Trill Maintenance and Replacement in Chichewa

A Study on Newsreaders' Speech from Three Radio Stations in Malawi

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Abstract

This is a sociolinguistic study that investigates whether style is associated with the varying use of allophones [l] and [r] in the environment of normative [r] in Chichewa. Normative [r] here refers to the traditional realisation of /L/ after front vowels in contrast with the traditional [l] elsewhere. Labov's sociolinguistic theory and Bell's audience design theory form the basis of this study.

Fifteen participants whose speech was recorded for analysis are newsreaders of both genders, belonging to the young and middle age groups, and are either first or second language users of Chichewa. Data was collected from three radio stations in both formal and informal settings. Each radio station has different types of audience, from top government officials, to businessmen, and to the youth. The formal setting is news bulletin reading, while interviews made up a more informal setting where open-ended questions pertaining to the newsreaders' biography were asked.

The dependent variables are [r] and [l] which are allophones in Chichewa, while the independent variables include: type of radio station, setting, gender, age and type of acquisition. In every normative [r] environment, tokens were assigned to represent both dependent and independent variables. A total of 820 tokens were analysed using the GoldVarb software, a 2001 version of Varbrul, which is used to analyse multivariate data. GoldVarb validates the data and generates percentages and ratios that are readily available for evaluation.

Unusual for a spelling system based on phoneme theory, allophones [r] and [l] are separated as <r> and <l> in the orthographic rules and promoted through education. Hence their proper use should reflect adherence to the standard form and prestige. The use of standard language marks formal settings and the use of prestigious forms is associated with females.

It was therefore expected that [r] would be maintained in formal settings and by females. However, GoldVarb analysis of the data shows that [r] and [l] either co-occur or that [r] is replaced by [l]. Co-occurrence correlates with the most formal radio station, news bulletin reading and the female gender. At the same time the tendency to use [r] more than [l] is present in informal settings, lesser formal radio stations and in male speech. News reading is a career that demands proper language use as such there were minimal differences according to age and type of acquisition in the use of (r). This is however not conclusive since the sample did not have a fair distribution of newsreaders in all three radio station based on age and type of acquisition.

In summary this study shows that [l] replaces [r] and not vice-versa, traditionally and phonetically [l] is more commonly used in Chichewa than [r], the relationship between [r] and [l] is not just allophonic but also sociolinguistic, normative [r] maintenance is prestigious and formal, while its replacement is informal and associated with covert prestige. This thesis concludes by making observations on the current Chichewa Orthography.

Acknowledgements

This study would not have been possible if it was not for Rajend Mesthrie, my supervisor, who helped me to look at every argument linguistically, and articulate areas which needed more information whenever I took phenomena in my first language for granted. Prof. thank you for your guidance, timely financial and material assistance towards this study.

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1.1 Introduction

In the of field sociolinguistics, variation in different languages has been studied over the years since Labov's 1960s seminal studies. The bulk of such studies has been on Western Indo-European languages. Apart from the availability of human and financial resources as well as technological development (Milroy 1992: 27), it can also be argued that the advances in language variation studies in these languages are a result of the nature of closely related phones found in the Indo-European languages especially in their vowel systems. An example of such a system is that of the English short and long vowels. On the other hand, the relatively stable five-vowel (in some cases seven-vowel) systems of most Bantu languages could be seen as one of the contributing factors to the non-development of variation studies in this language family.

In relatively stable language systems there is little room for social symbolism, since such symbolism is expressed by subtle variations. Furthermore in Malawi, as discussed in section 1.2 below, open language research in general and variation in the language under study in particular, were often discouraged because of the politics behind the Chichewa language and its use. As a result, main linguistic areas of research in Chichewa have been the following: Phonology (Mtenje 1988), Grammar and Syntax (Matiki 2001, Mchombo 2007, 2004 and 2001 and Simango 2000), Orthography (Banda et

al 2001), and Code Mixing and Switching (Simango 2000 and Kayambazinthu 1998).

This paper is a sociolinguistic study on Chichewa, a language widely used in Malawi (see Table 1.2 below). Chichewa is the only Malawian language that has had a high status firstly during colonial times, then through dictatorship (as a national language) and currently as well, since consultations are underway to decide whether it can be re-instated as a national language in the democratic system of government (see discussion in 1.2 below).

The main focus of the study is on the varying use of the normative trill in formal and in informal speech. In Standard Chichewa the following are the linguistic environments for trill and lateral usage: [r] follows front vowels [e] and [i], while [l] follows non-front vowels [a], [o], and [u] (Mchombo 2001: 10) from the preceding syllable. This rule only applies within a morpheme and its post-affixes but not to the initial phone of a morpheme even when a prefix is used. Example 1 below shows when the trill and lateral rule is applied and its exception in Chichewa.

Example 1:

a. within a morpheme

*li**r**a* (to cry)

*le**r**a* (to bring up)

*to**l**a* (to pick)

b. in the post-affix

*lir-**ir**a* (to cry for/on behalf of)

*ler-**er**a* (to bring up for/on behalf of)

*tol-**era*** (to gather/collect)

c. the rule is not applied after prefixes:

i-lira (it will cry)

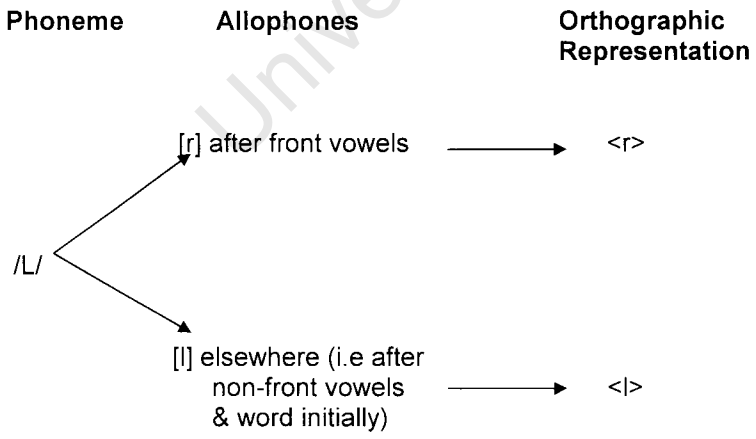
*i-rira**

ti-lera (we will bring up)

*ti-rera**

According to these rules the vowel ending of a pre-fix does not affect the initial allophone that is used in the pre-fixed morpheme. The Chichewa Dictionary shows that there are no lexemes that begin with <r>, hence all pre-fixed morphemes in this case use <l> even when the prefix ends with a front vowel. Furthermore in Chichewa neither [r] and [l] form a consonant cluster, it follows then that only preceding vowels determine which allophone to use. The illustration below summarises the normative trill and lateral use in Chichewa.

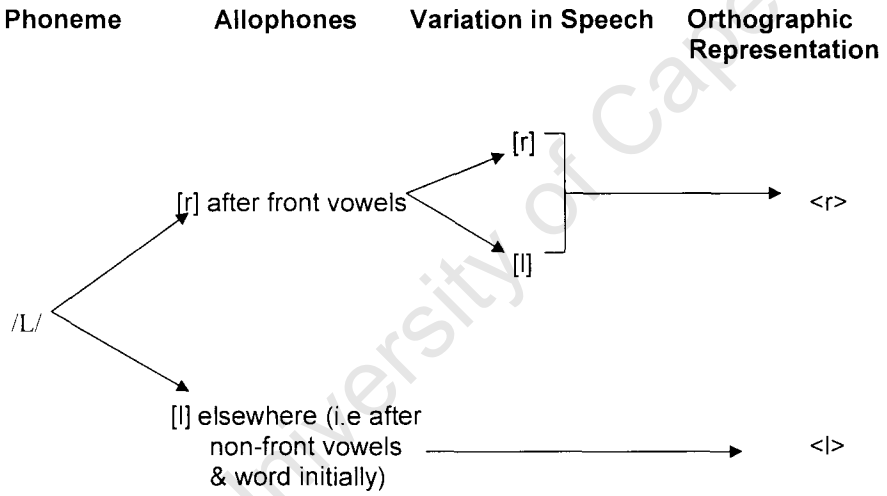
Table 1.1: Normative Trill and Lateral Use in Chichewa



Note: These rules apply within a morpheme and its post-fixes only.

The Chichewa Orthography rules stipulate that [r] and [l] are allophones of one phoneme and that the normative trill and lateral usage rules are made for consistency in spelling. However, the phone used in the normative trill environment is varied in Chichewa speech as follows: either the normative [r] is maintained or it is replaced with the lateral [l] (Mchombo 2001: 10). The following diagram summarises normative trill and lateral use in Chichewa speech with variation in the trill environment.

Table 1.2: Variation in the Normative Trill in Spoken Chichewa



In Chichewa the replacement of [r] shown above only affects the language at the phonetic level, since the meaning of the word in question does not change when [r] is replaced. This affirms the argument that there is an allophonic relationship between [r] and [l] in Chichewa (Mchombo 2001: 10 and Chichewa Orthography). However, in speech this relationship is manifested

in one way since it is only [r] that is replaced by [l] and not vice versa (Mchombo 2001: 10 and Watkins 1937: 14).

At the same time that the trill is used consistently in some situations. For instance, Mchombo (2001: 10) points out that radio speech uses the normative trill. There are three possible explanations behind the normative use of the trill on the radio and not else where. In the following paragraphs, the possible explanations are outlined.

The first explanation is that all radio presenters are speakers of the standard variety of Chichewa. This has two implications: (a) that presenters originate from and were raised in the rural Chichewa speaking areas, where the Standard Chichewa was adopted (see 1.2 on Chichewa standardisation). Thus their rural speech variety has not been affected by levelling, which is a norm in cities where different language varieties are in contact. However, it is shown in Section 3.1 below that not all newsreaders are from the Kasungu, Lilongwe, Ntcheu, Mwanza which are said to be Standard Chichewa Speaking Areas.

The second possible explanation correlates with the notion that occupations, which are solely based on speaking, like radio presenting, influence adjustments in speech towards the standard. This notion is called marché linguistique (see 1.1.1 and 5.2.1 below). Thus employees inevitably adjust their speech in order to stay on the market. Hence Mchombo's observation could be a manifestation of the presenters' adjusted speech as demanded by the nature of their job. However with marché linguistique, the adjustments

made to speech of the presenters are not situational (Chambers 2003: 195). However, the data collected shows that the presenters' use of /L/ in the normative [r] environment changes according to setting (see 3.1 below). Therefore this explanation is not plausible.

The third possible explanation regarding Mchombo's observation is that radio presenters only apply the prescriptive rule on-air and not off-air. Radio speech, especially news-reading entails a high level of formality judging from the target audience (Bell 1997, 1991, 1984) and prescriptive forms that are otherwise overlooked in ordinary speech are maintained in formal speech (Labov 1986 and subsquently). This suggests that the use of [r] is stylistic. Therefore, this explanation becomes more plausible and it follows then that the relationship between the trill and the lateral is no longer purely allophonic, but that the use of each allophone in the trill environment is subject to sociolinguistic forces.

If the [r~l] alternation is stylistic, then Mchombo's observation that normative [r] is mostly maintained on radio speech implies that trill maintenance is an indicator of formal speech while its replacement is an indicator of non-formal speech. However, one cannot conclusively state that stylistic variation is associated with the use of the trill by comparing the speech of presenters with that of non-presenters. This is the case because stylistic variation is an individual based type of variation (Bell: 145-6) as discussed 2.1 below. Thus for variation to be called stylistic, it not only requires a change in setting, but also that the same individuals employ different linguistic norms when the setting changes. So far, no study has been done to ascertain whether the

same newsreaders use [r] and [l] differently in ordinary speech from the way they do on air when speaking Chichewa.

This study is a contribution to: sociolinguistics as a field of study; the understanding of variation in Bantu languages in general; and in particular to the knowledge and understanding of the [r ~ l] variation in Chichewa. For Chichewa language users, this knowledge is important as the normative usage rule is maintained in writing. In other words, replacing the letter <r> with <l>, which correspond to allophones [r] and [l] respectively, is unacceptable in writing. However, it is because of this inconsistency between the spoken form and writing rules that uncertainty arises. For instance, students are not sure when it is appropriate to use <r> and not <l> in writing, since following their normal speech usage does not always guarantee that they are correct. Uncertainty arises with words like *ndili* (I am), which results into hypercorrective use of <r>. In the interview transcriptions made by students for this study *ndili,* which has two morphemes *ndi-li,* was commonly misspelled as *ndiri. Ndili* uses the letter <l> because the root of the verb is *-li* (to be), as such the *r/l*-rule should not be applied here. The *-i-* preceding the *r/l* environment is part of the number and person prefix *ndi-* (See Table 1.1, Example 1c and 1.2.2 below for normative r usage).

It has also been observed that some Chichewa speakers transfer trill replacement into English. This might lead to some difficulties in communication when the listener is not aware that the trill and the lateral are allophones in Chichewa. Since /r/ and /l/ are separate phonemes in English, the following might lead to confusion or even embarrassment especially when

the physical and linguistic contexts do not clarify the intended meaning (although they usually do). In example 2a below, [l] has been used instead of [r], while in 2b [r] has been used instead of [l].

Example 2:

a. I have [lais] everyday*

You [li:p] what you sow*

Let us [plei]*

b. Can we go [priz]*

Thus this study on Chichewa therefore has ramifications for the study of English in the Malawian context. English is a language of socio-political importance in Malawi (Matiki 2001a: 201).

1.1.1 Theoretical Perspective

This study falls within the realm of linguistic variation theory developed by Labov and other sociolinguists. The main concentration is on stylistic variation following Labov's (1972 ff) vernacular-standard continuum and Bell's (1984ff) audience design theories. The nature of the participants' job entails that this paper also looks at Sankoff and Sankoff's (1973ff) theory of marché linguistique. Furthermore, the methodology employed is based on Chambers's (2003) discussion on the associations between phonological constraints in standard dialects and formal contexts, and the phonological accommodation of non-standard varieties.

Language Variation

According to Labov (2007: 1), the fundamental fact of phonetics is that no two utterances are the same; while the fundamental postulate of linguistics is that some utterances are the same. Thus phonetic variation is either free when the variation is a random event, or linguistic when variables correlate with non-linguistic factors. This paper establishes whether variation in [r~l] in Chichewa is free or constrained sociolinguistically. Any linguistic feature that occurs in variant forms is called a linguistic variable, and every variable has variants (Chambers 2003: 19). In this study, the variable is the trill written as (r) and the two variants are written as [r] and [l].

The theory of variation postulates that there is a relationship between the characteristics of the users, variants and situations in which a particular variant is used (Labov 1962). Thus, social factors, which are external factors, are used to account for language variation based on relative quantities of the variant produced (Bayley 2002). The premise of such studies is that: since languages are 'social organs' (see 2.1 below), the use of each variant must correlate with the social characteristics of its users (Labov 1963: 3). Studies in language variation and change correlate linguistic variations with independent variables such as linguistic environment, style, and social categories (Chambers 2003: 18). Style is an independent variable that co-occurs with other social variables (Bell 1984). Variants that correlate with both social factors and style are known as indicators, while those that correlate with social factors only are called markers (Bell 1984: 151-52) (See 2.1 below).

Initially relationships between variants emanating from the phonological system were used as explanations. Labov (1972) argues that internal motivation in variation studies is important as a primary concern of a linguist whenever variation occurs. He further explains that internal motivation does not provide a sufficient explanation to variation and that not all changes are internally motivated. Conversely, it can also be argued that, internal motivation becomes the main explanation behind variation once variants do not correlate with any non-linguistic entity.

Newsreaders' speech from three Blantyre based radio stations was recorded and forms the public corpus used in this study. Chapter 3 establishes and analyses /r/ variation in Chichewa.

In order to collect data, which represent formal and informal styles, Chichewa speech was recorded from the news bulletin reading and from one-on-one structured interviews. These represent formal and informal contexts respectively. The findings and analysis on style are found in chapter 4.

The social categories of gender and age have also been included in this paper. This is the case since studies have shown that gender is reflected in linguistic norm adherence (Chambers 2003: 126) and market linguistic requirements is a factor related to age (Chambers 2003: 195-96). Thus young adults just like the middle aged portray the expected norm of their organizations inspite of changes in setting (Chambers 2003: 194-6). The notion of marché linguistique is that contrary to age marking in

sociolinguistics, the speech of various age groups in the speech-based industry is not age marked.

The question of whether Chichewa is the speaker's first or second language forms has also been considered. This follows the argument that subtle linguistic items are a problem for L2 speakers (Hatch 1983 cited by Ellis 1999: 35). It follows therefore, that the recorded speech is analysed under style and the following independent variables: gender, age and whether Chichewa is the reader's first language or not. Their implications on language style are further discussed in Chapter 5.

Linguistic variation studies are quantitative in nature as will be discussed in 2.2.1 below. In this study quantitative methodology is reflected in the following aspects: the composition and social characteristics of the representative sample; the selection and type of radio stations under study; the length of interviews and type of news recorded; the number of times that the news bulletins were recorded; and the variation in context and in independent variables (see 2.2 below).

Variation and Standard Dialects

Standard dialects differ from other dialects by "... resisting certain natural tendencies in the grammar and phonology" (Kroch 1978 quoted by Chambers 2003). Chambers explains that in phonology, such changes include natural phonological processes. Chambers (2003: 259) argues that whenever innovations are permitted in a standardised dialect, they have restrictions. Although in informal speech, most of these restrictions are overlooked, they

are maintained in formal speech. This is the case since there is a higher the level of self-monitoring in formal speech than in informal speech (Chambers 2003: 5). Due to this self-monitoring, the unnaturalness of standard features is overcome. As Stampe (1969) observes:

> [t]he conservative influence of the standard exerts itself by rejecting most innovations [...]. The conservatism of the standard (dialect) forces the innovator to suppress a (natural) process at least in his formal speech.
>
> (Cited by Chambers 2003: 270)

This motivation accounts for the reason why Chichewa newsreaders were expected to use the normative trill when reading the news more often than when using Chichewa in an informal setting. Examples showing non-constrained speech in the interviews when the audience was the researcher will be given in Chapter 4.

1.1.2 Hypothesis

This study is based on the proposition that trill usage in Chichewa speech entails stylistic variation. Therefore, trill maintenance, which indicates formal speech, will be present in the news-reading speech style. On the other hand, trill replacement indicates informal speech and will be present in the informal interview speech style to varying degrees that are sociolinguistically significant. Furthermore, [r] will be maintained by females, L1 speakers and by both the young and the middle-aged newsreaders; but it will be replaced by males and L2 newsreaders.

1.1.3 Objectives of the Study

This study aims at finding out whether the varying use of the trill in Chichewa is stylistic or not. The following are the specific objectives in investigating style in the use of [r], to:

- analyse radio presenters' usage of [r] when reading the news and in vernacular.
- examine the relationship between the type of radio station and the normative use of the trill.
- investigate the relationship between the gender of the newsreaders and the maintenance of normative [r].
- investigate the manifestation of age in the speech of newsreaders, whose profession encourages normative language in general and in formal and informal contexts.
- analyse the use of [r] by neutral and second language speakers in the speech of Chichewa news readers.

1.1.4 Outline of the Study

Sociolinguistic theory explains linguistic variation with social variation. Style is a manifestation of social traits in the use of a given variable. This study looks at the relationship between the variation associated with the normative trill environment in Chichewa and style in respect of the nature of the situation, gender, age and type of acquisition.

The rest of this chapter gives background information about Chichewa including the politics behind its standardisation. It also discusses the variants under study with reference to the orthography developed for Chichewa. Furthermore, the same chapter outlines the study hypothesis and its objectives.

Chapter 2 reviews related literature on language variation and its subtype, style variation. This discussion includes theories that have been developed from Labov's as well as Bell's studies respectively. In addition, Chapter 2 outlines the methods, sampling techniques and instruments used in collecting and analysing data.

The study findings are presented in Chapters 3 to 5, with a summary at the end of each chapter. The linguistic variation of [r] in Chichewa is established in Chapter 3. The same chapter also draws comparisons between the findings regarding (r) in Chichewa and (r) in English and Japanese English. Then in Chapter 4 and 5 stylistic variation is discussed. Situational and radio styles are discussed in Chapter 4. Linguistic variation is related to the following social and linguistic categories in Chapter 5: gender; age and type acquisition. Since style variation is manifested in the phonological and morphosyntactic features as well as in speech patterns used (Schilling-Estes 2002: 376), speech extracts are used in chapters 3 to 5 show that a particular style was being used when a particular variant occurred.

Finally, Chapter 6 draws up study conclusions on the findings and discusses areas for further studies.

1.1.5 Symbols used

The following standard phonetic symbols are used:

[...]: phone or variant

(...): variable

/.../: phoneme

In addition to the standard phonetics symbols above the following symbols are used as follows:

[...]: a translated quote

'...': translated word or expression

(...): abbreviations, clarifications,

1.1.6 Definition of Terms

In this paper, whenever the following terms are used they have the following meanings:

Home language speaker: L1 speaker whose L1 is not their ethnic group's language.

L1 Speaker: both mother-tongue and home language speaker of a language.

L2 Speaker: non-home language speaker of a language, who acquired the L2 formally.

Mother-tongue speaker: L1 speaker who belongs to their L1's language group by ethnicity

Neutral speaker: L1 speaker.

Public corpus: the written news scripts, the recorded and transcribed data from the interviews and news bulletin.

Vernacular: informal speech in Chichewa.

1.2 Background: Chichewa in Malawi

1.2.1 Language History in Malawi

African state boundaries do not coincide with language boundaries, since language was not the basis of establishing colonial boundaries (Kok et al 2006: 33). As a result, African countries have a variety of languages and diverse indigenous ethnic groups. Malawi has 10 main languages and several minor languages. The main languages are as follows: The total number of minor indigenous languages is not known as different classification methods dictate whether a given variety is a language or a dialect (Williams 1998: 17). For some, the total number of minor indigenous languages is as low as eight and for others as high as 35 for others (Williams 1998:17). Kayambazinthu (1998b: 371) divides all of Malawi's languages into major indigenous languages, minor indigenous languages and non-indigenous languages. The statistics of five and three of the main indigenous languages in 1966 and 1994 respectively are given below.

According to Kayambazinthu (1998b: 370), Malawi was occupied by various Bantu migrant groups-initially the Chewa, Tumbuka and Ngulube groups from the Congo Basin. These were later joined by the Ngoni, Yao and Lomwe. Kayambazinthu explains that all of these language groups were monoethnical

and monolingual. The evidence is in their employment of dumb trade (). The Maravi people arrived at Mankhamba, present-day Dedza district in Malawi, joining the proto-Chichewa speakers by the 13-16AD. The Maravi empire, extended to present-day Zambia and Mozambique (Phiri et al 1992 cited by Kayambazinthu 1998b: 371). The Chewa, Nyanja, and Mang'anja are the only Maravi groups, which have survived as distinctive groups in Malawi (Kayambazinthu 1998b: 371 and 375). These migrant groups displaced the Mwandiwonera pati and the Kafula. The first language map for Malawi is currently being developed by the Centre for Language Studies, however the expanse of the Maravi kingdom from the description above is illustrated in Figure 1.2 below. This figure shows the present-day countries in which the Maravi kingdom was established.

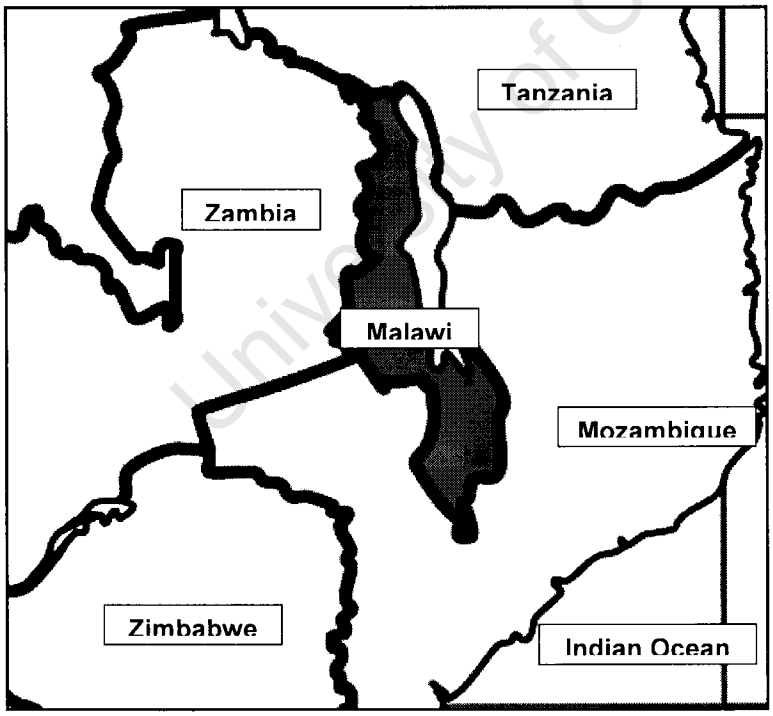


Figure 1.1: The Countries where the Maravi Kingdom was Established.

