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Contact, Co-Variation, and Sociolinguistic Salience: What Mister Rodgers Knows about Language Change

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Abstract
This study asks whether and how the features that define a language variety co-vary within the communities and speakers said to be representative of it. Of particular interest is the relationship between multiple variable in a setting known to promote contact-induced language change. The central idea that emerges here is that less salient linguistic variables are more likely to co-vary, that is, to be uniformly influenced by the contact setting, than are variables of higher salience. This claim is supported by an analysis of five variables in the speech of four Spanish-speaking adults, two of whom have lived their entire lives in the contact setting and two who are recent arrivals to it. The variables are (1) filled pauses, (2) the presence vs. absence of subject pronouns, (3) subject pronoun position (i.e., pre- vs. post-verbal), (4) general subject position (the pre- or post-verbal position of non-pronominal subjects, e.g. lexical NPs, clauses, etc.), and (5) coda /s/ weakening, examined in terms of rates of deletion as well two acoustic parameters. It is only with respect to the last of these features, which is highly salient sociolinguistically, that strong regionally delineated continuity in the Spanish of the U.S. born speakers is clearly observed. The four lower salience features have shifted in parallel, increasing in similarity to the use of analogous features in English. These results indicate that in a setting characterized by language contact, the fate of socio-linguistic variables is mediated by salience. Low salience features are more susceptible to the influence of the contact setting and are more likely to be uniformly reshaped by it. High salience features, in contrast, are differentiated by speakers' greater awareness of their social signaling potential and are more likely to unfold along autonomous and individuated trajectories.

Contact, Co-variation, and Sociolinguistic Salience: What Mister Rodgers Knows about Language Change

Daniel Erker*

1 Introduction

Toward the end of her sociolinguistic interview, Priscilla[1], a 24 year old woman of Puerto Rican heritage who was born and grew up in Boston, had the following to say about speaking Spanish: *"Si eres Puertoriqueño, debes hablar como un puertoriqueño",* 'If you're Puerto Rican, you should talk like one'. This comment raises a number of questions that are of interest to linguists, not the least of which is, what does *speaking Spanish like a Puerto Rican* mean to Priscilla? More precisely, on what linguistic basis does she believe herself to succeed at doing this, and, relatedly, how might she judge others to miss the mark? While she may never articulate it this way, Priscilla must, with the phrase *hablar como un puertoriqueño*, mean something along the lines of using the sounds, lexical items, and grammatical structures that characteristically appear in the linguistic behavior of the group of people who both identify as Puerto Rican and use the label *Spanish* to name their way of speaking.

This paper explores the implications of the fact that such linguistic features, that is, those that routinely correlate with speakers' geographic origins (and with other social factors) are not equivalently salient to the individuals who produce them. Indeed, a range of research takes as its point of departure the readily apparent fact that, to quote Trudgill (1986:11), "speakers are more aware of some variables than others" (Labov 1972; Trudgill 1986; Rácz 2013; Barnes 2015; Oushiro and Guy 2015; Erker 2017). In other words, while Priscilla may reliably use a number of sounds, words, and structures in ways that overlap with other Puerto Ricans and diverge from Spanish speakers with different regional backgrounds, such differences do not all figure prominently in her consciousness. For example, two features whose use differs widely and systematically across Hispanophone communities are the variable weakening of syllable final /s/ and the presence-vs.-absence of subject pronouns with finite verbs (Lipski 1996; File-Muriel and Brown 2011; Otheguy and Zentella 2012; Erker and Otheguy 2016; *i.a.*). While /s/ weakening occupies a central place in folk ideologies about how Spanish is used in different communities, pronominal variation[2] does not. Nor is variation in pronoun use the explicit target of prescriptive norms (i.e., there is no pronominal analog to the familiar admonition to avoid *comerse las eses* 'eating one's S's').

Such differences between features undoubtedly shape Priscilla's conception of what it means to speak like a Puerto Rican. Indeed, features like subject pronouns, which are likely to register only on the periphery of her sociolinguistic radar (if they show up on it at all), probably make little if any contribution to such an idea. In contrast, /s/, along with other features to which she is highly attuned, is centrally located within it. I hope to show here how the differing salience of linguistic features can help shed additional light on two issues central to the study of language variation and change, and, in so doing, help solve a puzzle. The first of these issues concerns the nature of the relationship between sociolinguistic variables. Specifically, the present study engages the question of whether and how the features that define a language variety co-vary within the communities and speakers said to be representative of it. The second issue the paper seeks to illuminate concerns the outcomes of language contact. I will argue that the distinction between high and low salience features connects these two themes in a way that helps unravel a seemingly puzzling fact, namely that Priscilla appears to simultaneously violate and adhere to her own linguistic prescription. That is, we will see that despite her insistence that Puerto Ricans speak *como puertoriqueños*, Priscilla significantly differs from Pascal, a 37-year-old recent arrival to Boston from Puerto Rico,

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[1]This is a pseudonym, as are the three other speakers' names in this paper.

