

ASYMMETRICAL ACCOMMODATION IN CROSS-DIALECTAL CONVERSATION AND THE ROLE OF PHONOLOGICAL CONTRAST*

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1. Introduction

During a conversation, talkers can affect the speech of their interlocutors in measurable and perceptible ways in various domains of speech, a phenomenon called accommodation. Phonetic accommodation (also known as convergence, alignment or imitation) is the adjustment of the acoustic-phonetic properties of speech in response to exposure to another speaker. Under Communication Accommodation Theory (CAT: Giles 1973), speakers make adjustments to their speech in order to manage relationships with their interlocutors online, either converging (becoming more similar to the interlocutor) or diverging (becoming less similar). CAT predicts that such changes are socially-motivated with speakers converging in order to minimize social distance between themselves and their conversation partners and diverging in order to accentuate distinctiveness or show disdain.

Previous studies have found that phonetic accommodation is affected by many different social factors such as a speaker's attitude towards a model speaker (Abrego-Collier et al. 2011), attractiveness (Black 2012) and prototypicality of a model speaker's voice (Babel et al. 2012), implicit racial bias (Babel 2012), regional dialect bias (Babel 2010), and closeness between speakers (Pardo et al. 2012). In addition, various linguistic factors have been shown to affect phonetic accommodation, although we know somewhat less about these factors than we do the social factors. Examples of these linguistic factors are the variability of the sounds involved (Babel 2009), language "distance" between the speakers involved in conversation (Kim, Horton & Bradlow 2011), and the perceptual salience of differences between the dialects of two speakers in conversation (MacLeod 2012). In addition, Nielsen (2011) suggested that the need to maintain a phonological contrast might limit the degree to which speakers will imitate a model speaker.

The current study attempts to contribute to our understanding of how linguistic factors affect phonetic accommodation by considering the role that maintenance of a phonological contrast plays in accommodation, focusing on how accommodation takes place in cross-dialectal conversation in Spanish.

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2. Background

In Nielsen (2011)'s study of phonetic imitation, she investigated whether English speakers would imitate the voice onset time (VOT) of /p/ that had been extended or reduced. She reasoned that if the need to maintain a phonological contrast limited phonetic imitation, then the two conditions (extended and reduced VOT) were not equal since increasing one's VOT on /p/ would not threaten any contrast, whereas reducing VOT on /p/ could cause the values to approach those expected for /b/ in English, potentially threatening the /p-/b/ contrast. If the need to maintain the /p-/b/ contrast limited the extent to which the participants would imitate the altered VOT, then Nielsen predicted that the participants would be more likely to imitate the extended VOT than the reduced.

The participants in Nielsen (2011) first provided baseline pronunciation samples, then listened to a model speaker producing a list of /p/-initial words for which the VOT of /p/ had been either extended (by 40ms) or reduced (by 40ms), and finally provided a post-listening speech sample. This methodology allowed the participants' pre- and post-listening production of /p/ to be compared. The results of the analysis found that participants imitated the lengthened VOT, but not the reduced VOT. Nielsen concluded that the participants imitated the extended VOT but not the reduced because the reduced VOT started to encroach upon the values expected for the voiced stop /b/, threatening the phonemic voicing contrast, whereas the lengthened VOT did not threaten any contrast, ultimately suggesting that accommodation is filtered by phonological linguistic knowledge.

In Nielsen's study, the participants were exposed to the altered speech using a non-social method, i.e. they listened to a pre-recorded model speaker over headphones. Although this method assures that the participants all heard the same words the same number of times, it is somewhat removed from a more natural communicative context by which speakers would usually be exposed to the speech of another. In addition, like most existing studies on imitation, the participants were English speakers and the model speaker spoke the same dialect of English as the participants. In the current study, the role of phonological contrast in affecting phonetic accommodation is also considered, but the participants were exposed to the speech of another via conversation, the participants were all native Spanish speakers, and accommodation was considered across two different dialects, rather than within a single dialect.

