

“Why do women do this?” Sex and Gender Differences in Speech*

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1. Preliminaries

In *Sociolinguistic Patterns*, Labov discussed the role of women in linguistic change, reviewed examples of sound changes in which women were ahead of men and had “moved forward faster,” and asked “why do women do this?” (1984 [1972]:302). Stressing that answers to this question “are not better than speculations,” he went on to suggest that “the sexual differentiation of speakers is therefore not a product of physical differences alone, or of different amounts of referential information supplied by speakers, but rather an *expressive posture* which is socially more appropriate for one sex or the other” (p. 304, emphasis added).

Although more than 20 years have passed since Labov’s initial ‘speculations’ on the reasons underlying speech differentiation between women and men, sociolinguists would agree that even today explanations of such differences remain rather elusive. Eckert (1989) points out a longstanding ‘biological bias’ in treatments of gender differences in the sociolinguistic literature. She attributes our lack of success to the fact that such differences have generally been treated in terms of the binary biological opposition of male and female: “the correlations of sex with linguistic variables are only a reflection of the effects on linguistic behavior of gender — the complex social construction of sex — and it is in this construction that one must seek explanations for such correlations” (p. 245).

My aim in this article is to further develop the notion of an ‘expressive posture’ by conceptualizing it as the result of interactions between sex-based speech differences and social structure. The physical differences that underlie

certain speech differences are not construed, nor remain, as merely physical. Rather, they feed into social constructions of ‘difference.’ Eckert mentions in the cited article that some variables may possess ‘iconic’ values. I take ‘iconic values’ as applied to speech to mean values that are not purely symbolic. The goal of this article is thus to explore the ways in which iconicity and social structure interact to produce ‘expressive postures’.

2. Fronting and Backing Processes: Iconicity and expressive postures

Examples of the kinds of sociolinguistic variables that seem to show iconicity with respect to sex are those involved in fronting and backing processes. Table 1 presents a survey of 19 variable processes that can be phonetically characterized as involving either fronting or backing. The results show that of 13 fronting variables, 12 are led by women, while 5 out of 6 backing processes are led by men.¹ On the basis of these data, from 10 different speech communities, it is reasonable to generalize that fronting has the iconic value ‘female,’ while backing has the iconic value ‘male’. Put differently, we could say that fronting is an expressive posture more often exhibited by women, while backing is an expressive posture more often exhibited by men.²

There are also two exceptions, marked with an asterisk in Table 1: in Sydney, men lead in the palatalization of /t, d, s, z/ in the environment of a following /yu/ (Horvath 1985:116), and in Detroit, adolescent girls back (uh) more than adolescent boys (Eckert 1989:262). My intention in providing the data in Table 1, however, has not been to seek a global EXPLANATION for why men and women exhibit differences in the use of these particular variables. The more frequent backing of men, for example, is not in itself an explanation. For each particular case, the linguistic behavior of women and men requires an explanation whether or not their behavior fits the generalization that I have drawn. The point here is to provide some evidence from specific phonological variables showing that differences between women and men in fronting and backing processes are results of vocal tract differences and social factors operating simultaneously. To further support this point, I will now review some studies in the phonetic literature which show that, in at least some instances, the physical and the social are largely inseparable.

Table 1. *Studies of variables operating on the front/back dimension*

Study	Location	Fronting	Backing	Women	Men
Gauchat (1905)	Charmey	palatalization of /l/		√	
Labov (1966)	New York City	(aw)		√	
Milroy & Milroy (1985)	Belfast		(a)		√
Horvath (1985)	Sydney	palatalization t,d,s,z /__ yu			√*
Chambers & Hardwick (1985) [†]	Toronto; Vancouver	(aw) (aw)		√ √	
	Toronto		(ow)		√
Luthin (1987)	California (Bay Area)	(ow)		√	
Eckert (1989)	Detroit	(æ) (a) (oh)		√ √ √	
			(e) (uh)	√* √*	√
Labov (1990)	Philadelphia	(æ) (uw) (ow)		√ √ √	
			(ay0)		√
Royal (1985)	Cairo		pharyngealization		√
Haeri (1991)	Cairo	palatalization t,d, T, D /__i, y		√	

Key: √ group in advance.
* exception.

