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FOR A STUDY OF PHONETIC GROUPINGS OF ‘r’ IN THE SOUTHERN STATES OF BRAZIL

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Abstract

The objective of the present work is to present an overview of studies on rhotic variation in the southern states of Brazil – giving greater emphasis to investigations on variation in syllabic coda in Rio Grande do Sul – and to suggest new courses of research. To this end, the investigation is guided by the results of the analyzed literature (articles, dissertations and theses) and points to the need to integrate the concept of linguistic groupings (Razky & Guedes 2015) and phonetic groupings (Razky, Telles & Coimbra 2019) to the studies. That is, it is necessary to revisit the diatopic dynamics of the variable ‘r’. The initial analysis for this investigation suggests that it would be possible to distinguish phonetic groupings that correspond to areas of European colonization, monolingual border areas and internal monolingual areas. Evidence also indicates that there would be microclusters, at least in the areas of European colonization.

Keywords: phonetic variation, phonetic groupings, southern states of Brazil, rhotics

PER A UN ESTUDI D’AGRUPACIONS FONÈTIQUES DE ‘r’ EN ELS ESTATS DEL SUD DE BRASIL

Resum

L'objectiu d'aquest treball és presentar una visió general dels estudis sobre la variació ròtica als estats del sud del Brasil – donant més èmfasi a les investigacions sobre la variació a la coda sil·làbica a Rio Grande do Sul – i suggerir noves investigacions. Per fer-ho, la recerca es guia pels resultats de la bibliografia analitzada (articles, dissertacions i tesis) i apunta a la necessitat d'integrar el concepte d'agrupacions lingüístiques (Razky & Guedes 2015) i d'agrupacions fonètiques (Razky, Telles & Coimbra 2019) als estudis. És a dir, cal revisar la dinàmica diatòpica de la variable ‘r’. L'anàlisi inicial d'aquesta investigació suggereix que seria possible distingir agrupacions fonètiques que corresponen a àrees de

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colonització europea, àrees frontereres monolingües i àrees monolingües internes. L'evidència també indica que hi hauria microclústers, almenys a les àrees de colonització europea.

Paraules clau: variació fonètica, agrupacions fonètiques, estats del sud de Brasil, ròtiques

PARA UN ESTUDIO DE AGRUPACIONES FONÉTICAS DE 'r' EN LOS ESTADOS DEL SUR DE BRASIL

Resumen

El objetivo de este trabajo es presentar una visión general de los estudios sobre la variación rótica en los estados del sur de Brasil – dando mayor énfasis a las investigaciones sobre la variación en la coda silábica en Rio Grande del Sur – y sugerir nuevas investigaciones. Para ello, la pesquisa se guía por los resultados de la bibliografía analizada (artículos, disertaciones y tesis) y apunta a la necesidad de integrar el concepto de agrupaciones lingüísticas (Razky & Guedes 2015) y de agrupaciones fonéticas (Razky, Telles & Coimbra 2019) a los estudios. Es decir, es necesario revisar la dinámica diatópica de la variable 'r'. El análisis inicial de esta investigación sugiere que sería posible distinguir agrupaciones fonéticas que corresponden a áreas de colonización europea, áreas fronterizas monolingües y áreas monolingües internas. La evidencia también indica que habría microclústers, al menos en las áreas de colonización europea.

Palabras clave: variación fonética, agrupaciones fonéticas, estados del sur de Brasil, róticos

1. Introduction

Rhotic realizations in different languages may include [r, ɾ, ʀ, ʁ, ʁ̥, ʁ̄, ʁ̥̄, x, h, ɣ, ʝ] (Chabot 2019, Ladefoged & Maddieson 1996, Lindau 1985). A common feature of the group is that in postvocalic position 'r' tends to disappear (Lindau 1985: 157) and that synchronic and diachronic changes in the quality of 'r' generally do not affect phonological systems (Wiese 2012: 340-358).

In Brazilian Portuguese (hereinafter BP), some of the realization may be [h, ɦ, ɣ, ʀ, ɾ, x, r, ʁ, ʁ̥] (Cagliari 2007, Callou, Moraes & Leite 1998, Pontes 1965, Renniecke 2011). That is, BP can present trills, taps, fricatives, approximants and retroflex realizations. It is also possible to have vocalization (Amaral 1920, Leite 2012, Melo 1971, Istre 1971, Renniecke 2011, 2015).