3. Buenos Aires Spanish and Madrid Spanish

The two dialects chosen were Buenos Aires Spanish (BAS) and Madrid Spanish (MS) and all testing was done in Madrid. These dialects make a nice test case for investigating cross-dialectal accommodation for two main reasons. The first is that there are many differences in the sound systems of BAS and MS, of which the articulatory and acoustic properties have been studied previously (Borzone de Manrique & Massone 1981; Harris & Kaisse 1999; Hualde & Prieto 2002; Aguilar 2003, 2005; Martínez Celdrán, Fernández Planas & Carrera Sabaté 2003; Face & Alvord 2004; Hualde 2005; Chang 2008; Hualde, Simonet & Torreira 2008; Piñeros 2009; Colantoni & Kochetov 2011), providing the

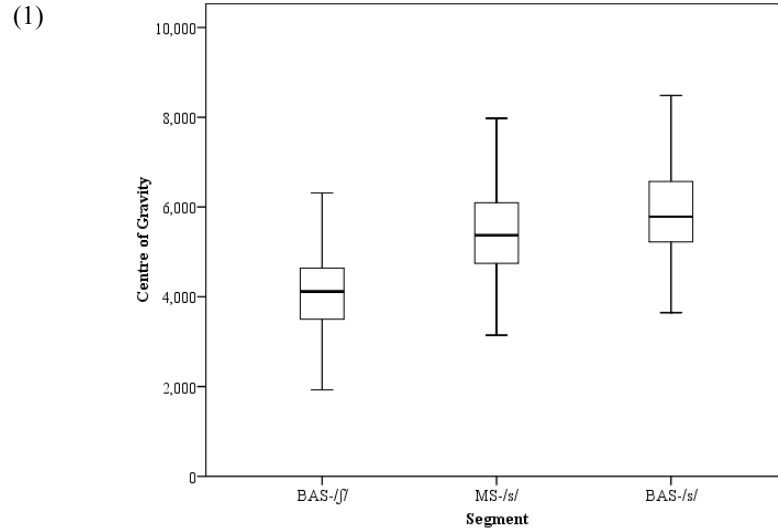
necessary knowledge to examine shifts in speech patterns by speakers of these dialects. The second reason is that migration from Argentina to Madrid is common (Instituto Nacional de Estadística 2007), so speakers of BAS and MS, living in the same city, would regularly have the opportunity to come into contact with each other and potentially affect each other's speech. Testing phonetic accommodation in conversation between speakers of BAS and MS then mirrors a situation which could take place in the real world during contact between speakers of these two dialects in Madrid.

3.1 The Difference in Articulation of /s/

In Nielsen (2011), the two conditions (listening to extended or reduced VOT) were not equal because one (reduced VOT) could have potentially threatened a phonological contrast while the other (extended VOT) could not. In the current study, this asymmetry was introduced through speakers of one dialect (MS) being able to converge towards a characteristic of the other dialect without threatening any native contrast, while speakers of the other dialect (BAS) could have potentially threatened a contrast by converging on the same variable. The variable that provided this asymmetry is the voiceless denti-alveolar fricative /s/, which both dialects have, but which is articulated somewhat differently in the two dialects.

In Northern and Central Spain, encompassing Madrid, the most common realization of /s/ is the apico-alveolar [s̟], whereas the predominant realization in the rest of the Spanish-speaking world, including in Buenos Aires, is the lamino-alveolar [s] (Hualde 2005: 47; Piñeros 2009: 136). For example, the word *sano* 'healthy' is realized as [ˈsa.no] in MS, but as [ˈsa.no] in BAS. The point of constriction of the MS apical [s̟] is somewhat farther back than that of the BAS laminal [s] (Piñeros 2009: 272). The acoustic consequence of this difference is reflected in centre of gravity (COG), which is one of the four spectral moments commonly used to characterize fricatives. In particular, COG is an important acoustic cue for contrasts in place of articulation of sibilants (e.g. Jongman et al. 2000), being negatively correlated with the size of the resonating cavity in front of the oral constriction. Since BAS /s/ has a more anterior realization than MS /s/, it is expected to have a higher COG than the MS counterpart.

BAS also has the post-alveolar fricative /ʃ/ in its inventory and BAS speakers need to maintain this contrast, which is reflected in minimal pairs such as *taza* /tasa/ 'cup' and *talla* /taʃa/ 'size'. In the same way that the difference in anteriority between MS /s/ and BAS /s/ is characterized by a difference in COG, the phonemic contrast between BAS /s/ and BAS /ʃ/ is also characterized by a difference in COG. Since the place of articulation of /ʃ/ is more posterior than /s/, we expect that the COG of /ʃ/ will be lower than BAS /s/. Falling in between these two BAS phonemes is MS /s/. The relationship between the COG of these three fricatives is illustrated in (1) below. The values in (1) were calculated from the productions of these three fricatives by the participants in the current study, which will be described in §4.



