel’s dancing’

See Carmichael this volume for more information about noun phrase syntax.

As shown in (29), the agreement prefixes for a following nominal or pronominal possessor (including connecting or genitive **-a**) are identical to those prefixed to **-ini** ‘which’ for all nouns except those of the 0/ma class ‘village’ (and for the plural of the mu/ma class, ‘soldier’, which is always identical to the plural of the 0/ma class). For such nouns note that the possessor agreement prefix is **y-** rather than the expected **w-**:

(29) Agreement prefixes on possessors

	<i>noun prefix</i>	<i>noun stem</i>		<i>-a 'of'</i> <i>-a +adj</i> <i>-anga 'my'</i>	<i>class</i>
<i>sg</i>	mu-	phswana	'nephew'	w	mu/va
<i>pl</i>	va-	phswana		v	
<i>sg</i>	0-	malumi	'uncle'	w	
<i>pl</i>	va-	malumi		v	
<i>sg</i>	n-	tukulu	'grandchild'	w	
<i>pl</i>	va-	tukulu		v	
<i>sg</i>	mu-	zimba	'body'	w	mu/min
<i>pl</i>	mi-	zimba		y	
<i>sg</i>	0-	doropa	'village'	dr	0/ma
<i>pl</i>	ma-	doropa		y	
<i>sg</i>	mu-	sotxwa	'soldier'	w	mu/ma
<i>pl</i>	ma-	sotxwa		y	
<i>sg</i>	xi-	hazri	'animal'	x	xi/swi
<i>pl</i>	swi-	hazri		sw	
<i>sg</i>	0-	hosi	'chief, king'	y	0/ti
<i>pl</i>	ti-	hosi		t	
<i>sg</i>	li-	phapha	'wing'	dr	li/tin
<i>pl</i>	tin-	phapha		t	
<i>sg</i>	wu-	gamu	'end'	dr	wu/mi
<i>pl</i>	mi-	gamu		y	
<i>sg</i>	ku-	suhi	'near'	k	ku

There are a number of differences between (29) and agreement prefixes noted by preceding analysts. Junod, Quintão and Farinha list the agreement prefixes for the mu/va class as (sg.) **wa-** and (pl.) **ba-**, but Baumbach, like us, lists the latter prefix as **va-**. Farinha lists **dy-** as the singular agreement prefix for the 0/ma class, and **l-** as singular agreement for the li/ti class. Junod, Quintão and Farinha also give the singular agreement prefix for the wu/mi class as **bya-** whereas Baumbach lists this as **bra-**. Finally, Farinha lists **kw-** as singular agreement for the ku class.

5.3 Adjectives and numbers

In 5.2 we illustrated pre-nominal and pre-adjectival agreement prefixes on vowel-initial morphemes **-a**, **-anga** etc. We noted that adjectives appear to exhibit double agreement, with both the connecting or genitive morpheme and the adjective itself agreeing with a preceding noun. In this section we illustrate the agreement with the

consonant-initial adjective stem **-kulu** ‘big’.¹⁰ Note that the adjectival agreement prefix is identical to the nominal agreement prefix in all but two noun classes (**mu-** of the mu/va and mu/ma classes and **ma-** of the 0/ma and mu/ma classes). In those two forms, the adjectival prefix is not the expected agreement prefix but the noun class prefix itself. Neither locatives nor infinitives of active verbs can be followed by adjectives.

(30) Agreement prefixes on adjectives

	<i>noun prefix</i>	<i>noun stem</i>		<i>-kulu ‘big’ -nyiwana ‘new’</i>	<i>class</i>
<i>sg</i> <i>pl</i>	mu- va-	phswana phswana	‘nephew’	wa mukulu va vakulu	mu/va
<i>sg</i> <i>pl</i>	0- va-	malumi malumi	‘uncle’	wa mukulu va vakulu	
<i>sg</i> <i>pl</i>	n- va-	tukulu tukulu	‘grandchild’	wa mukulu va vakulu	
<i>sg</i> <i>pl</i>	mu- mi-	zimba zimba	‘body’	wa wukulu ya yikulu	mu/min
<i>sg</i> <i>pl</i>	0- ma-	doropa doropa	‘village’	dra drikulu ya makulu	0/ma
<i>sg</i> <i>pl</i>	mu- ma-	sotxwa sotxwa	‘soldier’	wa mukulu ya makulu	mu/ma
<i>sg</i> <i>pl</i>	xi- swi-	hazri hazri	‘animal’	xa xikulu swi swikulu	
<i>sg</i> <i>pl</i>	0- ti-	hosi hosi	‘chief, king’	ya yikulu ta tikulu	0/ti
<i>sg</i> <i>pl</i>	li- tin-	phapha phapha	‘wing’	dra drikulu ta tikulu	li/tin
<i>sg</i> <i>pl</i>	wu- mi-	gamu gamu	‘end’	dra drikulu ya yikulu	wu/mi
<i>sg</i>	ku-	xonga	‘beautiffulness’	ka kukulu	ku

We next turn to numbers before commenting on differences with previous analysts. First we illustrate word order within number phrases:

(31) Syntax of number phrases

adoropa drin’we ‘one village’
amadoropa mabidri ‘two villages’

¹⁰We have not observed a distinction between nominal and verbal adjectives in Ronga (cf. Kimatuumbi, Odden 1996).

As noted by Baumbach 1970 (p. 24), agreement prefixes on numbers, illustrated in (32), are entirely identical to the agreement prefixes on adjectives, including the two exceptional members of the paradigm in (30). As with adjectives, infinitives of active verbs cannot be directly followed by numbers unless further derived with **ma-...-ela**. However, infinitives of stative verbs are permissible here.

(32) Agreement prefixes on numbers

	<i>noun prefix</i>	<i>noun stem</i>		<i>-n'we 'one'</i> <i>-bidri 'two'</i>	<i>class</i>
<i>sg</i> <i>pl</i>	mu- va-	phswana phswana	'nephew'	mun' we vabidri	mu/va
<i>sg</i> <i>pl</i>	0- va-	malumi malumi	'uncle'	mun' we vabidri	
<i>sg</i> <i>pl</i>	n- va	tukulu tukulu	'grandchild'	mun' we vabidri	
<i>sg</i> <i>pl</i>	mu- mi-	zimba zimba	'body'	wun'we yibidri	mu/min
<i>sg</i> <i>pl</i>	0- ma-	doropa doropa	'village'	drin'we mabidri	0/ma
<i>sg</i> <i>pl</i>	mu- ma-	sotxwa sotxwa	'soldier'	mun' we mabidri	mu/ma
<i>sg</i> <i>pl</i>	xi- swi-	hazri hazri	'animal'	xin'we swibidri	xi/swi
<i>sg</i> <i>pl</i>	0- ti-	hosi hosi	'chief, king'	yin'we tibidri	0/ti
<i>sg</i> <i>pl</i>	li- tin-	phapha phapha	'wing'	drin'we tibidri	li/tin
<i>sg</i> <i>pl</i>	wu- mi-	gamu gamu	'end'	drin'we yibidri	wu/mi
<i>sg</i>	ku-	xonga	'beautiffulness'	kun'we	ku

Junod, Quintão, Farinha and Baumbach all list the adjective/number agreement prefixes for the mu/min class as **wu-** and **mi-**, whereas we have found these to be **wu-** and **yi-**. Also, as with the wh- and genitive noun agreement prefixes, Junod, Quintão and Farinha list the singular agreement morpheme for the wu/mi class as **by-**, and Baumbach has **br-**, whereas this is **dr-** in our data. Finally, Farinha lists **li-** as the singular agreement prefix for the li/tin class.

5.4 Demonstratives and emphatic pronouns

Emphatic pronouns can be used in contexts such as the following, where the pronoun refers to a topic:

(33)

amati, wone... 'the water, it...'

Manuel, yene... 'Manuel, he...'

In this case, nominal agreement takes the form of a prefix to **-ne**:

(34) Agreement prefixes to emphatic pronoun

	<i>noun prefix</i>	<i>noun stem</i>		<i>-ne 3rd person pronoun</i>	<i>class</i>
<i>sg</i> <i>pl</i>	mu- va-	phswana phswana	'nephew'	yene vone	mu/va
<i>sg</i> <i>pl</i>	0- va-	malumi malumi	'uncle'		
<i>sg</i> <i>pl</i>	n- va-	tukulu tukulu	'grandchild'		
<i>sg</i> <i>pl</i>	mu- mi-	zimba zimba	'body'	wone yone	mu/min
<i>sg</i> <i>pl</i>	0- ma-	doropa doropa	'village'	drone wone	0/ma
<i>sg</i> <i>pl</i>	mu- ma-	sotxwa sotxwa	'soldier'	yene wone	mu/ma
<i>sg</i> <i>pl</i>	xi- swi-	hazri hazri	'animal'	xone swone	xi/swi
<i>sg</i> <i>pl</i>	0- ti-	hosi hosi	'chief, king'	yone tone	0/ti
<i>sg</i> <i>pl</i>	li- tin-	phapha phapha	'wing'	drone tone	li/tin
<i>sg</i> <i>pl</i>	wu- mi-	gamu gamu	'end'	drone yone	wu/mi
<i>sg</i>	ku	xonga	'beautiffulness'	kone	ku

Notice that the vowel of the prefix is always mid, and back [o] except with the singular of mu/va nouns. Noteworthy among differences with previous analysts are Farinha's **lone~dyone** (for sg. of li/tin class), **byone** and **wone** (for sg. and pl., respectively, of wu/mi class), and **dyone** (for sg. of 0/ma class).

In the case of demonstratives, agreement is a suffix, rather than prefix, to a demonstrative stem. The consonant that occurs as the suffix to the demonstrative is the same as the consonantal prefix to the emphatic pronoun in (34):

(35) Syntax of agreement with demonstratives

adoropa ledri	‘this village’
amadoropa lawa	‘these villages’

The demonstrative stem vowel alternates between [e]~[a]~[o], assimilating to the backness, labiality and lowness of the vowel of the agreement suffix. While infinitives of stative verbs can be followed by demonstratives, infinitives of active verbs must be further derived with **ma-...-ela**: **a-ma-kin-ela l-awa** ‘this kind of dancing’ in order to appear in this context.

Forms of the agreement affix which diverge from prefixes to **-ini** ‘which’ are highlighted in (36):

(36) Agreement suffixes on demonstratives

	<i>noun prefix</i>	<i>noun stem</i>		<i>le- ‘this’</i>	<i>class</i>
<i>sg</i>	mu-	phswana	‘nephew’	lweyi	mu/va
<i>pl</i>	va-	phswana		lava	
<i>sg</i>	0-	malumi	‘uncle’	lweyi	
<i>pl</i>	va-	malumi		lava	
<i>sg</i>	n-	tukulu	‘grandchild’	lweyi	
<i>pl</i>	va-	tukulu		lava	
<i>sg</i>	mu-	zimba	‘body’	lowu	mu/min
<i>pl</i>	mi-	zimba		leyi	
<i>sg</i>	0-	doropa	‘village’	ledri	0/ma
<i>pl</i>	ma-	doropa		lawa	
<i>sg</i>	mu-	sotxwa	‘soldier’	lweyi	mu/ma
<i>pl</i>	ma-	sotxwa		lawa	
<i>sg</i>	xi-	hazri	‘animal’	lexi	xi/swi
<i>pl</i>	swi-	hazri		leswi	
<i>sg</i>	0-	hosi	‘chief, king’	leyi	0/ti
<i>pl</i>	ti-	hosi		leti	
<i>sg</i>	li-	phapha	‘wing’	ledri	li/tin
<i>pl</i>	tin-	phapha		leti	
<i>sg</i>	wu-	gamu	‘end’	ledri	wu/mi
<i>pl</i>	mi-	gamu		leyi	
<i>sg</i>	ku	xonga	‘beautiffulness’	loku	ku

Differences with previous analysts are found with the *wu/mi* class, where in place of our singular **ledri** Junod has **lebya**, Quintão and Farinha, **lebyi**, and Baumbach, **lebri**. Farinha also has **lawā** for the plural agreement prefix for this class (cf. our **leyi**). In the singular of the *li/tin* class, we have **ledri**, whereas Junod lists **ledi**, **loli** and **lolu**, Quintão, **lolu** and **leli**, Farinha, **loli**, and Baumbach, **leli**. For the *mu/mi* class, Farinha lists (singular) **lowo** (cf. our **lowu**), and for the *ku* class, **loko** (cf. our **loku**). Farinha also lists **ledyi** as singular demonstrative for the *0/ma* class (cf. our **ledri**).

5.5 Quantifiers

Agreement with the universal quantifier **yinkwa_u** takes the form of a consonantal infix.¹¹

(37) Syntax of agreement with universal quantifier

adoropa yinkwad <u>r</u> u	‘the entire village’
amadoropa yinkwaw <u>w</u> u	‘all the villages’

The phonological shape of the agreement affix is basically identical to the agreement prefixes on **-ni** ‘which’. For MD, this quantifier is not compatible with human singular nouns, marked ? in (38). This restriction is not noted by previous analysts.

¹¹Farinha lists this as **hinwa-**.

(38) Agreement infix on yinkwa_u

	<i>noun prefix</i>	<i>noun stem</i>		<i>yinkwa-</i>	<i>class</i>
<i>sg</i>	mu-	phswana	‘nephew’	?	mu/va
<i>pl</i>	va-	phswana		yinkwavu	
<i>sg</i>	0-	malumi	‘uncle’	?	
<i>pl</i>	va-	malumi		yinkwavu	
<i>sg</i>	n-	tukulu	‘grandchild’	?	
<i>pl</i>	va-	tukulu		yinkwavu	
<i>sg</i>	mu-	zimba	‘body’	yinkwawu	mu/min
<i>pl</i>	mi-	zimba		yinkwayu	
<i>sg</i>	0-	doropa	‘village’	yinkwadru	0/ma
<i>pl</i>	ma-	doropa		yinkwawu	
<i>sg</i>	mu-	sotxwa		?	mu/ma
<i>pl</i>	ma-	sotxwa	‘soldier’	yinkwawu	
<i>sg</i>	xi-	hazri	‘animal’	yinkwaxu	xi/swi
<i>pl</i>	swi-	hazri		yinkwaswu	
<i>sg</i>	0-	hosi	‘chief, king’	yinkwayu	0/ti
<i>pl</i>	ti-	hosi		yinkwatu	
<i>sg</i>	li-	phapha	‘wing’	yinkwadru	li/tin
<i>pl</i>	tin-	phapha		yinkwatu	
<i>sg</i>	wu-	gamu	‘end’	yinkwadru	wu/mi
<i>pl</i>	mi-	gamu		yinkwayu	
<i>sg</i>	ku-	xonga	‘beautiffulness’	yinkwaku	ku

Again we find differences with previous analyses in several classes. For the singular agreement prefix of the wu/mi class, Junod and Quintão have **-bj-**, Farinha has **-by-**, and Baumbach has **-br-**, whereas we have **-dr-**. Farinha has **-w-** as the plural agreement of the wu/mi (cf. our **-y-**). Also Junod, Quintão and Farinha list **-l-** for the singular agreement prefix of the li/tin class. Baumbach lists this as **-dr~-l-** whereas for MD it is invariantly **-dr-**. Finally, Farinha has **-dy-** as singular agreement marker for the 0/ma class.

5.6 Subject agreement

We now turn to the agreement of verbs with a preceding subject. Note that Ronga, like other Bantu languages, is SVO. Verbal agreement with a subject noun takes the form of a syllabic prefix to the verb stem:

(39) Syntax of subject-verb agreement

adoropa **dribzwekelile** 'the village slid down'
 amatoropa **mabzwekelile** 'the villages slid down'

One set of verbal subject agreement prefixes is nearly identical to the adjectival agreement prefix illustrated in 5.3. The difference lies in agreement with singular **mu**-nouns of the mu/va class, where the subject agreement prefix is **a-**, instead of the expected **mu-**. (Notice that agreement with singular **mu**-nouns of the mu/mi class is different.) The choice of agreement affix also varies with the tense of the verb for the mu/va class of nouns. This variation in shape of the subject prefixes depending on tense is different from variation resulting from syntactic configuration, discussed by Webster this volume. In (40), the verbs which are affixed with agreement prefixes are **-wa** 'fall' (**-wile** 'fell'), **-bzwekela** 'slide down' (**-bzwekelile** 'slid down') and **-kunya** 'stop' (**-kunyimile** 'stopped').