[2]I refer here only to variation of the type illustrated by structures like *(yo) bailo*, both 'I dance', not to the use of different forms of second person pronominal address (e.g. *vos*, *usted*, *tú*, *su merced*, *ustedes*, and *vosotros*). Usage of this latter category of forms constitutes a highly salient site of linguistic variation.

in her use of several variable features. At the same time, she and Pascal are similar with respect to their use of other features. A similar pattern, one whereby a speaker with more experience living in the U.S. both aligns with and differs significantly from a recently arrived regional counterpart, emerges from a comparison of Emilio and Eduardo. The first is a 25-year-old man who moved from his birthplace of San Salvador to Boston five years ago, and the second is a 20 year old of Salvadoran heritage who has spent his entire life in the Northeastern U.S.

What is noteworthy in the results presented below is that the U.S.-born speakers differ from the recent arrivals in similar ways. Specifically, differences between the groups are concentrated among low salience features, the usage of which indicates a broad trend of potential structural convergence with the linguistic norms of English. This generalization is based on analysis of five variables: (1) filled pauses, (2) the presence vs. absence of subject pronouns, (3) subject pronoun position (i.e., pre- vs. post-verbal), (4) general subject position (the pre- or post-verbal position of non-pronominal subjects, e.g. lexical NPs, clauses, etc.), and (5) coda /s/ weakening, examined in terms of rates of deletion as well two acoustic parameters. It is only with respect to the last of these features that strong regionally delineated continuity in the Spanish of the U.S. born speakers is clearly observed. Indeed, Priscilla uses /s/ like Pascal, and Eduardo produces it like Emilio. But the U.S. born speakers differ from the recent arrivals by (a) preferring to fill pauses with central vowels (i.e., they use [a(m)] and [ə(m)] more than [e(m)]) and by (b) almost never producing post-verbal subjects, pronominal or otherwise. In addition, Priscilla further differs from her regional counterpart by using subject pronouns with finite verbs at a significantly higher rate than Pascal.

2 Relations between Sociolinguistic Variables: Coherence and/or Bricolage

In a recent volume dedicated to the theme of *co-variation* between linguistic variables, Guy and Hinskens (2016:1) enumerate several questions on the topic, the most relevant of which are the following: "When specific linguistic systems incorporate multiple variable phenomena…do variants of different linguistic variables tend to co-occur, or do they rather tend to exclude each other, or do they display independent and unrelated patterns of occurrence?" These scholars argue in favor of the expectation of co-variation, pointing out that in some sense the variationist conception of a speech community requires variables to *cohere,* or collectively behave in parallel. They note, for instance, that in Labov's seminal research on English speakers in New York City, several different variables patterned together, showing "simultaneous social and stylistic stratification, suggesting that they all indexed levels of formality and status" (2).

Guy and Hinskens also note that co-variation of this kind, in which "variants (or rates of use of variants) that index a given style, status, or a social characteristic should co-occur" (2), is not a theoretical prerequisite of all approaches to linguistic variation. They highlight the work of Eckert as illustrative of such an alternative approach, focusing on her use of the term *bricolage.* The meaning of this term is best understood in the context of Eckert's treatment of the concept of *stylistic practice*, which she characterizes as "a process of bricolage, in which individual resources (in this case variables) can be interpreted and combined with other resources to construct a more complex meaningful entity" (2008:456). From this perspective, language users are seen as agents, actively selecting and combining features in the construction of styles. While a particular style may consist of a set of features, stylistic agents may segment out a single feature and repurpose it for modified and novel use. Eckert emphasizes the similarities between material and linguistic style in this regard. For example, she describes how two girls in a California high school made a claim to "being both preppy and independent" (457) by appropriating a single feature associated with the *New Wave* style of fashion that was popular among students in the school who positioned themselves as countercultural. From the constituent features of this style, which included dark eye makeup, wearing black, and pegging jeans, the preppy girls zeroed in on the last of these. Specifically, they incorporated pegged jeans into their own material style, segmenting out the cut of one's pants as a resource for "indexing autonomy but not rebellion or sluttiness" (457).

