The status of Portuguese/Spanish /r/ and /ɾ/ in some Iberian-based creole languages

O estatuto de /r/ e /ɾ/ do português/espanhol em algumas línguas crioulas de base ibérica

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Abstract: This study addresses the question of whether the 15th-19th-century Portuguese/Spanish phonemic and allophonic distinctions between the alveolar rhotic flap /r/ and the alveolar rhotic trill /ɾ/ are retained in a number of Iberian-based creole languages and whether this is predictable. It is argued that, to some extent, the retention can be predicted.

Keywords: Rhotics, feature retention, Iberian creoles.

Resumo: Este estudo procura saber se a distinção fonêmica e alofônica entre o rótico tepe alveolar /ɾ/ e a vibrante múltipla /ɾ/ do Português e do Espanhol, dos séculos XV ao XIX, sobreviveu nos crioulos de base lexical ibérica e se essa sobrevivência é previsível. Argumentamos que, de certa forma, a retenção desses sons pode ser prevista.

Palavras-chave: Róticos, manutenção de traços, crioulos ibéricos.

1 Introduction

This study compares the rhotic sounds in a representative selection of Iberian-based creoles. Rhotics are interesting for comparison as they are realized in different places of articulation, as well as in various different manners of articulation (e.g. tap, trill, retroflex, breathy). The creole varieties to be discussed are listed in (1).
(1) a. Cape Verdean Creole (cv)
b. Guinea Bissau Creole (GB)
c. Sãotomense (ST)
d. Angolar (ANG)
e. Palenquero (PAL)
f. Papiamentu (PAP)
g. Diu (DIU)
h. Daman (DAM)
i. Korlai (KOR)
j. Zamboangueño (ZAM)

The basic question I would like to answer is whether the Portuguese phonemic distinction between alveolar flap rhotic /r/ and the alveolar trill rhotic /r/ is somehow retained in the creoles under examination and whether this retention can be predicted.

2 General considerations

As a natural class, the label ‘rhotic’ comprises a heterogeneous set of sounds, which, as Ladefoged and Maddieson (1996) note, exhibits much diversity phonetically in the world’s languages. A representative inventory of rhotics, according to their place and manner of articulation, is given in Table 1.

<table>
<thead>
<tr>
<th>Place</th>
<th>Manner</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voiced</td>
<td>Alveolar</td>
<td>[r]</td>
</tr>
<tr>
<td></td>
<td>trill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tap or flap</td>
<td>[R]</td>
</tr>
<tr>
<td></td>
<td>approximant</td>
<td>[ %[ ] ]</td>
</tr>
<tr>
<td></td>
<td>breathy</td>
<td>[g]</td>
</tr>
<tr>
<td></td>
<td>Retroflex</td>
<td>[l]</td>
</tr>
<tr>
<td></td>
<td>tap or flap</td>
<td>[L]</td>
</tr>
<tr>
<td></td>
<td>approximant</td>
<td>[L]</td>
</tr>
<tr>
<td>Uvular</td>
<td>trill</td>
<td>[R]</td>
</tr>
<tr>
<td></td>
<td>fricative</td>
<td>[k]</td>
</tr>
<tr>
<td>Voiceless</td>
<td>Velar</td>
<td>[χ]</td>
</tr>
<tr>
<td></td>
<td>fricative</td>
<td></td>
</tr>
</tbody>
</table>

Ladefoged and Maddieson (1996) state that the most common variety of rhotic across the languages of the world is the trill (47.5 per cent), followed
closely by taps/flaps (38.3 per cent). The approximant variants occur in only
9.9 per cent of languages while the rhotic fricatives (3.5 per cent) are even
less frequent.

Rhotics are also known to display considerable phonetic variety across
dialects of the same language. For example, in the western Iberian Peninsula,
the Tras-os-Montes dialect and other northern dialects of Portuguese have a
phonemic alveolar flap-trill distinction /r/-/r/, whereas in the area around
Lisbon, we find the innovative alveolar flap-uvular trill distinction /r/-/r/ (cf.
phonemes in one language’s inventory is not common. Most of the world’s
languages that have a rhotic phoneme possess a single one (cf. Ladefoged and
Maddieson 1996).

