Simone ASHBY
(Instituto de Linguística Teórica e Computacional, Portugal)
simone@iltec.pt

‘Co-producers of this means of expression’:
Evidence from Mozambique in support of the study of indigenizing languages¹

Abstract

Unlike other variationist studies and explorations of contact-induced language change, the study of indigenizing language varieties lacks sufficient attention, often relegated to second language acquisition studies, with a focus on variant forms as a typology of errors to be corrected, or wholly disregarded as undesirable byproducts of colonialism. As a result, studies of indigenizing language varieties continue to make due with borrowed nomenclatures and practices, while detailed descriptions of these varieties are often missing or incomplete, and opportunities for documenting synchronic change and the monitoring of long-term contact situations are being irrevocably lost. The present article aims to address this shortcoming and build a case in support of the study of indigenizing language varieties by describing the language situation in Mozambique, and discussing some preliminary findings concerning the phonetic features of three Mozambican Portuguese (MP) varieties. Evidence will be presented that shows native and near-native MP speakers as “co-producers” of the Portuguese language (Couto 1986).

1. Introduction

Variationist studies and explorations of contact-induced language change are among some of the more important linguistic subdisciplines to emerge out of the second half of the 20th century. Such studies provide important insights for the study of a wide range of linguistic phenomena, and offer powerful testament to the fact that languages and language varieties are in a constant state of flux. Investigations of pidgin and creole languages have also

¹ An elaborated version of this research is forthcoming in the journal Africana Linguistica.
attracted a lot of interest, offering considerable contributions to theories of language transmission and change. Yet, the study of indigenizing language varieties – e.g. the Portuguese widespread in the major cities of Angola, Guinea Bissau, and Mozambique, or the English commonly spoken in countries such as Kenya, South Africa, and Zimbabwe – remains underdiscovered, either relegated to the domain of second language acquisition, focusing on variant forms as a typology of errors to be corrected, or wholly disregarded as accords the current fashion for devaluing the cultural biproducts of colonialism. As a result, several studies on indigenizing language varieties continue to make due with borrowed nomenclatures and practices from the above mentioned subdisciplines. Meanwhile, detailed descriptions of these varieties are often missing or incomplete, and opportunities for documenting synchronic change and the monitoring of long-term contact situations are being irrevocably lost.

A case in point comes from Mozambique, where 10.7% of Mozambicans consider Portuguese to be their native language. As observed in Gonçalves (2010:14), this figure points to an inappropriate use of terms such as the widely prevailing 'non-native variety'. With respect to the study of contact effects from local Bantu languages, it also questions the use of terms such as 'substratum' and 'superstratum' (Ashby et al. 2010:18) without offering a redefinition of these terms as the language of one's parents and the superimposed L1. Even the term 'language shift', which Thomason and Kaufman (1988:39) define as occurring when “a group of speakers shifting to a new language fails to learn that language perfectly” (my emphasis) appears in need of a less pejorative premise. Moreover, while there are studies that focus on MP lexical, morphological and syntactic features, extremely little work has been done to describe the phonetic and phonological features of MP varieties, and to present them in terms of a cohesive set of linguistic parameters.

The present article aims to address this research shortcoming and to build a case in support of the study of indigenizing language varieties by looking at the processes that account for differences between spoken varieties of MP and European standard Portuguese (EP), and which involve the interference of local Bantu phonological features, constraints and phenomena. The spoken Portuguese of five informants from different urban centers in Mozambique was examined through auditory perception and instrumental analysis. Informants represent a variety of linguistic backgrounds and bilingual or multilingual capabilities. Three of the five informants reported Portuguese as their first language, despite being raised by parents with a Bantu language as their mother.
tongue, while the remaining two informants reported learning Portuguese as young children. In terms of substrate languages, informants reported a native or near-native understanding of one or more of the following Bantu languages: Chope and GiTonga, of the Inhambane Group; Makhuwa, of the Makhuwa Group; Nyungwe, of the Senga-Sena Group; and Changana and Tshwa, of the Tswa-Ronga Group. Fluency in English was further reported by two of the informants.