Since MS /s/ falls in between a phonemic contrast in BAS, BAS speakers who accommodate towards MS /s/ by lowering their COG when they produce /s/ would be shrinking the size of the phonetic distance between their native /s/-/ʃ/ contrast, which could potentially threaten that contrast. This danger does not exist for the MS speakers, who have no other sibilant fricative in their inventories. If MS speakers converge upwards on COG towards the BAS variant of /s/, there is no contrast threatened.

The main research question that this paper asks is as follows: do BAS speakers in conversation with MS speakers converge less on /s/ than the MS speakers do as a result of the former group's need to maintain the BAS /s/-/ʃ/ contrast?

4. Methodology

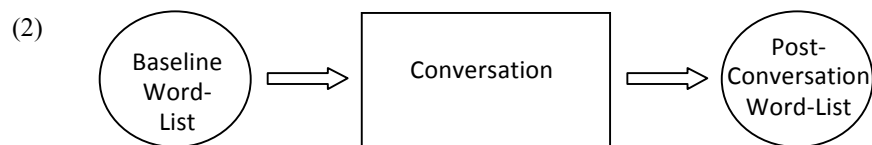
4.1 Participants

11 pairs of participants took part in this study (in each pair, one from Buenos Aires and one from Madrid), for a total of 22 participants. All participants were 18 years of age or older, with university education completed or in progress, did not report hearing problems, and were from either Madrid or Buenos Aires. All of the testing took place in Madrid. The participants from Buenos Aires varied in the length of time they had lived in Madrid. The mean amount of time living in Madrid across all BAS participants was just under 1.5 years (17.6 months) and the median was 6 months. Seven of the 11 BAS participants indicated that they were planning to stay in Madrid; the others were students who planned to return to Argentina when they finished school.

Each pair consisted of either two men or two women in order to avoid asymmetrical effects of gender (e.g. Namy, Nygaard & Sauerteig 2002). The experiment took a total of almost 2 hours to complete and each participant was compensated €20 for his or her time.

4.2 Procedure

The basic outline of the tasks that the participants completed is illustrated in (2).



First, the participants performed a word-reading task, in which they read aloud 20 words containing /s/ in order to provide a baseline of pronunciation for this fricative. The stimuli contained /s/ in onset position and were controlled for position of /s/ (word-initial or word-medial), quality of the following vowel (/a, e, i, o, u/), and location of stress (on the vowel following /s/ or on another vowel).

Second, each pair of participants engaged in conversation together for about 45 minutes. The first part of the conversation was elicited via a map task (Anderson et al. 1991), which involves the use of a pair of maps generated by the researcher that include labeled landmarks whose names contain the specific segments or characteristics under investigation. Within the pair of maps, one map includes a route drawn between two points that passes by the various landmarks, and the other map contains the landmarks, but not the route. The task is for the two participants to communicate with each other such that the person with the map missing the route is able to reproduce the route as similarly to the provided route as possible. The map task is well suited to studying phonetic convergence in conversation since the participants are focused on the task at hand, rather than their own pronunciation patterns, and the custom-naming of the landmarks allows for the inclusion for the specific segments under investigation. The second part of the conversation was more free form, in which participants were encouraged to discuss their favourite aspects of Madrid and Buenos Aires and give recommendations to their partner on things to do in their native city.

Immediately after their conversation, the participants performed the word-reading task again so that their production pre- and post-conversation could be compared acoustically. The participants also completed a sociolinguistic questionnaire to collect the participants' personal data such as year and place of birth and education level along with their experience with Madrid and Buenos Aires, etc.

4.3 Data Analysis

The instances of /s/ in the pre- and post-conversation productions of the Spanish words were analyzed by measuring the COG of /s/ using Praat (Boersma & Weenink 2009). Fricatives were manually marked in a Praat textgrid at the onset and offset of aperiodic noise in the waveform and COG was calculated from a 30ms Hamming window centered around the midpoint of the frication noise (Kurowski, Hazan & Blumstein 2003).