Nyasaland became a British Protectorate in 1891. It gained its independence in 1964 and became a republic in 1966. Dr Hastings Kamuzu Banda was the first prime minister and became the first president of the republic. The name Nyasaland was changed to Malawi to mark its sovereignty. Everyone living within the boundaries of this new state, became a Malawian citizen. The 1966 census shows that the main language groups were the Chewa, Lomwe, Yao, Ngoni, and Tumbuka (Kayambazinthu 1998b). The distribution of these groups is summarised in Table1.1 below.

Table 1.1: Main Languages in Malawi (1966)

Ethnic Group	**Percentage**
Chewa	50.2%
Lomwe	14%
Yao	13%
Ngoni	10%
Tumbuka	9%

As explained above, every ethnic group in Table 1.1 was monolingual. Table 1.1 above shows that the Chewa were the main ethnic group in the 1966 census and Chinyanja was the native language for 50.2% of Malawians (Kayambazinthu 1998b: 371). Chichewa is the same language as Chinyanja (Kashoki 1978 cited by Williams 1998: 17) with minor differences in phonology, vocabulary and orthography (Williams 1978: 17). From a phonological comparison, Watkins (1937: 9) argues that Chichewa is a 'reduced' form of Chinyanja. For instance the [bz] and [ps] forms in Chinyanja become [z] and [p] respectively in Chichewa. This gives the wrong impression that Chichewa is a pidgin or creole. However, in Zambia where Chinyanja is

used, Chichewa is seen as more complex than Chinyanja. One of the interviewees Gabriel explains the normal reaction of Zambians to his Chichewa whilst living in Zambia.

Gabriel: Kumene kuja (ku Zambia) amatiseka kuti manje a Mike akamba Chinyanja chadeep, kunena Chichewa chimene tikuyankhula kunochi (ku Malawi).

[There (in Zambia) they used to laugh at us saying, Mike speaks deep Chinyanja, when referring to the Chichewa we use here (in Malawi)].

Watkin's description of the relationship between Chichewa and Chinyanja contradicts such observations on Chichewa made by Zambian Chinyanja speakers above. From the two observations, it can be argued that there are similarities and some differences between Chichewa and Chinyanja. This makes one variety a dialect of the other. Since Chichewa was used by a sub-ethnic group of the Maravi whose language varieties were known as Chinyanja (Watkins 1937), Chichewa is a dialect of Chinyanja. "A dialect is a linguisitic variety which is grammatically, lexically, and phonologically different from other related varieties" (Coupland 1988: 111). The separation of the two varieties is a result of historical and political events (Kashoki 1978 cited by Williams 1998:17) as will be discussed below.

After the Chewa, the second largest ethnic group in 1966 was the Lomwe, with speakers of CiLomwe making up 14% of the population. The Yao ethnic

group is the third largest ethnic group, and CiYao was spoken by 13% of the 1966 population (Kayambazinthu 1998b: 379). The Nguni, ethnic Zulu arrived in Malawi in the 19th century. However, due to intermarriages with the Chewa and the Tumbuka, their was a language shift to either Chichewa or CiTumbuka. Ngoni was spoken by 10% of the 1966 population (Kayambazinthu 1998b: 377). Tumbuka which is currently spoken in five northern region districts of Malawi was spoken by 9% of the population in 1966 (Kayambazinthu 1998b: 371).

1.2.2 The History and Status of Chichewa in Malawi

Language policies of nations and states are reflected in the education system. When Malawi gained independence in 1964, it inherited the colonial language policy of English, CiTumbuka and Chinyanja in the education system. According to Kayambazinthu (1998b: 379), although the earliest European contact in Malawi was with the Yao, Chinyanja was promoted in education for two reasons. Firstly, Europeans found Chinyanja easier to learn than CiYao. Secondly, the Yao were dealing in slaves; hence missionaries did not befriend them and this must have contributed to difficulties in learning CiYao. For similar reasons Robert Laws' missionaries who settled among the Tumbuka developed Tumbuka through education. The missionaries regarded local languages as an effective tool for evangelisation. Thus Malawi as a British Protectorate and later as an independent state had a three-language policy: English for administration; Chichewa or CiTumbuka in non-formal settings (Matiki 2001a: 202).

Eventually, Malawi became a one party state and Dr. H.K. Banda became its life president. The proceedings of the ruling Malawi Congress Party (MCP)'s 1968 Convention affected and shaped the language policy of Malawi for close to three decades. Its effects are still noticed in Malawi as will be discussed below. The recommendations on language made at this convection are described here with reference to Kamwendo (1997: 39-40) and Mpinganjira (1999). At this convention it was decided that the Chinyanja varieties used in Malawi be known as Chichewa and that Chichewa be designated as a national language. These were later endorsed by parliament. Thus Chichewa a national language at the same time English became Malawi's official language.

Languages like French and English are known as national languages, because European country boundaries roughly coincide with ethnicity and language group. European countries are nation-states, while most African countries including Malawi are states characterised by a variety of ethnic groups. In other words, French and English in France and the United Kingdom, are like what CiYao is to the Yao in the Malawian context. Thus if Malawi was a nation-state mostly made by the ethnic Chewa group, then Chichewa would have qualified as a national language. Thus the meaning of the term 'national language' was misused by the one party state in Malawi.

It was understood that the use of one language would unite the different ethnic groups into one 'nation'. Normally a group of people is identified as a unified group among other things, through their use of a common language. Thus through the use of one language, multi-ethnic groups in Malawi were to

undergo cultural assimilation and become a unified group (Matiki 2001a: 204). It should also be noted that Chichewa, as shown by Watkins (1937) was a variety of Chinyanja used in Malawi before independence. In other words, the national language was a language variety of Chinyanja used by a sub-ethnic group of the Maravi.

As a result the status of languages in Malawi was no longer equal as it was before Dr. Banda (Kayambazinthu 1998b: 370). In addition, Kayambazinthu explains two other major factors that laid a foundation for Banda's linguistic agenda. Firstly, the language used by the Maravi had the largest number of speakers. Secondly, most Europeans who introduced formal education in Malawi came into contact with Chinyanja and they settled in the Chinyanja speaking region (Kayambazinthu 1998b: 401). Thus Chinyanja had a large population of speakers and was already recognised formally. The latter implies economic benefits, which encourage language acquisition and language survival.

On one hand, other languages as well as other Chinyanja dialects were not developed after independence, probably due to what Kayambazinthu (1998b: 409) describes as a lack of open research in matters related to language. On the other hand, a great deal of funding went into language planning that was consistent with the language policy at that time, leading to the standardisation of Chichewa by the Chichewa Board and its consolidation into the education system. Chichewa became the language of instruction in the first four years of primary school and was a taught subject up to tertiary level. These elevated the status of Chichewa. According to Mesthrie et al (2001: 20), a standard

language is associated with subgroups (of high status) and specific functions, serving functions beyond everyday native use like writing, education and the media. The functions of Standard Chichewa tally with this description, but its associations with the speakers' status are complex. The standard variety of Chichewa originates from the rural, uneducated background and has been adopted by the educated (see the section 1.2.3 below).

In line with the politics behind the choice of Chichewa as a national language, using any other language apart from Chichewa in public was construed as rebelling against the leadership of, and against unity in, Malawi. This was the case because of the procedure behind the elevation of Chichewa status, and the fact that the then head of state belonged to the Chewa group. Therefore by extension, one would be seen to be against the president himself by using any language apart from Chichewa in public.

According to the National Statistics Office of Malawi, the population of Malawi in the 1998 census was 9, 933,868, and has been projected to reach 13, 187, 632 in 2007. The following table shows the distribution of the three main languages by 1998.

Table 1.2: Main Languages in Malawi (1998)

	Chichewa	**CiYao**	**CiTumbuka**	**Others**
L1	27%	19%	11%	43%
L1 + L2	80%	20%	15%	Not Available

Adapted from (Williams 1998:17)

The data in the Table 1.2 above shows the effects of thirty-year mechanisms employed for the establishment of Chichewa as the exclusive and national language. From the data the following observations are made. It is interesting to note that Chinyanja as a name is not featured 32 years after its displacement by Chichewa. Meanwhile, first language users of Chichewa make up over a quarter of the 1998 population. Thus by 1998, Chichewa, a variety of Chinyanja, is the language that has most L1 speakers. Furthermore, L1 and L2 speakers together make up 80% of the population. This means that Chichewa is the most popular second language and by far, the most commonly used language in Malawi.

Another observation is the decrease in the number of main languages from five in 1966 to three in 1998 (see Tables 1.1 and 1.2 above). In addition to results of intermarriages cited above regarding language shift of the Ngoni ethnic group, the political force behind the use of Chichewa had its effect on CiLomwe and Chingoni. It is important to note that CiLomwe, which was initially the second main language, does not appear in Table 1.2 above.

The final observation is on the increase in the number of CiTumbuka and CiYao speakers by 2% and 6% respectively in thirty years. The missionaries who settled among the Tumbuka, must have continued to use CiTumbuka for evangelisation and education (for the same reasons discussed in section 1.2.1 above). Hence the educated CiTumbuka speaking population did not shift towards Chichewa as much as the other educated people.

Following the introduction of a multiparty system of government, with the accord of human rights and language rights in particular, the Chichewa Board was dissolved and replaced by the Centre for Language Studies at the University of Malawi. Its task among others is to develop and promote Malawi's major languages, which include Chichewa (Chinyanja), CiYao, CiTumbuka, and CiLomwe (Kamwendo 1999a: 41).

According to Chilemba[1], press releases from government are written in English and passed on to the broadcasting parastals (MBC and TVM) where they are translated into different local languages at the parastatals' own discretion. Government press conferences are held in English and Chichewa. The Ministry also publishes a Chichewa newspaper *Boma Lathu* 'our government', which is distributed to chiefs around the country and its main theme is development in Malawi[2]. Chilemba also explained that in 1994, election materials for civic education were translated from English into Chichewa, CiTumbuka, Chisena, CiYao and CiTumbuka. This is the first time that Chisena was officially recognised as a main language. From this it can be argued that the government recognizes the existence of other major local languages, but still uses Chichewa as the common language for Malawians.

[1] The Deputy Director of Information, Film and Technical Services in the Ministry of Information Broadcasting and Tourism. The ministry was split into two ministries a few weeks after the interview.
[2] This is from copies given to me by Mr. Mchilekesu, head of Publications, Ministry of Information Broadcasting and Tourism.

1.2.3 Standardising the national language

Even the chief over there speaks *Chimishoni. Sayankhula Chichewa chenicheni yawa*

Dr H.K Banda 1972 quoted by Kamwendo (1999b: 47)

The quote above can be translated as "[e]ven the chief over there speaks "missionary-lect". He doesn't speak the real Chichewa". The Missonary-lect is a dialect of Chichewa used by missionaries, probably associated with the educated as the first schools in Malawi were run by missionaries. This is an example of what Kayambazinthu (1998b: 405) describes as a purist stance taken by Dr. H.K. Banda in the development of Chichewa. However, the popular belief that the standard variety is the "original and pure form of a language that pre-existed other dialects is frequently incorrect" (Mesthrie et al 2001: 21 see also Lakoff 1986: 410). This is the case with Standard Chichewa, since the "correct" Chichewa referred to by Banda is the Chichewa spoken in his youth by the Chewa of Kasungu where he originated, although the Mang'anja dialect used in the Southern Region of Malawi was more popular (Kayambazinthu 1998b: 405).

According to Kayambazinthu (1998b: 405), the two main duties undertaken in developing Chichewa were changing the missionaries' 1931 orthography and developing ways of ensuring the use of "correct" Chichewa. In 1970, following the MCP 1968 convention resolution on Chichewa, Banda appointed a Chichewa Research Committee which was responsible for collecting a list of Chichewa words to be compiled into a dictionary (Kamwendo 1999b: 47).

Following this, a Chichewa Working Group was formed from this research Group. The group was later transformed into the Chichewa Board.

The Chichewa Board was responsible for coordinating and monitoring the development of the language (Kamwendo 1999a: 41). Following a directive from president Banda, the only university in Malawi at that time, the University of Malawi, established the Department of Chichewa offering a Bachelor of Arts degree for linguists as well as Chichewa teachers (Kayambazinthu 1998b: 405). Kayambazinthu's description of the development of Chichewa shows that standardisation and not levelling took place. Standardization is vertical or hierarchical, while with levelling a common usage is achieved by accommodation. With levelling different varieties of Chinyanja could have influenced each other at different levels, leading to the formation of a language that would have been different from Chichewa.

Malawi used the colonial language policy soon after independence and English, Chinyanja and CiTumbuka were media languages. However, after the 1968 resolution discussed above, it was decided that the mass media should either use English or Chichewa. Thus CiTumbuka was banned as a mass media language and was no longer used on the country's only radio station (Kayambazinthu 1998b: 389). This is how Chichewa was strengthened and spread by the only state-run radio station in Malawi:

> The main news bulletin and news briefs were broadcast in both English and Chichewa at alternative hours. Kishindo (1990) categorises Chichewa programmes into purely musical

> entertainment, didactic and educational. Programmes specifically designed to promote Chichewa were Timphunzitsane Chichewa (Let's teach each other Chichewa), where listeners wrote to the programme expressing their views about a particular expression, vocabulary item or syntactic structure. A panel headed by a member of the Chichewa Board then discussed their views. At the end of the programme a solution or conclusion was reached and recommended to the listeners.
>
> (Kayambazinthu 1998b: 405).
>
> (see Appendix 8 for a script used in the Tiphunzitsane Chichewa programme).

Thus there were the only two languages of the media until 25th June 1994, soon after the first multiparty elections. CiTumbuka was re-introduced on the MBC radio following the newly elected president's directive (Kamwendo 2007: 151). By 16th November 1996 an additional five languages were introduced (Kayambazinthu 1998b: 389). In an interview with newsreader John Banda, it was ascertained that MBC currently broadcasts news bulletins in seven Malawian languages namely: Chitonga, CiYao, Kiyangonde, CiTumbuka, Chichewa, CiLomwe, and Chisena.

In 1998, 4 years after the multiparty system of government elections, the MBC allocated 58.9% of its airtime per week to Chichewa language programmes (Kayambazinthu 1998b: 390). In the same year Jamieson (1998) indicated that newspapers in Malawi use English and Chichewa (Kayambazinthu 1998b: 390) refer to Chart 1.1 below.

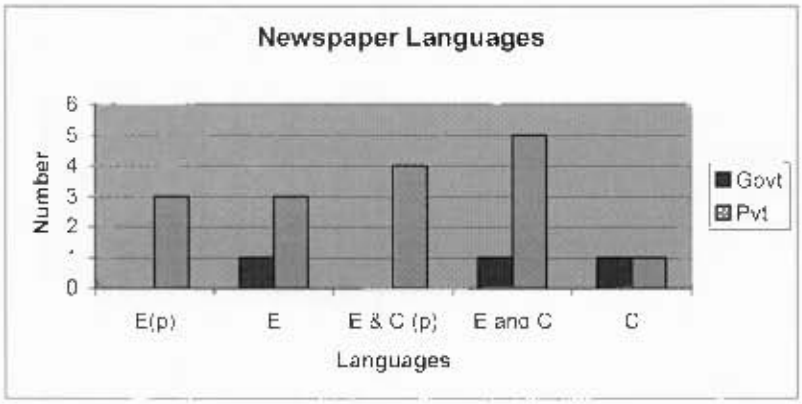


Figure 1.2: Languages used by Government and Privately Owned Newspapers

Chart 1.1 above shows the languages used by 19 newspapers. The chart shows that English and Chichewa are the main languages used in print media. There are six monolingual newspapers, only two of which are in Chichewa. Seventeen newspapers use English or have sections in English while 10 use Chichewa. This is confirmed by Kayambazinthu (1998b: 391) who cites Chomombo and Chimombo (1996) statement that Malawian newspapers mainly use English. Only when the intention is to reach out to the rural masses does the media use CiTumbuka and CiYao (Kayambazinthu 1998b: 391).

Malawi's current constitution is silent about an official or national language. After 1994, government has used a modification of the 1968 MCP convention resolution and in education books are published in Chichewa and English. In an interview with Miss Malili from the Ministry of Education, it was indicated that the Ministry awaits advice from the Centre for Language Studies, after which a proposal will be presented as a bill in Parliament (Kayambazinthu 1998b: 411). On the other hand, Malawi adheres to mother tongue education.

Ideally Standards 1 to 4 were to use mother tongue. However, since there are several mother tongues in Malawi, teachers are expected to use the mother tongue of the majority of the students to help students understand materials written in Chichewa. Following the change in language policy, the media in Malawi adopted the two language policy, that is Chichewa and English and the former was mostly used for the rural audience (Kayambazinthu 1998b: 405).

Chichewa Grammar and <r> Usage

Chichewa is a Bantu language (Watkins 1937: 5-6) belonging to the Niger-Kordofian sub-group (Mchombo 2001: 28). Its phonology constitutes five vowels and 44 consonants (Watkins 1937: 9 and 12). Figure 1.1 below shows the distribution of the five vowels in Chichewa.

Comment [M.R.D.1]: more

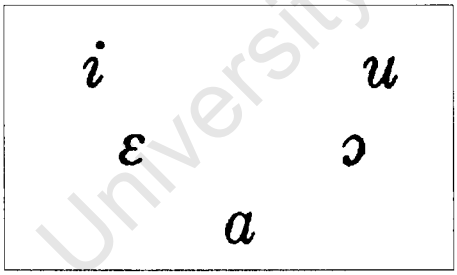
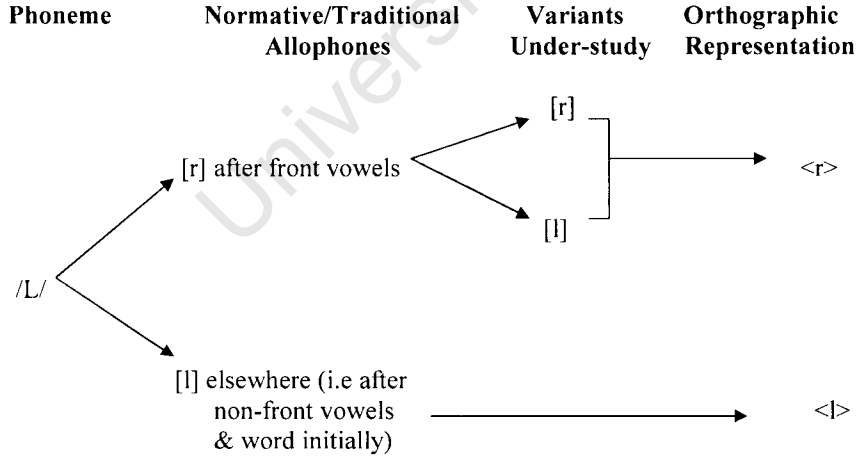


Figure 1.3: Schematic Distribution of Chichewa Vowels
Source: Watkins (1937: 9)

The vowel distribution in Chichewa, like in other Bantu languages, is not conducive to vowel variation that is found in languages like English as the small set of vowels does not appear to have many variants.

The two consonants /r/ and /l/ under study, have separate corresponding alphabetical letters <R/r> and <L/l> respectively. In standard Chichewa orthography, <r> is used after the front vowels <i> and <e>, while <l> is used after non-front vowels <a>, <o> and <u> (Mchombo 2001: 9) within a morpheme. Thus this rule only applies to all <r/l> environments in non-initial positions. A quick reference to any Chichewa Dictionary shows that there are no Chichewa words that start with <r>.

Replacing [r] with [l] or vice versa does not affect the semantics of the word in question. Thus the phones [r] and [l] are presented as optional phones (Watkins 1937: 12) and as allophones by Mchombo (2001: 9). However, things are more complex than this. From the data collected, it is only the [r] allophone that allows two variants on non-structural grounds. The phonemic, phonetic, and orthographic description of the above arguments are represented in the diagram below:



In generative phonological terms:

/L/ [r][front v _]

From the view point of the Chichewa Orthography, there are no minimal pairs formed with <r> and <l> as distinguishing phones, since the two phones do not occur in the same environment as the use of each entails the use of different sets preceding vowels as shown in example 3a, b and c below.

Example 3:

a	[yala] 'lay'	d	[gwala] 'draw a line'	f	[fala] 'be common'
	[yera] 'be white'		[gwera] 'fall'		[fera] 'die for'
			[gwira] 'catch'		[fira] 'be red'
b	[mbali] 'part'				[fola] 'be in a file/fall-in
	[Mbira] 'rabbit'	e	[pala] 'scrape out'		[fula] 'circumcise'
c	[mpira] 'ball'		[pola] 'heal'	g	[mpira] 'ball
	[mpala] 'bald'				[mp^{h}ira] 'rope'

Examples 3d, e, f, and g above show that for words that have [r/l], it is only possible to form minimal pairs when the distinguishing phone is either a vowel or any other consonant apart from [r/l].

It is also worth noting that when [r] and [l] are used as synonyms, the tonal system of Chichewa, the linguistic and physical contextual cues underlie the meaning of words that word would otherwise have the same spelling or are minimal pairs. For instance, Example 4a uses different initial consonants, 4b uses tone and the meaning of the synonym in 4c is contextual.

Example 4:

a **consonant**	b **Tone**	c **contextual**
[dzira] 'egg'	[mbi⇔ri⇔]'many'	[kula] 'grow'
[zira] 'smoothen by hand with clay'	[_mbi⇐ri⇐] 'history'	[kula] 'menarche'

As in all other Bantu languages, verbs in Chichewa are composed of a verb root to which affixes are attached (Mchombo 2001: 9-10). Chichewa rules on <r> and <l> usage only apply within the verb root and not with the prefixes used with the verb (Mchombo 2001: 9-10). For instance the verb root *_li* 'to be' is not affected when prefixes like *ndi_* 'I' and *ti_* 'we' are used to make the words *ndili* 'I am'and *tili* 'we are'. In other words, the verb root is the first letter of the morpheme 'to be' hence the <r/l> rule does not apply in this environment. Similarly in *ndilira* 'I am going to cry' where the verb root _lira 'to cry' is used with ndi_ 'I (now)', in the verb root *_lira* the [r~l] rule is not applied. Although in *nda_lira* 'I have cried', it might seem like the rule has been applied, this is not the case.

Similar exceptions are also applied to nouns when they have prefixes. Matiki (2001b: 66)'s list of nominal and agreement prefixes, shows that these prefixes end with [_a], [_i] and [_u] vowels. Whenever the [_i] prefixes are used, the r/l rule is not applied to the <r/l> environment at the onset of the prefixed noun. Thus the exception concerns morpheme boundary.

After outlining the linguistic background of the study, the next sections of this chapter describe the broadcasting houses in which the study was carried out.

Radio Stations in Malawi

Malawi had one state run radio station during the one party system of government, the Malawi Broadcasting Corporation (MBC). From 1993, the number of radio stations has increased due to media freedom that resulted the multiparty system of government. By 2006, there were 18 radio stations, which have been grouped by Kaonga (2007) as follows:

- Private Religious Radio Stations
- Public Broadcasters
- Private Commercial Stations
- Community Radio Stations.

This study concentrates on the public and private commercial radio stations. This is the case because they are national stations, which broadcast general national and international news on a regular basis. In total there are no. public broadcasters and private commercial stations. MBC Radios 1 and 2, Capital Radio and FM 101 Power are the radio stations selected for this study. The position of Newsreaders in each station's hierarchy are shown within the structure of each radio station in Appendix 2. In general MBC's structure is the most hierarchical. Followed by Capital Radio and FM 101 respectively. At FM 101 DJs can read the news when the newsreaders are out collecting news.

1.2.4. Radio Stations Under Study

The Malawi Broadcasting Corporation (MBC)

MBC is a statutory corporation, which is under the Ministry of Broadcasting and Tourism. It is and the oldest radio station in Malawi. It is now divided into MBC Radio 1 and MBC Radio 2. Both radio stations are in one building and they share newsreaders as well as the newsroom, but use separate studios. However, the studios are on the same floor, and use one major entrance, which leads to an open hallway and the two studios, one on the left the other on the right. Just like Television Malawi (TVM) another statutory corporation, MBC is used by the government to send across press releases and statements from the Office of the President and Cabinet as well as from the Ministry of Information. In other words it is the government's mouthpiece, hence it is a public broadcaster.

MBC has a guard at the gate, and another at the reception. For security reasons, visitors are expected to identify themselves and will only be let in if they have an appointment with an MBC official. In addition to being chosen for this study because of the news bulletin (current affairs), it is also expected to be the most formal type of radio station. However talking to the newsreaders, who are also writers and editors, I was informed that Radio 1 is more formal than Radio 2. The latter was opened to compete with the mushrooming commercial radio stations with their profitable advertising policies. As far as news topics are concerned, Radio 1 news covers the presidential and the state's activities while radio 2 has ministerial activities and African and world news. News articles are brought in from the reporting unit (see Appendix 2). In

addition, Radio 2 gets most of its news items from a Multi Choice's Digital Satellite Television channel.

Languages used on MBC Radio 1 apart from English and Chichewa are: Chitonga, CiYao, Kiyangonde, CiTumbuka, CiLomwe, and Chisena. Appendixshows that newsreaders report to the desk editor. A normal day at MBC for a newsreader starts with putting together news items for the English news and for the other languages, newsreaders translate the English news into local languages. Newsreaders translate and read only in the language that they are capable of delivering, which is perfected through experience. During the one party system of government only Chewas were allowed to read Chichewa news, but currently as long as one is capable of using a particular language and has passed internal interviews one may be assigned to read in any language. News editors as well as fellow newsreaders check translations and newsreaders' word pronunciation guided by their experience in writing and reading news for MBC.