From the informant population of this study alone, one begins to apprehend the degree of multilingualism that characterizes Mozambique’s diverse language topography. Indeed, Mozambique is a country where multiple languages are in contact with one another, and where social context and factors such as age, gender, education and occupation govern the manner and extent to which they are used (Firmino 1995, 2000, 2002; Gonçalves 1996, 2010; Stroud & Gonçalves 1997; Stroud 2007). Like other former Portuguese colonies in Africa – such as Angola and Guinea-Bissau – it is also a country where indigenized varieties of the vehicular Portuguese language are emerging among growing L1 and L2 speaker populations. By examining the effects of local Bantu substrate languages on a selection of MP topolectal varieties by both L1 and L2 speakers, this study aims to contribute to the understanding of phonetic variation in MP, and to document current findings for the long-term monitoring of language contact effects in Mozambique. As such, this study is concerned with describing the linguistic outcomes of a prolonged contact between superstrate and substrate languages, as viewed from a sociohistorical perspective. It is hoped that the present paper may, like others before it (e.g. Duarte et al. 1999; Firmino 2002; Gonçalves 2010; Machungo 2000), serve in raising the profile of MP, and indigenizing language varieties in general, as important for the advancement of linguistic knowledge, and as varieties worthy of study in their own right.

The processes submitted for analysis in this article were observed in varying combinations for the different informants studied. Many have a foundation in the literature on Bantu phonetics and phonology, including the monothongization of diphthongs, vowel and consonant sequence simplification, glide epenthesis, syncope, apocope, apheresis, voicing dissimilation, the realization of word-final aspirated devoiced consonants, ‘whistled’ fricatives, continuantization, and homorganic nasal epenthesis. Collectively, these processes may be interpreted, along with existing lexical, morphological, and syntactic studies, as helping to define the current language situation in Mozambique. Processes such as homorganic nasal epenthesis – which has been the subject of considerable research on Bantu linguistics, but which has not
received attention in studies of MP – also highlight the interplay between transfer from the substrate, superstratal influence, and universal preference laws in governing how segments are realized in the context of Portuguese nasal vowels.

2. Socio-historical background

Mozambique extends along the Indian Ocean, from its northern border with Tanzania to the country’s southwest reaches, bordering Swaziland and South Africa. The interior is made up of horizontally striated river valley settlements that extend from the much larger urban areas that dot the coast. At the time of writing, the population of Mozambique was estimated at over 22 million, with 37% of the population residing in cities (CIA Factbook). The capital city of Maputo is located in the country’s southernmost tip, an area that is integrally connected with South Africa in terms of a shared economic structure and communications network (Newitt, 2002:186).

In the dawn of Mozambique’s independence from Portugal, the Education Minister at the time, Graça Machel, defended the government’s selection of Portuguese as the official language of Mozambique in an address to the 1st National Seminar on the ‘Teaching of Portuguese’ in 1979: “The need to fight the oppressor called for an intransigent struggle against tribalism and regionalism. It was this necessity for unity that dictated to us that the only common language – the language which had been used to oppress – should assume a new dimension” (Lopes 1999:104).

Since then, Mozambique has undergone a steady language shift by decree. To this day, Portuguese remains the official language of Mozambique, where it is spoken as a lingua franca by 50.37% of the population, more than one-fifth of which regard Portuguese as their native language. Portuguese is used in all official administrative, governmental, and judicial communications. It is the language of instruction in Mozambican schools and the Eduardo Mondlane universities, and it is used by the vast majority of Mozambican media outlets. While the Bantu stratum constitutes the majority languages of Mozambique and, according to the most recent census in 2007, the native tongues of close to 90% of the population, Portuguese is viewed as “the language of science, knowledge, and power”, and that which holds the most promise for obtaining employment and enhancing one’s upward social mobility (Da Conceição 1999:15).

The disproportionately elevated status of Portuguese has its roots in the colonial period, when a policy of assimilation and controlled access to the
Portuguese language offered opportunities for a more respected position in society for oneself and one’s children (Gonçalves 2010:33; Stroud 2007:509). Access to Portuguese was also sanctioned by the Catholic church, which, to a limited extent, led to an early instantiation of indigenized popular varieties (Stroud 2007:509-510). Then, as now, Portuguese was largely restricted to the major urban areas, and particularly the capital Maputo, while rural Mozambicans had very little or no contact with the Portuguese language, and relied on local Bantu languages for communication outside the family.