As noted in §1, under Communication Accommodation Theory (Giles 1973), speakers may converge towards or diverge away from an interactional partner on a given linguistic variable. In the current study, the 22 participants

produced 20 Spanish words containing /s/ once before engaging in conversation with a speaker of the other dialect, and once after. Accommodation was assessed on a token-by-token basis both in terms of the magnitude of the change and in terms of the direction of the change (convergence or divergence). For example, the MS speaker in Pair 1 produced the /s/ in the word *casa* /kasa/ ‘house’ with a COG of 6175Hz in the pre-conversation production task, but with a COG of 6103Hz in the post-conversation production task. This represents an absolute change of $|6175 - 6103| = 71.9\text{Hz}$; the raw magnitude of the change for this speaker on the /s/ in this token was 71.9Hz.

To determine the direction of this change, the pre-conversation measurement was compared to the mean COG for /s/ (controlled for the following vowel) for all of the speakers of the other dialect in the pre-conversation production task. That is, the direction of the change (convergence or divergence) was determined relative to the entire other dialect. In this case, the mean COG for /s/ when /a/ follows produced by the BAS speakers in the pre-conversation production task was 6345Hz. This value is higher than the COG of /s/ in the MS speaker in Pair 1’s pre-conversation production of *casa*. When she produces this word in the post-conversation production task, her COG has fallen from 6175Hz to 6103Hz, moving away from the mean of the BAS speakers for /s/ followed by /a/ in the pre-conversation stage. Since the MS speaker has moved away the mean of the opposing dialect, her change of 71.9Hz is a divergence. Had she moved towards the mean of the opposing dialect, the change would be considered a convergence. This two-step method of calculating both the magnitude of the change and the direction of the change (relative to the opposing dialect) was repeated for each individual token produced by each individual speaker.

The magnitude and direction data were analyzed statistically using mixed-effects regression models built using the *lme4* package (Bates, Maechler & Bolker 2011) for R (R Development Core Team 2012). Mixed effects models incorporate both fixed effects, the variables that are chosen specifically for investigation in the study, and random effects, those that are sampled from larger populations.

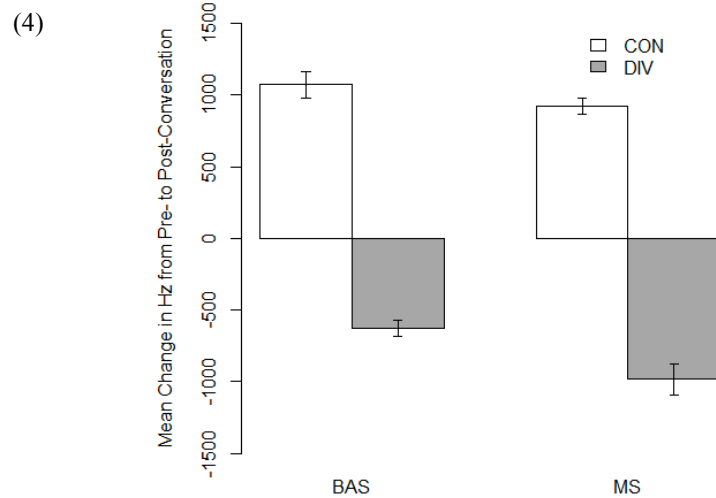
4.4 Hypotheses

Since accommodation here was evaluated in two ways (magnitude and direction), there are two main hypotheses that were considered, and these are given in (3) below.

- (3) Whereas BAS speakers have the /s/-/ʃ/ contrast to maintain and the MS speakers do not, the hypotheses of the current study are as follows:
1. Magnitude of the change on /s/:
 - a. When BAS speakers converge, the size of the change will be smaller than when MS speakers converge
 - b. When BAS speakers diverge, the size of the change will be greater than when MS speakers diverge
 2. Direction of the change on /s/: BAS speakers will converge less frequently than MS speakers

5. Results

The first hypothesis concerns the magnitude of the change. (4) below shows the mean change made by the BAS and MS participants split by whether the changes were convergences or divergences.



As we can see, when the BAS speakers converged on /s/ towards the MS speaker norms, they made slightly larger changes on average than the MS speakers did when they converged towards the BAS speakers. Also, when the BAS speakers diverged on /s/, they made a somewhat smaller change on average than the MS speakers did when they diverged. Both of these patterns are the opposite of what was predicted in parts (a) and (b) of Hypothesis 1, given in (3).