Capital Radio

Capital Radio is a privately-owned station. It targets the urban business community and decision makers and according to its news is therefore mainly financial and sometimes political in nature. According to the Director of News at Capital Radio Mr. Tailos Bakili, their coverage extends to about 40% of the Malawi population.

The station broadcasts in two languages: Chichewa and English. Most of its programmes are in English. Chichewa programmes' slot is from 1500hrs to

1700hrs daily. The main news bulletin is at 1500hrs and 1900hrs. The 1500hrs news is repeated at 1600hrs and 1700hrs. Chichewa news briefs are at 1630hrs every weekday. Newsreaders are primarily trained to read English. In addition to reading English news those that are capable of using Chichewa, also read Chichewa news. The newsreaders are also reporters. Although interns also read the news, there were no interns at Capital Radio when data was collected.

A normal day for a newsreader at Capital Radio starts with a newsroom meeting where everyone is assigned the given day's task. Normal tasks include investigating an event, which is followed by report writing, translating English news to Chichewa and news-reading in either one or both languages. Kaonga (2007) describes Capital Radio as the best news and current affairs radio station in Malawi.

FM 101 Power

FM 101 Power radio is a station established for the youth and the name itself identifies with youth culture. The name is: FM One-O-One Power, the use of [o] and not zero and Power echos the international modern radio speak, which is also an important part of youth culture in Malawi. 101 has three male newsreaders. A normal day for 101 newsreaders is similar to that of Capital Radio newsreaders, since the readers are also reporters unlike the exclusive readers at MBC. Sometimes DJs help in reading the news whenever the readers are out gathering news. The news bulletin in Chichewa is at 1520hrs and news briefs called 20-20 info-briefs are broadcasted every twenty minutes.

Chapter 2: Literature Review and Methodology

The guards would then tell them to say "Shiboleth," because they knew that people from Ephraim could say "Siboleth," but not "Shiboleth"...

Judges 12:6

In the extract above, the origin of a person was determined by their pronunciation of one word *Shiboleth*. This extract shows that correlations between pronunciation and extra-linguistic features such as ethnicity was recognised in Biblical times. The simple method used in this extract is to ask the participant to speak. Thus the basic methodology and the relationship between linguistic and non-linguistic features were recognised thousands of years before the development of the sociolinguistic theory.

The aim of this chapter is to discuss language variation and the language theory behind such variation, the sociolinguistic theory. It also describes the place of stylistic variation within the framework of the sociolinguistic theory. Furthermore, this chapter outlines the methods used in this particular study.

2.1 Language Variation

Linguistic studies concerning language variation fall within the realm of sociolinguistics. "[The] sociolinguistic theory is based on the assumption of heterogeneity of linguistic structure, claiming that systematic variation is inherent to language" (Brouwer 1989: 3). Furthermore, as Brouwer (1989: 3) continues, the general consensus among linguists is that "a language system is at any given time equally well (perfectly) adapted to the functions for which

it is used". However, it is merely because of this sensitivity to functional needs that language systems are fluid (Milroy 1992: 29). In other words, innovations in functions inevitably lead to innovations in the language system.

The aim in sociolinguistic studies, is to identify and analyse how people in a community speak, and to relate these to conditions and the meanings of their use (Hymes 1997: 17). As far as language variation is concerned, the aim is to find linguistic variants and the social patterns relating to the established variation. This is the approach taken by Labov and other sociolinguists. Their approach is different from the one taken by mainstream linguists, which is motivated by Chomsky's ideal notion of language as homogenous. Sociolinguists study 'real' languages as they are used in a community and take into account all the different varieties a language is used. It is observed that the Chomskyan approach is a deductive one because it uses general statements about human language to discover patterns of particular languages. On the other hand, the Labovian approach is more empirically based in that a given language, with its varieties and its variations, is studied in order to arrive at a general description of the way a particular language is differentiated within a society. It can therefore be argued that the Labovian approach is inductive in nature.

Historical linguists compare linguistic features of particular languages over time. This means that unlike "mainstream" linguists, historical linguists build their theories on the fact that languages are not static. Through diachronic studies, historical linguists explain language change in terms of internal linguistic features (Labov 1963: 2 and Milroy 1992: 20-2). One such

explanation is that users replace marked with unmarked features (Scotton-Myers 1998).

Using the historical linguists' approach, trill replacement in Chichewa could be regarded as an inevitable choice of an unmarked feature. This would have been the case since [l] is more common in Chichewa and many Southern African languages like Zulu where there is no [r]. However, the markedness theory has its own challenges. Firstly, since it advances its argument using language features, the implication is that, "it is languages that change and not people that change languages" (Lass 1980 cited by Milroy 1992:22). On the contrary, it can be argued that if internal motivation were the only causative factor of change in language, then languages with similar structures would develop similar changes at the same rate and time (Milroy 1992: 22). But this is not the case, if it was, languages would only be converging and not diverging into distinct varieties. Furthermore, by the 21st Century languages with marked features would not have been in existence, since enough time would have passed for all marked features to be replaced. Therefore, it is logical to study language variation and change using the sociolinguists' approach.

Sociolinguists' approach to language change involves explaining the causes of linguistic change (Milroy 1992: 20). Their main task is to solve the 'actuation problem':

> [w]hy do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at other times?
>
> Weinreich, Labov and Herzog (1968:102)
> (cited by Milroy 1992: 20)

In order to solve this problem, factors external but related to language are studied (Milroy 1992: 20 and 22). Thus instead of just looking at the possible origin of change, factors that initiated and helped in diffusing the change are attributed to social factors and as well as setting. Theories such as those developed by Labov and Bell form the basis of such studies, as will be discussed in the following paragraphs. Solutions to the actuation problem do not only account for past change, but also allows for the possibility of predicting future changes (Milroy 1992: 20), given similar conditions.

In developing his own theory, Labov's first premise is that languages are social organs (1972). In other words, languages are a means of socialisation and they reflect the culture of its speakers. It is also important to note that change only takes place in languages that have speakers (Milroy 1992: 22). Therefore, it is plausible to state that language users cause change rather than that languages change via structural considerations alone. It is logical therefore, that when studying linguistic change, the speakers of the given language have to be considered especially in relevant sub-groups.

Labov's second premise is that languages do not change abruptly but that a new feature is first introduced into the language system and is used as an

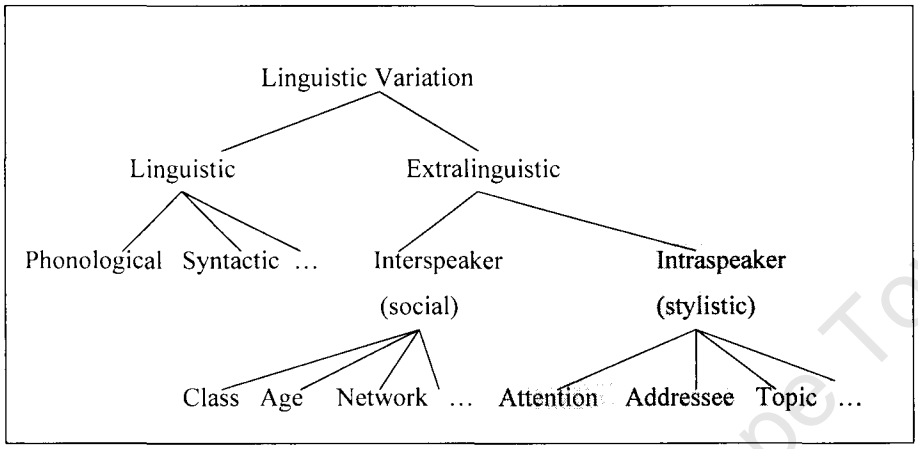
option to the old feature within the same system before it completely takes over (Chambers 2003: 205). He therefore proposes that there must be a point in time where two varying features co-exist. Furthermore, the use and apparent survival of each feature could largely be accounted for by examining the social dimension of language. Thus the theory of language variation, which relates internal factors to external factors of language, was developed.

External factors like social characteristics of the users and situations in which variants are used are correlated with the use of the variants in a given language (Labov 1962). In this theory the survival of a variant is due to the prestige attached to it and not on internal features. While acknowledging the effect of internal motivation on variation, Labov's (1972: 2) position is that it is useful only as a primary concern. It is a primary concern because the variation is often between similar linguistic features. However, Labov's argument is that linguistic variation is associated with and sometimes initiated by external factors. Furthermore, not all changes are internally motivated. He concludes therefore, that internal motivation is neither a sufficient explanation nor a complete study of language variation on its own as it leaves out the very fabric of language variation, the user.

2.1.1 Stylistic Variation

According to Bell (1984: 145-6), the extra-linguistic factors related to a linguistic variant usage are either social or stylistic. The difference between the two factors is that social variation is found between the speeches of different speakers, while style variation is measured within the speech of

individual speakers (Bell 1984: 145-6). Style is thus termed as intraspeaker variation (Schilling-Estes 2002: 375) and its position in the whole theory of variation is shown in Figure 2.1 below:



Adapted from Bell (1984: 146)

Figure 2.1: Stylistic Variation within the Variation Theory Hierarchy

As shown in Fig. 2.1 above, style is based on the attention given to the speech, the addressee and the topic under discussion.

The style axiom according to Bell (1984: 151) is as follows: "variation on the style dimension within the speech of a single speaker derives and echoes the variation which exists between speakers". This means that although style is a separate dimension, it derives from social variation hence variation in style must be related to some social variables. Linguistic variants called markers have social correlations only while those with both social and stylistic correlations are called indicators (Bell 151-52).

The social and stylistic dimensions are related since research has shown that upper class speech styles are closer to formal styles, while lower class styles are closer to informal styles (Romaine 228 cited by Bell 1984:151). However, this social class classification cannot be applied to Chichewa because of the diglossic situation in Malawi and formal acquisition of Chichewa. Kayambazinthu (1998a) explains that in Malawi the use of English is associated with the upper class, while the general use of Chichewa is associated with the lower class, who are uneducated. By implication therefore, the use of 'proper' Chichewa would be a marker of lower class for speakers from districts where the standard was based, which mostly comprises the rural population. At the same time, speakers of other varieties are expected to have acquired the standard variety through Chichewa Medium Schools. Thus the educated and in the cases of the uneducated described earlier above, the standard variety of Chichewa is used across the status bar. It would therefore, be possible to find similar speech styles in the upper and lower class Chichewa speech. Class does not correlate with the level of formality in Chichewa speech, since to be formal is to use the standardised variety, which associated with education and may coincide with some uneducated rural speech varieties (see the discussion on standard variety in 1.2.1 above).

Variation studies use a number of social categories to determine actuation (Schilling-Estes 2002: 375). With the case of Malawi as explained above, formal Chichewa does not necessarily demarcate class. However, other social dimensions are considered in this study. These include age, gender and

whether Chichewa is the user's first or second language (see chapters 5 below).

2.1.2 Studies on [r] Variation

According to Ulbrich and Ulbrich (2007: 1761), rhotic or *r*-sounds consists of phonetically heterogeneous group of sounds which includes trills, fricatives, approximants, taps/flaps and vocalised /r/. Rhotics have also been referred to as r-atics to describe their chameleon nature (Velde and Hout 2001: 1). Although these sounds differ in place and manner of articulation, they are related to each other and are unified by the use of one letter, <r> (Ulbrich and Ulbrich 2007: 1761). Phonemically, using the logic of underspecification, /r/ does not have any major class features; it is just [+ continuant] (Wiese 1996 [2000]: 171). Wiese (2003) also proves this unification using the similarities in the phonotactics and prososody of rhotics (Ulbrich and Ulbrich 2007: 1761).

Since rhotic sounds are closely related, it is inevitable that variation and/or change occurs within the group. For instance, the German phoneme /r/ which was initially realised as either a trill or a fricative in a syllable, is currently realised as a rhotacised vowel rhyme after three decades (Ulbrich and Ulbrich 2007: 1761). In Chichewa however, variation is not within the rhotic set of sounds. It concerns the lateral /l/. The following class features distinguish /r/ from /l/ and nasal consonants: [+ consonantal, - obstruent, + continuant] (Wiese 1996 [2000]: 171).

2.2 Methodology

Intrinsic to the study of linguistic variation is the use of quantitative methodology. This is the case since underlying linguistic variation are two principles: quantitative modelling and multiple causes (Bayley 2002: 118). The relationship between quantitative methodology and the two principles is explained by Bayley (2002: 118) in the following way: the former encompasses the fact that variation occurs in certain and not in all linguistic environments; while the latter implies that variation is a result of a number of contextual conditioning factors. These principles therefore suggest that, a given environment must be studied in as many occurrences as possible in order to ascertain that the variant's occurrence is not accidental in that environment. At the same time, every available contextual factor is to be examined and conclusions made by elimination. Thus it is unavoidable to use quantitative methodologies, where a huge database is required, since tangible results can only be arrived at by elimination.

Furthermore, the quantitative methodology validates the results or generalisations formed about linguistic variation because of the following reasons. Firstly, they are based on the multiple occurrence of every variant in a given environment. Secondly, generalisations made on each environment are comparable to the general statements about all the other possible environments. It is because of validity of results that quantitative methodology replaced the original approach, which was based on a single factor (Schilling-Estes 2002: 377).

2.2.1 Research Methods and Sampling Techniques

Although language style is found in both written and spoken modes (see Feagin and Biber 2001), sociolinguistic studies tend to concentrate on the spoken mode. Similarly in this study, it is the spoken mode, which is of main relevance. Written news scripts, which are edited by not less than three people before broadcasting in all the three radio stations, are not a reflection of spontaneous language usage. This is explained in the following paragraphs.

In an ideal situation the news script is checked several times, like at the Malawi Broadcasting Corporation where the Reporting Unit is a separate department from the Current Affairs where news is produced. Bell (1991: 34-5) explains that in such a case an article undergoes at least six stages of writing and re-writing before it is broadcast. He explains that firstly, a document goes to the Chief Reporter's desk from a news source. Depending on the assessment of news worthiness, a journalist is assigned to scan the document and add any relevant information or subtract any unnecessary information. Thirdly, the new version of the article is checked by the Chief Reporter, who could either make corrections or re-send it back to the journalist for corrections. Fourthly, the revised and corrected version is sent to the sub-Editor. At this stage, at MBC, it means the article now has gone to the Current Affairs Department. But with Capital Radio, the article is still within the News and Current Affairs Department, while at Power 101, the article is always in the Newsroom Department.

The fifth stage is carried out by the sub-editor edits the article by cutting, tightening, clarifying, re-ordering and restyling the article. The final checking is done by the chief editor, who revisits the work previously done at the first five stages and edits the article where necessary. Tafika who is a news editor describes his job in-line with Bells description as follows:

> ...ine ndimagwira ntchito ku news room muja eti ngati editor. Munthu akalemba nkhani zimabwera mmenemuja timauza kuti ikhale chonchi.
> [...I in the newsroom as an editor. When someone writes a news article in the newsroom, we tell him/her how the story should be written].

As a deputy editor Chitsanzo explains:

> ...ndimalandira nkhani kuchoka ku ma reportes olemba nkhaniwo ndiye ndiganiza kuti iyi ndiyoyenera kuti yipite pa wayilesi kapena ayi ndiyiipange chiyani chapereweramo ndi chani.
>
> [... I receive different scripts from reporters, and decide which stories are worth broadcatsting and which are not. I also think about what to do with the stories before they are aired].
>
> Monga ine ndi editor timati ndiwe gatekeeper woima pakhomo uyu alowe uyu asalowe .
> [Just like I am, an editor is said to be the gatekeeper, standing at the entrance allowing some to go through and denying access to others].

It is through editing that the every news broadcast at each radio station takes approximately an equal amount of time as explained by Ellen in responding to the following observation by the researcher:

> Int: Ndimakhala ndikudabwa kuti news iliyonse tsiku lililonse news zimakhala zofanana ngati zili za ten minutes ndi ten minutes pamene nkhani zili zosiyanasiyana.
> [I always wonder how the time for news is the same every day. If it takes ten minutes, the reader takes ten minutes everytime although the news contains different items].
>
> Ellen: nde pagona editing. Nkhani ikakhala yaitali koma umangotengamo zofunika zokhazokhazo poganizira nthawi.
> [that's where editing comes in. When the story is long, you just draw out main points because of the time factor].

As with student writing discussed in 1.1 above, unedited scripts are likely to use <r> following <i/e> in the prefix.

News scripts were only used to check whether the spoken variant was induced by an error in spelling. It was found that in the news scripts of one radio station, the Chichewa word for 'soldier' is consistently spelt *m-s-i-l-i-k-a-l-i*. According to the normative rule of *r usage* explained in 1.1 and 1.2.2 above, this is a misspelling as the first <l> should have been an <r>. The *Chichewa/Chinyanja-English Dictionary* also spells the same word with an <r> as *m-s-i-r-i-k-a-l-i* (Paas 2004). However, because of the consistence in spelling, the [l] in *msilikali* from this particular radio station became invalid as a

token. It is invalid since replacement of [r] could have been induced based on the spelling.

Malawi is divided into three regions namely the Northern, Central and Southern Regions and has a total of 29 districts. Blantyre district is the commercial city of Malawi, located in the Southern Region. Government Offices are in Lilongwe the Capital in the Central Region. Data was collected in Blantyre. In Lilongwe interviews with Ministry of Information and Education officials were carried out. Most of the literature on Malawi's language background was from Mzuzu University, which is in the Northern Region and the Centre for Language Studies. Among other activities, the Centre among is mandated to carry out language research and advise government on language policy issues (See 1.2.1 above for its formation and responsibilities). It has also recently revised the Chichewa orthography. The Centre is in Zomba City, Malawi's old Capital. Zomba is in the Southern Region. In four weeks I travelled between and within the four cities for different purposes related to this study.

Blantyre was selected as the city in which to carry out the study because it is the home of the oldest radio station and that it has a number of other well established radio stations. Data was collected in Malawi from the Malawi Broadcasting Corporation (MBC) Radio 1 and 2, Capital Radio (102) and from FM101 Power. MBC has two radio stations in one building. It is state-run as well as the oldest radio station in Malawi. The selection of the two privately-owned radio stations was based on the fact that they are not actively political. The owners of the radio stations are not active politicians and the radio

station's names do not reflect any political agenda. This was important, as comparisons between two political radio stations would have had political interpretations. Another neutral radio station within Blantyre, MIJ, was left out because it is used for training and its newsreaders are trainees. As such it would have been difficult to determine whether mispronunciations were a result of style or because the reader is an amateur. In other words, Capital Radio and FM 101 are well established; more business oriented than political; and have professional newsreaders.

Furthermore, the sampled radio stations are different in ethos. The Malawi Broadcasting Corporation is a statutory body, and is used by government to pass on information to the general public. Capital Radio is a privately-owned radio station whose main audience is the business community. Finally, FM 101 Power is another privately owned radio station, whose target audience is the youth. Hence, the expected level of formality at each radio station was expected to be different from the other stations. These three radio stations are comparable to those used in the Auckland Radio study carried out by Bell. The MBC radio 1 is similar to the National Radio, which was "the prestige station of public radio, carrying solid news, current affairs programmes, in-depth interviews... targeting the older citizens and the highly educated and professionals" (Bell 1991: 111). In an interview with Joy, it is assumed that the government officials, whose stories make MBC news, listen to the news (see Joy's statement in Section 4.2 below).

Similarly, Capital Radio is comparable to 1ZB, which "was Radio New Zealand's general audience commercial station". Finally, Power 101 can be

compared with 1XA, a private rock station, whose target audience was young males. MBC Radio 2 is similar to 1ZM, which was a public broad caster but its audience is the youth. Although Bell in this particular study separated the equivalents of MBC Radio one and Radio 2, they have not been separated in this study. This is the case since unlike comparing styles used by different radio stations; this study aims at distinguishing on-air from off-air styles. It would have been redundant to use the same off-air data twice to represent two Radio Stations, since the same people read the news at the two radio stations.

A total of 820 tokens were collected from news reading and interview styles (see 2.2.4 below on criterion used to select tokens). Table 2.1 below shows the number of recordings in both contexts from each of the three radio stations.

Table 2.1: The Number of Recordings For Each Style

		MBC	101	102	Total
Style	Formal	3	2	2	7
	Informal	8	3	4	15

In order to collect formal data, news bulletins in Chichewa were recorded over a period of four weeks on weekdays only. All three stations broadcast more news bulletins on weekdays than on weekends. Two news bulletins from each radio station were recorded every weekday. One news bulletin was recorded from each of the MBC radio station. Table 2.1 below shows the airing times of the recorded bulletins.

Table 2.2: Airing Times of Recorded News by Radio Station

	Power 101	Capital	MBC
1st Recording	1520hrs	1500hrs	1250/1300hrs
2nd Recording	N/A	1700hrs	1310hrs

There were only two recorders that can tune to a radio station and record voice at the same time, as such a maximum two recordings could be done at the same time. The number of recorders determined the recording times. Power 101 has one Chichewa news bulletin per day, hence only one recording could be done daily.

Irvine (2001:22) explains that styles are a part of a system of distinction, because it is only through comparison of features of a supposed style and those of other styles that the existence of a particular style is established. Hence data was also collected from informal settings in this study.

In order to collect data on casual speech style, open-ended interviews with the newsreaders were conducted. The questions mainly concentrated on establishing the newsreaders' biography (See Appendix 3). Labov (2001: 88) defines careful speech as "the main body of conversational exchanges between the interviewer and the subject, [in which the subject answers questions pertaining to their biography]". Labov further explains that the aim of such conversation is to try to reach casual speech styles, or the style used between acquaintances. In the interview narratives told by the interviewee in response to questions like the "danger of death" approach is vernacular. This

is the method that was used by Labov in collecting data for New York City interviews in the 1960s.

An interview schedule based on the guideline in Appendix 3 was used to initiate conversation. The guideline contains questions about the personal life of the newsreader. Firstly, there are questions that are used to establish rapport. Such questions mainly seek factual information like name, age, home village and the number of years they have worked at the particular radio station. Secondly, there are questions about the person's life experiences and their plans. Thirdly, there are questions concerning their feelings about the past, present and future of their lives. The third type of questions emanated from what the speaker had said about their life experiences.

2.2.2 Study Population and Participants

In this study, data was collected from 15 newsreaders over a period of four weeks: seven readers in both interview and news-reading styles, eight in interviews only. These represent both formal and informal styles. Table 2.3 below gives demographic information of the participants at the three radio stations.

Table 2.3: The Demography of Participants

		MBC	101	Capital	Total
Gender	**Male**	6	3	1	10
	Female	2	-	3	5
Age Group	**Youth**	5	3	4	12
	Middle aged	3	-	-	3
Acquisition	**Neutral**	7	1	4	12
	L2	1	2	-	3

As shown in Table 2.3 above, the demography of the participants is as follows:

8 MBC newsreaders, 3 from Power 101 and 4 from Capital Radio;

10 males and 5 females;

12 youth and 3 middle aged presenters;

12 neutral speakers and 3 Second language speakers of Chichewa.

These represent independent variables of: type of station, gender, age, type of acquisition. All these categories have a bearing in sociolinguistic studies as discussed in above. At Capital radio and Power 101, all Chichewa newsreaders were interviewed, the blank under each of the three categories in Table 2.3 above indicate the absence of newsreaders falling under the given category. Although the sample from MBC was a sample of opportunity, all the categories required have been filled.

2.2.3 Data Collection and Instruments

Three portable MP3 recorders players/recorders were used to record interviews and the news. The main advantage of using MP3 recorders is that digital data can easily be transferred to the computer for easy transcription, assignment of tokens and storage. It was possible to record the news straight on to two recorders that have the FM radio function. Files names used provided important information. News files were named so as to give information about the name of radio station, the actual name of the reader, the week number, the weekday and whether it was the first or second recording of that particular day (refer to news bulletin times above). For instance the filename 'FM 101 Blessings 1F2' means FM 101's second news bulletin read by Blessings on the first Friday of the research. Similarly, interview files carried information about the radio station, the interviewee, the week number and the day of the week they were interviewed like MBC Alice 2F.

Media Players that show the spectrographic displays allow one to select and play back the selected portion of the recording when transcribing and when analysing the phones. The software used for these purposes were Nero Wavelength Editor and PRAAT. The former was used for transcribing and the latter for the spectrographs of [r] replacement and maintenance. However, since the recorders store files in WAV extension, they had to be converted to either wav or mp3 extentions for them to play on the media players. Windows Wavepad and MP3 Converter Simple, which are free internet downloads, were both used to convert the WAV files. Converting files causes a random boom sound in the recording, but its effect on the data was minimal.

2.2.4 Data Analysis Procedure

Only narratives are used in analysing data from interviews. According to Labov (2001: 91), the portion to analyse is after the first sentence also known as the response. There are great chances that the first sentence is a mere repetition of the interviewer's words, expressions and pronunciation. Therefore in this study extracts like the one below were analysed:

Int: ndinu olimba mtima eti.