According to the 2007 census, an estimated 24 Bantu languages are spoken in Mozambique. The dominant languages and corresponding percentages of native speakers are: Makhuwa (26.3%), Changana (11.4%), Lomwe (7.9%), Sena (7%), and Chuabo (6.3%). These and the less dominant languages of Mozambique constitute four zones and eight major language groupings, as delineated by Guthrie (1967-1971): Zone G-G40–Swahili; Zone P-P20–Yao, along with P23–Makonde, and P30–Makhuwa (plus P32–Lomwe, P34–Chwabo); Zone N-N30–Nyanja, along with N40–Senga-Sena; and Zone S-S10–Shona, along with S50–Tswa-Ronga, and S60–Copi (Lopes 1999:87; Maho 2003).

Nevertheless, Mozambique remains caught in a pre-independence cycle, whereby Portuguese is evaluated as suiting more formal types of communication between educated urbanites, while local Bantu languages generally connote a less sophisticated, more rural medium of communication. In urban centers, some bilingual parents are opting to raise their children solely in Portuguese, perhaps with the hope of propelling them towards a brighter future, and thereby ushering in a new generation of L1 speakers. With a greater preponderance of young people speaking Portuguese, and males in particular, who also tend to be fluent in a greater number of languages, “urbanity and mobility translate into a gendered and age differentiated access to linguistic resources, introducing social stratifications around multilingualism [not found] in the rural areas” (Stroud 2007:521).

In terms of MP language models, lawmakers and educators determined soon after independence that the teaching of Portuguese in schools should aim towards EP. However, in subsequent years, “practice showed that such an idealistic goal was not achievable, and even no longer desired because it lacked the marks of an emerging national identity” (Lopes 1999:123). Since then, Mozambique has exercised what Lopes (1999:123) describes as a “laissez-faire policy” concerning the normativization and standardization of Portuguese. Authors such as Da Conceição (1999), Gonçalves (2010; 1996), Lopes (1979; 1999),
and Stroud (2007) observe a general cognizance among Mozambicans that there is a ‘correct’ form of spoken and written Portuguese. Many Mozambicans continue to look to EP as the standard model and target variety, while others, like the community of Polana Cimento in Maputo, demonstrate a high regard for their own variety of Portuguese (Stroud 2007:522). External influence comes not only by way of Lisbon, but also via the metropolises of Rio de Janeiro and São Paulo in the form of soap operas and other Brazilian programs that have become popular among Mozambicans with access to television or the internet.

Meanwhile, the status of Portuguese in Mozambique has increasingly come to be regarded as a language under threat due to the strengthening of economic ties with South Africa and Mozambique’s other Angophone neighbors, its recent entry into the British Commonwealth, and economic and linguistic intervention from France (Da Conceição 1999:22). Given that Mozambique is one of the poorest countries in the world, and yet one that is fast adapting to the changing dynamics of the global political economy, the increasing role of languages such as English threaten to unseat Portuguese as the most viable and widely taught language in Mozambique.

3. **Diglossia and substratum interference**

So far, I have tried to establish the major historical, political, economic, and social circumstances that explain the current dominant position enjoyed by Portuguese in Mozambique, along with the curtailed role of a multiplicity of indigenous Bantu languages. The diglossic juxtaposition that defines this nation linguistically entails a further set of inter-system dynamics, which have implications for the lexicons, morphologies, grammars, and phonologies of the different languages in contact. In the nomenclature on diglossia, traditionally limited to the description of dialects of the same language, the superimposed ‘prestige’ variety is referred to as ‘High’ (H), and the ‘non-prestige’ varieties, whose use is restricted to informal exchanges, and which are excluded from the medium of instruction in schools, are labeled as ‘Low’ (L) (Ferguson 1959). Fishman (1967) later modified these constructs to include multilingualistic situations. In both types of contact situations, varieties or languages marked as H have been observed to exert more influence on those identified as L than the reverse situation. This dynamic, referred to by Thomason & Kaufman (1988) as borrowing, is documented in a variety of descriptions of Bantu languages, such as Changana/Tsonga (Gonçalves & Sitoe 1999; Sitoe 1991) and Nyungwe (Rego 2000). Conversely, the substratum interference exerted by local Bantu languages on MP
has been the subject of a relatively large number of variationist and Second Language Acquisition studies devoted primarily to describing the lexical, morphological, syntactic and semantic features of MP (e.g. 2002; Gonçalves & Chimbutane 2004; Gonçalves & Sitoe 1999; Lopes 1979).

