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ARTICLE

Demarcating place authenticity in the CHICAGO vowel

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Abstract

This article analyzes variation in and metalinguistic commentary surrounding the primary stressed vowel of the place-name 'Chicago'. Sociolinguistic interview data with fifty-six lifelong Chicagoans from two adjacent neighborhoods reveal both social variation and apparent time evolution in the phonetic manifestation and phonemic patterning of the CHICAGO vowel. Contrastive metalinguistic ideologies substantiate this variation, as different speakers map 'authentic' versus 'inauthentic' Chicagoness to opposite phonemic variants. While previous work on place-names proposed linkages between place identity and linguistic material that can articulate stances toward geographic areas, we document inverted semiotic mappings among residents who otherwise share the same positive orientation to their neighborhood. We draw upon locally constructed chronotopes to account for the inverse polarization characterizing the CHICAGO vowel. We ultimately argue for dynamic conceptions of place-based linguistic features that attend more closely to the ideologically productive nature of local identity. (Authenticity, place, race, sociolinguistic variation, differentiation, chronotope)

Introduction

Amid the web of identity that shapes social life in urban areas, some residents seek to position themselves as 'authentic' locals. The project of authenticity requires the deployment of semiotic resources to separate locals from outsiders. The 'authentic' pronunciation of place names is one such resource, particularly salient in the popular imagination. This study examines productions of the city name *Chicago,* focusing on the phonetic manifestation, phonemic patterning, and meta-linguistic discourse surrounding its primary stressed vowel. Acoustic analysis reveals a phonetic and phonemic divide among locals in productions of this CHICAGO vowel. Qualitative analysis of meta-linguistic comments connects this linguistic contrast to diverging meta-linguistic ideologies of authentic place identity. Drawing upon Gal & Irvine's (2019) *axis of differentiation*, we argue that contrastive phonetic and phonemic manifestations of CHICAGO construct a dichotomy in which the 'inauthentic' versus

'authentic' phoneme becomes fully inverted along the same axis of meaning. Within these opposing claims, however, lies a shared project of place authentication that draws upon a single chronotope to variably establish 'real Chicagoness', depending on an individual speaker's orientation towards the chronotopic representation.

Differentiation and authentication in urban contexts

Place identity comprises an individual's relationship not just to a space but to the stakeholders who occupy it physically and symbolically. Sociolinguists have long sought to understand how place identity emerges through language at both individual and community levels, particularly in contact situations (e.g. Cornips & de Rooij 2018; Carmichael & Reed 2025). While local features, place-name productions, and/or participation in regional chain shifts might locate a community within a broader region, individuals' place identity can emerge through the selective uptake of these features according to intra-community dynamics (Montgomery & Moore 2017).

The demographic transformation of a community often coincides with diachronic linguistic change. Speakers who exemplify the community prior to a change promote certain personae, speech styles, and lexical item productions as authentically local, anchoring the present to a nostalgic idealization of the place (Bucholtz 2003). Bakhtin (1981:84) proposes that *chronotopes* are produced when 'spatial and temporal indicators are fused into one carefully thought-out, concrete whole'. Researchers have explored how semiotic material dated to a historical time period, placed within a physical and/or imagined space (Tuan 1991), and evocative of certain personae (Carmichael & Dajko 2016; Britt 2018) can coalesce into chronotopic representations (e.g. Agha 2007) that are variably accessible to and authenticated by different interlocutors (Blommaert 2015).

Sociolinguistic work has investigated how phonetic detail can frame relevant stakeholders as authentic place inhabitants (e.g. Reed 2020; Regan 2022). But social meaning does not exist in a vacuum; as socially meaningful linguistic features are organized as 'authentic', they must stand against contrastive forms and meanings along an ideological *axis of differentiation* (Gal & Irvine 2019). In Labov's (1963) study of Martha's Vineyard, for example, speakers with a stronger orientation towards the island used more centralized productions of /aɪ/ and /aʊ/ compared to those who wanted to leave. Residents metalinguistically characterized certain communities across the island (e.g. up- vs. down-islanders) using the same contrast (Labov 1963), revealing how place identity ultimately creates the relevant linguistic contrasts through the process of linguistic differentiation (Gal & Irvine 2000). Scholarship on differentiation has analyzed how linguistic contrasts are bundled with other semiotic material in the formation of discursively salient dialects, accents, or languages (Gal & Irvine 2000), illuminating ideologies underlying the differentiation and marking of local language varieties in discourse (e.g. Milani 2010; Wan 2022).

Cities typically feature linguistically, demographically, and ideologically diverse populations inhabiting the same physical space, making them fruitful sites in which to study differentiation. Place authenticity often emerges as salient when cities experience sociopolitical upheaval (e.g. Tillery, Bailey, & Wikle 2004) or an influx

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of newcomers (e.g. Tseng & Hinrichs 2021), among other factors. Though community members may have exposure to the same set of semiotic resources, they vary in the power and positionality needed to claim certain resources—and the place-linked personae they index—as authentically local (Gal & Irvine 2019). Furthermore, belief in the distinct nature of local speech enables residents to utilize linguistic material as explicit emblems of authenticity (Johnstone 2013). Thus, authentication (Bucholtz & Hall 2005) is a significant organizing process connecting linguistic distinctiveness with social differentiation.

Within urban communities, residents will often cleave an imagined 'Other' through processes of erasure in order to include themselves within the authentically local frame (Gal & Irvine 2000). Particularly in cities where authenticated personae represent holdovers from a historical representation of the community, the local features projected as authentic might not cohere with shifting demographic trends. As differentiation proceeds within such a community, we might expect local features, including place-name productions, to exhibit contrastive social meanings and recruitment in processes of erasure. Focusing a zoom lens on differentiation, we analyze here phonetic and phonological variation in the stressed vowel of the place-name 'Chicago', illustrating how a single linguistic feature winds around the ideological axis of place authenticity.

The social meaning of place-names

Discourse surrounding place-names is common at a variety of scales, from international geopolitics (Krivoruchko 2008; Hall-Lew, Coppock, & Starr 2010) and nation making (Herman 1999; Kearns & Berg 2002) down to local street names (Yeoh 1996; Regan 2022). Conflict at these sites can imbue name variants with place-related social meaning, as in US politicians' stance- and party-based use of phonetic variation in the second vowel of *Iraq* during the US invasion of Iraq (Hall-Lew et al. 2010). Similar processes have been observed in Wales (Coupland 1984) and New Zealand (Kearns & Berg 2002), where variation in place-name production came to index national identity and postcolonial stancetaking, respectively. Though these productions are often portrayed as static, monolithic markers of place, they become dynamic icons of place identity when they are spoken aloud, injecting ideologies surrounding place authenticity into everyday interaction (Basso 1996; Carmichael & Reed 2025). If residents care about authentic belonging to a place, then they will care about producing its place-names authentically.

Some sociolinguistic work indicates that phonetic and cross-linguistic phonological realizations of place-names can result in clash, rather than consensus, among locals. In a matched-guise perception study of street names in Austin, Texas, Regan (2022) observed that local/non-local responses for street names whose productions varied between Spanish and English phonology were predicted most robustly by participant ethnicity. While Hispanic Austinites demonstrated no difference in perceived localness between the Spanish/English phonology productions, non-Hispanic Austinites perceived Spanish phonology productions as less local. Across all speakers, Spanish phonology guises were more likely to be judged as speakers from other parts of Texas, while English phonology guises were most likely to be perceived as

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Austinite. That non-Hispanic listeners maintain non-Austin yet pan-Texan perceptions of Spanish phonology guises illustrates the erasure of incongruencies to make place identity cohere with local demographic trends.

A throughline in this work is authentication (Bucholtz & Hall 2005): people who root their identity in a specific place can stake claims to that identity with place-name productions they and others perceive as 'authentic'. Yet the production of place-name variation remains understudied, especially within the named communities. In particular, we aim to demonstrate how place authentication almost always entails erasure: whenever semiotic resources are staked out as 'local', their contrasts are necessarily positioned as 'outsider'. Erasure is particularly at issue in diverse urban contexts, where residents encounter a much wider set of semiotic resources that they must cleave to represent an authentic place identity (Johnstone 2021). We thus examine how residents of one Chicago community produce and discuss the primary-stressed vowel in 'Chicago', constructing ideological polarization in 'authentic' local identity along an axis of differentiation that operates regardless of the linguistic material projected onto each pole.

We centered our analysis on three overarching questions. First, how do productions of a local place-name vary within a local community? Second, do residents exhibit consensus or variation when discussing the 'authentic' production, its social meaning, and its contrastive phonetic and phonemic manifestations? Lastly, what can these phonetic distinctions and metalinguistic discourses reveal about the relationship between identity and shifting ideologies of place? We start out with the rich sociolinguistic context of Chicago, both dialectologically and ideologically.

