"The People Who Say TSH TSH": The Social Life of Cairene Arabic Palatalization

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Abstract

In Cairene Arabic, speakers may affricate “plain” and pharyngealized /t/s and /d/s, a phenomenon called “strong palatalization” (SP). Haeri (1994, 1997) found that SP was used most frequently by lower-class women, and hypothesized that the meanings of SP included *blue collar*, *tough* and *urbane*. This paper discusses a social perception experiment and a language ideology survey completed on SP in contemporary Cairo, over 20 years after Haeri completed her fieldwork. SP is found to be highly stigmatized for both male and female speakers. In the experiment, palatalizing men and women are rated as significantly less wealthy, educated, confident and so on than non-palatalizing men and women, though men are punished more for palatalizing. Cairenes’ reported ideologies show that SP is associated with lower-classness and “improper” speech as well as with flirtatious women and non-masculine men. Though Haeri suggested SP was an unconscious change-in-progress, this paper shows it is now a salient part of talk about Cairene(s). Furthermore, the results presented here do not support the idea that SP, if it were a change-in-progress, has continued to advance.

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1 Introduction

Recent sociolinguistic research on Arabic has moved beyond the interplay between Classical and spoken Arabics to focus on identity-based variation (e.g., Mazraani 1997, Owens 1998, Shorrab 1981, Haeri 1994, 1997, Taqi 2010). This paper contributes to the small but growing body of literature on Arabic speech styles by exploring the modern-day social meanings of Cairene Arabic strong palatalization. In particular, I discuss a social perception experiment on strong palatalization and a survey of Cairenes' language ideologies about this phenomenon.

Strong palatalization is one of two kinds of palatalization in Cairene Arabic: "strong" and "weak." In this paper, "strong palatalization" (SP) refers to the use of [tʃ] for /t, tˤ/ and [dʒ] for /d, dˤ/, while "weak palatalization" (WP) refers to the use of [tʲ] for /t, tˤ/ and [dʲ] for /d, dˤ/ (Haeri 1994, 1997, Watson 2002, Youssef 2010).[1] Haeri's (1994, 1997) production analysis of Cairene palatalization demonstrated that SP is more socially salient than WP, indexing *urbanity*, *toughness* and *blue-collarness*. The experiment and the language ideology survey discussed in this paper thus focus on examining the social meanings of SP, over 20 years after Haeri completed her fieldwork. But in order to situate my findings within the context of related variation, I first review the relationship between "weak" and "strong" palatalization and Haeri's prior claims about SP.

1.1 From "Weak" to "Strong" Palatalization

Both WP and SP occur most frequently before [j] and variants of /i/ (Haeri 1997, Youssef 2010). So what are the linguistic differences between WP and SP, and how are they related? WP likely began as a process of assimilation, with the critical stop assimilating to the following glide or front vowel by acquiring a slower, more fricated release (Haeri 1997, Watson 2002, Youssef 2010). In WP, the place of articulation of the (dental) stop does not change. But in SP, the place of articulation shifts toward the soft palate. The phonetics of the stop release also differ across WP and SP. The frication noise is more durative, higher in frequency, and more "bursty" in SP than in WP (Haeri 1997:47–48, Youssef 2010). The name "strong palatalization" therefore represents the overall more fortis nature of SP as compared to WP.

When considering these phonetic and articulatory differences between the two kinds of palatalization, one might surmise that SP arose through a natural fortition of the weakly palatalized forms over time. In fact, both Haeri (1994, 1997) and Youssef (2010) provide evidence to support the claim that though SP and WP now exist contemporaneously, SP was preceded by and derived from WP. Haeri bases this claim largely on the age-graded distribution of SP and WP in her 1987–1988 interview data. Haeri found that her participants used SP more frequently the younger they were, across three age categories: < 30, 30–50 and > 50 years old. By contrast, WP was used most frequently by the 30–50 year-olds, with both younger and older people demonstrating similarly

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[1]Two other variables may undergo WP, albeit less frequently: dental /n/ in the environment of palatal vocoids (Haeri 1997) and coronal and dorsal nasals in all environments noted for WP and SP (Al-Saqqaf 1999). As I included only SP, the more stereotyped kind of palatalization, in my experiment, the nasal variables are not discussed here. Also not discussed are the geminate consonants /tt/ and /dd/, though they may occasionally undergo SP. Geminate consonants are always stressed, making them less likely to undergo assimilations (e.g., SP) than non-geminate consonants (Haeri 1997, Watson 2002). Thus, following Haeri 1997, I don't include them in my discussion.

low frequencies of use. Haeri argued that this distribution indicated that SP was replacing WP, and should be understood as a change-in-progress (1994:98–100, 1997:66–79).