While the concepts of *coherence* and *bricolage* represent differing perspectives on the nature of the relationship between linguistic variables, there is reason to see them as complementary rather than as mutually exclusive. Indeed, Guy and Hinskens make precisely this point and suggest salience as a lens through which such complementarity may be viewed. To wit, in Oushiro and Guy's (2015) study of six variables in the speech of 118 residents of São Paulo, the less salient

features showed stronger correlations with each other than did those of higher salience. In light of these results, they speculate that "Lectal cohesion is conditioned not only by the less salient forms, but unmarked forms more generally. Perhaps these are the forms that are subject to more automatic and consistent treatment in the grammars of individuals, while more salient forms are more readily available for manipulation for stylistic or identity-performing purposes" (Oushiro and Guy 2015:165). This proposal resonates with Eckert's observation that "a stylistic agent *may be more attuned to particular kinds of differences* as a function of past stylistic experience. Once the agent isolates and attributes significance to a feature, that feature becomes a resource that he or she can incorporate or not into his or her own style" (2008:457, my italics).

It seems only natural that the capacity of agents to isolate, manipulate, and employ particular features in stylistic moves depends on the visibility of the feature(s) in question. For instance, while the preppy girls' choice to isolate the cut of jeans hinged on the symbolic fluidity of pegged pants, it depended more fundamentally on their ability to 'see' this feature as a stylistic resource in the first place. Had the New Wave style also included tattooing the words *new wave* on one's calf, for example, so long as such tattoos remained out of view, this element of the style would have remained unavailable to the girls as a potentially segmentable and repurposeable resource. With this in mind, it is easier to imagine how multiple variable phenomena could be expected to both display coherence and reflect the outcomes of a process of bricolage. The general expectation would be for cohesion to more regularly emerge among low salience features while highly visible features would be more likely to display independent and individuated trajectories. Determining whether such expectations are borne out requires us to ask how salience itself might be defined and operationalized.

3 Salience in Linguistic Variation

Numerous scholars have addressed the fact that some linguistic variables are more prominent than others. Indeed, differences of this kind underlie Labov's (1972) system of *indicators*, *markers*, and *stereotypes*. The first of these refers to features that vary in relation to regional and social factors but do not demonstrate stylistic variation. As Rácz (2013:4) nicely puts it, indicators are *there but unseen*. Markers, on the other hand, demonstrate stylistic variation as well as differences along lines of region and class. Finally, stereotypes are features that receive explicit mention in the metacommentary of language users. Another approach to salience is presented by Trudgill in his work on dialectal contact, in which he suggests "In contact with speakers of other language varieties, speakers modify those features of their own varieties of which they are most aware" (1986:11). According to Trudgill, features are more likely to figure prominently in the minds of speakers if they meet one or more of the following criteria: they are (1) overtly stigmatized (especially on the basis of their inconsistency with orthography), (2) currently involved in ongoing change, (3) phonetically radically different, and/or (4) involved in the maintenance of phonological contrasts. In more recent research on salience, Rácz (2013) reviews the treatment of salience in both sociolinguistic and psychological inquiry. On the basis of his survey, Rácz distinguishes *cognitive* from *social salience*. Cognitive salience is grounded in the experience of surprisal, and it is operationalized in terms of probability. Broadly speaking, when something unlikely to happen occurs, it is salient. Social salience, on the other hand, largely aligns with the Labovian conception of a marker.

With these considerations in mind, we can briefly return to the work of Guy and Hinskens (2016: 2) and view the following statement of theirs in a stronger predictive light: "The more coherent a set of coexisting linguistic variables, the bigger the chances that a change in the variant of one of the variables will trigger a switch to another variety -- like a falling domino can make a row of neighboring dominoes fall." If it is true that lower salience features are more likely to cohere, then the prediction that follows is that in a setting characterized by linguistic change, features that qualify as low in salience should change in parallel.

4 Investigating the Outcomes of Linguistic Contact

Linguistic contact between people with different ways of speaking has long been recognized as a catalyst for language change (Thomason and Kaufman 1992, *i.a.*). However, despite the long

scholarly tradition of contact linguistics, a full understanding of the outcomes of contact remains elusive. Among the open questions is whether linguistic change is an inevitable byproduct of contact. Several scholars (Cacoullos and Travis 2010; Poplack and Levey 2010) have expressed skepticism towards the assumption that contact guarantees change and have critiqued the related notion that the possible shapes that contact-induced change may take are essentially limitless. These linguists have particularly cautioned against jumping to conclusions on the basis of code-switching and lexical borrowing, which, though commonly observed in contact settings, are neither agents of nor evidence for structural convergence between linguistic systems per se.