[†]Cited in Labov (1990).

2.1 *Evidence from phonetic research*

The phonetic studies I have chosen (Mattingly 1966; Fant 1973, 1975; Sacks 1975; Sacks, Lieberman, & Erickson 1975) are specifically concerned with vocal tract differences between men and women in the production of vowels. They are experimental works using stimuli such as single vowels or single sentences. I now briefly review their main conclusions.

All the cited studies find that differences in vocal tract size between women and men result in acoustically discernible differences in their speech. They also find that, for some vowels, the acoustic differences are larger than the size difference could account for. But what is interesting is that whenever physical differences are not sufficient to explain the magnitude of the acoustic differences, the authors resort to notions such as ‘cultural norms’ and ‘conventions’. Mattingly (1966:1219) attributes differences over and above the size of the vocal tracts to “linguistic conventions”. Sacks (1975:154) discusses “male-female archetypes” that are “culturally determined”. And Sacks et. al. (1975:80) speculate that “children could be learning culturally determined patterns that are viewed as appropriate for each sex”. It seems that the underlying suggestion is that anatomical differences always play a role in distinguishing the speech of women and men, but where acoustic differences are larger than anatomical ones, the speakers are exaggerating or underplaying in order to approximate an archetype that is itself culturally determined. Lieberman (1986:359) states: “... human beings are not automata, completely constrained by their anatomy.... There is in essence a ‘male’ dialect that is culturally transmitted.” There is a certain circularity in these arguments — where does the archetype come from? But I believe the circularity is justified if we agree that physical differences feed into social constructions and social constructions in turn influence manipulations of the magnitude of physical differences.

In his discussion of possible explanations for linguistic differences between women and men, Labov states:

It would be quite satisfying if we could arrive at a straightforward grouping of male- and female-dominated changes by their phonetic character. Some of the first sound changes studied made it seem possible that females led in the upward movement of peripheral tense vowels that increased the dispersion of the vowel system, like the raising of (æ) and (oh), while males led in the opposite trend: shifts that moved toward the center corresponding to a

“close-mouthed” tendency, like the centralization of (ay). But this would not account in any way for the consonantal changes that are led by women, nor for other recent female-dominated movements reported recently.... (1990:219).

But even if we were able to arrive at such a grouping of sound changes, it would not in itself explain the complex reasons behind gender differences in speech. Enough solid evidence on the embeddedness of variation and change in social structure has accumulated that an explanation based on physical differences alone would be highly suspect. In addition, I would argue against demands for one sweeping ‘significant generalization’ that would explain differences for every kind of phonological process. We need not treat the possibility of iconicity and its interaction with social factors as an all or nothing phenomenon. Sociolinguistic variables that are involved in changes in progress, and whose variants show gradiency, seem to show traces of iconicity far more readily than, for example, t/d deletion, or (ing).³

The generalization that fronting processes are more often led by women, and backing ones by men, is subject to one objection that requires some consideration. Research on acoustic normalization has focused attention on analytical problems in studying sex-based speech differences. It can be argued that the smaller size of women’s vocal tracts results in higher frequencies, so acoustic data would always show women’s front vowels, for example, as fronter, since their F2’s are higher than men. Yet auditorily — that is, from the point of view of listeners — they may not SOUND fronter, since the listener’s ears perceive vowel color with respect to the speaker’s overall vowel-space. A number of procedures have been proposed for comparisons both within and across languages (Nearey 1977; Disner 1980, 1983; Holmes 1986, among others). While each of these procedures has had various degrees of success, none has been accepted as fully satisfactory for every kind of speech input (see Fant 1973; Disner 1980).⁴ In other words, none have been fully successful in reproducing the normalization that listeners’ ears naturally perform. In this regard, Mark Liberman (p.c. 1991) has pointed out that “There is a potential problem with regression studies that show a positive effect of female sex on normalized F2 — this might mean that women are fronting more, or it might mean that the normalization is incomplete.”