Youssef's argument for the derivation of SP from WP includes the proposal that WP is phonetic, while SP is phonological. Youssef observed that, in his data, WP was only triggered by [j], [iː] and word-final [i] (a glide and the two highest variants of /i/), while SP was triggered by these segments as well as by epenthetic [ɪ] and non-final [i] (two lower variants of /i/). Citing this distribution and other evidence, he hypothesized that children acquiring language reinterpreted phonetic palatalization (WP) as a phonological rule, thereby generalizing the linguistic environments for its occurrence. This suggestion accords with the age-graded distribution of WP and SP in Haeri's data, despite the fact that Haeri and Youssef disagree about the phonological environments in which WP and SP can occur. Unlike Youssef, Haeri (1994:96, 1997:66) did not find any significant differences in the rates of occurrence of WP and SP before different variants of /i/. But since both scholars agree that SP is the more acoustically salient variable, and Haeri demonstrates that SP is also the more salient social variable, the two studies discussed in this paper focus on the contemporary social meanings of SP. I leave it up to future research to test how the social meanings of SP relate to those of WP.

1.2 Past Findings About the Social Meanings of Strong Palatalization

As was discussed above, Haeri (1994, 1997) proposed that SP is a change-in-progress. In particular, she proposed that SP was a female-led change-in-progress "from below": from lower-class speakers and from below the level of consciousness (1997:79). Haeri based this claim on two major findings. First, her male interviewees used WP and SP significantly less frequently than her female interviewees. Men used WP 10% of the time, while women used it 18% of the time; even more strikingly, the men barely used SP at all: only 5% of the time, as compared to women's 31% rate of use (66). Second, upper-middle class women used WP most frequently, while lower-middle and middle-middle class women used SP most frequently (75–76).

Taken together, these two findings suggested to Haeri that WP was an upper-class phenomenon that was falling out of fashion among younger men and women alike. By contrast, SP seemed to be increasing in popularity, especially among lower-class speakers. SP, then, was likely to carry more salient social meanings. But what, exactly, did SP "mean"? As third wave sociolinguistic research has subsequently underscored, Haeri (1997) argued that the demographic distribution(s) of this variable could not be taken, at face value, to represent its social meanings.

As a precursor to the most recent "wave" of variation studies, Haeri stressed that the sex-asymmetry observed in SP use did not necessarily mean that when men did use SP, they were understood as "female" or "effeminate" (97–98). Similarly, Haeri stressed that the fact that her lower-class speakers used SP more than her higher-class speakers did not necessarily mean the social indexes of this variable could be reduced to its stigma (99–101). Haeri hypothesized that what was common to the palatalizing women in her study was that they "have strong characters, are independent, and in general have 'tough' personalities" (99). She perceived the palatalizing men to be similarly *urban*, *forceful,* and *extroverted* (97).

The experiment discussed below, a variation on the Matched Guise Technique (e.g., Lambert, Hodgson, Gardner and Fillenbaum 1960), was designed to test Cairene listeners' social judgments of both male and female Cairenes using SP vs. no palatalization. The language ideology survey was designed to investigate conscious talk about SP. These studies aimed to answer the following questions: Is SP use still associated with women and lower-class individuals in contemporary Cairo? Does it have any new social meanings? How aware are people of this palatalization phenomenon? And what do they think about it?

2 Methods

2.1 Stimuli and Materials

Two women and two men 18–29 years old and three women and one man 30–50 years old recorded stimuli for the experiment. The four 18–29 year-old speakers were recorded in a sound-proof

booth with a Turner Co. Model 2302 Dynamic Lo-Z table-top microphone. The four 30–50 year-old speakers were recorded by a student representative at The American University in Cairo (AUC) using a handheld recorder's internal microphone. This set of speakers was chosen in an attempt to create stimuli that varied by both sex and age. Ideally, the 30–50 year-old sample set would also have comprised two men and two women, but older male Cairene Arabic speakers were difficult to recruit for the recordings. This reluctance is indicative of the strong indexical associations between SP, women and femininity in Cairo today. These associations are explored in more detail in Section 3.