(40) Subject agreement prefixes on verbs

	<i>noun prefix</i>	<i>noun stem</i>		<i>verbal subject prefix-past</i>	<i>present</i>	<i>progressive</i>
<i>sg</i>	mu-	phswana	'nephew'	awile	wawa	owa
<i>pl</i>	va-	phswana		vawile	vawa	vowa
<i>sg</i>	0-	malumi	'uncle'	awile	wawa	owa
<i>pl</i>	va-	malumi		vawile	vawa	vowa
<i>sg</i>	n-	tukulu	'grandchild'	awile	wawa	owa
<i>pl</i>	va-	tukulu		vawile	vawa	vowa
<i>sg</i>	mu-	zimba	'body'	wuwile	wawa	wowa
<i>pl</i>	mi-	zimba		yiwire	yawa	yowa
<i>sg</i>	0-	doropa	'village'	dribzwekelile	drabzwekela	drobzwekela
<i>pl</i>	ma-	doropa		mabzwekelile	mabzwekela	mobzwekela
<i>sg</i>	mu-	sotxwa	'soldier'	awile	wawa	owa
<i>pl</i>	ma-	sotxwa		mawile	mawa	mowa
<i>sg</i>	xi-	hazri	'animal'	xiwire	xawa	xowa
<i>pl</i>	swi-	hazri		swiwire	swawa	swowa
<i>sg</i>	0-	hosi	'chief, king'	yiwire	yawa	yowa
<i>pl</i>	ti-	hosi		tiwire	tawa	towa
<i>sg</i>	li-	phapha	'wing'	driwire	drawa	drowa
<i>pl</i>	tin-	phapha		tiwire	tawa	towa
<i>sg</i>	wu-	gamu	'end'	driwire	drawa	drowa
<i>pl</i>	mi-	gamu		yiwire	yawa	yowa
<i>sg</i>	ku-	xonga	'beautifulness'	kunyimile	kanyima	konyima

Differences with previous analysts involve the classes already noted: plural agreement **va-** is given as **ba-** by Junod, Quintão and Farinha; and the singular agreement prefix for *wu/mi* is given as **by-** in Junod, Quintão and Farinha, but as **br-** by Baumbach. Also, for the *li/tin* class, Junod and Quintão list singular subject agreement as **l-** (**ḍ**), Farinha lists **dyi-**, and Baumbach lists **l-**. We also note that Baumbach lists plural subject agreement with the *mu/min* class as **mi-**, as he does with adjective and number agreement, whereas we have **yi-**, different from the nominal prefix.

5.7 *Object agreement*

Agreement with verbal objects works slightly differently in Ronga than does agreement with other nouns. In this case, the agreement prefix is like a pronoun: it is in complementary distribution with an overt object noun:

(41) Syntactic distribution of object agreement

- (a) Isabel avonile malumi 'Isabel saw an uncle'
 saw uncle
 (b) Isabel amuvonile 'Isabel saw him'
 saw-3sO
 (c) *Isabel amuvonile malumi
 saw-3sO uncle

When the object is an infinitive, the facts are more complicated. The agreement prefix is **swi-** or **ku-** (MD prefers **swi-**). **Swi-** or **ku-** is optionally present on the verb if the infinitival object itself has an object (42)(a). Otherwise, **swi/ku-** is obligatory (b). Infinitives of both active and stative (c) verbs can occur as object of a verb without being first nominalized. The noun with which **swi-** or **ku-** agrees need not be present if the infinitival complement is understandable from context (d); however, in that case, **ku-** cannot be used as agreement prefix.

(42) Object agreement with infinitival object

- (a) na-swi-zrandra ku-kina marabenta
 ~ na-ku-zrandra ku-kina marabenta
 I-it-like to dance
 ni-zrandra ku-kina marabenta
 I-like to dance
 'I like dancing marabenta.'

- (b) na-swi-zrandra ku-kina
 ~ na-ku-zrandra ku-kina
 *ni-zrandra ku-kina
 'I like dancing.'
- (c) na-swi-zrandra ku-xonga.
 ~ na-ku-zrandra ku-xonga
 I-it-like beautifulness
 'I like beauty.'
- (d) na-swi-zrandra.
 *na-ku-zrandra
 I-it-like
 'I like it.'

The object agreement prefixes in Ronga are identical to the subject agreement prefixes, with two exceptions, agreement with the mu/va class and with the ku class:

(43) Object agreement prefixes on verbs

	<i>noun prefix</i>	<i>noun stem</i>		<i>object agreement</i>	<i>class</i>
<i>sg</i>	mu-	phswana	'nephew'	mu-	mu/va
<i>pl</i>	va-	phswana		va-	
<i>sg</i>	0-	malumi	'uncle'	mu-	
<i>pl</i>	va-	malumi		va-	
<i>sg</i>	n-	tukulu	'grandchild'	mu-	
<i>pl</i>	va-	tukulu		va-	
<i>sg</i>	mu-	zimba	'body'	wu-	mu/min
<i>pl</i>	mi-	zimba		yi-	
<i>sg</i>	0-	doropa	'village'	dri-	0/ma
<i>pl</i>	ma-	doropa		ma-	
<i>sg</i>	mu-	sotxwa	'soldier'	mu-	mu/ma
<i>pl</i>	ma-	sotxwa		ma-	
<i>sg</i>	xi-	hazri	'animal'	xi-	xi/swi
<i>pl</i>	swi-	hazri		swi-	
<i>sg</i>	0-	hosi	'chief, king'	yi-	0/ti
<i>pl</i>	ti-	hosi		ti-	
<i>sg</i>	li-	phapha	'wing'	dri-	li/tin
<i>pl</i>	tin-	phapha		ti-	
<i>sg</i>	wu-	gamu	'end'	dri-	wu/mi
<i>pl</i>	mi-	gamu		yi-	
<i>sg</i>	ku-	kina	'dancing'	swi-(~ku)	ku

Junod, Quintão and Farinha do not discuss object agreement. For plural nouns of the mu/min class, Baumbach lists the agreement prefix as **mi-** (identical to the noun class

prefix), whereas it is **yi-** in our data. Baumbach also provides **li-** (identical to the noun class prefix) as the agreement prefix for singular nouns of the li/tin class, whereas in our data this prefix is **dri-**. As expected, in place of **dri-** as the agreement prefix for singular nouns of the wu/mi class, Baumbach provides **bri-**. Finally, Baumbach lists only **ku-** as the agreement prefix for the ku- class.

6 Summary: Noun classes and agreement

The agreement affixes illustrated in 5.1-5.7 are summarized in (44). For verbal subject agreement, we have only listed the form which is used with the perfective stem. For some classes, such as the xi/swi, mu/min, 0/ti classes, li/tin, wu/mi, ku classes, the agreement affixes are phonologically uniform, suggesting there is one agreement morpheme corresponding to such classes. There are also cases where agreement morpheme and noun class morpheme share the same shape, e.g. xi/swi class prefixes and agreement, again suggesting one morpheme.

(44) Noun class and agreement affixes (summary)

	<i>our class</i>	<i>trad. #</i>	<i>noun prefix</i>	<i>Wh</i>	<i>Gen N</i>	<i>Adj/ Num</i>	<i>Pro</i>	<i>Dem</i>	<i>Q</i>	<i>V (Sub)</i>	<i>V (Obj)</i>
<i>sg</i>	mu/	1	mu-	wi-	w-	mu-	ye-	-w..yi	--	a-	mu-
<i>pl</i>	va	2	va-	va-	v-	va-	vo-	-va	-v-	va-	va-
<i>sg</i>		1a	0-	wi-	w-	mu-	ye-	-w..yi	--	a-	mu-
<i>pl</i>		2	va-	va-	v-	va-	vo-	-va	-v-	va-	va-
<i>sg</i>		1a	n-	wi-	w-	mu-	ye-	-w..yi	--	a-	mu-
<i>pl</i>		2	va-	va-	v-	va-	vo-	-va	-v-	va-	va-
<i>sg</i>	mu/	3	mu-	wi-	w-	wu-	wo-	-wu	-w-	wu-	wu-
<i>pl</i>	min	4	min-	yi-	y-	yi-	yo-	-yi	-y-	yi-	yi-
<i>sg</i>	0/	5	0-	dri-	dr-	dri-	dro-	-dri	-dr-	dri-	dri-
<i>pl</i>	ma	6	ma-	wa-	y-	ma-	wo-	-wa	-w-	ma-	ma-
<i>sg</i>	mu/	1	mu-	wi-	w-	mu-	ye-	-w..yi	--	a-	mu-
<i>pl</i>	ma	6	ma-	wa-	y-	ma-	wo-	-wa	-w-	ma-	ma-
<i>sg</i>	xi/	7	xi-	xi-	x-	xi-	xo-	-xi	-x-	xi-	xi-
<i>pl</i>	swi	8	swi-	swi-	sw-	swi-	swo-	-swi	-sw-	swi-	swi-
<i>sg</i>	0/	9	0-	yi-	y-	yi-	yo-	-yi	-y-	yi-	yi-
<i>pl</i>	ti	10	ti-	ti-	t-	ti-	to-	-ti	-t-	ti-	ti-
<i>sg</i>	li/	11	li-	dri-	dr-	dri-	dro-	-dri	-dr-	dri-	dri-
<i>pl</i>	tin	10	tin-	ti-	t-	ti-	to-	-ti	-t-	ti-	ti-
<i>sg</i>	wu/	14	wu-	dri-	dr-	dri-	dro-	-dri	-dr-	dri-	dri-
<i>pl</i>	mi	4	mi-	yi-	y-	yi-	yo-	-yi	-y-	yi-	yi-
<i>sg</i>	ku	15	ku-	ku-	ku-	ku-	ko-	ku-	ku-	ku-	swi- (ku-)

Some differences between the Ronga described in this paper and that of previous analysts have been identified. With the noun class prefixes themselves, we posit no singular class prefix for two of our class prefixes, 5 and 9, whereas all previous analysts posit a class prefix. Yet the data provided by Junod and the later works for the positing of yi(n)- (9) and [di] (5) prefixes does not seem to justify the positing of non-null prefixes. Other Bantu languages indicate that these prefixes did of course exist historically, so the disappearance of prefixes 5 and 9 is one type of historical change that can be identified for MD's Ronga. The uncertainty is exactly when these prefixes were lost.

Turning now to the agreement prefixes, as can be seen from (44), three of our noun classes have a singular agreement prefix with the same shape **dr-**. In previous analyses, the singular agreement prefixes for these classes are all different:

(45) Singular agreement prefixes for three noun classes

our class	Junod	Quintão	Farinha	Baumbach	this article
wu/mi	by-	by-	by-	br-	dr-
li/tin	l-	l-	l- ~dy-	l-	dr-
0/ma	d-	dj-	dy-	dr-	dr-

Although Junod's transcription may not represent the sounds that a modern interpretation would suggest, the fact that he transcribed the three agreement prefixes with different symbols suggests that they may have been different at that time. Given the variation with the agreement marker of li/tin class noted by Farinha, **l-** and **dy-** may have first merged as **dy-**, followed by a later merger of **dy-** and **by-** (as **dr-**, in our data). However, the transcriptions of Baumbach, suggests that these agreement morphemes were still phonetically distinct as recently as 1970, unless this too represents a historical rather than synchronic analysis.

7 Redundancy vs. predictability in the noun classification system

Casual inspection of (44) suggests that there is a certain amount of redundancy in the noun classification system. On the other hand, it is also readily apparent that not all aspects of the system are predictable. How much of this information needs to be entered in a dictionary? In this section, we consider the issue of predictability: is agreement predictable from noun class prefix, or vice versa?

Within the agreement marking system alone, there appears to be a high amount of redundancy. The largest number of phonologically distinct prefixes are the subject agreement prefixes, suggesting that once a subject agreement prefix is known, the remaining parts of the agreement pattern are also known:

(46) Predictability of other agreement morphology from verbal subject agreement

<i>subject agreement</i>	<i>→ other agreement</i>
dri	dri
wu	wu
a/wa/o	wi
xi	xi
yi	yi
ma	wa, y, w
ti	ti
va	va
swi	swi
ku	ku, swi

We now consider the question of whether agreement pattern is predictable from sg/pl class prefixes. (47) extracts a portion of information from (44), juxtaposing noun class prefixes with subject agreement pattern:

(47) Predicting subject agreement from noun class

<i>noun class prefixes</i>	<i>→ subject agreement</i>	
	<i>sg</i>	<i>pl</i>
mu/va	a/wa/o-	va-
mu/min	wu-	yi-
0/ma	dri-	ma-
mu/ma	a/wa/o-	ma-
xi/swi	xi-	swi-
0/ti	yi-	ti-
li/tin	dri-	ti-
wu/mi	dri-	yi-
ku	ku-	--

As can be seen from (47), each of the nine noun classes triggers a unique agreement pattern. Therefore, in a lexical corpus, it is sufficient to mark the singular/plural pattern. However, a problem arises with nouns which have no plural, such as inherently singular or mass nouns such as **nxile** 'dirtiness', **kaya** 'home' or **wuxa** 'dawn'. A noun like **nxile** could belong to the 0/ma or 0/ti class, and a noun like **wuxa** could belong to either the 0/ma, 0/ti or wu/mi classes.

Learning the subject agreement morphology will alleviate some of the analytical uncertainty. (48) compares singular noun class and subject agreement morphology with

plural. The plural is generally predictable from the singular (with the exception of **mu-** + **a/wa/o-**, which can correspond to either **va-** or **ma-** plural marking, although the latter is statistically much less common).

(48) Predicting plural morphology from singular

<i>singular</i>		<i>plural</i>	
<i>noun class</i>	<i>subject agr</i>	<i>noun class</i>	<i>subject agr</i>
mu	a/wa/o-	va	va-
mu	wu-	min	yi-
0	dri-	ma	ma-
mu	a/wa/o-	ma	ma-
xi	xi-	swi	swi-
0	yi-	ti	ti-
li	dri-	tin	ti-
wu	dri-	mi	yi-
ku	ku-	--	--

However, the plural should be learned wherever possible, because this is the best way of determining whether or not a word initial syllable is part of the stem or a prefix (if the word initial syllable is a possible noun class prefix). Thus, **wu-lombe** ‘honey’ triggers **dri-** singular verbal subject agreement, but since this noun has no plural, the initial **wu-** could be the singular prefix of the **wu/mi** class, or this noun could be a member of the **0/ma** class.

To summarize, in a Ronga dictionary, nouns should be marked for singular and plural noun class prefix. This serves the dual purpose of learning agreement patterns as well as determining whether or not an initial syllable is a prefix or part of the stem. However, where a noun has no plural form, then the verbal subject agreement should also be learned.

8 Conclusion

Our goal in this article was to provide a succinct description of noun classification in Ronga which may be useful in future linguistic studies of Ronga, and/or for historical-comparative purposes. This analysis of noun classification in Ronga must be considered preliminary as it is based on a relatively small sample of nouns, and does not explore such topics as alternative singular or plural nominal prefixes for particular noun stems.

Nor do we claim to have identified all of the structures which agree with nouns. Thus details of the agreement system will no doubt be filled in by future research.

We have identified some differences between the noun classification and agreement systems of the Ronga described in this article and those of previous descriptions. Most notably, some formerly distinct prefixes in the noun class and agreement systems have either been lost (class 5 and 9 prefixes) or neutralized (class 5, 11, and 14 singular agreement prefixes).