To avoid these pitfalls, Poplack and Levey, as well as Cacoullos and Travis, advocate and exemplify research programs for investigating contact situations that are grounded in the methodology of variationist sociolinguistics. Their approaches rest on a strong empirical base, which involves the careful selection of contact settings for analysis, the identification of specific features to serve as diagnostics for potential contact-induced change, and the modeling of variation in candidate features on the basis of linguistic and social factors. In this research paradigm, a case for contact-induced change ultimately hinges upon the demonstration of differences in the constraint hierarchies of pre- and post-contact varieties for the feature(s), language(s) and speaker(s) in question. Finally, the analyst is responsible for articulating why the contact setting, as opposed to other factors (e.g., language internal change), is the source of such differences.

The community, speakers, and features that are the focus of the present analysis were selected and have been investigated in accordance with the methodology outlined above. Boston represents a longstanding (if understudied) site of contact between speakers of Spanish and English as well as between speakers with broad ranging backgrounds in the Hispanophone world (Erker and Bruso *in press*). The four individuals whose behavior is analyzed here, including two speakers who have lived their entire lives in the contact setting and two who are recent arrivals to it, occupy poles in a continuum of contact experience. The candidate features have been independently investigated elsewhere and are known to be susceptible to the influence of contact settings (see section 5). For reasons of space, it is not possible to discuss constraint hierarchies in the present paper. Instead, results and discussion are restricted to inter-speaker comparisons of rates of use. While rates alone represent less compelling evidence for establishing contact-induced change than would rates in tandem with constraint hierarchies, they are adequate for meeting the primary aim of the study, which is to assess whether the usage of variables that differ in salience is uniformly or differently influenced by experience in the contact setting.

5 Variable Features, Methods, and Speakers in the Present Study

The present study analyzes variation in five features as they occur in the speech of four Spanish-speaking adults. The variables are (1) filled pauses, (2) the presence versus absence of subject pronouns with finite verbs, (3) the pre- or post-verbal position of subject pronouns, (4) subject position in general (i.e. of non-personal-pronoun subjects), and (5) coda /s/. Each of these features is briefly described below. The individuals in the study have been given the pseudonyms *Emilio*, *Eduardo*, *Pascal*, and *Priscilla*. The first two identify as Salvadoran and the latter two as Puerto Rican. Emilio and Pascal are relatively recent arrivals to the contact setting, having spent the last 5 and the last one and a half years, respectively, in the Greater Boston area. Eduardo and Priscilla were born in this area and raised by parents who were themselves born in El Salvador and Puerto Rico, respectively. Speech data was collected from these individuals in the broader context of the *Spanish in Boston* project, an ongoing corpus construction initiative lead by the author. To date, this corpus includes sociolinguistic interviews with 192 Spanish-speaking Bostonians. All interviews in this corpus were conducted in the same quiet room using a *Zoom h4n* digital recorder and an *SM93* lavalier microphone. Recordings were made at a sampling rate of 44.1 kHz and were subsequently transcribed.

5.1 Filled Pauses

Recent research has explored non-silent hesitation phenomena, or *filled pauses* (FPs), as a site of variation (Tottie 2015; Freuhwald 2016; Erker and Bruso *in press*). Such studies have demonstrated that the use of FPs like *uh*, *um*, and *em* is sensitive to a range of social, cognitive, and linguistic

factors. Of particular relevance is the work of Erker and Bruso, who examine 3,800 FPs in the interviews of 24 speakers included in the *Spanish in Boston Corpus* and conclude that contact-induced change is underway. While recent arrivals to the contact setting display a strong preference for [e(m)], use of [a(m)] and [ə(m)] increases with contact intensity: Speakers who have spent a greater portion of their lives in Boston, who use English more frequently, and who do so with greater proficiency show a strong preference for centralized vowels when filling pauses in speech. FP data for the current study was collected using the protocol outlined by Erker and Bruso. Pauses in each speaker's interview were impressionistically coded as containing tokens of [e], [a] or [ə], and the vocalic nuclei of each FP was segmented and measured for midpoint F1 and F2. To facilitate cross-speaker comparisons at the acoustic level, formant values were normalized using the *Lobanov* function in the *vowels* package for R (Kendall and Thomas 2015).

5.2 Presence vs. Absence of Subject Pronouns

As mentioned above, the variable presence/absence of subject pronouns with finite verbs has been extensively investigated within Hispanic linguistics. Among the widest generalizations to emerge concerns regional differences, such that higher rates of pronoun presence are frequently reported in Caribbean communities than in those located in the Latin American mainland (Orozco and Guy 2008 *i.a.*). This difference plays a central role in the largest study of Spanish pronoun use in the U.S. to date, namely, Otheguy and Zentella's (2012) investigation of pronominal variation among 140 Spanish-speaking New Yorkers. This study found evidence of both intergenerational continuity and change in pronoun use. With respect to change, Otheguy and Zentella observed higher rates of pronoun presence among speakers who were born in or arrived as children to NYC than among more recent arrivals to the City from outside the U.S. They interpreted this pattern, which emerged within both *Caribbean* and *Mainlander* speaker subsets of their data, as evidence of the influence of the pronominal norms of English. The present study replicates Otheguy and Zentella's methodology for identifying sites of pronominal variation.