Between the 15th and the 19th centuries, Portuguese and Spanish
phonemically distinguished /r/ and /r/, as in ca/r/o ‘dear’ vs. ca/r/o ‘cart’.
During this period, these two phonemes were also in an allophonic relationship:
/r/ was realized as an alveolar flap in all environments except in word-initial
position, after a nasal consonant, and preceding a nasal consonant, where it
was realized as an alveolar trill. This is shown in (2) as a phonological rule.

\[(2) \quad /r/ \rightarrow [r]
\]

a. #______ (example: /rei/ → [rej] ‘king’)
b. N______ (example: /oura/ → [on-ra] ‘honor’)
c. ______ N (example: (/karne/ →[kar-ne] ‘meat’)

Given this rhotic inventory in the varieties of Portuguese and Spanish that
were being spoken in the relevant colonization period in Africa and Asia, it is
reasonable to assume that the input that eventual creole-language creators
received from the Portuguese and Spanish speakers with whom they were in
contact contained the /r/-/r/ distinction. To consider what would be expected
to happen to this phoneme pair in the different creoles under discussion, we
first need to talk about aspects in the ecology of each of the creole languages
in question, and about the dynamic involved in the process of language shift.
We begin with the latter.
3 Borrowing vs. shift situations

Thomason & Kaufman (1988) identify two general tendencies in contact-induced language phenomena: borrowing and shift. The extent of borrowing or shift depends on factors prevalent in the contact situation in question. For borrowing, Thomason & Kaufman (1988: 73-75) propose a borrowing scale, whereby the more intense the contact situation, the more lexical and structural features tend to be borrowed from the source language(s) into the recipient language. Briefly, the borrowing-community speakers initially borrow words from one or more of the source languages and, if the contact intensity is stronger, they begin to borrow linguistic structure as well. In a situation of more intense lexical and structural borrowing, bilingualism is a prerequisite.

In the case of shift, however, there need be no bilingualism. As shifting speakers learn the target language vocabulary, they acquire, or in the case of pidgins and creoles co-create, the target language. In the shift process, speakers targeting a language variety typically carry their native-language structures into the targeted variety, or into the variety they are co-creating. In such situations, Thomason & Kaufman (1988) note, one expects to find in the new variety being acquired, or co-created, features from the native language(s) of the learners. However, one would not expect core lexical features (the core lexicon) to be carried into the targeted variety from the shifting speakers’ native language(s), as the shifting speakers are targeting precisely this vocabulary.

The general developmental paths of borrowing and shift are given in (3) and (4) (cf. Croft 2000: 213-21).

(3) Borrowing → Extensive Borrowing → Death by Borrowing
(primary parent language is typically the language of the borrowing community)

(4) Natural Second Language Acquisition → Semi-Shift → Total Shift
(primary parent language is typically the language targeted by the new language learners)

Given that in all the creole languages being dealt with in this study a lexifier language (or languages) can readily be identified, I assume that we are dealing with shift situations. On this assumption, I expect rhotics from the native languages of the shifting speakers to become part of the consonant inventory of the language being acquired/created. Such contact situations where creoles form are not dissimilar to situations of naturalistic L2 acquisition.
in which learners transfer L1 features into the language they are targeting. We would expect, for instance, that in a situation in which an American English speaker is learning French naturalistically and is able to recognize the French uvular [ʁ] or [ʁ] as a rhotic, she would realize it as a retroflex approximant [ɹ], the type of rhotic found in American English. Thus, we assume that, in the formation of the creoles, the realization of a target-language rhotic was carried out using the articulatory features of the rhotic(s) in the shifters’ native language(s). This gives us a way, then, of formulating a straightforward prediction for the study of rhotics in these Iberian creoles. This is stated in (5). This process is variably known as L1 transfer or substrate interference.

(5) In the formation of a new language variety that may become a pidgin or creole, speakers will carry the rhotic(s) (or their rough equivalent) of their native language into the variety being formed.

4 Contact situation ecology

Apart from the borrowing vs. shift distinction, there are a number of other considerations that need to be taken into account in dealing with the different contact situations here. The first has to do with the heterogeneity of the contact situations, which can be operationalized in terms of how many languages are involved in a contact situation in the formation and development of a creole. For our purposes, we operationalize heterogeneity as stated in (6):

(6) The more languages there are involved in a given contact situation in which a creole forms and develops, the more heterogeneous it is. Conversely, the fewer languages there are involved in a contact situation, the less heterogeneous it is.

