Dos naranjas or doh naranjah
A study of coda-s variation in Buenos Aires Spanish

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Spring 2013

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Abstract -

Buenos Aires Spanish (BAS) is distinctive due to characteristics such as the use of the second person singular pronoun vos as opposed to tú and the alternation between /ʒ/-/ʃ/ (voiced and voiceless palato-alveolar fricatives) as realizations of Castilian /ʎ/. It is also one of several dialects of Latin American Spanish which exhibits significant variability in the articulation of /s/ in coda position. Variability in /s/ has been studied extensively in dialect regions such as the Hispanic Caribbean, but has received less attention in studies of Argentine Spanish. The detailed variable realizations of /s/ differ considerably across dialects. Much of the previous research on this variable has focused on three possible realizations: [s, h, ø]. This study will also consider an additional intermediate fricative realization that may involve both lingual and laryngeal constrictions. The tokens are gathered from sociolinguistic interviews and word-list readings with Buenos Aires natives. Generally, /s/ realization is affected by social status, gender and age, and the historically standard [s] is more common among women and people of higher status. This study will thus provide a phonetically accurate description of contemporary BAS, and will illuminate the social evaluation of the various realizations.
Chapter One

I. Introduction

The Spanish language has been my field of interest for approximately ten years and my experiences with the language have been nothing but fruitful. As the years progressed, I noticed that my *madrileño* friend had an “accent” in comparison to the Mexican or Bolivian exchange students at school. One can say that my curiosity began with intuitional dialectology and later, with a college experience and with the opportunity to study abroad I chose to live and study in two extremes of the Hispanic dialectology world. During my first semester in Buenos Aires, Argentina I was exposed to a variant of Spanish that I did not even know existed. I was fascinated by how different the *porteños* speak from the Spanish I was learning in the United States. I quickly noticed that the region was not only different culturally, but also with regards to its lexicon and phonology. By the end of the semester, saying *colectivo* for bus and pronouncing the orthographic “y” and “ll” as the voiceless palato-alveolar fricative (/ʃ/) became second nature. Three weeks later I found myself in the heart of Madrid surrounded by a group of young adults who wanted to rid me of my Argentine intonation and phonology. Five months later I was saying *tío* rather than *boludo* and conjugating the simple past tense in its compound form. At the same time, I was finishing up two courses on Hispanic Dialectology and Sociolinguistics and Applied Spanish Phonetics and Phonology in which I completed two brief studies that discussed the phonetic features and their variations of Madrid and Buenos Aires.

Upon my return to New York City, this project came about after a few discussions with my advisor regarding his previous work. Finally, I expressed an interest in studying a principal phonetic feature of Buenos Aires Spanish with the goal of bringing a new analysis to the field.
II. Background

Buenos Aires Spanish (BAS) has many distinctive linguistic features: zheísmo, the second person singular pronoun vos and complex intonation patterns. Yet, even more interestingly, there is the treatment of /s/, which is a key phonetic feature of all dialects of Spanish because of its commonality. Many studies that investigate Spanish and its /s/ realizations focus on deletion and aspiration (Cedergren 1973; Kaisse 1996; Erker 2010; Lipski 1999; Hernández-Campoy 2002, Fontanella de Weinberg 1974, Guy 1981); however, I find there to be a much richer analysis revealed by looking at the full range of possible /s/ realizations. These deletion studies have commonly presented their results through the analysis of varying social factors. This current study aims to investigate social variation in BAS in the use of the following /s/ realizations: /s/, /h/, /∅/ and /ʔ/. By using sociolinguistic interviews and word-list readings, Buenos Aires natives were recorded and their speech analyzed to locate where the social variation lies and in which direction it is heading. Native speakers of BAS are the crucial pieces to the puzzle that is this study. They formulate the corpus of the experiment and they also act as the representations of the synchronic linguistic situation in Buenos Aires - that is to say that the porteños of today represent the habitual speech going on in that region of the world. Moreover, through analysis of actual Buenos Aires speech, we may be able to see results of ongoing changes or perhaps the beginning of a new linguistic variation. Now, for clarification purposes, when referencing ‘Buenos Aires’, it is referring to not only the capital of the city but also the surrounding provincial area.

John M. Lipski (1999) and Antonio Quilis (1997) provide the essential background to this study – generalizations regarding the treatment of /s/ in Spanish. In general terms, Quilis discusses aspiration of /s/ in Spanish by stating, “… cuando el fonema /s/ se encuentra en
posición silábica postnuclear, no se pronuncia como [s], sino que: a) se aspira, realizándose como una fricative laringea o faríngea, [h]: [dóh] dos, [éhte] este, [pêhka] pesca, [mîhmo] mismo, [ehtámoh kansáoh] estamos cansados, etc. b) se pierde, abriendo las vocals en algunas zonas, como la Andalucía Oriental: [gáto] gato, [gátɔ] gatos, [tjéne] tiene, [tjénɛ] tienes” (58). We should expect to see aspiration of /s/ in syllable final positions, whether word-internal or word-final. Lipski’s generalization rule applies to both singular and plural number markers in nouns, adjectives and verbs.

Following this information, Lipski writes in more detail on the topic of /s/ weakening. He investigates generative rules for word-final /s/ reduction and word-initial /s/ reduction¹ and he reports that prevocalic syllable-final /s/ reduction occurs without regard to the following segment (199). This will later become an interesting piece of my study because we will analyze the data set according to multiple features, one of which will be different following segments. While Lipski discusses initial /s/ reduction (i.e. [lahemana] la semana), he states that in Spanish, this phenomenon is particularly responsive to two linguistic factors: the effect of word boundaries in syntax and connected speech or “fast-speech”. Most importantly, Lipski states “… one of the diagnostics of the proposed P₁ (the previously mentioned effect of word boundaries) rules is insensitivity to pause (and in general, to rate and register variation)” (200-01). Thus, Lipski’s work shows an important notion in a sociolinguistic study – speech register. This too, will play a crucial role in the analytical process of this project. Lipski expresses the following:

“The weakening of syllable and word final /s/ to [h] and ultimately to [∅] is frequent in Spanish, and permits accurate delimitation of dialect zones in Spain and Latin America. Although /s/-reduction (SR) is a highly ramified process with

¹ Word-initial /s/-reduction can occur is regions of Colombia, Andalusia, New Mexico and
considerable sociolinguistic, regional and idiolectal variation, the broad outlines are clear. Both historically and synchronically, /s/ weakens to [h] in preconsonantal contexts” (198).

After a further discussion of the background of the BAS phonetic system, this study will take Lipski’s notion of sociolinguistic variation and use it as the basis for analyzing /s/ in today’s speech community of Buenos Aires.

III. Brief History of Buenos Aires Spanish

As a country, between the latter ends of the 19th and 20th centuries, Argentina was in a state of unification and modernization. Fontanella de Weinberg describes the years circa 1880 as “un acelerado proceso de cambios económicos, sociales y demográficos, que tienen su centro en la región litoral y particularmente en la zona bonaerense” (131). Fontanella denotes these changes as important because they all fall within the realm of sociolinguistic studies. Yet the most relevant historical movements to this current study are those that changed the social aspects of Buenos Aires. The society was transforming in that it was receiving a multitude of immigrants, which in turn lead to linguistic complexity. The newly arrived foreigners landed in a place that was urbanizing and unifying itself simultaneously. This array of changes set the stage for both social variations in the Buenos Aires community as well as linguistic contact. Now, as Buenos Aires is a central connection between Latin America and the world, these cases of social variation and language contact in Buenos Aires continue today.

Due to Spanish’s immense range of contact points with other cultures and other languages, variation is an inevitable characteristic of the Spanish-speaking world. Language variation and change has a multitude of causes, but one of these is often language contact.
Speakers are constantly in contact with others and these other people are not necessarily from the same speech community. The Spanish language is subject to vast variation all across the world because of its wide geographical placement and the social variants that exist within the countries, cities and interpersonal units. Alex Grijelmo discusses a topic of the Spanish language range when he writes,

“El español corre por las venas de 21 países que lo necesitan para vivir sin contaminaciones ni células enfermas, no como la lengua franca en que otras naciones han convertido al inglés, sino como lengua materna, no una lengua aceptada para los negocios sino asumida con los sentimientos. Y así llegan las palabras hasta el corazón de cada uno de nosotros cuando alguien las usa con su más hondo espíritu” (151).