The objection may be serious for studies that use acoustic data alone. However, as far as I am aware, most sociolinguistic studies to date, including the majority of the studies cited in Table 1, do not use acoustic data but

impressionistically coded data.⁵ There is general agreement in the phonetics literature that a linguist's auditory judgements are still the most reliable with regard to the phonetic value of the segment concerned (Ladefoged 1967; Disner 1983; Clark & Yallop 1990). Thus normalization problems are only relevant to studies that code their data on the basis of acoustic information alone. Still, in sociolinguistic studies speech data are not subjected to instrumental analysis on a purely random basis. Generally, the investigator first hears a potential variable, confirms its generality in the speech of a number of speakers, and only then may go on to use instrumental analysis. Thus I conclude that the pattern shown in Table 1 is not simply a result of unsatisfactory normalization procedures.⁶

3. Sex and Gender Differences in Cairene Arabic

Investigating interactions between iconic values based on sex differences and social structure is an inherently difficult task, and the data that would be required to completely examine the issues are not available. But as a step in that direction, I will consider two sociolinguistic variables in Cairene Arabic: degree of pharyngealization, and apical palatalization. Data on these variables confirm our generalization drawn earlier with regard to fronting and backing; but more importantly, they give indications that in Cairo, even where a feature is overwhelmingly used by and associated with women, the linguistic behavior of women and men cannot be explained on that basis alone. Without considering the role of social class, for example, a number of patterns would remain inexplicable.

Pharyngealization has been described as a secondary articulation which involves the backing of the tongue towards the pharynx (Jakobson 1978 [1957]; Ghazeli 1977; Royal 1985). This secondary articulation is referred to in the literature as a backing process. On the other hand, palatalization has been considered as a fronting process since it always involves tongue-fronting (as well as raising) (Bhat 1975; Keating 1987). Sociolinguistic investigations that have studied these processes specifically with respect to gender differences are Royal (1985) and Haeri (1991, 1992, 1994).

Royal (1985) investigates the sociolinguistic variable 'strength of pharyngealization' in the realization of the pharyngealized or 'emphatic' phonemes /T, D, S, Z/ in Cairene Arabic.⁷ She analyzed 57 speakers, 29

women and 28 men, and found that pharyngealization is not an ‘off or on’ phenomenon, but can be achieved with varying degrees of strength (or backing). Figure 1 presents her comparison of men and women with regard to strength of pharyngealization.⁸

The men have significantly ‘heavier’ pharyngealization than women. Royal states that men “extra-back their pronunciation in order to sound tough” (1985:95). She finds that speakers associate weak pharyngealization with women and strong pharyngealization with men: “...local informants claim there to be a masculine-feminine scale of pronunciation, men producing ‘stronger’ pharyngealized consonants, and women ‘weaker’ ones” (p. viii). She concludes that the front/back dimension plays a central role in distinguishing the speech of women and men in Cairo. These results are confirmed in the earlier findings of Harrell (1957) with regard to Cairene pharyngealization.

Equally significantly for our purposes, Royal finds that weaker pharyngealization (or no pharyngealization at all) is not only a feature of women’s speech, but also a feature of upper and upper-middle class speech in general.