Vocalic variation in Chicago

Chicago is the largest urban center in the Inland North dialect region (Labov, Ash, & Boberg 2006). Residents and non-residents discursively link Chicago with distinctive linguistic features, including the pronunciation of the city name itself. Prominent features of the ideologized 'Chicago accent' are those implicated in the Northern Cities Vowel Shift (NCS), a sound change marked by a community-level shift over time toward a fronted and raised TRAP[1] vowel, a fronted LOT vowel, and a lowered and sometimes fronted THOUGHT vowel, while other mid vowels are variably implicated (e.g. Labov et al. 2006; McCarthy 2011; Wagner, Mason, Nesbitt, Pevan, & Savage 2016; Nesbitt 2018). LOT and THOUGHT have remained distinct vowel classes in the Inland North even as they have merged in other areas of the Midwestern and Western US (Labov et al. 2006). TRAP raising and fronting, as well as LOT fronting, have garnered the greatest amount of meta-linguistic attention in popular discourses of the 'Chicago accent', including through parodic performances in popular media (Hallet & Hallet 2014). The personae invoked in these performances of the 'Chicago accent' are nearly always racialized as white and classed as working class or blue collar (D'Onofrio & Benhem 2020).

Decades of research has identified white speakers as the most prominent users of the NCS within the Inland North. This work has typically analyzed other racialized groups as diverging from or conforming to this system (e.g. Gordon 1997; Labov

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et al. 2006; Purnell 2009). This trend mirrors the privileging of white speakers' systems as prototypical 'regional dialects' in other areas (see Wong & Hall-Lew 2014; King 2021 for further discussion). Van Herk (2008) argues that the NCS rapidly progressed among white Inland Northerners as a symbolic form of 'white flight' away from the Great Migration of African Americans and their Southern vowel systems. In recent years, however, researchers have documented apparent time reversal of the NCS across the Inland North (e.g. Thiel & Dinkin 2020; Wagner et al. 2016), including in Chicago (D'Onofrio & Benheim 2020; Durian & Cameron 2020).

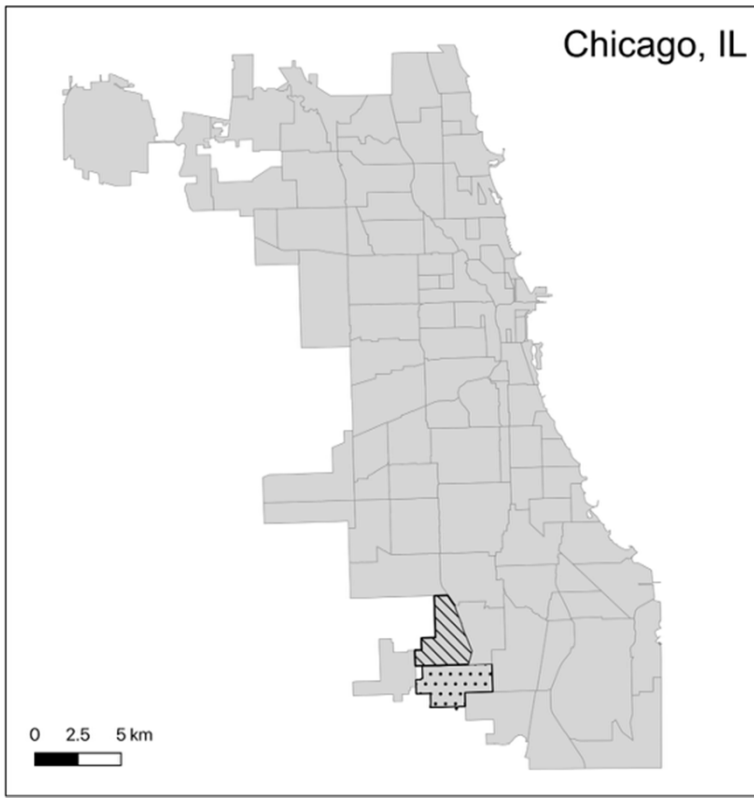

Figure 1. Map of Chicago community areas featuring Beverly (diagonal hashes) and Morgan Park (dots).

Like most large metropolises, Chicago can be described as a 'city of neighborhoods' (Binford 2004). Its macro-social diversity at the city level belies smaller communities that are more homogeneous along dimensions of race, income level, educational attainment, and so on than city-wide statistics imply. Due to the hyper-local nature of place boundaries, we focus on two neighborhoods on the Far Southwest Side of the city, Beverly Hills (Beverly) and Morgan Park, that are zoned into the same public high school and often paired in local organizations, news, and nonprofit coverage (Figure 1). The racialized makeup of these neighborhoods has shifted from predominantly white Irish Catholic residents pre-1960 to a larger proportion of Black residents following the Civil Rights Act of 1964 (Oswald 2003). Unlike other

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South Side neighborhoods that experienced white flight during the late twentieth century, activism against aggressive 'blockbusting' real estate tactics in Beverly and Morgan Park engendered a racialized balance that is rare for Chicago (Oswald 2003; D'Onofrio & Benheim 2020). With the exception of their Hispanic and Asian populations, the demographic breakdown of Beverly (57% white, 31% Black, 7% Hispanic or Latino, 1% Asian, 5% other) and Morgan Park (29% white, 60% Black, 5% Hispanic or Latino, 1% Asian, 5% other) adheres more closely to city-wide demographics (32% white, 28% Black, 30% Hispanic or Latino, 7% Asian, 3% other) than most other neighborhoods (Chicago Metropolitan Area for Planning 2024). The same data reveal a significantly higher proportion of owner-occupied residencies in both Beverly (86%) and Morgan Park (71%) than in Chicago overall (45%). Residents comment on these factors as major determiners of their choice to live in the area (D'Onofrio & Benheim 2020).

Past work in these neighborhoods observed fronted LOT as well as raised and fronted TRAP among older white speakers, consistent with the NCS (D'Onofrio & Benheim 2020). By contrast, Black speakers' vowel spaces were less Northern Cities shifted than their white counterparts; participants meta-linguistically connect this pattern to their family history in the US South (D'Onofrio, Benheim, & Foster 2020). However, all residents showed apparent time movement away from the NCS with strong reversals of TRAP and LOT (i.e. both vowels lowered and backed in apparent time). D'Onofrio & Benheim (2020) linked reversal to local shifts in the social meanings of the NCS—from pan-Chicago identity to particular white working-class personae—rather than a growing orientation away from Chicago place identity altogether.

Meanwhile, the THOUGHT vowel is typically discussed in the Northern Cities chain shift as taking the place left by fronted LOT by lowering and sometimes fronting over time (Labov et al. 2006), though past work in Chicago has shown inconsistencies in this movement (e.g. McCarthy 2011). In Beverly and Morgan Park, white men and women showed no apparent time change in THOUGHT with respect to either F1 or F2 (D'Onofrio & Benheim 2020). Another study in these areas looking only at women showed a significant interaction between race and age, such that white women showed a greater degree of apparent time change than Black women, with THOUGHT fronting (increasing in F2) in apparent time for white speakers (D'Onofrio et al. 2020). This pattern constitutes an advancement of the NCS pattern, unlike the prominent reversals found in other vowels.

The primary stressed vowel in 'Chicago' implicates both the LOT and THOUGHT vowel classes. We therefore refer to this vowel as its own class throughout the article: the CHICAGO vowel. The CHICAGO vowel is particularly interesting because it involves both phonetic variation in vowel quality and variable phonemic distinctions among speakers, where some speakers may treat the vowel as a member of the LOT class and others as a member of the THOUGHT class. If speakers exhibited the low-back merger, the phoneme status of the CHICAGO vowel would hypothetically fall into this larger merged class, thus presenting another possibility for variation within the community (i.e. merged versus distinct). The unique social and linguistic context of the place name of Chicago involves (i) the potential for phonemic contestation in the vowel class itself, (ii) its implication in the ongoing and socially meaningful NCS, (iii) sociodemographic shifts heightening claims to place identity

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and authenticity in these locales, and (iv) use of the city name among residents to authenticate place identity. This makes the CHICAGO vowel a fitting case study for examining how community-based variation in place-name productions map onto ideologies surrounding the feature, and how both are used by locals to demarcate place identity.

Methods

Speaker sample

Data come from fifty-six sociolinguistic interviews with lifelong Chicagoans who grew up in and/or lived in Beverly or Morgan Park at the time of study. One-on-one interviews with speakers were conducted in 2017–2018 by the first author, an Asian-American woman from a different part of the North Central region. Interviews took place at locations convenient to the participants, including a neighborhood community center, local library branches, participants' homes/places of work, or the researcher's office. Interviews ranged from approximately forty-five minutes to two hours in length. They consisted of casual conversations about speakers' life histories, experiences growing up in Beverly/Morgan Park and Chicago more broadly, their views on changes to the neighborhood and city, and a few meta-linguistic questions about the 'Chicago accent' at the conclusion of the interview. Participants also completed a map task, word list reading task, and perceptual experiment following their interviews, data from which are not analyzed here.