Grijelmo presents, in opposition to language contact, a strong yearning for the purity of the Spanish language. Grijelmo hypothesizes that language contact will result in sick cells as if they are the cancerous cells of a human. Yet, Grijelmo exhibits a prescriptive point of view with regards to the Spanish language and this study aims to challenge that idea with a more descriptive framework.

In today’s world, we have Spanish playing a role all across the globe. Variation is inevitable and trade, media, geography, etc. all lead to contact and change. These differences can occur in, although they are not limited to, cross-linguistic boundaries such as Spanglish in places like Puerto Rico and New York City and the “Portuñol” on the Uruguay/Brazil frontier. And variation also occurs within smaller contexts, such as a monolingual community whose phonetic productions vary socially.

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2 For the purposes of this study we can define “speech community” as a group of people who speech is mutually intelligible.
Previous studies of BAS provide us with a clear picture of the social differentiation of Spanish within the city of Buenos Aires. For example, Fontanella de Weinberg shows that the voiced palato-alveolar fricative, /ʒ/, presents two socially related variants, which speakers use at systematically different rates according to their education level, age and sex. She showed that younger women with higher education produced more voiced fricatives (/ʒ/) than voiceless fricatives, which are represented by the symbols /ʃ/ or /š/. As for males, their overall production rates for the voiced fricative are low, yet similarly to the women, the younger males with higher education have higher production rates. Fontanella de Weinberg also discusses her experience with the production of /s/ in Buenos Aires. She writes, in strong correlation with this project, “Esta situación [the aspiration ([h]) and deletion of /s/] se ha prolongado hasta el presente en que el rasgo continúa en variación en la región. Actualmente, en posición preconsonántica interior de palabra existe un marcado predominio de realizaciones aspiradas, aunque con una gran variación en su articulación, condicionada por la vocal que le precede y la consonante que le sigue” (150).

The production of /s/ in Buenos Aires has never been stagnant and to this day we find social variation among its realizations. Specifically, Fontanella de Weinberg refers to a variant (aspiration) that is phonetically conditioned by the following parameter: VsC. This investigation will certainly consider this context, but it will also expand the conditioning parameters by becoming more specific and referring to vowels, pauses and different consonant manners in the following context. In order to do so, we shall discuss the general phonetic system of BAS so that we can more richly analyze the specific realization of /s/.
IV. Features of BAS

Within the extensive realm of the Spanish-speaking world, the Buenos Aires dialect holds a prominent position in overall Spanish dialectology. Although Argentina as a country has played a large role in Spanish regional and dialectal studies, it displays considerable internal dialect variation within its borders. According to Manuel Alvar, the director of the series “Manual de dialectología hispánica”, Argentina is divided into five dialectal regions. Of these five regions we will only take note of the litoral (the majority of the province of Santa Fe, parts of Entre Ríos and the province of Buenos Aires). Typically, from the perspective of the exterior Spanish-speaking world, the litoral region is prominent in that it is Argentina’s port for international commerce and serves as the model for what others perceive as the Argentine speech style. This study does not aim to speak on the debate of language prestige in the Spanish-speaking world; rather it closely focuses on the porteño dialect and the specific phonetic feature /s/.

In the existing phonetic literature, there exist numerous studies about the Spanish varieties of Argentina and Buenos Aires. To name a few important authors, the existing literature on general dialect features includes initial works by Manuel Alvar, John M. Lipski, Francisco Moreno Fernández, Antonio Quilis and María Beatriz Fontanella de Weinberg. The following tables were derived from three sources in order to provide a wide and general schema for the specific phonetic aspects of BAS. Fernández published the following table:

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3 Fernández, 339
### Table 1.

<table>
<thead>
<tr>
<th>Rasgo</th>
<th>Ejemplo (with IPA transcription)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tendencia al alargamiento marcado de las vocales tónicas</td>
<td>Imperativos (tomá, vení, etc.)</td>
</tr>
<tr>
<td>Yeísmo con pronunciación tensa</td>
<td></td>
</tr>
<tr>
<td><strong>Tendencia a aspiración, asimilación y pérdida de /s/ en posición final de sílaba</strong></td>
<td>[mihmo], [bahko]</td>
</tr>
<tr>
<td>Tendencia a la pérdida de –d y de –r</td>
<td>[berðá], [komé]</td>
</tr>
<tr>
<td>Tendencia a la pérdida de –d-, especialmente en –ado</td>
<td>[compráo]</td>
</tr>
<tr>
<td>Aspiración faríngea de /x/</td>
<td>[kaha]</td>
</tr>
<tr>
<td>Pronunciación tónica de pronombre átonos enclíticos</td>
<td>Representándolá</td>
</tr>
</tbody>
</table>

In John Lipski’s chapter on BAS, he recalls six features regarding general Argentine Spanish and they are represented in Table 2:

### Table 2.

<table>
<thead>
<tr>
<th>Rasgo</th>
</tr>
</thead>
<tbody>
<tr>
<td>/n/ final de palabra es alveolar</td>
</tr>
<tr>
<td>Las líquidas finales de sílaba rara vez están sometidas a neutralización</td>
</tr>
<tr>
<td>La /d/ intervocálica no cae en la mayor parte de Argentina</td>
</tr>
<tr>
<td>La /č/ africada casi nunca se pierde sus elementos oclusivos</td>
</tr>
<tr>
<td><strong>La /s/ final de sílaba se debilita o se elide</strong></td>
</tr>
<tr>
<td>La entonación del español de Argentina y los patrones circunflejos de Buenos Aires</td>
</tr>
</tbody>
</table>
Next, we take a look at a third source* by Manuel Alvar.

Table 3.

<table>
<thead>
<tr>
<th>Rasgo</th>
</tr>
</thead>
<tbody>
<tr>
<td>/s/ - sibilante predorsodentoalveolar convexo fricativo y sordo</td>
</tr>
<tr>
<td>El žeísmo con ensordecimiento parcial o total</td>
</tr>
<tr>
<td>/r/ - vibrante</td>
</tr>
</tbody>
</table>

Fernández mentions its aspiration, assimilation and deletion, Lipski makes note of deletion of syllable-final /s/ and Alvar presents a more acoustic statement. The Spanish /s/ and its variants clearly play major role in Hispanic linguistics and we can see this when Fernández writes,

“… vamos a encontrar una tendencia al debilitamiento de las consonantes en posición final de sílaba, protagonizado, una vez más, por la estrella de la dialectología hispánica: la /s/ implosiva. Vamos a encontrar aspiraciones de ese (lihto ‘listo’), asimilaciones a la consonante siguiente con distinta intensidad (dijuhto ‘ disgusto’) o pérdidas completas” (338).

Fernández says it himself; the /s/ is the star of the Spanish language. One might think that major factors of dialectal differentiation come from lexical items and morphosyntax; but these terms refer to broader themes. The /s/ is a phonetic element of the language and phonetic differences are truly what create different sound perceptions. In fact, momentarily digressing from the /s/, the recognition of dialectal differences can be based off the perception of the different acoustic properties of vowels. Consider, for example English in the United States; a southerner

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* This ultimate chart was derived from a reading of Alvar’s Manual de Dialectología. El Español de América. The previous two tables were taken directly from the texts and only slightly modified. (Alvar)
acoustically perceives a New York City native differently primarily due to vowel qualities; and thus, social variation is a rampant feature and is not limited to the Spanish language.

V. Social Variability

Social variation is found in all societies and in all languages. In fact, William Labov has been quoted to state the following.