5.3 Subject Pronoun Position

Another dimension of variability in Spanish subject pronoun use concerns their position relative to verbs. While Spanish speakers broadly and strongly prefer pre-verbal subject pronouns (i.e., structures like *yo canto* are much more frequent that *canto yo*), post-verbal subjects do occur in speech. Furthermore, they have been shown to constitute another site of regional variation as well as a locus for contact-induced change among Spanish speakers in the U.S. In her 2013 study, Raña Risso analyzed Otheguy and Zentella's data in regards to this feature. She found that speakers of Caribbean origin significantly differed from those with origins in the Latin American mainland, with the former using pronouns pre-verbally 96 percent of the time compared to the latter group's rate of 92 percent. In addition, Raña Risso found that speakers with more experience in the contact setting used significantly fewer post verbal subject pronouns than those who were recent arrivals to it, a trend she interpreted as evidence of contact-induced change. In the present study, all subject pronouns were coded for their position relative to their associated verbs.

5.4 Subject Position in General

A further subject-related variable that has been explored in Hispanic sociolinguistics is simply a more general version of the preceding. Indeed, it is not only personal pronouns but a wide range of subjects that vary in position relative to their associated verbs (i.e., lexical NPs, clausal subjects, demonstrative pronouns, etc. all appear pre- and post-verbally). This feature also represents a site of active research in contact linguistics. Erker, Ho-Fernández, Otheguy, and Shin (in press) examined variability in subject placement in the speech of 14 Cubans residing in the U.S, half of whom were U.S. born and half of whom were recent arrivals. Though the two groups of speakers demonstrated similar sensitivity to the same set of linguistic conditioning factors shaping variation in subject position, the study also found evidence of a difference: the U.S. born speakers placed non-pronominal subjects before their respective verbs at a significantly higher rate than recent arrivals. All non-pronominal subjects that occurred in the interviews of Emilio, Eduardo, Pascal, and Priscilla, were coded for pre-/post-verbal position.

5.5 Weakening of Coda /s/

Of the many generalizations that have emerged from the sociolinguistic analysis of coda /s/ weakening, the most relevant has to do with regional variation. The highest rates of /s/ deletion are typically encountered in communities located in the Caribbean and among coastal cities in the Latin American mainland (Lipski 1994 *i.a.*). The present study collected 75 tokens of coda /s/ and 25 tokens of onset /s/ from each speaker's interview. Cases of deletion were identified in consultation with spectrographic and waveform evidence. All non-deleted tokens were also measured for duration in milliseconds and center of gravity in Hertz. This approach has been employed in recent research to uncover fine-grained patterns of subsegmental variation in the realization of /s/ (File-Muriel and Brown 2011).

5.6 Salience of the Study's Features

When considered in light of the various characterizations of salience described in Section 4, the features in the present study fall out along a continuum. Coda /s/ is undoubtedly the highest in salience among the set. It unquestionably qualifies as a stereotype in the Labovian sense, as it not only displays patterns of dialectal as well as stylistic variation but is also the target of hypercorrection and folk-linguistic commentary (e.g., the phrase *hablando fisno* 'speaking finely', contains an intrusive coda /s/, and is used to gently mock the speech of those perceived as overly articulate). Variability in coda /s/ production also meets several of Trudgill's criteria: (1) /s/ deletion can neutralize person and number contrasts (e.g. in the definite determiners *la**s*** vs. *la,* and *canta**s*** vs. *canta*, 'you sing' and 'she sings', respectively), (2) it conflicts with orthographic norms, and (3) it is overtly stigmatized. None of the other features can match /s/ in these regards.

At the other end of the salience spectrum lie the features related to subjects. There is little sense in thinking of the presence/absence of pronouns or subject position variability in terms of standard vs. non-standard variants, or as capable of conferring (c)overt prestige in any meaningful way. In the Labovian schema, these are best viewed as indicators, in that though they regularly demonstrate patterns of regional variation, there is little evidence that they are subject to stylistic variation. While it is true that the use of a pronoun can disambiguate the person of a verb form that is structurally ambiguous in this regard (e.g., when *hablaba* 'I/(s)he speaks' appears with *yo* 'I', the person of the verb is no longer ambiguous), a speaker's propensity to produce a pronoun in such contexts is hardly the stuff of social commentary. The same goes for subject position, which, insofar as its use varies systematically, does so largely under the influence of cognitive and discourse factors.