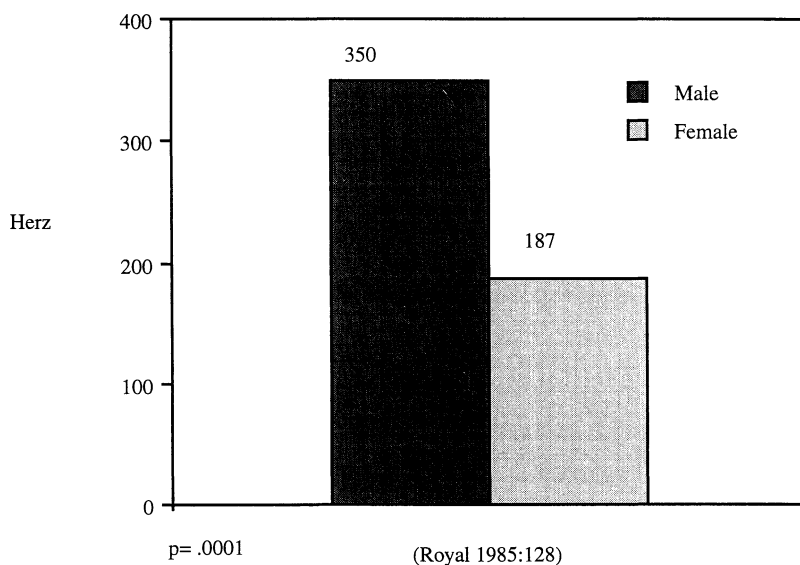


Figure 1. *Strength of pharyngealization in the speech of men and women*

Thus absence of backing characterizes the speech of women, but also the speech of the upper classes. Noting that lower class informants comment on this feature of upper class speech, Royal reports: “several upper-class men informed me, in fact, that they assume ‘strategic’ backing when driving a bargain with a lower-class vegetable vendor, persuading a lower-class taxi driver to drive to the door, or talking with the construction workers who work for them” (p. 95). Hence the physical posture of backing becomes an expressive posture that is not solely associated with men as opposed to women, but with men who are not members of the upper classes. Heavy pharyngealization also belongs to the proper norms of Classical Arabic. Weak pharyngealization, or de-pharyngealization, is therefore simultaneously ‘female’, unclassical, cosmopolitan (Badawi 1973), and upper class.

As was mentioned above, palatalization is considered a fronting process. In Cairene Arabic, the voiceless and voiced dental stops /t, d/; their pharyngealized counterparts /T, D/; and the geminates /tt, dd/, are variably palatalized when followed by a palatal glide or high front vowel (Haeri 1991). Investigating the use of this variable in the speech of 25 men and 24 women, I found that women palatalize far more frequently than men (see Table 2).⁹

Palatalization is also a gradient variable. There is weak palatalization that is audible as frication, and strong palatalization that results in affricates. The social distributions of weak and strong palatalization are complex. What is quite clear, however, is that weak palatalization, which seems to have entered the phonology of Cairene Arabic before strong palatalization, is an innovation of upper-middle class women (Haeri 1994). Figure 2 shows that upper-middle class (UMC) and middle-middle class (MMC) men do not lag far behind UMC women in their use of weak palatalization. The largest differences are between UMC women and lower-middle class (LMC) men. Weak palatalization is an expressive posture that is both ‘female’ and upper class.

Table 2. *Application of palatalization for women and men*

	Probability	Percentage	N
Women	.77	31	4418
Men	.18	5	3593
p < .0001			

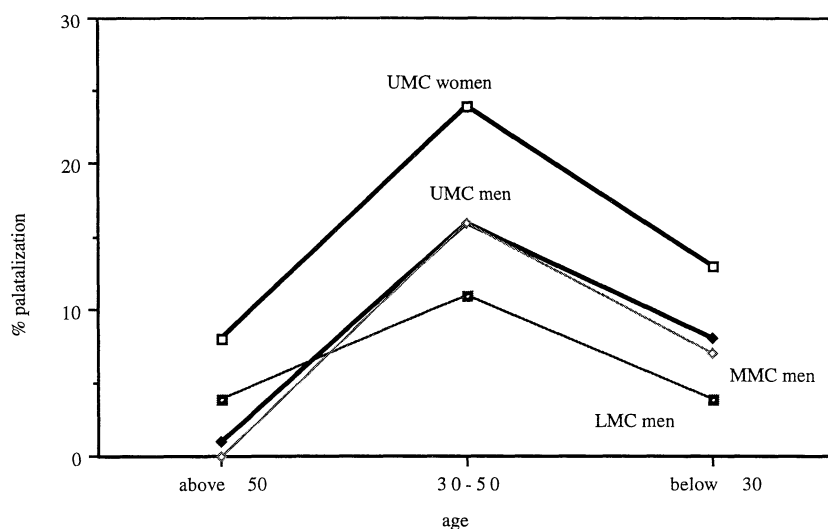


Figure 2. Comparing the linguistic behavior of men in three social classes with that of UMC women

Weak palatalization is an older process that is being replaced by strong palatalization, and strong palatalization is used most frequently by and associated with women in the lower-middle class (see Figure 3). I have suggested elsewhere that MMC and LMC women seem to have overtaken palatalization both in its exaggeration from a process of frication to one of affrication; and in terms of frequency of use (Haeri 1991).