To argue for the need to integrate the concept of linguistic clusters (Razky & Guedes 2015) and phonetic clusters (Razky, Telles & Coimbra 2019) to studies on the variation of 'r' in the south, this work summarizes relevant investigations. Then, it points to gaps in studies that can be filled by engaging in complementary analyses.

Finally, it suggests which the phonetic groupings in the region could be and explains the motivation behind the classification.

2. Rhotics in BP

As stated in the previous section, several studies document different realizations of 'r', in BP. However, Camara Jr. (2004) and Cagliari (2007) emphasize that, in BP, the tap does not appear in word onset position. Cagliari (2007) observes that what is written with <rr> can be pronounced [r, ʀ, x, ʁ, χ, ʁ, h, h̃], while what is written with <r> can be pronounced as [r, ʀ, ʁ, r, ʁ, ɹ, ʁ, χ, x, ʁ, h, h̃]. Furthermore, he claims that retroflex sounds take the place of [x, r, ɹ] in the so-called 'rural Portuguese'.

In general, fricative realizations are more common outside the southern states. For example, Pontes (1965) reports fricatives [h, x, ʁ] in Rio de Janeiro. Albano (2005) states that, in the southeast, the most common realization of the 'strong-r' is the voiced glottal fricative [h̃] (Albano 2005: 47), but also lists the allophones [ɹ, r, ɹ] that need a bilateral vowel environment.

2.1 Rhotic realizations in the southern states

Most of the studies that analyze the variety of BP spoken in the south take their samples from the VARSUL project – *Variação Linguística na Região Sul do Brasil*, Linguistic Variation in the Southern Region of Brazil – which were collected observing a Labovian methodology, between 1988 and 1996. The informants were supposed to be monolingual and were grouped according to age, gender, etc. However, even when the samples represent the different socio-cultural contexts of the states, in the bilingual communities, the informants were not required to be monolingual. The database is constantly being expanded with samples from the three states – Parana, Rio Grande do Sul, Santa Catarina – (hereinafter, PR, RS and SC respectively).

Monaretto (1992, 1997) was one of the first researchers to study the use of [r] instead of [r̥] in syllable onset by bilinguals in RS. In a later work, Monaretto (2009) revises other studies on the realization of 'r' in the south and concludes that the conditioning for the different realizations is given by the "geographic group" (Monaretto 2009: 142). For that reason, the realizations in Porto Alegre and Florianópolis (capitals) are different from those in Flores da Cunha and Panambi (Italian and German immigration, respectively), which indicates an ethnocultural variation (Monaretto 2009: 147).

Margotti (2004) is the only investigation that separates data collected with monolinguals from data collected with bilinguals (Italian). The study considers the results of the ALERS – *Atlas Lingüístico-Etnográfico da Região Sul do Brasil*, Linguistic-Ethnographic Atlas of the Brazilian Southern Region – and from the VARSUL project, but also collects data in eight municipalities in SC and RS. The investigation records four variants of 'r' in RS and SC: the trill, the tap, the velar fricative and the alveolar approximant. The results reveal that there is a tendency for the old colonies – the nuclei of initial colonization – to present a greater number of trills and fricative realizations and for the new colonies – product of internal migration – to present a greater number of taps and approximants. Therefore, the author points to a behavior "quite variable from one location to another, despite the fact that the majority of the population is made up of descendants of Italians" (Margotti 2004: 158) and suggests that there are different degrees of bilingualism in the region, although in all of them there is a tendency to replace the heritage language by BP. The explanation for the difference would be provided by the socio-history and the geographical location of each place. Interestingly, the study points to the difficulties of other studies in recognizing that several dialects are spoken in the region (Margotti 2004).