The eight speakers recorded two separate word lists, one list comprising eight critical words (/faːdˤi/ *empty*; /gɪdiːt/ *new*; /madiːna/ *city*; /ɪnti/ *you (f.)*; /dɪlwæʔti/ *today*; /saɪdeɪti/ *ladies and gentlemen*; /tiːn/ *figs*; /nadˤiːf/ *clean*) and one list comprising ten filler words (/daɪq/ *narrow*; /marhaba/ *hello*, *welcome*; /ant/ *you (m.)*; /ktab/ *book*; /baqara/ *cow*; /id/ *hand*; /bɪnt/ *girl*; /nɪg/ *star*; /kanaba/ *sofa*; /səfina/ *ship*). As can be seen here, all critical consonants in the critical word list appeared before /i/. Each speaker was asked to record the words on this list in two ways, once with SP and once without any palatalization. Speakers were prompted to produce all words several times so that the clearest, most natural productions of each recording session could be used in the experiment. However, in a couple of cases, speakers were unable to produce a word with full SP. These attempts at SP forms were then manipulated in Praat to affricate the critical stop. 4000Hz frequency noise was added after the stop release and before the vowel such that the manipulated release was similar in amplitude and duration to the other releases naturally produced by that speaker. The manipulated and non-manipulated forms were then played to three phoneticians (one of whom spoke Arabic). None of them could identify which forms had been manipulated and which had not. The amplitude of each word was also normalized in Praat using a script.

The only constant variation in the critical words was the presence or absence of SP. However, I did not control for other interspeaker or intraspeaker word-level variation. The purpose of allowing the introduction of this other variation into the experimental design was two-fold: to make the process of recording the stimuli as easy as possible for the speakers, and to make the resulting stimuli sound as similar as possible to the kinds of productions Cairenes hear in everyday talk.

2.2 Pre-Test and Main Experiment

In order to ensure that the social characteristics being tested in the main experiment would be salient to Cairene listeners, I first ran a free-response pre-test. This pre-test was presented in Arabic script to thirty-five native Cairene speakers currently living in Cairo via Mechanical Turk. Each listener typed in three words in Arabic script or English describing the speaker of each sound sample. The sound samples used in the pre-test included the critical words (some with SP and some with no palatalization) from the four 18–29 year-old speakers and one man and one woman from the 30–50 group, as well as two to three filler words per speaker.

For the main experiment, I chose eight adjectives from the complete set of pre-test responses whose token frequency was in the top 25%. Among these adjectives were six that Haeri's findings would predict to vary uniformly across the palatalized and non-palatalized forms (*colloquial*, *educated*, *rich*, *refined*, *confident*, *earnest*) and two that Haeri's findings would make no clear predictions about (*flirtatious*, *attractive*). Following the results of Haeri's production analysis, I predicted that the speakers using SP would sound more colloquial, less educated, less rich, less refined, more confident, and more earnest than the non-palatalizing speakers.

Forty Cairenes currently living in Cairo took this experiment on Mechanical Turk. Each participant was paid $7 as compensation for his or her work. The experiment took forty-five minutes, on average, to complete and tested listeners' six-point ratings for the above adjectives using eight critical words and four filler words from each of the 18–29 year-old speakers. The stimuli from the 30–50 group were not used in the main experiment for two reasons. Firstly, the listeners in the pre-test responded negatively to the length of the experiment (it took most participants about seventy minutes to complete). Secondly, some listeners in the pre-test reported that the stimuli produced by the older speakers sounded less natural than those produced by the younger speakers. This reaction to the 30–50 year-old speakers' stimuli suggests that most older speakers still do not use SP frequently.

The experiment utilized a within-subjects, counter-balanced design. This design ensured that no listener heard the same speaker produce the same word with SP and without palatalization, but all listeners heard some critical words with SP, some critical words with no palatalization, and some filler words from each speaker. The stimuli were presented in a random order. The participants had to press a button to get each word to play, and they were instructed to play each word up to three times. Each stimulus was followed by the eight rating scale questions and one additional social characteristic question described below, also presented in a random order.

Each of the eight adjectives (*colloquial*, *educated*, *rich*, *refined*, *confident*, *earnest*, *flirtatious*, and *attractive*) was associated with a 6-point scale. For seven of the eight adjectives, a rating of 1 was associated with *not [adjective] at all* and a rating of 6 was associated with *very [adjective]*. Since *not rich at all* did not seem to evoke the intended meaning in Arabic, I chose an adjective for *poor* to associate with the 1 rating for this social characteristic. The token frequency for this adjective in the pre-test was in the top 50% and it was presented in the frame of 1 = *very poor*. The experiment also included the question, "Does the speaker sound like he is from the city or the countryside (in the Cairo area)?" with a forced-choice response of *city (1)* or *countryside (2)*. This question was included because Haeri (1994, 1997) also pointed to an indexical association between SP and metropolitan Cairo. These questions, and all other experiment text, were presented to participants in Arabic using masculine gendered forms. However, a note appeared on the first screen of the experiment that stated, "Instructions are written with the masculine forms but are intended for both men and women."

After performing the rating task, participants were presented with a series of demographic questions to which they could respond in Arabic or in English. Information concerning the participants' sex, age, profession, home/area of residence in Cairo and highest level of education attained was collected, in addition to information concerning the profession of and highest level of education attained by the participant's mother and father. These questions always appeared in a set order.