In our description of the Ronga noun classification system, we have attempted to group nouns, rather than prefixes, into classes, and have thus abandoned the traditional Bleek/Meinhof numbering system. Nine noun classes must be recognized for Ronga under our definition of noun class. Of these nine classes, six are relatively well attested in our Ronga corpus. These are the 0/ma, 0/ti, mu/min, mu/va and xi/swi classes. The remaining three, li/tin, wu/mi, and mu/ma classes, are poorly attested. In the case of the wu/mi class, this may be because of agreement similarities with the 0/ma class.

8 References

- Baumbach, E.J.M. 1970. Introduction to the grammar of Xironga. *Limi* 9:8-54.
- Baumbach, E.J.M. 1987. *Analytical Tsonga Grammar*. Pretoria: University of South Africa.
- Bleek, W.H.I. 1862. *A comparative grammar of South African languages*. London: Trubner & Co.
- Carmichael, Lesley. this volume. The syntax of noun phrases in Ronga .
- Doke, C.M. 1954. *The Southern Bantu Languages*. London: Oxford University Press.
- Doke, C.M. 1982. *Outline Grammar of Bantu*. Grahamstown: Rhodes University, Department of African Languages.
- Farinha, António Lourenço. 1946. *Elementos de Gramática Landina (Shironga), Dialecto indígena de Lourenço Marques*. Lourenço Marques: Imprensa Nacional de Moçambique.
- Hargus, Sharon and Manuel Da Conceição. this volume. Consonant Labialization in Ronga .

- Junod, Henri A. 1896. *Grammaire Ronga*. Lausanne: Imprimerie George Bridel & Compagnie.
- Meeussen, A.E. 1967. Bantu Grammatical Reconstructions. *Annalen van het Koninklijk Museum voor Midden-Afrika* 61:79-121.
- Meinhof, Carl. 1932. *Introduction to the Phonology of the Bantu Languages*. Berlin: Dietrich Reimer.
- Odden, David. 1996. *The Phonology and Morphology of Kimatumbi*. Oxford: Oxford University Press.
- Purvis, The Rev. J.B. 1907. *A Handbook of Lumasaba Grammar*. London: Society for the Promotion of Christian Knowledge.
- Quintão, José Luís. 1951. *Gramática de Xironga (Landim)*. Lisboa: Agência Geral das Colónias, Divisão de Publicações e Biblioteca.
- Webster, Gabriel. this volume. Subject prefix alternation and focus in Ronga.

The Morphosyntactic Structure of NPs in Ronga^{*}

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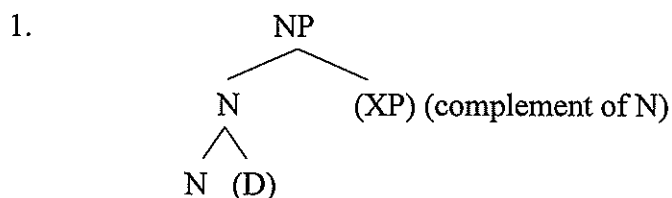
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1 Introduction

Ronga has a very rigid syntactic NP structure including strict limitations on what kinds of lexical elements can occupy each node. Analysis of the morphological markings of each element in an NP reveals the syntactic structure of NPs in Ronga. In fact, the specific lexical restrictions on NP components will be exemplified by the distribution of morphological markings. Specifically, I will show how Ns are modified (by demonstratives, numbers, adjectives, and other descriptive processes), how complex Ns are formed, and how the corresponding morphology reveals the organization of NP components. The present analysis uses a basic X-bar structure for the purposes of visualizing the components of the NP.

2 The NP in Ronga

The following diagram and phrase structure rules describe the structure of the NP in Ronga.



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2. Phrase structure rules:

$$NP \rightarrow N (XP)$$

$$N \rightarrow N (D)$$

$$D \rightarrow \text{demonstrative pronoun or number}$$

Affixes which are obligatory on modifiers in the XP (the complement to N) are not present (indeed, prohibited) on modifiers which I believe are contained within the complex N (N + optional D). First I will explain the motivation for the complement, and then I will describe the strict nature of the complex N containing the head N.

3 The problem of adjectives

Ronga only has seven pure adjective stems, according to Baumbach (1970:23).

These are:

- | | |
|----------------------|-----------------|
| 3. -kulu 'big' | -trongo 'small' |
| -nene 'nice' | -mprha 'new' |
| -visi 'raw/not ripe' | -fani 'bad' |
| -tomi 'healthy' | |

These stems are each matched up with an adjectival prefix which corresponds to the noun class of the noun it is modifying. Ronga has nine classes of nouns, which have singular and plural forms. Each form is identified by a prefix particular to its class and number. These prefixes are used to provide an agreement mechanism between grammatical elements. Therefore, the adjective concord (register of prefixes) contains prefixes corresponding to each noun class, and each adjective's class prefix is determined by the prefix (class) of the noun which it modifies.

This limited set of adjectives motivates the use of other constructions to serve as qualifiers of nouns. These alternative modifiers are derived from many parts of speech, such as nouns (including nominal numbers) and verbs. Since they are not "true" adjectives, they do not receive a prefix from the adjective concord. In the NP complement, however, these modifiers must be prefixed by another morpheme, this time from the possessive concord. I believe Ronga employs the use of the possessive concord to expand its descriptive abilities in much the same way as Tsonga, a closely related

language. Baumbach (1987:179) reported that in Tsonga, some elements “with a specific descriptive semantic import are used in a descriptive possessive construction to describe or indicate qualities which a noun, etc. may have. By means of this construction, the paucity of adjective stems is alleviated to a certain degree.” In the following examples, the “true” adjectives are marked with both adjective and possessive prefixes (it is assumed in all examples that affixes are selected to match the class of the noun being modified, thus they will not be overtly labeled):

4. [[**Xi**—koxa]_N [**xa**—**xi**—nene]_{XP}]_{NP}
 [[**N prefix**—‘old person’]_N [**POSS prefix**—**ADJ prefix**—‘nice’]_{XP}]_{NP}
 “The nice old person”
5. [[**yin**—dlu]_N [**ya**—**yi**—kulu]_{XP}]_{NP}
 [[**N prefix**—‘house/hut’]_N [**POSS prefix**—**ADJ prefix**—‘big’]_{XP}]_{NP}
 “The big house”

Tsonga apparently only applies the descriptive possessive feature to nouns, but as evidenced below, Ronga appears to create modifiers from other parts of speech as well:

Using a verb as a modifier:

The verb [kuxonga] ‘to be beautiful’ takes a possessive prefix to become a modifier in the complement to the noun:

6. [[yin—dlu]_N [**ya**—kuxonga]_{XP}]_{NP}
 [[**N prefix**—‘house’]_N [**POSS prefix**—‘beautiful’]_{XP}]_{NP}
 “The beautiful house”

Using a noun as a modifier:

Baumbach (1970) has classified color names as nouns. The noun **ntima** ‘black, blackness’ takes a possessive prefix to become a modifier in the complement to the noun:

7. [[xi—pixi]_N [**xa**—ntima]_{XP}]_{NP}
 [[N prefix—‘cat’]_N [**POSS prefix**—‘black’]_{XP}]_{NP}
 “The black cat”

Using an adverb as a modifier:

Baumbach has classified the word **khale** ‘old’ as an adverb. The adverb **khale** takes a possessive prefix to become a modifier in the complement to the noun:

8. [[xi—pixi]_N [**xa**—khale]_{XP}]_{NP}
 [[N prefix—‘cat’]_N [**POSS prefix**—‘old’]_{XP}]_{NP}
 “The old cat”

The pure adjectives appear to always receive double marking—they must be marked with an adjectival prefix and a possessive prefix. The derived adjectives are never marked with an adjectival prefix, but must be marked with a possessive prefix:

9. [[Ni]_{NP} [[dondr—ile]_V [ma—buku]_N [**ya**—**ma**—kulu ya—kunandrika]_{XP}]_{NP}]_{VP}]_S
 [[Ips]_{NP} [[read—past]_V [N prefix—book]_N [**POSS prefix**—**ADJ prefix**—
 ‘big’—**POSS prefix**—‘to be delicious’]_{XP}]_{NP}]_{VP}]_S
 “I read big, interesting books”

Notice both **ya-** (possessive prefix) *and* **ma-** (adjectival prefix) are attached to the pure adjective stem **-kulu** (big), while only **ya-** is attached to the derived adjective **kunandrika** (‘interesting’, derived from a verb meaning ‘to be delicious’). Therefore, all adjectival elements (both pure and derived) take a possessive prefix, thus modifying the noun by describing an attribute possessed by the noun.

4 **The complex noun**

The syntactic structure of an NP exhibits a strict limitation on the amount and type of elements that can form a complex N by joining with the head N. It is not the case that the optional demonstrative pronoun or number serves as a proper determiner and forms a DP with the NP; rather, there seems to be a specific unifying relationship within

the N position between the head N and its optional internal modifier. The complex N is an entity that is formed in the syntax, and it is evidenced by agreement morphology.

The head N position in the Ronga NP can consist of:

- Only the head N
- A complex N: The head N plus one demonstrative pronoun (like ‘this’ or ‘these’)
- A complex N: The head N plus one number (including words like ‘many’ and nominal numbers such as ‘two’)

Morphologically speaking, the head N is marked with its standard nominal noun class prefix. The internal elements of the complex head N are marked by a limited set of agreement morphology, including a prefix which is applied to nominal numbers and a suffix which is applied to demonstratives. The possessive prefix is only applied to elements in the complement of the noun. Items 10 and 11 summarize the morphology associated with each syntactic position.

10. Summary of morphology corresponding to syntactic position within the complex N (all affixes match the class of the head N):

Complex N—each item within the unit receives an affix agreeing with the head N.

N alone, e.g., **[[ma—buku]_N]_N**
 [[N prefix—N stem]_N]_N
“book”

N + demonstrative pronoun, e.g.,

[[ma—buku]_N	[la—wa]_D]_N
[[N prefix—N stem] _N	[DEM stem—DEM suffix] _D] _N
<i>“this book”</i>	

N + number, e.g.,

[[ma—buku]_N	[ma—bidri]_D]_N
[[N prefix—N stem] _N	[N prefix*—NUM stem] _D] _N
<i>“two books”</i>	

*I have labeled this prefix as a noun class prefix although the agreement prefix placed on numbers in the complex noun at first glance appears to be from the adjective concord.

Numbers are nouns which appear to be realized as adjectives, yet numbers are permitted to form a complex N with the head N—something no adjective can do. While the literature on Ronga is silent about the derivation of the adjectival prefixes, Baumbach states in his analysis of the grammar of Tsonga that the adjectival concords (prefixes) “are identical to the different (noun) class prefixes, i.e., they are in fact the different class prefixes.” (Baumbach, 1987:185) There are slight phonological variances between corresponding noun and adjective prefixes in Ronga, but if Baumbach’s interpretation is correct, this suggests that elements which only take the “adjectival” prefix are actually “noun-like” elements—perhaps descriptive features which can be possessed by a head N. This is possibly evidence that the two elements inside the head N position are indeed nominal in nature. The suffix on the demonstrative pronoun or the prefix on the number indicates the stem’s syntactic ability to form a complex with the head N, hence, the entire element (e.g., ‘this book’, ‘two books’) is a nominal element.

11. Summary of morphology corresponding to syntactic position within the complement to N’ (all prefixes would match the class of the head N):

Complement to N—each item must be marked with a possessive prefix in addition to other morphology.

Adjective, e.g.,

[[N] **[ya—ma—kulu]**]_{NP}
 [[N] [POSS prefix—ADJ prefix—ADJ stem “big”]]_{NP}
“big”

Adjective derived from a verb, e.g.,

[[N] **[ya—kuxonga]**]_{NP}
 [[N] [POSS prefix—VERB stem “to be beautiful”]]_{NP}
“beautiful”

Adjective derived from an adverb, e.g.,

[[N] **[ya—khale]**]_{NP}
 [[N] [POSS prefix—ADV stem “old”]]_{NP}
“old”

Adjective derived from a noun, e.g.,

[[N] [ya—ntima]]_{NP}

[[N] [POSS prefix—N stem “blackness”]]_{NP}

“black”

Number, e.g.,

[[N] [ya—ma—bidri]]_{NP}

[[N] [POSS prefix—N prefix**—NUM stem “two”]]_{NP}

“two”

**[–bidri] (‘two’) takes on two prefixes when it is in complement position. This seems contradictory to the earlier discussion of pure vs. derived adjectives. Pure adjectives always take the adjectival prefix *and* the possessive prefix while derived adjectives take *only* the possessive prefix. [–bidri] is a nominal number which is being used in a descriptive fashion, and therefore one would expect it to only take one marking, specifically a possessive prefix. I believe the consistent application of the extra prefix (which appears morphologically to be from the adjective concord) to nominal numbers can be explained by Baumbach’s judgment that adjectival prefixes are actually noun class prefixes under a different name. If this is the case, then [–bidri] is not a noun marked with an adjectival prefix and a possessive prefix; rather, it is a noun that has been marked by a noun class prefix and has then been accommodated as a modifier by the addition of the possessive prefix ya-, hence [ya—ma—bidri].

5 Dominance hierarchy of complex noun elements

As stated previously, the head N can incorporate just one other element to form a complex N. The phrase structure rules (repeated below for convenience) show that the only possible incorporating items are determiner-type elements (D), either demonstrative pronouns or numbers (other quantifiers are not discussed in this analysis).

12. Phrase Structure Rules of Ronga NPs:

NP → N (XP)

N → N (D)

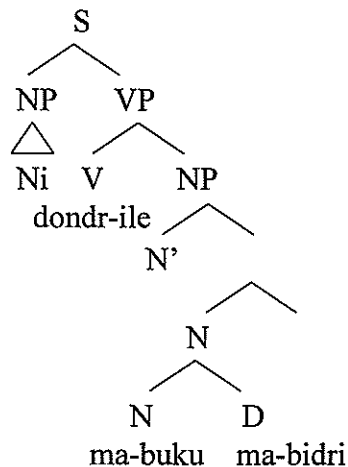
D → demonstrative pronoun or number

More specifically, there appears to be a dominance hierarchy between these two kinds of determiners: demonstratives take precedence over numbers for the one available position in the complex N. In an NP containing both a demonstrative and a number, the demonstrative will always occupy the position immediately following the head N (forming a complex N with it), and the number will undergo a morphological change and reside in the complement. The following sentences exemplify the dominance hierarchy:

In sentence 13, a number has formed a complex with the head N:

13. Head N plus number:

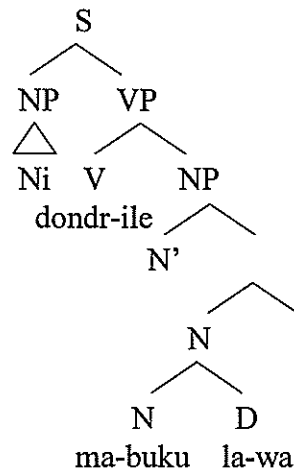
[[Ni]_{NP} [[dondr—ile]_V [[ma—buku]_N [ma—bidri]_D]_N]_{NP}]_{VP}]_S
 [[1ps]_{NP} [[‘read’—past]_V [[N prefix—‘book’]_N [ADJ prefix—‘two’]_D]_N]_{NP}]_{VP}]_S
“I read two books”



In sentence 14, a demonstrative has formed a complex with the head N:

14. Head N plus demonstrative:

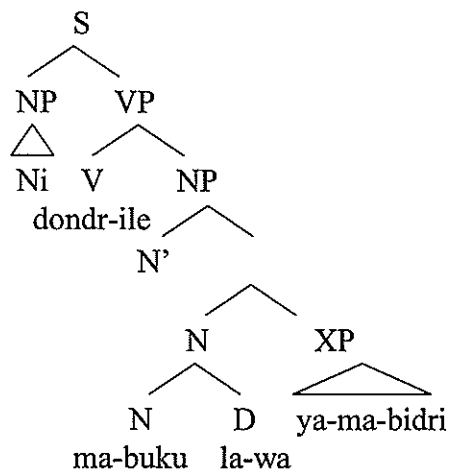
[[Ni]_{NP} [[dondr—ile]_V [[ma—buku]_N [lawa]_D]_N]_{NP}]_{VP}]_S
 [[1ps]_{NP} [[‘read’—past]_V [[N prefix-‘book’]_N [dem. ‘these’]_D]_N]_{NP}]_{VP}]_S
“I read these books”



In sentence 15, a demonstrative pronoun ('this') has formed a complex with the head N, thereby taking precedence over the other possible determiner element, a number ('two'), for the position within the complex. The number "two" has been marked with a possessive prefix and pushed into complement position:

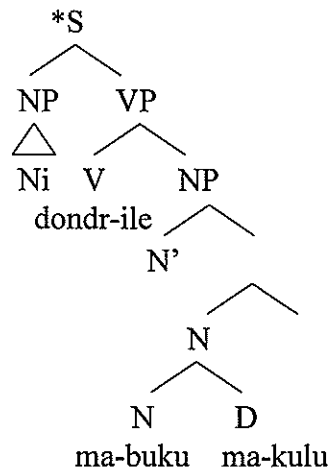
15. Head N plus number and demonstrative:

[[Ni]_{NP} [[dondr—ile]_V [[ma—buku]_N [la—wa]_D]_N
 [ya—ma—bidri]_{XP}]_{NP}]_{VP}]_S
 [[1ps]_{NP} [[VERB stem—past]_V [[N prefix—'book']_N [DEM stem—DEM
 suffix]_D]_N [POSS prefix—ADJ prefix—'two']_{XP}]_{NP}]_{VP}]_S
"I read these two books"

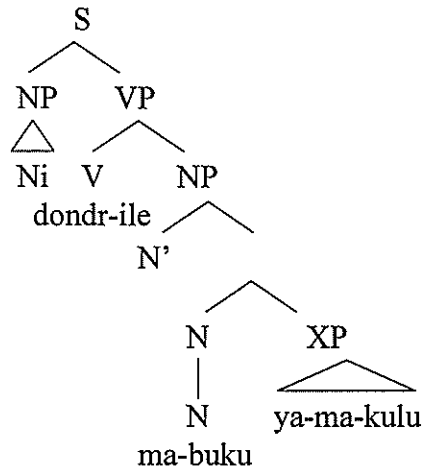


Sentences 16a-b demonstrate that adjectives cannot fill the D position. In 16a, the adjective resides within the complex N, taking only the N prefix, and the sentence is ungrammatical. In 16b, the adjective resides in the complement to the N, and it is marked appropriately with both the ADJ prefix and the POSS prefix. Sentence 16b is grammatical:

- 16a. *[[Ni]_{NP} [[dondr—ile]_V [[ma—buku]_N [ma-kulu]_D]_{NP}]_{VP}]_S
 *[[1ps]_{NP} [[VERB stem—past]_V [[N prefix-‘book’]_N [N prefix—ADJ stem]_D]_{NNP}]_{VP}]_S
 *“I read a big book”



- 16b. [[Ni]_{NP} [[dondr—ile]_V [[ma—buku]_N [ya—ma—kulu]_{XP}]_{NP}]_{VP}]_S
 [[1ps]_{NP} [[VERB stem—past]_V [[N prefix-‘book’]_N [POSS prefix—ADJ prefix—
 ‘big’]_{XP}]_{NP}]_{VP}]_S
“I read a big book”



The number element therefore becomes a standard adjectival element in the NP's complement. The marking with the possessive morpheme *ya-* is evidence for its syntactic position. The morphology associated with adjectival complements therefore reveals not only the syntactic structure of the NP, but also which elements can fill the D position to form a compound with the head N, *and* the hierarchical relationship among the possible Ds by providing morphological evidence of which elements can be pushed out of the head N compound and which ones can't.

It is noteworthy that while demonstratives and numbers share the ability to form a complex with a N, the dominance hierarchy between these two elements (for a position in the complex N) indicates a special flexibility on the part of numbers. A number can modify the head noun either as part of a complex noun or as a derived adjectival element in the complement, whereas the demonstrative can only exist inside the complex N.

6 Conclusion

Ronga NPs have strict syntactic and morphological configurations. The (complex) head N contains the head N and, optionally, a single determiner which is marked with a

noun prefix matching the head N. Demonstratives have preference for the single position over numbers. Numbers can serve as either determiners or as derived adjectives in the complement, as revealed by morphological markings. Neither pure nor derived adjectives can ever fill the determiner position. In an NP which contains no determiner elements at all, the single N fills the head N position alone, and all modifiers are placed in complement position with the appropriate morphological markings (possessive prefixes).

7 **References**

- Baumbach, E. J. M. 1970. Introduction to the grammar of Xironga. *Limi* 9:8-54.
- Baumbach, E. J. M. 1987. *Analytical Tsonga Grammar, Studia Originalia*, 3. Pretoria: University of South Africa.

Evidence for weight subcategorization in Ronga*

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The Southern Bantu language Ronga displays an alternation in the verbal subject agreement marker, where phrase-final verbs in the present positive tense require a different marker from verbs that are not phrase-final. Previous analyses in related languages consider this alternation to stem from changes in tense/aspect (Junod 1896, Doke 1961), or focus (Givón 1975, Kunene 1975). In this paper, I argue that this phenomenon must be explained in terms of the phonology-syntax interface, specifically through a process which I term *weight subcategorization*. Weight subcategorization is analogous to syntactic subcategorization, with the exception that in weight subcategorization, a particular verbal form requires a complement of a given *quantity* (having a certain phonological weight), rather than of a given *quality* (belonging to a certain syntactic category), as standard syntactic subcategorization requires.

Section 1 introduces the phenomenon that needs to be accounted for. Section 2 considers potential analyses of the data based on distinctions of tense, verbal modification, and focus, and demonstrates that none of these analyses account for the Ronga data. Finally, section 3 develops an analysis in terms of weight subcategorization, and develops a formalization based on a generic unification-based grammar (Sheiber 1986).

*I would like to thank Manuel DaConceicao for his willingness to share his knowledge of Ronga with me. I would also like to thank all the participants of the University of Washington field methods course in Ronga for their help, intentionally or not, with collecting this data and developing an analysis of it, and Dave Odden for some helpful discussion. As usual, the errors in this paper are my own.

1 Subject agreement marker alternation in Ronga

In Ronga, the finite verb always includes an inflectional prefix for subject agreement. This prefix is invariable in most tenses and moods. However, in present declarative positive sentences, this affix is used if the verb is not the last word in the verb phrase (regardless of the part of speech of the following words). If the verb is the last word in the VP, a different affix is used. It will be useful to refer to the phrase-final variant as the *a-form*, and the non-final variant as the *i-form*.¹ For example, if the verb is followed by a direct object, or a prepositional or adverbial modifier, then the i-form must be used, as shown in (1a-e). Only when the verb is phrase-final is the a-form required, in (1g-h):

- | | | | | |
|-----|----|--|----|--------------------------------------|
| (1) | a. | Akhondlo dri- da axifaki.
rat AgrS eat greens
'The rat eats greens.' | b. | *Akhondlo drada axifaki. |
| | c. | Akhondlo dri- da na-mbjweni.
rat AgrS eat in river
'The rat eats in the river.' | d. | *Akhondlo drada
nambjweni. |
| | e. | Akhondlo dri- da hahombe.
rat AgrS eat slowly
'The rat eats slowly.' | f. | *Akhondlo drada hahombe. |
| | g. | Akhondlo dra- da.
rat AgrS eat
'The rat eats.' | h. | *Akhondlo drida . |

This alternation includes verbs with verbal or sentential complements:

¹ It is important to keep in mind that for some noun classes, the i-form actually ends in a or u; the term is meant to represent the majority of the noun classes.

- (2) a. **Ni-drula** aku-bela bola.² b. ***Nadrula** akubela bola.
 I want Inf play soccer
 ‘I want to play soccer.’
- c. **Ni-kombela** kuva u- txaya viola. d. ***Nakombela** kuva utxaya
 viola.
 I ask that you play guitar
 ‘I ask you to play guitar.’

Subject agreement markers for all noun classes undergo this alternation. In addition to six human conjugations, Ronga has 8 non-human noun classes (see Hargus, DaConceição, and McBurney, this volume), giving us a large number of alternating prefixes:³

- (3) a. Subject human prefixes

	i-form		a-form	
	Sing	Plu	Sing	Plu
1st person	ni-	hi-	na-	ha-
2nd person	u-	mu-	wa-	ma-
3rd person	a-	va-	wa-	va-

² Ronga is a pro-drop language, meaning that a pronominal subject is normally not expressed. For expository purposes, I translate the verbal subject agreement marker as a pronoun, but it should be remembered that this is not technically correct.

³ There are a few exceptions to the ‘human/non-human’ distinction of noun classes. Particularly, names for small children and some derogatory names belong to ‘non-human’ noun classes.

b. Subject non-human prefixes

	i-form		a-form	
Class ⁴	Sing	Plu	Sing	Plu
mu/mi	wu-	yi-	wa-	ya-
Ø/ma	dri-	ma-	dra-	ma-
mu/ma	a-	ma-	wa-	ma-
xi/swi	xi-	swi-	xa-	swa-
Ø/ti	yi-	ti-	ya-	ta-
li/tin	dri-	ti-	dra-	ta-
wu/mi	dri-	yi-	dra-	ya-
ku	ku-		ku-	

Within other moods, tenses, and aspects, we see no alternation, but the single form that is required changes. As seen above, (4) shows the a-form/i-form alternation in the present positive declarative:

- (4) a. **Na-yetlela.**
 I sleep
 'I sleep.'
- b. ***Niyetlela.**
- c. **Ni-yetlela angopfu.**
 I sleep much
 'I sleep a lot.'
- d. ***Nayetlela angopfu.**

However, (5) below shows that negating (4) forces use of the i-form, whether or not the verb is phrase-final. The future tense also requires the i-form, as seen in (6), while the interrogative mood invariably requires the a-form, as (7) shows. In (8), the prefix **ha-** is an aspectual prefix expressing "continuity" (Baumbach 1970): the action is still being

⁴ The name of the class reflects the prefixes given to singular and plural members of that class. **Akhondlo** 'rat' belongs to the Ø/ma class; thus, the plural of **akhondlo** is **amakhondlo** (the prefix **a-** is found on all nouns regardless of class).

performed. In this case, the a-form is required. Note that the required form is fixed whether or not there is material following the verb:

- (5) a. A- **ni**-yetlel-i (angopfu). b. ***An**ayetleli (angopfu).
 Neg I sleep Neg (much)
 ‘I don’t sleep (a lot).’
- (6) a. **Ni**-ta- yetlela (angopfu). b. ***Nat**ayetlela (angopfu).
 I Fut sleep (much)
 ‘I will sleep (a lot).’
- (7) a. **Na**-yetlela (angopfu)?⁵ b. ***Ni**yetlela (angopfu)?
 I sleep (much)
 ‘Do I sleep (a lot)?’
- (8) a. **Na**-ha- yetlela (angopfu). b. ***Ni**hayetlela (angopfu).
 I Cont sleep (much)
 ‘I still sleep (a lot).’

A particular feature of Ronga is that the response to a question exhibits different morphology than a simple declarative sentence; I term this mood the *responsive* mood. Thus, (4a) would be ungrammatical in response to a question such as **Wayetlela (angopfu)?** (“do you sleep (a lot)?”); rather, the response would have to be as shown in (9a):

- (9) a. **Na**-yetlela (angopfu). b. ***Ni**yetlela (angopfu).
 I sleep (much)
 ‘I sleep (a lot).’

⁵ In Ronga, a question is formed by placing a rising intonation on the verb. Without this intonational change, (7a) would be a statement, and **nayetlela angopfu** would be ungrammatical as shown in (1).

An acceptable analysis of the i-form/a-form alternation in Ronga, then, must capture not only the fact that within the present positive declarative, VP-final verbs require the a-form while others require the i-form, but also the fact that within other tenses, there is no alternation, but the single form required changes from tense to tense. In the next section, I argue that no current analysis is adequate.

2 Potential analyses

To my knowledge, no author has attempted to account for the a-form/i-form alternation in contemporary Ronga. Junod (1896), describing a Ronga that is substantially different from that spoken today, proposes that this alternation is due to a subtle tense/aspect distinction. This analysis is followed by Doke (1961) in his analysis of the corresponding alternation in Zulu, a Nguni language. The Nguni languages are particularly relevant languages to Ronga, as Ronga's immediate subfamily, Tswa-Ronga, and Nguni both belong to the "S" family of the Central Narrow Bantu branch of Southern Bantu (Grimes 1996), and thus could be expected to share many grammatical features. Kunene (1975) and Givón (1975) take a different tack, both analyzing the Zulu alternation as distinguishing between a verb-focused and a verb-unfocused form. Bantu languages have complex tense/aspect systems, and many Bantu languages have focus distinctions with syntactic correlates (Hyman and Watters 1984, Odden 1984). Thus, either tense/aspect or focus could be expected to explain the Ronga data, but this turns out not to be the case. Section 2.1 considers the tense/aspect-based analysis; section 2.2 looks at the focus-based analysis.

2.1 *Tense/aspect-based alternation*

Junod (1896) describes the a-form/i-form alternation in Ronga as the equivalent of the so-called long-form/short-form alternation in Zulu. In Zulu, the subject agreement marker itself is invariant, but phrase-final verbs require an additional morpheme, *ya*, between the subject agreement marker and the verb root. Verb forms including *ya* are the

long-form of the verb. This alternation is demonstrated in (10) (from Doke 1954, p. 107):⁶

- | | | | | |
|------|----|----------------------|----|-------------------|
| (10) | a. | Si- ya -bona. | b. | *Sibona. |
| | | we <i>ya</i> see | | |
| | | ‘we see.’ | | |
| | c. | Si- bona kahle. | d. | *Siyabona kahle. |
| | | we see well | | |
| | | ‘we see well.’ | | |
| | e. | Si- bona umuntu. | f. | *Siyabona umuntu. |
| | | we see person | | |
| | | ‘we see a person.’ | | |

This distinction is exactly analogous to that in Ronga shown in (1). Based on the Zulu data, Junod suggests that historically, the Ronga a-form was created by contracting the i-form with the morpheme **ya** (the Ronga and Zulu stem meaning “to go”) to form a single morpheme: ***ni-ya** → **na**. Under this proposal, the a-form in Ronga corresponds to the long-form in Zulu, and the Ronga i-form corresponds to the Zulu short-form. Given the similarity between the verbal subject agreement marker alternations in Ronga and Zulu, it is reasonable to assume that the processes are in fact historically the same; therefore, one might expect the two alternations to be conditioned by the same factors.

To account for the variation in Ronga, Junod (1896) refers to the a-form present as the “présent présent” and the i-form present as the “présent indefini”. The présent indefini is used to refer to events that happen in general, or habitually, in the present, but not necessarily at the time of the utterance, whereas the présent présent requires that the

⁶ Doke (1954) cites an equivalent alternation in the recent past tense in Zulu:

- (a) sibonile ‘we (just) saw’
- (b) siboné kahle ‘we (just) saw well’
- (c) siboné umuntu ‘we (just) saw a person’

Since the alternation between **-é** and **-ile** can be explained in precisely the same way as that between the short-form (i-form) and the long-form (a-form), it is not necessary to discuss it separately.

event take place at the moment of speech. Similarly, Doke (1961) describes the Zulu long-form as the “continuous” or “definite” tense, while the short-form is the “indefinite” tense. This distinction would be similar to the distinction in English between simple present (*I go to the store*), which requires an indefinite or habitual interpretation, and the present progressive (*I am going to the store*), which indicates an action in progress at the time of utterance.⁷

However, Junod admits that the Ronga distinction is in fact not so easily characterized: “Cependant, dans certains cas où le verbe est manifestement au présent-présent et où l’on s’attendrait à la forme en a, celle en i reparait si le verbe est suivi d’un circonstantiel quelconque”⁸ (p. 131). Doke (1961) makes the similar comment that in Zulu, “the... two tenses are not really distinct in meaning or significance, but very definite rules have to be observed when using them... for instance the first [“indefinite” or short-form] can never be used without some adjunct in the form of object or adverbial extension” (p. 167). Thus, the data are not really accounted for by a tense/aspect distinction, and Junod’s and Doke’s attempts to do so may be the result of an unshakable (and not unreasonable) belief that every morphological alternation must make some clear semantic distinction, despite the evidence to the contrary.