Participants completed a demographic questionnaire at the beginning of the interview. Providing an open-ended response to 'What is your race/ethnicity?', all speakers described their race as white, Caucasian, Black, or African-American, which we group into 'white' and 'Black' in line with participant discourses. In open-ended responses to 'What is your gender?', every speaker responded either 'male' or 'female', which we use interchangeably with 'men' and 'women', respectively, based on common usage in the field site. The sample consisted of twenty-four white women, thirteen white men, and thirteen Black women. We refer to these three social groupings (white women, Black women, and white men) as 'race-gender' groups throughout the article. This choice does not imply that we have captured every intersection of race and gender within the community (more races and genders than are represented here would be required). Instead, we use this label throughout our analyses to distinguish each group from the other two by its unique combination of participant self-reported race and gender. Within these groups, we aimed for an even spread of ages to facilitate the linear modeling of apparent time shifts, with ages spanning from twenty to seventy-nine over the entire sample.

Despite concerted efforts to recruit a diverse sample, our study lacks Black male speakers and speakers of other racialized and gendered groups. While we find the available comparisons useful for interrogating the questions of place, meaning-making, and authenticity, we do not intend to generalize about groups absent from the sample.

Acoustic analysis

Interviews were conducted in-person and digitally audio-recorded using Zoom H4n Pro recorders and Audio-Technica Pro70 lavalier microphones. Interviews

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were hand-transcribed in ELAN and force-aligned using FAVE-align (Rosenfelder, Fruehwald, Evanini, Seyfarth, Gorman, Prichard, & Yuan 2014). Every token of 'Chicago' was extracted from the interview speech, and the boundaries of its primary stressed vowel, hereafter the CHICAGO vowel, were hand-adjusted in Praat using the visible beginning of voicing in the waveform and spectrogram, and the end of F2 in the spectrogram. We also hand-checked the discourse surrounding every CHICAGO token to determine whether the speaker was voicing themselves or a separate Goffmanian principal (Goffman 1981), labeling these latter instances as 'performed' and excluding them from analysis. Given the significant role of stylization in performances of place (e.g. Johnstone 2011), we removed these performed tokens as well as all those that were embedded in constructed dialogue. We analyzed the remaining 847 tokens.

We extracted twenty to thirty tokens each of LOT and THOUGHT from each speaker to calculate the distance between CHICAGO tokens and these vowel classes. Tokens preceded or followed by liquids, glides, or vowels were excluded, as were tokens with durations under 60ms. Two tokens per lemma per speaker were selected to avoid potential lexical biases. As with the CHICAGO vowel, boundaries were hand-adjusted. Using the same procedures, we extracted twenty to thirty tokens of additional vowel classes (DRESS, FACE, FLEECE, GOAT, GOOSE, KIT, TRAP) to normalize vowel tokens using the Lobanov method (Lobanov 1971) in the R (R Core Team 2023) vowels package (Kendall & Thomas 2018) for consistency with past NCS studies.

We measured the CHICAGO vowel through acoustic analysis of the vowel class independently and its patterning in relation to LOT and THOUGHT in F1/F2 space. First, we assessed normalized F1 and F2 values of each CHICAGO token at the vowel midpoint. This allowed us to examine vowel quality by speaker and by race-gender group. We also measured F1 and F2 values of speakers' LOT and THOUGHT tokens according to the same social predictors to examine whether the sociolinguistic patterning of CHICAGO seems to mirror one of these vowel classes.

Second, given that both LOT and THOUGHT are undergoing sound change in this community (D'Onofrio & Benheim 2020), we calculated the Euclidean distance in normalized F1/F2 space between each speaker's mean LOT values and each token of their CHICAGO vowel class to provide by-token measures of CHICAGO-LOT Euclidean distance, following the same procedure for CHICAGO-THOUGHT. Subtracting a given CHICAGO token's CHICAGO-THOUGHT distance from its CHICAGO-LOT distance yielded its LOT-THOUGHT distance difference (LT Difference). This encompasses in one measure whether a given CHICAGO token falls closer to the speaker's THOUGHT class than their LOT class (positive LT Difference value) or the inverse (negative LT Difference value), with a difference of zero representing equidistance from the speaker's LOT and THOUGHT classes.

As an illustration, Figure 2 shows all tokens of LOT, THOUGHT, and CHICAGO for one speaker in the sample. LT Difference is calculated by subtracting the Euclidean distance from one CHICAGO token (filled circles in Figure 2) to the mean of the speaker's THOUGHT tokens (gray line in Figure 2) from the Euclidean distance between that same CHICAGO token and the mean of the speaker's LOT tokens

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(black line in Figure 2) in normalized F1/F2 space. In this speaker's case, the LT Difference has a positive value, which indicates that the CHICAGO token is closer in normalized F1/F2 space to the speaker's THOUGHT mean than their LOT mean.[2]

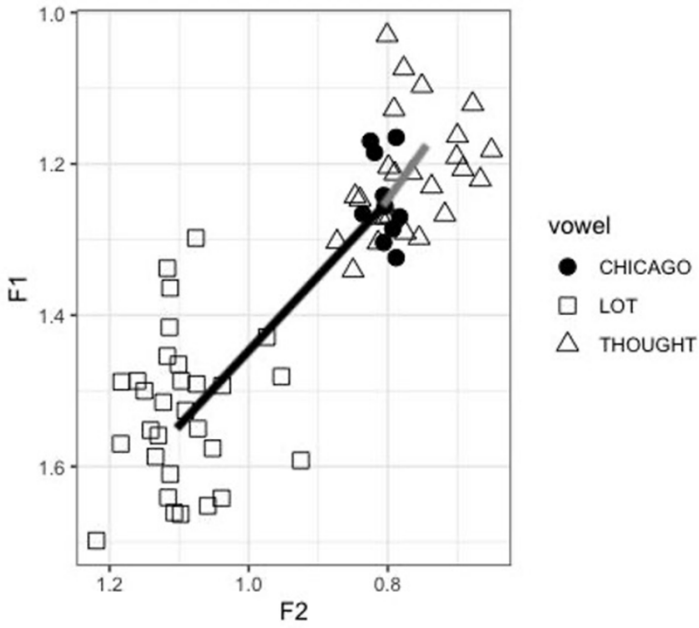

Figure 2. CHICAGO-LOT Euclidean distance (black line) and CHICAGO-THOUGHT Euclidean distance (gray line) for one vowel token from one speaker.

Note that we calculated these distances from a speaker's mean production of the relevant vowel classes, which includes both tokens that match CHICAGO's following phonological environment (i.e. pre-voiced-velar vowel tokens) and those in other phonological environments measured. This choice was made due to the relatively small number of pre-velar tokens in the LOT and THOUGHT vowel classes: four speakers had zero pre-velar LOT and/or THOUGHT tokens, and many more had either one or two in one of those classes. We opted to perform these measurements using all tokens of LOT and THOUGHT by speaker regardless of phonological environment. This is not intended to offer a completely phonologically congruent distance measure between CHICAGO and the two vowel classes. We further discuss the role of following velar environment in our analyses of LOT and THOUGHT in the Results section.

Statistical analysis of acoustic data

Given popular commentary on the production of CHICAGO, our primary aim in the acoustic analysis was to examine whether social factors conditioned how the CHICAGO vowel was produced. We specifically examined effects of speaker age, as

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a proxy for apparent time change, and racialized and gendered identity for our three race-gender groups. As discussed above, we assessed three measures of the CHICAGO vowel tokens as dependent variables in our statistical analyses: (i) CHICAGO normalized F1 (vowel height), (ii) CHICAGO normalized F2 (vowel backness), and (iii) LT Difference (CHICAGO-LOT and CHICAGO-THOUGHT Euclidean distance difference measure) as a measure of phonemic patterning. We also analyzed both LOT and THOUGHT midpoint F1 and F2 measurements, each as separate models, to contextualize results of CHICAGO vowel quality.

Each of the measures above served as the dependent variable in a linear mixed effect regression model. In all models, a fixed effect of participant year of birth (a linear predictor, scaled) was included to assess apparent time change. Considering our unbalanced sample, we also included the three Helmert-coded race-gender groups as a categorical fixed effect, using the following contrasts: Black women versus the mean of white women and white men; the mean of white women versus the mean of white men. In all models, we also included logarithmically transformed token duration as a control fixed effect and speaker as a random intercept. We calculated relative word frequency for each token within the interview corpus and submitted logarithmically transformed word frequency as a control fixed effect in the analyses of LOT and THOUGHT. We also included following phonological segment as a random intercept in addition to speaker.

Analysis of meta-linguistic commentary

We juxtapose the quantitative acoustic analysis of CHICAGO with meta-linguistic analysis to assess the ways in which ideologies related to place, differentiation, and authenticity are expressed via commentary on place-name pronunciation. We ask whether this commentary reflects the macro-social patterning of variation attested through spontaneous speech. Toward the conclusion of each interview, speakers were asked to reflect on the pronunciation of the place-name 'Chicago', though at times such commentary arose without prompting. The interviewer aimed not to lead the participant toward discussion of the vowel explicitly, nor to produce it herself, but clarified this was an area of interest if participants inquired further. Most participants offered explicit commentary on the CHICAGO vowel, though some participants offered no opinion and others commented on non-vocalic aspects of pronunciation. We gathered all commentary regarding the CHICAGO vowel from written transcripts of the interviews, using the recording where relevant to auditorily clarify which variant was being discussed. We first gathered commonly used descriptors for each of the variants, then culled these into broader stances towards the variants.