Once these data were collected, the raw social characteristic ratings of the stimuli were normalized. This normalization process adjusted the ratings to account for each listener's individual range of scores, as follows. Each listener's mean rating across all forty-eight stimuli and all eight adjectives was subtracted from that listener's raw rating of the stimulus (n = 1–6). The resulting number was then divided by the standard deviation of that listener's ratings across all forty-eight stimuli and all eight adjectives. This final number was the normalized rating for that stimulus.

A series of linear mixed model regressions were then performed on the normalized data in the statistical analysis software, R. The primary purpose of these regression models was to test if the palatalization variable was a negative, significant predictor of the characteristic ratings for the nine social characteristic questions for the male and the female speakers. The following variables were also included in the models as fixed effects: sex of the participant, age of the participant (as a continuous variable), class index of the participant (see description below), phonological plainness or pharyngealization of critical consonant (e.g., /fadˤi/ is +pharyngeal), plainness or pharyngealization of the pre-palatalized critical consonant (e.g., [fadʒi] is +pharyngeal), and voicing of the critical phone (i.e., [t, tʃ] vs. [d, dʒ]). Speaker identity (of the stimuli—i.e., male1, male2, female1 or female2) and item identity were included in the models as random effects.

My class index was created using seven factors for each participant: education, profession, home/area of residence in Cairo, and the profession of and highest level of education attained by the participant's mother and father. I gave each of these seven factors a rating of 1–3. For the education ratings, 1 = high school or less, 2 = a college degree, and 3 = graduate degree. For the profession ratings, 1 = no work or a part-time hourly job, 2 = a full-time, blue-collar job, and 3 = full-time, white-collar job. For the home and neighborhood of residence ratings, 1 = small residence in a very busy urban area or a rural, sparse area, 2 = a "nice" apartment or house in a middle-class area, and 3 = a "nice" house/big property in an upscale neighborhood. I summed the ratings for these factors and binned the sums as follows: n = 7–11, class index = 1 (roughly corresponding to lower-middle class); n = 12–16, class index = 2 (roughly corresponding to middle-middle class); n = 17–21, class index = 3 (roughly corresponding to upper-middle class or upper-class).

My class index was modeled on Haeri's, though hers also incorporated observations made during her ethnography. She chose the following four class factors and weighted them to signify their importance in determining each person's class status: father's or mother's occupation (.5);

whether the speaker attended a private language school, a private Arabic school or a public school (.25); the speaker's neighborhood of residence (.15); the speaker's occupation (.1). Each factor received 1–5 points and was multiplied by its factor weight. The resulting numbers were summed and then binned into four class brackets: upper-class (UC), upper-middle class (UMC), middle-middle class (MMC), and lower-middle class (LMC) (1997:37).

I did not choose to weight the seven factors used in my class index because I did not know the participants in my studies as Haeri did, so I did not know which factors were more or less important to their social class statuses. However, when a subset of the data was analyzed using a weighted-factor class index similar to Haeri's, no additional significant results were obtained. Lastly, it is important to note that though there were likely no truly lower-class Cairenes who participated in the experiment (or the survey), the social class distribution of my participants mirrors the distribution of Haeri's participants. And, as was demonstrated above, speakers across the class range represented in this study used SP with varying frequencies in Haeri's research.

2.3 Language Ideology Survey

In order to explore present-day Cairenes' explicit language ideologies about SP, experiment participants were also asked their thoughts about what they'd heard. A gloss of the prompt for this section, which appeared at the very end of the experiment, can be found below:

> Words in this experiment were pronounced in different ways. What do you think about the ways some of the words were pronounced? Have you ever heard these kinds of pronunciations before? If so, what kinds of people do you associate these pronunciations with? Do you have a name for these kinds of pronunciations?

My representative in Cairo asked the 30–50 year-old stimuli speakers and other students and faculty at the AUC their thoughts about palatalization as well. The phenomenon was explained to them by saying or writing something like the following, in Arabic, in English, or in some combination of the two languages:

> Palatalization is when the "t" and "d" sounds of Arabic become "affricates"—that is, when the "t" becomes like the sound [here in bold] in the English words tea**ch**er, ca**tch**, and **ch**ildren, while the "d" becomes like the sound [here in bold] in the English words ju**dge**, **g**em and le**dge**.

3 Results

3.1 The Contemporary Social Meanings of Strong Palatalization

The results of the experiment show that both women's and men's use of SP is highly stigmatized by Cairene listeners. Figures 1 and 2 summarize the results for the women's palatalized forms vs. non-palatalized forms and the men's palatalized forms vs. non-palatalized forms, respectively. The symbols above each pair of bars represent the level of significance of the palatalization variable in predicting the listeners' normalized social characteristic ratings for that adjective, with # = $.05 < p < .1$, * = $p < .05$, ** = $p < .01$, *** = $p < .001$, and **** = $p < .0001$. These figures demonstrate that the participants' ratings of the non-palatalizing men and non-palatalizing women were very similar, suggesting that listeners had no overall preference for male or female voices.