Substratum interference in MP at the phonological and phonetic levels, on the other hand, remains relatively undocumented, with the exception of some brief remarks concerning oral production ‘errors’ and the more obvious features of MP spoken varieties. This seems a rather glaring omission in light of the fact that language contact situations, such as that in Mozambique, are known to have demonstrable phonological effects on the recipient language, in addition to the more well studied dynamic of large-scale lexical borrowing that is common among substrate languages (Sankoff 2002: 643). The lack of sufficient phonological and phonetic documentation also diminishes the potential for more robust diachronic and synchronic accounts of the development, indigenization, variation, and change of MP in years to come.

4. Data collection and analysis

The informants selected for this study were recorded in Lisbon, Portugal, the basic details of which are provided in Table 3. Two are female and three are male, all of Mozambican nationality, and ranging in age from 19 to 42. As stated in section 1, the two informants from Maputo (009 and 013) and the informant from Nampula (010) consider Portuguese to be their mother tongue, whereas the informants from Inhambane (017) and Tete (020) reported learning Portuguese as young children. At the time of recording, informants 010 and 017 had been residing in Lisbon for a respective total of five and eight years. The remaining informants 009, 013, and 020 had arrived in Portugal within a period of one week and one year. Given these circumstances, and the fact that the data elicitations were conducted by researchers from Lisbon, dialectal accommodation, or “adjustments in pronunciation and other aspects of linguistic behavior in terms of a drive to approximate one’s language to that of one’s interlocutor” (Trudgill 1983:143), should be considered a potential factor affecting the dialect of origin of some of the more long-term Lisbon residents. However, as the following analysis demonstrates, data for informant 010, and to a lesser extent informant 017, still show a rather dramatic influence by the substrate and identification with the dialect of origin.
Materials for the elicitation of read speech are based on those established in Rodrigues (2003), with the inclusion of a small set of additional words and phrases deemed necessary for capturing other relevant contexts. Audio recordings and stimulus prompts were controlled by an investigator, who remained seated in the same room as the informant, albeit in the periphery and not directly in front of the informant. For the read speech elicitation task, informants were asked to read the individual phrases and sentences projected in front of them on PowerPoint slides. Once this task was completed, the elicitation of spontaneous speech data was conducted in the form of an oral questionnaire for obtaining general speaker information and attitudinal data. Recordings were performed using a Marantz digital voice recorder, with a microphone positioned on the table in front of the informant.

Corpus-based accent models were developed through the assessment of segmental data by trained phoneticians, who used Praat (Boersma & Weenink 2010) to identify and label target segments, based on a combination of auditory judgment and waveform and spectrogram analysis.

5. **Analysis**

The main objective of this article is to provide qualitative descriptions of Bantu substratum interference in MP at the segmental level, and to open the way for future studies aimed at describing indigenizing Luso-African speech varieties.
We acknowledge that quantitative studies involving informant populations that have remained in their birthplaces are needed to develop an understanding of how topolectal spoken varieties differ. However, such aims are beyond the scope and pragmatic constraints of the current study. Rather, in describing the following phenomena, we will attempt to link our observations with material from the literature on Bantu language phonologies, and where possible, contemplate the motivation for certain processes in terms of governing principles – i.e. substratal interference, superstratal influence, and universal preference laws.

The MP examples presented in the following subsections are drawn from the read speech portion of the corpus. Where unclear from the orthography, the neighboring context is also transcribed. The symbols ‘.’ and ‘#’ respectively denote syllable and word boundaries. Readers should note that the following examples (1) through (10) include the relevant informant ID for a given pronunciation pattern, and are not necessarily meant to describe the speech patterns of all of the informants and varieties considered for this study.

5.1 Monothongization of diphthongs

The examples in (1) present a sample of words that feature diphthongs in EP, and their monothongization by Informants 009, 010, 017, 020, and to a lesser extent 013 (Maputo). One of the more noticeable characteristics of the MP varieties, compared with EP, is the expression of full vowels in the context of the stressed phoneme /e/. These and other vowels are further realized as non-nasal in a variety of contexts. In terms of the diphthongs evident in EP, one observes the simplification of these vowel shapes in numerous word positions, and in multiple rising and falling formations. Of particular note is the resyllabification that occurs respectively in (1h) and (1j) for Informants 017 (Inhambane) and 009 (Maputo), and the restructuring of segments in (1k) by Informant 020 (Tete). In general, all of the examples in (1) appear to reflect a certain degree of faithfulness to local Bantu vowel inventories and phonotactics. Given that these alternate relatively freely with diphthongs in similar contexts, we, of course, also see the influence of the superstrate, or ‘source’ variety – both of which might suggest the occasional mitigation of universal preference laws for articulatory ease. Indeed, the monothongization of /ej/ also occurs in some Brazilian Portuguese varieties.
5.2 Vowel sequence simplification and glide epenthesis