Results

Acoustic analysis results

CHICAGO vowel quality

We first analyzed how midpoint Lobanov-normalized F1 and F2 of CHICAGO varied by the macro-social factors of speaker race-gender group and age. In both models,

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the interaction between the two was tested but did not improve model fit. We report the final model summaries for F1 (Table 1) and F2 (Table 2) below.

Table 1. Summary of regression model fixed effects predicting Lobanov-normalized F1 of CHICAGO tokens at midpoint (N = 847).

	Estimate	Std error	T-value	*p*-value
Intercept	0.86	0.08	10.42	< 0.0001
Birth year (scaled)	0.04	0.01	3.87	0.00032
Race-gender group: mean white women and white men (vs. Black women)	−0.06	0.01	−5.17	< 0.0001
Race-gender group: white men (vs. white women)	−0.04	0.007	−6.23	< 0.0001
Log duration	0.11	0.017	6.71	< 0.0001

Table 2. Summary of regression model fixed effects predicting Lobanov-normalized F2 of CHICAGO tokens at midpoint (N = 847).

	Estimate	Std error	T-value	*p*-value
Intercept	1.01	0.055	18.39	< 0.0001
Birth year (scaled)	0.038	0.011	3.48	0.001
Race-gender group: mean white women and white men (vs. Black women)	−0.032	0.013	−2.42	0.019
Race-gender group: white men (vs. white women)	−0.011	0.007	−1.46	0.15
Log duration	−0.02	0.011	−1.87	0.062

Normalized F1 and F2 both significantly increased as birth year increased, illustrating lowering and fronting of CHICAGO in apparent time (Figures 3 and 4). Black women exhibited significantly greater F1 and F2 than white speakers. White women showed significantly greater F1 than white men but did not significantly differ from white men in F2.

These data illustrate apparent time change toward lower and fronter CHICAGO for all groups, with white speakers producing it higher and backer (closer to THOUGHT) than Black women.

LOT and THOUGHT vowel quality

We examined midpoint Lobanov-normalized F1 and F2 for LOT and THOUGHT tokens by speaker age and race-gender group (four total models) to contextualize the CHICAGO vowel quality results. In all models, the interaction between age and race-gender group did not improve model fit, nor did the interaction between log-transformed word frequency and speaker age and race-gender group. As described above, we include log-transformed duration and word frequency as control fixed effects in our analysis, in addition to speaker and following phonological segment as random intercepts.

Speaker birth year did not significantly predict LOT F1 (Table 3). LOT F2 significantly decreased with birth year, indicating vowel backing in apparent

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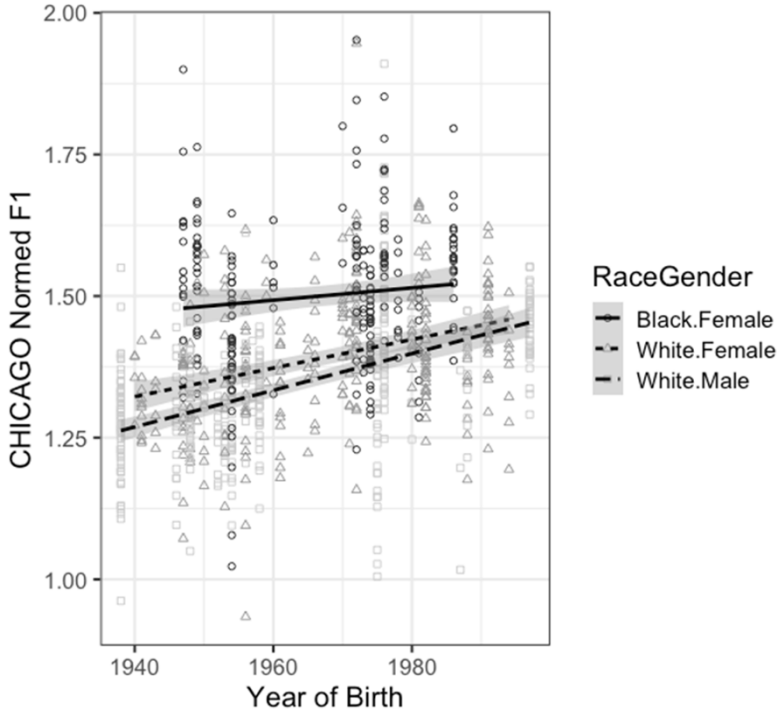

Figure 3. Midpoint Lobanov-normalized F1 measurements for CHICAGO vowel tokens, by speaker birth year and race-gender group. Lines show linear smooths by race-gender group.

time (Table 4, Figure 5). Black women did not show significant F1 differences from white men and women but did exhibit significantly smaller F2 values than white speakers, indicating backer LOT vowels. White men showed significantly smaller F1 values and larger F2 values than white women, indicating higher and fronter LOT tokens.

For THOUGHT (Figure 6), birth year significantly predicted increasing F1 (Table 5), but not F2 (Table 6), indicating vowel lowering in apparent time. Black women exhibited significantly smaller F1 (Table 5) and F2 values (Table 6) than white men and women, indicating higher and backer THOUGHT vowels. No significant differences emerged between white men and women in either F1 or F2.

The acoustic analyses of midpoint formant measurements suggest apparent time movement in all three vowel classes: CHICAGO showed lowering and fronting, LOT showed backing, and THOUGHT showed lowering in apparent time. No age effects significantly interacted with race-gender group. Furthermore, CHICAGO does not appear to be neatly tracking the movement of LOT or THOUGHT. While CHICAGO lowers like THOUGHT, it also significantly fronts, whereas THOUGHT does not change in backness, and LOT backs in apparent time.

Similarly, CHICAGO's race-gender patterning does not seem to closely mimic the patterning of LOT or THOUGHT. Black women exhibited lower and fronter CHICAGO vowels, backer LOT vowels, and higher and backer THOUGHT vowels than white

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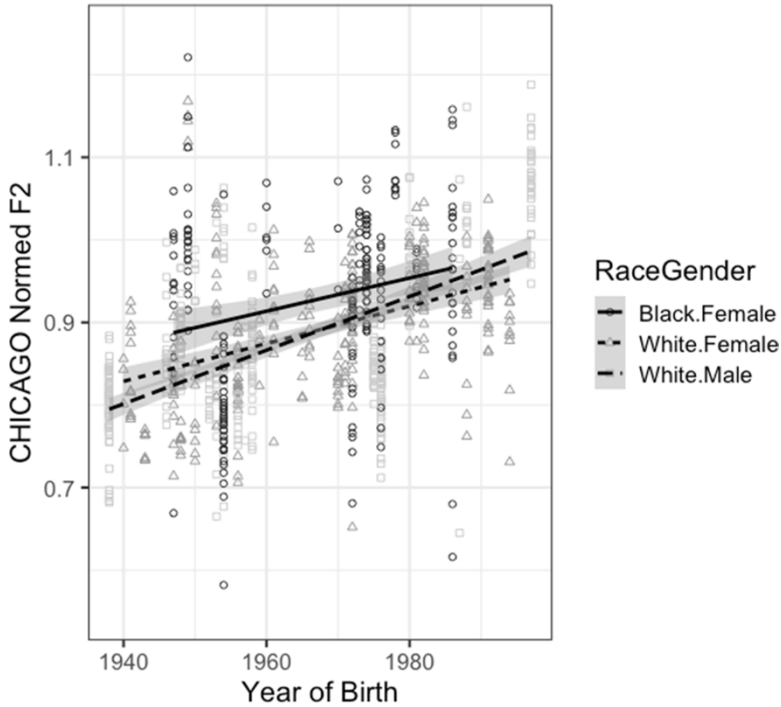

Figure 4. Midpoint Lobanov-normalized F2 measurements for CHICAGO vowel tokens, by speaker birth year and race-gender group. Lines show linear smooths by race-gender group.

Table 3. Summary of linear regression model fixed effects predicting Lobanov-normalized F1 of LOT tokens at midpoint (N = 1521).

	Estimate	Std error	T-value	*p*-value
Intercept	1.250	0.058	21.456	< 0.0001
Birth year (scaled)	−0.008	0.009	−0.881	0.383
Race-gender group: mean white women and white men (vs. Black women)	0.014	0.011	1.269	0.210
Race-gender group: white men (vs. white women)	−0.014	0.006	−2.308	0.025
Log duration	0.066	0.012	5.597	< 0.0001
Log word frequency	−0.010	0.002	−4.304	< 0.0001

speakers. White women showed significantly lower CHICAGO vowels than white men, following the same pattern shown for LOT height. However, white women also showed backer LOT than white men, an effect not observed in the CHICAGO class.