For the treatment of rhotics in the creoles in question, we can state our prediction as in (7):

(7) The more languages there are in the contact situation, the less likely the target rhotics, or target-like approximations, will find their way into the creole. Conversely, the fewer languages there are in the contact situation, the more likely the target rhotics, or target-like approximations, will find their way into the creole.
Below, we will test this prediction. It must be noted, however, that in those cases in which the shifting speakers’ native language(s) and the target language variety have the same type of rhotic (e.g. both may have the alveolar flap [ɾ]), the prediction is that no change will come about.

Besides heterogeneity, another factor that we need to take into account is the extent of the presence of the lexifier in each contact situation. One would expect that the less time the lexifier has been present in a given contact situation, the less likely the target rhotic(s), or target-like approximations, will be acquired if they are different from the rhotics of the shifting-language speakers. Conversely, the longer the lexifier has been present in the contact situation, the more likely it is that the target rhotic(s), or target-like approximations, will find their way into the creole being formed. We will also test this below.

A further consideration is whether in each of the contact situations involving the creoles in question there was a presence of slave trade and/or plantation-style work conditions. This question has to do with the degree of access the speakers targeting the lexifier would have had. If, for example, a contact situation involved slave trade and plantations, access to the target-language would be less likely and the target rhotic(s), or target-like approximations, would be less likely to be acquired. If, on the other hand, a contact situation did not involve slave trade and/or plantations, access to the target-language would be greater and the target rhotic(s), or target-like approximations, would be more likely to be acquired.

With these factors in mind, let us turn to the discussion of the different contact situations where the creoles under study are spoken.

4.1 Ecology of the Atlantic Iberian creoles

First, we will discuss the contact situations of the creoles linked to West Africa, namely, the creoles of Cape Verde (cv), Guinea Bissau (gb), São Tomé (Säotomense [ST] and Angolar [ANG]), Curaçao (papiamentu), and Palenque (PAL). According to Holm (1989: 273-281), in the contact situations of all of these creoles, slavery of Africans formed part of their respective histories. Moreover, in all these contact situations it can be assumed that they were relatively heterogeneous. For cv Wolof was important in its formation; for gb, the languages involved were/are Balanta, Serere, Bijago, Felupue, Fula, Mande, Manjako, and Portuguese (cf. Jacobs 2010 for a discussion of these contact situations). For ST and ANG, the languages involved were Kimbundu, Umbundu, Kikongo, Edo, among others (Lorenzino 2007: 1, Maurer 1995: 1). For PAP, Jacobs (2009) argues that PAP descends from cv. Other languages
in the PAP contact situation throughout its history have been Portuguese, Spanish, Dutch (the language of the colonizers), and several African languages, given that between 1650 and 1713, Curaçao functioned as an important port for the Atlantic slave trade (Jacobs 2009). From 1700 to 1715, for example, the yearly number of slaves imported from Africa to Curaçao was about 3,500 to 4,000 a year. The majority of these slaves were from the Congo, Angola, Togo, Benin, and Nigeria (Maurer 1998: 141), but not exclusively as slaves were also brought from Upper Guinea, especially in the second half of the 17th century (Jacobs 2010). Two of the West Atlantic languages represented were Wolof and Edo and the Bantu languages represented were Kikongo and Kimbundu, among others (Parkvall 2000: 145ff), although Kouwenberg and Ramos-Michel (2007: 307) does not find a substantive West African contribution in the PAP lexicon.

In the case of PAL, Moñino (p.c., July 1, 2010) states that 4% of the PAL lexicon (roughly 200 words) is from Kikongo, 4% from Portuguese, and 90% from Spanish. DNA tests of the Palenque inhabitants indicate that they come from more than one part of West Africa. Thus, we can assume that the contact situation was relatively heterogeneous in the sense we have defined it.