Fraga (2006) studies the variable in onset in the speech of Dutch descendants in Carambeí, PR, and registers 60% of realizations of the trill and 30% of the tap. Subsequently, Fraga (2008) compares the rhotic performances in coda, acoustically analyzing the production of four informants from Carambeí: two native speakers of Dutch (first language) and two bilingual Dutch/BP speakers. The results show that the bilingual speakers can produce the rhotic as a retroflex approximant, an alveolar

approximant or a retroflex alveolar approximant while native Dutch speakers produce only the alveolar trill. The author states that, according to the ALERS, the most frequent realization in the region would be [ʀ]. Later, Fraga (2009) investigates the connection between identity and rhotic realizations, demonstrating that those who see themselves as Dutch (generally the older ones) use the tap while those who consider themselves Brazilian use the fricative realization.

Meirelles (2006) examines the realizations in Santana do Livramento (RS, border with Uruguay) where she documents the trill, the tap and the voiceless pharyngeal fricative – the latter only in intervocalic position. In a later study, Meirelles (2011) examines samples collected in six cities in RS and documents the tap, the alveolar trill, the uvular trill, approximants, fricatives (alveolar, velar, uvular, glottal) and retroflex sounds as rhotic variants. The study records the tap being used in place of the trill in bilingual regions, but does not control whether the informants were bilingual or monolingual.

Brescancini & Monaretto (2008) argue that in general in the Brazilian south it is common to have realizations such as the tap, the alveolar trill and coronal fricatives in onset, but that velar fricatives are common in Porto Alegre (capital), Florianópolis (capital) and Londrina (PR) (Brescancini & Monaretto 2008: 64). In fact, they argue that, in onset, the tap is not registered in the capitals (Porto Alegre and Florianópolis). For these reasons, they suggest that the realizations of 'r' would be geographically conditioned and that the younger generations are leading the shift from tap to trill (Brescancini & Monaretto 2008: 54-64).

Battisti & Martins (2011: 151-153) analyze the variation in Flores da Cunha (RS) and conclude that there is a change in progress, since the use of tap instead of the trill is considered a local and underestimated trait, which is why why younger generations embrace the trill.

Velho (2017) investigates the variable in three bilingual cities in RS – Antônio Prado, Caxias do Sul and Flores da Cunha – to try to delimit a speech community in terms of the production of 'r'. The study concludes that despite the "shared Italianness", there are "different characteristics that correspond to the limits of cities"

(Velho 2007: 315-318). This work also mentions that although Italian dialects are disappearing in RS, there is still “tolerance for Italian traits in BP” (Velho 2007: 318).

Corrêa (2017) investigates the variation of ‘r’ in Antônio Prado, RS, since previous studies had shown that this city presents different results compared to other cities of Italian immigration. The study suggests that the difference is determined by the effort of the inhabitants to preserve and revitalize the Italian characteristics of their dialect.

Comiotto & Margotti (2019) study the variable in initial and intervocalic position in 27 bilingual localities in SC and RS, using data from the ALiB – *Atlas Linguístico do Brasil*, Brazilian Linguistic – and from the VARSUL database. Their results indicate that, in general, in RS and SC, the predominant realization is the velar fricative [x], but that in some bilingual communities the tap is more common in intervocalic position. They claim that while in some cities only the fricative is recorded, in bilingual cities, such as Flores da Cunha, Erechim, Concórdia and São Miguel do Oeste, the tap and the trill are in variation, but tap is more frequent. Another finding is that in bilingual cities the older speakers with less schooling produce the tap. Therefore, the authors conclude that tap is a cultural trait of the descendants of Italians from the Veneto region.

2.2 Vocalization and retroflexion of ‘r’

The existence of a ‘retroflex-r’, also called ‘hillbilly-r’, was verified by Amaral (1920) who describes a sound “similar to the ‘r’ in English” (Amaral 1920: 21). Istre (1971: 237-239) speaks of a kind of rhotic schwa after vowels and of a retroflex rhotic ([r], [ɹ]) after consonants. Melo (1971) states that when closing syllables ‘r’ may be vocalized. Leite (2012) concludes that ‘vocalized-r’ resembles [j] in acoustic terms and states that vocalization is triggered by /e, a/, while retroflexion is triggered by /ɔ, u/. In fact, in capitals (not those of the central region), fricative realizations are more common (Mota 2016: 70-71), while, in the central region and in rural areas, ‘retroflex-r’ (Amaral 1920; Istre 1971; Rennie 2011) and vocalization (Melo 1971: 106) seem to be more common.