An important caveat is that the lexical item *Chicago* is anomalous with respect to its high relative word frequency within the corpus. *Chicago* was the most frequent word analyzed across our quantitative data ($\log(f) = 7.69$), compared to the three

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Table 4. Summary of linear regression model fixed effects predicting Lobanov-normalized F2 of LOT tokens at midpoint (N = 1521).

	Estimate	Std error	T-value	*p*-value
Intercept	1.226	0.031	39.915	< 0.0001
Birth year (scaled)	−0.027	0.007	−3.688	0.001
Race-gender group: mean white women and white men (vs. Black women)	0.024	0.009	2.592	0.012
Race-gender group: white men (vs. white women)	0.021	0.005	3.997	< 0.0001
Log duration	−0.046	0.006	−7.878	< 0.0001
Log word frequency	0.002	0.001	1.510	0.131

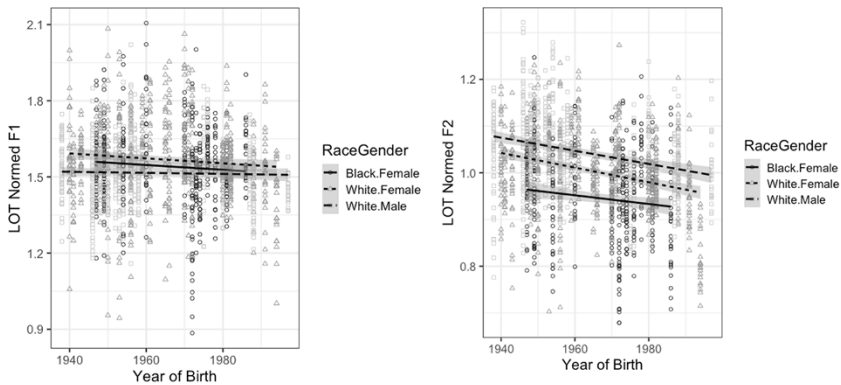

Figure 5. Midpoint Lobanov-normalized F1 measurements (left) and F2 measurements (right) for LOT vowel tokens, by speaker birth year and race-gender group. Lines show linear smooths by race-gender group.

Table 5. Summary of linear regression model fixed effects predicting Lobanov-normalized F1 of THOUGHT tokens at midpoint (N = 1263).

	Estimate	Std error	T-value	*p*-value
Intercept	1.207	0.057	21.333	< 0.0001
Birth year (scaled)	0.028	0.008	3.628	0.001
Race-gender group: mean white women and white men (vs. Black women)	0.032	0.010	3.121	0.003
Race-gender group: white men (vs. white women)	−0.010	0.006	−1.799	0.078
Log duration	0.038	0.011	3.561	0.0003
Log word frequency	−0.005	0.003	−1.704	0.089

most frequent words across the THOUGHT (*thought* = 6.47, *god* = 6.42, *talk* = 6.39) and LOT classes (*mom* = 6.53, *block* = 5.98, *father* = 5.81). Further, while every speaker produced *Chicago* in their interview, no single THOUGHT or LOT word appeared in every interview. Thus, no direct comparison exists in either class with respect

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Table 6. Summary of linear regression model fixed effects predicting Lobanov-normalized F2 of THOUGHT tokens at midpoint (N = 1263).

	ESTIMATE	STD ERROR	T-VALUE	*P*-VALUE
Intercept	1.160	0.034	34.615	< 0.0001
Birth year (scaled)	0.009	0.007	1.246	0.218
Race-gender group: mean white women and white men (vs. Black women)	0.028	0.009	3.092	0.003
Race-gender group: white men (vs. white women)	0.010	0.005	1.936	0.058
Log duration	−0.073	0.006	−11.744	< 0.0001
Log word frequency	0.007	0.002	4.308	< 0.0001

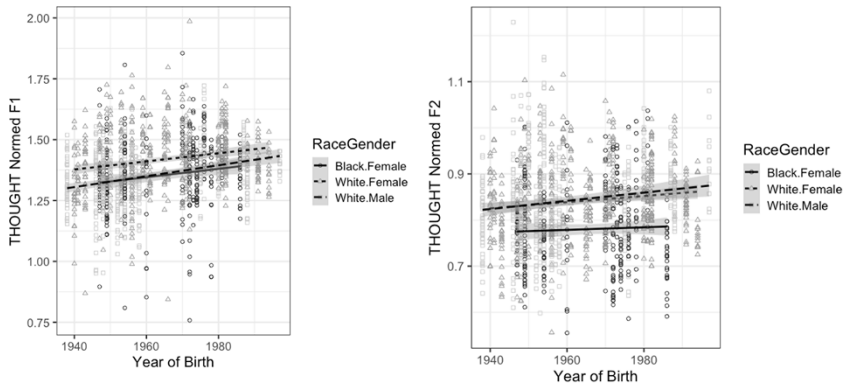

Figure 6. Midpoint Lobanov-normalized F1 measurements (left) and F2 measurements (right) for THOUGHT vowel tokens, by speaker birth year and race-gender group. Lines show linear smooths by race-gender group.

to word frequency. However, to ensure that the differences between CHICAGO and LOT/THOUGHT were not solely attributable to differences in frequency, we fitted post-hoc linear regression models using the same predictors as described above on the LOT and THOUGHT F1 and F2 data for a subset of each that fell in the upper quartile of word frequency within each vowel class (LOT $\log(f) \geq 4.710$; THOUGHT $\log(f) \geq 5.996$). Main effects of the social predictors of interest are provided for each of these post-hoc models in Table 7.

Among high frequency words, birth year effects emerged for the same measurements as in the full dataset, significantly predicting LOT F2 and THOUGHT F1, but not LOT F1 or THOUGHT F2. As in the full dataset containing words at all frequencies, Black women showed significant differences from white speakers in LOT F2 and THOUGHT F2. In contrast to the full dataset, Black women did NOT differ from the other groups in THOUGHT F1, and white women and men significantly differed from one another in both LOT F2 and THOUGHT F2, but not in F1 of either vowel class. This diverged from the overall dataset wherein Black women showed significantly lower THOUGHT vowels than white speakers, and white

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Table 7. Summary of social fixed effects predicting Lobanov-normalized formant values among high frequency word data sets for LOT (N = 398) and THOUGHT (N = 328).

Vowel class & formant	Fixed effect	Estimate	Std error	T-value	*p*-value
LOT F1	Birth year (scaled)	−0.012	0.010	−1.239	0.221
	Race-gender group: mean white women and white men (vs. Black women)	0.016	0.012	1.276	0.208
	Race-gender group: white men (vs. white women)	−0.009	0.007	−1.295	0.201
LOT F2	Birth year (scaled)	−0.021	0.008	−2.544	0.014
	Race-gender group: white women and white men (vs. Black women)	0.023	0.011	2.230	0.030
	Race-gender group: white men (vs. white women)	0.023	0.006	3.865	0.000
THOUGHT F1	Birth year (scaled)	0.027	0.010	2.662	0.010
	Race-gender group: mean white women and white men (vs. Black women)	0.015	0.013	1.119	0.268
	Race-gender group: white men (vs. white women)	−0.010	0.007	−1.413	0.164
THOUGHT F2	Birth year (scaled)	0.004	0.008	0.533	0.596
	Race-gender group: mean white women and white men (vs. Black women)	0.024	0.010	2.449	0.018
	Race-gender group: white men (vs. white women)	0.016	0.006	2.781	0.008

women and men significantly differed in LOT F1, LOT F2, and THOUGHT F1, but not THOUGHT F2.

Crucially, neither LOT nor THOUGHT tokens mirror the social patterning of the CHICAGO vowel, even among high word frequencies. Black women exhibited lower and fronter CHICAGO vowels than white speakers, while they showed backer high frequency LOT and THOUGHT vowels than white speakers. White women showed significantly lower CHICAGO vowels than white men, while they showed backer LOT and THOUGHT vowels among high frequency words. To further emphasize the unique behavior of CHICAGO relative to other LOT or THOUGHT tokens, we plot the means of these LOT and THOUGHT tokens by following phonological context (pre-velar, like CHICAGO, or pre-non-velar) by race-gender group, alongside their CHICAGO mean counterparts in Figure 7.