(You must be very courageous)

Matilda: podzayamba ntchito yomwe ndinafunsira ndi imeneyoyo. Ya u guard yo ndi imene ndinafunsira. Ndiye ndi imene ndinadzayamba pa 9 November 2000. ndiye ntchito yathu ndiyo timakhala pa reception paja. Alendo akabwera amatipeza ife pamenepaja nkuwathandiza. Komanso ya u guard timayenera kuwonetsetsa zolowa ndi zotuluka.

(When I started working that is the job I applied for. I applied to be a security guard. That is the job I was started with on 9 November 2000. As security guards, our station is the reception. When visitors come, they meet us and we help them. As a security guard, one has to take note of everything that goes in and leaves the office building).

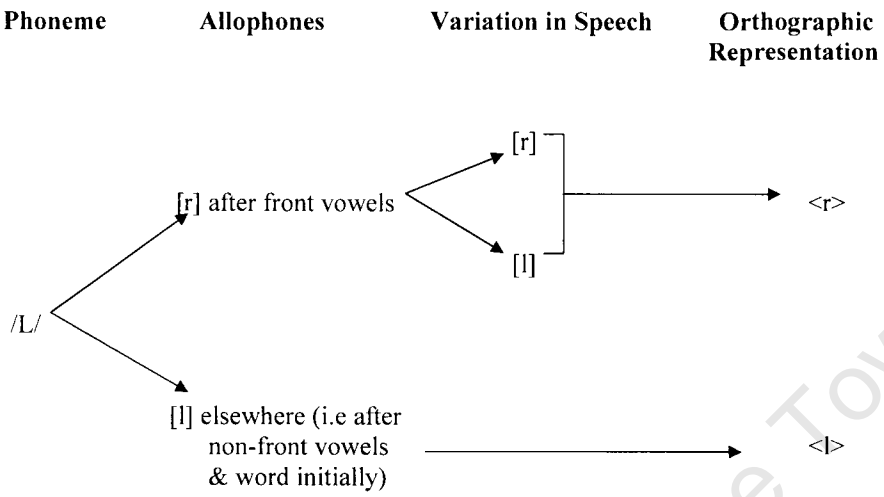
For the same reason that 'responses' were left out, news headlines were not part of the analysis. Below is an example of news portion used in this study:

Bungwe lokongoza anthu ndalama za bizinezi kumidzi la Malawi Rural Finance Company lati lipitiriza kuthandiza anthu maka-maka a mmadera akumidzi powapatsa ngongole zochitira bizinezi pofuna kuteteza zinthu zachilengedwe. Wapampando wa bungwe la Malawi Rural Finance a Vincent Mpaluko wati bungwelo liyamba kupereka ngongole za mtunduwu kwa anthuwo...

[The Malawi Rural Finance, a credit and loan organisation for rural based businesses, says that it will continue helping the rural population with business loans as a away of protecting natural resources. The chairman of Malawi Rural Finance, Mr Vincent Mpaluko says that the organisation will start giving such loans to the designated recipients...]

Every occurrence of [r] and [l] in the normative environments where [r] is expected, was counted as a token with the exception of initial word position which extend to prefixed nouns and verb roots as described in 1.2.2 above and reproduced below for easy reference. In order to confirm that [l] is not replaced in the normative [l] environments, 10 tokens of normative [l] environments for each of the three vowels were studied from each recording. These showed that the [l] environment does not have variation.

Table 2.4: Variation in the Normative Trill in Spoken Chichewa



As explained in the 2.2 introductory section above, comparisons underlie every study on style. In this study comparisons on the maintenance and/or replacement of grammatical [r] are done between an individual newsreaders speech in formal and informal settings, between broadcasting houses, between males and females, between young and middle-aged newsreaders, between L1 and L2 speakers, and finally [r] usage in informal and formal speech of all newsreaders is also analysed. This is in line with the requirements of variable rule analyses where the analysis is done on both the internal linguistic structure (in this case the [r] environment) and the external social structures such as setting, age and gender (Feagin and Biber 2001: 235).

In order to obtain authentic results, the computer programme GOLDVARB, which is a version of VARBRUL, was used to make the comparisons between and within factor groups. VARBRUL was developed for the multivariate data

analysis used in linguistic variation study (Bayley 2002: 124). VARBRUL also helps to scientifically measure if the data and observations made are statistically significant (Bayley 2002: 126).

Tokens used in this study are identified by are six factor groups. Table 2.5 generated by GoldVarb shows all the six groups.

Table 2.5: Factor Groups as per Goldvarb

Group	Default	Factors
1	0	01
2	M	MCP
3	b	bi
4	o	oy
5	n	ns
6	f	fm

Table 2.5 above represent both dependent and independent variables. Only Factor Group 1 has the dependent variables: 0 is [r] maintenance while 1 is [r] replacement by [l], i.e 0 = [r] and 1 = [l]. Groups 2 to 6 are the independent variables. Group two represents the radio stations: M stands for MBC, C represents Capital radio and P is Power 101. In factor group 3 has setting in which speech was recorded and these are either news bulletin (b) or interview (i). These represent formal and informal speech styles respectively. Factor group 4 represents age groups young (y) and middle age (o). In factor group 5 the nature of acquisition, (n) for neutral acquisition and (s) for second-language acquisition. Factor group 6 represent the gender of the speaker, (f) for female and (m) for male. Therefore every (r) environment used in this study was assigned a feature from the 6 Factor Groups. Table 2.6 below shows the total number of tokens collected per combination.

Table 2.6: Token Formats and their respective (r) use

No.	Token format	Total: 0=[r]	Total: 1=[l]
1.	Cbynf	17	10
2.	Cbynm	19	21
3.	Ciynf	20	100
4.	Ciynm	5	35
5.	Mbonf	11	7
6.	Mbosm	21	19
7.	Mbynm	18	12
8.	Mionf	14	23
9.	Miosm	21	60
10.	Miynf	37	3
11.	Miynm	32	48
12.	Miysm	44	36
13.	Pbynm	12	28
14.	Pbysm	5	27
15.	Piynm	19	59
16.	Piysm	5	32

In Table 2.6 above Token format number 1: Cbynf stands for Capital Radio, news bulletin style, the reader is a youth neutral speaker of Chichewa and female. The third and forth columns of the table above, show that for Cbynf, there were 17 instances of [r] maintenance and 20 instances of [r] replacement with [l]. Where possible forty tokens were studied from each speaker per setting. Since the token coding depicts characteristics stated

above, there are more than forty tokens where newsreaders fall under the same factor groups like in token format numbers 3, 9, 12 and 15 in Table 2.6 above

Having discussed the methodology used, I will now give an account of what helped in collecting data and those that were challenges in effecting the methods above.

2.2.5 Delimitations and Limitations

I used an introductory letter from the English Language and Literature Department (Linguistics Section) of the University of Cape Town, which enabled me to get cooperation and access to materials, which would otherwise have been out of limits for me. In some instances, I had to seek permission from higher offices to access news scripts. None of the three radio stations has restrictions on recording their news (see Bell 1991: 27 for reasons why in some countries one has to seek permission before recording the news).

Since my first language is Chichewa, it was possible to conduct un-crowded interviews without a translator. All three-radio stations provided rooms where interviews were recorded with minimum disturbances. This allowed for the privacy that was needed for the disclosure of personal experiences. In addition, the radio stations are very close to the Masauko Chipembere Highway; hence it was easy for me to get to the radio stations and to move from one radio station to the other using public transport.

The influence of English on Chichewa was a limitation in the interview data. This was either done by code-switching and the use of calques from the English language. In a study carried out by Kayambazinthu (1998a: 32) on Chichewa code-switching, it was found that such code-switching is mainly due to the knowledge that speakers will be understood by their audience, when they perceive it to be 'educated'. In addition, since the participants work in an environment where English is also used, the interviews being conducted at their work places might have induced the switching. On the other hand, borrowing and calquing are inevitable since English has a higher socio-political status than Chichewa (Simango 2000: 487). Borrowing from English is systematic and the borrowed words are embedded into the grammar of Chichewa (see Simango 2000). The following are some of the examples of switching and borrowing from the data:

> Chifundo: kodi zinatha bwanji? *I think* a boma anatitumizira chimanga.
> [Mmm, what was the outcome? (Trying to remember) I think the government sent us maize]

> Carol: ma*responsibilities* enawo amagawana anthu ena
> [The other responsibilities are divided amongst the rest of the people]

The battery-operated recorders used ensured that recording was possible even when power was cut-off. However, there were times when there was a power cut before all three sets of batteries were fully charged. Since there was only one charger, the priority of using fully charged batteries was given to the scheduled interview recording. In addition to this, when power was cut off

at the radio station, it was not possible to record the news. In addition to power outages, travelling between cities affected news recording. As the radio stations use different wavelengths in different districts, it was difficult to record the news in Zomba and Mzuzu.

In interviews, some questions that sounded very good when they were set in English, seemed intrusive and impolite when translated into Chichewa. Respect and politeness was required especially when the interviewee was older and/or male since the author is female and in her twenties. For instance asking about their marital status, age and what they would change about their lives could not be asked directly. These questions were arrived at after a build up of other explanations. For instance, the question of when the interviewee was born could be asked as a follow up to the answer about when they first enrolled for school. Similarly, the question of marital status followed a talk on where they live and whom they live with.

Chapter 3: (r) in Chichewa Speech

As this letter is the most a jar of the tongue,

... it is the most imperfect of all the consonants

John Walker 1791 (cited by Labov 1986: 304)

John Walker in the quotation above depicts the fluid nature of /r/. As explained in 2.1.2 above, it is common for rhotic sound production to vary in a language. The properties of the phone [r] as stated by Walker make variation in its usage inevitable. This chapter discusses (r) variation in Chichewa based on the data collected. The main focus is on the statistical analysis of variation. Furthermore, the study findings on (r) are compared with the findings of (r) studies in English and Japanese English.

3.1 Establishing Variation

Goldvarb was used to generate the overall percentages of (r) usage as well as percentages for each of the 11 factors of the five independent variables (see 2.2.4 above). This was achieved through Goldvarb's cell creation process using the 820 tokens. Table 3.1 below shows total percentages in the use of each of the two variables: 0 stands for [r] use and 1 stands for [l] use in normative [r] environments. In other words 0 and 1 represent normative [r] maintenance and replacement respectively.

Table 3.1: Total Percentage of Use of [l] and [r] as per Goldvarb

	0	1	Total
Number of Tokens	300	520	820
Percentage	36.6	63.4	100

Table 3.1 above shows that 36.6% of the time the participants used [r], while 63.4% of the time they used [l] in normative [r] environments. These percentages have the following linguistic implications. The first implication is that normative /r/ is a variable in Chichewa. Secondly that the variant [r] is replaced more than it is maintained. There is a general preference of the variant [l] 63.4% of the time in my data. This preference is further explored in the following paragraphs.

Table 3.2 below shows percentage use of (r) by factor for each of the five dependent variables. The highest [l] percentage use of 78.8% is obtained from factor 'P' while the highest [r] use is from factor of 48.8% is from factor 'M'. The highest [r] use percentage is below 50%, while the lowest [l] use percentage is above 50%. This implies that even at factor level [l] is the preferred variant.

Table 3.2: Percentage use of [r] and [l] by factor

Factor group	Factor	**[r]use**	**[l] use**
Radio Station	M	48.8%	51.2%
	C	26.9%	73.1%
	P	21.9%	78.9%
Setting	b	45.4%	54.6%
	i	33.2%	66.8%
Age	y	38.1%	61.9%
	o	36.2%	63.8%
Acquisition	n	37.1%	62.9%
	s	35.6%	64.4%
Gender	f	40.9%	59.1%
	m	34.8%	65.2%

From Table 3.2 above, the difference in [r] maintenance and replacement within factor groups is as follows:

a. Group I: 26.9 between M and P

   21.9% between M and C

   5% between C and P

b. Group II: 12.2%

c. Group III: 1.9%

d. Group IV: 1.5%

e. Group V: 6.1%.

The greatest difference is between, MBC and Power 101 in Factor Group I, and the lowest difference is within Factor Group IV, between the youth and middle-aged presenters. Figure 3.1 below shows a graphic presentation of the same percentages.

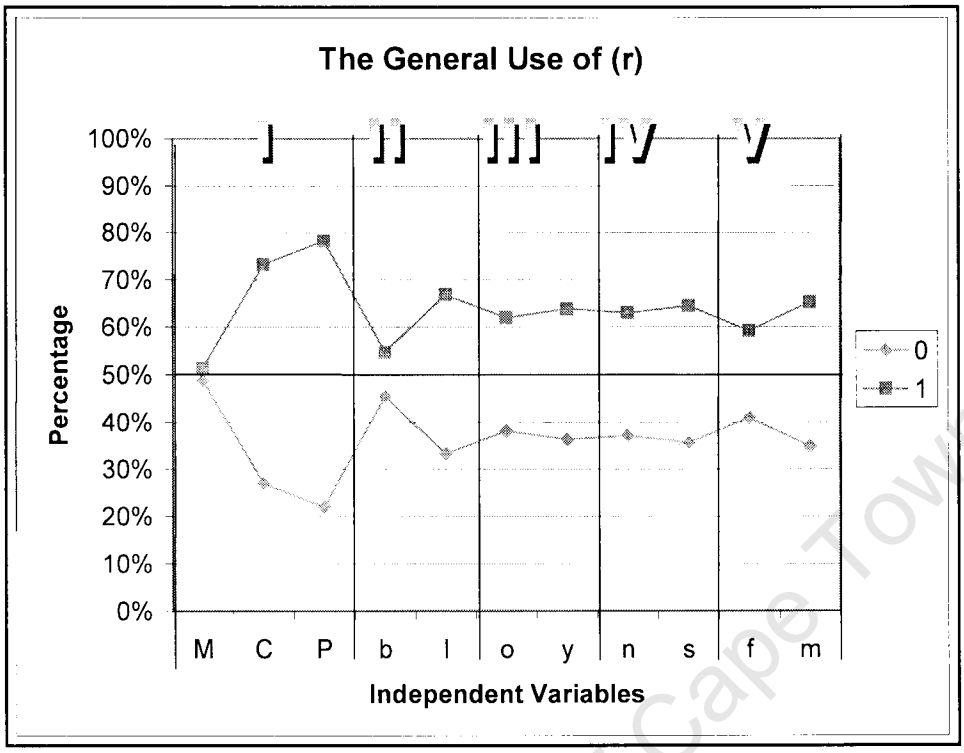


Figure 3.1: The Use of (r) by Factor Group

In Figure 3.1 above factor groups of independent variables are separated by a vertical line. Group I represents radio stations MBC (M), Capital Radio(C), and Power 101 (P). Group II represents speech styles as per setting: newsreading (b) and interview style (i). Group III consists of age groups middle age (o) and youth (y). Group IV represents the type of acquisition, thus (n) for neutral acquisition and (s) for second language. Finally Group V comprises the two genders: female (f) and male (m).

Although the percentages of the occurrence of each variant are complementary to each other as evidenced in the mirror images of the lines, in Figure 3.1 above both variants had to be plotted to show the consistency in

the trend towards [l] usage (see discussion below). Any other pattern, in this case the preference of [r], would have resulted into the criss-crossing of the two connecting lines. At the same time, either of the two connecting points would have crossed the 50% mark.

Overall Figure 3.1 shows that M, b and f are the highest and p, c and i are the lowest in using the variant [r]. M, b and f shows either [r] or [l] are used as alternatives, while p, c and i shows that [l] is frequently used. There is no consistent use of [r] in the factor groups. Although there were three participants who consistently use [r], there are more participants who replace it with [l] to the extent that r maintenance is not present in the factor group data present above.

The highest percentage of [r] maintenance of 48.8% is attained by 'M'. It can thus be argued that in general newsreaders of Chichewa from MBC maintain [r] in normative [r] environments more than others, keeping all the other factors remain constant. I had expected that the data collected from MBC would have the highest maintenance percentages since it is a statutory corporation. However the percentage of less than 50% does not set this radio station apart from others. One of the ten newsreaders from MBC became a newsreader during the one party system of government. This was the time when readers had to come from Chichewa-speaking districts as explained by Howard in the following interview extract:

Howard: kale anthu ambiri amene amawerenga nkhani za Chichewa anali amene akuwawona kuti ndi apaphata odziwa chichewa akuchokera m'madera amene Chichewa chimayankhulidwa bwino.

(Initially, Chichewa newsreaders were only those were deduced to be 'genuine' speakers of Chichewa, those who came from 'Proper-Chichewa' speaking areas)

Int: madera amenewa anali ngati ati? (What were these areas?)

Howard: Kasungu, Lilongwe, Ntcheu, Mwanza ndi madera ena a mu chigawo cha pakati...(and other areas in the Central Region...)

From the interviews, it was found that newsreaders and editors are aware that the Chichewa used on the radio is standardised. However, the definition of what standardised Chichewa is, ranged from that used by people from Chichewa-speaking districts such as that of the Controller of News and Current Affairs, to the Chichewa learnt at school, to a mixture of different Chichewa varieties used in cities where people from different districts have come together and some kind of levelling has been achieved. The reason for using levelled Chichewa is explained by Ishmael, a newsreader from MBC as follows:

Chichewa chimene amayakhula mucity ndi chimene amayakhula mma rural areas chimakhalabe chosiyana... amucitywo amakhala anthu oti achokera mmadera osiyanasiyana, aphatikizana ndiye alisense akubweretsa chichewa chake... [koma] amagwirizana mayakhulidwe. Ndiye ifenso timawona kuti tidzilemba Chichewa choti aliyense kaya wachokera kuti adzimva.

> (The type of Chichewa spoken in cities is different from that of rural areas... in cities there are people from different areas all mixed together, everyone bringing in their own variety of Chichewa...[but] they understand each other. In the same way we try to write the variety of Chichewa that can accommodate speakers from all areas).

Ishmael presents a view that could be held by newsreaders and editors employed after the Kamuzu era. He was employed in 1998 (see discussion on standardizing Chichewa in section 1.2.3 above). The change of employment policy of Chichewa newsreaders by the MBC radio has also had an influence on the definition of Standard Chichewa, initially it was the Chichewa from a few selected districts as explained by Howard above.

The results in Table 3.1 above also show that newsreaders from Power 101 radio have the highest [l] percentage use at 78.1%. This result was expected, since [l] which is used 66% of the time in interview speech (see Table 3.1 above), is likely to be highly present in the data from the least formal type of radio station. However, the percentage from Power 101 is not conclusive since the participants were of one gender (male), one age group (youth) and 2 of the 3 participants are second language users of Chichewa, whose home languages are CiYao and CiSena. This was unavoidable as Power 101 only had 3 newsreaders at the time data was collected (see section 2.2.2 and Table 2.1 above).

3.1.1 The Significance of Factor Groups

From Table 3.1 and Figure 3.1 above, we can see percentage scores of each factor within each group. It is now time to analyse which of these results is significant. In order to do this, I undertook a binomial analysis in VARBRUL, using stepping up and stepping down procedures. Such procedures analyse the impact of different factor groups, hence arriving at which ones are significant and which are not.

When the binomial run was done, the following warning message in stepping up run number 16 was present.

```
***  Warning,  negative  change  in  likelihood  (-
0.00203179) replaced by 0.0.Log likelihood = -483.008
Significance = 1.000
```

This warning signifies that not all data used was accepted, and the following message explains the warning.

```
Groups selected while stepping up:  1  2  3  5
All remaining groups significant
```

Only four of the five independent factor groups were selected during the stepping up run. Thus according to this run, groups 1, 2, 3 and 5 are the ones that are significant. The significant factor groups are as follows: type of radio station, setting age and gender. This explains why when stepping down, the following messages appear:

```
Cut Group # 4 with factors ns
```

and

```
Groups eliminated while stepping down:  4
```

Group number four, type of acquisition is eliminated because it is not significant (see 5.3 below for a further discussion).

3.1.2 (r) Occurrence Patterns

In addition to validating the data, VARBRUL also points out which of the runs is significant. The run conducted with all groups (Binomial Run No. 1), gives the following message:

```
Best stepping  up  run: #15
Best stepping down run: #21
```

The best step up run is number 15 while the best step down run is number 21 (see Appendix 5). According to the GoldVarb User Manual these are the most dependable values from where conclusions are made. Table 3.2 below shows GoldVarb results of the best step up and step down binomial run no. 1:

Table 3.2: Factor Values within Groups

Group	Factor	Weight
1:	M	0.716
	C	0.276
	P	0.302
2:	b	0.679
	i	0.429
3:	o	0.292
	y	0.560
5:	f	0.635
	m	0.442

According to Bayley (2002: 126), factors whose values are between 0.5 and 1.0 show that the factor in question co-occurs with the factor it is being compared with, while those below 0.5 show that one variant is preferred over the other. Therefore in Table 3.2 above, the variants [r] and [l] co-occur within the following independent factors: (i) in the speech of readers from MBC, (ii) in news reading style, (iii) in the speech of young newsreaders (iv) in female readers' speech.

In the remaining factors, there is a trend towards the use of one variant. The following remaining factors have values of less than 0.5 are: (i) Power 101 and Capital Radio Stations, (ii) in interview style, (iii) in the speech of middle aged newsreaders, (iv) second language users and (v) males. These results can be checked against the percentages in Figure 3.1 above (see also percentages highlighted in the cells created by GoldVarb in Appendix 5). For instance Capital Radio uses [l] over 70% of the time and in interview speech it is used at least 66% of the time. It is also in the cells created that this trend is specified. In all seven factors preferred variant is [l] and not [r]. This is evident in Figure 3.1 above where the line connecting [r] maintenance points is consistently below that of [l] usage. Figure 3.2 below summarises the findings on co-occurrence and biasness.

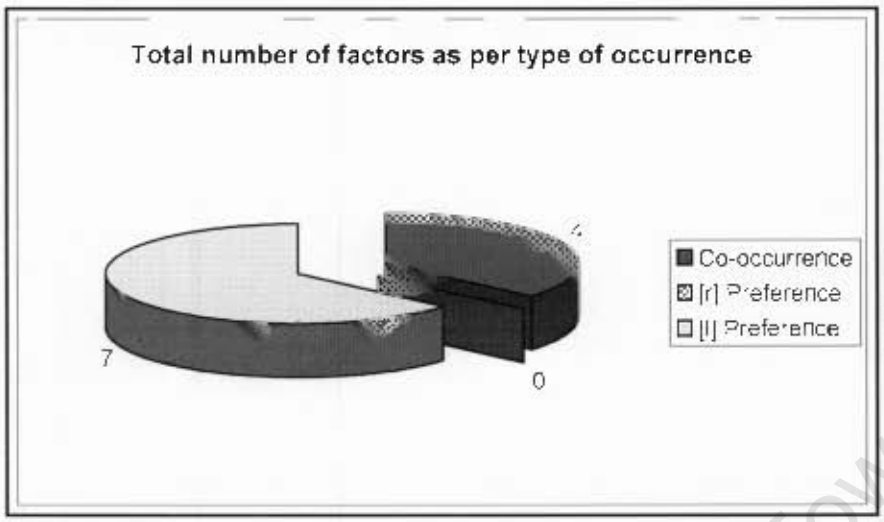


Figure 3.2: The Co-occurrence and Biasness in (r) usage per factor

Figure 3.2 shows that a total of seven factors have a trend towards one variant, while only four factors show co-occurrence. This further confirms that there is more preference towards the use of [l] per factor than there is co-occurrence of the two variants. It is therefore inevitable that the overall results indicate biasness towards the use of the variant [l] (see Table 3.1 above).

This [l] preference becomes exclusive in some cases. For instance, in the word 'msirikali' as used by M radio station in news reading style. Both [r] and <r> are consistently replaced in the second syllable by [l] and <l> respectively, although the normative forms are [msi-ri-ka-li] and <*msirikali*> respectively (see [r] and <r> usage rules in above section 1.2.4 and the discussion on *msirikali* in section 2.2.1 above).

As shown in Figure 3.2 above and in Appendix 5, there are no factors that show the use of [r] more than [l]. However it does not mean that that individual

speakers do not consistently maintain [r]. For instance, in Table 3.3 below, [r] was maintained by one young female newsreader from MBC, whose acquisition was neutral used [r] more than [l] in an interview.

Table 3.3: A Representation of the Individual Use of (r)

	Token Code	No. of [r] tokens	No. of [l] tokens
i	Miynf	37	3
ii	Mbosm	21	19
iii	Cbynm	19	21
iv	Piysm	5	32

In Table 3.3 above, tokens in (ii) and (iii) show co-occurrence of the variants, while (iv) shows the preference in using [l] to that of using [r]. It can therefore be argued that GoldVarb shows group patterns of variation while particular patterns of variation at individual level have to be examined separately.

3.1.2 (r) in *_mbiri*

In the preceding sections, the findings on (r) are based on a variety of words. This section looks at how (r) is used in one distinctive environment. The morpheme used is *_mbiri* meaning 'a lot' and not 'history' (also see section 1.2.4 above). Although *_mbiri* only represents one of the two normative [r] environments (see 1.2.4 above), it has been used here because it was the most common word that was used by all participants on radio as well as in interviews.