“The existence of variation and heterogeneous structures in the speech communities investigated is certainly well-established in fact. It is the existence of any other type of speech community which may be placed in doubt… We have come to the realization in recent years that this is the normal situation – that heterogeneity is not only common, it is the natural result of basic linguistic factors. We argue that it is the absence of style-shifting and multi-layered communication systems which would be dysfunctional” (Romance Philology, 51)

Phonetic features of a language not only differ in acoustic properties but also in social interpretations. For example, the alternation between the voiced palato-alveolar fricative /ʒ/ and the voiceless palato-alveolar fricative /ʃ/ is acoustically differentiated only with regards to voicing, or vocal fold vibration; however, it is known that the members of higher classes (economic and educational) and women generally produce /ʒ/ at higher rates than the lower classes and men. This result can be seen in the previously mentioned study by Fontanella de Weinberg and is, indeed, typical of the social distribution of variables in many speech communities. The correlation between the use of certain variables and the social status of individual speakers is commonly referred to in sociolinguistics as ‘social stratification’; some

varieties of language are accorded greater prestige, and these varieties figure prominently in the style shifting to which Labov refers. Thus, linguistic heterogeneity and differential evaluations of social variation in language are the most common, perhaps universal, pattern of societies worldwide.

The study of prestige varieties and sociolinguistic varieties go hand in hand. This is to say that through the study of variation, the prestige feature of a linguistic system can be extracted; however, this is not to say that a prestige feature becomes dominant or persists indefinitely in a speech community. The authors of Contemporary Linguistics say, “Another aspect of the naming issue is that many non-linguists reserve the term language for what linguists might call the standard variety – the language taught in school, used in formal writing, and often heard from newscasters and other media figures who wish to project authority (or at least competence)…” (486). This leads to the question – is the aspiration or full production of /s/ a part of standard BAS? The answer - the complete production of the voiceless alveolar fricative, [s], in any position is considered standard due to the reasons stated above. In Spanish, the orthographic representations of /s/ are extremely abundant and in fact, grammatically required in certain contexts. Professors and teachers typically speak at slower rates and consciously avoid running speech errors. On the contrary, one can say that construction workers and waste management staff may skip over their /s/ realizations, straying away from the standard [s] because their occupation places them lower on a social scale.

Hugo Kubarth (1986) conducted an investigation that he entitles, El idioma como juego social. In the beginning of his paper, he presents seventeen questions that were asked to his study’s corpus of informants (190). Of these questions, I present those that are most relevant to this study.
1. En mi país hay diferencias de pronunciación que podrían calificarse con la escala siguiente: 
pronunciación afectada, esmerada, normal, popular y vulgar. ¿Existe lo mismo en Buenos Aires?
3. ¿Cómo habla un médico?
4. ¿Cómo habla un chofer de ómnibus?
5. ¿Hay algún barrio en Buenos Aires donde se hable especialmente mal?
8. ¿Cómo habla Ud. en su trabajo?
9. ¿Cómo habla Ud. en casa?
16. ¿Qué es ‘comerse las eses’?

His project aims to socially evaluate BAS from the perspective of its native speakers. Kubarth later states, “Volviendo a considerar los resultados de las preguntas 2 a 4, en su totalidad, podemos decir que justifican nuestra escala social provisional. No solamente hay conciencia de diferencia en el habla sino también capacidad de relacionarlas con las estructuras de la sociedad bonaerense” (192-3). It is possible to postulate that a Buenos Aires native living in a wealthy neighborhood will think poorly of an immigrant Bolivian taxi driver’s speech style. A relationship can be seen in the reverse as well, based on Kubarth’s study, that even the lower class taxi driver will be cognizant of the social stratification of BAS. Within the citywide and provincial boundaries of Buenos Aires, there are numerous neighborhoods with varying social definitions. Kubarth writes:

“Una señora del “Barrio Norte”, la zona considerada como más elegante de Buenos Aires, se lamentaba de que su personal, por falta de educación, no conociese el plural. Durante meses y meses se veía obligada a corregir a sus empleadas las listas de compras, que no traían la tan elemental ‘ese’ del plural.

Question 2: Teniendo en cuenta la escala anterior [from Question 1], ¿cómo le parece el habla de un empleado medio de banco?; Questions 3 and 4 are listed above.
‘Dos naranjas’, les decía, no ‘do naranja’ era lo que tenían que traerle del mercado.

Pero, con o sin la pronunciación correcta del plural, nunca dejaron de comprar lo que se les había pedido. No hay duda de su conocimiento del plural, a pesar de las divergencias en la realización fonética del mismo según el origen social” (188).

Functioning within the realm of my study, Kubarth provides an impeccable example of the varying realizations of /s/ in BAS. Here, he brings attention to the fully produced [s] and then its complete deletion [∅]. This refers back to Kubarth’s list of questions and more specifically, question sixteen. The social distinctions in the above example focus on economic class and education level and we only know the occupation of one side of the scale. Similarly, we do not know the ethnic origins or education levels of either informant. However we do know her place of residence, Barrio Norte, an affluent area in Buenos Aires. Kubarth’s descriptive attitude towards his study is exactly what this study tries to emulate.

Looking at another study that takes a more statistical approach with regards to the /s/, we find Henrietta Cedergren’s study on Panamanian Spanish (1973). By taking a look at the final data set of the study, we see a complex coding system where the use of [s] and [∅] are examined with respect to four social class categories (I-IV), three following segments (consonant, vowel, pause) and five morphological categories (monomorph, verb, determiner, adjective and noun).

She presents this data and she ultimately states that, by looking at her social class divisions, class I (the highest) has the lowest deletion percentage (26.8%) and class IV (the lowest) has the highest percentage (67.8%). Her study agrees with the general consensus that higher social classes have more conservative speech styles, in this case this means they hold on to their /s/’s much more. Cedergren also analyzed the context that follows the /s/, in which we can see that the greatest percentage of /s/ deletion (unanimous throughout the four social classes) comes after
pauses. The close runner-up is the vowel, which is also consistent throughout the social classes. The production of /∅/ before a pause seems to stray from expected results but this could be due to statistical variation in her data. This is to say that Cedergren’s data set has less tokens for /s/ before pause in both verbs and determiners for all four social classes.

There are a few themes that can be derived from Cedergren’s data set. The /s/ in the Spanish language is extremely common as it can be a used as a plural marker, a part of a root and/or to represent second person singular verb conjugations. Due to its commonality, /s/ becomes subject to connected speech processes, especially elision. Through conversational context the speaker and listener can understand when the object should be pluralized, for example. Also, /s/’s in Spanish can be deleted due to word-stress. Spanish is a stress-timed language and it is important for speakers to mark stress (much more important than actual /s/ production). Looking at some possible word examples from Cedergren’s data set (ménos, los cuéros, buénos, amígos) we can see that the /s/ never falls on a stressed syllable. For this reason, the speaker’s attention focuses on syllable stress and loses the need to pronounce the /s/.

Moreover, the /s/ will naturally sit between syllables. We can dissect the following phrase: *Nosotros vamos a dormir*. The stresses in that phrase are *nosótros vámos a dormír*. It would be very common for both final /s/’s to be deleted in this phrase, which is also dependent on regional dialects and social class; however, it seems that many Panamanian speakers would delete these /s/’s.

Additionally, the morphological category comes into play in this analysis. The data set shows that verbs see the lowest amount of /s/ deletion. This is due to the weight that /s/ carries when conjugating a Spanish verb. If someone wants to say *tú tienes* but instead says *tú tiene*, this

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7 Note that the accents represent stress and not Spanish orthography.
probably would not lead to a misunderstanding. Additionally, it is important to note that in Spanish is it not common to state the subject before the verb (yo, tú, vos, usted, él, ella, vosotros, nosotros). These subjects are only used for emphasis and clarification. Thus, if someone says tiene (usted, él, ella) but they mean to convey the second person verb form, the listener may be confused without contextual background. In Cedergren’s project the highest deletion rates come from nouns and monomorphemes. I propose that this is due to the high frequency of these words.

The same can be said about adjectives and adjective/noun phrases. The more common a word in a given language, the more likely variation is to occur.