As for the role the presence of Portuguese played in each of these contact situations, in the cases of Cape Verde, Guinea Bissau, and São Tomé, there has been a constant governmental and linguistic presence of Portuguese, which may have decreased somewhat after independence from Portugal in the mid-1970s. In all three countries, Portuguese is still the official language. Given that in Cape Verde and São Tomé Portuguese and the creole languages are almost the only languages spoken, their respective contact situations have for some time been more homogeneous than that of Guinea Bissau, where apart from GB and Portuguese 43 indigenous languages are also spoken (cf. Lewis et al. 2013).

In the case of ANG, spoken on São Tomé, the speaker community has been isolated since the early 16th century. Thus, the Portuguese presence in the community ended very early. The extent of the Portuguese presence in PAL is arguably also small. It seems that a Portuguese pidgin or creole may have been spoken by some African slaves who, having escaped from plantations, founded Palenque de San Basilio in Colombia’s interior, which by 1700 was well established and isolated (Schwegler and Green 2007). However, the community has subsequently experienced the presence of Spanish and has been bilingual in PAL and Spanish for many generations. As for PAP, Quint (2000) and Jacobs (2009) state that the basis of PAP originated from Upper Guinea Creole, comprised of CV and GB. Once established, towards the end of the 18th century, PAP has experienced the presence of Dutch and Spanish, and probably also some Portuguese, as well as African languages during the period slave trade in West Africa was ongoing. (Cf. Jacobs 2012 for a detailed account of the ties between PAP and the Portuguese creoles of Upper Guinea).
4.2 Ecology of the Asian Iberian creoles

In the case of each of the Indo-Portuguese creoles, the creoles of Diu, Daman, and Korlai have always been primarily two-language contact situations. More specifically, DIU and DAM formed, respectively, in a two-language contact situation involving Portuguese and the Indo-Aryan language Gujarati. Beginning in the 20th century, English has also begun to play a role, especially in education and church life, since Diu and Daman are urban areas. From the time both Diu and Daman came to be union territories of India in 1961, Hindi has also increased its presence, in business and the media. Thus, in both communities there exists a four-language contact situation. KP also formed in a two-language contact situation involving Portuguese and Marathi, which is also an Indo-Aryan language. Unlike Daman and Diu, Korlai ceased to be a Portuguese possession around 1740. For the last 270+ years, the Portuguese presence in Korlai has been restricted to the presence of Portuguese-speaking parish priests. Even that changed in 1964 when Marathi was introduced as the liturgical language. Given that Korlai is a rural, agricultural community, English and Hindi have played much less a role than in Diu and Daman, which are urban areas. Thus, it is safe to say that Korlai remains today largely a two-language contact situation.

It is generally accepted that ZAM formed after 1719 in Fort Pilar in Zamboanga, on the southern Philippine island of Mindanao. Before this, Spanish-based creoles, with a Portuguese element (cf. Whinnom 1956), had already formed and developed in and around Manila, but both Lipski (1992) and Fernández Rodríguez (2006) posit an origin of ZAM largely independent of the Manila-area Spanish-based creoles and both scholars posit a strong influence early on of Philippine languages. For this part, Lipski sees an influence on ZAM from Caviteño Creole Spanish (one of the Manila-area creoles) in the second half of the 18th century, due to migrations of Cavite civilians to Zamboanga at that time, and in this way he accounts for the Portuguese material found in ZAM. Lipski also posits a strong Visayan element in ZAM starting at the turn of the 20th century. Both Lipski (1992) and Fernández Rodríguez (2006) consider it possible that ZAM may have developed gradually into a creole (compare Chaudenson 1992 for Réunionnaise). In sum, ZAM formed from heterogeneous input, including material from numerous Philippine languages, Spanish, Caviteño, and most recently English. While the Spanish influence waned significantly in the 20th century, English took its place. Moreover, the ever-present Philippine languages wield considerable influence because many ZAM speakers are bi- or tri-lingual in ZAM, English and/or one or more Philippine languages.

As opposed to the Atlantic creoles, the contact situations in which DIU, DAM, KOR, and ZAM formed and developed did not involve a presence of slave trade and/or plantation-style work conditions.
Having briefly discussed heterogeneity and the lexifier presence in the contact situations of the Atlantic- and Asian-Iberian creoles in this study, in the next section we turn to the hypotheses these contact situations support and what we expect to find regarding the rhotics in the creoles.