For Black women, CHICAGO's mean is closer to LOT regardless of LOT's following phonological environment (Figure 7). For both white women and white men, CHICAGO means are higher and backer, surpassing their groups' respective THOUGHT vowel means in both following phonological environments. Although low

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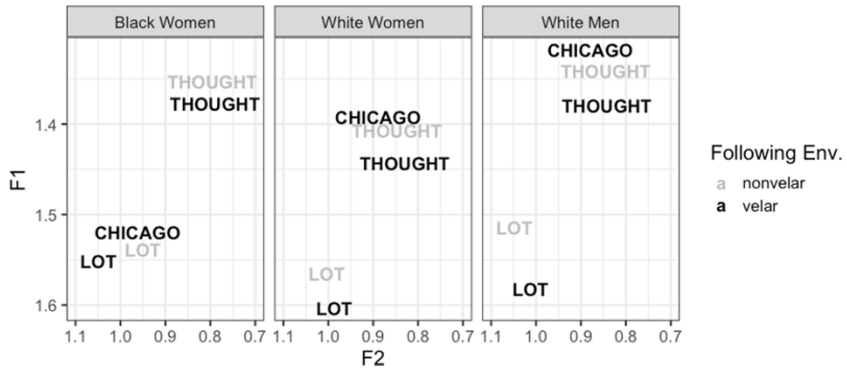

Figure 7. Mean F1 and F2 for CHICAGO, LOT and THOUGHT vowel classes, by vowel following phonological environment (velar versus nonvelar segment) and race-gender group.

token numbers in pre-velar contexts allow only qualitative observation of aggregate data, Figure 7 supports the observation that the CHICAGO vowel behaves differently from LOT and THOUGHT class vowels, even in analogous phonological contexts. We next turn to a measure designed to capture the relation between CHICAGO, LOT, and THOUGHT in the vowel space.

LOT-THOUGHT Euclidean distance difference (LT Difference) analysis

As described above, we devised a by-token measure to examine whether the distance between a given CHICAGO vowel token is closer to that speaker's mean LOT vowel productions or their mean THOUGHT vowel productions, or LT Difference. We included all phonological environments when calculating means of LOT and THOUGHT for a given speaker. A positive LT Difference value indicates the CHICAGO token fell closer to the speaker's THOUGHT mean than their LOT mean; a negative value indicates the CHICAGO token fell closer to their LOT mean than their THOUGHT mean. These values were calculated for each CHICAGO token and submitted to a linear mixed effects model (Table 8).

Table 8. Summary of regression model fixed effects predicting LOT–THOUGHT Euclidean distance difference measurements for CHICAGO vowel tokens (N = 847).

	Estimate	Std error	T-value	*p*-value
Intercept	0.29	0.08	3.86	0.00012
Birth year (scaled)	−0.060	0.013	−4.56	< 0.0001
Race-gender group: mean white women and white men (vs. Black women)	0.11	0.01	7.90	< 0.0001
Race-gender group: white men (vs. white women)	0.05	0.008	6.18	< 0.0001
Log duration	−0.05	0.015	−3.40	0.00071

(*Continued*)

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Table 8. (*Continued.*)

	Estimate	Std error	T-value	*p*-value
Birth year (scaled) x race-gender group: mean white women and white men (vs. Black women)	−0.035	0.017	−2.05	0.046
Birth year (scaled) x race-gender group: white men (vs. white women)	−0.019	0.008	−2.23	0.031

Results from the LT Difference regression model indicated significant effects of speaker age, speaker race-gender group, and their interaction for CHICAGO tokens (Table 8, Figure 8). The model illustrated that LT Difference was decreasing in apparent time, suggesting that speakers were shifting to produce their CHICAGO tokens closer to LOT as compared to THOUGHT. Black women produced CHICAGO vowels significantly closer to LOT than THOUGHT as compared to white speakers, and white women produced CHICAGO significantly closer to LOT than THOUGHT as compared to white men. Finally, LT Difference was the only measure that showed an interaction between birth year and race-gender group, indicating that speaker age had a significantly greater impact on LT Difference measurements for white men than white women, and that age had a significantly greater impact for white speakers as compared to Black women.

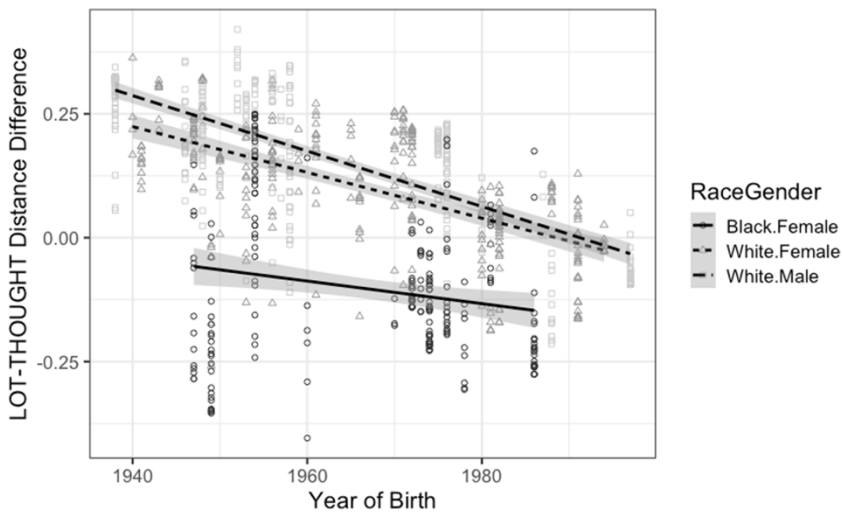

Figure 8. LOT-THOUGHT Euclidean distance difference measurements for CHICAGO vowel tokens, by speaker birth year and race-gender group. Lines show linear smooths by race-gender group. Positive LT Difference = closer to THOUGHT, negative = closer to LOT.

Every race-gender group showed an apparent time decrease in LT Difference, indicating CHICAGO tokens moving closer to LOT than THOUGHT over time. However, white speakers showed a greater shift by age in LT Difference than Black women (solid line Figure 8), and white men (dashed line) showed a greater shift than white women (dotted line). Black women produced CHICAGO tokens that on average fell below zero (Figure 8, open circles), indicating closer placement to a speaker's LOT

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vowel than THOUGHT. By contrast, white speakers, particularly older men, tended to produce CHICAGO tokens that fell above zero, indicating tokens closer to a speaker's THOUGHT vowel mean (Figure 8), though women were closer to the middle of the scale.

Summary of acoustic results

In sum, we found that the CHICAGO vowel in Beverly and Morgan Park showed an overall apparent time change in F1 and F2, with the vowel lowering and fronting over time. While LOT and THOUGHT were also shifting in apparent time, the directionality differed from that of CHICAGO regardless of word frequency or phonological environment, suggesting that CHICAGO does not simply track with either class. The LT Difference measure suggested that the CHICAGO vowel shifted over time toward speakers' LOT classes, and away from THOUGHT. This indicates a change in vowel quality and perhaps a phonemic re-classification of CHICAGO.

Race-gender group was also a significant predictor of CHICAGO productions. Black women showed lower and fronter CHICAGO—more advanced in the direction of the apparent time change—than white speakers, and white women showed lower CHICAGO tokens than white men. Furthermore, birth year significantly interacted with race-gender group for the LT Difference measure: younger white speakers in both gender groups produced CHICAGO tokens closer to LOT and further from THOUGHT over time as compared to older white speakers. However, Black women across ages produced CHICAGO closer to LOT than THOUGHT. Interestingly, these patterns parallel the age and race-gender patterns of NCS reversal in the same community (D'Onofrio & Benheim 2020; D'Onofrio et al. 2020): while all speaker groups exhibit NCS reversal in apparent time, Black women are most advanced.

Meta-linguistic commentary

We next analyzed meta-linguistic comments surrounding the pronunciation of 'Chicago', particularly as they pertained to the CHICAGO vowel. The majority of speakers in our sample (thirty-nine of fifty-six) shared commentary contrasting the two phonemic CHICAGO variants discussed in the acoustic analysis: LOT versus THOUGHT. Nearly all speakers who created this contrast afforded authentic place identity to only one variant. Overall, meta-linguistic commentary revealed that speakers positioned the CHICAGO variants in two main ways: discussing THOUGHT as authentic and correct (THOUGHT-preferring) or LOT as authentic or correct (LOT-preferring), largely along the same age and race-gender group lines observed in the acoustic analysis. Although authentication of place identity predominated in the metalinguistic appraisals of each variant, we describe differing social meanings attributed to the variants below.

THOUGHT as authentic and local

Twenty-five of the thirty-nine speakers who provided metalinguistic commentary on CHICAGO described THOUGHT as local, authentic, and preferred (THOUGHT-preferring). Within this group, eight focused primarily on THOUGHT as authentic, while seventeen additionally contrasted LOT-like productions as inauthentic, incorrect, or outsider. The former group was almost entirely white and generally older than the rest of the sample. Many of their comments positioned THOUGHT as

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'native'-like at various scales, from the city as a whole to the neighborhood area itself. Nathan[3] (white, male, 60 years old) explicitly stated that "[ʃikɔgoʊ] is correct". Bill (white, male, 79) said that "a real Chicagoan says [ʃikɔgoʊ]". Narrowing even further, Stan (white, male, 63) said that "if you were down in Beverly everybody, everybody would say [ʃikɔgoʊ]". Some comments revealed a strong investment in the stance: "I do feel strongly about it, it's [ʃikɔgoʊ]", said Todd (white, male, 67). Indicating a clear historical component, Dolly (white, female, 69) related that "some people say [ʃikɔgoʊ], that's how I always said it. I always said it cuz my parents, we all said that, [ʃikɔgoʊ]".