This lack of tense/aspect distinction is clearly seen in contemporary Ronga. Whether an action takes place habitually or at the moment of utterance has no effect on the form used:

- (11) a. **Ni-famba** hahombe siku ni siku.
 I walk slowly day after day
 ‘I walk slowly every day.’

⁷ The future interpretation of the present progressive (*I am going to the store tomorrow*) is a tense unrelated to the variation under consideration here.

⁸ “However, in certain cases where the verb is clearly in the présent présent and where one would expect to see the the a-form, the i-form reappears if the verb is followed by any circumstantial element.” (author’s translation)

- b. Ni-famba hahombe swoswi.
 I walk slowly now
 'I am walking slowly right now.'
- c. *Nafamba hahombe swoswi.

Thus, we cannot rely on a distinction of tense/aspect to account for the Ronga subject marker alternation.

2.2 *Focus-based alternation*

Focus is the term given to the pragmatic act of placing emphasis on whatever part of a sentence the hearer is believed not to know. In English, focus is accomplished by placing additional stress on the words requiring focus. For example, example (12), with focal stress on *sandwich*, is only pragmatically appropriate in a situation in which the hearer does not know what the speaker is eating. To see this, consider the questions in (13). The sentence in (12) is an appropriate response to (13a), but it is ungrammatical as a response to (13b), since in that question the questioner already knows that a sandwich is involved. An appropriate response to (13b) is (14), with focal stress on *eating*, since *eating* corresponds to the unknown *wh*-word *what* in (13b).

(12) I'm eating this *sandwich*.

- (13) a. What are you eating?
 b. What are you doing with that sandwich?

(14) I'm *eating* this sandwich.

In many Bantu languages, focus is accomplished not with stress but by distinct morphemes that serve to indicate that an element is focused (for examples, see Hyman and Watters 1984). According to Givón (1975) and Kunene (1975), the long-form/short-form alternation in Zulu is an example of focal morphology, and the long-form

- | | |
|---|------------------------------------|
| c. Na-dri- trala.
I Obj write
‘I write it.’ | d. * Nidritrala . |
| e. Ni-trala aphaphela.
I write letter
‘I write a letter.’ | f. * Natrala aphaphela. |
| g. Ni-dri- trala hahombe.
I Obj write slowly
‘I write it slowly.’ | h. * Nadritrala hahombe. |

Note that the choice of marker still corresponds to whether or not the verb is phrase-final.

A rather more complex case is that of sentential modifiers, which may precede or follow the verb, with the subject agreement marker changing as we would expect:

- | | |
|--|---------------------------------------|
| (16) a. Ni-tizra siko ni siko.
I work day after day
‘I work every day.’ | b. * Natizra siko ni siko. |
| c. Siko ni siko na-tizra .
day after day I work
‘Every day, I work.’ | d. Siko ni siko * nitizra . |

The focus-based analysis accounts for (16a) straightforwardly, since the verb alone is not new information. However, to account for (16c), we have to assume that the sentential modifier **siko ni siko** ‘every day’ is somehow separate from the proposition **natizra** ‘I work’. If **siko ni siko** is in the same proposition as **natrizra**, then the verb and the modifier are both new information, and the focus-based analysis predicts the non-verb-focal i-form, which is wrong. In order to get the right result, we have to make the somewhat strained assumption that **siko ni siko** is a separate proposition in (16c), despite its being a modifier having no action to modify.

Fortunately, we do not need to worry about making any such assumption, because the focus-based analysis fails completely when considering sentences in which the object is old information and the verb is new information. Since the only new information of the verb phrase is the verb, the verb alone is in focus and therefore the verb-focal a-form is predicted. However, this is not the case. In (16b), the i-form is required although in the clause **nidondra phaphela** ‘I’m reading a letter’, clearly the only new information is the verb, since the identity of the object **phaphela** is given in the previous clause **Anitralli phaphela** ‘I’m not writing a letter’. Note, however, that in (17a-b), the i-form of the verb appears, once again, when the verb is not phrase-final.

- (17) a. A- ni-dondr-i buku, **ni-dondra** phaphela.
 Neg I read Neg book I read letter
 ‘I’m not reading a book, I’m reading a letter.’
- b. A- ni-tral -i phaphela, **ni-dondra** phaphela.
 Neg I write Neg letter I read letter
 ‘I’m not writing a letter, I’m reading a letter.’
- c. *Anitralli papela, **nadondra** phaphela.

Hyman and Watters (1984) describe what they call *grammatical control of focus* in which “(t)he pattern is that there is a [+focus] and a [-focus] form, and in some grammatical contexts the speaker has no choice but to use one or the other of these, regardless of what may actually be in focus according to pragmatic conditions” (p. 293). In other words, it is possible for a “focus-related” construction to actually not be focus-related. In the cases cited by Hyman and Watters, a given [+focus] morpheme may make apparently non-focus-related restrictions on morpho-syntax in certain constructions, but in other constructions the same morpheme really does serve to focus a certain element in a sentence.

This may or may not be the case in Zulu, but it is clearly incorrect for Ronga. Ronga seems to represent the extreme of grammatical control of focus, in which what is a focus-related construction in nearby languages (e.g. Zulu) has no effect on focusing

constituents. The a-form/i-form variation in Ronga may historically have been a focus-related construction, but synchronically it is a phenomenon with absolutely no effect on focus.

3 Accounting for verbal subject agreement marker alternation in Ronga

I have shown that the Ronga a-form/i-form alternation is not conditioned by semantic, pragmatic, or discourse factors – i.e., it is not related to sentence meaning in any way. Thus, it must be a purely formal alternation, rather than a functional one. Throughout this paper, we have seen that the alternation can be consistently predicted by whether the verb is phrase-final or not. In this section, I propose that this distinction can be accounted for by *weight subcategorization*, whereby a given verb form subcategorizes for phonological weight rather than syntactic quality (Webster 1998).¹⁰ In section 3.1, I define weight subcategorization. In section 3.2, I propose a formalization of the Ronga a-form/i-form alternation.

3.1 *Weight subcategorization*

In Ronga, phrase-final verbs have the property of requiring an a-form subject agreement marker, while non-phrase-final verbs require an i-form marker. This is somewhat similar to a transitive verb requiring an object, while an intransitive verb prohibits an object. The processes are clearly different, however, for the presence of adverb at the ends of sentences with transitive and intransitive verbs affects the phrase-finality of the verbs, but does not affect the grammaticality of the sentences:

¹⁰ In Webster (1998), I call this mechanism *weight prediction* and interpret it as a parsing mechanism. This is incorrect, however, since the parser is an algorithm for applying the constraints of a grammar; it cannot contain any of its “own” rules associated with particular lexical items, as weight prediction would require.

- (18) a. The boy ran (slowly).
 b. *The boy ran the tree (slowly).
 c. The boy hit the tree (slowly).
 d. *The boy hit (slowly).

In (18d), for example, the sentence is ungrammatical whether or not the adverb *slowly* is included. The verb *hit* is transitive and requires an NP object, while *slowly* is an AdvP. In other words, the category of the word following *hit* matters; *hit* syntactically subcategorizes for an NP.

The crucial difference is that in Ronga, i-form verbs appear to be subcategorizing for further lexical material, but the category of this material does not matter. In (1), the post-verbal material can be an NP, as in (1a), a PP as in (1b), or an AdvP as in (1c). However, we cannot say that an i-form verb syntactically subcategorizes for a phrase of *any* category (XP), because we would end up licensing all sorts of sentences that are actually ungrammatical. For example, in (1), the verb **da** ‘eat’ cannot be followed by the verbal complement in (2):

- (19) *Akhondlo **dri-** da aku-bela bola.
 rat AgrS eat Inf play soccer
 ‘*The rat eats to play soccer.’

Clearly, the post-verbal material required by an i-form verb must be independently syntactically licensed. This suggests that the “non-final” subcategorization of an i-form verb is fundamentally different from syntactic subcategorization; to borrow a term from phonology, it is on a different *tier*. This kind of subcategorization is *weight subcategorization*; the weight subcategorization frame of a lexical head must be satisfied at the maximal projection of that head, independently from the head’s syntactic subcategorization frame. Both kinds of subcategorization requirements must be fulfilled for a sentence to be grammatical.

Weight-related phenomena in English can also be explained using weight subcategorization. Although a complete analysis is beyond the scope of this paper, consider, as an example, that the verbal head of a reduced relative clause must not be final in the clause (from Webster 1998):

- (20) a. *The ball thrown was lost.
 b. The ball thrown over the fence was lost.
 c. The ball thrown very quickly was lost.

In this case, the head *thrown* weight subcategorizes for further lexical material within the clause, just as i-form Ronga verbs do. In (21a) this weight subcategorization frame is not satisfied, resulting in ungrammaticality; in (21b) and (21c), the weight subcategorization frame is satisfied by a PP and an AdvP, respectively, showing again that syntactic category is irrelevant to weight subcategorization.

3.2 *Formalizing the Ronga data*

Formalizing the analysis is straightforward: in the lexicon, we posit two classes of verbal subject agreement markers for the present positive declarative, one for the i-form subject agreement morphemes, and one for the a-form morphemes. As prefixes, these morphemes subcategorize for the verbal stems to which they attach. These morphemes contain the weight subcategorization frames for the entire verb: when they combine with a verb stem, the syntactic subcategorization frames percolates to the verb from the stem, while the weight subcategorization frames percolates to the verb from the subject agreement marker. A formalization using a generic unification-based grammar formalism (Sheiber 1986) might look something like this, where AgrS is the verbal subject agreement marker, Vsubcat is the type of verb stem for which the subject agreement marker selects, and Ssubcat and Wsubcat are syntactic subcategorization and weight subcategorization, respectively:

- (21) a. AgrS(Vsubcat: (tense: pres, polarity: pos, mood: decl), Wsubcat: []) \rightarrow *na-*¹¹
- b. AgrS(Vsubcat: (tense: pres, polarity: pos, mood: decl), Wsubcat: [xp]) \rightarrow *ni-*
- c. VStem(tense: pres, polarity: pos, mood: decl, Ssubcat: [np]) \rightarrow *da*¹²
- d. V(Z, Ssubcat: X, Wsubcat: Y) \rightarrow
 AgrS(Vsubcat: Z, Wsubcat: Y) VStem(Z, Ssubcat: X)

The variable X in (21d) guarantees that the value of the Ssubcat feature of the verb stem will be the same as the Ssubcat feature of the verb, while the variable Y guarantees that the value of the Wsubcat feature of the agreement marker will be the same as the Wsubcat feature of the verb. For example, using the rule in (21d), the agreement marker in (21b) and the verb stem in (21c) can be combined into a single verb:

- (22) V(tense: pres, polarity: pos, mood: decl, Ssubcat: [], Wsubcat: [xp]) \rightarrow *nida*

This form, **nida** ‘I eat’, requires no object (since the Ssubcat feature is empty), but the Wsubcat feature requires some post-verbal lexical material -- the ‘[xp]’ value of Wsubcat is intended to convey that the category is unimportant.

In verb forms other than the present positive declarative, such as those in (5)-(9), the simplest explanation is to posit separate lexical entries for these types. Since within a given non-present tense, non-declarative mood, or negative polarity, we see no variation, it seems that weight subcategorization plays no role in these entries. Thus, these entries are not specified for Wsubcat, leaving the verb stem’s Ssubcat feature as the only subcategorization frame needing to be satisfied. (\neg is the logical operator *not*):

¹¹ Although I have used the first person singular agreement here, it should be clear that **na-** and **ni-** are really fully specified subtypes of the general i-form and a-form types, which are unspecified for noun class, person, and number.

¹² This is of course the intransitive version of **da** ‘eat’, rather than the transitive version.

- (23) a. AgrS(Vsubcat: (tense: \neg pres)) \rightarrow *ni*-
 b. AgrS(Vsubcat: (mood: \neg decl)) \rightarrow *na*-
 c. AgrS(Vsubcat: (polarity: neg)) \rightarrow *ni*-

Beyond the scope of this paper are verb forms that represent some combination of non-present tense, non-declarative mood, and negative polarity. These can be straightforwardly accounted for with lexical entries that contain feature specifications that make specific reference to particular combinations of tense, mood, and polarity.

4 Conclusion

I have argued that in Ronga, the alternation between the a-form and the i-form of the verbal subject agreement marker in the present positive declarative tense provides evidence for a grammatical mechanism, weight subcategorization, that requires (or prohibits) the presence of following lexical material. Weight subcategorization, unlike syntactic subcategorization, pays no attention to syntactic category, and thus is a quantitative, rather than qualitative, grammatical constraint. Alternate potential analyses based on tense/aspect or focus distinctions are not consistent with the Ronga data. Weight subcategorization argues that weight-based syntactic phenomena in Ronga as well as in English can be accounted for by weight subcategorization frames associated with particular lexical heads. In the present analysis, these lexical specifications account not only for a-form/i-form alternation within the present positive declarative form, but also for the alternations across tenses and moods seen in non-present, non-declarative, or negative verbal forms, in which different tenses and moods require a different, but unvarying, subject agreement marker.

5 References

- Baumbach, E.J.M. 1970. Introduction to the grammar of Xironga. *Limi* 9:8-54.
 Doke, Clement M. 1954. *The Southern Bantu Languages*. London: Oxford University Press.

- Doke, Clement M. 1961. *Textbook of Zulu Grammar*, Sixth Edition. London: Longmans.
- Givón, Talmy. 1975. Focus and the scope of assertion: Some Bantu evidence. *Studies in African Linguistics* 6:185-206.
- Grimes, Barbara F. (ed.) 1996. *Ethnologue: Languages of the World*, Thirteenth Edition. <http://www.sil.org/ethnologue/>.
- Hyman, Larry M. and Watters, John R. 1984. Auxiliary focus. *Studies in African Linguistics* 15:233-274.
- Junod, Henri A. 1896. *Grammaire ronga, suivi d'un manuel de conversation et d'un vocabulaire ronga-portugais-français-anglais, pour exposer et illustrer les lois du ronga, langage parlé par les indigènes du district de Lourenço Marquez*. Lausanne: Georges Bridel and Company.
- Kunene, Euphrasia. 1975. Zulu pronouns and the structure of discourse. *Studies in African Linguistics* 6:171-184.
- Odden, David. 1984. Formal correlates of focusing in Kimatumbi. *Studies in African Linguistics* 15:275-299.
- Sheiber, Stuart. 1986. *An Introduction to Unification-Based Approaches to Grammar*. CSLI Lecture Notes No. 4. Stanford: CSLI (distributed by University of Chicago Press).
- Webster, Gabriel. 1998. *Efficiency in human and computer syntactic processing*. Master's thesis, University of Washington.

Ronga Relative Clauses and Noun Phrase Accessibility

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1 Introduction

As a Bantu language, Ronga has a complex system of agreement in noun and verb phrases. There is a related and equally complex system of agreement at work in Ronga relative clause formation which will be described in this paper.¹ As predicted by the Noun Phrase Accessibility Hierarchy (Keenan and Comrie 1977), several strategies for relative clause formation may exist within a given language depending on what type of noun phrase is relativized. Although the validity of the NPAH has been questioned, the hierarchy does provide a good heuristic tool for examining Ronga relativization strategies in this paper.