Vowel sequence simplification is illustrated in (2) for a selection of hiatus contexts both within and across word boundaries for informants 009, 010, 013, 017, and 020. In many of the examples, one observes a tendency characteristic of all the MP varieties examined in this study to elide unstressed word-final vowels and syllables (see also section 5.3), and preserve the stressed vowel.

The examples in (3) show examples of glide epenthesis observed for informants 009, 010, 013, and 017, whereas very little gliding overall was observed for Informant 020 (Tete). Again, the phenomenon of glide epenthesis is resonant of some Mozambican Bantu language phonologies, e.g. Makhuwa, and...
the often rigid constraints governing vowel co-occurrence. Glide epenthesis also occurs in the Shona variety of Zimbabwean English (Kadenge 2009:161-163), as well as in some Brazilian Portuguese varieties.

(3) | EP | MP | Informant |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. r[i.a] “ria” ‘lagoon’</td>
<td>r[i.ia]</td>
<td>009, 017</td>
</tr>
<tr>
<td>b. pass[ja]mos “passeamos” ‘we walked’</td>
<td>pass[i.ia]mos</td>
<td>009</td>
</tr>
<tr>
<td>c. ró[zju] “róseo” ‘rosy’</td>
<td>ró[z.ij.u]</td>
<td>009, 010, 017</td>
</tr>
<tr>
<td>d. pass[ej.u] “passeio” ‘footpath’</td>
<td>pass[e.jjo/u]</td>
<td>009, 013, 017</td>
</tr>
<tr>
<td>e. m[ej.ɔ]r “maior” ‘bigger’</td>
<td>m[a.jo/o]r</td>
<td>010</td>
</tr>
</tbody>
</table>

5.3 Syncope, apocope, and apheresis

Examples of syncope, apocope, and apheresis for Informants 009, 010, 013, 017, and 020 are provided in (4). Again, we see the elision of word-final vowels and syllables, along with the loss of unstressed word-initial and word-medial syllables, and the frequent resyllabification and occasional reordering of segments. Echoes of substrate constraints appear evident in the elision of word-final vowels, resulting in words that end with a resyllabified consonant coda, e.g. in (4f) and (4h). Separately, in (4c), we see evidence that syncope of the penultimate pre-tonic syllable takes place after the evaluation of the preceding sibilant /s/ as a non-candidate for palatalization. And in (4h), we see what is essentially the same phenomenon, i.e. precedence of the palatalization constraint with a subsequent shuffling of syllable boundaries. The example in (4e), on the other hand, which was produced at the end of an intonational phrase, features the realization of a non-palatal coda [s], perhaps suggesting substrate interference of the nasal + consonant variety.

A very similar dynamic is characteristic of the non-standard EP, whereby unstressed vowels – and particularly those which are realized as reduced vowels – frequently undergo a variable form of elision. Thus, it is difficult to tease apart the different principles behind the phenomena of syncope, apocope, and apheresis for speakers of MP. Clearly, the superstrate constraint governing the respective non-palatalization or palatalization of sibilants in onset and coda position has been faithfully adhered to in (4c) and (4h), despite the reorganization of syllables. It is also evident that the universal preference constraint for articulatory ease is in effect. However, given the degree of weakening phenomena observed for MP, and the fact that many of these words
and phrases were produced in isolation, it appears that this type of constraint may be slightly less universal than is generally supposed and derive some of its motivation from the substrate. Alternatively, the wide-scale nature of the weakening observed could be the result of an overgeneralization of non-standard EP tendencies.