Lastly, variation among social classes can arise from the grounds of education levels. It is often the case that these two categories (social class and education level) go hand in hand. This is to say that typically, a person who belongs to higher economic/social class should have received a higher level of education, thus creating a higher speech register for said person. In this case, this could mean that the speaker does not favor /s/ deletion. It is common in sociolinguistic studies to see social gradients that parallel linguistic phenomena where higher status informants produce more standard forms, for example.

The themes of stress importance and commonality are consistent with a point that Marcos Rohena-Madrazo writes in his 2011 paper, “Sociophonetic Variation in the Production and Perception of Obstruent Voicing in Buenos Aires Spanish”. He discusses a topic originally developed by William Labov – “change ‘from above’ and change ‘from below’” where a change ‘from above’ originates outside of the speech community and a change ‘from below’ is a random innovation. Yet, we can see younger, middle class females leading the change (Rohena-Madrazo, 7). This theory will be crucial to this current study because its hypothesis concurs with the “from below” mindset. Now, in Rohena-Madrazo’s study, he analyzed the /ʒ/-/ʃ/ alternation and
ultimately realized that the change in progress (previously discussed by Fontanella de Weinberg, 1978/1983) is almost, yet not fully complete. To be able to determine this, Rohena-Madrazo utilized the /s/ as a benchmark in his study. Since the Spanish language of today is said to have no voiced sibilants (/z/ or /ʒ/) but rather only the voiceless counterparts (/s/ and /ʃ/), the appearance of /ʒ/ in BAS was a strange phenomenon. Yet, today it is the retroactive change to the voiceless fricative that is most interesting. A primary point of Rohena-Madrazo is that in BAS the /ʒ/ - /ʃ/ variation exists yet the /z/ - /s/ alternation does not. In order to determine if the change in progress from /ʒ/ - /ʃ/ is complete, he compared production of /ʒ/ to that of /s/. He states, “The general results suggest that the devoicing of /ʒ/ has not yet been completed for the speech community as a whole, since /ʒ/ still shows higher voicing rates than the voiceless fricative /s/” (57). In more detail, Rohena-Madrazo discusses that for his younger middle class corpus, the /ʒ/ has been devoiced to have rates similar to /s/ (65). This is seen as evidence for a completed change in progress, yet not for the community as a whole. In a graphical representation, Rohena-Madrazo depicts the equivalence between /ʒ/ and /s/ in the middle class/younger group8 (65). The bar graph clearly shows that among the three other age/class groups, there still exist major voicing differences between /ʒ/ and /s/, thus reflecting a change in progress still advancing towards completion.

Rohena-Madrazo’s study allows us to better discuss social variation with regards to a phonetic phenomenon. His utilization of the /s/ in his study provides us with the information that the /s/ is subject to social variation and the variation may be lead by a certain social group. All of the previously mentioned studies in this field require a gathering of a corpus of informants. These studies depend upon specific methodological approaches for obtaining appropriate data.

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8 Rohena-Madrazo uses four age/class categories in the mentioned graph: upper/older, upper/younger, middle/older, middle/younger
For example, once Rohena-Madrazo gathered his array of informants, he created his social class divide based on the North – South divide that exists in the city of Buenos Aires. My study will need a set of methodologies and a social categorization system and this is discussed in the following section.

VI. Methodological Review

The methodological approach to this study lies at a crossroad of speech variety – the question of casual vs. careful speech. Casual speech is produced when two friends are having a conversation about their plans for the weekend or when young siblings are arguing over a toy. The subjects are not conscious about their speech style. Careful speech has the opposite idea: it occurs in oral readings, public speaking events, etc. In careful speech the subjects are aware of their speech and make the necessary adjustments to produce their ideal speech.9

The speech style of a typical interview, similar to that of a job, takes on a formal setting. Cursing and the use of the slang-like lexical items have been socially constructed as taboo for an interview setting. The sociolinguistic interview, which will be extensively utilized in this research, will produce this formal setting. Yet contrary to a job interview, this style of interview will present discussions on less formal topics. Although the atmosphere will be formal due to the one-on-one setting10 and presence of an audio recording device, the topics of conversation aim to be informal and relaxed. The goal of the sociolinguistic interview is to elicit long periods of

9 Lecture from Professor Davidson on December 3, 2012 in a class on Sound and Language; New York University.
10 Note that not all sociolinguistic interviews require a one-on-one setting. It is often a good idea to elicit conversation between multiple speakers.
connected speech. Ideally, the interviewer will ask questions that provoke the interviewee to respond comfortably. This is the archetype situation because this produces casual speech, or at least the closest example of casual speech without recording random conversations. Thus, the topics of discussion are the gateway to familiarity between the subject and the interviewer. So, the best way to open that gate is to discuss themes related to real-life events. Below I present a list of potential interview question utilized in this study. The reality is that a sociolinguistic interview may begin with a predetermined set of question; however it will probably (and hopefully) lead to a more casual conversation where the context of the interview will lead the discussion.

Potential sociolinguistic interview questions:

Table 4.

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) ¿Qué es lo que estudiás y cómo llegaste a estudiar ese tema?</td>
</tr>
<tr>
<td>2) ¿Has viajado mucho? Contame sobre el mejor viaje de tu vida.</td>
</tr>
<tr>
<td>3) ¿Cuando eras chico(a), quién era tu mejor amigo y por qué?</td>
</tr>
<tr>
<td>4) ¿Has estado cerca de morir?</td>
</tr>
<tr>
<td>5) ¿Cuáles son tus planes para el futuro?</td>
</tr>
<tr>
<td>6) ¿Cuál es tu parte favorita de Buenos Aires y porqué?</td>
</tr>
</tbody>
</table>

If the interviews ultimately become personal conversations, then the goal of reaching a speech style as close to casual as possible will be reached. Each recording used comes from an informant with whom I was personally acquainted before the start of this project. Thus, the

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11 Lecture from Professor Guy on September 13, 2012 in a class on Language Variation and Change; New York University.
interview sessions began with a semi-informal air, and “eliciting narratives”\textsuperscript{12} became easier due to the preset relationship between the interviewee and myself.

I would like to draw attention to the fourth question in the above list of potential interview questions. To draw out the optimal response, this question can be implemented towards the end of an interview, when the subject is usually more comfortable. Asking if someone has ever come close to death can produce a narrative that is not only personal, but also reflects a moment that had an impact on his or her life. In turn, this can allow for a casual and detailed account of an event. At this point, the interviewer can engage as a listener and create a more intimate conversation.

Again, if an interview provides for a few personal narratives, it is probable that enough data has been recorded. Because coda-s in Spanish is extremely common, a short recording can allow for numerous tokens. However, there is more to the methodical process within this study. For the final analysis, the development of a word-list\textsuperscript{13} was key to be able to acoustically delineate each realization of /s/ clearly. It includes 40 words/phrases all with the /s/ strategically placed. The /s/ can be seen in three positions: word internal, word final (plural) and word final (monomorphemic). Note that for analysis purposes, the final plural word category will be split into two separate subcategories: final /s/ of the article and final /s/ of the nominal. It can also be found before six following contexts: vowels, voiceless consonants, voiced consonants, sonorants, pause and verbal vos inflections. All of these contexts will be analyzed while incorporating the following four social variants: social class, sex, age, and speech style. Since sex and age are easily determined, the divisional focus here is due to social class and speech style.

\textsuperscript{12} Lecture from Professor Guy on September 13, 2012 in a class on Language Variation and Change; New York University.
\textsuperscript{13} Please see Appendix for the word list utilized in this study
Labov in his study on New York City English developed a categorical system for defining speech styles where A) represents casual and informal speech, B) represents an interview setting, C) represents a reading passage and D) careful speech through a word-list reading. As stated before, the two styles that will be analyzed in this study are B and D – interview style and word-list style. Speech style A is difficult to obtain because this category refers to how people speak while not under the influence of the observer. Finally, to keep the divisions in sets of two, category C was eliminated.