While the remaining feature, FPs, are harder to locate on a continuum of salience, we can say with some confidence that even if they are higher in salience than the features related to subject variation, they remain less salient than coda /s/. First, the fact that there is virtually no research on potential dialectal variation in FP use in the Hispanophone world is itself a kind of evidence in support of their low salience. Indeed, the last hundred years of Spanish dialectology have identified huge numbers of regional differences in the way Spanish is used, and FPs are conspicuously absent from this literature. Another indication of the relatively low salience of FPs comes from the *Spanish in Boston* project. In addition to carrying out interviews, the project also includes an extensive sociodemographic questionnaire, a component of which asks whether participants think speakers from a number of specific Hispanophone locales sound different from each other. While there are many mentions of coda /s/ (as well as of other features like *voseo*, postalveolar fricatives, velarized nasals, voiceless vowels, *vosotros*, etc.) there is, in 192 questionnaires, not a single mention of FPs. At the same time, it is perhaps worth noting that some FP variants might be more salient than others in the contact setting under analysis. That is, while FPs may constitute a low salience site of variation overall, some types of FPs may be (to channel the work of Rácz) more cognitively salient under some circumstances. Specifically, the use of [ə] as an FP in Spanish discourse is likely more cognitively salient than the use of [a], as the former has a very low probability of occurrence in non-contact settings. Interestingly, as we will see in a moment, it is the latter of these two, [a], that is edging out [e] as the preferred FP of the U.S. born speakers.

6 Results

Numerous differences emerge between the U.S. born speakers and their recently arrived counterparts. Let us start with variation in FPs. Figure 1 below shows speakers' rates of use of [e], [a], and [ə] as vocalic nuclei of FPs. In the 30 and 44 FPs they respectively produced, Emilio and Pascal (the recent arrivals), vastly prefer [e] to [a] and essentially never use [ə]. Eduardo and Priscilla, in contrast, rarely use [e]. In their 29 and 110 FPs, respectively, the preferred vowel is [a], followed by [ə]. Chi-square tests assessing inter-speaker differences in the distribution of FP vowels within each geographically defined group return significant results: For the Salvadoran data, X^2 = 29.2 (df = 2, p <.001) and for the Puerto Rican data X^2 = 144.6 (df =2, p <.001). An additional, complementary set of differences emerges at the acoustic level. See Figure 2.

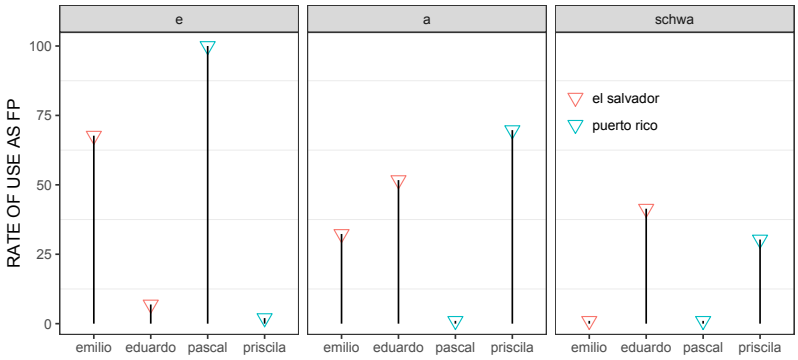

Figure 1: Rates of use of [e], [a], and [ə] in phonological FPs.

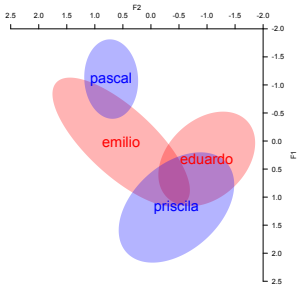

Figure 2: FP ellipses for the four speakers in the study.

In the figure above, each speaker is represented by an ellipse delineating the distribution of vocalic nuclei in acoustic space, according to normalized midpoint F1 and F2 of their FP tokens. The acoustic data reinforces the segmental results, further strengthening the finding that the U.S. born speakers prefer to use central vowels in FPs. When F1 and F2 are considered simultaneously via MANOVA, Eduardo significantly differs from Emilio (F = 38.1, df = 2 p <.001) and Priscilla differs from Pascal (F = 458, df =2 p <.001)