(4) EP MP Informant
a. [luʃe'luʃ] “localização” ‘location’ [loke*za'sew ] 010
b. [pri'gar#riizi'ew] “pregar religião” ‘preach religion’ [pre'gar#liizi'ɔ] 009

c. [munis'pai] “municipal” ‘municipal’ [munis*pa] 010
d. [frigu'riiku] “frigorífico” ‘refrigerator’ [frigo'ri*fu] 020
e. [ˈɾetʃ] “antes” ‘before’ [an*s] 010
f. [or'lɛdu] “Orlando” ‘Orlando’ [or'land*] 017
g. [fu'zi*m]\] “fugimos” ‘we flee’ [fu'zi*m*] 020
h. [u#vi'tidu] “o vestido” ‘the dress’ [uv#'ʃid*] 013

5.4 Consonant sequence simplification

As illustrated in (5), consonant sequence simplification occurs among all of the informants, and in the utterances of informants 017 (Inhambane) and 020 (Tete), in particular. One observes epenthesis in (5a), (5b), and (5c), consonant assimilation in (5c), a reordering of the segments in (9h), and elision within the clusters [ps], [ʃt], [ʃv], [ʃf], and [b] in (c), (d), (f), (g), and (h). The elision in (5g) is unique among the other cases in that it occurs in the stressed syllable, indicating what appears to be a relatively strong degree of influence by the substrate. Informants displayed variable tendencies in the simplification of syllables containing liquids and faithfulness to the substratal constraint for open syllables, e.g. the realization of “hemoglobina” ‘hemoglobin’ as hemo[gal]bina, and “intervém” ‘intervenes’ as in[trav]vém by informant 013 (Maputo). Informant 020, on the other hand, showed some occasional restructuring of sequences involving nasal consonants, e.g. in the realization of “hifen” ‘hyphen’ as hi[fne], and revealed a more frequent form of substrate interference overall in the realization of open syllable formations. The example “hifen” further shows the interpretation by Informant 020 of the word ending -en as a sequence of two phonemes, i.e. /en/, indicating perhaps that phonological nasal vowels do not

---

7 While Informant 009 produces a trilled [r] in word-final position, the authors observe a tendency by some MP speakers to drop the final /r/, as is common in varieties of Brazilian Portuguese.
exist in this variety of MP.*

(5)  

<table>
<thead>
<tr>
<th></th>
<th>EP</th>
<th>MP</th>
<th>Informant</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>[mn]isciente “omnisciente” ‘omniscient’</td>
<td>[mn]isciente</td>
<td>010, 013, 017</td>
</tr>
<tr>
<td>c.</td>
<td>eru[p]ão “erupção” ‘eruption’</td>
<td>eru[pis]ão*</td>
<td>009, 010, 020</td>
</tr>
<tr>
<td>d.</td>
<td>inve[t]iagações “investigações” ‘investigations’</td>
<td>inve[*ti]agações</td>
<td>013</td>
</tr>
<tr>
<td>e.</td>
<td>mai[3#v]ale “mais vale” ‘is better’</td>
<td>mai[*#v]ale</td>
<td>020</td>
</tr>
<tr>
<td>f.</td>
<td>tr[a*f]ormação “transformação” ‘transformation’</td>
<td>tr[a*f]ormação</td>
<td>020</td>
</tr>
<tr>
<td>g.</td>
<td>[fr]escas “frescas” ‘fresh’ (pl.)</td>
<td>[*#v]escas</td>
<td>020</td>
</tr>
<tr>
<td>h.</td>
<td>pertu[rb]aço “perturbação” ‘disturbance’</td>
<td>pertu[<em>b]aço</em></td>
<td>010 017, 020</td>
</tr>
</tbody>
</table>

5.5 Voicing dissimilation and juxtaposition

The examples in (6) illustrate long-distance voicing dissimilation and voicing juxtaposition for informant 010 (Nampula). Readers should note that this phenomenon was exclusively observed in the speech of informant 010, who comes from a Makhuluwa background, and does describe the other varieties and informants considered for this study. Interestingly, both long-distance voicing dissimilation and voicing juxtaposition surface with surprising regularity in the utterances of Informant 010, offsetting the fact that this speaker has maintained a relatively long-term residence in Lisbon. Realizations such as obce[gat*] “obsecado” summon memory of the Makhuluwa constraint restricting the number of aspirated stops in stems to just one instance, despite the fact that in this case it is applied across an inflected word. We also see clear evidence of Dahl’s law in (6a), and a tendency to realize voiced stops as voiceless in (6d), (6e), and (6h). Examples (6f) and (6g) show a more elaborated version of Dahl’s law, as extended to Portuguese, in the juxtaposition of voiced and voiceless consonants. Here, we see evidence of strong substratal interference restricting the domain of voiced stops in non-contiguous, multi-stop sequences to non-final syllables – likely stemming from a constraint for the restriction of aspirated stops to word-final position.