From the sample of 820 tokens, a total of 54 tokens are from words with the stem *_mbiri* (see Appendix 6). Out of 54 tokens, [l] was used in 38 tokens while [r] was used maintained 16 times. This also shows that the same trend of [l] preference is present in *_mbiri*.

3.2 Other Forms of rhotic-attics

In addition to the variation understudy other observations were made on how [r] is used. It was found that, some speakers deleted /r/ altogether, while one newsreader's use of [l] coincided with the use of <ω⌈> and in the preceding syllable.

Firstly, /r/ was deleted in one of the (r) syllables in words that have more than one (r) syllable. There were instances where /r/ is deleted in b-style at MBC radio station, and in i-style when the speaker speaks rapidly. This results into the lengthening of the front vowel before it. The following are examples of words in which (r) was deleted:

a. /gwiririra/ ⟶ [gwiri:ra]

b. /khulupirira/ ⟶ [khulupi:ra]

According to Chichewa Orthography rules /i:/ has two syllables. Therefore, it means that it is only the variant and not the whole syllable that is deleted. The two syllables in the lengthened vowel, distinguish the meanings of words *gwiririra* 'to rape' and *khulupirira* 'to believe in' from *gwirira* 'to catch/hold on behalf of' and *khulupira* 'to believe' respectively. An example of [r] maintenance in slow speech was from Jeffrey's speech when reading the

news. On the other hand Jeffrey did not maintain [r] in his interview. Jeffrey is a young male newsreader from MBC.

Ellen from MBC, in her interview used [l] only when the preceding syllable had <ω⌈>. Ellen is a second language speaker of Chichewa. For instance in (a) below, Ellen's pronounciation of the last word was /_zolow⌈ela/ with the variant [l], while in (b) the variant [l] was used /_welenga/.

a. Ndi chimene **anachizolow⌈era**... 'it is what I am used to'

b. Ine ndimadziwa CiYao ndingathe kuchilemba komanso **kuchiw⌈erenga.** 'I know CiYao, I can also write and read it'

c. Ndingathe kuchilemba komanso **kuchiwerenga** ... 'I know CiYao, I can also write and read it'

In (c) however, Ellen used <w> and not <ω⌈> in the word *kuchiwerenga*. This time, the variant used was [r]. This pattern also occurred with the word *awiri.* This shows that there is a possibility that (r) co-occurs with or is induced preceding environments.

3.3 Chapter Summary

In this chapter it has been established that that the normative [r] environment has two variants [r] and [l]. It is possible in Chichewa to replace [r] with [l] without changing the meaning since the two are allophones explained in Chapter 1 above. The percentages in Table 3.1 and Figure 3.2 above show that the variant [l] is used more than the variant [r]. Thus [l] is the preferred variant in general as well as by factor group because in either case the use of

[l] unlike that of [r] exceeds 50%. Furthermore, when (r) is analysed in one specific environment (_mbiri), the results also show biasness towards the use of one variant [l].

Although there is replacement preference, it has also been shown in this chapter that occurrence patterns differ by factor. Hence when the data is analysed by individual factors, it has been shown that co-occurrence of variants is also present. Co-occurrence of the dependent variables is present in only four of the eleven factors hence this pattern is not reflected in the overall results.

It has also bee found that there are other phonetic occurrences associated with (r). These include: deletion accompanied by vowel lengthening associated with one radio station and rapid casual speech; (see section 3.2) and an individual's (r) use associated with the varying use of allophones of the phoneme /w/. The latter suggests that the use of (r) is determined by the choice of other variants it precedes in the speech of some individuals.

In sociolinguistics it is not enough to argue that variation exists without discussing correlations between the linguistic variants and non-linguistic features (see discussion in section 2.1 above). In the following chapters therefore, the relationships between variant use and individual factors in each of the factor groups will be discussed in detail.

Chapter 4: Variation and Style

All speakers have a repertoire of styles of speaking,
there are no single style speakers

Labov's "Principle of Style-shifting" (Coupland 1988: 10)

The principle quoted above, explains that it is inevitable for speakers to vary their speech styles. Chambers (2003: 171) argues that style shifting, like all other forms of variation, is a feature that is used by speakers as early as in their childhood. Bell (1984: 146) asserts that just as social variation is explained in terms of social categories such as gender and age, style needs to be explained in terms of its own categories.

The findings of the study by Fischer (1958) on the variants [n] and [N][3] pioneered the importance of style in language variation, when the former variant correlated with casual settings and the latter with formal settings (Chambers 2003: 5). Labov posited that style varies according to the amount of attention paid to speech (Labov 1972: 208), while Bell explains that attention is a product of situation and argues that it is more the situation than the amount of attention that affects an individual's speech style (Bell 1984: 146). The situation comprises both the setting and the type of audience.

Section 2.2.2 shows that the data was collected in two types of news reading and interviews, that is, formal and informal settings in respectively. As explained in on the other hand, sections 1.2.6 and 2.2.1 above, each radio station targets different types of audience. Thus this study has radio stations

[3] The last phone in *fishing*.

with three types of audiences: government officials, the business community and the youth. However, according to the Audience Design Theory, "... speakers' style choices are primarily a response to their audience" (Bell 2001: 109). Thus the type of audience is a factor in determining the type of style to use. Therefore, style variation regarding the use of each variant is first discussed in relation to the target audience of particular broadcasting houses before the setting in which the speech occurred. It is only in section 4.3 that the two factors are combined for a complete situational analysis.

4.1 Radio Station Styles

According to Bell (2001: 110) a speaker's style will not only for the target audience, but to a certain extent it will also accommodate auditors and overhearers. On radio, the auditors could be an assumed audience that listens to a programme just because the radio is on. While overhearers could be those who are tuning into a different radio station and happen to tune into the programme by accident. The radio presenter's choice of style therefore has to take all these into consideration to a certain extent. Thus their styles might not just reflect the type of audience but also the type of radio station they are broadcasting from. This is how people are able to correctly guess the name of a particular station without prior knowledge of the presenter's voice, the station's frequency and the programme being presented.

Prior knowledge of the speaker's voice might only give away the name radio station when presenters only work at one station. This is the case since speaker style is likely to change from station to station as found in Bell's

(1991) Auckland Radio Study. Hence prior knowledge of the speaker's voice does not always account for the type of the radio station one is listening to.

As far as the Audience Designed Theory is concerned, on-air speaker style ranking coincides with radio ranking (Bell 1991: 121). This was found to be the case with the styles employed by the 3 radio stations understudy in their use of normative [r] in Figure 4.1 below. The results shown in Figure 4.1 are from all fifteen participants processed by GoldVarb. The results are reliable since the audience at radio stations is a determining factor. It has been argued that:

> [i]ndividual differences are minimised, and speakers tend to cluster around the station mean frequency for the variable, giving content to the notion of a 'station style' which is designed for its audience.
>
> (Bell 1991: 121).

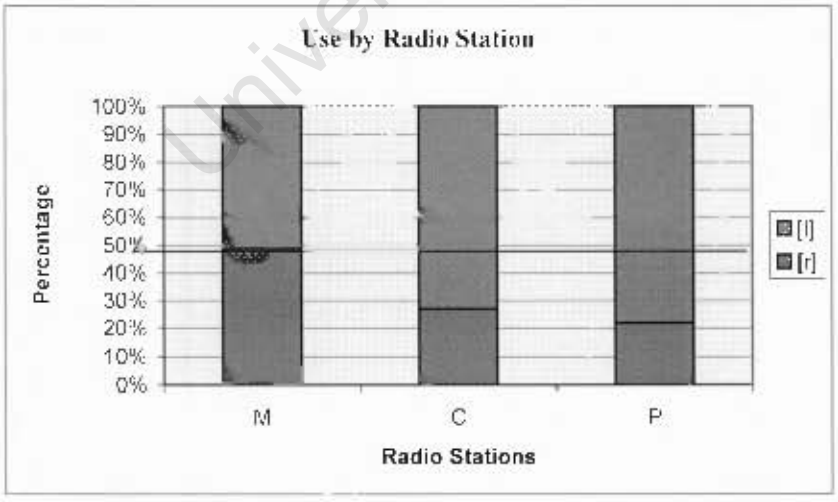


Figure 4.1: (r) use by Radio Station

In Figure 4.1, MBC Radio (M), which is the government's broadcaster, has the highest maintenance percentage. According to Bell (1984: 192), radio presenters' language style norms are like those in a face-to-face interaction where the speech is tailored towards the perceived audience. At MBC, which has the highest [r] maintenance percentages, the presumed audience for Chichewa news includes high-ranking government officials. In the interview with Joy from MBC, he explains as follows when he was asked whether he is consciously overwhelmed by his audience when reading the news:

> ...manthawo amabwera chifukwa chakuti ndiwailesi yaboma eti amakhala kuti mwina pulesidenti nduna za boma, anthu amenewowo mwina akapanngitsa misokhano kapena achita chinachilichonse nthawi zonse amafuna kuti amvere nkhani yawo ikakhalapo. Ndimatha kumawaganizira kuti ngati achita kuyimba foni [kuti muwulutse nkhani yawo] ndiye kuti amvetsera...
>
> (...sometimes one is gripped by fear since this a government radio station, and there are times when the president or cabinet ministers have held a meeting or have done something, they always want to listen when the news covers their activities. I always think that they are listening especially when they call [to have their story aired], it means that they will be listening)...

This correlates with Bell's assertion that language styles on radio like in all media communication is a merge between referee design (language of the media and institution) and audience design since the listernership or target audience is recognized and accommodated (Bell 1984: 192). It also affirms the notion that "formality tends to increase in direct proportion to the number of social differences between participants" (Chambers 2003: 4). This is the

reason why the data from MBC whose presumed listenership includes the president surpasses the percentage of normative [r] maintenance by over 20% (see also the discussion 3.1 above).

MBC's levels of maintenance is followed by Capital Radio (C) and Power 101 respectively. As explained in 1.2.5, Capital Radio and Power 101 are privately-owned stations. However, the difference in formality or use of the normative [r] can be correlated with the target audience. Capital Radio targets business community while Power 101 targets the youth. Atipatsa from Power 101 explains:

> Makamaka wailesi ino ya Mphamvu 101 imachita kwambiri target achinyamata kuyambira cha mma zaka 15 kumalekeza mwina cha mma 35.
> (Power 101 Radio Station mainly targets the youth, those between the ages of 15 up to around 35).

In addition to targeting the youth, their approach to formality and news reading is different from the other two radio stations. For instance, Disc Jockeys are allowed to read the news (see 1.2.4 above).

At Capital Radio there is no reference point of the type of Chichewa to use. Gabriel from Capital Radio explains the effects of not having a reference book on pronunciation:

> Ponopo ndinganene motsindika kuti tilibe system yiliyonse. Ndichifukwa mchake mukhoza kuwona kuti mutati mudzimvetsera wayilesi ya Capital FM kawirikawiri

mudziwona kuti nkhani zimene walemba wina... malinga ndimanja amaeditors... aliyense amalemba ndimmene amalankhulira.

(In the meantime, I can boldly say we don't have a system. That's is the reason why when you listen to Capital FM, you'll often notice that news scripts vary in style depends on the style employed by particular editors..., everyone writes the way they speak).

Although MBC does not have such a manual, a deliberate move is taken by MBC to standardize language used by minimizing variation at least in the lexemes and grammatical item choice. According to Jack, at MBC the term *msirikari* (for spelling see above) means 'soldier' only, while at the radio station Jack previously worked, the term meant 'police officer' as well. Similarly, Joy explains that past tense particles <*da*-> and <*na*-> refer to remote past and immediate past respectively. According to Jack and Joy, the Controller of News has the final say in what is 'correct' as far as the use of Chichewa is concerned. According to the newsreaders, this is the case since there is no reference book on pronunciation in Chichewa.

4.2 News Reading and Interview Styles

Intraspeaker variation as explained in Chapter 2 above is a form of extralinguistic variation. Bell divides this kind of variation into responsive and initiative style designs (Bell 1984: 184). The later follows the addressee's style, while the former is determined by the addressor, hence the name

initiative' because the style is used to change the situation and not other way round (Bell 1984: 184-5). According to Bell (1984: 192) "[a]ll media language is initiative style design". Thus on radio either formal or informal settings are created depending on the style employed for a given program.

According to Bell (1984: 185 & 190-91) initiative style design is further divided into referee and hyper-addressee designs. Referee design unlike hyper-addressee design involves divergence in that it does not include the speech style of the addressee. However, it takes on the speech styles of an absent audience, which could either be the addressor's own in-group speech style or the addressor's out-group speech styles (Bell 1984: 185 & 190-91). With on-radio speech, the type of program determines the style used, thus news-reading has its own referee-designed style.

Coupland (1980: 3) in a study on speech styles of a travel agent in Cardiff, found that the audience, the topic and the mode of communication correlated with speech style and the use of particular variants. Hence setting, audience, topic and mode of communication prescribe that style can be formal, casual and careful (a combination of casual and formal styles) (Chambers 2003: 5).

According to Sankoff (1972) the major determiners of style are the topic, participants, channel and setting (Cited in Chambers 2003: 5-6). It is difficult however, to precisely determine the style used in an interaction due to transitions between two styles and the flexibility of topic as a marker of context (Coupland 1980: 8-12). But it is possible to determine context by using content and components of the situation in order to reduce irregularities

(Coupland 1980: 2-3). In this study mode was constant, but setting, audience and topic varied. The setting was either news reading on-radio and face-to-face interaction, the audience was that of news listeners and the interviewer, and the topics were personal and official. In general the components of the formal context included news reading, news listerners and non-personal matters, while the informal contexts included face-to-face interaction, the interviewer and personal matters.

Labov (1972) used different forms of interviews, and proposed that reading texts represent a more formal speech than ordinary speaking because in the former "the care and attention is greater than usual" (Chambers 2003: 5). The interview approach was criticised by Wolfson (1976), because of the unnaturalness of the situations in which data was collected, instead she proposed that natural settings must be used for data collection (Coupland 1980:1). However, this ideal situation is only possible on paper, since the mere fact that a participant knows that they are being recorded removes the naturalness of the whole situation. This follows research ethics whereby permission to be sought from participants. Therefore, it is plausible that the interview setting used in this study to be classified as informal.

The Audience Design Theory explains that the style that is used in an interaction is based on the relationships between the individuals involved in an interaction (Bell 1997) A radio presentation is a one-way type of communication, where the presenter addresses an anticipated type of target audience. The type of programme and characteristics of the audience determine the level of formality. The type of programme entails the

relationship between the presenter and the audience parties. News bulletin reading requires the highest formal level on radio (Bell 1991).

The size of an audience is directly proportional to the pressure on the speaker's desire to be understood and to win approval (Bell 1984: 190), this can also be applied to the type of audience. According to the information gathered in the interviews, MBC has the largest audience followed by Capital Radio and Power 101 respectively. At the same time, the audience that listens to news programs is large and includes high ranking officials, while in the interviews the researcher who is a student was the only audience, hence it follows that because of the size and type of audience, the news bulletin speech is formal, while the interview speech is comparatively informal. Informality in the interviews was evident in code switching and borrowing from English, an increased pace in speaking resulting to contraction of words. These features were not present in the news reading style. Code switching and borrowing have been discussed in 2.2.5 above and the pace was explained in 3.2 above. The following are examples of contracted words:

a. ***Ndina****wafotokozerapo* to ***Nna****wafotokozerapo* 'I had explained to them before'
b. ***Ndizi****thandiza* to ***Nzi****thandiza* 'I should be helping'
c. ***Ndiye*** to ***Nde*** 'so'

These examples showing non-constrained speech in the interviews when the audience was the researcher.

Although stylistic variation requires that the same individuals be studied for radio station style to be established, the following analysis is plausible because formality levels are based on the type and size of the target audience. This follows Bell (1991)'s study findings that broadcasters' styles are determined by the target audience of the radio station. Figure 4.2 below shows the varied use of (r) in news reading style compared to that used in interviews. As explained in section 3.1.1 above, the GoldVarb programme showed the difference to be significant.

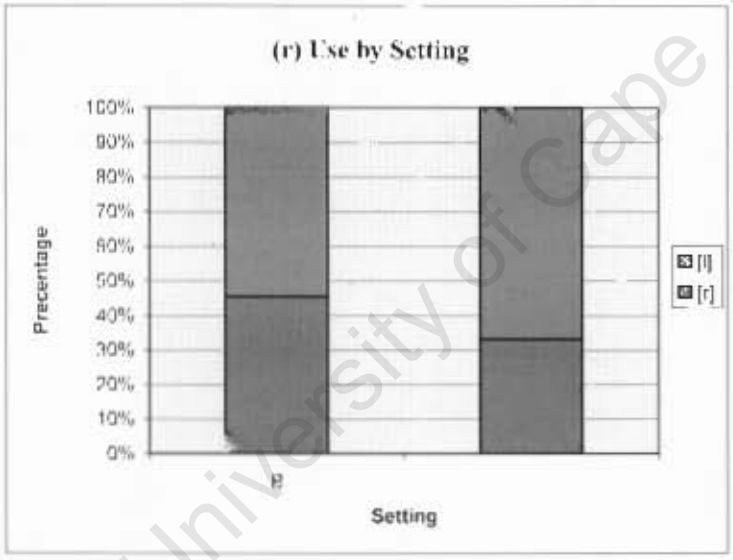


Figure 4.2: Use of (r) by Setting

Figure 4.2 above shows that [l] is commonly used in both settings than [r]. [r] is only used 45.4% and 32.2 % in news reading and interview styles respectively. Despite [r] mairtenance percentages being below 50%, newsreaders use normative [r] 23.2 % more when reading the news reading

than in interviews as shown in Figure 4.2 above. This shows that there is an effort to use [r] in the formal setting than in an informal setting.

[r] is perceived to be formal, while [l] is the informal as seen in the shift in the use of the variable (r) which is explained in this paragraph. When Jeffrey pretends to be introducing the news, in the interview style, he maintains [r] in a word that he did not in the whole interview as shown in the following extract from an interview MBC's Jeffrey:

> ... muyambe [kuwelenga] masummary. Ndiye [ndinawelenga] ma summary aja, pawailesi: Nazi nkhani mwachidule [wowerenga]
> (... start reading the summary. Then I read the summary, on air: Hear is the news read by...)

Jeffrey, who is the longest serving newsreader, uses referee design when he pretends to be reading the news. He completely changed the pace and tone as if he was on-air broadcasting the news. According to Bell (1991: 127), referee-design diverges away from the style appropriate to the present addressee, to that of a third party. The type of referee design used here is in-group since Jeffrey is a newsreader and takes on the tone of news reading (see Bell: 1991: 129).

It can be argued that participants use an out-group style when reading the news, which coincides with more [r] usage than in normal speech. On the radio even when an out-group referee is used, audiences accept it since they share a frame of reference with the speaker (Bell 1984: 194). This is the case

in New Zealand when one reads radio news in English, they use Received Pronunciation (RP), which is an out-group variety because RP is considered as the formal style (Bell 1984: 194). The shift to out-group is rarely perfect and Bell argues that one should expect a few tokens to the contrary in out-group speech (Bell 1984: 191). Furthermore Bell (1984: 196) explains that on radio, "[t]he speaker is thus able to outweigh all audience effects and even the speaker's own dialect, on a limited number of variables". Hence there is no 100% use of the formal variant [r] in news-reading style as shown in Figure 4.2 above.

Capital Radio's female newsreader Chitsanzo was recorded reading the news. She uses both variants, but the variant [r] appears more often than the variant [l] on air while the opposite happens off-air. Chitsanzo explains that she conscious about general language choices she makes when it comes to language use on the radio:

> Chitsanzo: pa wireless ndimayesetsa ...[kuti ndiyankhule bwino]. Mwina mawu ena amene ndimawagwiritsa ntchito ineyo ndikamayankhula mmene ndikuyankhula chonchimu eti sindingagwiritse ntchito pa wireless.chifukwa mwina siChichewa.
>
> (On air, I try as much as possible [to speak well]. Sometimes I don't use some of the words that I use in a conversation off-the-air, like I'm doing now, since some of them might not be Chichewa 'proper')

Chitsanzo explains that on air she could refer to a group of young males and females *achinyamata* 'the youth', while off air she could call them *anyamata* ndi *atsikana* 'boys and girls'.

Using the Accommodation Theory, it can be argued that the results in interview style reflect the accommodation of the interviewer's use of [r]. However, this was avoided since tokens were collected from (see 2.2.1 above). This proves to have been effective as percentages at individual level from high to low levels of maintenance in interviews.

4.3 Station and Setting Styles

This section analyses how each radio station uses (r) in both formal and informal settings. Since the data from the two factor groups (type of station and setting) are significant, it is possible to process comparable data with GoldVarb using the cross tabulation command. The results are as follows:

Table 4.1: The Use of (r) by Radio Station and Setting as per GoldVarb

		M	%	C	%	P	%	·	%
b	0:	50	57:	36	54:	17	24|	103	45
	1:	38	43:	31	46:	55	76|	124	55
	·:	88	:	67	:	72	|	227	
i	0:	148	47:	25	16:	24	21|	197	33
	1:	170	53:	135	84:	91	79|	396	67
	·:	318	:	160	:	115	|	593	
·	0:	198	49:	61	27:	41	22|	300	37
	1:	208	51:	166	73:	146	78|	520	63
	·:	406	:	227	:	187	|	820	

Table 4.1 above shows that the highest use of [r] is 57% MBC in the formal setting while the highest [l] use of 84% is by Capital Radio presenters in the

informal setting. The Table further shows that overall, [l] is not the preferred variant in both formal and informal settings with the same percentages presented in Table 3.2 above. Chart 4.2 below shows the variation in (r) that occurs at each radio station in each of the two of settings and between radio stations.

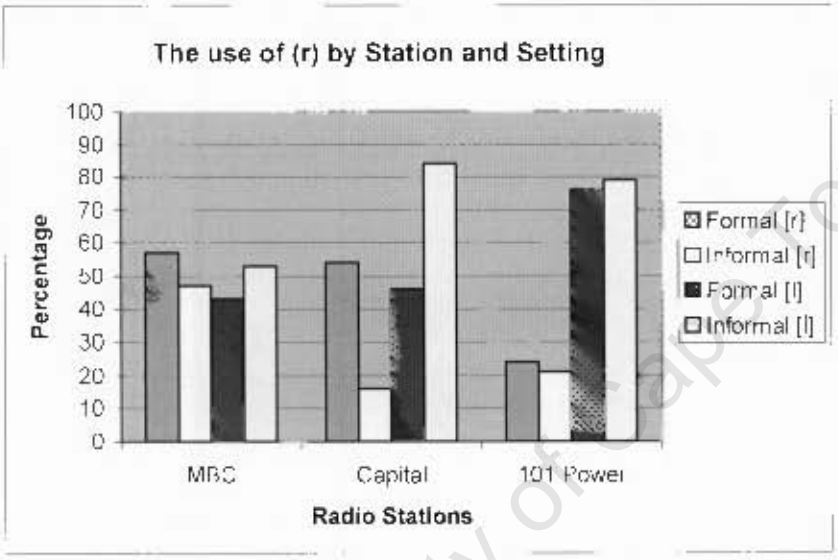


Chart 4.1: The use of (r) by Station and Setting

Chart 4.1 above shows that the greatest variation per setting occurs at Capital Radio, since there is the most significant drop or increase in the use of each variant in a given setting. The least variation is at 101 Power while at MBC the use of the variants is relatively similar as the bars are close to the 50% mark.

Comparatively [r] use is the highest in both settings at MBC. On the other hand, Capital Radio ranks second in the formal setting, with a significant drop in the informal setting making it the least user of [r] in this setting. Thus

Capital Radio swaps positions with 101 Power in [r] use. It is also worth noting that it is only presenters from 101 Power that have a significant preference of [l] usage in both formal and informal settings.

4.4 Chapter Summary

This chapter further discusses the findings briefly presented in 3.1 above concerning use by radio station and setting. It shows that in Chichewa (r) is used stylistically according to radio station and setting.

Although stylistic variation requires that the same individuals be studied at different radio stations for radio station style to be established, it is possible to arrive at the same without this requirement. This is the case since from Bell's 1991's radio station study it was found that the audience dictates style. Hence section 4.2 discusses that due to different levels of formality dictated by each station's target audience, the use of normative [r] varies. The more formal the relationship is between the newsreader and the expected audience, the more the normative variant is maintained. Thus MBC maintains [r] more than Capital Radio and the latter maintains [r] more than Power 101. Bell arrived at a similar conclusion after studying the same broadcasters at different radio stations whose target audience was similar to that of MBC, Capital Radio and Power 101 (see also 2.2.1).

It has also been found that in the data collected from Capital Radio and Power 101 there is biasness towards the use [l], while that from MBC radio station show that the variants co-occur (see also 3.1.1 above).

In 4.3 above, style it is established that [l] is the preferred variant since the percentages showing its use by setting exceed 50% in both settings. Furthermore it has been shown that the Out-group style, which is a type of Referee design speech employed when reading the news bulletin coincides with the co-occurrence of the variants. On the other hand, in the informal setting, there is biasness towards the use of [l].

Chapter 5: Variation by Social Categories and by Type of Acquisition

This chapter firstly studies correlations between variant use and the presenters' gender and age. It also looks at possible reasons behind the insignificance of type of acquisition in this study.