Section 2 describes universal features of relative clauses and relativization strategies according to Keenan and Comrie. Section 3 deals with the NPAH and its constraints. In Section 4, after an introduction to Ronga simple sentences, I describe the formation of Ronga relative clauses. There is quite a bit of variation possible between relativized forms, and therefore, all strategies of relative clause formation will be discussed, and a description of alternative forms will be provided. Section 5 compares Ronga relative clause formation strategies with predictions of the Accessibility Hierarchy.

Identified in this description are particularly interesting phenomena that deserve further study in Ronga, alone and within the Bantu family. These include the use of the demonstrative as the relative pronoun (Section 4.3), the environments and semantic effects of morpheme alternations in some past tense relative clauses (Section 4.5), and the

¹I would like to thank Manuel DaConçeição for the many hours he spent reviewing the forms included in this paper, and also for his enthusiasm for our group's work on his language, which was very rewarding. I

necessity for the auxiliary verb **akukala** ‘to lack’ in negative relative clause formation, where the auxiliary carries the relative morpheme and the main verb carries negation (Section 4.7).

2 Relative Clauses and Universal Grammar

2.1 Definition of Relative Clause

In their initial work on the Noun Phrase Accessibility Hierarchy, Keenan and Comrie (1977) attempted to determine the universal properties of relative clauses by comparing definite relative clauses in a large number of languages.² Given that the syntactic form of a relative clause (RC) can vary so widely, Keenan and Comrie laid out *semantically-based* criteria for identifying and comparing the construction of RCs:

“We consider any syntactic object to be an RC if it specifies a set of objects (perhaps a one-member set) in two steps: a larger set is specified, called the *domain* of relativization, and then restricted to some subset of which a certain sentence, the restricting sentence, is true. The domain of relativization is expressed in surface by the HEAD NP, and the restricting sentence by the RESTRICTING CLAUSE, which may look more or less like a surface sentence depending on the language.”

They explain the terminology that they will use as follows: In the English clause *the girl (that) John likes*, the domain is the set of girls, and the head NP is *girl*. The restricting sentence is *John likes her*, and the restricting clause is *(that) John likes*. Keenan and Comrie refer to the NP in the restricting sentence that is co-referential with the head NP as the ‘NP relativized on’ or NP_{rel}.

am also very grateful to Sharon Hargus for helpful comments on this paper.

²The RC-forming strategies of 49 European, Asian and African languages were considered. The summary did not include any North American or South American languages. This skewed sampling of languages has been pointed out by Newmeyer 1998.

2.2 Strategies of RC-Formation

Languages differ in the way they form relative clauses. Within a given language there may be distinct ways or *strategies* of forming relative clauses. For example, in German there are two possible strategies for forming the following RC:

- (1) der Mann der in seinem Büro arbeitet
 the man who in his study works
 ‘the man who is working in his study’
- (2) der in seinem Büro arbeitende Mann
 the in his study working man
 ‘the man who is working in his study’

In order to define exactly how strategies can differ within the same language, Keenan and Comrie proposed two criteria for distinguishing relativization strategies:

1. *Relative position of the head NP and the restricting clause.* In (1) above the strategy is *postnominal*, the head NP occurring before or to the left of the restricting clause. In (2) above the strategy is *prenominal*, the head NP occurring after or to the right of the restricting clause. In some cases the head NP may also appear within the restricting clause. An *internal* strategy is also possible, but occurs infrequently.
2. *Whether or not the strategy is “case coding,”* that is, if there is an element in the restricting clause that clearly indicates which NP position is being relativized. In (1) and (2) above, the relative article ‘der’ encodes nominative case for the masculine head NP. Therefore this strategy is considered to be case-coding (+*case*). However, the relative pronoun for a feminine head NP would be identical in both the nominative and accusative cases, ‘die.’ In this instance, we would be unable to determine the exact case of the head NP by looking at the relative pronoun, and therefore the strategy could not be considered case-coding.

In Ronga the position of the restricting clause relative to the head noun never changes. The restricting clause *always* appears in the *postnominal* position; that is, the restricting clause always appears *after* the head NP. Therefore, relativization strategies in Ronga can be distinguished only on the basis of whether or not the relativization strategy is *+case* or *-case*.

Another example to distinguish *+case* and *-case* strategies comes from English, where both relativization of subject and direct object nouns (using *who* and *that*, respectively) are considered *-case* relativization strategies:

- (3) *The girl [who likes Bob]* *The girl [that likes Bob]*
 The girl [who Bob likes] *The girl [that Bob likes]*

In the phrases in (3), case cannot be determined solely by looking at the relative pronoun. By contrast, relativization in *The girl whom Bob likes* is considered to be a *+case* strategy since the relative pronoun indicates the accusative case of the NP being relativized.

This issue of \pm *case* in defining a relativization strategy could be considered one of those ‘hotly debated’ topics that has appear in the linguistic literature. In their initial work, Keenan and Comrie argued that inclusion of a nominal element (i.e. pronoun) in the restricting clause would make a strategy *+case*. A few years later, they revised this to say that a *+case* strategy is one in which *any* element of the restricting clause encodes the case of the head NP. Tallerman (1990) would argue that the examples in (3) can be considered *+case* because the *word order* of the restricting clause indicates the role of the head NP being relativized. In our consideration of Ronga relativization, the key import of case-coding is that it signals a change in relativization strategy along different points of the accessibility hierarchy. This will be explained in greater depth with the description of Ronga RCs in Section 5.

3 Noun Phrase Accessibility Hierarchy and its Constraints

Keenan and Comrie proposed the Noun Phrase Accessibility Hierarchy to reflect the availability of noun phrase positions for relative clause formation. The NPAH is as follows:

SU > DO > IO > OBL > GEN > OCOMP

As defined by Keenan and Comrie, ‘>’ means ‘is more accessible than.’ SU stands for ‘subject,’ DO for ‘direct object,’ and IO for ‘indirect object.’ OBL refers to ‘oblique’ (meaning any other noun phrases that may be arguments of the main predicate), GEN for ‘genitive’ (referring to a possessor), and OCOMP for ‘object of comparison.’ The key insight of the hierarchy is that, in a given language, it is ‘easier’ to relativize a subject than a direct object. It is ‘easier’ to relativize a direct object than an indirect object, and so on. Stated another way, a strategy may be prohibited at and below some point in the hierarchy. (In their paper, Keenan and Comrie justify each point on the hierarchy by providing for each point a language that has a strategy that ‘shuts off’ at that point.)

Any human language must meet a few criteria with respect to the accessibility hierarchy:

(4) *Accessibility Hierarchy (AH) Constraints*

HC1: A language must be able to relativize subjects.

HC2: Any RC-forming strategy must apply to a continuous stretch of the AH.

HC3: Strategies that apply at one point of the AH may in principle cease to apply at any lower point (i.e. each point is a possible cutoff point for a given relativization strategy).

That said, not all languages relativize at all levels of the AH, and they may use different strategies for covering different segments of the AH. We will see that this is also true for Ronga.

4 Relative Clauses in Ronga

Ronga does relativize noun phrases at all positions of the accessibility hierarchy. However, we find that different strategies for RC formation apply for different portions of the hierarchy. For the purpose of the following discussion of RC formation, an overview of the structure of Ronga simple sentences may be useful.

4.1 Simple sentence formation

Ronga is an SVO language with an extensive noun class system typical of Bantu languages. In the simple SVO sentence, the verb exhibits a subject agreement prefix (pfx) that precedes the lexical stem of the verb and agrees with the number and class of the subject noun.

4.1.1. Active sentences

(5) Present tense (PRS) simple sentences

Antombi yikukula (yindlu).	Atintombi tikukula (yindlu).
A-ntombi <i>yi</i> -kukul-a (yindlu).	Ati-ntombi <i>ti</i> -kukul-a (yindlu).
sg-girl pfx-sweep-PRS (sg-house).	Pl-girl pfx-sweep-PRS (sg-house).
'The girl is sweeping (the house).'	'The girls are sweeping (the house).'

sg = singular, Pl = plural

Pfx = verbal prefix which agrees with number/class of subject noun

Parentheses indicate that the object *yindlu* '(the) house', may be omitted.³

(6) Past tense (PST) simple sentence - verb is sentence final (no object or adverb).

Antombi yikukulile.	Atintombi tikukulile.
A-ntombi <i>yi</i> -kukul-ile	Ati-ntombi <i>ti</i> -kukul-ile
sg-girl pfx-sweep-PST	Pl-girl pfx-sweep-PST
'The girl swept.'	'The girls swept.'

³However, if the object is omitted, then the form of the agreement prefixes in (5) must be *ya-* and *ta-*, respectively. See Webster (this volume) for discussion.

(7) Past tense (PST) simple sentence - verb is non-final

Antombi yikukuli yindlu.
 A-ntombi yi-kukul-i yindlu.
 sg-girl pfx-sweep-PST sg-house.
 'The girl swept the house.'

Atintombi tikukuli yindlu.
 Ati-ntombi ti-kukul-i yindlu.
 Pl-girl pfx-sweep-PST sg-house.
 'The girls swept the house.'

(8) Future tense (FUT) simple sentence

Antombi yitakukula (yindlu).
 A-ntombi yi-ta-kukula (yindlu).
 sg-girl pfx-FUT-sweep (sg-house).
 'The girl will sweep (the house).'

Atintombi titakukula (yindlu).
 Ati-ntombi ti-ta-kukula (yindlu).
 Pl-girl pfx-FUT-sweep (sg-house).
 'The girls will sweep (the house).'

Verbal tense is indicated by an affix. The present tense is marked by **-a** (5), the past tense with either **-ile** (6) or **-i** (7), and the future tense, with **ta-** (8). The suffix **-ile** is used to form the simple past tense when the verb is sentence-final, or when the verb stem is single syllable, i.e. **-da-** 'to eat' or **-wa-** 'to fall.' The suffix **-i** is used in all other environments.

4.1.2. Construction of Passive Sentences

The passive voice is constructed similar to the active voice, with the addition of the passive morpheme **-iw-**, which appears between the verb stem and the stem suffix:

(9) Construction of passive sentences: present, past and future tenses

	Singular subject	Plural subject
PRS	<p>Ayindlu yikukuliwa hi Rose. A-yindlu yi-kukul-<i>iw</i>-a hi Rose. sg-house pfx-sweep-<i>Passive</i>-PRS PREP Rose. 'The house is being swept by Rose.'</p>	<p>Atiyindlu tikukuliwa hi Rose. Ati-yindlu ti-kukul-<i>iw</i>-a hi Rose. Pl-house pfx-sweep-<i>Passive</i>-PRS PREP Rose 'The houses are being swept by Rose.'</p>
PST	<p>Ayindlu yikukuliwile. A-yindlu yi-kukul-<i>iw</i>-ile sg-house pfx-sweep-<i>Passive</i>-PST 'The house was swept.'</p>	<p>Atiyindlu tikukuliwile. Ati-yindlu ti-kukul-<i>iw</i>-ile Pl-house pfx-sweep-<i>Passive</i>-PST 'The houses were swept.'</p>

FUT	Ayindlu yitakukuliwa. A-yindlu yi-ta-kukul- <i>iwa</i> sg-house pfx-FUT-sweep- <i>Passive</i> 'The house will be swept.'	Atiyindlu titakukuliwa. Ati-yindlu ti-kukul- <i>iwa</i> Pl-house pfx-FUT-sweep- <i>Passive</i> 'The houses will be swept.'
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4.1.3. Construction of Negative Sentences

Negation involves a combination of changes to the verb which are described below. Negative morphemes are underlined. Other verb changes are described after each example.

(9) Negative present tense sentences

Antombi ayikukuli yindlu. A-ntombi <u>a</u> -yi-kukul- <u>i</u> yindlu. sg-girl <u>NEG</u> -pfx-sweep-PRS sg-house. 'The girl is <u>not</u> sweeping the house.'	Atintombi atikukuli yindlu. Ati-ntombi <u>a</u> -ti-kukul- <u>i</u> yindlu. Pl-girl <u>NEG</u> -pfx-sweep-PRS sg-house. 'The girls are <u>not</u> sweeping the house.'
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Negative present tense sentences are characterized by two changes to the verb. The prefix **a-** is added before the subject agreement prefix, and the present tense suffix **-a** becomes **-i**, showing a front vowel characteristic of the negative.

(10) Negative past tense sentence - verb is sentence final or non-final.

Antombi ayikukulanga yindlu a-ntombi <u>a</u> -yi-kukula-nga yindlu sg-girl <u>NEG</u> -pfx-sweep- <u>NEG</u> sg-house The girl did <u>not</u> sweep the house.	Atintombi atikukulanga yindlu. Ati-ntombi <u>a</u> -ti-kukula-nga yindlu pl-girl <u>NEG</u> -pfx-sweep- <u>NEG</u> sg-house The girls did <u>not</u> sweep the house.
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Negative past tense sentences are characterized by two changes to the verb. As for the present tense, the prefix **a-** is added before the subject agreement prefix. The past tense suffix **-i** or **-ile** is replaced with **-nga**, which distinguishes it from the negative present tense ending.

(11) Negative future tense sentence

Antombi yingatikukula yindlu. A-ntombi yi- <u>nga</u> -ti-kukula yindlu. sg-girl pfx- <u>NEG</u> -FUT-sweep yindlu The girl will <u>not</u> sweep the house.	Atintombi tingatikukula yindlu Ati-ntombi ti- <u>nga</u> -ti-kukula yindlu pl-girl pfx- <u>NEG</u> -FUT-sweep sg-house The girls will <u>not</u> sweep the house.
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Negative future tense sentences are also characterized by two changes to the verb. The negative morpheme, here **nga-**, precedes the future morpheme, while the future **ta-** becomes **ti-**, showing the front vowel characteristic of the negative.

4.2 RC Formation

We will begin by illustrating RC formation on the subject noun phrases in (5), (7) and (8) above. To form a RC on the subject noun phrase, two elements are needed. These are underlined in the following examples. The first is the relative pronoun, equal to *who* or *that*, whose formation is described below in Section 4.3. The second is a verbal affix, which indicates the tense of the verb, as above. This affix, which might be called a “relative verbal affix,” is slightly different from the simple verbal affix shown above. A chart comparing them can be found in 0. As with simple sentences above, the verb exhibits a prefix that agrees with the number and class of the subject noun.

(13) The present tense RC’s above are formed as follows:

<i>sg</i>	Antombi	leyi	yikukulaka	yindlu...
	A-ntombi	<u>leyi</u>	yi-kukul- <u>aka</u>	yindlu...
	sg-girl	<u>REL</u>	pfx-sweep- <u>RPRS</u>	sg-house...
	The girl	<u>who</u>	is sweeping	the house...
<i>pl</i>	Atintombi	leti	tikukulaka	yindlu...
	Ati-ntombi	<u>leti</u>	ti-kukul- <u>aka</u>	yindlu...
	pl-girl	<u>REL</u>	pfx-sweep- <u>RPRS</u>	sg-house...
	The girls	<u>who</u>	are sweeping	the house...