As these two figures show, all speakers' palatalized forms were rated as more colloquial but less attractive, confident, earnest, educated, refined and rich than their non-palatalized forms. The results for the confident and earnest adjectives are particularly surprising, given Haeri 's characterization of her female (strong) palatalizers as tough, strong, blue-collar women. The palatalized forms were also more often rated as being produced by countryside Cairenes, as opposed to urban Cairenes, than the non-palatalized forms. This finding is also unexpected, since Haeri characterized SP as an urban Cairene phenomenon (1997:97). One possible explanation for some listeners' association of Cairene SP with the countryside lies in the use of /dʒ/ by some Egyptian Arabic speakers. Though /dʒ/ > /g/ for most speakers of Egyptian Arabic, many people in rural Upper

Egypt retain the /dʒ/. Some of the listeners in the experiment may therefore have associated the voiced palatalized variant with this other markedly rural variant. The indexical relationship between SP and urbanity/rurality is discussed in more detail in the next section.

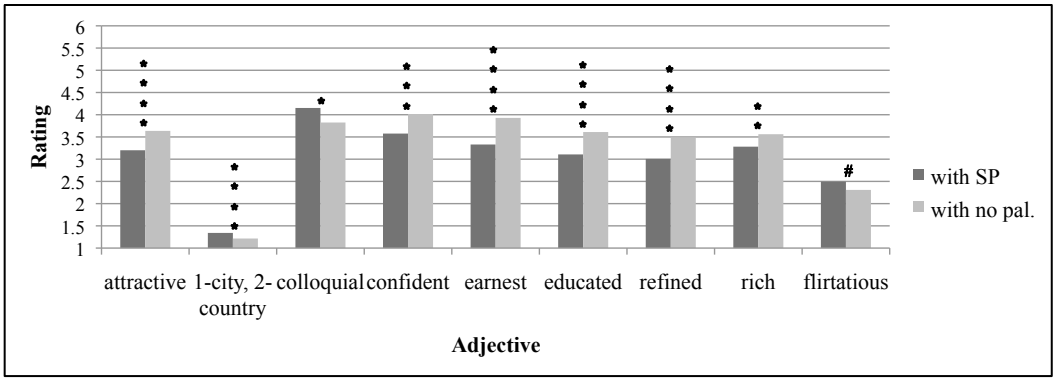

Figure 1: Mean social characteristic ratings, women's palatalized vs. non-palatalized forms.

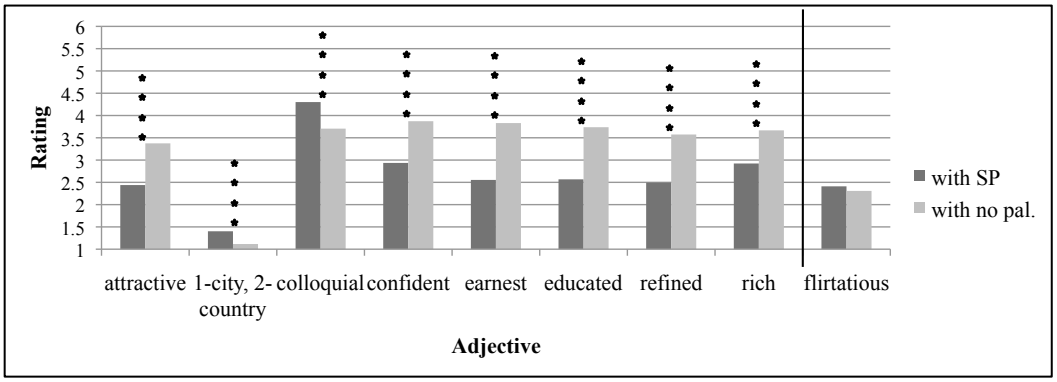

Figure 2: Mean social characteristic ratings, men's palatalized vs. non-palatalized forms.

There are two salient differences between Figures 1 and 2. First, the women's palatalized forms were rated as near-significantly (p = .0866) more flirtatious than the women's non-palatalized forms, while the difference in the men's flirtatiousness scores is not significant (though the trend is in the same direction). When the analysis of the male speakers' data was restricted to include only female listeners, palatalization was still not found to be a significant predictor of the flirtatiousness ratings. These results suggest that the stigmatized, lower-class (but also admirable, rough-and-tough city resident, Haeri 1997) associations of SP may be exploited by young women, but not young men, to sound flirtatious. This finding is supported by the explicit language ideologies discussed in Section 3.2.