Although Brandão (2007: 271) comments that the “area corresponding to the retroflex is concentrated in Paraná”, there are records of ‘retroflex-r’ in RS. Callou,

Moraes & Leite (1998) found 7% retroflex sounds in internal coda and 3% in final coda in Porto Alegre. Meirelles (2011) records [ʝ, ʧ, ʣ, ʤ] in several places in RS (Porto Alegre, São Francisco de Paula, Uruguaiana, Santana do Livramento, Caxias do Sul, Canela). The ALERS, on the other hand, defines the southern limit of the 'retroflex-r', in RS, by these localities: Barra do Ribeiro, Catuípe, São Luiz Gonzaga, Salto do Jacuí, Santa Cruz do Sul, São José do Norte, São Lourenço do Sul, and Rio Grande (Koch, Klassmann & Altenhofen 2011: map 48-53). In summary, in RS the retroflex was registered in: Barra do Ribeiro, Canela, Catuiepe, Caxias do Sul, Rio Grande, Santana do Livramento, Santa Cruz do Sul, São Francisco de Paula, São José do Norte, São Luiz Gonzaga, São Lourenço do Sul, Salto do Jacuí, and Uruguaiana (Koch, Klassmann & Altenhofen 2011; Meirelles 2011). Additionally, Mota (2016) records retroflexes in several locations in RS, PR and SC and Fraga (2008), Margotti (2004) and Meirelles (2011) record approximants in different places in RS, PR, and SC.

At this point, it is necessary to consider that Meirelles (2011) suggests that the varieties of BP spoken in the south were influenced by the Portuguese spoken by the drovers who traveled through different routes in the three southern states starting from São Paulo (Oliveira 2009). Along these routes, villages emerged, and when the drovers were gone the cultural influence (cf. Domingues 1999, Alгатão 2010, Frasson & Gomes 2010, Aguiar 2017, Silva Neto 2018: 31-40) and the linguistic influence (cf. Paixão Côrtes 1978; Moreira 2006) remained.

In summary, the literature review reveals that although the studies carried out in the south indicate a certain homogeneity regarding the performance of 'r' (fricatives in capitals and tap or trill in smaller cities), there is a difficulty in recognizing that the region registers a great diversity of dialects (Margotti 2004). At the same time, it is observed that the studies do not usually examine monolingual and bilingual data separately. For these reasons, the present investigation proposes to complement the studies by determining the phonetic groupings to better understand the dynamics of the realizations of 'r' in the south.

3. Discussion

There are several works that point to the need to approach the studies of variation in BP focusing not on the homogeneity between regions, but from the perspective of heterogeneity. Specifically on the variation of 'r', Rennie (2011: 152) points to the fact that 'retroflex-r' has been excluded from "considerations on the development of the Brazilian rhotic". The author argues that rhotics in BP "followed two parallel paths of development, velarization and retroflexion" (Rennie 2011: 156) and describes the first process as [r>r>x>h>∅] or [r>r>x>h] depending on the position of the 'r' in the word. In the case of retroflexion, the proposed process is [r>r>ɻ>∅], at the end of a word, and [r>r>ɻ] at the end of a syllable. On the other hand, Meirelles & Razky (2022) make a very similar proposal according to which there would be two possible paths: fricativization and retroflexion. Fricativization would be characterized by the alternation between dorsal fricatives and the retroflexion would include 'vocalized-r'.

On the other hand, regarding the study of phonetic variation in BP in general, Razky (1998, 2010a, 2010b) observes that, as in any other place, it is linked to the history of the settlement of each region. However, traditional Dialectology, being only horizontal, was not able to investigate the variants with a great degree of detail. According to Razky, Guedes & Costa (2018), the concept of isoglosses is not enough for an adequate representation of the variation in BP, as the homogeneity that these imaginary lines would represent, in traditional atlases, failed to reproduce the reality of linguistic variation in locations with socio-historical characteristics as complex as those in Brazil. Therefore, Razky & Guedes (2015) and Razky, Guedes & Costa (2018) argue that phonetic variation in BP "is composed of a mosaic of areas with greater or lesser density of occurrences of a phenomenon in relation to others" (Razky, Guedes & Costa 2022: 3). Consequently, in Brazil, the notion of grouping (Razky & Guedes 2015) has become fundamental given the high linguistic variability in the same geographic space. This notion makes it possible to describe linguistic complexity and explain social stratification in a given geographic space where there are complex configurations.