Figure 3 shows that UMC women are not following the lead of LMC women in the propagation of strong palatalization. If palatalization only had the iconic value of 'female' it would be difficult to explain the behavior of UMC women: there would be no reason for them to avoid it. But most probably their behavior with regard to strong palatalization is due to its use by and association with the lower-middle class.

Figure 4 shows the linguistic behavior of men with regard to weak and strong palatalization. While LMC men show some participation in strong palatalization, men in the other two groups have very low frequencies of use. I do not have an explanation for why strong palatalization is not used by these men, but it would be difficult to argue that it is only related to the iconic value of palatalization, and not to its class associations. Thus class plays a role in

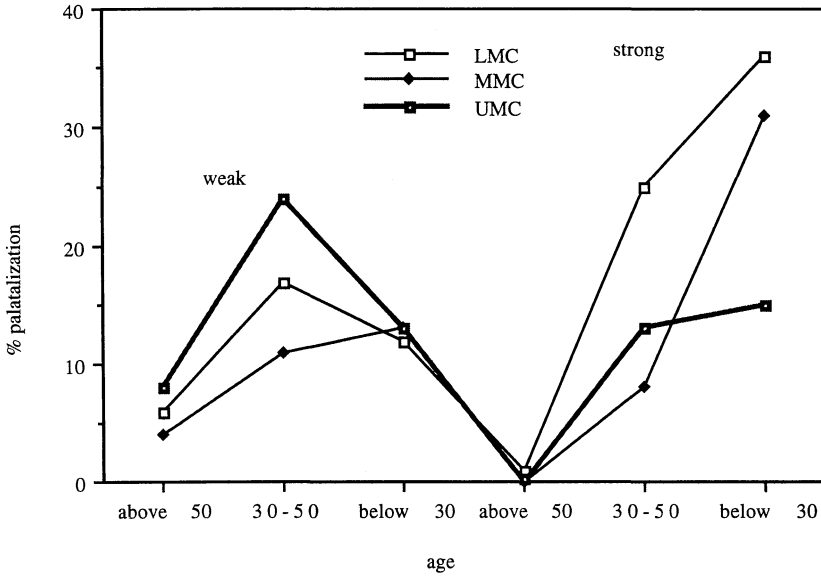


Figure 3. *Weak and strong palatalization according to age and social class among women*

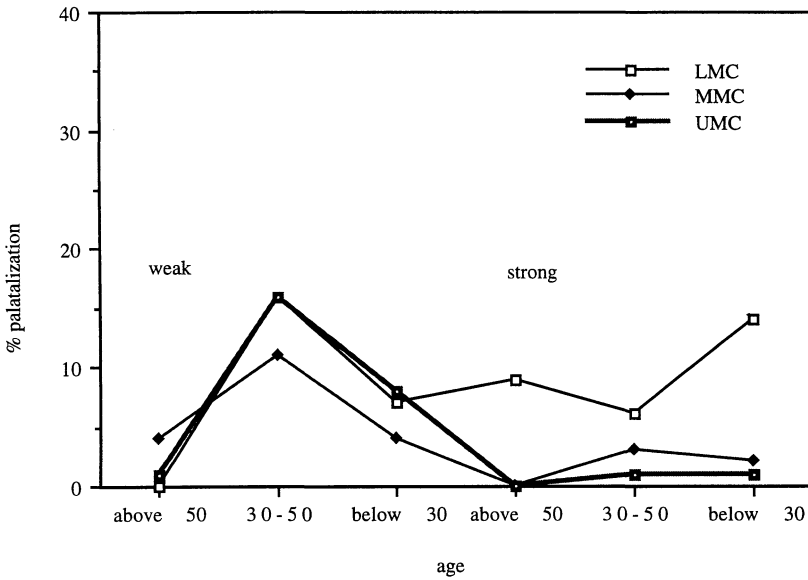


Figure 4. *Weak and strong palatalization according to age and social class among men*

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explaining the linguistic behavior of both women and men. It should be mentioned that while the data on palatalization support Kroch's view that "prestige speakers seek to mark themselves off as distinct from the common people" (Kroch 1978: 30), they do not support his more general assertion that the dialect of such speakers resist "normal processes of phonetic conditioning... that the speech of non-elite strata regularly undergo" (p. 18). In Cairo, the dialect of the upper classes has prestige, but it also is involved in a number of sociolinguistic processes, of which pharyngealization and palatalization are two examples.

