

Studying the Culture-Phonology Interface

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Introduction

- This workshop will attempt to shed light on two crucial questions for the study of the Culture-Phonology Interface...
 1. *Why is there social stratification of phonetics and phonology?*
 2. *Which levels of phonetic and phonological representations are socially stratified?*
- We will conclude that there is considerable evidence that social stratification of speech serves the purpose of conveying different social identities
- We will advance the strong hypothesis that all levels of the phonological grammar are subject to potential social stratification

Social variables

- Culture (in this talk):
Categorizing speaker attributes
- Macrocategorization of the social space
 - Gender
 - Age
 - Class
 - Ethnicity
 - Sexual Orientation
- The subject of classic variationist sociolinguistic studies

Social variables

- Microcategorization of the social space
 - “Jocks” v “Burnouts” (Eckert, 1989)
 - Different groups differ in their engagement in the Northern Cities Vowel Shift
 - Norteña and Sureña girls (Mendoza Denton, 2008)
 - Differ in their production of the vowel /i/ in 'nothing'
 - Common Room v Non-Common Room girls (Drager, 2008)
 - Realization of /k/ in quotative and discourse particle *like*.

Sociophonetics

- Acoustic and auditory study of systematic phonetic and phonological variation according to social categorization of speakers and hearers (Hay and Drager, 2007).
- Traditionally investigated through qualitative surveys and phonetic analysis of speech (e.g. Labov, 1966) to measure phonological variation more finely than can be done with transcription

Sociophonetics

- Recently, laboratory methods have gained popularity in sociophonetic research (e.g. Hay, Warren & Drager, 2006)
 - to measure phonetic detail in controlled settings, and
 - to establish the extent to which listeners reference speaker attributes during speech perception

Causes for social stratification

- Assuming that language is subject to variation, we ask why trends in variation stratify according to social variables.
- ***Exposure***
The language we hear depends on the social group we belong to. Certainly true for large scale dialectal variation (Scottish people are from Scotland).
- Probably only marginally true for other social dimensions in modern society.
 - Gay men need not learn gay speech styles from other gay men, nor must common room girls learn their speech styles from other common room girls
 - the ‘gay speech’ and ‘common room speech’ features are a subset of the features used for other stylistic meanings. Gay men and Common-Room Girls need only learn to associate speech attributes with a social identity

Causes for social stratification

- **Biology**

The way we understand, learn and retrieve language depends on the social group we belong to. If biological reasons (e.g. women have better memory; e.g. Estabrook et al. 2002) cause social stratification, social variables with a biological character (e.g. gender) should exhibit more variation than social variables with a cultural character (e.g. class).

- This does not seem to be the case.

- Linguistic variation along categories not related to obvious biological differences (i.e., social class) is widespread and significant
- Even those variables that have a potential biological basis (i.e., gender, age) have vastly different influences in different languages (i.e., Johnson, 2006; Van Bezooijen, 1995; Nagao, 2006)

Causes for social stratification

- Both Exposure- and Biology-related explanations suggest context-independence of social stratification (e.g. a certain social group always sounds a certain way independent of social context).
- This also doesn't seem to hold. Consider one aspect of variation, the tendency to accommodate phonetically to a conversational partner.

Causes for social stratification

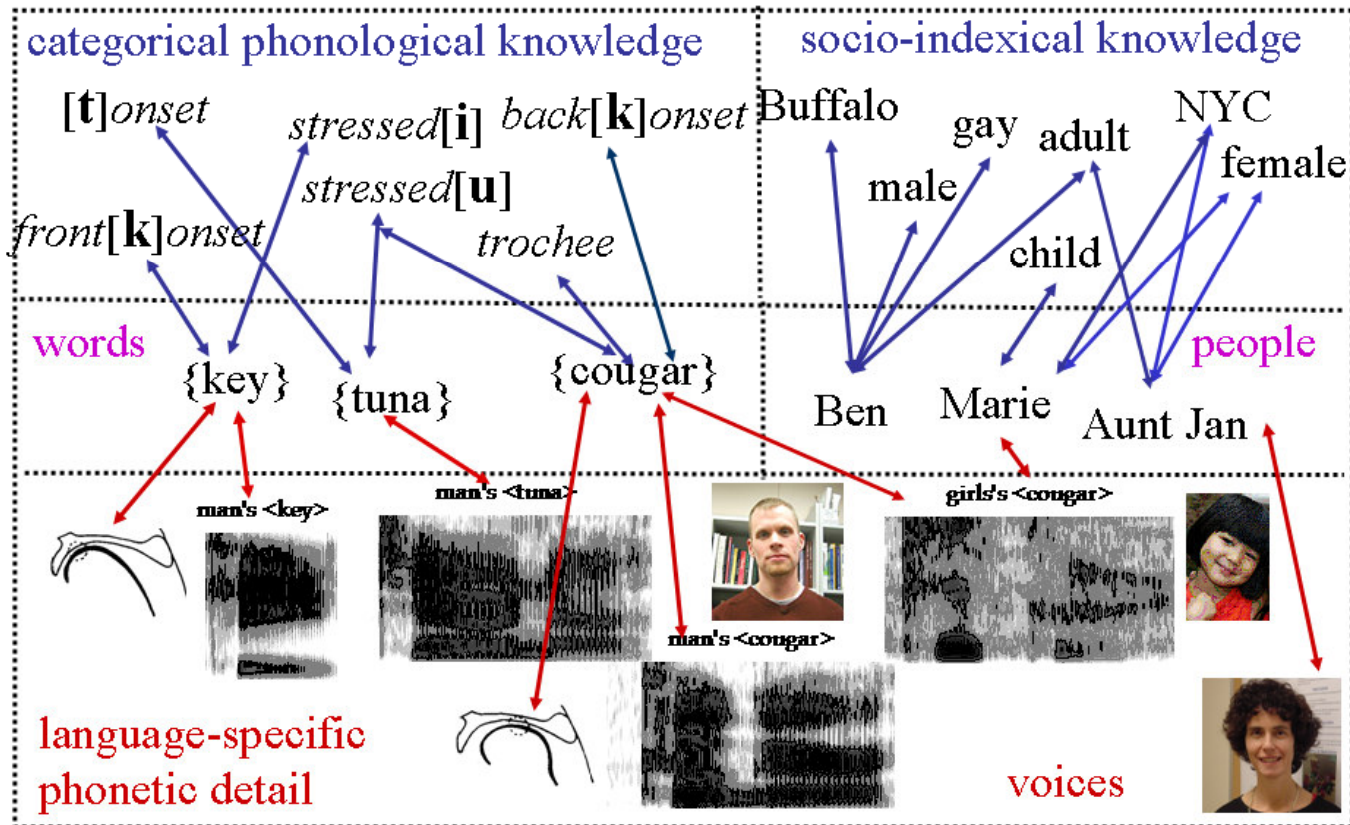
- Depending on context and conversational role different social groups accommodate differently (Pardo, 2006)
 - Women phonetically accommodate more in a cooperative dialogue task when receiving directions than when giving them.
 - The opposite pattern is found in men.

