## An intersectional model of social factors in Raleigh's retreat from the Southern Vowel Shift Jon Forrest and Robin Dodsworth

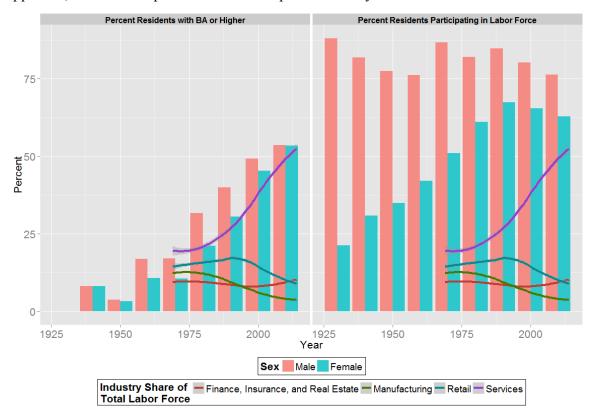
A challenge in analyzing social conditioning of linguistic variation is the complex interweaving of social categories within any community. Attributes like sex and social class do not operate independently of one another; sex affects an individual's lived experience of class position and vice versa. This idea has been termed intersectionality (Collins, 2002; Crenshaw, 1989). Intersectional approaches exist in sociolinguistics, especially in relatively small ethnographic studies (Eckert 1989, Kirkham, 2015; Levon, 2011), but rarely in larger quantitative studies. However, recent macro-level intersectional work in sociology on regional labor market differences have illuminated the relationships among gender, occupation, and region (McCall, 2001, 2005). The current paper incorporates these macrosociological insights into an intersectional analysis of language change over time in relation to gender and occupation in the Southern U.S. city of Raleigh, North Carolina.

The Southern Vowel Shift (SVS) has been reversing in Raleigh since the mid-20th century, largely as the result of the technology industry bringing workers from the North. In previous work, the reversal of the SVS shows strong effects of occupation (white collar workers lead the reversal) but not gender (anonymous 2012, 2013, 2014). Here we evaluate the hypothesis that gender effects are present but only emerge in an intersectional approach: specifically, the restructuring of the local economy since the 1960s requires an empirically driven, temporally shifting model of the relationship between gender and occupation. We use demographic data from the decennial U.S. census (1930-2010) and county-level measures of employment by industry (1969-2014) from the REIS database (U.S. Bureau of Economic Analysis, 2016). The linguistic data consist of force-aligned conversational interviews with 162 Raleigh natives. The linguistic variables are the front vowels involved in the SVS (/i/, /i/, /e/, /e/, /æ/) and the stable sociolinguistic variable of (ING), which also shows strong occupation effects in Raleigh (anonymous 2015).

Raleigh's changing economic structure is modeled via three time periods corresponding to transition points in the rates of college degree attainment and labor force participation, as determined by the census data above (Figure 1). In Period 1 (pre-1960), female labor force participation was low, and degree attainment was low for both men and women. Period 2 (1960-1980) saw an increase in women's labor force participation, but a gender gap opened in degree attainment. In Period 3 (1990-2010), the gender gap in degree attainment disappeared, and women's increasing labor force participation levels off. The following significant results emerged from multilevel regression:

- (/i/, /e/, /æ/): male speakers are more Southern in Period 3.
- (/I/ and /ɛ/): upwardly mobile speakers white collar workers with blue collar parents are more Southern than speakers with white collar parents in Period 1. However, this effect reverses for /I/ Period 3, such that upwardly mobile speakers are less Southern than non-mobile others.
- (ING): In Period 2, white collar speakers are less Southern. Men are more Southern across all time periods.

In conclusion, gender effects that were obscured in previous analysis emerge in an intersectional approach, and the occupation effects from previous analysis remain.



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