Now let us consider several additional variables at once. Figure 3 shows rates of subject pronoun use, rates of preverbal subjects (for subject pronouns alone and then separately for non-pronominal subjects), and rates of coda /s/ deletion. Among these four features, coda /s/ stands out. While at least one significant difference emerges between the U.S. born and recent arrivals for the first three variables, no such differences are observed for coda /s/ deletion. With respect to pronoun presence/absence, Priscilla significantly differs from Pascal (X^2 = 14.7 df =1 p <.001): she has a pronoun rate of 61 percent (based on her usage of 144 pronouns in 236 sites of variation) compared to his 42.1 percent (78 of 185 sites). In terms of subject pronoun position, Eduardo differs from Emilio (X^2 = 10.4 df =1, p <.001) and Priscilla differs from Pascal (X^2 = 7.5 df =1, p <.01). In each case, the U.S born speaker displays an overwhelming preference for preverbal pronominal subjects: Eduardo's rate is 98.2 percent (53 of his 54 subject pronouns occur preverbally) compared to Emilio's rate of 78.7 percent (59 of 75 tokens). Priscilla's pre-verbal subject rate is a

categorical one hundred percent (144 of 144 tokens) compared to Pascal's 94.9 (74 of 78). With respect to the more general subject position variable (from which subject pronouns are excluded), we observe a significant difference between Eduardo and Emilio (X^2 = 12.8 df =1, p <.001) and a nearly significant difference between Priscilla and Pascal (X^2 = 3.2 df =1, p <.07). Here too the U.S. born speakers strongly prefer preverbal subjects: Eduardo's rate is 85.2 percent (23 of his 27 non-pronominal subjects occur preverbally) compared to Emilio's rate of 45.1 percent (26 of 59 tokens). Priscilla's pre-verbal rate for non-pronominal subjects is 88.9 percent (40 of 45 tokens) compared to Pascal's 74.6 (38 of 51).

When it comes to /s/ deletion, differences like the preceding are not to be found. In 75 tokens of coda /s/, Emilio deletes twelve, for a rate of 16 percent. This does not significantly differ (X^2 = 1.01 df =1, p <.31) from Eduardo's deletion rate of nine percent (seven of 75 tokens are deleted). Pascal deletes 53 of his 75 coda /s/ tokens, for a rate of 70.6 percent. This does not significantly differ (X^2 = .12 df =1, p <.72) from Priscilla's deletion rate of 68 percent (on 51 of 75 tokens). Eduardo's and Priscilla's respective similarity to Emilio and Pascal, as well as their differences from each other, is further illuminated by examining /s/ at the acoustic level. Consider Figure 4, which plots non-deleted tokens of coda /s/ according to their duration and center of gravity. 25 tokens of onset /s/ have also been included to highlight how syllabic position influences each speaker's treatment of this sound.

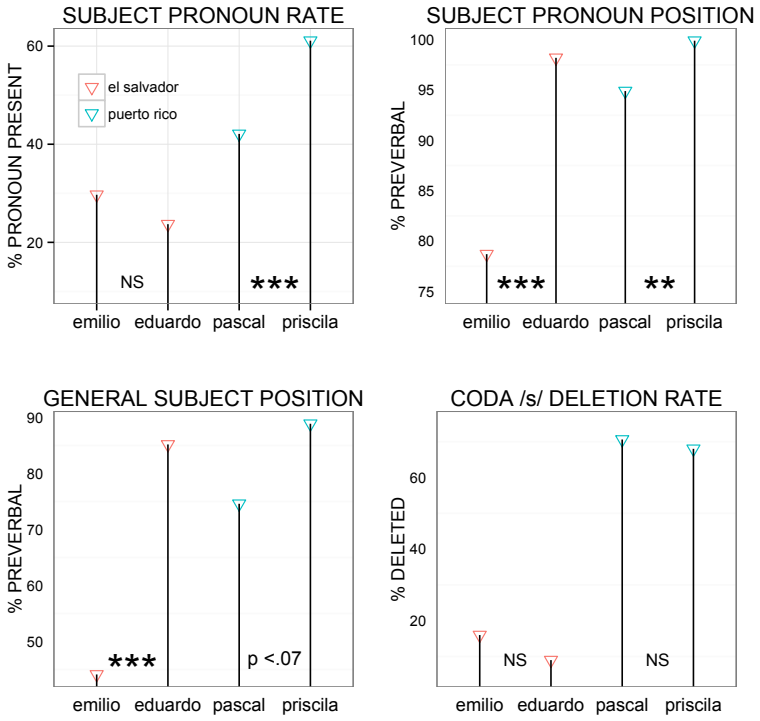

Figure 3: Rates of use for four variables in the study.

In Emilio's and Eduardo's data, there is considerable overlap in the ellipses that group tokens of coda and onset /s/. The statistics support what the visualization suggests: Neither of them demonstrates a significant duration difference on the basis of syllable position (for Emilio, t = -1.3, p <.21, and for Eduardo, t = .36, p <.71). In contrast, there is little overlap in the coda and onset /s/ ellipses for Pascal and Priscilla. For each speaker, /s/ duration in coda position is significantly shorter (for Pascal, t = -8.6, p <.001, and for Priscilla, t =-9.8, p <.001.) and COG is significantly lower (for Pascal t = -7.1 , p <.001, and for Priscilla, t = -11.4, p <.001).

