

The role of style in the ethnolect: Style-shifting in the use of ethnolectal features in first- and second-generation speakers

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journals.sagepub.com/home/ijb**Ksenia Gnevsheva** 

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Abstract

Aims and Objectives/Purpose/Research Questions: The paper aimed to investigate style-shifting in the use of ethnolectal features in first- and second-generation bilingual migrants.

Design/Methodology/Approach: Three groups of speakers (first- and second-generation Russian–English bilinguals as well as monolingual Anglo Australians) were audio-recorded in three different styles (conversation, interview, and reading).

Data and Analysis: Their production of the GOOSE and TRAP vowels across the styles was analyzed quantitatively.

Findings/Conclusions: Overall differences were found between the groups such that first- and second-generation speakers produced more Russian-like vowels compared to the monolinguals; with the biggest differences between the first-generation speakers and the other two groups. In terms of style-shifting, no significant differences were found in the monolingual speakers, and both first- and second-generation speakers were found to produce most Australian English-like vowels in the conversation style. At the same time, certain differences between the two bilingual groups surfaced, such as no significant differences in the first-generation speakers' production of the GOOSE vowel and in the vowels' linguistic conditioning.

Originality: Previous studies have compared ethnolects in the first- and second-generations of migrants and mainstream varieties in order to theorize ethnolect formation. Several studies have also investigated intraspeaker style-shifting between more 'mainstream' and more 'ethnic' in ethnolect speakers, but such style-shifting is rarely compared across generations.

Significance/Implications: The similarities and differences between the two bilingual groups suggest that ethnolectal features may be originally derived from the community language but may be reallocated to other sociolinguistic meanings in the second generation.

Keywords

Ethnolect, sociophonetic variation, style-shifting, bilingualism, first- and second-generation migrants

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Introduction

An ethnolect is a linguistic variety that is traditionally associated with an ethnic group (Clyne, 2000). Increased mobility has made the emergence of ethnolects a global phenomenon, with ethnic varieties attested in a number of locations and languages: Australia (Horvath, 1985; Horvath & Sankoff, 1987; Kiesling, 2001, 2005; Travis, Grama, & González, 2018), Germany (Androutsopoulos, 2001; Jannedy & Wierich, 2013; Queen, 2006), New Zealand (Szakay, 2012), Sweden (Gross, Boyd, Leionen, & Walker, 2016), UK (Cheshire, Kerswill, Fox, & Torgersen, 2011; Kirkham, 2017; Sharma, 2011, 2017; Sharma & Rampton, 2015; Sharma & Sankaran, 2011), and US (Labov, 1972) among others.

The term is usually used to refer to linguistic varieties spoken by native speakers of the majority language who may or may not be bilingual in the community language. The term is normally not applied to varieties spoken by second language (L2) speakers of the majority language, who are first language (L1) speakers of the community language. The variety spoken by L2 speakers is often treated through the lens of L2 acquisition theory, rather than sociolinguistics, and the foreign accent that distinguishes the speech of L2 speakers from that of L1 speakers is accounted for by models of L2 phonology: the Perceptual Assimilation Model (Best, 1995); the Speech Learning Model (Flege, 1995); and the Second Language Linguistic Perception Model (Escudero & Boersma, 2004).

Ethnolects are often assumed to arise from L1 transfer from the community language to the majority one in L2-speaking first generation (Gen 1) migrants and may be used by native-born generations to signal their affinity to the migrant community. For example, Clyne, Eisikovits, and Tollfree (2001) reported final consonant devoicing and monophthongization of diphthongs as distinguishing ethnolectal features in the speech of Australians of German background. Thus, one can speak of a German ethnolect of Australian English, which is a way for the second-generation migrants (Gen 2) “to express solidarity with the first generation whose English is heavily marked as ‘non-native’” (p. 225). The ethnolectal features employed can be lexical, semantic, phonological, syntactic, prosodic and pragmatic (Clyne et al., 2001), though pronunciation has received the most attention and will be focused on in this paper.