(14) The past tense (PST) for the same clauses would appear as follows:

<i>sg</i>	Antombi	leyi	yingakukula	yindlu
	Antombi	<u>leyi</u>	yi- <u>nga</u> -kukula	yindlu
	Girl	<u>REL</u>	pfx- <u>RPST</u> -sweep	the house
	The girl	<u>who</u>	swept	the house
<i>pl</i>	Atintombi	leti	tingakukula	yindlu
	Ati-ntombi	<u>leti</u>	ti- <u>nga</u> -kukula	yindlu
	pl-girl	<u>REL</u>	pfx- <u>RPST</u> -sweep	the house
	The girls	<u>who</u>	swept	the house

(15) The future tense (FUT) for the same clauses would appear as follows:

<i>sg</i>	Antombi	leyi	yitakakukula	yindlu
	Antombi	<u>leyi</u>	yi- <u>taka</u> -kukula	yindlu
	Girl	<u>REL</u>	pfx- <u>RFUT</u> -sweep	house
	The girl	<u>who</u>	will sweep	the house
<i>pl</i>	Atintombi	leti	titakakukula	yindlu
	Ati-ntombi	<u>leti</u>	ti- <u>taka</u> -kukula	yindlu
	pl-girl	<u>REL</u>	pfx- <u>RFUT</u> -sweep	sg-house
	The girl	<u>who</u>	will sweep	the house

4.3 Relative Pronoun (REL)

As in English, where the demonstrative *that* can also be a relative pronoun, Ronga uses the demonstrative as the relative pronoun in RC construction. The relative pronoun has the identical form of the demonstrative that agrees in class and number with the head NP. For a description of demonstrative agreement, see Hargus, Da Conceição, and McBurney (this volume).

The relative pronoun (and demonstrative) takes the following form: *IV+suffix*. The first vowel V agrees in backness, labiality and lowness with the suffix vowel. The suffix agrees in noun class and number with the head noun. There is one slightly exceptional form which is **lweyi** (i.e. **mudondri lweyi** ‘this student’) which will not be addressed here, but is mentioned because it will appear in some sample sentences.

(16) Examples of demonstrative noun phrases:

<i>sg</i>	antombi	<u>leyi</u>	‘ <u>this</u> girl’	<i>sg</i>	adoropa	<u>ledri</u>	‘ <u>this</u> village’
<i>pl</i>	atintombi	<u>leti</u>	‘ <u>these</u> girls’	<i>pl</i>	amadoropa	<u>lawu</u>	‘ <u>these</u> villages’
<i>sg</i>	axitramu	<u>lexi</u>	‘ <u>this</u> chair’	<i>sg</i>	amukwa	<u>lowu</u>	‘ <u>this</u> knife’
<i>pl</i>	aswitramu	<u>leswi</u>	‘ <u>these</u> chairs’	<i>pl</i>	amimukwa	<u>leyi</u>	‘ <u>these</u> knives’
<i>sg</i>	awugamu	<u>ledri</u>	‘ <u>this</u> end’	<i>sg</i>	aliphapha	<u>ledri</u>	‘ <u>this</u> wing’
<i>pl</i>	amigamu	<u>leyi</u>	‘ <u>these</u> ends’	<i>pl</i>	atinphapha	<u>leti</u>	‘ <u>these</u> wings’

In the relative clauses below, the demonstrative pronoun is understood as the relative pronoun *who*, since it is being used on a SU noun phrase that is +human.

Antombi <u>leyi</u>	‘ <u>this</u> girl’
Antombi <u>leyi</u> yikukulaka yindlu	‘the girl <u>who</u> is sweeping the house’
Atintombi <u>leti</u>	‘ <u>these</u> girls’
Atintombi <u>leti</u> tikukulaka yindlu	‘the girls <u>who</u> are sweeping the house’

We will see below, Ronga uses the demonstrative as relative pronoun for RC’s formed at *every* position on the NPAH (SU, DO, IO, GEN, etc.). Therefore, RC’s formed from noun phrases at different positions on the hierarchy will use the exact same relative pronoun if they have a head NP with the same noun class and number. Therefore, the relative pronoun could have a different *semantic* value based on which position in the hierarchy is being relativized. For example, in RC’s formed on DO noun phrases the demonstrative pronoun **leyi** could be understood as *whom* (i.e. ‘the girl *whom* I called’), and in RC’s formed on GEN noun phrases the same pronoun **leyi** could be understood as *whose* (i.e. ‘the girl *whose* book I borrowed’). Examples of Ronga RCs will be given below for all positions of the hierarchy. For now, it is important to note that since the relative pronoun is identical for different cases, the relative pronoun will not be considered a case-coding member of the Ronga relative clause.

In English, the relative pronoun is obligatory in relativization on a SU noun phrase (Keenan 1985). According to Manuel, the relative pronoun is not obligatory in Ronga RC’s, and can always be omitted. Throughout this paper, I will always include the relative pronoun for the sake of clarity.

4.4 *Verbal Affix in RC formation*

As shown above, the verbal element of the relative clause, which might be called the *relative verbal affix*, has three forms vary according to present, past and future tense. The relative verbal suffix **-aka** which appears in the present tense is affixed to the end of the lexical stem of the verb. The relative verbal prefixes **nga-** and **taka-** which appear in the past and future tenses respectively, are affixed between the subject agreement prefix

and the lexical stem of the verb. A comparison of relative and non-relative tenses is provided below:

(17) Verbal affixes in simple sentences and in relative clauses

Tense	Simple Affix	Position	Tense	Relative Affix	Position
PRS	-a	Suffix	RPRS	-aka	Suffix
PST	-ile	Suffix (used if verb has single syllable stem, or is sentence final)	RPST	nga-(-iki)*	Prefix Suffix
PST	-i	Suffix (used elsewhere)	RPST	nga-(-iki)*	Prefix Suffix
FUT	ta-	Prefix	RFUT	taka-	Prefix

*Alternate form for RPST, see below.

4.5 Past Tense Alternation: nga- ~ iki

The chart above includes the alternate past tense relative suffix **-iki**, which appears as an alternant of the past tense prefix **nga-** in certain past tense forms. It will be discussed briefly here, but is definitely a target for more investigation because the **nga- ~ -iki** alternation is not possible across the board. It remains to be determined whether the environment for this alternation might depend on the lexical meaning of the verb, or perhaps on the thematic role of the head NP. Examples follow:

(18) 2 possible forms of 'I am waiting for the student who called me.'

Ninyimela mudondri lweyi anganivitana.
 Ni-nyimela mu-dondri lweyi a-nga-ni-vitana.
 1pS-wait-PRS pl-student REL 3pS-RPST-1sO-call

Ninyimela mudondri lweyi anivitaniki.
 Ni-nyim-ela mu-dondri lweyi ani-vitan-iki.
 1pS-wait-PRS pl-student REL 3pS-1sO-call-RPST

(19) 2 possible forms of ‘The teachers who taught our students...’

Vadondrisi lava vangadondrisa avadondri vezru.
 Va-dondrisi lava va-nga-dondrisa ava-dondri vezru
 pl-teacher REL 3pP-RPST-teach pl-students pl-our

Vadondrisi lava vadondrisiki avadondri vezru
 Va-dondrisi lava va-dondris-iki ava-dondri vezru
 pl-teacher REL 3pP-teach-RPST pl-students pl-our

(20) 2 possible forms of ‘Here is where we waited.’

Hi kola hinganyima kone.
 Hi kola hi-nga-nyima kone
 3pS here pfx-RPST-wait here
 ‘Here is where we waited.’

Hi kola hinyimiki kone.
 Hi kola hi-nyim-iki kone.
 3pS here pfx-wait-RPST here.
 ‘Here is where we waited (and are still waiting).’

In this last example (20), the alternate sentences have slightly different meanings. The first sentence has the meaning, ‘Here is where we waited.’ The second sentence, using the *-iki* form, can be understood to be imperfective, i.e. ‘Here is where we waited *and are still waiting*.’ This alternate meaning is not true of the examples (18) and (19).

Whatever the environments that enable this alternation, it seems probable that the alternate form *-iki* may have developed as a past tense version of the present tense relative suffix *-aka*. This would reflect a “combination” of the *-aka* of present tense with the high front vowel that characterizes the past tense suffixes *-ile* and *-i* to become *-iki*.

4.6 *-VkV as Relative Morpheme?*

Following from the discussions above, the shape *-VkV* might be identified as a base relative verbal morpheme in Ronga. Although past tense relative constructions exist that do not contain a morpheme of this shape, as in (14) above, it is possible to identify this shape in all tenses.

(21) -VkV shape in relative verbal morpheme

Tense	Affix	Example with relative morpheme underlined:
PRS	-aka	-aka as the present tense relative morpheme. From (12) above: Antombi leyi yikukul <u>aka</u> yindlu... 'The girl who is sweeping the house...'
PST	-iki	The morpheme -iki could be considered a combination of the past tense morpheme -i+ -aka which with vowel harmony becomes -iki. From (19): Vadondrisi lava vadondris <u>iki</u> avadondri vezru 'The teachers who taught our students'
FUT	-taka	The morpheme taka- could be considered a combination of the future tense ta- + aka- which becomes taka-. From (15) above: Antombi leyi yitakakukula yindlu 'The girl who will sweep the house'

For the future tense, we can say that the relative verbal affix appears to be a combination of the future tense morpheme **ta-** and the relative morpheme **-aka**. I would not to describe the surface form as simply the relative morpheme **-aka** added into a future tense sentence already containing **ta-**. Some justification for this would be that since the **nga-** past tense relative affix (which appears to be used *much* more often than the **-iki** form) no longer contains the **-i** or **-ile** morpheme found in the simple past tense, it would be difficult to explain why the future tense would behave differently. In the end, it seems obvious that **taka-** morpheme contains the future tense morpheme **ta-** plus a form of the relative morpheme **-ka** or **-aka**, but it remains to be determined at what point in the morphology this occurs or occurred.

4.7 Negative RC Constructions

Negative RC formation is very interesting for two reasons. Some of the verbal morphology takes on new positions, but also the formation of negative RCs sometimes requires an auxiliary verb, **akukala** (stem **-kala**) 'to lack or to be lacking.' In the

following examples, the auxiliary verb and negative morphemes (discussed in 0) are underlined.

(22) Present tense RCs with negation

- sg* Antombi leyi yikalaka yinga kukuli yindlu.
 A-ntombi leyi yi-kal-aka yi-nga-kukul-i yindlu
 sg-girl REL pfx-lack-RPRS pfx-NEG-sweep-PRS sg-house
 'The girl who is NOT sweeping the house'
- pl* Alternative 1:
 Atintombi leti tikalaka tingakukuli yindlu
 Ati-ntombi leti ti-kal-aka ti-nga-kukul-i yindlu
 pl-girl REL pfx-lack-RPRS pfx-NEG-sweep-PRS sg-house
 'The girls who (lacking) are not sweeping the house'
- pl* Alternative 2: (note no auxiliary verb, and no object)
 Atintombi leti tingakukuliki
 ati-ntombi leti ti-nga-kukul-iki
 pl-girl REL pfx-NEG-sweep-RPST
 'The girls who are NOT sweeping'

In the present tense clauses above, it is the main verb **-kukula** 'to sweep' that carries the negative morpheme **nga-** (which is usually the form of the negative reserved for the past and future tenses), while the auxiliary verb **-kala** 'to lack' carries the relative verbal affix **-aka**. Interestingly, this auxiliary verb *always* takes the present tense relative RPRS ending **-aka**, even in past tense and future tense constructions, as we will see in the following examples.

The plural form above has two alternates. The first uses the auxiliary verb to carry the relative verbal affix and the main verb carries the negative morpheme; while in the second clause, which lacks an object (and is therefore less complex), carries both the negative and relative morphemes on the main verb.

(23) Past tense RCs with negation

sg Antombi leyi yikalaka yinga kukulanga yindlu
 a-ntombi leyi yi-kal-aka yi-nga-kukula-nga yindlu
 sg-girl REL px-lack-RPRS px-NEG-sweep-RPST sg-house
 'The girl who did NOT sweep the house'

pl Atintombi leti tikalaka tinga kukulanga yindlu
 ati-ntombi leti ti-kalaka ti-nga-kukula-nga yindlu
 pl-girl REL px-lack-RPRS px-NEG-sweep-RPST sg-house
 'The girls who did NOT sweep the house'

In these past tense clauses, the auxiliary verb appears again with the RPRS affix -**aka**. The main verb carries the past tense negative morpheme **nga-**, as well as the *identical* past tense relative morpheme **-nga** (instead of the simple tense affix which appears in the negative present and future tenses). In order to prevent confusion, the past tense relative morpheme, which usually appears as a prefix to the verb stem, now appears as a suffix to the verb stem.

(24) Future tense RCs with negation

sg Antombi leyi yikalaka yingatikakukula yindlu
 a-ntombi leyi yi-kal-aka yi-nga-tika-kukula yindlu
 sg-girl REL px-lack-RPRS px-NEG-RFUT-sweep sg-house
 'The girl who will NOT sweep the house'

pl Atintombi leti tikalaka tingatikakukula yindlu
 ati-ntombi leti ti-kal-aka ti-nga-tika-kukula yindlu
 pl-girls REL px-lack-RPRS px-NEG-RFUT-kukula sg-house
 'The girls who will NOT sweep the house'

In these future tense clauses, the auxiliary verb again appears with the RPRS affix -**aka**. The main verb carries the negative morpheme **nga-**, which precedes the future morpheme, which changes from **ta-** to **ti-**, showing the front vowel characteristic of the negative.

(25) RCs formed on SU position

Antombi leyi yikukulaka yindlu

A-ntombi	<u>leyi</u>	yi-kukul-aka	yindlu...
sg-Girl	<u>REL</u>	pfx-sweep-RPRS	sg-house...
The girl	<u>who</u>	is sweeping	the house...

Antombi leyi yingakukula yindlu

A-ntombi	<u>leyi</u>	yi-nga-kukula	yindlu
sg-Girl	<u>REL</u>	pfx-RPST-sweep	sg-house
The girl	who	swept	the house

Antombi leyi yitakakukula yindlu

A-ntombi	<u>leyi</u>	yi-taka-kukula	yindlu
sg-Girl	<u>REL</u>	pfx-RFUT-sweep	sg-house
The girl	who	will sweep	the house

As seen above, to form a RC on the subject noun phrase, two elements are needed. The first is the relative pronoun (REL), equal to *who* (+human) or *that* (-human). The second is the relative verbal affix, which indicates the tense of the verb. Recall that REL is optional in all relative clauses, so the relative verbal affix, is the essential relative marker in all clauses. In Ronga, this strategy could be considered the primary strategy, since all lower positions on the AH use this strategy for creating relative clauses, alone or combination with other mechanisms, which will be described below.

5.2 RC-Formation on DO (Direct Object noun phrases)

As with RC formation on the SU position, relativization on DO requires a relative pronoun (REL) and a relative verbal affix that shows tense: present tense (RPRS), past tense (RPST), and future tense (RFUT). Most relative clauses formed on DO noun phrases have two possible versions: one passive and one active, as shown below.. Manuel expresses a clear preference for the passive version in forming RC's on DO noun phrases.

(26) RCs formed on DO position: example 1

Strategy 1 (active, same as used on SU):

Related simple sentences

Abuku ledri akondlu dridondraka...
 Abuku ledri akondlu dri-dondra-ka...
 Book that rat pfx-read-RPRS
 'The book that the rat is reading...'

Akondku dridondra abuku.
 a-kondlu dri-dondr-a a-buku
 sg-rat pfx-read-PRS sg-book
 'The rat is reading the book.'

Strategy 2 (relativization on passive form - preferred)

Abuku dridondriwa hi kondlu.
 A-buku dri-dondr-iwa hi kondlu.
 sg-book pfx-read-*Passive*-PRS PREP
 sg-rat
 'The book is read by the rat.'

Abuku ledri dridondriwaka hikondlu....
 Abuku ledri dri-dondr-iw-aka hi-kondlu...
 Book that pfx-read-*passive*-RPRS rat...
 'The book that is being read by the rat...'

(27) RCs formed on DO position: example 2

Strategy 1 (active, same as used on SU):

Related simple sentences

Amadin'wa lawa ampfuvu hitakada....
 Amadin'wa lawa ampfuvu hi-taka-da...
 Oranges that hippo pfx-RFUT-eat
 'The oranges that the hippo will eat...'

Ampfuvu hitada amadin'wa.
 a-mpfuvu hi-ta-da ama-din'wa
 sg-hippo pfx-FUT-eat pl-orange
 'The hippo will eat the oranges.'