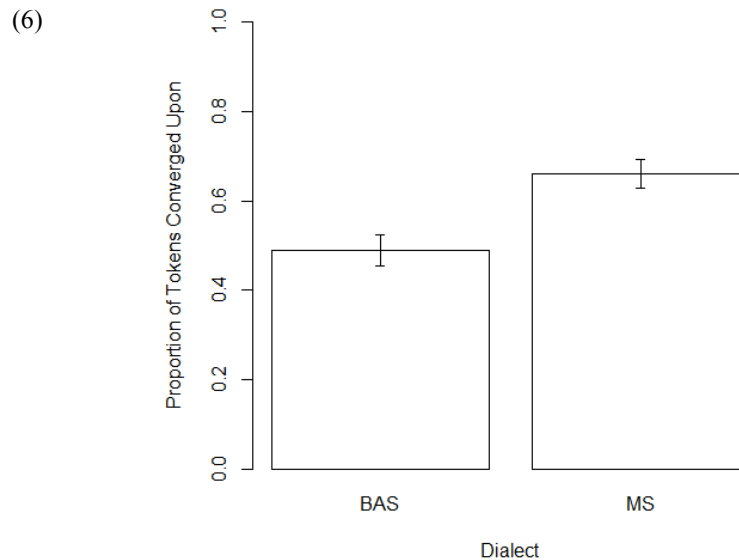
To assess whether the differences described above reflected statistically significant differences, a linear mixed-effects model was built with the absolute value of the change from pre- to post-conversation for each token produced by each of the 22 participants in the study as the dependant variable. The fixed effects were DIALECT of the participants and DIRECTION of the change along with an interaction between DIALECT and DIRECTION. The interaction term was included since Hypothesis 1 predicts that the BAS speakers will make greater sized divergences but smaller sized convergences than the MS speakers. Random effects for speaker and token were also included. The categorical predictor variables (DIALECT and DIRECTION) were sum-coded and centered about 0 (for DIALECT: dialect_BAS = -0.5, dialect_MS = 0.5; for DIRECTION: direction_DIV = -0.5, direction_CON = 0.5). The reference levels were BAS for DIALECT and DIV(ergence) for DIRECTION.

(5) Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1

<i>Effect</i>	<i>Coef. Est.</i>	<i>StdErr</i>	<i>t-value</i>	<i>p-value</i>	<i>Sig.</i>
(Intercept)	0.8524	0.1631	5.226	0.0000	***
DIALECT_MS	0.1263	0.2417	0.523	0.6016	
DIRECTION_CON	0.4797	0.1268	3.783	0.0002	***
DIALECT_MS * DIRECTION_CON	-0.1400	0.1918	-0.730	0.4659	

As we can see in the model summary table in (5), the main effect of DIALECT was not significant, suggesting that overall the dialects make about the same sized changes, without taking direction of the change into account. The main effect of DIRECTION was significant at the 0.001 level and the coefficient was positive (0.4797) indicating that the magnitude of the changes that were convergences was greater than those that were divergences for all the participants as a group. However, although the graph in (4) suggested that the magnitude of the changes made by BAS and MS speakers when they converge and diverge may be the opposite of what was predicted in Hypothesis 1, the lack of significance of the interaction between DIALECT and DIRECTION shows that in fact there was no significant difference in the magnitude of the changes made by BAS and MS speakers, for either the tokens that were converged upon or for those that were diverged upon. As such, Hypothesis 1 is not confirmed.

Moving on to Hypothesis 2, concerning the direction of the change, the graph in (6) shows the proportion of tokens that were converged upon by the BAS and MS speakers. The BAS speakers converged on 49% of the tokens they produced, while the MS speakers converged on 66%. This suggests that perhaps the BAS speakers were less likely to converge on /s/ than the MS speakers, as predicted in Hypothesis 2.



To determine whether this difference in the likelihood of converging on /s/ is statistically significant, a logistic mixed effects regression model with a binomial distribution was built with DIRECTION of the change (convergence = 1 or divergence = 0) as the dependent categorical variable. The fixed effect was DIALECT of the participant. Again, the reference level was BAS for DIALECT and random effects for subject and token were included. (7) gives the output of the model.