Questions of social class differentiation are not resolved with ease because of their complex variability, which is dependent on multiple factors such as: one’s geographic location, occupation and political and economic status. Clearly, a social variation study investigates the social statuses of the informants and thus, researchers must make some divisions between social class groups. This is where the challenges lie, in that a researcher cannot solely determine a person’s socioeconomic status based on pure observation, but neither can direct personal questions be asked of the subjects about certain sensitive topics, such as income. The solution to such a problem is to combine impressionistic observation and information derived from sociolinguistic interviews. Through the use of these two methods, a researcher can leave an interview with enough information to reliably assess the informant’s social status. For example, although not through sociolinguistic interviews, Labov’s study on r-deletion in New York City English took place at three clothing stores: Saks, Macy’s and Kleins. From left to right, these stores vary socially from high to low. Labov did not have to directly ask anyone from these department stores about their socioeconomic status. His observations allowed him to see that the Saks’ clientele belonged to a higher social class than Kleins’, with Macy’s sitting somewhere in

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14 Labov, William, “Social Stratification of New York City English”
between. Through the rapid anonymous survey, Labov obtained his data by asking the attendants of these stores about the location of certain items, when all along he knew the answers would include “fourth floor”. His study aimed to discover the social variation of /r/ voicing in New York City. His methodology was to ask the store employees his question and soon afterwards, write down their pronunciations. Labov’s challenge of determining social class differentiation was fairly simple due to its impressionistic nature.

If this observational methodology is utilized alongside an interview where the researcher asks questions that generate informational responses, a more clear social definition can be given to the informant. It is often the case that a researcher will ask about an informant’s place of residence, which is quite telling. In Rohena-Madrazo’s study of Buenos Aires Spanish, he divided his social classes by the geographic division of North and South. His informants provided their residential details and thus he was later able to determine that residents of northern Buenos Aires belong to a higher social class than those from the southern region. This study adopts Rohena-Madrazo’s method by interviewing each subject in his or her respective residential area. Many of the interviews took place in the homes of the subjects, rather than in an office or a neutral location. Not only does this easily provide social information to the researcher, but also it aids the informant in speaking more comfortably during the interview. The topic of area of residence is very illuminating in that a person may work in the wealthy neighborhood of Recoleta, but reside in the southern provincial area of Wilde, Bernal or Quilmes. The subjects are likely to interact more often with their neighbors rather than their coworkers; so their linguistic products should reflect those of the residential area. Since the areas and neighborhoods in the

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15 This methodology aims to achieve close to casual speech in that the informant is not aware of the linguistic study (Professor Gregory Guy, Language Variation and Change, Fall 2012)
southern part of Buenos Aires reflect lower class status, the North – South divide in Rohena-Madrazo’s study is beneficial to the current study.

It should not be understood that every area north of Buenos Aires capital demonstrates higher social status. A few informants from this study reside and work in the San Isidro and Beccar areas. These adjacent neighborhoods are located about a forty-five minute train ride north of Buenos Aires capital and it is in this neighborhood where we can see a mirror of the previously mentioned southern areas. Yet fifteen minutes farther north on the same train, we find ourselves in Tigre, which is a more affluent community because of its touristic appeal and waterway access. Just a little farther northbound, we arrive in the exclusive area full of private residential communities called Nordelta. In conclusion, Buenos Aires expresses its North-South divide on various levels. Within the capital city, the North typical shows higher-class status and yet the interior part of the northern province shows lower class status. Perhaps the binomial social class division in Buenos Aires is more of an interior versus exterior relationship, but for the purpose of simplicity the North versus South dynamic will be used to classify informants. To provide a more clear definition of the social classes involved in this study, a question regarding previous travel experiences provided useful information in that those who travel more often have to spend more money than those who travel less often. This information provides important economic details about the informants, which can later be related to their linguistic productions. Again, the expectation is that there is a clear relationship between the social characteristics of these subjects and their personal linguistic productions. In the next section, we will define and visualize the linguistic variants that are the focus of this investigation, the four realizations of coda-s: /s, h, ø, ?/.
VII. The Four Realizations of /s/

This study focuses on a fricative phoneme, which is defined by Peter Ladefoged and Keith Johnson as:

“(Close approximation of two articulators so that the airstream in partially obstructed and turbulent airflow is produced.) The mechanism involved in making these slightly hissing sounds may be likened to that involved when the wind whistles around a corner.” (14)

The Spanish language has a modest inventory of fricative sounds, which varies among its different dialects, but including variants such as: /f, ŋ, s, ʃ, ʒ, x, h/. The present study will solely focus on two of these fricative realizations (/s/ and /h/) also discuss elision and a possible additional fricative allophone, which we will represent as /?/.

i. /s/

With this definition in mind, we want to put a more detailed focus on the [s] in the word 

sigh or the in Spanish word sopa (soup). In order to create the whistle or wind-like sound that one perceives, the tongue blade must approach, but not physically contact, the alveolar ridge. As the egressive air flows out of the lungs and out the mouth, it is forced to pass through the minute opening generated by the two articulators, which are the alveolar ridge (passive) and the tongue front (active). Figure 1 provides a spectrogram image of a word where the /s/ is found in syllable coda position. The image comes from a production of the word hermanos (brothers/siblings) where the /s/ is found in coda-position and acting as a plural marker. We know this is an /s/ because of the high-frequency energy visible in the spectrogram. Proceeding the /s/ are vowels, an alveolar
flap and two nasals and not one of these phonemes has as much energy at so high a frequency as the /s/. The energy can be directly measured by darkness where the darker the image, the higher the energy. Because this is both a coda-s and a word final /s/, its duration is longer than it would be if were word internal. Nonetheless, throughout this study, an /s/ was coded if there were a focus of energy at high frequency levels. It is important to note that there is no low frequency energy evident in the production of /s/. This contrasts with what occurs in aspiration, as we will see shortly.

**Figure 1 -**

The phonetic symbol /h/ represents the sound that occurs in English as the pronunciation of the orthographic symbol ‘h’ as in the words help and hospital. Although the same
symbol is used in Spanish, the Spanish orthographic ‘h’ does not have a phonetic realization, in other words, it is silent. Words such as hospital (hospital) and hermano (brother) will have the following transcriptions – [ospitál] and [ermáno]. But some dialects of Spanish, including porteño, use an aspirate [h] sound as a variant pronunciation of /s/. Such an aspiration is a type of glottal fricative with egressive air flow and no vocal cord vibration. One way of understanding an aspiration is to think of white noise. The sound of an aspiration is the extremely weak equivalent of the white noise created by a television without a signal. Now, as a variant realization of /s/ in Spanish, the sound is identical, although usually with much shorter durations. Within this study, we will find aspirations of /s/ both word internally and word finally. As stated in Section I, the /s/ can be realized as a laryngeal fricative, /h/, in a multitude of words. Figure 2 illustrates an aspiration in the phrase los cueros (the leathers/hides).

Figure 2 -
iii. /ø/

The symbol /ø/ is not formally a phonetic symbol, because a formal representation for elision/deletion does not exist. This is more commonly referred to as a connected speech process where a segment that is elided is simply omitted from the overall phrase. To present an example of English elision, we will consider the word *opposite*. It is possible for the second vowel to be deleted, thus resulting in the following pronunciation: [apəsɪt] rather than [apəsɪt]\(^{16}\). The same idea applies for Spanish, where deletion/elision is a connected speech process. This is not to say that coda-s deletion cannot occur in a word-list reading because it is in “citation form”\(^{17}\). Figure 3 will show a deletion of coda-s within a word-list reading. The word shown is *colectivos* (*busses*) where the coda-s marks the plural. We can see, following the final vowel /ø/, some energy that appears similar to an aspiration. However, the informant was in fact taking in a breath of air at this moment in time.