Ethnolects are in no way homogenous and between-speaker as well as within-speaker variation exists. Speakers that use ethnolectal features as part of their repertoire can be called ethnolect speakers. Not all members of an ethnic group have to be ethnolect speakers; at the same time some non-members may use ethnolectal features in multiethnolectal varieties (Cheshire et al., 2011) or through stylization and crossing (Rampton, 2017). Thus, an ethnolect can be understood as a linguistic variety employing features traditionally unattested in monolingual speakers of the majority variety and associated with speakers from ethnic groups. There may be a varying number of ethnolectal features involved, and Clyne et al. (2001) suggested that ethnolect speakers can vary between more “mainstream” and more “ethnic”. Within-speaker style-shifting on the continuum has also been attested in both Gen 1 and Gen 2 speakers (e.g. Sharma, 2011, 2017). This paper aims to compare such stylistic variation on the mainstream–ethnic continuum in Gen 1 and Gen 2 speakers as it will likely help in our understanding of how ethnolects emerge and what relationship exists between Gen 1 and Gen 2 speech. Thus, this paper asks the following questions:

- (1) What sort of stylistic variation on the mainstream–ethnic continuum can be found in the majority language of bilingual speakers?
- (2) How do Gen 1 and Gen 2 speakers compare to each other, and monolingual native speakers, in this respect?

In the following subsection I will review previous research on ethnolects, style-shifting, and within-speaker variation in ethnolect speakers. I will then describe the data collection method, followed by the results and their discussion in light of the literature reviewed.

Ethnolect formation

Ethnolects can differ from standard varieties in the use of clearly non-native realizations or deviation from sociolinguistic patterns of the majority. First, for an example of the former, Sharma (2017) demonstrated that the British-born Punjabi community uses a set of vocalic and consonantal features (e.g. postalveolar /t/) not found among their Anglo peers, and Boberg (2004) found that ethnic group membership explained the variation found in seven vowels in Montreal English speakers of Irish, Italian, and Jewish background. Second, ethnolectal differences may lie in the quantity or quality of participation in existing sociolinguistic variation in the majority community. Ethnolect speakers are sometimes found not to participate in the mainstream processes (e.g. African Americans in Labov, 1972). Where linguistic change is in progress, ethnolect speakers are often found to lead it, though the findings are mixed in this regard. For instance, speakers of Italian background led Anglo-Celtic participants in movement towards more General realizations in Sydney (Horvath & Sankoff, 1987). Similarly, speakers of Italian background in New York City were found to lead in the raising of tensed /æ/ (Labov, 1972), and Italian, Polish and German heritage speakers were leading in the raising of tensed /æ/ in Buffalo (Carlock & Wölck, 1981). In contrast, Hoffman and Walker (2010) found that while Italians led Canadian vowel shift in Toronto, Chinese background speakers fell behind; and in Boston, Jewish speakers used the outgoing [ɒ] variant the least and Italians the most (Laferrière, 1979).

The two types of ethnolectal influences (non-native features and non-adherence to majority sociolinguistic patterns) are parallel with the two types of variation in L2 speakers. Type 1 variation (variation in the acquisition of linguistic competence) is reflected in the variable use of non-native features, usually through L1 transfer (e.g. Best & Tyler, 2007; Flege, Schirru, & MacKay, 2003), and Type 2 variation (acquisition of sociolinguistic variation found in the L2) manifests through variable adherence to the native speakers' sociolinguistic norms (e.g. Adamson & Regan, 1991; Drummond, 2012; Mougeon, Rehner, & Nadasdie, 2004; Schleef, Meyerhoff, & Clark, 2011). Such parallelism between the two types of ethnolectal influences and the two types of variation in L2 speakers suggests that ethnolectal features in Gen 2 speakers may be derived from Gen 1 influences and may result in similarities between Gen 1 and Gen 2 speakers of the same background.

In relation to this, Hoffman and Walker (2010) distinguish between strong and weak interpretations of ethnolects. The strong version assumes that an ethnolect is formed through imperfect acquisition of the majority language by the descendants of L2 speaker migrants and ethnolectal features can be traced back to the community language directly, resulting in similarities between Gen 1 and Gen 2. The weak interpretation of ethnolects is that different generations may differ in expressing their ethnicity and Gen 2 speakers may use alternative linguistic features to mark their ethnic membership (also see Cheshire et al., 2011). To distinguish between the two interpretations, Hoffman and Walker (2010) investigated varying rates of (t/d)-deletion and varying degrees of participation in the Canadian vowel shift in the speech of Toronto residents of Italian, Chinese, and British background. The study compared Gen 2 ethnolect speakers to Gen 1 and the Anglo majority and found that although some Gen 2 speakers may use the difference in overall rates to express their ethnic identity, the variables' linguistic conditioning was the same as that of the Anglo speakers, supporting the weak interpretation of ethnolects (also see Laferrière, 1979 for similar results). Such a multigenerational approach allowed the researchers to compare linguistic behavior across migrant generations and conclude that language transfer between Gen 1 and Gen 2 speakers did not occur and ethnolectal features were not due to substrate transfer.