---

8 Evidence of this sort is further exemplified in the surfacing of non-homorganic nasal segments, e.g. onte[m] “ontem” ‘yesterday’ (observed across informants), and regime[n] “regimen” ‘regimen’ (observed for Informant 013).
9 The word “erupção” is realized by Informants 009 and 020 respectively as eru[*s]ão and eru[*ts]ão.
10 The word “perturbação” is realized as per[tru]bação for Informant 010.
11 Dahl’s Law concerns the process by which long-distance voicing dissimilation occurs in some Bantu languages. For a more complete description, see Nurse & Philipson (2003).
5.6  Aspirated devoiced consonants

Leading from the analysis in the previous subsection, one observes frequent consonant devoicing (both partial and full) and elongated periods of aspiration in word-final position by Informants 009, 010, 013, 017, and 020. In all of the examples presented in (7), aspiration replaces the final vowel – which we find in respective standard and non-standard EP varieties as reduced or elided. Aspiration occurs in the high vowel context described in Hyman (2003:53) for Makhuwa and Doko, as well as in non-high contexts, and alternates somewhat freely with maintenance of the following word-final vowel. Thus, again, we see the interference of the substrate, which is more faithfully adhered to by some speakers, e.g. informants 010 (Nampula) and 020 (Tete).

(7)  
<table>
<thead>
<tr>
<th></th>
<th>EP</th>
<th>MP</th>
<th>Informant</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>on[t]em “ontem” ‘yesterday’</td>
<td>on[d]em</td>
<td>010</td>
</tr>
<tr>
<td>c.</td>
<td>obce[k]ado “obcedado” ‘obsessed’</td>
<td>obce[gatʰ*]</td>
<td>010</td>
</tr>
<tr>
<td>d.</td>
<td>arren[d]a “arrenda” ‘leases, rents’</td>
<td>arren[tʰ]a</td>
<td>010</td>
</tr>
<tr>
<td>e.</td>
<td>á[g]ua “água” ‘water’</td>
<td>á[kʰ]ua</td>
<td>010</td>
</tr>
<tr>
<td>f.</td>
<td>[p]ren[d]as “prendas” ‘gifts’</td>
<td>[b]ren[tʰ]as</td>
<td>010</td>
</tr>
</tbody>
</table>

5.7  Whistled fricatives

Another phenomenon observed across informants involves the realization of elongated, high acoustic energy fricatives that commonly result in

---

12 Recall that in EP, the voiced stops /b, d, g/ may also be realized as [β, ð, ɣ] in intervocalic contexts.
13 For informant 013, this sound is unaspirated.
14 For informant 020, this sound is partially devoiced.
a whistled articulation. Note that in the examples in (8), whistled fricatives are denoted with the superscript extension ‘wh’. Like Shosted’s (2006) findings for Tshwa, the whistled fricatives in MP are produced allophonically, and vary significantly from their non-whistled counterparts in terms of their spectral features.

(8)  | EP               | MP               | Informant
    | [s]implórío “implórío” ‘simpleton’ | [s\textsuperscript{wh}]implórío | 009, 010, 020
    | bá[ʃ]cula “báscula” ‘weighing scale’ | bá[ʃ\textsuperscript{wh}]cula | 009, 010, 013
    | guardas civi[ʃ] “guardas civis” ‘civil guard’ | guardas civi[ʃ\textsuperscript{wh}] | 010, 017, 020
    | parabén[ʃ] “parábens” ‘congratulations’ | parabén[ʃ\textsuperscript{wh}] | 010, 017

5.8 Continuantization

As in (6), the examples in (9) pertain almost exclusively to informant 010 (Nampula). Here, we focus attention on this speaker’s realization of the stops /t, d/ as +continuant, i.e. [θ, ð], before +high and -high vowels, in both intervocalic environments and at the start of an intonational phrase, i.e. in (9a) and (9b). Example (9f) shows concurrent voicing dissimilation, whereby /d/ was realized as the voiceless labiodental fricative [θ], much like the phenomena described in section 5.5. This example is also reflective of the assimilation of multiple voiceless coronal stops as all dental or all alveolar, as described in Kisseberth (2003:550). As witnessed in this and other examples, a more EP-like variety of continuantization of the voiced stops /b, d, g/ as [β, δ, γ] can be observed for informants 009 and 017 (Inhambane).