![Figure 3 -](image_url)
iv. /ʔ/

Once again, the question mark is not a formal phonetic symbol and it is certainly not meant to be confused with the symbol for a glottal stop - /ʔ/. As a researcher, I regret to state that the specific acoustic qualities of this realization have not been fully determined. Based on pure impression, the following description applies. Within this study, the /ʔ/ realization is primarily found when the /s/ is proceeded by a vowel and followed by stops such as /d, t, b, k/. The /s/ transforms into what is possibly a new fricative involving both lingual and laryngeal constrictions. The laryngeal constrictions can be seen through the vertical striations low on the vertical Hertz (Hz) scale. These vertical markings do not necessarily equate to voicing yet some voicing can occur if the following stop is voiced. The quintessential word for this analysis is desde (since). Twelve of the fourteen informants who read a word-list produced the medial /s/ as [ʔ]. This new sound is determined, in this study, primarily by the presence of formant structures throughout the frication. In the word desde the /s/ is proceeded by a high-mid front vowel /e/, followed by a voiced dental stop /d/ which is then followed by the same vowel. We see that the formant structures of the initial vowel carry through the /ʔ/, discontinue for the duration of the stop and then regenerate for the final vowel. These formant structures that can be seen during the frication tell us that tongue positioning is happening during the production of this sound. The tongue, much like in fast speech, is thinking ahead into the following sounds. Since the Spanish /d/ is dentalized, the tongue is more or less already in position to obstruct the flow of air and then release back into the final vowel without having to move a large distance. Finally, we have frication coming up from the larynx with air passing through much like that of the previously discussed aspiration.
But, due to potentially both lingual and laryngeal constrictions, this medial /s/ is perceived differently than /h/. Figures 4 and 5, on the following page, demonstrate this hypothesis with the word desde. Figure 5 shows the format structures being tracked throughout the frication. A number of these variable realizations will be presented and discussed in the following sections in order to determine any variation that is influenced by social and/or linguistic features.
Figure 4 - 

Figure 5 - 

/ʔ/ frication with formants
Chapter Two

I. Results of multivariate analysis

In order to have found meaningful results in the patterns of variation displayed by multiple subjects in several different contexts in a data set whose total (N) equals 3,544 tokens, it was necessary to do a quantitative analysis using a multivariate methodology. The statistical program used here was Goldvarb Lion (Sankoff D., Tagliamonte S.A., & Smith E., 2012). Each token of coda-s found within the word list readings and the sociolinguistic interviews was coded for a series of independent variables described below (see Appendix for the full coding system used in this study). The Goldvarb program reads these codes and then runs an algorithm to calculate usage percentages and probabilities of occurrence of the dependent variable across the different independent variables; for example, the varying realizations of the dependent variable /s, h, 0, ?/ were coded for Goldvarb input as 1, 2, 3, 4, respectively, while the speakers’ age group was coded as Y or O (for younger or older). Each relevant token of coda /s/ in the corpus was therefore characterized by a string of such codes, one each for all the variables (or “factor groups”) being investigated. As an example, the coding string, 1pfBYFL, represents a /s/ followed by a voiceless consonant marking a plural nominal spoken by a young, lower-middle class female during a sociolinguistic interview. The point of this analysis is to see which realizations are favored by which speakers, and in which linguistic contexts. This can be seen by the higher or lower frequencies of occurrence of the variants, and by the factor weights calculated by the program; these are partial probabilities associated with each contextual factor, indicating the weighted likelihood of a given realization being used in that context or by that social group of speakers. In the following sections I present the data derived from this program.
II. Results for /s/

Table 5.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>% /s/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older (+30)</td>
<td>881</td>
<td>38%</td>
<td>.47</td>
</tr>
<tr>
<td>Younger (-30)</td>
<td>546</td>
<td>46%</td>
<td>.56</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>571</td>
<td>38%</td>
<td>.46</td>
</tr>
<tr>
<td>Female</td>
<td>856</td>
<td>42%</td>
<td>.53</td>
</tr>
<tr>
<td>Style</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D (word-list)</td>
<td>3001</td>
<td>55%</td>
<td>.73</td>
</tr>
<tr>
<td>B (interview)</td>
<td>543</td>
<td>38%</td>
<td>.45</td>
</tr>
<tr>
<td>Social Class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper-Middle</td>
<td>806</td>
<td>47%</td>
<td>.61</td>
</tr>
<tr>
<td>Lower-Middle</td>
<td>621</td>
<td>34%</td>
<td>.40</td>
</tr>
</tbody>
</table>

Table 6.

<table>
<thead>
<tr>
<th>Following Segment</th>
<th>N</th>
<th>% /s/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voiceless C</td>
<td>369</td>
<td>24%</td>
<td>.31</td>
</tr>
<tr>
<td>Sonorant</td>
<td>32</td>
<td>9%</td>
<td>.13</td>
</tr>
<tr>
<td>Pause</td>
<td>634</td>
<td>78%</td>
<td>.88</td>
</tr>
<tr>
<td>Voiced C</td>
<td>32</td>
<td>9%</td>
<td>.12</td>
</tr>
<tr>
<td>Vowel</td>
<td>360</td>
<td>73%</td>
<td>.88</td>
</tr>
<tr>
<td>Word Position</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>305</td>
<td>30%</td>
<td>.58</td>
</tr>
<tr>
<td>Article Plural Marker</td>
<td>49</td>
<td>19%</td>
<td>.36</td>
</tr>
<tr>
<td>Nominal Plural Marker</td>
<td>515</td>
<td>56%</td>
<td>.47</td>
</tr>
<tr>
<td>Monomorphemic</td>
<td>456</td>
<td>40%</td>
<td>.47</td>
</tr>
<tr>
<td>Vos conjugation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e. tenès)</td>
<td>102</td>
<td>51%</td>
<td>.62</td>
</tr>
</tbody>
</table>
The results in Tables 5 and 6 show that the full production of /s/ ([s]) was found to be significantly affected by all factor groups. That is to say that production of /s/ varies among all social factors (age, sex, social class and speech style and all linguistic constraints (following segment and word position). This was confirmed by running a “Binomial: Up and Down” analysis on the data set, which tested the effect of all linguistic and extra-linguistic factors, finding all of them to be significant. These results will be examined in the discussion section below, but generally speaking, they show [s] productions were more likely among younger, female, and upper middle class speakers, and in more careful styles (i.e. the word list). Among the linguistic factors, [s] is favored by following vowel or pause, and word internally, and finally in the vos conjugations of verbs. Note that the factor weights can be interpreted as follows: a value above .5 indicates an independent variable that favors the occurrence of the dependent variable, while a value below .5 disfavors it. Also, the farther above or below .5 the factor weight reaches, the more favorable (or disfavored) that factor is to the dependent variable.

The factor weights shown in the tables gave a very good fit to the data. This is displayed by the following scattergram, which provides a visual representation of a comparison between the /s/ realizations expressed in the analysis and the statistical model’s predicted result. The squares that lay closer to the line are closer to the program’s predicted result. Also, the bigger squares represent contexts with more data. Thus, the small squares located away from the line represent few tokens and do not detract much from the quality of the results.
**III. Results for /h/**

**Table 7.**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>% /h/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older (+30)</td>
<td>1038</td>
<td>44%</td>
<td>.53</td>
</tr>
<tr>
<td>Younger (-30)</td>
<td>430</td>
<td>36%</td>
<td>.44</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>614</td>
<td>41%</td>
<td>(.51)</td>
</tr>
<tr>
<td>Female</td>
<td>854</td>
<td>42%</td>
<td>(.50)</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D (word-list)</td>
<td>162</td>
<td>30%</td>
<td>.33</td>
</tr>
<tr>
<td>B (interview)</td>
<td>1306</td>
<td>44%</td>
<td>.53</td>
</tr>
<tr>
<td><strong>Social Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper-Middle</td>
<td>636</td>
<td>37%</td>
<td>.45</td>
</tr>
<tr>
<td>Lower-Middle</td>
<td>832</td>
<td>45%</td>
<td>.56</td>
</tr>
</tbody>
</table>

*Insignificant values*
Tables 7 and 8 show the results for the analysis of the occurrence of the aspirate [h] variant. In this case, unlike the /s/, not all the factor groups were found to be significant. Specifically, speaker’s sex (M or F) has no significant effect on the use of [h]. In fact, males and females virtually resulted with equal percentages. Among the other factors, older speakers, lower middle class speakers, and interview (more casual) style favors [h], as do following consonants, and plural articles.