Thus, using this methodology, the results of the contact between different languages and speeches could be identified in the cartography (Razky, 1998), which allows a better understanding of the dynamics of the variants. This methodology would permit the elaboration of descriptions that may reflect the complexity of each linguistic community in Brazil.

It was Guedes (2012) and Razky & Guedes (2015) who initially identified two types of clusterings (or groupings) and called them macrocluster and microcluster. In fact, Razky & Guedes (2015) and Razky, Guedes & Costa (2018) demonstrate that variation in BP presents linguistic variants that present dense diatopic characteristics while other areas do not. At the same time, the authors argue that the low frequency of a variant should not be underestimated, as it may indicate the influence of ethnic groups or of linguistic contact.

The initial concept of clustering was revised by Guedes, Razky, Guedes & Costa (2018) and, later, other strata were identified (Razky, Telles & Coimbra 2019; Razky & Coimbra 2020). Altogether, the typology describes five linguistic groupings as follows:

1. Nanogrouping: registered variant ranges from 1 to 10% of the investigated area;
2. Microclustering: registered variants cover between 11% and 25% of the total space;
3. Mesogrouping: registered variants cover between 26% and 50% of the total space;
4. Marcogrouping: the: variants are present in 51% to 100% of the investigated territory;
5. Supra-cluster: stems from an intervention in the statistical result. For example, only variants registered in a certain percentage in one or several diatopic spaces can be considered.

That notion of grouping may correspond to and expand Kerswill's (1993) proposal, according to which there are two levels of variation in a given linguistic community. The high level encompasses all groups in the region. At this level there is variation, but it does not follow 'Labovian' standards. The lower level would be

composed of communities where the variation obeys ‘Labovian’ principles – where the variation of the realizations presents regular patterns of occurrence.

This investigation considered that since each community in the south had similar, but not identical, formation, and that as each community has its own peculiarities, it is necessary to consider those fact in an analysis. However, as stated by Margotti (2004), investigations tend to indicate that there is dialectal homogeneity, a fact that is contested by the very results of investigations.

For example, while most sociolinguistic studies describe a more or less homogeneous situation (Battisti & Martins 2011; Monaretto 1992, 1994, 1997, 2009; Velho 2017), Ortale, Maggio & Baccin (2015: 161) claim that the existence “of isolated immigrant families, in general, is not mentioned in the works on linguistic minorities in Brazil” and that the variety of language spoken by them is not adequately studied. At the same time, Horst, Krug & Bernieri (2019), Corrêa (2017) and Comiotto & Margotti (2019) suggest that due to sociopolitical influences, some individuals are abandoning the use of their first language and adopting BP even at home (Horst, Krug & Bernieri 2019). That is, the degree of bilingualism is not homogeneous, so studies that examine bilingual communities need to take this into consideration.

It is true that there is a coincidence within the bilingual and non-bilingual regions, as in the latter the most frequent realization of ‘r’ is the fricative while in the former the most frequent realization is the tap or the trill (Monaretto 1992, Fraga 2008, Brescancini & Monaretto 2008, Battisti & Martins 2011, Comiotto & Margotti 2019). However, when the different cities of Italian influence are investigated in depth, the results demonstrate that the behavior of speakers is different from one city to another (Fraga 2009, Battisti & Martins 2011, Corrêa 2017, Velho 2017, Comiotto & Margotti 2019). For example, in Antônio Prado, speakers consciously adopt a more Italian variety (Corrêa 2017) than in Flores da Cunha and Caxias do Sul (Velho 2017). At the same time, as Fraga (2009) argues, embracing a certain identity determines the choice of ‘r’ that the inhabitant of Carambeí will use. In fact, the results of studies by Battisti & Martins (2011), Corrêa (2017) and Velho (2017) reveal that although the region has great linguistic similarity, different groupings may exist.

Furthermore, as the variationist studies do not mention retroflex and approximant sounds, it can be inferred that they were not recorded in their samples. Detecting sounds in one place and not in others would be another evidence of the existence of different phonetic groupings in the south.