Second, these results show that men are punished more for palatalizing than women are. This finding emerges in the data in two ways. The mean ratings for the positive social characteristics are often lower for the men's palatalized forms than for the women's palatalized forms, and the level of significance of palatalization as a predictor of the social characteristic ratings is often higher for the men's stimuli than for the women's stimuli.

In order to better quantify this observation, I calculated (the absolute value of) the differences between the mean social characteristic ratings for the women's palatalized and non-palatalized forms and the mean social characteristic ratings for the men's palatalized and non-palatalized forms. I then used these numbers to calculate the overall "mean palatalization penalty" for men vs. for women. These results are displayed in Table 1 below. All numbers are rounded to the fourth decimal place. Note that, in this case, it doesn't matter that the palatalized forms are viewed as more colloquial but less attractive than the non-palatalized forms, because the absolute value of

the differences between ratings of the palatalized and non-palatalized forms was taken.

	Adjective							
Sex of speaker	*attractive*	*colloquial*	*confident*	*earnest*	*educated*	*refined*	*rich*	**Mean SP penalty**
male	0.9359	0.5962	0.9359	1.2756	1.1699	1.0801	0.7436	**=0.9625**
female	0.4357	0.3274	0.4402	0.5985	0.5036	0.4708	0.2801	**=0.4366**

Table 1: Differences between the social characteristic ratings for the palatalized and non-palatalized words with male speakers and the palatalized and non-palatalized words with female speakers.

3.2 Other Findings

I turn now to the other fixed effects included in my analyses: sex of the listener, age of the listener, class index of the listener, plainness or pharyngealization of the non-palatalized critical consonant, plainness or pharyngealization of the pre-palatalized critical consonant, and voicing of the critical phone. One way I tested the effects of these variables on the social characteristic ratings was by grouping all of the positive traits (*attractive*, *confident*, *earnest*, *educated*, *refined*, *rich*) in one mixed effects model. I added *colloquial* to this group by flipping the endpoints of the rating scale for the listeners' raw ratings before normalizing them (i.e., by subtracting each raw rating from 7).

When the fixed effects listed above were included in the mixed model for this positive characteristic group along with palatalization, I found that the non-palatalized words containing a pharyngeal consonant were rated significantly better than the other non-palatalized words, to the $p < .05$ level. Evidently, there is some appeal to the pharyngealized stop. This appeal may result from the fact that pharyngeal consonants are popularly stereotyped as (Classical) Arabic-sounding, or, at least, Semitic language-sounding, because these so-called "emphatic" consonants appear in almost all Semitic languages (Gafter 2012). Listeners may find the pharyngeal especially attractive if the hypothesis that pharyngeals are disappearing in Egyptian Arabic (e.g., Haeri 1994:90–92, 1997:54–57) is correct. In that case, the Egyptian Arabic pharyngeal may be romanticized by speakers who take pride in their language and its historical roots.

Furthermore, the results show that older listeners rated the stimuli significantly more harshly overall ($p < .01$). This finding may be accounted for by the fact that all of the speakers in the main experiment were young (18–29), and likely sounded so; older Cairenes may generally believe that younger speakers' ways of talking are less pleasant-sounding and/or less "proper". Higher-class listeners also rated the male speakers as significantly less rich ($p < .001$) and the male and female speakers as significantly less flirtatious ($p < .05$) than lower-class listeners. And male listeners rated the female speakers as significantly more attractive ($p < .01$) and less refined ($p < .05$) than female listeners. However, higher-class listeners did not rate the palatalizing men or women significantly more harshly than lower-class listeners. One might expect that higher-class listeners would rate the palatalizers more harshly because they are not "in-group" palatalizers in the same sense that the lower-middle class listeners are. However, it seems that all Cairenes stigmatize SP to some degree, regardless of how much or how little they might palatalize themselves.

Finally, there is one other result that deserves mention. When including only the palatalized variants in the model, I find that the voiced affricate and the voiceless affricate were not treated differently for any social characteristic. Consequently, I believe these two variants must be considered together in SP, despite the results presented in Section 3.3, which indicate Cairenes are far more aware of the [tʃ] than the [dʒ].