The varieties of continuantization observed for informant 010 are very consistent, and can quite easily be identified as resulting from interference by the substrate, which, in this case, is the particular variety (or varieties) of Makuwa spoken by this informant’s parents. It is more difficult to tease apart the occasional continuantization observed for informant 017, which is strictly limited to the [β, δ, γ] variety characteristic of EP. The fact that this speaker produces both stops and fricatives in intervocalic contexts could derive from the substrate or the superstrate, also perhaps reflecting the intervention, at times, of a more universal principle governing articulatory ease.

15 For informant 017, the whistled production concerns the first word in the phrase, i.e. guardas[ʃ\textsuperscript{wh}] “guardas”. 
5.9 Homorganic nasal epenthesis

Homorganic nasal epenthesis occurs across informants in “EP contexts” involving a nasal vowel followed by a consonant, as illustrated in (10). For the majority of informants and utterances where this phenomenon is realized, the conditioning environment is further restricted to the EP context of nasal vowel + stop, but Cf. (10e).

The homorganic nasal context is particularly relevant to the Bantu language family, both in the context of prenasalized consonants and across morpheme boundaries. The surfacing of nasal tails has also been described for varieties of Brazilian Portuguese (e.g. Lovatto et al. 2007). With respect to influencing factors, we see a significant degree of interference by the substrate for all MP varieties concerned, wherein the following consonant, and perhaps also Portuguese orthography, determines the articulatory specification of the nasal phoneme which precedes it. If the somewhat controversial theory of phonological nasal vowels holds, here is one of the better examples showing the indigenization of MP in terms of a separate phonological construct that interprets such segments as a sequence of two phonemes instead of one. Of course, homorganic nasals also provide an optimal means of bridging the preceding vowel with the following consonant, thus reinforcing the regularity with which this process is applied both within and across informants. Thus, again we see the coalescence of substrate, superstrate, and universal preference laws in the phonetic transform.
6. Conclusion

The different MP varieties studied exhibited varying forms and degrees of Bantu substratum interference, including: the monothongization of diphthongs, vowel and consonant sequence simplification, glide epenthesis, syncope, apocope, apheresis, the voicing dissimilation and juxtaposition of consonants, aspirated devoiced consonants in word-final position, whistled fricatives, continuantization, and homorganic nasal epenthesis. Individually and overall, these descriptions offer testimony of the phenomena that characterize different spoken varieties of MP, and contribute toward a more balanced understanding of the linguistic variation that sets MP apart from other varieties of Portuguese. It is further hoped that these data will serve as a window in time for subsequent synchronic and diachronic studies aimed at describing the development, indigenization, variation, and change of MP in years to come.

It was shown that the above processes occur in the utterances of both L1 and L2 Portuguese speakers. Phenomena such as the voicing dissimilation and juxtaposition of consonants, aspirated devoiced consonants in word-final position, and continuantization were indeed more consistent and pervasive in the speech of certain L1 informants. Faithful adherence by the L1 informant 010 (Nampula) was demonstrated for some of the more well documented features of Makhuwa. These include: a rigid restriction on the number of aspirated stops allowed in a stem (or word, in this case), Dahl’s law dissimilation dynamics and extended versions thereof for restricting aspirated stops to word-final position, and the assimilation of multiple voiceless coronal stops as all dental or all alveolar. Such evidence is particularly interesting in light of the limited faculty reported by informant 010 for speaking Makhuwa (the native language of his parents), and the fact that this speaker has spent the past five years living in Lisbon. One possible explanation may have to do with the status of Makhuwa as Mozambique’s most widely spoken indigenous language. Perhaps coming from a language community of eight million speakers leads to a more ‘validated’ and codified form of substratum interference. Of course, the fact that informant 010 is a native speaker of Portuguese calls into question the appropriateness of terms like ‘substrate’, thus signaling the need for an updated nomenclature and set of practices concerning the study of indigenizing language varieties.

Finally, because interference by the superstrate and substrate is no more
static than the language varieties they influence, we devoted additional attention to the contemplation of how these two systems interact, both with one another and with universal preference laws for conditioning the phonetic transform in indigenizing languages. For the majority of processes described above, variable forms of interaction were observed for each of these *constraint bundles* in guiding how a sound is realized. Thus, much like the findings in Alber & Plag (1999) for creole development, it would appear that all three play a fundamental and occasionally overlapping role in shaping the indigenized language.

**References**