In contrast, Sharma and Sankaran (2011) found that differences between Gen 1 and Gen 2 speakers and the switch to native-like conditioning do not always occur. They analyzed the linguistic conditioning of retroflex /ɭ/ in 3 groups of Punjabi speakers in London – Gen 1 speakers and older and younger Gen 2 speakers. They found different behavior in the two Gen 2 groups such that

in the older speakers the conditioning was similar to Gen 1 (unlike in Hoffman & Walker, 2010), but younger Gen 2 speakers reallocated the use of non-native variants to new functions (more in line with the weak interpretation of ethnolects). Thus, the authors argued for a social, rather than cognitive reallocation of ethnolectal feature use. Both Hoffman and Walker (2010) and Sharma and Sankaran (2011) assumed reallocation of non-native features to new social functions (also see Eckert (2008) and Kiesling (2005) who argued that -er backing in Australia is indexical of being Greek and also authoritative), but the results in relation to such possible socially motivated ethnolectal variation are inconclusive as formality, the only within-speaker social factor tested in Sharma and Sankaran (2011), did not reach significance in the model predicting the use of /t/. Thus, style-shifting in the use of ethnolectal features requires further investigation.

Style-shifting

Sociolinguistic literature often finds people from different social groups delineated by sex, age, socioeconomic class, and ethnic background to differ from each other in their speech patterns, and their within-speaker stylistic repertoire – to reflect this community-wide between-speaker variation. As an example of that, Labov (1972)'s groundbreaking work in New York City demonstrated that speakers' production of postvocalic /r/ varied with socioeconomic class between informants and also with linguistic style within informants. Here stylistic variation was attributed to attention paid to speech with more formal styles (such as reading as opposed to an interview) resulting in more attention paid to speech and, consequently, an increased use of more prestigious linguistic variants.

Other accounts of style-shifting explain within-speaker variation through listener effects. Accommodation theory proposes that convergence occurs when interlocutors adapt their communicative behavior to reduce linguistic differences and minimize perceived social distance (Giles & Powesland, 1975). For example, Coupland (1984) demonstrated that a travel agent converged to clients from five occupational classes in her production of intervocalic (t) flapping. Similarly, audience design theory posits that speakers style-shift in response to listeners: the same newsreaders used more prestigious linguistic variants on a higher status radio station in comparison to a lower status one, presumably reflecting assumed production of the listeners (Bell, 1984).

The identity construction approach to style-shifting focuses on the speaker as the agent of variation, with linguistic variation being parallel with identity changes, where identity is understood as "[a] person's place in relation to other people, a person's perspective on the rest of the world, a person's understanding of his or her value to others – all of these are integral to the individual's experience of self, and are constructed in collaboration with others as those others engage in the same construction of themselves" (Eckert, 2000, p. 41). Importantly, "the use of variation does not simply reflect, but constructs, social meaning" and identity (Eckert, 2012, p. 21). The identity construction approach does not necessarily reject systemic accounts of variation.

Different accounts of style-shifting are not incompatible. For example, the responsive axis of audience design theory would predict that bilingual speakers would accommodate to their addressees (e.g. we could expect an ethnolect speaker to approach the ethnic extreme of the ethnolect continuum when speaking to interlocutors of the same background). The identity approach could also explain such style-shifting through initiative construction of a migrant identity. The following subsection discusses existing work on style-shifting in ethnolect speakers.

Ethnolectal variation

Previous studies have found substantial between-speaker variation in the use of ethnolects. For example, Hoffman and Walker (2010) quantified the participants' 'ethnic orientation' through

asking questions on topics including ethnic identification, language use, and cultural heritage and found it explained some differences in the rates and conditioning of (t/d)-deletion and Canadian vowel shift across speakers. Variation in the use of the ethnolect has also been found between males and females. Kiesling (2001) proposed that women make more differentiation by ethnicity and show more pronounced ethnolectal features than men and explained this through possible network composition and gender role differences in migrant families. Partially in support of this, Sharma (2011) found an interaction between gender and age such that younger females were using particularly fewer retroflex /ɬ/ than any of the younger males or older males and females within the same generation, Gen 2, also explaining it through gender roles and social networks (see below; also see Sharma & Sankaran, 2011).