3.3 Conscious Language Ideologies About Cairene Palatalization

Both the language ideology data collected by my representative at the AUC and the language ide-

ology data collected from the experiment participants indicate that most people associate SP with colloquial speech, with lower-class and uneducated speakers, with women, and with men who do not fit popular stereotypes of masculinity. For example, two female students at the AUC reported they would never talk that way themselves, but they and their friends "make fun of it all the time." They saw it as reflecting the lower-class status of the speakers, referring to palatalized speech as a /bɪnt bawab/ way of talking—a *doorman's daughter*'s way of talking. When the representative asked the students if they thought men also talked with palatalization, they replied, "Some guys do… usually hairdressers." Two female teachers at the AUC reported that only women would make this sound change, and if they heard a man doing it, they'd think he was "not a normal man." When asked to produce the stimulus words with palatalization, one male teacher stated that he would be embarrassed to pronounce these words in this "girly, cutesy" way on tape. Lastly, one of the 18–30 year-old women who recorded stimuli for the main experiment reported that young Cairene women, especially women in their teens and twenties, can use SP to sound flirtatious. She went on to say that changing the pronunciation of the singular, feminine second-person pronoun from /ɪnti/ to [ɪntʃi] is the most common linguistic stereotype associated with flirtatious SP users.

The Cairene experiment participants reiterated that the words containing SP—the "incorrect," "colloquial," "Egyptian slang" words—were associated with "low class people," as they "reflect the different degree of culture of the speakers." One listener in the experiment wrote of the palatalized speech, "I don't know the name for this type of pronunciation, but it spread among the uneducated housewives." The SP pronunciations were contrasted with the non-palatalized words by listeners who described the non-palatalized forms as sounding "classical," like what one hears on television, or like they were spoken by a radio broadcaster. The listeners were more divided when it came to linking the palatalized pronunciations with Egyptian geography. One listener wrote that SP was an "incorrect pronunciation linked to the city," while other listeners linked SP to more rural Cairenes in the greater Cairo area.

I believe there are a few possible explanations for these varied responses. First, as I mentioned above, while /dʒ/ > /g/ is a dialect feature of Egyptian Arabic, many speakers in rural Upper Egypt retain the /dʒ/. The Cairene listeners may be associating the SP of the Cairene speakers in the experiment with this other rural variant. Second, some Cairenes seem to believe that "vernacular" Egyptian is predominantly associated with the city, while others seem to believe "vernacular" Egyptian is predominantly associated with the countryside. Whatever each individual believes, this indexical link may then determine whether or not he or she believes SP is used most often by city or country folk in the Cairo area. Relatedly, Cairenes may associate SP with the countryside because urbanity is often associated with refinement, and rurality with a lack thereof. Thus, if SP is considered unrefined, it may be understood as a more "country" feature. One also cannot rule out the possibility that, since SP may have diffused out from the urban center of Cairo over the past twenty years, it may be losing some of its association with the city. Whatever the reason, Cairenes today may be starting to think of SP as a more generalized vernacular feature, rather than specifically an urban vernacular feature.

One final issue requiring discussion is the difference between how [tʃ] and [dʒ] are treated in conscious talk about SP. As I noted in Section 3.1, the listeners in the experiment did not rate [tʃ] and [dʒ] significantly differently for the nine social meanings tested. Yet, whenever the Cairenes at the AUC and the listeners in the experiment gave examples of the SP phenomenon, they always contained the [tʃ] variant. My representative at the AUC also found the [tʃ] to be more salient than the [dʒ]. After explaining the variable to her, she wrote: "Sure enough I have heard the 'dg' coming from the same set of people as the 'tch', though it's not used in the same exaggerated way when imitating those people." The title of this paper is taken from one AUC teacher's reference to those who use SP as "the people who say tsh tsh." So why would this disparity arise in the metadiscourse, but not in listeners' social judgments of the two SP variants?

Perhaps this difference can be explained by [dʒ]'s lower frequency of occurrence as compared to [tʃ] (Haeri 1997). Furthermore, if SP can only occur on /d, dˤ/ when these phones are devoiced in the environment of another voiceless consonant, as Youssef (2010) contends, then perhaps [dʒ] may not be phonetically voiced for all speakers (though it was voiced in all of my experimental stimuli). Importantly, [tʃ] and [dʒ] also have different statuses in Egyptian Arabic. [tʃ] is not a na-

tive Arabic phoneme, and may be more marked to listeners for that reason. It does appear in some loan words, however (e.g., the English borrowing *sandwich*, Watson 2002:60–62). [tʃ] can also be written in Arabic eye dialect by writing the characters for [t] and [ʃ] in sequence. On the other hand, [dʒ] is a native Arabic phoneme, but it is not an Egyptian Arabic phoneme. To reiterate, it is a dialect feature of Egyptian Arabic (throughout most of the country) that [dʒ] is pronounced as [g]. For this reason, the [dʒ] variant of SP cannot be written in eye dialect by Cairenes; the character that would be used to represent this sound in other Arabic dialects is realized as [g] in Egyptian Arabic. Both the more marked nature of [tʃ] and the ability of Cairenes to express this variant in eye dialect may contribute to its relative salience in talk about Cairene language and people. Future research on eye dialect uses of SP in popular media (e.g., on the social media site, *Twitter*) would provide further insight into the current status of this variable in Cairo, as well as into people's awareness of the variable in other Egyptian cities and other Arabic-speaking countries.