5 Retention of the /r/-/r/ distinction

Based on what has been discussed up to now, several predictions can be formulated. Given that Wolof, as major contact languages for CV and GB, and Balanta for GB, have a /r/ and no phonemic distinction between /r/ and /r/, that there was the presence of slavery in Cape Verde and Guinea Bissau, and that the contact situation in each case was relatively heterogeneous, despite the constant presence of Portuguese, we would not expect the flap-trill phonemic distinction to be retained, and we would expect to find /r/ in both CV and GB.

With respect to ST, ANG, PAL and PAP, in all cases slavery and plantation works were a factor, although in the case of PAP there were few and not with more than 300 slaves (p. c. Bart Jacobs, 25 November, 2013). Moreover, one of the major contact languages, namely Kikongo, does not possess a rhotic phoneme (Bentley 1887). In all cases we can reasonably assume the presence of a heterogeneous contact situation. These factors would strongly disfavor the retention of /r/-/r/ phonemic distinction. However, it is reasonable to posit that, in the case of PAP and PAL, Spanish could have had the effect of reintroducing the phonemic /r/-/r/ distinction.

In the case of the Indo-Portuguese creoles, the contact situations can be characterized by the absence of a plantation slavery situation and by a relative homogeneous (two-language contact situation during much of the history of the three creoles). Moreover, in the case of Diu and Daman, a significant presence of Portuguese has lasted almost up to the present day. Thus, we would expect to encounter the /r/-/r/ distinction, or at least the retention of these rhotics as allophones. As for ZAM, both Lipski (1992) and Fernández Rodríguez (2006) comment that there were several indigenous languages in contact with Spanish in ZAM’s formation and development, such as Hiligaynon, Visayan, and Tagalog, to name a few. It is important to note that Hiligaynon has the trilled alveolar rhotic /r/, that Visayan has the alveolar flap /r/, and Tagalog has both the alveolar flap and trill (Casperson 2010, Schachter 1987: 938). Thus, it is possible that both rhotics could be retained, but one would not expect them to be retained as phonemes.

Tables 2 and 3 display the status of the rhotics in the creoles in question. For the Atlantic-Iberian creoles under discussion, the predictions are correct.
Tab. 2: Rhotics in Atlantic-Iberian creoles

<table>
<thead>
<tr>
<th>Creole</th>
<th>Phonemic distinction /r/-/ɾ/</th>
<th>Allophonic distinction [ɾ]-[r]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Verdean</td>
<td>no</td>
<td>barely (cf. [õɾ] in Lang 2002: xxv)</td>
</tr>
<tr>
<td>Guinea Bissau</td>
<td>no</td>
<td>no (e.g. [sɛɾa] ‘saw’ [&lt; Ptg. serrar])</td>
</tr>
<tr>
<td>Sãotomense</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Angolar</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Palenquero</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Papiamentu</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Tab. 3: Rhotics in Asian-Iberian creoles

<table>
<thead>
<tr>
<th>Creole</th>
<th>Phonemic distinction /r/-/ɾ/</th>
<th>Allophonic distinction [ɾ]-[r]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diu</td>
<td>no</td>
<td>yes ([ɾ]-[ɾ] in allophonic distribution)</td>
</tr>
<tr>
<td>Daman</td>
<td>no</td>
<td>yes ([ɾ]-[ɾ] in allophonic distribution)</td>
</tr>
<tr>
<td>Korlai</td>
<td>no</td>
<td>yes ([ɾ]-[ɾ] in a patterned distribution)</td>
</tr>
<tr>
<td>Zamboanguenő</td>
<td>yes /karo/ ‘dear, expensive’ - /karo/ ‘car’</td>
<td>yes ([ɾ] and [ɾ] in free variation)</td>
</tr>
</tbody>
</table>

That is, we do not expect /ɾ/ and /ɾ/ to be retained, nor do we expect [ɾ] and [ɾ] to be retained allophonically and this is true.