The group of seventeen speakers who both preferred THOUGHT and explicitly contrasted it with LOT was also predominantly white and older. In an extended story, Maggie (white, female, 61) described how variation in CHICAGO manifested at her wedding: "My uh girlfriend from [out of state] that was in my wedding, uh, she would say [ʃikɑgoʊ], and the best man like bit her head off one night: 'It's not [ʃikɑgoʊ] it's [ʃikɔgoʊ]'. Poor [name] was like mortified. I mean to me it's like, you can tell you didn't grow up here if you say [ʃikɑgoʊ]". Alan (white, male, 61) claimed that "[ʃikɔgoʊ] is how people from Beverly say it. I hear [ʃikɑgoʊ] from other people from outside of the community". Not all of the speakers who expressed the contrast were older, however. One of the youngest speakers in the sample, Addison (white, female, 24), claimed [ʃikɔgoʊ] as the correct variant, saying "if you say [ʃikɑgoʊ], get the fuck out of my face". While all seventeen of these speakers positioned LOT as dispreferred or "outsider", the manifestation of outsiderness varied across the commentary. When asked who pronounces CHICAGO with a LOT-like vowel, Jeff (white, male, 71) responded "hopefully this doesn't sound, uh... I wasn't used to the fact that most Black people came from the South here". Similarly, Betty (white, female, 76) recognized that, in the city, "many people say [ʃikɑgoʊ] and I think a lot sometimes that's a South Side thing". Interestingly, Betty tags the 'South Side' as using the incorrect variant despite Beverly itself being located on Chicago's South Side. The implication here could relate to intersections of race and class ideologically associated with the 'South Side' as a discursive object (Moore 2016), in contrast with older conceptions of white, middle-class Beverly.

LOT as authentic and local

In contrast with THOUGHT-preferring speakers, fourteen speakers claimed LOT as local and correct (LOT-preferring), with five of those speakers additionally displacing THOUGHT as incorrect or outsider, fully inverting the THOUGHT-preferring stance. This latter position was held by four Black women speakers, generally older, and one young white male. Independently of the interviewer's prompting, Norma (Black, female, 68) explained that when she heard people say [ʃikɔgoʊ] "it makes me wonder if they're actually from [ʃikɑgoʊ]". Shari (Black, female, 39) offers a similarly strong stance: "I am a true /ʃikɑgoʊən/. I think I say it the way it should be said".

Other speakers who preferred LOT acknowledged variation in the CHICAGO vowel yet still staked out LOT as authentically local. Melinda (Black, female, 45) stated that "you know, it's just [ʃikɑgoʊ] to me. I heard people call it [ʃikɔgoʊ] and all kinds of stuff, but it's [ʃikɑgoʊ]". Similarly, Gavin (white, male, 20) acknowledges transience as one source of vocalic variation, saying, "The biggest thing is vowels, like [ɑ], like [ʃikɑgoʊ]. I can tell with people who have grown up in the area". He later

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discusses both variants but confirms that "I do prefer the first one: [ʃɪkɑgoʊ]". Nine speakers claimed LOT as local, but the scope of locality was expanded to Chicago as a whole, rather than Beverly or the South Side in particular. Across the LOT-preferring group, THOUGHT was not positioned as outsider to the same extent as THOUGHT-preferring stances against LOT. Many LOT-preferring speakers instead associated THOUGHT's 'incorrectness' with places or people within the Chicago area: in particular, older, white community members and personae. Lisa (Black, female, 36) recognized intra-city variation in pronunciation of the vowel, but affirmed that "[ʃɪkɑgoʊ] is how people from Chicago say it". She mentioned hearing THOUGHT-like pronunciations among residents but "not in my circle". Some younger white speakers explicitly linked their older relatives with THOUGHT. Rebecca (white, female, 26) said that "for some reason my mom says [ʃɪkɔgoʊ], my grandma says [ʃɪkɔgoʊ], and I don't, cuz it's [ʃɪkɑgoʊ], and my brother and I are always like, 'it's [ʃɪkɑgoʊ]!' Like, 'you're saying it wrong'". In the same way, Shannon (white, female, 23) recounted that "a lot of people that I know say [ʃɪkɔgoʊ], which I feel like is the older way of saying it".

Additional social meanings of CHICAGO variants

In addition to documenting the place-authenticating metalinguistic positions associated with each variant, we noted descriptor words that emerged in association with each variant (Table 9).

Table 9. Meta-linguistic descriptor words used in relation to CHICAGO variants, and number of instances used throughout all interviews in the speaker sample.

ʃɪkɔgoʊ (THOUGHT)	ʃɪkɑgoʊ (LOT)
• Local/right (22)	• Local/right (11)
• True Chicagoan (5)	• Outsider (6)
• Older (5)	• Nonlocal/incorrect (5)
• South Side (2)	• South Side (2)
• Sophisticated (2)	• Annoying (2)
• Outsider (2)	• Suburban (2)
• Beverlian (2)	• Younger (2)
• Bridgeport (2)	• Stereotype (1)
• Eastern European immigrants (1)	• Beverlian (1)
• Firefighters (1)	• North Side (1)
• Italian-American (1)	• Black (1)
	• Southern (1)

As reflected in the broader positioning statements, both THOUGHT- and LOT-like Chicago vowels were at times described as 'local/right' or, contrastingly, as 'outsider', or 'nonlocal/incorrect'. Notably, both variants were also described as linked with Beverly, or with the South Side generally, by different speakers. However, other descriptors emerged only in relation to one variant. Only THOUGHT was described as 'older', 'sophisticated', and associated with Bridgeport, a historically white working-class neighborhood on the South Side. Additionally, linkages between THOUGHT and particular 'white ethnic' groups like Eastern Europeans and Italian Americans, as well as local personae, such as firefighters, arose among both THOUGHT-preferring and LOT-preferring speakers. By contrast, LOT was the only variant described as

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'suburban' and 'annoying', and it was also linked with Black speakers, young speakers, and the US South, volunteered again by speakers of both positions.

Discussion and conclusions

Within a single local context, we documented significant phonetic variation in placename production that is mirrored by contrastive metalinguistic discourses, in which residents identify one variant as authentically 'local' and displace the other as 'outsider'. Acoustic analysis revealed significant apparent time change in CHICAGO vowel quality and phonemic patterning over time among Beverly and Morgan Park residents, with the CHICAGO vowel shifting away from speakers' THOUGHT classes and toward their LOT classes over time. Black women appeared to be leading the change, followed by white women, and finally white men. Notably, these results illustrate not only a phonetic shift in the vowel's quality, but also variation in phonemic analysis of the vowel as THOUGHT-classed or LOT-classed. Results from the LT Difference measure suggest that Black women of all ages tended to produce CHICAGO tokens closer to LOT, while white speakers of all ages produced CHICAGO closer to THOUGHT. That these differences are clearly implicated in identity work and take on explicit social meanings suggests that social meanings can attach to higher level phonological representations, contradicting proposals to the contrary (e.g. Eckert & Labov 2017).

Analysis of metalinguistic commentary revealed that the majority of speakers identified THOUGHT-like productions as local, and this group was predominantly older and white, reflecting the convenience sample of participants. Unsurprisingly, these individuals constituted the demographic more likely to produce CHICAGO tokens closer to THOUGHT. This group also exemplifies Beverly and Morgan Park in the mid-twentieth century, when white, Irish Catholic individuals made up the majority of neighborhood residents (Oswald 2003). In this group, metalinguistic commentary surrounding THOUGHT-like pronunciations of CHICAGO was especially likely to invoke chronotopes (Bakhtin 1981; Agha 2007; Britt 2018) of authentic Chicago-ness. These ideological depictions of the 'real' city emblematize particular neighborhoods (e.g. Bridgeport, Beverly) populated by specific personae (white ethnic, blue collar individuals) who exhibit certain speech patterns (THOUGHT-like productions of CHICAGO, more advanced NCS features) within a historical time period (early-to-mid-twentieth century). Commentary such as Ronald's (white, male, 69) tethers THOUGHT-like productions in Beverly and Morgan Park to the Mayors Daley, iconic 'white ethnic' and working-class Chicago figures: "[ʃikɔgoʊ] is, you know... that's what the original old Mayor Daley used to call it". Both Richard J. Daley and his son, Richard M., who served as mayors of Chicago for a collective forty-three years between 1933–2011, hailed from Bridgeport, a historically Irish American, blue collar neighborhood on the South Side. Other speakers render this connection between THOUGHT and Bridgeport explicit, as Mallory (white, female, 29) notes, "I think [ʃikɔgoʊ] sounds very Bridgeport-y".