4 Conclusion

The experimental data and language ideology data discussed in this paper show that, in 2012, SP is a highly stigmatized, female-associated feature. Further, the data demonstrate that young women may use SP to sound flirtatious, and that the indexical link between SP, the city center, and its residents is weaker now than it was in Haeri's 1987–1988 data. But the relationship between the present results and those of Haeri 1994, 1997 is complicated.

As I discussed above, Haeri showed that the use of strong palatalization in Cairene Arabic was age-graded, class-graded and sex-differentiated. Young, middle-middle class and lower-middle class women were demonstrated to use this feature most frequently. However, Haeri stressed that, in practice, these variables must not simply "mean" female, feminine or lower-class (similar theoretical arguments were made in Eckert 1990 and in subsequent third wave sociolinguistic research). Why, then, do the perceptual data show that SP is still strongly linked with women, lower-class people and a lack of education or refinement? The three social characteristics I tested which one might most expect to be linked with SP given Haeri's description of her interviewees (*confidence*, *earnestness*, and *cityness*) are not shown to be linked with SP.

There are a number of crucial explanatory factors to consider when comparing Haeri's work with the present research. The first is the passage of time. My data were collected almost 25 years after Haeri's data were collected. In that time, SP has, evidently, become a stereotype of uneducated, lower-class women's speech. Men who use SP are perceived as "not normal" men, especially by older Cairenes. This stereotype is so strong as to be commented on by both the experiment participants and the language ideology survey participants at the American University in Cairo. People not only described the same coherent social persona shared by "the people who say tsh tsh," they also noted that it is common for upper-class speakers to imitate this way of talking.

Therefore, of the many findings discussed in this paper, only one may be interpreted to suggest that SP has advanced as a change-in-progress, as predicted by Haeri. The mixed results concerning the relationship between SP and urbanity could suggest that more men and women who live outside of Cairo's city center use SP now than did in 1987–1988. However, on its own, this finding does not seem to provide strong support for the idea that SP is still operating as a change-in-progress. Overall, the results discussed here suggest either that the change-in-progress proposed by Haeri has stalled, or that SP was never a change-in-progress.

It is also important not to underestimate the inevitable differences that arise between production and perception data. Haeri was able to intersect ethnographic observations about her interviewees with the evident distribution of SP in her interviewee's talk to deduce what SP seemed to mean for those speakers at that time. The experiment I completed was able to test a broader range of social meanings for SP than could necessarily be expected to emerge in the course of sociolinguistic fieldwork. For example, Haeri reports that the flirtatious meaning of women's SP was apparent to her when the Cairene women interacted with men (p.c., 2011), but since she interviewed most of her interviewees herself, she was unable to analyze this meaning in depth.

Furthermore, there may be differences between what the use of SP means to other frequent SP users—other urban, tough, in-group women and men or perhaps other male hairdressers—and what the use of SP means to people who do not use SP at all. Though there was no correlation

between listeners' class ratings and the strength of those listeners' dispreference for SP in the present experiment, it is unlikely that any Cairene with reliable Internet access and the approximately 45 minutes needed to complete the experiment is truly lower-class. The issue of "in-group" vs. "out-group" uses of SP is something that would best be explored through the completion of long-term ethnographic work in Cairo. Future studies on the eye dialect uses of SP in popular textual media, and uses of WP and SP by television and movie characters, would also contribute to a richer and more nuanced understanding of Cairene palatalization.

For now, I hope that this paper joins prior research (e.g., Mazraani 1997, Owens 1998, Shorrab 1981, Haeri 1994, 1997, Taqi 2010) in further promoting the exploration of the sociolinguistic dynamics of Arabic speech communities beyond the influences of Classical Arabic. I also hope this work has demonstrated the benefits of completing sociolinguistic production and perception studies on the same variables; even when, and perhaps especially when, my data and Haeri's data contradict each other, I believe that these studies work together to promote better insight into Cairene SP. Lastly, the present research has shown that sociolinguistic experiments can be effective when performed on single words. The design of the social perception experiment discussed in this paper deviates from the traditional Matched Guise Experiment paradigm (e.g., Lambert, Hodgson, Gardner and Fillenbaum 1960), which usually relies on sentence(s)-long stimuli. But a single-word design allows for more experimental control over the stimuli. As highly significant results were obtained in this experiment, and listeners were able to express strong language ideologies on the basis of these single-word productions, a single-word design may prove fruitful in future sociolinguistic studies.

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