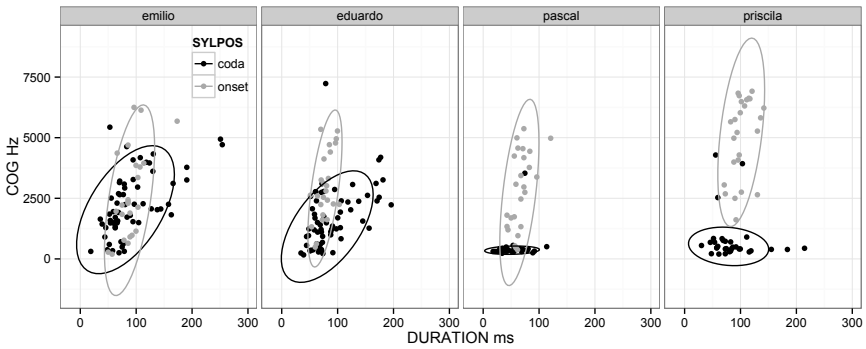

Figure 4: Coda /s/ by duration in ms and center of gravity in Hz for each speaker.

To summarize, both of the U.S. born speakers significantly differ from their recent arrival counterparts by strongly preferring (a) centralized vowels in FPs and (b) pre-verbal positions for pronominal as well as non-pronominal subjects. Additionally, Priscilla demonstrates a significantly higher rate of subject pronoun use than Pascal. In contrast, no differences between U.S. born-recent arrival pairs emerged with respect to rates of coda /s/ deletion. At the acoustic level, Emilio and Eduardo showed less sensitivity to syllable position as constraint on their production of /s/ than did Priscilla and Pascal, each of whose production of /s/ was significantly shorter in duration and lower in COG in codas than onsets. These results present a complex picture: In a contact setting arguably characterized by change, Eduardo's and Priscilla's treatment of several variables both differentiates them from and links them to Emilio and Pascal. Where differences are observed, they are broadly indicative of convergence of English, whose speakers strongly prefer central vowels in their FPs, preverbal subjects, and overt subject pronouns. Indeed, in their treatment of these variables, Eduardo and Priscilla are more like each other than Emilio and Pascal. However, with respect to /s/ they, as Priscilla might say, "speak like Salvadorans and Puerto Ricans". This is despite the fact that English offers an alternative model, namely, the systematic retention of /s/ in coda position. Unlike the other features, /s/ appears to be resistant to the influence of English norms.

7 Conclusion

The American television personality Fred Rodgers is well known for his educational program *Mister Rodgers' Neighborhood.* On the show, he occasionally sang songs intended to help children better understand themselves and the world around them. One such song, titled *Everything Grows Together* begins with the following line: "Everything grows together, because you're all one piece. Your nose grows as the rest of you grows because you're all one piece." As the song continues, the list of body parts that grow in concert with each other expands, eventually including toes, fingers, ears, hands, arms, and more. It is worth asking whether this simple lesson, that our numerous body parts change in concert as we grow up, can shed any light on the nature of linguistic variation and change. When it comes to our probabilistic linguistic competence, are we all one piece? That is, do sociolinguistic variables cohere in a unified whole? And, if usage in one variable changes, do the others change in concert?

The results presented here suggest that linguistic variables differ from noses, ears, and toes. While some do indeed appear to 'grow together' under the influence of language contact, others are more autonomous. More precisely, the preceding results suggest that in a setting characterized by language contact, the fate of socio-linguistic variables is mediated by salience. In the present study, four lower salience features have shifted in parallel, leaving the use of a high salience variable largely unchanged. The explanation for the differences between the U.S. born speakers and their recently arrived regional counterparts likely lies in the fact that the former have been regular users of English as well as Spanish throughout their lives. But of more interest to the present discussion than the mechanism driving shifts in certain features is the apparent exceptionalism of /s/. What accounts for it? The answer offered here is that speakers' greater awareness of its social signaling potential differentiates it in the contact setting. While we may expect shifts in pauses, pro-

nouns, and constituent order to go unnoticed, divergence from widely presumed regional norms in the production of /s/ very likely will not. Indeed, as a means for linguistically constructing (and maintaining) a Puerto Rican or Salvadoran identity, especially in a contact setting, /s/ packs a bigger punch. Further investigation of the themes of covariation between variables, the coexistence of coherence and bricolage, and the outcomes of language contact, would undoubtedly be enriched by an appreciation of the variable salience of linguistic forms.

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