The above studies may produce an impression that ethnolect speakers differ from the majority or among themselves statically by regularly employing a certain number of non-native features. Yet recent work has proposed that ethnolectal features may be used for intraspeaker style-shifting as well. For example, Clyne et al. (2001) suggested that ethnolect speakers can vary between more ‘mainstream’ and more ‘ethnic’ stylistically. Similarly, Benor (2010) argued for the existence of ethnolinguistic repertoires which allow speakers to use the variation on the mainstream–ethnic continuum for sociolinguistic purposes (also see Becker, 2014; Eckert, 2008; Newlin-Łukowicz, 2016).

Several studies have investigated this sort of style-shifting in Gen 2 speakers quantitatively. Sharma (2011) studied variation in the use of ethnically marked variants in the speech of four British-born Asians. She recorded younger and older British-born male and female speakers and analyzed their production of /t/, coda /l/, and the vowels FACE and GOAT. She found that the speakers varied in the amount of non-native variants in different situations: usually more mainstream when speaking with Anglo interlocutors and more ethnic when speaking to other Asians (also see Beebe & Zuengler (1983) who applied accommodation theory (Giles & Powesland, 1975) to bilingual speakers, who were found to converge in syntax and pronunciation to their interlocutors by ethnicity). Additionally, there was between-speaker variation in the amount of such style-shifting: the older male and younger female exhibited more diverse within-speaker variation on the continuum between more mainstream and more ethnic. Sharma attributed a more differentiated repertoire to more diversity in their network (cf. Kiesling, 2001 and also Sharma, 2017 below) and argued that ‘ethnolinguistic traits do not share social meanings across community members’ (Sharma, 2011, p. 481) in line with identity-construction approaches to variation (Eckert, 2000; also see Sharma & Rampton, 2015 for a detailed analysis of the use and meaning of ethnolinguistic variants in interaction).

Synchronic intraspeaker variation on the mainstream–ethnic continuum has also been attested in Gen 1 speakers. Bilingual speakers have been shown to vary in their production on the L1–L2 continuum in response to changes in formality, interlocutor, and topic, or a combination of these (Dolgoval Jacobsen, 2008; Major, 2001; Rampton, 2011). Recent work with L1 speakers of German and Korean in New Zealand found that they produced significantly more German- and Korean-like vowels in some contexts than in others (e.g. when speaking about their family as opposed to their studies), which was explained through an application of the audience design and identity construction accounts (Gnevsheva, 2015). This type of sociolinguistic variation has been called Type 3 variation, expanding the model of L2 speaker variation that includes only Type 1 (variation in the acquisition of linguistic competence) and Type 2 (acquisition of sociolinguistic variation found in the L2) (Gnevsheva, 2016; Nance, McLeod, O’Rourke, and Dunmore, (2016) and Rampton (2011) also advocate for the application of the concept of style in L2). The dichotomy of Type 1 and Type 2 variation theoretically limits L2 speakers, fails to recognize their agency in the use of multiple languages, and regards any deviation as reflecting L2 acquisition

failure. Type 3 variation acknowledges that bilingual speakers may use their multiple languages as an additional sociolinguistic resource and that variation on the L1–L2 continuum need not be developmental, but may be used synchronically for sociolinguistic purposes.

The documented cases of intraspeaker variation between more and less ethnic realizations of variables in Gen 1 and Gen 2 speakers begs the question of whether this variation will be similar across the two generations, therefore, supporting the strong interpretation of ethnolect. Rampton compared the style-shifting in one Gen 1 and one Gen 2 speaker and found that generally both used Punjabi variants more when talking to Indian interlocutors and more Anglo variants with Anglo interlocutors, concluding that these two speakers are ‘active participants in broadly the same sociolinguistic space’ (Rampton, 2011, p. 33). At the same time certain differences emerged with the Gen 1 speaker exhibiting a more limited repertoire (although this was not possible to be analyzed statistically due to the case-study nature of the work).