Despite the fact that every Chichewa newsreader from 101 Power and Capital Radio stations participated in this study (see section 2. above), there were short falls in the two social categories of gender and age (see Table 2. above and section 5.1.1 below), since both radio stations had young newsreaders only while all three newsreaders from 101 Power were male. Hence data from the two radio stations has been combined to show gender variation, and age variation data is from one radio station MBC.

It is plausible to combine data from101 Power and Capital Radio since results from the two stations are closer than those from MBC (see Table 3.2 above and cross tabulations in Appendix 5). However, it became necessary to do a second binomial run using the combined data when it came to analysing station style in the use of the variable. Thus the second binomial run has two instead of the original three factors under the radio station factor group. Section 5.1 below shows data from both binomial runs.

Both age groups understudy are only represented at one radio station, an analysis of age variation in section 5.2 is that of one radio station. Thus the age problem is partly solved.

Furthermore, as shown in the first binomial run, the factor group: type of language acquisition is not significant. Section 5.3 thus discusses interesting observations at individual level.

5.1 Gendered Language Use

Initially language and gender studies took two dimensions in approaching the study of language. Associations were made between a particular gender and its choice of lexemes, and also between the lexemes used in referring to a particular gender by a given gender. Thus early research focused on gender specific terms like *hostess/host* and also on the language used by particular sexes. The findings were that females use terms suggesting politeness while males use those depicting tentativeness. On the other hand, studies speculated that at lexical and syntactical levels females as contrasted from males have a limited, but sweet and chaste vocabulary, and that they use simple sentence structures (Van Ginneken 1913, Jespersen 1922). In brief, women's speech is said to be indirect, emotional and conservative in fields that men are not (Lakoff 1986: 409).

Currently, there has been a strong tradition of analysing whether or how differently males and females use certain variables. It has been observed that females and males consistently use different proportions of variants whenever there is a variable (Cheshire 2002: 425). Thus certain proportions of a variant may be associated with degrees of masculinity or femininity or neither. According to Lakoff (1986: 407), women's language, unlike that of their male

counterparts, is characterised by the use of standard 'correct' forms. In phonetic variation, research attributes this to the findings that females have a positive attitude towards the standard dialect, while males have a negative one (Brouwer 1989: 6) (see also Labov (1966), Levine and Crockett (1966), Shuy et al (1967), Wolfram (1969), Trudgill (1974)).The following sub-sections look at how male and female presenters use the Chichewa (r) whose variants are characterised as standard and non-standard.

5.1.1 Gender in Newsreaders' Speech

Figure 5.1 below shows percentages in trill maintenance by gender. This is a different presentation of the same findings presented in section 3.1 above. From this figure, it can be deduced that both males and females use the two variants of (r) since none neither maintains nor replaces [r] 100% of the time.

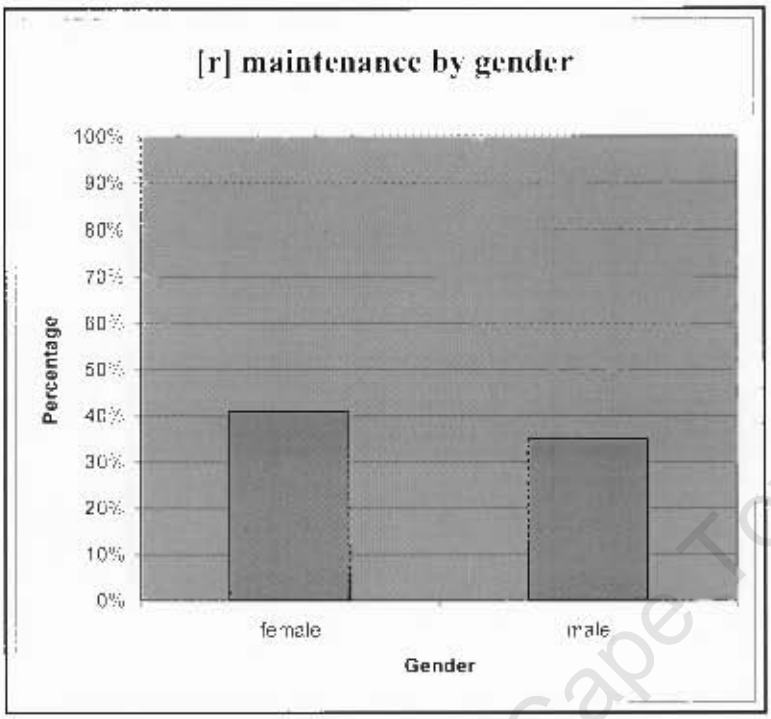


Figure 5.1: [r] Maintenance by Gender

In spite of having the similar education backgrounds and qualifications, male and female newsreaders differ in their use of (r) by 6.1%. This makes the gender factor group to be on position three in terms of the percentage difference within a group (see discussion in 3.1 above).

Studies on style relate the gender of the language user to their choice of particular styles. Trudgill (1974) observes that women use variants that have overt prestige, while men prefer ones with covert prestige (Eckert 1999: 192). Similarly in this study, although both percentages are lower than 50% in maintenance, females maintain normative [r] more than males. Thus women tend to use the standard variant more than males. Trudgill (1986: 400) attributes this to the general observation that women are more status-

conscious than men. A trait that is necessary if the children they raise are to acquire prestigious norms and if they are to secure their status in society, since women are traditionally rated by appearance. On the other hand, Deuchar (1989: 192 and 193) attributes this fact to the observation that females in most societies are prone to criticism; therefore the use of the standard is a way of avoiding criticism. These interpretations imply that females either portray a higher status than what they are or protect their status through their use of the standard variant, in this case the use of [r].

5.1.2 Gender in (r) Use by Setting

This sub-section looks at how gender and setting interact when it comes to the use of the variable. Under analysis are the two types of contexts formal and informal as suggested by the content of the speech as well as the level of formality of a given radio station. Thus the news reading speech is compared with interview speech, while data from most formal radio station is compared with that of the less formal radio stations.

Chambers (2003: 162) points out that females will use the standard variant more often than males in any cultural setting. However, Brouwer (1989: 7) asserts that this difference in levels of formality between men and women also persists in formal situations, where women tend to shift more towards the standard than men than they do in informal settings. Brouwer's argument applies in this study as shown in highlighted percentages of the cross tabulation between gender and setting in Table 5.1 below.

Table 5.1: Use of (r) by Gender and Speech Context

		b	%	i	%	·	%
f	0:	28	62:	71	36	99	41
	1:	17	38:	126	64	143	59
	·:	45	:	197		242	
m	0:	75	41:	126	32	201	35
	1:	107	59:	270	68	377	65
	·:	182	:	396		578	
·	0:	103	45:	197	33	300	37
	1:	124	55:	396	67	520	63
	·:	227	:	593		820	

Table 5.1 above shows that females maintain [r] by 62% in the formal setting. This is 26% more than they do in the informal setting. On the other hand the difference by setting in the male speech is only 9%. It should also be noted that males and females differ by as much as 21% and by only 4% in the formal and informal settings respectively. Thus confirming Brouwer's (1989: 7) argument that females maintain the standard forms more in formal settings than they do in informal ones.

There were empty cells when gender was cross-tabulated against type of radio station as highlighted in Table 5.2 below under factor P:

Table 5.2: Use of (r) by Gender and Speech Context

		M	%	C	%	P	%	·	%
f	0:	62	65:	37	25:	0	--|	99	41
	1:	33	35:	110	75:	0	--|	143	59
	·:	95	:	147	:	0		242	
m	0:	136	44:	24	30:	41	22|	201	35
	1:	175	56:	56	70:	146	78|	377	65
	·:	311	:	80	:	187		578	
·	0:	198	49:	61	27:	41	22|	300	37
	1:	208	51:	166	73:	146	78|	520	63
	·:	406	:	227	:	187		820	

Therefore factors C and P were re-coded as one factor G for gender analysis by type of radio station. Thus M stands for the more formal radio station (MBC) and G for less formal radio station (101 Power and Capital Radio) (see 2.2.1 on the levels of formality of each station). The cross tabulation of gender and type of station factors groups re-coded data is shown in Table 5.3 below.

Table 5.3: Use of (r) by Gender and Type of Station

		M	%	G	%	·	%
f	0:	62	65:	37	75|	99	41
	1:	33	35:	110	75|	143	59
	·:	95	:	147	|	242	
m	0:	136	44:	65	24|	201	35
	1:	175	56:	202	76|	377	65
	·:	311	:	267	|	578	
-	0:	198	49:	102	25|	300	37
	1:	208	51:	312	75|	520	63

From Table 5.3 above, both males and females from the more formal radio station maintain the normative [r] more than their counterparts at the less formal radio station G. Figure 5.2 below shows a graphic presentation of the same data which gives a picture of the trend in variable use by the two types of radio stations.

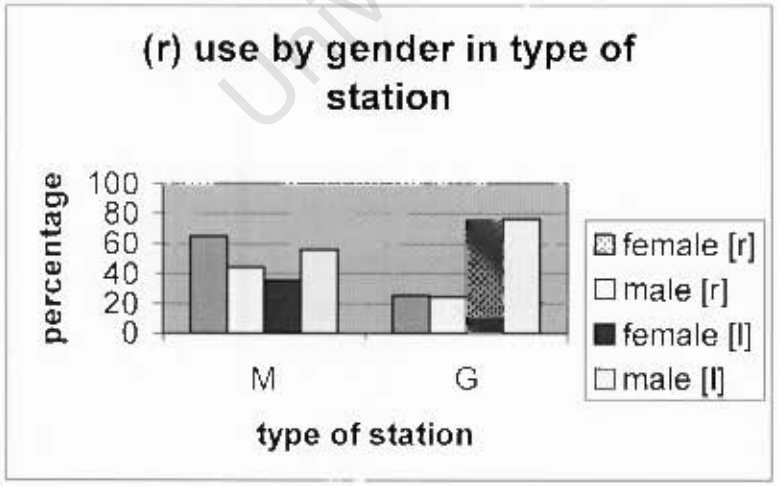


Figure 5.2: Use of (r) by Gender and Type of Station

Figure 5.2 shows the level of formality of a given radio station is reflected in the choice of the variant used. Thus the less formal radio stations use the non-normative variant [l] more than the more formal radio station. However, as much as this is the case, males prefer the use of [l] to the use of [r] at both types of radio stations. On the other hand, whenever [r] is used, females use it more than males at both types of radio stations.

5.1.3 Gender and Language Conservatism

Trudgill (1986: 399) explains that when men and women have different social networks, they are likely to have different linguistic behaviour. In the interviews females cited the following activities as leisure time activities: chatting with friends and family, watching soccer on TV at a club, mountain hiking, attending prayers, doing house chores and cooking. On the other hand males cited: cooking, attending prayers, clubbing, working as a Disc Jockey. These are common leisure time activities however; only one female cited watching TV at a club, which is the only activity that could expose one to other varieties of Chichewa. On the other hand 6 out of the 8 young male participants cited clubbing as their leisure time activity. Thus the male participants were more likely to have been exposed to a variety of non-standard Chichewa in their free-time.

Following principles from his 30 years of studying variation, Labov (1990: 210, 213, 215) has developed principles explaining the behaviour of the two genders as far as their choice of variants is concerned:

Principle I: In stable sociolinguistic stratification, men use a higher frequency of non-standard forms than women.

Principle Ia: In change from above, women favour the incoming prestige forms more than men.

Principle II: In change from below, women are most often innovators.

Since (r) variation in Chichewa was noticed as early as 1937 by Watkins, we can consider it to be a stable variant. That is, it is not undergoing change, except slowly and imperceptibly, possibly by lexical diffusion. If this is the case then Principle 1, is bone out, since men use more [l] than [r]. is stable in Chichewa since males use the non-standard variant [l] more than females.

As explained in Section 1.2.3 above, Chichewa underwent standardisation for over 30 years, hence by maintaining the standard variant according to Principle Ia above; women use the more prestigious variety of Chichewa. However, this is not a straightforward issue, since English surpasses any indigenous Malawian language in prestige (Simango 2000: 491). Therefore relations of prestige do not inhere in Chichewa alone but in bilingualism with English.

There were two opposing groups of women, rather similar to those portrayed by Lakoff (1986: 406). On one hand, there is a group advancing Otto Jespersen's argument that characterises females as "arbiters of etiquette as well as mainstays of conservatism". On the other hand, following Labov's theory, is that the second group that is characterised as innovators. Lakoff

(1986: 408) explains that as far as change is concerned, the group, which feels that an innovation is beneficial, is likely to adopt the change earlier and appear more innovative than the other. She further argues that women will adopted phonological innovations because they are cute, which corresponds to their use of "flowery" vocabulary described above.

Labov's hypothesis about innovations has already been explained in this section; however there is need to explain why some females are conservative. Coupland (1988: 117) asserts "individual contextual variables are those more clearly relating to individual participants' backgrounds, attitudes, abilities". The preference of one variety over another is a result of the interplay between social and individual context variables available to a language user (Coupland 1988: 115-7). Mary from Capital Radio, aspires to work for MBC, a government parastatal for job security after which she would aim at working for the British Broadcasting Corporation (BBC). This is unlike the plans of Pamela who would like to work for the BBC straight away and Chitsanzo who would like to work at Non-Governmental Organisations that need public speakers or civic educators. Their aspirations coincide in their use of (r). Mary maintains normative [r] more than Pamela and Chitsanzo who aspire to leave the standard Chichewa speaking environment.

Research has also shown that it is not the biological formation (sex) but rather a socio-cultural construction of gender where power relations and division of labour leads to differences between the two categories (Brouwer 1989: 3, Cheshire 2002: 423). This has not be discussed here since all 15 participants are news editors and have atleast attained the same level of education. One

participant from MBC and another from Capital Radio are the only participants who are university graduates. The rest are holders of the Malawi Secondary School Leaving Certificate of Education (MSCE) or an equivalent of O'Level Certificate obtained before the establishment of the MSCE.

5.2 Age and Style

Often times when the speech of different age groups is compared, there are linguistic features that mark age groups (See Chambers 2003: and Eckert 1997: 47-64). For instance, unlike the language of the middle aged group the language of the youth is associated with. The study findings of Sankoff and Sankoff 1973 however, show that the demands of particular occupations regarding the use of standard forms of language results into adjustments in the language of the youth (Chambers 2003: 195). Thus teachers, writers and announcers are expected to use standard language, which transcends age differences. Hence the term marché linguistique was coined to describe this phenomenon.

5.2.1 Marché Linguistique

Marché linguistique is a French term for the concept that was developed in sociology by Bourdieu and Boltanski in 1975, whose non-literal translation is "market place dialect" (Chambers 2003: 195). The argument is that careers that solely depend on language use inevitably shape one's language. Thus it is possible to have similar language traits between age-groups, since the young adjust their speech and become more conservative in spite of their age. It follows therefore that at radio stations both the middle-aged and young

adult presenters do not significantly differ in their use of (r) as shown in Figure 5.2 below. Both age groups are biased towards the use of the variant [l].

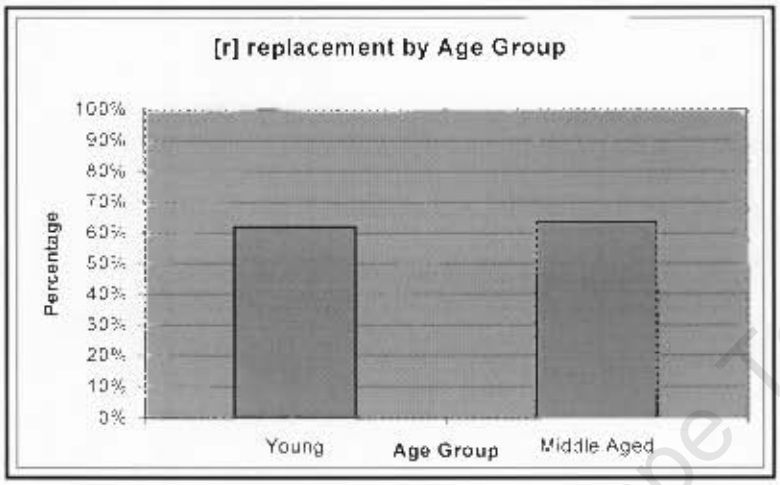


Figure 5.2: Use of (r) by Age Group

The difference between the two age groups is 1.5%. It can be argued therefore that the results in Figure 5.2 indicate the overall adjustments the youth have made towards using the standard variant. At the same time these percentages implicitly show acceptable (r) variation levels of use in standard Chichewa.

5.2.2 Age and (r) Use At Station Level

Table below shows the cross tabulation results between the two factor groups. In this table, Capital radio 'C' and Power 101 'P' stations have zeros under middle-aged group 'o'. The analysis of (r) use by station is only possible at one radio station MBC 'M', since both age groups were represented as shown in Table 5.4 below

Table 5.4: Use of (r) by Age and Radio Station

		M	%	C	%	P	%	·	%
o	0:	67	38:	0	--:	0	--|	67	38
	1:	109	62:	0	--:	0	--|	109	62
	·:	176	:	0	:	0	|	176	
y	0:	131	57:	61	27:	41	22|	233	36
	1:	99	43:	166	73:	146	78|	411	64
	·:	230	:	227	:	187	|	644	
·	0:	198	49:	61	27:	41	22|	300	37
	1:	208	51:	166	73:	146	78|	520	63
	·:	406	:	227	:	187	|	820	

Table 5.4 above shows that at MBC young readers use [r] more than they use [l] while the opposite is true for middle-aged readers. As explained in 5.2.1 above, market forces have a role to play in the speech patterns of young newsreaders. Therefore, their adherence to the standard [r] is a manifestation of their desire to be marketable in their speech-based career. On the other hand, middle-aged readers are close to the overall findings of 63.4% [l] use (see Table 3.1 above). Thus the middle aged display the norm rather than their effort in using the variable.

5.3 Variation and Type of Acquisition

"Like age, occupation, and economic level, ethnic identity is information that is directly available to the interviewer; but like social class, it contains implicit values which are subtle and accordingly more difficult to quantize" (Laferriere 1986: 428). This is the case with the relationship between how participants acquired Chichewa and how they use the variable understudy. Thus when Goldvarb eliminated this independent factor, this chapter looks at the indirect information regarding ethnic identity vis a vis Chicechwa variety in use.

The language history of Malawi described in Section 1.2.2 above has led to the following Chichewa language situation, which is found in the sample of this study. On one hand, there are Chichewa speakers whose acquisition was neutral comprising: two mother tongue speakers of Standard Chichewa; none of the participants is a mother tongue speaker of other varieties of Chichewa and; nine non-native first language speakers of Chichewa, one of whom is Mary a Lomwe as explained in her interview:

> Mary: ineyo kwathu ndi ku Thyolo. Ndine mlomwe weniweni. Mwana wa lomwe komano CiLomwecho sinditha ayi chifukwa chokuti ndife ana oti takulira mtauni
> (I am originally from Thyolo. I am a genuine Lomwe. A Lomwe by decent, but I do not speak CiLomwe because we grew up in the city).

(also see 1.2 above).

On the other hand there were four second language speakers of Chichewa. These include those whose ethnic language survived as a home language like the Yaos and Senas. This group also comprised one migrant from Zimbabwe, who acquired the language when he migrated to Malawi at the age of six. These two groups have been described as neutral and second language users of Chichewa respectively.

Only individual styles used by the participants are discussed using their attitudes and personal experiences in the absence of GoldVarb's multivariate data. It is important to look at data from individuals because one is bound to find those features being used by other Chichewa speakers.

5.3.1 Neutral and Second Language Newsreaders' (r) Usage

Laferriere (1986) uses the three-stage model to explain how an ethnic dialect can be sustained even when there is maximum exposure to the standard in societies where ethnicity is a highly regarded factor. The stages include (a) acquisition of the standard variant through education, (b) its transmission to the younger speakers with a pragmatic negative attitude, and its disregard, (c) but sustainability and spread of the non-standard attributes by the youth due to acquired negative attitude of the standard and positive attitude of the ethnic marker (Laferrire 1986: 438-9). Thus at stage (a) the standard is acquired, at stage (b) at a young age the L2 speakers become aware that other L2 speakers are stigmatised based on their inability to use the standard variant, thus they instead have a negative attitude towards the standard variant and they disregard it. Therefore, at stage (c) instead of maintaining the standard variant, they shift to the non-standard variant, which is also an ethnic marker for the sake of solidarity. One of the participants, Gabriel's experience with Chichewa was as follows:

> Tsopano ife anthu akumpoto chifukwa kuti president woyambirira amayankhula Chichewa kwawo kunali ku Central Region, chigawo chapakati. Enafe mtima wozikonda chabe timawona ngati aah, Chichewachi ndi chinenero cha anthu amene akutipondereza.
>
> (As for us people from the Northern Region, just because the first president a Chichewa speaker from the Central Region, for selfish reasons, we used to look upon Chichewa a language of the oppressors)

Gabriel's use of the non-standard Chichewa, despite having a bachelors-degree in linguistics, is evident in his replacement of [r]. Out of the 40 tokens from his interview speech, Gabriel used the non-standard variant [l] 35 times. It should also be noted that Gabriel being male his identification with his ethnic group could just be one of the many factors contributing to his preference of [l].

Allen and Linn (1986: 426) argue, "Ethnic dialects are spoken only by those whose self-identity is primarily with their ethnic group. For these people, linguistic characteristics may be the most important defining criteria for group membership." Gabriel's case is that of solidarity. On the other hand L2 speakers of Chichewa like James who initially spoke Shona, uses the standard variant [r] 17 out of the sampled 40 times. This means in James's speech [r] and [l] co-occurs. Although this does not tally with the overall result it reflects the effort that James has put in using the variant [l] with his Shona background. It has been observed that Shona speakers use [r] more than [l] when the speak CiNyanja (Makoni et al 2007: 34). Thus James has moved away from his Shona accent.

It can be argued that Laferriere's proposition applies to L2 speakers living in communities dominated by the ethnic group that uses the non-standard variant. Such a situation will be ideal to force one to conform to non-standard norms. On the other hand, when the speakers of the standard variety speakers out-number the ethnic group, conformity to the standard will be passed on to the younger generations and eventually the non-standard variety could be replaced. This tallies with the reason why the later generations of

migrants from minority communities acquire the speech community's variety of language while those that are not out numbered become bilingual with an accent in the new language. In Blantyre just like the other towns and cities in the Southern and Central Regions of Malawi, Chichewa is commonly used hence conformity to the variant used within Blantyre rather than that of particular ethnic groups is justifiable. It can therefore be argued that the readers use City variety more than the standard variety. As explained earlier the standard variety marks ethnicity.

Joy's dressing was casual compared to that of others, and he used casual expressions or slang like *wotairira* (not serious), *chanichani* (and so on) (see interview extract that follows). In the four weeks that I went to this particular radio station, he only dressed up once when there was a presidential function across the main the highway and the general atmosphere at the station on this particular day was tense. In spite his casual approach to work, Joy maintained the normative [r] in 37 of the 40 tokens collected randomly from his speech. The three times that he used [l] was in fast speech. His normative [r] maintenance must be a result of his language background. Joy has lived in Lilongwe (which was regarded as the home of proper Chichewa see section 3.1 above) and his parents are Chewa's from Lilongwe. The Chichewa he uses must coincide with the standardized Chichewa. The following extract highlights his consistent of the variant [r]. The words in bold have the variant used in token building. 1 stands for maintenance.

pamenepopo ndi pamene time management ikufunika chifukwa kuti ukhale wina wake wotairira zikhozakukuvuta. Zimachitika mmene mujamo kuti kwabwera

khani ina yaboma akuuza munthu akuimba foni mmene mujamo. Mwina 15 minutes before mukuchita broadcast wakuyimbira foni eti akupanga dictate, uyilembe ukamaliza uyipange edit isanatuluike ndiye pamenepopo ukuyenera kukhala woganiza mofulumira chifukwa pawailesi penapake anthu kungowauza zinthu zaboza amakhulupirirabe ndiye nthawi zonse you are supposed to be conscious.

(this is where time management skills are required, if you become careless you find yourself in a fix. What happens there is that, someone could just tell you, over the phone, that there's some latest news article from government, something like 15minute before broadcasting time and they are dictating to you over the phone. After this you have to write and edit it properly. That's where cleverness comes in handy, because people tend to believe everything that is broadcasted on the radio, even lies. So one has to be conscious all the time)

On the otherhand, Hosea grew up in Nsanje where Chisena was mostly used and Chichewa was only used in Chichewa classes use of (r).

Hosea: Nde ndikupitirizabe, boma litasintha 1994 kwabwera multiparty, patatha chaka chimodzi kapena zaka ziwiri mpamene anayambitsa zilankhulo za pawayilesi. Zilankhulo za pa wailesi zabwera, chiyawo, CiLomwe, chisena. tumbuka inalipo kale kuchokera 1964 koma apapa inangochita ngati yabwereranso.

(And am still proceeding, it was two or three years after the system of government changed in 1994 to multiparty system when other languages were introduced on the radio [MBC]. The new languages were CiYao, CiLomwe, CiSena, Tumbuka was there before in 1964, but this time it was re-introduced)

There is hypercorrection in the use of the standard [r] by a second language speaker whose native language is CiYao. For instance, [r] was sometimes used after a prefix especially in the verb _li (see rules in section 1.2.4 above). For instance /chilichonse/ (everything) was pronounced as /chirichonse/.