Similar to Beverly and Morgan Park, Bridgeport experienced significant demographic shifts since the mid-twentieth century, with an influx of Asian and Hispanic Chicagoans. That older white speakers in our sample worked to historicize Bridgeport as a locus of authenticated 'true Chicagoan' personae—exemplified

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by the Daleys—illustrates the projection of THOUGHT-like CHICAGO as a holdover from a more homogeneously 'white ethnic' working class conception of Chicago and the South Side specifically. Paul (white, male, 33) identifies the white South Side as a "lost generation", clarifying that the "stereotypic South Side accent... I don't think I've ever heard it from a young person... from anybody who's less than forty-five". In this way, THOUGHT emerges as iconic of the 'old' South Side, indexing white ethnic groups like Irish and Italian Americans, working class identity, and the political 'machine' (Flanagan 2005) in Chicago in ways that no longer cohere with contemporary demographic and cultural headwinds of Beverly and Morgan Park, the South Side, and the city more broadly (Oswald 2003; Patillo 2010; Moore 2016). Ultimately, a chronotopic framing of the neighborhood underlaid some older white speakers' preservation of THOUGHT as a means to secure an authenticated status within Chicago. The historicized personae and registers indexed by THOUGHT-like productions likely further motivate these residents' erasure of their neighbors' LOT productions as valid local variants.

In contrast to the discursive erasure of LOT-like CHICAGO from authentic Chicagoness, other speakers affirmed the existence of chronotopically linked THOUGHT-like productions but instead displaced it outside of their own sense of localness. Speakers at the forefront of the shift toward LOT-like CHICAGO productions—older Black women and younger speakers of both racialized groups—were most likely to identify LOT-like CHICAGO as the 'correct' local pronunciation. In their commentary, these speakers utilized LOT to counter all-encompassing chronotopic representations of authentic Chicago-ness and make way for new expressions of place authenticity. Through metalinguistic commentary, multiple Black women speakers who otherwise affirmed LOT as 'correct' located THOUGHT within "a specific demographic of speakers, particularly Caucasians from a certain area... near Bridgeport" (Melinda, Black, female, 45). Similarly, Irene (Black, female, 57) finds that when she hears people "with a true Chicago accent, you get it, you can place it", then proceeds to place it at a "white Sox game" and the "Bridgeport area". Naomi (Black, female, 63) proposes that "even though Chicago as a community has become more diversified... especially when you go into the neighborhoods, you know where you are. I know when I'm in Bridgeport". Thus, LOT-preferring speakers still identify, without endorsing or authenticating, features of the same THOUGHT-linked chronotope offered by speakers who hold contrastive semiotic mappings. While THOUGHT-preferring and LOT-preferring speakers both associate THOUGHT with the same neighborhood and personae, its n+1st order indexical meanings diverge between the groups: THOUGHT-preferring speakers see Bridgeport as representative of authentic Chicagoness, placing Beverly/Morgan Park (and, therefore, themselves) within that same category; LOT-preferring speakers see the same place as distant from their own conception and experience of being Chicagoan.

Naomi further attributes outsider status as well as specific QUALIA to THOUGHT-like CHICAGO productions: "[ʃikɔːgoʊ], that's like putting ketchup on a hot dog". As residents of Chicago know, topping a hot dog with ketchup is severely tabooed in the city. In this instance, Naomi ideologically links THOUGHT with behavior only outsiders would perform, and that authentic Chicagoans would openly disdain. Naomi lengthens the vowel to stylize her performed 'incorrect' token, establishing

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an iconized reading of the variant that, like squeezing ketchup onto a hot dog, suggests qualia of manner (messy, uncultured) and of setting (baseball games, sports bars, Chicago-style hot dog restaurants). This reading emulates how two other black women locate THOUGHT in liquor stores and "on game day" (Lisa) and at a "white Sox game" (Irene). The speakers who position LOT as authentic ideologize THOUGHT and its qualities as equal to the qualities of speakers who typically produce it: white, older, nonlocal to Beverly and Morgan Park, sports fans. In the process, they work not to erase THOUGHT from Chicago as a whole, but to narrow its indexical associations, locate it outside their local community, and heave off the chronotope limiting their own expression of authentic place identity.

Having outlined the contrastive semiotic mappings enmeshed in CHICAGO, we propose that place authentication, as an ideological project, implicates an axis of differentiation that productively delineates what it also means to be place inauthentic. Beverly and Morgan Park represent communities bordering the suburbs, with a history of racial integration unique within Chicago (Oswald 2003), and sometimes distinguished from the rest of the city as the 'Far Southwest Side'. For its residents, to achieve positioning as an authentic or inauthentic resident is to achieve significant narrative control or, conversely, to navigate the consequences of being rendered invisible. Indeed, place authenticity, in contrast with the suburbs of Chicago as well as to other locations within the city, is a principal organizer of social life in Beverly and Morgan Park.

We document a shared ideological project among residents of a place that is ideologically distinguished from its surroundings—a pattern that has predicted sociolinguistic findings in foundational studies as early as Labovian Martha's Vineyard (1963). However, we do not find acoustic alignment among these residents' uptake of a highly stereotyped sociolinguistic variable. In fact, our acoustic analysis reveals completely inverse polarization in the way a single variable, the stressed vowel in CHICAGO, is both phonologically classed (as LOT or THOUGHT) and ideologized (as characteristic of authentic local identity) among speakers from the same neighborhood area (Figure 9).

All interviewees in our sample expressed a strong positive orientation to their local community. Many proudly shared how the neighborhoods' history of racial integration and present-day diversity distinguishes the area within the South Side and Chicago more broadly. Critically for the present study, the semiotic resource of the stressed CHICAGO vowel is deployed in a shared ideological project of establishing authentic Chicago-ness by use of the 'correct' variant. A majority of participants identified one 'correct' or local way to produce the vowel that is distinct from one or more 'incorrect' or nonlocal variants, and these differing social meanings between productions are rhematized (Gal & Irvine 2019) onto the speakers who utter them. That is, the belief that vocalic productions can effectively mark authentic/inauthentic status enables the effective judgement of speakers (who variably take up a certain production) as authentic/inauthentic Chicagoans. Authentication as an ideological project thus demarcates insider, local status away from transient, outsider, or otherwise nonlocal identity REGARDLESS of the linguistic and other semiotic material projected onto each pole. We present completely inverse semiotic mappings between two variants that co-exist within the same community as evidence

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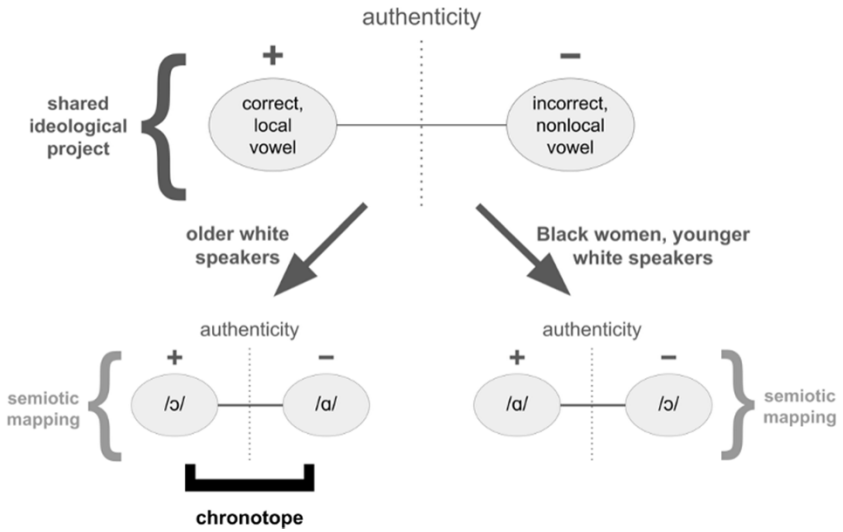

Figure 9. Schematic depiction of inverted semiotic mappings assigned to LOT and THOUGHT in producing authentic place belonging.

for this proposal. Divergent semiotic mappings emerge when the shared project of place authentication takes up the linguistic details of the CHICAGO dichotomy.

Notably, the flexibility in the phonetic material associated with poles on these axes of differentiation allows for reconfiguration of qualities ascribed to 'authentic locals' not only across social groups, but also across time within the same group. The significant interaction between speaker age and race-gender group in LT Difference, such that younger white speakers produced CHICAGO tokens closer to LOT over apparent time, points to an ongoing rearrangement of the contrasts implicated in this authenticity work among white speakers. Younger white speakers appear to shift away from the chronotopic mapping between older white speakers' conceptions of THOUGHT-like CHICAGO as authentic and LOT-like as outsider. This mirrors apparent time shifts away from other linguistic features connected to these chronotopes, like Northern Cities Shifted vowels (e.g. D'Onofrio & Benheim 2020). Though these data reveal that community members project the same vocalic contrast in opposing ways, both mappings point to erasure as a means to organize away intra-community incongruencies. We thus argue for conceptions of place-based linguistic features that attend more closely to the dynamic nature of local identity rather than static associations between places and specific social meanings.

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Notes

1. We use Wells' lexical sets (1982) to label vowel classes. Note that throughout the article, we use LOT to encompass both the Wells' PALM and LOT lexical sets, as these are equivalent (merged) in the Inland North, as in most dialects of North American English outside of New England (Boberg 2015).
2. Pillai scores were also tested as a measure of overlap; no results differed from those used for the LT Distance Difference measure.
3. All participant names are pseudonyms.

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