Again, while it is true that in these states there are behaviors that are coincident, it is not appropriate to generalize them beyond the population that each sample represents. Indeed, since the gathered data reveals a complex dialectal continuum of ‘r’ variation, it is necessary to use dialectal macrotypology to better understand the dynamics of this variation. In this way, the investigation of the varieties used in each of the speech communities will reflect better the historical-social motivation that gave rise to the realizations found in each cluster. Initially, considering the results of the reviewed works, which point to a complex situation, it is possible to conjecture about the existence of the following groupings regarding the realizations of ‘r’ in coda:

Type of grouping	Socio-historical characteristics
Supra-grouping	South
Macrogrouping	comprises the bilingual regions [r, r̄, ɹ, ɹ̄, ʀ, x] and the monolingual regions [r, x, ɹ, h] considered separately.
Mesogrouping	the monolingual regions would be separated into: internal and border, because although the realizations are the same [r, x, ɹ, h], the incidence of realizations is different. bilingual communities would also be separated according to the incidence of the realizations [r, r̄, ɹ, ɹ̄, ʀ, x].
Microgrouping would	corresponding to bilingual rural communities [r, ɹ, ɹ̄, ʀ] and monolingual rural border communities [r, ɹ] that are part of the respective mesogrouping.
Nanogrouping would	locations that show influence of the drovers [ɹ, ɹ̄, ʀ].

Table 1. Phonetic groupings for ‘r’ in coda in the southern states

The south, as it has its own characteristics that distinguish it from other regions of the country, would be considered the Supra-grouping, where there would be two macro-groupings: the bilingual regions (of European colonization) and the monolingual

regions. Those macroclusters would be composed of two other clusters each. The monolingual macrogrouping would include the mesogrouping of internal areas on the one hand, and that of border areas on the other. The macrogrouping of bilingual regions would be composed of places where the incidence of realizations is the same.

The existence of two monolingual regions is justified, as there are several works that suggest that speakers in border areas are monolingual, but have a different linguistic behavior to speakers in internal areas. In border areas, speakers understand and are able to interact with Spanish speakers (Carvalho 2004, 2007, 2022; Meirelles, 2006, 2011). Additionally, in these border regions, the movement of inhabitants on either side of the border is not controlled, which implies language contact, but no stable bilingualism (cf. Carvalho 2022). Carvalho (2022) also points to the fact that, given the linguistic proximity between BP and Spanish, each individual uses their native when interacting, which often results in the existence of lexical borrowings “widely used in the community” (Carvalho 2022: 11). Another justification for the delimitation of two mesoclusters is that Meirelles (2011) argues that the realizations of ‘r’ in border areas are different from those in the inner areas.

The mesoclusters corresponding to the bilingual regions would be characterized not only by the registered variants, but by sharing the same pattern of variation. For example, Flores da Cunha and Caxias do Sul could correspond to the same grouping since the variants follow the same pattern of variation. On the other hand, Antônio Prado would not be part of another mesogroup because the variants obey another variational pattern (cf. Corrêa 2017, Velho 2017).

The microclusters would be composed of rural communities (bilingual or border) where there are different realizations if compared to the mesocluster to which they correspond. The nanoclusters, on the other hand, would correspond to places where the influence of the dovers is still perceptible.

That way, the investigations could study variants that are not representative from a statistical point of view, but that provide important data on the dynamics of language contact and of language variety contact in the region. The dynamics reflect local identities with regard to ethnic origin and would allow us to better understand the formation of BP in these states. Therefore, it would be possible to contemplate

sociocultural characteristics when determining and examining each speech community and to better analyze the distribution of social circumstances related to the linguistic context. In the main, by carefully characterizing the clusters, the studies could yield a high-level understanding of the pervasiveness of variable patterns for both monolingual and bilingual communities.

4. Final considerations

This work presents evidence that points to the existence of phonetic clusters in the southern states of Brazil, and suggests that, by considering these clusters, the investigations could be improved. It is noteworthy that the variation and change of language is conditioned by socio-historical circumstances that must be considered for a better understanding of the dynamics of the changes. In particular, given the situation of language contact in the region in question, it is an ideal setting to investigate the diffusion of linguistic innovations from the individual to the group, to the speech community and probably to the region.

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