Sharma (2017) is an in depth analysis of the effect of diversity of social networks on the amount of style-shifting in two Gen 1 and seven Gen 2 participants (two of these were the participants in Rampton (2011) and four in Sharma (2011) above), who were recorded speaking to different interlocutors in several settings. An ‘accent/repertoire range’ was quantified for each speaker by calculating the difference in percentage of ethnic variant use across settings. For example, the male Gen 1 speaker had a 64.1% accent range, and the female Gen1 speaker a 23.1% accent range; the Gen 2 speakers ranged from 7.8 to 94.4% in their accent range. Intergenerational comparison of style-shifting was not the point of analysis in the first place, and for the present discussion the small number of Gen 1 participants makes the comparison between Gen 1 and Gen 2 speakers difficult. Additionally, while having the participants self-record multiple conversations with members of their social circle is more ecologically valid than laboratory recordings in terms of the data collection method, it results in such a diversity in the number of interlocutors that makes style-shifting less readily comparable across participants. For example, one older Gen 2 male, Anwar, recorded himself in six different settings, while a younger Gen 2 male Anand only had two recordings. Thus, it is hard to know if the greater differentiation evident in Anwar’s style was an artifact of the greater diversity of recordings or a genuine representation of his stylistic repertoire.

To sum up, previous research on the use of ethnolectal features has investigated style-shifting in bilingual speakers (e.g. Gnevsheva (2015) in Gen 1 and Sharma (2011) in Gen 2) and compared Gen 1 and Gen 2 speakers within one style (e.g. Hoffman & Walker, 2010; Sharma & Sankaran, 2011). Research on style-shifting across two generations has suggested both similarities and differences between generations (Rampton, 2011; Sharma, 2017). Systematic comparisons of larger numbers of Gen 1 and Gen 2 speakers are needed to elucidate some of the questions about ethnolect formation and its strong and weak interpretations. Specifically, if the two generations are found to style-shift similarly, this can be taken as evidence for a strong interpretation of ethnolect where ethnolectal features mark ethnic belonging and style-shifting on the mainstream–ethnic continuum reflects an association with ethnicity; if the two generations are found to style-shift differently or one is found not to style-shift on the ethnic continuum at all (similarly to the monolingual majority), this can be taken to mean that Gen 2 speakers reallocate the ethnolectal features to index other sociolinguistic meanings (e.g. Kiesling, 2005; Sharma, 2011; Sharma & Sankaran, 2011).

To test this, the paper compares style-shifting on the mainstream–ethnic continuum in three groups of participants in Australia: Gen 1 and Gen 2 Russian-English bilinguals, and English monolingual speakers as controls. They are audio-recorded and their vowel productions are analyzed across three different contexts (conversation, interview, and reading) for the purpose of intergenerational comparison of style-shifting.

Method

Field site

Melbourne is Australia's second largest city and is also the capital and the largest city of the state of Victoria (population 4.2 million; censusdata.abs.gov.au, 2016). Over 40% of its population was born overseas and speaks a language other than English at home (censusdata.abs.gov.au, 2016), making it a suitable site for the study of ethnolects.

Australia has a century-long history of Russian-speaking immigration. In all of the country, 74,000 Australians claim Russian heritage, and 44,000 people speak Russian at home, most of them residing in Australia's two largest cities, Sydney and Melbourne (censusdata.abs.gov.au, 2011). Russian language and culture are supported through community centers, Saturday schools, and churches. For the purposes of this study, Russian-speaking migrants in Melbourne are considered representative of other migrant communities in Australia and the world.

Participants

Three groups of participants took part in the study: ten Gen 1 migrants; six Gen 2 migrants; and eight Anglo monolinguals (1 monolingual and 2 Gen 2 participants were subsequently excluded from analysis; see below). The Gen 1 migrants were native speakers of Russian, who learned English as their L2 and moved to Australia as adults. They had lived in Australia for an average of four years at the time of the study (range: 1–10 years). The Gen 2 group were born in Australia (or moved there before the age of 5) to Russian-speaking parents. They reported using both languages on a daily basis but were more fluent in English and some experienced difficulty reading in Russian (see data collection). The Gen 1 group self-rated their English ability to be an average of 3.55 on a 5-point Likert scale with 5 meaning native-like, and their Russian ability 4.75; the Gen 2 group rated their English to be 4.25 and Russian 2.5; all Gen 1 participants rated their Russian higher than English and Gen 2 participants rated their English higher than Russian. The monolingual group were native, monolingual speakers of Australian English with Australian-born parents from several cities (there is little regional variation in Australian English (Trudgill, 2004)); I will also refer to them as Anglo for short.