Strategy 2 (relativization on passive form - preferred)

Amadin'wa lawa matakadiwa himpfuvu
 Amadin'wa lawa ma-taka-d-iwa hi-mpfuvu
 pl-oranges that pfx-RFUT-eat-passive hippo
 'The oranges that will be eaten by the hippo...'

Amadin'wa matadiwa hi mpfuvu.
 Ama-din'wa ma-ta-d-iwa hi mpfuvu
 pl-oranges pfx-FUT-eat-*Passive*
 PREP sg-hippo
 'The oranges will be eaten by the hippo.'

In their description of DO relativization, Keenan and Comrie (1979b) observe that many Polynesian languages cannot directly relativize NPs that can be promoted to subject. These languages require that DO noun phrases are promoted to SU position, via passivization, so that they can be relativized as subjects. In Ronga, although it is not impossible to relativize the DO position, Manuel prefers a passivization strategy, in which the DO is promoted to SU. When passivized, *The rat is reading the book* becomes *The book is read by the rat*, and then relativization is completed on the new SU position, *the book*. Likewise, *The hippo will eat the oranges* becomes *The oranges will be eaten by*

the hippo and then relativization is completed on the new SU position, *the oranges*. Although the subject still plays the same thematic role, it is now judged to be more accessible to relativization in the SU position.

5.3 RC-Formation on IO (Indirect Object Noun Phrases)

For RC-formation on the IO position, Ronga uses the same strategies described for the DO position. That is, the IO is promoted to SU position, via passivization, and then relativized as a subject. As with DO, it is not impossible to relativize the IO position, but Manuel strongly prefers the passivized form:

(29) RC formed on IO position: 'The boy to whom the woman gives the book'

Strategy 1 (active, same as used on SU):

Related simple sentences

Adjaha ledri awansati adrinyikaka abuku...
A-djaha ledri a-wansati a-dri-nyika-ka abuku...
sg-boy REL sg-woman pfx-obj-give-RPRS
book...
'The boy whom the woman gives the book ...'

Awansati anyika djaha abuku.
a-wansati a-nyik-a djaha a-buku
sg-woman pfx-give-PRS sg-boy sg-book
'The woman gives the book to the boy.'

Strategy 2 (relativization on passive form):

Adjaha ledri drinyikiwaka abuku hiwansati...
A-djaha ledri dri-nyik-iw-aka a-buku hi-wansati...
sg-boy REL pfx-give-*Passive*-RPRS sg-book
PREP-woman...
'The boy who is given the book by the woman...'

Adjaha drinyikiwa abuku hi wansati
a-djaha dri-nyik-iwa a-buku hi wansati
sg-boy pfx-give-*Passive*-PRS sg-book PREP
sg-woman
'The boy is given the book by the woman'

5.4 RC-Formation on OBL (Oblique Noun Phrases)

In their description of Polynesian languages, Keenan and Comrie (1977) note that when a noun phrase position cannot be promoted to SU by passivization, the language will "opt" for another strategy of RC formation for that position, one which is +*case*. This is also true for Ronga. As seen above, DO and IO positions can be passivized, and thereby promoted to SU. OBL is a position which cannot be promoted to SU position, and hence the verb is not passivized in the examples that follow. RCs formed on OBL do use a +*case* strategy, that is, one that includes an element in the restricting clause which clearly indicates the position being relativized. That element is a resumptive pronoun

(underlined) which is coreferential with the head NP, but which also contains a preposition, thereby indicating the position being relativized.

(31) RCs formed on OBL position

Relative Clause

Axitramu lexi utaka trama kaxone
 Axi-tramu lexi u-taka-trama ka-xo-ne
 sg-chair REL you-RFUT-sit PREP-sg-Pronoun
 'The chair on which you will sit' (lit. 'The chair that you will sit on it')

Adoropa ledri ninga kulela kadro-ne
 A-doropa ledri ni-nga-kulela ka-dro-ne
 sg-town REL 1pS-RPST-growup PREP-sg-Pronoun
 'The town in which I grew up' (lit. 'The town that I grew up in it')

Antombi leyi uyendriki nayone
 A-ntombi leyi u-yendr-iki na-yo-ne
 sg-girl REL you-travel-RPST PREP-sg-Pronoun
 'The girl with whom you travelled....' (lit. 'The girl who you traveled with her')

Atintombi leti uyendriki natone
 A-ti-tombi leti u-yendr-iki na-to-ne
 pl-girl REL you-travel-RPST PREP-pl-Pronoun
 'The girls with whom you travelled....' (lit. 'The girls who you traveled with them')

Related Simple Sentence

Utatrama kaxitramu
 U-ta-trama ka-xi-tramu
 you-FUT-sit PREP sg-chair
 'You will sit on the chair.'

Nikuli ka doropa draka Maputru.
 ni-kul-i ka doropa dra-ka Maputru.
 1pS-growup-PST PREP sg-town
 pfx-PREP propername
 'I grew up in the town of Maputo.'

Uyendri ni ntombi.
 U-yendr-i ni ntombi.
 You-travel-PST PREP sg-girl.
 'You traveled with the girl.'

Uyendri ni tintombi
 U-yendr-i ni ti-ntombi.
 You-travel-PST PREP pl-girls
 'You traveled with the girls.'

Unlike DO and IO positions, the OBL position and all lower positions on the hierarchy do not use a passivized verb. For OBL, GEN and OCOMP positions, promotion to SU is not allowed, so they resort to using a *+case* relativization strategy. Tallerman proposes that, cross-linguistically, *+case* strategies have a common goal: they enable relativization to occur in lower positions on the AH than a *-case* strategy would allow. So, we will predict that Ronga will use a *+case* strategy for the remaining positions on the hierarchy. This is shown below.

Among all the RCs which were reviewed for this topic, I came across one problematic type which was omitted for brevity's sake. This was an RC formed on an IO noun phrase. The RC was not passivized as described in Section 5.3, but was formed in a *+case* manner, where the case was indicated by a prepositional suffix, *-ela* 'to,' on the verb, similar to the OBL strategy. This is a fairly common construction and one that needs more examination.

5.5 RC-Formation on GEN (Genitive Noun Phrases)

The *+case* strategy seen in the OBL position continues for the remainder of the hierarchy positions. For the GEN position, the element which indicates the genitive case of the head NP is a possessive pronoun, underlined in these examples, which agrees in class and number with the possessor (the head NP) *and* the object possessed.

(32) RCs formed on GEN position

Relative clause

Antombi leyi ungada makondlu yayone
A-ntombi leyi u-nga-da ma-kondlu ya-yo-ne
sg-girl REL you-RPST-eat pl-rat plO-sgS-hers
'The girl whose rats you ate....' (lit. 'The girl who
you ate the rats hers')

Antombi leyi ungada timpfuvu tayone
A-ntombi leyi u-nga-da ti-mpfuvu ta-yo-ne
sg-girl REL you-RPST-eat pl-hippo plO-sgS-hers
'The girl whose hippos you ate' (lit. 'The girl who
you ate the hippos hers')

Atintombi leti ungadondra mabuku yatone
Ati-ntombi leti u-nga-dondra ma-buku ya-to-ne
pl-girl REL you-RPST-read pl-book plO-plS-hers
'The girls whose books you read' (lit. 'The girl who
you read the books theirs')

Related simple sentence

Udile makondlu ya ntombi
u-d-ile ma-kondlu ya ntombi
2pS-eat-PST pl-rat PREP sg-girl
'You ate the girl's rats.'

Udile tinpfuvu ta ntombi
u-d-ile tin-pfuvu ta ntombi
2pS-eat-PST pl-hippo PREP sg-
girl
'You ate the girl's hippos.'

Udondri mabuku ya ntombi
u-dondr-i ma-buku ya ntombi
2pS-read-PST pl-books PREP sg-
girl
'You read the girl's books.'

In summarizing results of Givon 1979, Newmeyer (1998) states that, all things being equal, a language will choose a strategy which allows most easily the recovery of the semantic roles of the arguments involved. In the preceding GEN examples, it can be

seen that Ronga easily encodes the relationship between possessor (the head NP) and possessed by using the possessive pronoun in the restricting clause.

5.6 *RC-Formation on OCOMP (Object of Comparison Noun Phrases)*

The position of OCOMP presents a few difficulties in regard to the AH. In fact, many now agree that this lowest position on the hierarchy has to be excluded (Newmeyer 1998). In their original work, Keenan and Comrie point out that “few languages that distinguish objects of comparison from direct object and oblique noun phrases permit them to be relativized.” As well, they state that RCs formed on OCOMP, where possible, are judged to be a little uncomfortable, as is the case with English:

The man who Mary is taller than...

In English, we would be more likely to present this as *The man who is shorter than Mary*, thereby promoting the head NP to the more accessible position of OBL. That said, Manuel has been able to give examples of OCOMP RC formation in Ronga, and judges them to be an acceptable construction.

The *+case* strategy is marked by an element in the restricting clause that encodes the case of the head NP. Unlike the pronoun which is the *+case* element of the OBL and GEN positions, in OCOMP clauses, it is the verb **kutlula** ‘be more than’ which indicates comparison. Note that many English adjectives correspond to Ronga verbs (e.g. **-leha** ‘to be tall’).

(33) RCs formed on OCOMP position

Relative clause

Adjaha ledri dringaleha kutlula yindlu
 a-djaha ledri dri-nga-leha kutlula yindlu
 sg-boy REL pfx-RPST-betall COMP sg-house
 'The boy who was taller than a house' (lit. 'The
 boy who was tall more than a house')

Axipixi lexi xaxikulu kutlula yindlu
 axi-pixi lexi xa-xi-kulu kutlula yindlu
 sg-cat REL pfx-pfx-bebig COMP sg-house
 'The cat that is bigger than a book' (lit. 'The
 cat that is big more than a house')

Related simple sentence

Adjaha ledri drilehi kutlula yindlu
 a-djaha ledri dri-leh-i kutlula yindlu
 sg-boy REL pfx-betall-PST COMP sg-
 house
 'This boy was taller than a house' (lit.
 'this boy was tall more than a house')

Axipixi lexi xikulu kutlula buku.
 Axi-pixi lexi xi-kulu kutlula buku
 sg-cat REL pfx-bebig COMP sg-book
 'This cat is bigger than a book.' ('this
 cat is big more than a book')

5.7 *Summary regarding NPAH in Ronga*

The distribution of Ronga's strategies for RC formation can be diagrammed as follows:

(34) Strategies of Ronga RC formation for hierarchy positions

Relativization Strategy	SU	DO	IO	OBL	GEN	OCOMP
<i>Strategy 1 (-case)</i> REL + Affix Strategy	*	*	*			
<i>Strategy 2 (-case)</i> Passivization + <i>Strategy 1</i>		*	*			
<i>Strategy 3 (+case)</i> Pronominal Strategy				*	*	
<i>Strategy 4 (+case)</i> Adverbial Strategy						*

As summarized above, Ronga has four strategies for RC formation. To form a RC at the SU position, two elements are needed: a relative pronoun (REL) and a relative verbal affix, marked for tense. The DO and IO positions *can* use this same strategy (*Strategy 1*), but Ronga prefers another strategy, which is to promote them via passivization and then relativize them as SU noun phrases (*Strategy 2*). NPs at OBL

position cannot be promoted to SU position, so the verb is not passivized. Instead, RCs formed on OBL use a *+case* strategy which clearly indicates the position being relativized, in this instance, by including a resumptive pronoun in the restricting clause (*Strategy 3*). The *+case* strategies continue down through the remaining hierarchy positions, as predicted. The GEN position also indicates its case with inclusion of a resumptive pronoun in the restricting clause (*Strategy 3*). NPs at the OCOMP position can be relativized with a strategy that is also *+case* due to the inclusion of a comparison adverb in the restricting clause (*Strategy 4*).

The number of relativization strategies in Ronga could be further reduced by analyzing Ronga as having only *two* relativization strategies, one that is *-case* and another which is *+case*. Strategies 1 and 2 are essentially the same, with the only distinction being passivization proceeding relativization at DO and IO levels; and Strategies 3 and 4 both essentially include a case-coding element in the restricting clause.

5.8 *Comparison with other Bantu languages*

In their examination of the Zezuru dialect of Shona, which also has SVO sentence order and RCs with postnominal restricting clauses, Keenan & Comrie 1979a note that the language has the exact same strategies as we have seen in Ronga. Their occurrence over the diverse levels of the AH also seems to be identical.

Unlike Ronga and Shona, in Luganda, a Bantu language spoken in Uganda whose word order is also SVO, and similarly with postnominal restricting clauses, Keenan and Comrie found that on SU and DO positions, relativization requires distinct forms of a relative verbal prefix which do encode case.

ekikopo	<i>e</i> -kugudde	ekikopo John <i>ky'</i> -aguze
the cup	<i>REL</i> -fell	cup John <i>REL</i> -bought
The cup	<i>which</i> fell	The cup <i>which</i> John bought

This sort of distinction within the language family is intriguing. It suggests that a survey of Bantu languages to find which share relativization strategies at which tiers of the AH, and the groupings that might be made, could be very interesting.

6 Conclusion

Since its appearance in the late 1970's, the validity of the NPAH has been questioned. Some languages provide counterexamples to the hierarchy constraints (Maxwell 1979), with relativization strategies that do not apply on a continuous segment of the AH, for example. There are also reservations about the sample size on which the NPAH was founded; there were 49 languages included in Keenan and Comrie's initial study of the thousands of languages available to be considered. As well, Newmeyer points out that the variety of languages consulted in Keenan and Comrie's original work may be genetically biased, since it was limited to Eurasian and African languages. He mentions more recent work by Cinque, McCloskey and Hawkins which directly oppose or give other explanations for the structure of the hierarchy. I have neither defended or criticized the validity of the NPAH in this paper, but I have appreciated it as a tool for uncovering the elements of RC formation in Ronga.

And, we have seen here that RC formation is complex. Ronga uses an optional relative pronoun which agrees in class and number with the head NP, and a set of verbal affixes that vary greatly with tense and negation. Certain hierarchy positions use passivization or require a case-coding element in the restricting clause.

For someone who has not spent much time contemplating syntax, this has been an intriguing entry in to the world of RCs, and an inspiration for future investigations in this topic. And several phenomena described here deserve more investigation directly, and in comparison with other Bantu languages. These include the use of the demonstrative as the relative pronoun, the environments and semantic effects of morpheme alternations in some past tense relative clauses (**-nga-** ~ **-iki**), and the necessity for the auxiliary verb **akukala** 'to lack' in negative relative clauses, where the auxiliary carries the relative morpheme and the main verb carries negation.

7 References

Givón, Talmy. 1979. *On Understanding Grammar*. New York: Academic Press.

- Hargus, Sharon, Manuel Da Conceição, and Susan McBurney (this volume) Noun classes and agreement in Ronga.
- Keenan, Edward L. 1985. Relative Clauses. *Language typology and Syntactic Description. Volume II: Complex Constructions*, ed. by Timothy Shopen. 141-170. Cambridge: Cambridge University Press.
- Keenan, Edward L. and Bernard Comrie. 1977. Noun Phrase Accessibility and Universal Grammar. *Linguistic Inquiry* 8:63-100.
- Keenan, Edward L. and Bernard Comrie. 1979a. Data on the Noun Phrase Accessibility Hierarchy. *Language* 55:649-664.
- Keenan, Edward L. and Bernard Comrie. 1979b. Noun Phrase Accessibility Revisited. *Language* 55:649-664.
- Maxwell, Daniel. 1979. Strategies of Relativization and NP Accessibility. *Language* 55: 352-371.
- Newmeyer, Frederick. 1998. *Language Form & Language Function*. Cambridge: MIT Press.
- Tallerman, Maggie. 1990. Relativization strategies: NP Accessibility in Welsh. *Linguistics* 26:291-314.
- Webster, Gabriel. this volume. Evidence for weight subcategorization in Ronga.