Bilingual Effects on New York Hasidic Yiddish Vowels

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Chaya R. Nove chayarnove@gmail.com
https://crnove.shinyapps.io/App-3/
Overview of the Study

• **FOCUS**: Bilingual comparison of Hasidic Yiddish and English vowels

• **ANALYZE**: Phonetic realization of /i/, /ɪ/, /u/, /ʊ/ and /a/

• **DATA**: Word list elicitation following sociolinguistic interviews

• **COMPARE**: Vowel system(s) across language and speaker generation

• **RESULTS**: Evidence of phonetic drift between 2\textsuperscript{nd} and 3\textsuperscript{rd} generation in short high vowels (L2 influencing L1)
Organization

Speakers

Background

Framework

Data & Methods

Results

Summary and Conclusions
Hasidic Yiddish

Sociocultural Context
Hasidic Yiddish in New York

- Hasidic (ultra-Orthodox) Jews
  - Estimated between 135K – 273 Yiddish speakers in NY Brooklyn, Rockland County, and Orange County
Speakers: Sociocultural Context

• Ideology that supports language maintenance (cultural continuity)
• Bilinguals
  • Yiddish acquired first and remains dominant
  • English borrowing
• Gendered language dominance and use
  • Segregated educational system
    • Boys: Religious studies in Yiddish, minimal English
    • Girls: Dual curriculum, secular subject in English
  • English has covert prestige for female speakers (Fader, 2009)
Background
Eastern Yiddish

• Northeastern Yiddish:
  • Lithuania, Belarus, Latvia, areas of northeastern Poland, northern and eastern Ukraine, and western Russia

• Southeastern Yiddish:
  • Moldova and parts of Ukraine

• Central Yiddish:
  • Poland, eastern Slovakia, eastern Hungary and Romania, including a region referred to by Yiddish speakers as Unterland
Hasidic Yiddish Phonology

• Hasidic Yiddish inherited the long-short vowels of Central Yiddish
  • {/i/, /ɪ/}, {/u/, /ʊ/} and {/aː/, /a/}
  • Has been described as a length contrast for CY
  • Cross-linguistically, such contrasts vary (length, spectrum, both)

• Previous Studies (2018):
  • Preliminary acoustic analysis of Central Yiddish vowels suggests a length distinction
  • New York HY shows a tense-lax distinction in high vowel pairs /i/ and /u/ (similar to English), with a durational distinction in /a/
  • Evidence of change over time in NY HY: Lowering and centering of HY /ɪ/ and /ʊ/ between the second and third generation (from immigration).
Research Questions

• **Objective:** Explore the role of language contact in observed sound change

• **Research Question 1:** What is the degree of phonetic similarity between HY and English vowels /i, ɪ, u, ʊ, a/?

• **Research Question 2:** Is there evidence of cross-linguistic influence?
  
  If so:
  • What is the direction of influence (L1 ~ L2)?
  • What is the extent of influence?
Theoretical Framework
Language Contact

Approaches to language contact differ in subfields:

- **In SLA:** focus is on the individual (bilingual) speaker
- **In sociolinguistics:** focus is on the speech community

(Yao & Chang 2016; Sankoff 2002)

“macro change (in the language of a speech community) starts with micro change (in the idiolect of a member of that community).”

Yao & Chang (2016: 433)
A Hybrid Approach

• Sociolinguistic methods to obtain and analyze group data
• SLA model to interpret observable patterns

• Some sociolinguists promoting inter-disciplinary approach (with SLA):
Speech Learning Model (SLM)

Flege 1995, 1996

• Premise: mechanisms of language learning remain operative throughout the lifespan

• Predicts ongoing bidirectional influence: L1 $\leftrightarrow$ L2
  • EQUIVALENCE CLASSIFICATION:
    • L2 sounds perceived as ‘new will form new categories
    • sounds perceived as ‘similar’ will be mapped onto acoustically similar L1 sounds (resulting in non-native production of those segments)
  • PHONETIC DRIFT: change in the L1 resulting from experience with an L2

• Flege (2007): Age of L2 acquisition in SLA studies is often confounded with other variables, especially input (amount and quality)
Phonetic Drift

• Chang (2019): vowels most vulnerable to phonetic drift are those exhibiting “a ‘sweet spot’ of crosslinguistic distance
  • “not so small that there is no room to drift, but not so large that the L2 sound is no longer in the phonetic neighborhood of the L1 sound”
Data & Methods

https://crnove.shinyapps.io/App-3/
Participants

• 26 native HY speakers
• Raised Hasidic and raised or living in New York for at least ten years
• 8 generation 2; 8 generation 3; and 9 generation 4)
• Gen2
  • Age range: 60 – 70 ($M = 66.73$, median = 69, $SD = 3.29$)
  • Sex: 5 female
• Gen3
  • Age range: 33 – 48 ($M = 38.78$, median = 38, $SD = 5.06$)
  • Sex: 5 male
• Gen4
  • Age range: 13 – 24 ($M = 17.93$, median = 20, $SD = 4.08$)
  • Sex: 5 female
Elicitation

• Sociolinguistic interviews:
  • Part I: Natural conversation (not analyzed here)
  • Part II: Read Yiddish words in carrier sentence
    • 10 monosyllabic (CVC) words for each of the 6 vowels
    • Stimuli (target words) presented orthographically via digital flash cards (on a tablet), in pseudo-randomized order
  • Part III: Part II repeated with English words
    • 10 monosyllabic (CVC) words for each of the 5 vowels
Normalization and Plotting

• Formant values (Hz) were normalized using the modified Watt & Fabricius method as implemented in the phonR package (McCloy, 2016) in R

• Conventional vowel plots
  • By language
  • By generation

• Two-dimensional contour maps
  • Advantage: No prior assumption of distribution
Statistical Analyses

• Pillai scores calculated for each vowel category by generational group to measure the extent of cross-linguistic overlap.

• To reflect the implicational hierarchy attested in North American English in the lexical sets TOO and HOOP, Pillai scores for /u/ were calculated separately by lexical set
  • TOO > HOOP > COOL
    (see for example Fridland, 2008; Hall-Lew, 2009; Labov, Ash, & Boberg, 2005; Wong, 2014).
Pillai Score (or Pillai-Bartlett Trace)

• Pillai score is an output of MANOVA
• Was first applied to measure vowel overlap by Hay et al. (2006)
• When F1 and F2 entered as dependent variables, Pillai score measures the overlap between the two vowel classes
• The value ranges from 0 to 1, with 0 indicating no difference between two clusters and 1 indicating no similarity.
Results

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Summary and Conclusions
Summary:

• HY speakers are not (yet) participating in the mainstream American trend for u-fronting. Both HY and English /u/ is very back
  • Ethnic barrier or L1 influence?
• Evidence of apparent time change between Gen2 and Gen3 in two areas:
  1. Spectral overlap of /ɪ/ and /ʊ/ in the two languages
  2. Relative advancement of English vs. HY /u/
     • An early indication of u-fronting?
Discussion

• Gen2 speakers exhibit different organization of their HY and English vowels.

• Consider input: Gen2 HY input came from immigrant parents, who spoke European Yiddish dialects, but no English. Gen3 and Gen4 acquired both languages from HY-English bilinguals.

• Contact-induced phonetic drift (e.g., Yao and Chang, 2016) in grammar of individual language learners can lead to the outcome (i.e., structural change HY vowels over time) observed in my previous study.
Implications

• New York HY has been developing independently of its origin dialects for about 70 years
• Sustained by ideology, yet vulnerable to influence from English
• Understanding of the dynamic nature of the language systems of individual learners can help explain structural change observed in the language of a speech community
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