For the Asian-Iberian creoles, there are two predictions, one pertaining to the Indo-Portuguese creoles, and the other to ZAM. With regard to ZAM, our prediction is incorrect. Given the number of indigenous languages involved in the formation and development of ZAM, we predicted that the flap-trill distinction would be retained allophonically (or perhaps in free variation), but not that the phonemic distinction be retained. However, a distinction

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in rhotics is, indeed, maintained, although not the flap-trill distinction, but rather a flap-breathy voice rhotic, as in /karɔ/ ‘dear, expensive’ - /kaɾo/ ‘car’ (Forman 1972).

For the Indo-Portuguese creoles, our prediction is that, at least allophonically the flap-trill distinction would be retained and possibly phonemically, as well. In all cases this is true. In DIU and DAM, we find the trill word-initially and the flap elsewhere (e.g. [‘rɛj] ‘king’ < Ptg. rei – [baɾiɡ] ‘belly’ < Ptg. barriga) (Clements and Koontz-Garboden 2002, Cardoso 2009). In KOR, we find the retention of two rhotics, but it is the flap-breathy voice distinction in what we could call a patterned distribution, which deserves some explanation. In Marathi, the contact language for KOR, there is a distinction between flap and pre-breathy-voice). Thus, the word-initial Portuguese [ɾ] was realized as [ɾ]. Thus, Portuguese [ɾɛj] became KOR [ɾɛ] (cf. Clements 1996: 75-79). A list of similar examples is given in (8).

(8) /ɾ/ => [ɾ] / #___ (Portuguese [ɾ] > Korlai [ɾ])

<table>
<thead>
<tr>
<th>(9) Portuguese</th>
<th>Unattested form</th>
<th>KOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>carne</td>
<td>*/kaɾm/</td>
<td>/kʰarm/</td>
</tr>
<tr>
<td>barriga</td>
<td>*/baɾiɡ/</td>
<td>/kʰarm/</td>
</tr>
<tr>
<td>marrar</td>
<td>*/maɾa/</td>
<td>/mʰara/</td>
</tr>
</tbody>
</table>

Word-internally, the pre-breathy-voice rhotic in KOR was not tolerated. As a consequence, those Portuguese words with the word-internal trilled rhotic underwent a change whereby the pre-breathy feature of the sound traveled as aspiration to word-initial position, either attaching to word-initial consonant, as in the examples in (9), or becoming the word-initial consonant, as shown by the example in (10). For this development, we posit an intermediate step, not attested, in which the pre-breathy-voice rhotic was in word-internal position before fronting to word-initial position.

(10) Portuguese | Unattested form | KOR |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>arroz</td>
<td>*/haɾo/</td>
<td>/haro/</td>
</tr>
</tbody>
</table>
Thus, KOR does retain a distinction between two rhotics that display an allophonic distribution, but an additional development has taken place whereby an intolerable consonantal feature in word-internal position was resolved using a strategy that fronted the pre-breathy-voice feature as aspiration to word-initial position.

6 Conclusions

In this study, I have examined the status of the Portuguese/Spanish flap-trill distinction in several Iberian creoles. I argued that the presence of a phonemic and/or allophonic distribution of the rhotics would be predictable based on the factors shown in (11).

(11) a. Number of languages in the contact situation
    b. Presence of slavery and/or plantation culture
    c. Presence of Portuguese (and Spanish)
    d. Presence of different types of rhotic in the main substrate languages

Given their history, I predicted for the Atlantic-Iberian creoles that they would be less likely to retain /r/-/r/ distinction or retain the two sounds allophonically. This turned out to be true. For the Asian Iberian creoles, we made two predictions. Regarding the Indo-Portuguese creoles, we predicted that they would most likely retain the /r/-/r/ distinction phonemically and/or allophonically. This also turned out to be true. Based on the factors in (11), our prediction for ZAM turned out to be incorrect. None of the indigenous languages considered here have two rhotic phonemes and the ecology in which ZAM formed and developed was heterogeneous. Nevertheless, ZAM does possess two rhotic phonemes, albeit a flap and a pre-breathy-voice rhotic. Neither the retention of the phonemic nor the presence of the pre-breathy-voice rhotic was predicted. Thus, the factors taken into consideration for predicting certain outcomes in the consonantal inventory of the creoles under examination are strong, but not flawless, predictors.
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*PAPIA*, 24(2), ISSN 0103-9415, e-ISSN 2316-2767


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Received: 06/30/2013
Accepted: 12/01/2013