Causes for social stratification

- **Identity:**
Language learning and language processing depend on the social categorization of our input. We make use of social variation to project a social identity.
- Language serves as a mean to convey social identity. Learners store a multitude of social information about their linguistic input and adapt their production to the social circumstances.
 - Graff, Zuraw and Nielsen (this session): Does gender conditioned phonetic imitation and generalization depend on phonetic properties or cultural identification of the stimulus?
 - Babel (this session): Does social-psychological distance between speakers influence the extent to which the speakers shadow one another phonetically?

What levels of phonological representation are socially stratified?

Levels of knowledge about speech sounds



What levels of phonological representation are socially stratified?

- Different social groups differ in terms of their phonetic instantiation of phonological categories.
 - Pierrehumbert et al. (2004) show that Lesbian and bisexual women produced less fronted /u/ and /ɑ/ than heterosexual women. Gay men have a more expanded vowel space (primarily because of the production of low vowels) than heterosexual men. However, the vowels of GLB speakers were not generally shifted toward the complete pattern of the opposite sex.

What levels of phonological representation are socially stratified?

- Listeners have tacit knowledge of category instantiation and employ it to identify speaker according to social variables.
 - Munson (2007) showed that perception of speakers' sexual orientation was influenced by phonetic detail such as vowel space expansion, /s/-skewedness and fronting of back vowels.
- Interaction of factors in perception is not linear (e.g., Campbell-Kibler, 2005; Podesva, 2006)
- This affects performance on tasks that do not call direct attention to social variables
 - Strand and Johnson (1996): listeners categorize ambiguous phones differently when they are led to believe that they are listening to a man or to a woman
 - Strand (2000): spoken word recognition is slower when the voice is not prototypically male or female

What levels of phonological representation are socially stratified?

- Different social groups differ in the rate with which they exemplify phonologically conditioned patterns in their language
 - Hay and Maclagan (forthcoming) found a main effect of social class (higher social classes significantly less likely to use intrusive /r/), a main effect of phonological environment and affix type as well as a significant interaction in their analysis of the likelihood of /r/-insertion.

What levels of phonological representation are socially stratified?

- Does social information about speakers influence listeners phonological analysis of a signal?
 - Munson and Kaiser (this session): Do listeners make different phonotactic generalization for different speaker groups in an artificial language learning task?
 - Staum Casasanto (this session): Listeners formed *t/d-less* representations more quickly when the speaker was Black, reflecting the way Black and White speakers tend to delete /t/; this effect was produced despite the fact that listeners actually heard the same acoustic input in all cases. The same behavior generalized to nonce words suggesting that social knowledge cannot exclusively be stored in word-level exemplars.

Which levels of representation are affected by social factors?

- A strong hypothesis: ***All levels of phonological grammar are subject to potential social stratification.***
- Crucially, this includes abstract generalizations as well as phonetic distributions.

A sociophonetic research program for phonology

- The talks in this session are concerned with *why* and *at what level* social stratification of phonology occurs.
- The questions to be explored are...
 - What is the range of possible interactions between social variables and phonological factors.
 - Are certain phonetic or phonological properties better for social identification (e.g. because of their inherent variability)?
 - Is there a level of representation/grammar that is beyond social stratification?
 - Can social stratification overrule a uniform phonological grammar for a speech community?

A sociophonetic research program for phonology

- Why now?
- Study of this topic is aided by advances in...
 - ...power and speed of tools to measure parametric phonetics (Boersma & Weenink, 2008)
 - ...accessibility and sophistication of computational models of relationships among types of knowledge (Baayen, In press)
 - ...the resurgence of interest in gradient models of phonetics and phonology (Coetzee and Pater, 2008; Goldrick and Daland, 2009; Hayes and Wilson, 2008)
 - ...theories of social meaning and social categorization (Eckert, 2008; Smith, Hall, & Munson, 2008)
- Social manipulation in a laboratory setting can serve as an important tool.

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