(7) Significance codes: ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1

<i>Effect</i>	<i>Coef. Est.</i>	<i>StdErr</i>	<i>z-value</i>	<i>p-value</i>	<i>Sig.</i>
(Intercept)	-0.05324	0.25610	-0.208	0.8353	
DIALECT_MS	0.79511	0.36820	2.159	0.0308	*

Since tokens that were converged upon were coded as 1 and those that were diverged upon were coded as 0, a positive coefficient indicates a greater proportion of tokens converged upon. The significance of the main effect for dialect coupled with the positive value of the coefficient indicates that the MS speakers converged more often than the BAS speakers did, as was suggested by (6), thus confirming Hypothesis 2.

To summarize the findings of the statistical analysis, BAS speakers were found to converge significantly less often than the MS speakers, but overall the BAS speakers made the same-sized changes as the MS speakers, whether they converged or diverged.

6. Discussion

The results of this study suggest that the need to maintain a phonological contrast does seem to limit the extent to which phonetic accommodation will occur, at least with respect to the proportion of tokens that the speakers converge on. This result was found where the speakers were exposed to the speech of another via a single conversation, a natural communicative context, and where the speakers in each pair spoke two different dialects. As discussed earlier, Nielsen (2011) also found evidence that phonological contrast mediates phonetic imitation. In addition, Trudgill (1986) predicted that phonological contrast could limit the extent to which speakers of one dialect would accommodate to the variables of a second dialect if to accommodate could introduce homonymic clash. The findings of the current study provide support for both Trudgill (1986) and Nielsen (2011).

That phonological contrast affects the pattern of short-term accommodation may have implications for longer-term processes of accommodation, such as second-dialect acquisition, and community-level changes, such as dialect leveling. According to Trudgill (1986) and Chambers (1992), adjustments to a speaker’s pronunciation as a result of face-to-face interactions with speakers of another dialect (like those found in this study) can accumulate over time to generate permanent changes to an adult’s pronunciation towards the characteristics of a second dialect (second-dialect acquisition).

Evidence of the acquisition (at least to some extent) of second dialect features have been found by several researchers. For example, Munro, Derwing and Flege (1999)’s study of the acquisition of the Alabaman dialect of English (a Southern United States dialect) by English-speaking Canadians found

evidence of the acquisition to some degree of certain aspects of the Alabaman dialect. In that study, 30 speakers participated: 10 English-speaking Canadians who were living in Alabama, 10 English-speaking Canadians living in Canada, and 10 Alabamans living in Alabama. The participants provided speech samples via a picture description task. Ten second snippets of all the recordings were then presented to Canadian listener judges who assigned an accent rating from 1 (very Canadian) to 9 (very American) and to Alabaman judges who assigned an accent rating from 1 (definitely from Alabama) to 9 (definitely not from Alabama). Both sets of judges consistently rated the Canadians who had been living in Alabama with an intermediate accent between the Canadians in Canada and the Alabamans in Alabama, suggesting that at least certain aspects of the Alabaman dialect had been acquired by the transplanted Canadians and that the changes in their speech was perceptible to native speakers of both the first dialect (D1) and the second dialect (D2).

Similarly, Evans & Iverson (2007) tested speakers of a Northern British English dialect at four time periods: before the speakers began university in southern England where they would be exposed to Standard Southern British English (SSBE), three months after beginning university, and after their first and second years of studying. The results of an acoustic analysis indicated that after exposure to SSBE the participants showed centralization of the Northern vowel /ʊ/ found in the words *bud* and *cud* towards the SSBE /ʌ/. In addition, according to an accent rating of their speech on a scale of 1 (very northern) to 10 (very southern), the participants were rated as more Southern-sounding after spending time at university.

This transition from short-term temporary accommodation to long-term permanent accommodation in the individual is predicted to be a precursor to community-level change, such as dialect leveling or sound change, more generally, under the Change-by-Accommodation model of language change (Niedzielski & Giles 1996). This model consists of three stages: 1. short-term accommodation in individual interactions, 2. long-term dialect accommodation resulting in permanent changes in the speech of individual speakers, and 3. the spread of new speech habits throughout the community.