It was also noticed that when syllables that have stops [t/d/g] immediately follows either the trill or lateral environment, the vowels are dropped and [r] is used. For instance /ndalama/ (money) was consistently pronounced as /ndrama/ by Peter a first language speaker of CiSena. Otherwise [l] usage by L2 speakers is consistent with its normative rule explained in sections 1.2.2 and 1.2.4 above.

5.4 Chapter Summary

In this chapter the use of (r) has been discussed in relation to gender, age and type of acquisition.

It has been established that in the speech of female newsreaders [r] and [l] co-occur and that male newsreaders use [l] more than they use [r] while females use the normative more. It has been argued that due to their social position, socialization processes and expectations, females adhere to standard variants in both formal and informal settings. It has been further argued that the type of variation between the two variants is stable variation. This proposition follows the covert and overt prestige by males and females regarding the use of the normative [r] and the length of time that has passed since this variation was first recorded.

The results show that the age-group of the newsreaders is slightly marked by their use (r). This follows the fact that all participants being newsreaders employ certain levels of referee design style necessary in their career.

The self-identity of individual newsreaders coincides with there use of (r). It has been discussed that one L2 user who strongly identifies himself with the Tumbuka and CiTumbuka replaces normative [r], while another who is an L1 native speakers of Chichewa maintains it. However in general, the type of acquisition is not marked by the use of (r). This is the case since the participants' job requires that they know how to read Chichewa news, and if they had distinctive accents they would not have qualified for the job. Furthermore, instead of lagging behind when it comes to using the standard form, some L2 users are hyper corrective users of normative [r].

Chapter 6: Conclusion and Issues for Further Research

6.1 Conclusion

In Chichewa [r] and [l] are allophones of one phoneme /L/. However, Chichewa Orthography Rules separate the use of their corresponding letters <r> and <l> respectively for consistency in spelling. Thus <r> and <l> are used in different environments. The normative use of the two need not be applied in speech, however the use of [l] consistently coincides with the environments of <l>, but in the <r> environments, both allophones are used.

The use of the two allophones vary sociolinguistically, hence the phone in the normative <r> environment is a variable, (r). (r) has two variants [l] and [r]. Their patterns of use in relation to the five factor groups used in this study is either biasness towards one variant or co-occurrence of the two variants per factor and never complete use or non-use of one variant. This is different from Mchombo's (2001: 10) observation that on radio speech consistently uses [r].

The following are the general correlations between the variants and the independent variables. Co-occurrence is an indicator of formal setting, MBC radio and female speech styles. On the other hand, biasness towards the use of [l] indicates informal setting, Capital Radio and Power 101 stations' and male speech styles. These imply that (r) usage is stylistic.

The general preference towards the use of [l] in the (r) environments reflects the general preference in Chichewa towards [l] than towards [r] as follows:

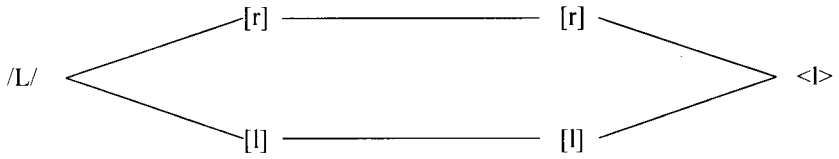
(a) according to the Chichewa rules, 3 out of the 5 Chichewa vowels co-occur with the normative [l].

(b) the allophone [l] occurs more frequently in Chichewa words, as it is the only allophone used in the initial morpheme position.

(c) Chichewa Orthographic rules seem to place primacy on the use of <l> and hedge the use of <r> with rules that are complex such as those that require one's knowledge of morpheme boundary in prefixed words such as *ndili* (I am). The rules also become irrelevant since the choice of one allophone over the other does not make any difference to the ordinary user as meaning is not affected.

In the English alphabet, allophones like [p] and [p^h] in such words like (peace) are represented by one letter of the alphabet <p> for consistency in spelling. Similarly in Chichewa, instead of separating the two allophones through writing, one letter of the alphabet could be used to represent allophones [r] and [l]. The most suitable choice would be <l> as its corresponding phone [l] is the most commonly used. At MBC, this is already done in the word *msirikari* which is spelt <msilikali>. The diagram below illustrates the proposed change.

Phoneme	Allophones	Sociolinguistic Variants	Orthographic representation



This illustration shows that there is one phoneme, which has one corresponding letter but is phonetically realised by two allophones that are also sociolinguistic variants.

Since [l] is never replaced by [r], it can be argued that Chichewa is either losing [r] or that initially [r] was not part of the Chichewa phonetic system. In the former case, displacing [r] has taken a long time because of the strict standardisation processes Chichewa went through. It should be noted however, that Watkins (1938) was based on the data collected from Hastings Banda, the same person at the forefront of standardizing Chichewa, hence rules on [r] could have been his personal understanding of the language.

Since the participants are professional users of Chichewa, differences within factor groups of age group and type of acquisition are minimal. Marché linguistique is a phenomenon based on the nature of the job and it accounts for the similarities in the speech styles of different age groups. It can also be applied to the type of acquisition factor group since in this group career requirements also take prominence over group solidarity.

In conclusion, the varying use of the trill in Chichewa is stylistic, close to 50% maintenance of [r] is formal while over 50% [r] replacement [l] is informal. It is not only market place demands on language that have a bearing on one's achievement of expected levels of the formality of, but that one's gender, the ethos of the work place, the formality of the setting, and one's career plans also have an impact on levels of formality. Where formality is using [r] and [l] concurrently, it is expected on one hand, that females working at MBC, who are not looking for other jobs, will use the most formal language in formal settings. On the other hand, males working at Power 101 who are planning to change their careers will be the least formal in informal settings. Lastly since type of acquisition is an insignificant factor group, the use of normative [r] is undergoing stable variation and both L1 and L2 users participate in this change.

6.2 Issues For Further Research

The following related areas could make interesting topics for further research:

- A comparison of the use of the variants by rural illiterate monolingual Chichewa speakers with that of newsreaders informal settings.
- An investigation on the patterns of (r) usage by the next generation of presenters at the three radio stations.
- Whether the use of (r) is related to the variety of Chichewa a speaker uses.
- Whether the use of (r) is results into language change or not.
- The effects of relaxed standardisation of Chichewa on its grammar.

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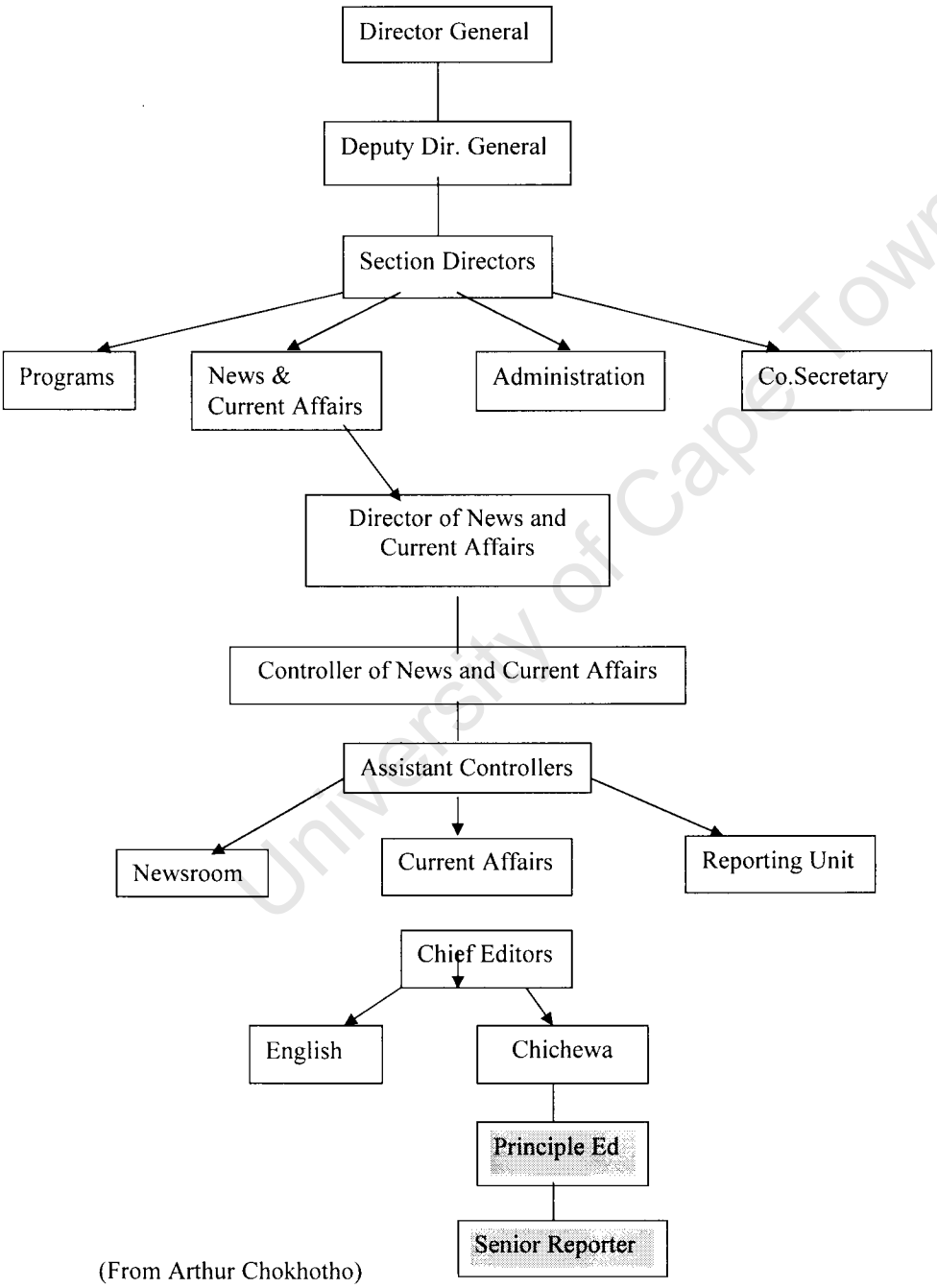
Appendices

Appendix 1: The Demography of Participating Newsreaders

gender	age	Service (ye	I tokens	I mbiri	I weren	N tokens	N mbiri	languages
f	35	4	208	8	30	98	10	
m	26	2.5	253	76	25			
m	52	24	287	31	66	192	16	(Shona/Zezulu)
m	35	10	135	26	3			(chisena)
m	31	2	330	32	17			Chiyao
m	51	13	385	22	57	461	33	Chisena (reader)
m	35	1	92	3	7			
f	42	10	102	11	11	105	5	Chiyao
m	*50*					373	27	
f						173	14	
m	*40*					33	2	
		Total	**1792**	**209**	**216**	**1435**	**107**	
m	32	2	177	34	10			
m	22	7 months	144	44	20			
m								
		Total	**321**	**78**	**30**			
f	25	2	175	22	17			(Tumbuka)
f	28	3	221	34	5			(Chiyao) Chitumbuka, Chisena
f	21	2	145	13	12			(Chisena)
m								
m								
		Total	**541**	**69**	**34**			
		Total	**2654**	**356**	**280**			

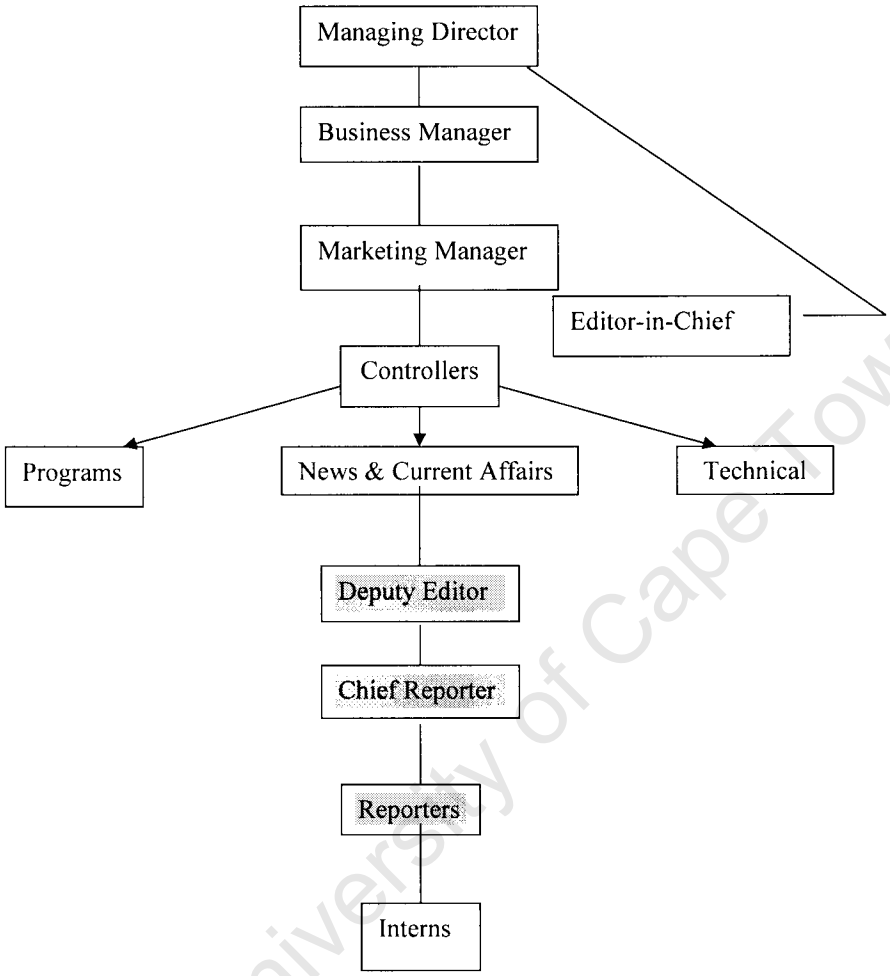
Appendix 2: Radio Station Hierarchies

The MBC Hierarchy



(From Arthur Chokhotho)

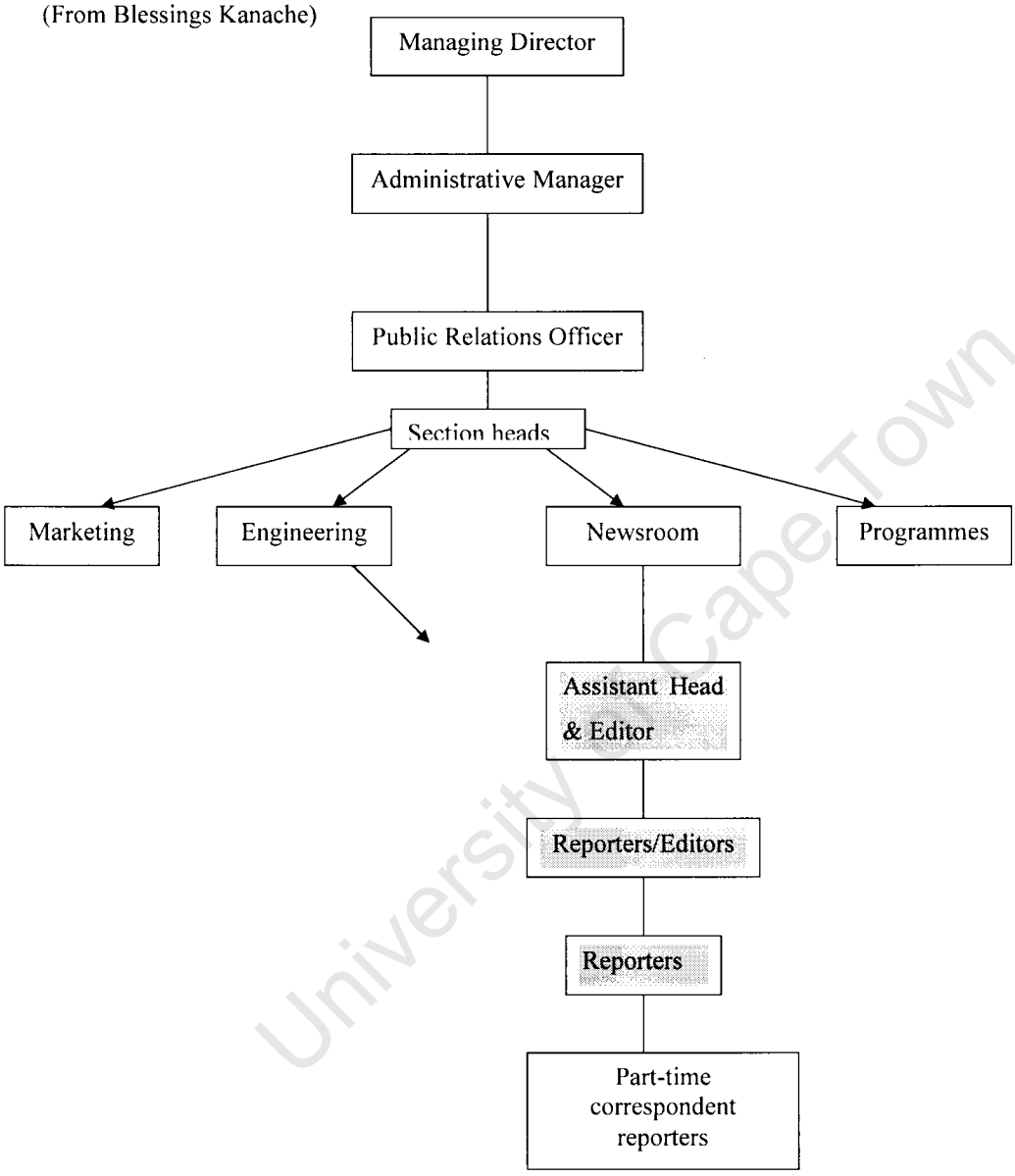
Capital Radio Hierarchy



(From Chikondi Juma)

FM 101 Power Hierarchy

(From Blessings Kanache)



Appendix 3: Guiding Questions for Newsreaders' Interviews

1. What languages do you speak with your family, in home village?
2. What does your job at this radio station involve?
3. Where do you live? With whom? What languages do you speak to each?
4. "If married" where is your spouse your spouse from? What languages does her families speak?
5. Where do you see yourself in 10 years (Career and life in general)?
6. How long have you lived in Blantyre?
7. Where did you go to school?
8. What do you remember the most about your school and why?
9. Did you study Chichewa, up to what level?
10. What other places have you lived within Malawi and
11. Are there any differences between reading the news, other programmes and the Chichewa you use when talking to your friends and family?
12. Did you have special training in reading Chichewa news?
13. Do you read news in any other language? "If yes" in what languages. "if they don't read in any of the languages they speak, why not?
14. Do you remember the first time you were on air? What did you present? How did you feel? When did you start reading Chichewa news?
15. Describe your normal working day?
16. If you were to change anything in your life, what would it be and why?
17. Growing up did you ever see yourself as a radio presenter?
18. If you were to win MK5million in a lotto competition, how would you spend it?

Interview Schedule for Head of Chichewa News

1. The language policy of the radio station and how Chichewa news fits into it
2. Who are your targeted listeners?
3. What is your coverage area?
4. When it was the station established?
5. What is the difference between news reading and broadcasting any other programmes
6. What are the qualities of a good Chichewa newsreader?
7. Do newsreaders undergo any special training?
8. Where can I get historical background of the station?-opening date, motto, logo and .
9. What is the radio's most important agenda: entertainment, Information? or education?

Appendix 4: Tokens.

(0Mbonf Potsekulira0
(0Mbonf Ukugwiri0zana
(0Mbonf Wambiri0
(0Mbonf Kwambiri0
(1Mbonf Ogwira1
(0Mbonf Mosiyira0
(1Mbonf Zogwira1 fs
(0Mbonf Akatsekulira0
(1Mbonf Anamugwira1 fs
(0Mbonf Zimbiri0
(1Mbonf Mneneri1
(1Mbonf Apere1ke
(0Mbonf Zokomera0
(0Mbonf Atengere0
(0Mbonf Zokomera0
(1Mbonf Zikukwera1
(1Mbonf Chiwonetsero1
(0Mbonf Awonjezere0
(1Ciynf kuyambira1
(1Ciynf sinnapitiri1re1ko
(1Ciynf panzere1
(1Ciynf kulira1
(1Ciynf kulimbikira1nso
(1Ciynf khonzera1
(1Ciynf kotero1ko.
(1Ciynf ndinangovomere1za
(1Ciynf zatero1
(1Ciynf zinatero1.
(1Ciynf ndinkasewera1
(1Ciynf akuwere1nga
(1Ciynf ndikuganizira1
(1Ciynf zotero1
(1Ciynf ndinalephera1
(1Ciynf sinnalephere1yi
(1Ciynf u'limbikira1,
(1Ciynf kuwerenga1,
(1Ciynf azikulondolera1
(1Ciynf ndinazindikira1
(1Ciynf ndimatero1
(1Ciynf kukusamalira1
(1Ciynf kukutsogolera1.
(1Ciynf ndimalimbikira1
(1Ciynf kupempherа1
(1Ciynf zotero1
(1Ciynf awiri1
(1Ciynf amadere1re1dwa
(1Ciynf amasewera1

(1Ciynf mpira1
(1Ciynf samayembekezera1
(1Ciynf zingatero1
(1Ciynf watere1
(1Ciynf kwambiri1
(1Ciynf alowere1
(1Ciynf zotero1
(1Ciynf ndimayakhulira1
(1Ciynf amatero1
(1Ciynf chotero1cho
(1Ciynf akukhalira1
(1Miosm anandikankhira1
(1Miosm Ndinavomera1
(0Miosm kumakabwere0ka
(1Miosm ndikukhulupiri1ra1
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(0Piynm ndikamamumvera0
(1Piynm ndimalimbikiral
(0Piynm Ndafotokozera0
(1Piynm ngolepheral
(1Piynm usirilkali
(1Piynm akuyeneral
(1Piynm Timapangiral.
(1Piynm akuyimirilral
(1Ciynm Ndaphuziral
(1Ciynm Kuyambiral
(1Ciynm Woyambirilra
(1Ciynm Woyambiriral
(1Ciynm Maphunziro1
(1Ciynm Kwambiril
(1Ciynm Zambiril
(1Ciynm Kuyambiral
(1Ciynm Kwambiril
(1Ciynm Kubadwiral
(1Ciynm Ndikukhulupirilral
(1Ciynm Wakuliral
(1Ciynm Ambiril
(1Ciynm Chikusiyaniralnako
(1Ciynm Choyambirilral
(1Ciynm Poyambirilral
(0Ciynm Tikukakambira0na
(0Ciynm Wayankhira0
(1Ciynm Zambiril
(1Ciynm Ndinachiphunziral
(0Ciynm Kuwere0nga
(1Ciynm Akutipondere1za
(1Ciynm Chinenerol
(1Ciynm amaderal
(1Ciynm Abwerel
(1Ciynm Ndingayerelkeze
(1Ciynm Abweral
(1Ciynm Mmaderal
(1Ciynm Motere1
(1Ciynm Sichinatsamirel
(1Ciynm Kuchotseral

(0Ciynm Wonjezera0po
(1Ciynm Zimachokeral
(1Ciynm Nnayeseralbe
(1Ciynm Mukawerengal
(1Ciynm Mmayankhuliral
(1Ciynm Kawirilkawiril
(1Ciynm Ambiril
(1Ciynm Ntadzagwiral
(0Ciynm Tathawira0
(1Piynm kondwerel1tsa
(1Piynm timayeneral
(0Piynm kambira0na
(0Piynm amabwera0
(1Piynm yerelkeza
(1Piynm kuzilekeral
(1Piynm uyiwonjezerel
(0Piynm kuwayimbira0
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(0Piynm zimabwera0no
(0Piynm zoyambiri0ra
(0Piynm zoyambirira0
(0Piynm kuzithanthawuzira0
(0Piynm agwira0
(0Piynm ayeneralnso
(1Piynm timapangiral
(1Piynm awiril
(1Piynm ndikosiyanirlapo
(1Piynm uziwerelnga
(0Piynm kwambiri0
(1Piynm katswiril
(1Piynm kwambiril
(0Piynm zimalephera0
(0Piynm kuzikwaniri0tsa
(1Piynm ndikaphunzirel
(1Piynm koyambirilral
(0Piynm sandithamangitsira0
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(1Piynm amapere1ka
(1Piynm iyeneral
(1Piynm njiral
(1Piynm kumangovomerelza
(0Piynm chotsatira0
(1Piynm kuzipere1ka
(1Piynm mmaderal
(1Piynm kulimbikiral
(1Piynm nsalephere1
(1Piynm chandibwezere1tsa
(1Mbynm Amatsekuliral
(1Mbynm Kulandiral
(0Mbynm Azikhulupiri0ka