In continuation, the scattergram below will show us a result that is less systematic than the /s/. This representation shows us a more sporadic result, in that the realizations of /h/ do not coincide quite as well with Goldvarb’s predictions, indicating that the usage of [h] is not as regular throughout the population as we found for [s]. The results here are neither wrong nor insignificant, but rather different. This difference will be discussed in section VI.
IV. Results for /ø/

Table 9.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>% /ø/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older (+30)</td>
<td>398</td>
<td>17%</td>
<td>(.49)</td>
</tr>
<tr>
<td>Younger (-30)</td>
<td>199</td>
<td>17%</td>
<td>(.51)</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>278</td>
<td>19%</td>
<td>.54</td>
</tr>
<tr>
<td>Female</td>
<td>319</td>
<td>16%</td>
<td>.47</td>
</tr>
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<td><strong>Style</strong></td>
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<td></td>
<td></td>
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<tr>
<td>D (word-list)</td>
<td>45</td>
<td>8%</td>
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</tr>
<tr>
<td>B (interview)</td>
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<tr>
<td><strong>Social Class</strong></td>
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<td></td>
</tr>
<tr>
<td>Upper-Middle</td>
<td>229</td>
<td>14%</td>
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</tr>
<tr>
<td>Lower-Middle</td>
<td>368</td>
<td>20%</td>
<td>.56</td>
</tr>
</tbody>
</table>

*Insignificant values
Table 10.

<table>
<thead>
<tr>
<th>Following Segment</th>
<th>N</th>
<th>% /Ø/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voiceless C</td>
<td>242</td>
<td>16%</td>
<td>.51</td>
</tr>
<tr>
<td>Sonorant</td>
<td>88</td>
<td>26%</td>
<td>.65</td>
</tr>
<tr>
<td>Pause</td>
<td>126</td>
<td>16%</td>
<td>.44</td>
</tr>
<tr>
<td>Voiced C</td>
<td>79</td>
<td>23%</td>
<td>.62</td>
</tr>
<tr>
<td>Vowel</td>
<td>62</td>
<td>13%</td>
<td>.37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word Position</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>125</td>
<td>12%</td>
<td>.422</td>
</tr>
<tr>
<td>Article Plural Marker</td>
<td>24</td>
<td>9%</td>
<td>.32</td>
</tr>
<tr>
<td>Nominal Plural Marker</td>
<td>196</td>
<td>21%</td>
<td>.62</td>
</tr>
<tr>
<td>Monomorphemic</td>
<td>234</td>
<td>20%</td>
<td>.55</td>
</tr>
<tr>
<td><em>Vos</em> conjugation (i.e. tenés)</td>
<td>18</td>
<td>9%</td>
<td>.32</td>
</tr>
</tbody>
</table>

Tables 9 and 10 show the results for deletion of coda /s/. Here the age factor group is not significant, as its percentages for deletion did not vary whatsoever. Coda-s deletion is favored by males, by lower middle class speakers, and interview styles, and occurs more often in nominal plural markers and monomorphemes. The following scattergram shows all the data towards the bottom left corner, because this variant occurs more rarely than [s] and [h], in all contexts. The results shown in the scattergram are decent, yet they show some inconsistency because some sizeable squares are far away from the line.
IV. Results for /?/

Table 11.

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>N</th>
<th>% /?/</th>
<th>Factor Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Older (+30)</td>
<td>35</td>
<td>1.5%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Younger (-30)</td>
<td>17</td>
<td>1.4%</td>
<td>N/A</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>25</td>
<td>1.7%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>27</td>
<td>1.3%</td>
<td>N/A</td>
</tr>
<tr>
<td>Style</td>
<td>D (word-list)</td>
<td>37</td>
<td>6.8%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>B (interview)</td>
<td>15</td>
<td>0.5%</td>
<td>N/A</td>
</tr>
<tr>
<td>Social Class</td>
<td>Upper-Middle</td>
<td>29</td>
<td>1.7%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Lower-Middle</td>
<td>23</td>
<td>1.2%</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 12 shows a major difference in this dependent variable in that there are many non-significant factor groups. This is because Goldvarb labeled the other factor groups as “KnockOuts” and that means that no factor weights were calculated because this variant did not occur in all linguistic constraints; in fact, it occurred in very few. This feature did not appear before sonorants, pause, or vowels and did not appear within plural articles or any verbal vos inflections.

Luckily, the total number of /ʔ/ realization throughout the study was 52 and analyzing these tokens impressionistically is manageable. In the following section, we will further discuss the significant results by combing results and interpreting the data to conclude on the current social variation of BAS.
Chapter Three

VI. Linguistic Constraint Discussion

Ellen Kaisse writes, “In Argentinian Spanish, as well as many other dialects of Spanish, /s/ is normally weakened (debuccalized) to [h] in a coda… the examples which contain the sequence /VsCV/ are uncontroversially syllabified with /s/ in the coda, and thus show weakening of that /s/” (124). Kaisse’s study on Argentine s-weakening agrees with the current study in not only that her central theme is word-final /s/ but also that her findings show that, unlike other varieties, not all coda-s tokens are weakened to /h/. She also notes that the syntactic relationship between words carrying a coda-s is irrelevant and it is rather the phonological conditioning that creates the change. Kaisse’s principal idea is that “prepausal /s/, where pause is realized as final lengthening or by actual silence, is retained” (126). Based off the data of this study, we see a very similar result. Overall, when the following context is a pause, /s/ retention is the most favored with 78%, along with vowels with 73%. Contrarily, following voiced consonants (/b, d, g/) and sonorants (/l, m, n/) oppose /s/ retention. Interestingly and in a seemingly inverse manner, the /h/ realization finds its niche among the opposite linguistic contexts. If the coda-s is followed by either a voiceless consonant (/p, t, k/) or a sonorant, then it is likely to be reduced to an aspiration. It was extremely common, especially during the interview session, for the informants (regardless of social status) to aspirate the coda-s on an article marking a plural (i.e las casas [láh kázas]) and the medial /s/ in the crutch word este ([ehte]). In relation to this, the coda-s in verbs conjugated with the subject as vos is very likely to be retained and fully produced. If the pronoun vos is realized before the verb, then that coda-s is certainly likely to be aspirated or deleted (i.e vos tenés [bóh tenés]).
With regards to deletion of coda-s, the favorable following segments include both voiced and voiceless consonants. The disfavoring context for elision is the vowel. A syllable coda-s is likely to be deleted if it is marking the plural of a nominal. Now, without agreement to any previous work, the /ʔ/ realization is, based on impressionistic perception, probably most favored by voiced consonants. In the word-list readings, the word *Lisboa* produced a few /ʔ/ realizations, yet the word *desde* really set the stage for this outcome.

This study’s data shows that the linguistic value of /s/ is crucial to its production vitality. Returning to a previous mentioned note on the conjugation of the second person singular subject *vos*, the coda-s in that word position, regardless of following context, is likely to be fully realized. If we interpret the following schematic as degrees of importance than we can see that for the *voseo* conjugations, the /s/ takes first rank on the hierarchical scale: s → h → ø. This is often the schematic used to describe /s/ weakening in Spanish and it applies to our discussion on linguistic stress and the retention of /s/.

When a *porteño* is addressing another person informally, he or she will more than likely conjugate the verbs using the *vos* form. An example phrase is the following: *vos tomás* (as opposed to the standard *tú* form, *tú tomas* with the stress on the first syllable). The *voseo* form is likely, during comfortable connected speech, to have the pronominal coda-s reduced to /h/ and the verbal coda-s maintained as /s/, especially if followed by a pause or vowel. When people in Buenos Aires say *salís* instead of *sales*, they are not only differentiating themselves dialectally but they are also moving the stress from the penultimate syllable in the *tú* form to the final syllable on the *voseo* form. This marked stress position is itself a distinctive characteristic of

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18 It is also possible that deletion is favored by verb conjugations in any tense other than the present. These conjugations in BAS are identical to the standard *tú* form (i.e *vos quieras*).