The result of the current study found that phonological contrast limited the likelihood of BAS speakers converging towards MS /s/, since doing so could potentially have threatened the native BAS /s/-/ʃ/ contrast. If the BAS speakers remained in Madrid and were continually exposed to the local dialect, under the Change-by-Accommodation model we would expect to see some of the short-term pronunciation adjustments become more permanent and begin to reflect the speakers' habitual way of speaking. However, if the need to maintain a phonological contrast continues to limit the likelihood of converging on a particular dialectal difference, we would expect that over time those dialectal differences where converging would threaten a D1 contrast would remain unacquired by acquirers of the D2. Connecting this with the current study, for BAS speakers to fully acquire the MS pronunciation of /s/ over time, they would have to overcome the limiting effect of phonological contrast.

Of course, as discussed in §1, there are many factors that can affect the magnitude and direction of phonetic convergence. Another possibility is that there are differences in how easily speakers of the two dialects shift their articulation towards the norm of the other dialect. Perhaps for the MS speakers adjusting the COG of /s/ upwards in the direction of the BAS mean value for /s/ is a less complex adjustment than for the BAS speakers to shift the COG of their

/s/ downward toward the MS norm. This possibility seems unlikely since the BAS speakers have the fricative /ʃ/ in their phonemic inventory, which has a lower COG than their /s/, as discussed earlier. This would suggest that the BAS speakers should have no trouble in producing /s/ with a lower COG.

Another possible factor that could cause an asymmetry in the pattern of phonetic accommodation on /s/ between these two dialects is the inclusion of the dialect variants in parodies or imitations of the dialects. While the laminal realization of BAS /s/ is common to many of the varieties of Spanish spoken in the world (Hualde 2005: 47; Piñeros 2009: 136) and, as such, does not serve as a marker of BAS, the apical realization of MS /s/ is a stereotypical marker of the Spanish spoken in Northern and Central Spain that is frequently exaggerated and included in imitations of the dialect (Reiter 2004). Trudgill (1986) proposes that if a dialect variant projects a very strong stereotype of the D2, speakers of the D1 may be less likely to take on the D2 realization (Trudgill 1986: 18). As a result, there may be a social barrier to BAS speakers converging towards MS /s/ that does not restrict the MS speakers from converging towards BAS /s/.

7. Conclusions & Future Work

The main conclusion of this study is that the process of phonetic accommodation seems to be limited by the need to maintain a phonological contrast, at least in terms of how likely speakers will be to converge on a linguistic variable. The BAS speakers whose /s-/ʃ/ could have been threatened by converging towards the MS norms for /s/ converged statistically significantly less often than the MS speakers for whom no contrast would be threatened by adjusting their realization of /s/ in the direction of the BAS norms. This result provides support for similar assertions in Trudgill (1986) and Nielsen (2011), within the context of cross-dialectal conversation in Spanish.

There are many possible avenues for future research on this area. First, an obvious addition to the current methodology would be to assess convergence and divergence perceptually rather than acoustically. Many previous studies of phonetic accommodation, such as Namy, Nygaard & Sauerteig (2002), Kim, Horton & Bradlow (2011), and Babel, McGuire, Nicholls & Walters (2012), have evaluated accommodation in this way, most frequently by way of an AXB task. In the AXB task, listener judges decide whether a token that a speaker produces late in (or after) the conversation is more like the conversational partner's production than the same token produced by the speaker earlier in (or before) the conversation. If listener judges choose the token produced late in the conversation more often than the early one, this indicates that by the end of the conversation the speaker sounded more like his partner. Using this method does not allow us to say on what basis the listener judges make their decisions; whichever acoustic cues are present in the signal are available for them to use, in some particular configuration and weighting. The AXB method of assessing perceptual salience gives a holistic measure of convergence in which multiple acoustic-phonetic cues are likely integrated. This method likely more accurately reflects the perceptual judgments that speakers make when comparing productions of different dialect variants. Performing a perceptual assessment of accommodation would also allow us to see to what extent the perceptual and acoustic analyses align.

Another possible extension to the current study would be to explore the BAS speakers' production of /ʃ/ from pre- to post-conversation. In addition to

avoiding convergence on MS /s/, the BAS speakers could also protect their /s/-/ʃ/ contrast by further lowering the COG of /ʃ/.

Our understanding of the complexities of phonetic accommodation in conversation is developing as more and more researchers investigate the various social, situational, and linguistic factors that affect the process. This study contributes to this development by exploring how the need to maintain a phonological contrast affects the pattern of phonetic accommodation in conversation with a speaker of a different dialect of Spanish.

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