(1Mbynm Ambiri1
(1Mbynm Zolambulira1
(1Mbynm Akugwiri1zana
(1Mbynm Ligwiri1re1
(1Mbynm Zizindikiro1
(0Mbynm Kwambiri0
(0Mbynm Lero0
(0Mbynm Wachiwiri0
(0Mbynm Ankalamulira0
(0Mbynm Akatswiri0
(0Mbynm Kwambiri0
(0Mbynm Katswiri0
(0Mbynm Lero0
(0Mbynm Mtsogoleri0
(1Mbynm Mwamseri1
(0Mbynm Akutsogolera0
(0Mbynm Mukumvera0
(1Mbynm Yavomere1za
(0Mbynm Kuchokera0
(1Mbynm Kuchokera1
(0Mbynm Chidakwera0
(0Mbynm Chikuyendera0
(0Mbynm Akufotokozera0
(0Mbynm Mtsogoleri0
(1Mbynm Ayivomere1za
(1Mbynm Mwamseri1
(0Mbynm Lero0

Appendix 5: Goldvarb Runs

CELL CREATION

==========

Number of cells: 16
Application value(s): 01
Total no. of factors: 11

Group		0	1	Total	%
1 (2)					
M	N	198	208	406	49
	%	48	51		
C	N	61	166	227	27
	%	26	73		
P	N	41	146	187	22
	%	21	78		
Total	N	300	520	820	
	%	36	63		
2 (3)					
b	N	103	124	227	27
	%	45	54		
i	N	197	396	593	72
	%	33	66		
Total	N	300	520	820	
	%	36	63		
3 (4)					
o	N	67	109	176	21
	%	38	61		
y	N	233	411	644	78
	%	36	63		
Total	N	300	520	820	
	%	36	63		
4 (5)					
n	N	204	346	550	67
	%	37	62		

```
   s    N      96    174      270  32
        %      35     64

 Total N     300    520      820
        %      36     63
--------------------------------
 5 (6)
   f    N      99    143      242  29
        %      40     59

   m    N     201    377      578  70
        %      34     65

 Total N     300    520      820
        %      36     63
--------------------------------
 Total N     300    520      820
        %      36     63
```

Binomial Varbrul Run 1

```
================
Name of cell file: Untitled.cel

Using fast, less accurate method.
Averaging by weighting factors.
Threshold, step-up/down: 0.050001

 # Stepping up:
 # Stepping up:

---------- Level # 0 ----------

Run # 1, 1 cells:
Convergence at Iteration 2
Input 0.366
Log likelihood = -538.504

---------- Level # 1 ----------

Run # 2, 3 cells:
Convergence at Iteration 5
Input 0.356
Group # 1 -- M: 0.632, C: 0.399, P: 0.337
Log likelihood = -511.759 Significance = 0.000

Run # 3, 2 cells:
Convergence at Iteration 4
Input 0.364
```

```
Group # 2 -- b: 0.591, i: 0.465
Log likelihood = -533.361 Significance = 0.002

Run # 4, 2 cells:
Convergence at Iteration 3
Input 0.366
Group # 3 -- o: 0.516, y: 0.496
Log likelihood = -538.398 Significance = 0.659

Run # 5, 2 cells:
Convergence at Iteration 3
Input 0.366
Group # 4 -- n: 0.505, s: 0.489
Log likelihood = -538.412 Significance = 0.676

Run # 6, 2 cells:
Convergence at Iteration 4
Input 0.365
Group # 5 -- f: 0.546, m: 0.481
Log likelihood = -537.132 Significance = 0.098

Add Group # 1 with factors MCP

---------- Level # 2 ----------

Run # 7, 6 cells:
Convergence at Iteration 6
Input 0.353
Group # 1 -- M: 0.647, C: 0.393, P: 0.314
Group # 2 -- b: 0.634, i: 0.448
Log likelihood = -501.726 Significance = 0.000

Run # 8, 4 cells:
Convergence at Iteration 8
Input 0.356
Group # 1 -- M: 0.669, C: 0.361, P: 0.302
Group # 3 -- o: 0.355, y: 0.541
Log likelihood = -504.590 Significance = 0.000

Run # 9, 5 cells:
Convergence at Iteration 7
Input 0.355
Group # 1 -- M: 0.653, C: 0.360, P: 0.338
Group # 4 -- n: 0.543, s: 0.413
Log likelihood = -507.234 Significance = 0.005

Run # 10, 5 cells:
Convergence at Iteration 7
Input 0.356
Group # 1 -- M: 0.640, C: 0.359, P: 0.368
Group # 5 -- f: 0.582, m: 0.466
```

```
Log likelihood = -508.671 Significance = 0.014

Add Group # 2 with factors bi

---------- Level # 3 ----------

Run # 11, 8 cells:
Convergence at Iteration 9
Input 0.351
Group # 1 -- M: 0.696, C: 0.344, P: 0.266
Group # 2 -- b: 0.659, i: 0.437
Group # 3 -- o: 0.318, y: 0.552
Log likelihood = -490.823 Significance = 0.000

Run # 12, 10 cells:
Convergence at Iteration 7
Input 0.352
Group # 1 -- M: 0.667, C: 0.353, P: 0.316
Group # 2 -- b: 0.636, i: 0.447
Group # 4 -- n: 0.544, s: 0.411
Log likelihood = -497.072 Significance = 0.004

Run # 13, 10 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.657, C: 0.343, P: 0.349
Group # 2 -- b: 0.647, i: 0.442
Group # 5 -- f: 0.604, m: 0.456
Log likelihood = -496.864 Significance = 0.003

Add Group # 3 with factors oy

---------- Level # 4 ----------

Run # 14, 13 cells:
Convergence at Iteration 9
Input 0.351
Group # 1 -- M: 0.703, C: 0.325, P: 0.273
Group # 2 -- b: 0.658, i: 0.438
Group # 3 -- o: 0.336, y: 0.546
Group # 4 -- n: 0.527, s: 0.445
Log likelihood = -489.234 Significance = 0.079

Run # 15, 13 cells:
Convergence at Iteration 11
Input 0.348
Group # 1 -- M: 0.716, C: 0.276, P: 0.302
Group # 2 -- b: 0.679, i: 0.429
Group # 3 -- o: 0.292, y: 0.560
Group # 5 -- f: 0.635, m: 0.442
Log likelihood = -483.007 Significance = 0.000
```

```
Add Group # 5 with factors fm

---------- Level # 5 ----------

Run # 16, 16 cells:
Convergence at Iteration 12
Input 0.348
Group # 1 -- M: 0.716, C: 0.276, P: 0.302
Group # 2 -- b: 0.679, i: 0.429
Group # 3 -- o: 0.292, y: 0.560
Group # 4 -- n: 0.500, s: 0.499
Group # 5 -- f: 0.635, m: 0.442

*** Warning, negative change in likelihood (-0.00203179)
replaced by 0.0.Log likelihood = -483.008 Significance =
1.000

No remaining groups significant

Groups selected while stepping up:  1  2  3  5
Best stepping up run:    #15
-------------------------------------------

 # Stepping down:
 # Stepping down:

---------- Level # 5 ----------

Run # 17, 16 cells:
Convergence at Iteration 12
Input 0.348
Group # 1 -- M: 0.716, C: 0.276, P: 0.302
Group # 2 -- b: 0.679, i: 0.429
Group # 3 -- o: 0.292, y: 0.560
Group # 4 -- n: 0.500, s: 0.499
Group # 5 -- f: 0.635, m: 0.442
Log likelihood = -483.008

---------- Level # 4 ----------

Run # 18, 10 cells:
Convergence at Iteration 8
Input 0.364
Group # 2 -- b: 0.602, i: 0.461
Group # 3 -- o: 0.496, y: 0.501
Group # 4 -- n: 0.490, s: 0.520
Group # 5 -- f: 0.569, m: 0.471
Log likelihood = -530.885 Significance = 0.000

Run # 19, 9 cells:
```

```
Convergence at Iteration 10
Input 0.355
Group # 1 -- M: 0.684, C: 0.306, P: 0.335
Group # 3 -- o: 0.349, y: 0.542
Group # 4 -- n: 0.513, s: 0.474
Group # 5 -- f: 0.590, m: 0.462
Log likelihood = -499.693 Significance = 0.000

Run # 20, 14 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.669, C: 0.328, P: 0.341
Group # 2 -- b: 0.645, i: 0.443
Group # 4 -- n: 0.532, s: 0.434
Group # 5 -- f: 0.576, m: 0.468
Log likelihood = -494.867 Significance = 0.000

Run # 21, 13 cells:
Convergence at Iteration 11
Input 0.348
Group # 1 -- M: 0.716, C: 0.276, P: 0.302
Group # 2 -- b: 0.679, i: 0.429
Group # 3 -- o: 0.292, y: 0.560
Group # 5 -- f: 0.635, m: 0.442

*** Warning, negative change in likelihood (-0.00203179)
replaced by 0.0.Log likelihood = -483.007 Significance =
1.000

Run # 22, 13 cells:
Convergence at Iteration 9
Input 0.351
Group # 1 -- M: 0.703, C: 0.325, P: 0.273
Group # 2 -- b: 0.658, i: 0.438
Group # 3 -- o: 0.336, y: 0.546
Group # 4 -- n: 0.527, s: 0.445
Log likelihood = -489.234 Significance = 0.000

Cut Group # 4 with factors ns

---------- Level # 3 ----------

Run # 23, 8 cells:
Convergence at Iteration 5
Input 0.364
Group # 2 -- b: 0.599, i: 0.462
Group # 3 -- o: 0.507, y: 0.498
Group # 5 -- f: 0.559, m: 0.475
Log likelihood = -531.100 Significance = 0.000

Run # 24, 7 cells:
```

```
Convergence at Iteration 10
Input 0.355
Group # 1 -- M: 0.683, C: 0.308, P: 0.336
Group # 3 -- o: 0.338, y: 0.546
Group # 5 -- f: 0.602, m: 0.457
Log likelihood = -499.940 Significance = 0.000

Run # 25, 10 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.657, C: 0.343, P: 0.349
Group # 2 -- b: 0.647, i: 0.442
Group # 5 -- f: 0.604, m: 0.456
Log likelihood = -496.864 Significance = 0.000

Run # 26, 8 cells:
Convergence at Iteration 9
Input 0.351
Group # 1 -- M: 0.696, C: 0.344, P: 0.266
Group # 2 -- b: 0.659, i: 0.437
Group # 3 -- o: 0.318, y: 0.552
Log likelihood = -490.823 Significance = 0.000

All remaining groups significant

Groups eliminated while stepping down:  4
Best stepping  up  run: #15
Best stepping down run: #21
```

Binomial Varbrul Run 2

```
================
Name of cell file: Untitled.cel

Using fast, less accurate method.
Averaging by weighting factors.
Threshold, step-up/down: 0.050001

 # Stepping up:
 # Stepping up:

---------- Level # 0 ----------

Run # 1, 1 cells:
Convergence at Iteration 2
Input 0.366
Log likelihood = -538.504

---------- Level # 1 ----------

Run # 2, 3 cells:
```

```
Convergence at Iteration 5
Input 0.356
Group # 1 -- M: 0.632, C: 0.399, P: 0.337
Log likelihood = -511.759 Significance = 0.000

Run # 3, 2 cells:
Convergence at Iteration 4
Input 0.364
Group # 2 -- b: 0.591, i: 0.465
Log likelihood = -533.361 Significance = 0.002

Run # 4, 2 cells:
Convergence at Iteration 3
Input 0.366
Group # 3 -- n: 0.505, s: 0.489
Log likelihood = -538.412 Significance = 0.676

Run # 5, 2 cells:
Convergence at Iteration 4
Input 0.365
Group # 4 -- f: 0.546, m: 0.481
Log likelihood = -537.132 Significance = 0.098

Add Group # 1 with factors MCP

---------- Level # 2 ----------

Run # 6, 6 cells:
Convergence at Iteration 6
Input 0.353
Group # 1 -- M: 0.647, C: 0.393, P: 0.314
Group # 2 -- b: 0.634, i: 0.448
Log likelihood = -501.726 Significance = 0.000

Run # 7, 5 cells:
Convergence at Iteration 7
Input 0.355
Group # 1 -- M: 0.653, C: 0.360, P: 0.338
Group # 3 -- n: 0.543, s: 0.413
Log likelihood = -507.234 Significance = 0.005

Run # 8, 5 cells:
Convergence at Iteration 7
Input 0.356
Group # 1 -- M: 0.640, C: 0.359, P: 0.368
Group # 4 -- f: 0.582, m: 0.466
Log likelihood = -508.671 Significance = 0.014

Add Group # 2 with factors bi

---------- Level # 3 ----------
```

```
Run # 9, 10 cells:
Convergence at Iteration 7
Input 0.352
Group # 1 -- M: 0.667, C: 0.353, P: 0.316
Group # 2 -- b: 0.636, i: 0.447
Group # 3 -- n: 0.544, s: 0.411
Log likelihood = -497.072 Significance = 0.004

Run # 10, 10 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.657, C: 0.343, P: 0.349
Group # 2 -- b: 0.647, i: 0.442
Group # 4 -- f: 0.604, m: 0.456
Log likelihood = -496.864 Significance = 0.003

Add Group # 4 with factors fm

---------- Level # 4 ----------

Run # 11, 14 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.669, C: 0.328, P: 0.341
Group # 2 -- b: 0.645, i: 0.443
Group # 3 -- n: 0.532, s: 0.434
Group # 4 -- f: 0.576, m: 0.468
Log likelihood = -494.867 Significance = 0.047

Add Group # 3 with factors ns
Best stepping up run:    #11
-------------------------------------------

 # Stepping down:
 # Stepping down:

---------- Level # 4 ----------

Run # 12, 14 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.669, C: 0.328, P: 0.341
Group # 2 -- b: 0.645, i: 0.443
Group # 3 -- n: 0.532, s: 0.434
Group # 4 -- f: 0.576, m: 0.468
Log likelihood = -494.867

---------- Level # 3 ----------

Run # 13, 6 cells:
```

```
Convergence at Iteration 7
Input 0.364
Group # 2 -- b: 0.601, i: 0.461
Group # 3 -- n: 0.491, s: 0.519
Group # 4 -- f: 0.569, m: 0.471
Log likelihood = -530.892 Significance = 0.000

Run # 14, 7 cells:
Convergence at Iteration 7
Input 0.355
Group # 1 -- M: 0.653, C: 0.343, P: 0.357
Group # 3 -- n: 0.535, s: 0.429
Group # 4 -- f: 0.550, m: 0.479
Log likelihood = -506.212 Significance = 0.000

Run # 15, 10 cells:
Convergence at Iteration 8
Input 0.352
Group # 1 -- M: 0.657, C: 0.343, P: 0.349
Group # 2 -- b: 0.647, i: 0.442
Group # 4 -- f: 0.604, m: 0.456
Log likelihood = -496.864 Significance = 0.047

Run # 16, 10 cells:
Convergence at Iteration 7
Input 0.352
Group # 1 -- M: 0.667, C: 0.353, P: 0.316
Group # 2 -- b: 0.636, i: 0.447
Group # 3 -- n: 0.544, s: 0.411
Log likelihood = -497.072 Significance = 0.039

All remaining groups significant

Groups eliminated while stepping down: None
Best stepping  up  run: #11
Best stepping down run: #12
```

Cross Tabulations for First Binomial Run

```
Group #1 -- horizontally.
Group #2 -- vertically.

        M   %     C   %     P   %     · %
   + - - - - + - - - - + - - - - + - - - - -
b 0:   50  57:   36  54:   17  24|  103  45
  1:   38  43:   31  46:   55  76|  124  55
  ·:   88    :   67    :   72    |  227
   + - - - - + - - - - + - - - - + - - - - -
i 0:  148  47:   25  16:   24  21|  197  33
  1:  170  53:  135  84:   91  79|  396  67
  ·:  318    :  160    :  115    |  593
   +---------+---------+---------+---------
```

```
· 0:  198  49:   61  27:   41  22|  300  37
  1:  208  51:  166  73:  146  78|  520  63
  ·:  406    :  227    :  187    |  820
```

Group #1 -- horizontally.
Group #3 -- vertically.

```
        M   %      C   %      P   %      · %
   + - - - - + - - - - + - - - - + - - - - -
o 0:   67  38:    0  --:    0  --|   67  38
  1:  109  62:    0  --:    0  --|  109  62
  ·:  176    :    0    :    0    |  176
   + - - - - + - - - - + - - - - + - - - - -
y 0:  131  57:   61  27:   41  22|  233  36
  1:   99  43:  166  73:  146  78|  411  64
  ·:  230    :  227    :  187    |  644
   +---------+---------+---------+---------
· 0:  198  49:   61  27:   41  22|  300  37
  1:  208  51:  166  73:  146  78|  520  63
  ·:  406    :  227    :  187    |  820
```

Group #1 -- horizontally.
Group #4 -- vertically.

```
        M   %      C   %      P   %      · %
   + - - - - + - - - - + - - - - + - - - - -
n 0:  112  55:   61  27:   31  26|  204  37
  1:   93  45:  166  73:   87  74|  346  63
  ·:  205    :  227    :  118    |  550
   + - - - - + - - - - + - - - - + - - - - -
s 0:   86  43:    0  --:   10  14|   96  36
  1:  115  57:    0  --:   59  86|  174  64
  ·:  201    :    0    :   69    |  270
   +---------+---------+---------+---------
· 0:  198  49:   61  27:   41  22|  300  37
  1:  208  51:  166  73:  146  78|  520  63
  ·:  406    :  227    :  187    |  820
```

Group #1 -- horizontally.
Group #5 -- vertically.

```
        M   %      C   %      P   %      · %
   + - - - - + - - - - + - - - - + - - - - -
f 0:   62  65:   37  25:    0  --|   99  41
  1:   33  35:  110  75:    0  --|  143  59
  ·:   95    :  147    :    0    |  242
   + - - - - + - - - - + - - - - + - - - - -
m 0:  136  44:   24  30:   41  22|  201  35
  1:  175  56:   56  70:  146  78|  377  65
  ·:  311    :   80    :  187    |  578
   +---------+---------+---------+---------
```

```
· 0:  198  49:   61  27:   41  22|  300  37
  1:  208  51:  166  73:  146  78|  520  63
  ·:  406    :  227    :  187    |  820
```

Group #2 -- horizontally.
Group #3 -- vertically.

```
        b   %     i   %     · %
   + - - - - + - - - - + - - - -
o 0:   32  55:   35  30|   67  38
  1:   26  45:   83  70|  109  62
  ·:   58    :  118    |  176
   + - - - - + - - - - + - - - -
y 0:   71  42:  162  34|  233  36
  1:   98  58:  313  66|  411  64
  ·:  169    :  475    |  644
   +---------+---------+---------
· 0:  103  45:  197  33|  300  37
  1:  124  55:  396  67|  520  63
  ·:  227    :  593    |  820
```

Group #2 -- horizontally.
Group #4 -- vertically.

```
        b   %     i   %     · %
   + - - - - + - - - - + - - - -
n 0:   77  50:  127  32|  204  37
  1:   78  50:  268  68|  346  63
  ·:  155    :  395    |  550
   + - - - - + - - - - + - - - -
s 0:   26  36:   70  35|   96  36
  1:   46  64:  128  65|  174  64
  ·:   72    :  198    |  270
   +---------+---------+---------
· 0:  103  45:  197  33|  300  37
  1:  124  55:  396  67|  520  63
  ·:  227    :  593    |  820
```

Group #2 -- horizontally.
Group #5 -- vertically.

```
        b   %     i   %     · %
   + - - - - + - - - - + - - - -
f 0:   28  62:   71  36|   99  41
  1:   17  38:  126  64|  143  59
  ·:   45    :  197    |  242
   + - - - - + - - - - + - - - -
m 0:   75  41:  126  32|  201  35
  1:  107  59:  270  68|  377  65
  ·:  182    :  396    |  578
   +---------+---------+---------
```

```
· 0:  103  45:  197  33|  300  37
  1:  124  55:  396  67|  520  63
  ·:  227    :  593    |  820
```

Group #3 -- horizontally.
Group #4 -- vertically.

```
        o   %      y   %      · %
   + - - - - + - - - - + - - - - -
n 0:   25  45:  179  36|  204  37
  1:   30  55:  316  64|  346  63
  ·:   55    :  495    |  550
   + - - - - + - - - - + - - - - -
s 0:   42  35:   54  36|   96  36
  1:   79  65:   95  64|  174  64
  ·:  121    :  149    |  270
   +---------+---------+---------
· 0:   67  38:  233  36|  300  37
  1:  109  62:  411  64|  520  63
  ·:  176    :  644    |  820
```

Group #3 -- horizontally.
Group #5 -- vertically.

```
        o   %      y   %      · %
   + - - - - + - - - - + - - - - -
f 0:   25  45:   74  40|   99  41
  1:   30  55:  113  60|  143  59
  ·:   55    :  187    |  242
   + - - - - + - - - - + - - - - -
m 0:   42  35:  159  35|  201  35
  1:   79  65:  298  65|  377  65
  ·:  121    :  457    |  578
   +---------+---------+---------
· 0:   67  38:  233  36|  300  37
  1:  109  62:  411  64|  520  63
  ·:  176    :  644    |  820
```

Group #4 -- horizontally.
Group #5 -- vertically.

```
        n   %      s   %      · %
   + - - - - + - - - - + - - - - -
f 0:   99  41:    0  --|   99  41
  1:  143  59:    0  --|  143  59
  ·:  242    :    0    |  242
   + - - - - + - - - - + - - - - -
m 0:  105  34:   96  36|  201  35
  1:  203  66:  174  64|  377  65
  ·:  308    :  270    |  578
   +---------+---------+---------
```

```
· 0:  204  37:   96  36|  300  37
  1:  346  63:  174  64|  520  63
  ·:  550    :  270    |  820
```

Cross Tabulations for Second Run

```
Group #1 -- horizontally.
Group #2 -- vertically.

        M   %     G   %     · %
   + - - - - + - - - - + - - - -
b 0:   50  57:   53  38|  103  45
  1:   38  43:   86  62|  124  55
  ·:   88    :  139    |  227
   + - - - - + - - - - + - - - -
i 0:  148  47:   49  18|  197  33
  1:  170  53:  226  82|  396  67
  ·:  318    :  275    |  593
   +---------+---------+---------
· 0:  198  49:  102  25|  300  37
  1:  208  51:  312  75|  520  63
  ·:  406    :  414    |  820
CROSS TABULATION
================
#  Cell file:  Untitled.cel
# Conditions: Untitled.cnd

Group #1 -- horizontally.
Group #3 -- vertically.

        M   %     G   %     · %
   + - - - - + - - - - + - - - -
f 0:   62  65:   37  25|   99  41
  1:   33  35:  110  75|  143  59
  ·:   95    :  147    |  242
   + - - - - + - - - - + - - - -
m 0:  136  44:   65  24|  201  35
  1:  175  56:  202  76|  377  65
  ·:  311    :  267    |  578
   +---------+---------+---------
· 0:  198  49:  102  25|  300  37
  1:  208  51:  312  75|  520  63
  ·:  406    :  414    |  820

Group #2 -- horizontally.
Group #3 -- vertically.

        b   %     i   %     · %
   + - - - - + - - - - + - - - -
```

f	0:	28	62:	71	36	99	41
	1:	17	38:	126	64	143	59
	·:	45	:	197		242	
m	0:	75	41:	126	32	201	35
	1:	107	59:	270	68	377	65
	·:	182	:	396		578	
·	0:	103	45:	197	33	300	37
	1:	124	55:	396	67	520	63
	·:	227	:	593		820	

Appendix 6: *_mbiri* Tokens

(0Mbonf Wambiri0
(0Mbonf Kwambiri
(1Ciynf kwambiri1
(1Miosm kwambiri1.
(1Mionf zambiri1
(1Mionf ambiri1
(1Pbysm Ambiri1
(1Pbysm Ambiri1
(1Pbysm Kwambiri1
(0Pbysm Zambiri0
(0Pbysm Ambiri0
(0Pbysm Kwambiri0
(1Cbynf Zambiri1
(1Ciynf zambiri1
(1Ciynf kwambiri1
(1Ciynf kwambiri1
(1Ciynf kwambiri1
(1Ciynf ambiri1
(1Miynm ambiri1
(1Miysm kwambiri1
(1Miysm kwambiri1
(1Miysm kwambiri1
(0Miysm kwambiri0
(0Miysm kwambiri0
(0Miysm ambiri0
(0Miysm zambiri0
(0Miysm kwambiri0
(1Miysm zambiri1
(1Ciynf ambiri1
(1Miosm kwambiri1
(1Miynm ambiri1
(1Miynf kwambiri1
(0Miynm ambiri0
(0Miynm ambiri0
(1Miynm ambiri1
(1Piysm Ambiri1
(1Piysm Zambiri1
(1Pbynm Zambiri1
(1Pbynm Wambiri1
(1Pbynm Zambiri1
(1Cbynm Ambiri1
(0Cbynm Kwambiri0
(1Piynm zambiri1mbiri1
(1Ciynm Zambiri1
(1Ciynm Kwambiri1
(1Ciynm Kwambiri1
(1Ciynm Ambiri1
(1Ciynm Zambiri1
(1Ciynm Ambiri1
(0Piynm kwambiri0
(1Piynm kwambiri1
(1Mbynm Ambiri1
(0Mbynm Kwambiri0
(0Mbynm Kwambiri0

16 maintenance
38 replacement