19 See conjugations such as: *tenés, hablás, caminás, salís*, etc.)
the verbal forms in voseo, and adds greater linguistic prominence to the verb itself because if the
/s/ is reduced to either /h/ or /ø/ then the possibility of perceiving the command form of the verb
increases. Of course, this can only occur if the pronoun is dropped completely and the context of
the conversation does not solve this problem. The point here is that the coda-s on vos
conjugations plays a different role than the coda-s on tú conjugations and thus its preservation is
more favored.

In continuation with this theme, Hernández-Campoy and Trudgill cite Campell (1998: 291) as stating:

“In these varieties [Caribbean Spanish], final s is changed to h and further to ø
with extreme frequency […] This means that the verb forms which are quite
distinct in Standard Spanish, such as andas ‘you walk’ versus anda ‘he/she
walks’, fail to be distinct if the final s is not realised. The loss of this distinction is
compensated for through the more rigid use of the independent pronouns,
especially tú ‘you (familiar)’ precisely where they are needed to help maintain
formal differences in verbs. (33)

In summary, Spanish verbs that hold a final /s/ will change meaning if said /s/ is not realized and
in turn the segment’s value increases. Campbell’s concept of change in Spanish allows us to
progress into further discussion on the intriguing phoneme /?/.

Once again, the word desde really opened the doors to the study of this possibly new
phonetic feature of Buenos Aires. After analyzing the word-list readings and the sociolinguistic
interviews, the medial /s/ followed by a voiced consonant in desde is extremely likely to be
realized by this possibly lingual and laryngeal constriction. By just looking at the word-list
reading productions of desde, I was able to determine that females, people below thirty years old
and lower-middle class informants reached 100% production rates (8 of 8 for females, 5 of 5 for young people and 8 of 8 for lower-middle class subjects). The other members of each pair of social categories showed more restricted use of [?], reaching just below 100% production with 6 of 7 for males, 7 of 9 for people above 30 and 4 of 6 for upper-middle class residents. This is evidence that this new phonetic realization is an up and coming change in progress in Buenos Aires. Changes of progress, especially those lead from within the community, are almost always lead by the younger and lower class populations. As we can see, young people and lower class porteños have slightly higher usage rates. It is certain that more study is required to fully examine this hypothesis. Moreover, it might not necessarily involve a broad-based change in progress but rather a sound that is so phonetically constrained that variation is rare. Overall, the /?/ was found word internally and preceding a voiced consonant. Yet, there were a few tokens of people during the interview sessions saying the monomorphemic word más followed by some word that begins with a voiced alveolar stop - /d/. We can see this in phrases such as más de or más dinero. I argue that the following is the primary context for this variant realization: VsCV where the vowels are fronted and the consonant is voiced. I believe that the front vowels (/i, e, a/) are an essential part of the context for this sound because based on the data in this study, most /s/ tokens preceded by back vowels (i.e bosque) were reduced to an aspiration. Front vowels involve a lingual constriction, which if sustained through the fricative articulation, would contribute the oral component of this sound, which appears to involve both lingual and laryngeal components. Since there are apparently some social and certain linguistic constraints on this phenomenon, variation is expected as it is a variant of the standard /s/. Based on this information, it is possible to state that if this realization if ever fully discovered and categorized, it may fall in the previously used schematic as follows:
My reasoning is as follows; by using the same schematic we can show which constraints favors each variant. It might look like the following:

\( s \rightarrow h \rightarrow ? \rightarrow o \)

Thus, a voiceless consonant becomes a voiced consonant simply by activating vocal cord vibration. Moving from a voiceless alveolar stop /t/ to its voiced counterpart /d/ seems modest and I believe that that would be the natural linguistic decision – the simplest one. Also, moving from the voiced consonant that favors the possibly lingual and laryngeal /?/ aids the development of the necessary constrictions for the sonorants (/l, m, n/) which involve both lingual and laryngeal actions.

As we have seen, there are both social and phonetic constraints to this concept and in general throughout the study, social variation has been noted.

**VII. Social Constraint Discussion**

With regards to /s/, the variation fits general sociolinguistic theory very well. Younger people, males, lower class members and casual speech style all provided for lower rates of full /s/ realization. The full voiceless alveolar fricative /s/ is known as the historical realization just as it thought to be the *privileged* articulation of Castilian Spanish. Due to its nature as the historical form, it is likely to show two social tendencies: first, it will be the higher-prestige variant (and hence used more by the older population and higher-status speakers, and in more careful speech styles), and second, that when a new form arises, the [s] will recede as time progresses. In fact, both of these statements are verified by this study and by other research. Interestingly, the largest difference in production percentages of /s/ comes from style differentiation. During the word-list
readings, my study produced a rate of 55% for /s/ production yet the interviews shows us 38%.

In general, the /s/ in Buenos Aires does vary socially, however not extremely.

When comparing the percentages found in each social factor category, the range of differences never rises above seventeen percent. In conclusion, this study agrees with previous work, which found that women, higher-class members and older people lead in usage of more standard linguistic features. The only case in this study that provided for an opposite finding was the production of /h/ among older and younger subjects. This study shows that those people above thirty years old aspirate more (44% versus 36%). This could be due an influence from speech style, in that during the more casual setting of the interviews, the informants were aspirating often.

Thus, the aspirated form of /s/ in BAS is actually more common than the standard full form. Once this change took place and the /h/ became a permanent member of BAS’ phonemic inventory, the feature entered the community’s exemplar cloud. This is based on the theory that states, in simple terms, that people remember every instance of certain linguistic productions.20 As soon as aspirating an /s/ before a voiceless consonant in word-medial position began to be used, the community’s members became accustomed to the new form and began to repeat what they were hearing.

Language change is based on a multitude of factors, but one of those is the fact that people cannot change what they hear. When a change is coming into a community, it is normal for its younger members, for example, to accept the innovation. The more that people aspirate or delete the /s/ in any linguistic context, the more common and natural it is going to become within the speech community as a whole. It may be possible that the /?/ realization will one day play a

20 Lecture from Professor Gregory Guy, Linguistic Variation, Spring 2013, New York University
more permanent role in BAS, but for now, the standard historical /s/, the aspiration /h/ and the null form /ø/ are holding on tightly to where they are currently found.
### Appendix -

#### 1. Word List

<table>
<thead>
<tr>
<th>Spanish</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>un gusto</td>
<td>las manos</td>
</tr>
<tr>
<td>bandera</td>
<td>nosotros</td>
</tr>
<tr>
<td>los libros</td>
<td>plata</td>
</tr>
<tr>
<td>ésta</td>
<td>estamos</td>
</tr>
<tr>
<td>hermanos</td>
<td>buenas noches</td>
</tr>
<tr>
<td>barco</td>
<td>Argentina</td>
</tr>
<tr>
<td>es que</td>
<td>inestable</td>
</tr>
<tr>
<td>sudadera</td>
<td>el libro</td>
</tr>
<tr>
<td>ilustraciones</td>
<td>después</td>
</tr>
<tr>
<td>control</td>
<td>viajes</td>
</tr>
<tr>
<td>colectivos</td>
<td>lingüista</td>
</tr>
<tr>
<td>¡hablame más despacio!</td>
<td>las dudas</td>
</tr>
<tr>
<td>desde</td>
<td>posta</td>
</tr>
<tr>
<td>los guantes</td>
<td>leer</td>
</tr>
<tr>
<td>construir</td>
<td>cuadro</td>
</tr>
</tbody>
</table>
II. Coding System

Social Constraints
M → Male; F → Female
0 → Above 30 years old; Y → Below 30 years old
H → Upper-middle class; L → Lower-middle class
D → word-list style; B → interview style

Linguistic Constraints
Following segment
v → vowel
l → voiceless consonant
d → voiced consonant
s → sonorant
p → pause

Word Position
i → internal
m → final monomorphemic
a → final plural article
f → final plural nominal
v → verbal vos inflection

Variant Realizations
1 → /s/
2 → /h/
3 → /ø/
4 → /ʔ/

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