At this point, it may be reasonably asked: why then would it be important to pay attention to sex-based differences at all, if explanations will always involve other aspects of the social context of the speakers? In answer, I would say that first, it is important to examine what 'goes into' social constructions of speech differences. And second, I would speculate that social constructions of upper class ways of speaking quite often are the same as, or coincide with, constructions of what is 'feminine'. If so, then the iconicity of some processes may affect the linguistic behavior of groups in different classes in specific ways. However, the dearth of empirical and ethnographic data on the upper classes in the sociolinguistic literature does not allow more than speculation at this point (but see Labov 1966; Kroch 1978; and Kroch's paper in this volume).

4. Conclusion

The cases of Arabic pharyngealization and palatalization support the three central claims of this article: a) fronting and backing processes show evidence of sex-based differences; b) such differences interact with social structure; c) the linguistic behavior of women and men cannot be explained solely on the basis of iconic values that are based on sex differences. The social construction of gender and other such categories is complex. This article is intended as a preliminary exploration of some of the factors involved in the social construction of gender. Identifying the kinds of pressures that produce "expressive postures" may be a step towards a deeper understanding of gender-based linguistic differences.

Notes

- * Data on Cairene Arabic were gathered through fieldwork funded by a grant from the Wenner-Gren Foundation for Anthropological Research, a grant-in-aid from the Institute of Intercultural Studies, and a fellowship from the Andrew Mellon Foundation. Their support is gratefully acknowledged.
- 1 In Trudgill (1972) a number of the 'vocalic variables' may be involved in fronting or backing. But their phonetic notations were not sufficient for me to determine exactly what kinds of processes they are involved in.
 - 2 Additional support for the generalization that men rarely participate in fronting processes can be found in studies such as that of Henton (1983). Instrumental analyses of British English Received Pronunciation vowels over a 20 year period showed that for men "the vowels mostly appear to be converging towards centralization, even though this end may require different acoustic 'tactics' by different vowels" (Henton 1983:358).
 - 3 In this regard, it is not clear to me whether palatalization in Sydney (Horvath 1985) is a change in progress or a stable variable.
 - 4 Fant (1973) criticizes normalizations of male and female formant frequencies by a "single scale factor" (p. 84) which does not take into account the particular group of vowels being investigated: "Actually the female to male relations are typically different in the three groups of (1) rounded back vowels, (2) very open unrounded vowels, and (3) close front vowels" (p. 29).
 - 5 Labov (1990) uses acoustic data, employing the normalization procedure proposed in Nearey (1977). According to Disner (1980:259), this procedure is highly successful in normalizing vowels in the same dialect.
 - 6 Clearly, the ideal is to check impressionistically coded data against instrumental analysis, and vice versa. As far as the argument of this paper is concerned, instrumental and experimental analyses may be quite useful for ensuring that the linguist's characterization of a process as, e.g. backing, also represents the dimension that speakers are responding to. Designing tests that would establish the relevant dimension to listeners is a challenging task. But it would be required for a more clear understanding of the evaluation of linguistic variation and the potential role of iconic values.
 - 7 The emphatic phonemes have their non-emphatic or 'plain' counterparts /t, d, s, z/.
 - 8 Royal studied two neighborhoods as representing 'upper class' and 'lower class' Cairenes. This graph presents data on Heliopolis, the 'upper class' neighborhood. She does not provide exactly comparable data on the other neighborhood (Gamaliya), but the pattern is similar.
 - 9 Data on men and women were run separately. For this reason, the probabilities do not add up to 1.0, nor the percentages to 100.

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