Half of the Gen 1 and Anglo groups were women and half men; five participants in the Gen 2 group were women (the original goal was to recruit five male participants as well, but it proved impossible). The participants were between 18 and 40 years of age at the time of the study: average age 32 (standard deviation 5.9) in the Gen 1 group, 25 (4.7) in Gen 2, and 23 (4.3) for the monolinguals. All participants had had some higher education.

Data collection

The participants were audio-recorded with a Hn5 Zoom audio-recorder and a Samson head-mounted microphone in three different contexts: a self-recorded conversation; a sociolinguistic interview; and a reading passage (hereafter, conversation, interview, and reading styles, respectively). The bilingual participants were recorded across the three contexts in both their languages; in this paper I will focus on their English production. For the self-recorded conversation, the participants were instructed to record themselves speaking to a friend they normally speak English to; most spoke to non-Russian speakers. In the sociolinguistic interview the bilingual participants were interviewed by a male Russian–English bilingual (Gen 2) research assistant (except for one male Gen 1 speaker who was interviewed by a female Gen 1 Russian–English bilingual). The monolingual participants were interviewed by several different people (linguistics students in an

Table 1. Number of GOOSE and TRAP observations across styles.

Style	GOOSE	TRAP
Conversation	3548	4372
Interview	2980	4697
Reading	469	1076
Total	6997	10145

advanced sociophonetics class as part of their research training, some L1 and some L2 speakers of English, but none were speakers of Russian). The reading passage recordings were collected by the same research assistants as the interviews. The topic of the self-recorded conversation was not constrained and varied among the participants; in the interview the participants were asked questions about their upbringing, travel, and language attitudes; the reading task included three standardized reading passages: the North Wind and the Sun; Grandfather; and Rainbow passages. The conversation and interview recordings were about 30 minutes each, and the reading passage was about 5 minutes long, resulting in approximately 1 hour of speech per speaker.

The Australian English Bilingual Corpus

The anonymized audio-recordings are housed in the Australian English Bilingual Corpus (AusEBC). The audio-recordings were manually segmented at the level of utterance and orthographically transcribed in ELAN (2017). They were then uploaded into the Language, Brain and Behaviour–Corpus Analysis Tool (LaBB-CAT; Fromont & Hay, 2012). Phonemic transcriptions were generated using CELEX (Baayen, Piepenbrock, & Gulikers, 1995), and automatic alignment was done using HTK (University of Cambridge, 2014), resulting in a corpus aligned at segmental level. Automatic alignment failed for two female Gen 2 speakers and one male monolingual speaker, so they were excluded from the analysis as mentioned above. An analysis of alignment accuracy comparing LaBB-CAT- and human-aligned vowel boundaries in a subset of the corpus revealed a median boundary displacement of 8.49 milliseconds (ms), which is below the 20 ms ‘gold standard’ (Cosi, Falavigna, & Omologo, 1991). Therefore, manual correction was not conducted, and outliers were removed based on formant frequency measurements as detailed below.

The first formant (F1) and second formant (F2) frequencies were automatically extracted for all stressed monophthongs at the mid-point by using Praat (Boersma & Weenink, 2018), with 5500 Hz as the maximum for female speakers and 5000 Hz for male. Because no manual correction of alignment was performed, the vowel spaces were examined for each speaker visually, and vowel tokens with improbably high F1s were considered measurement errors and were excluded. Additionally, tokens with F1 or F2 values outside of two standard deviations of the formant mean for each vowel, speaker, and style were also excluded. This regulating procedure resulted in a total of 70,561 observations for normalization. The vowels were normalized within-speaker using the Lobanov normalization method (Lobanov, 1971). There were 6997 observations of GOOSE and 10,145 of TRAP, the two vowels chosen for analysis (Table 1); GOOSE was produced by individual participants between 120 and 632 times, and TRAP between 204 and 902 times.

Australian English and Russian vowels

Australian English is a non-rhotic variety, characterized by a relatively high KIT and DRESS, a front GOOSE, and a durational (but not spectral) difference between START and STRUT (Cox & Palethorpe, 2007). Russian has a 6-vowel system with no diphthongs: i, e, a, o, u, and a high central unrounded

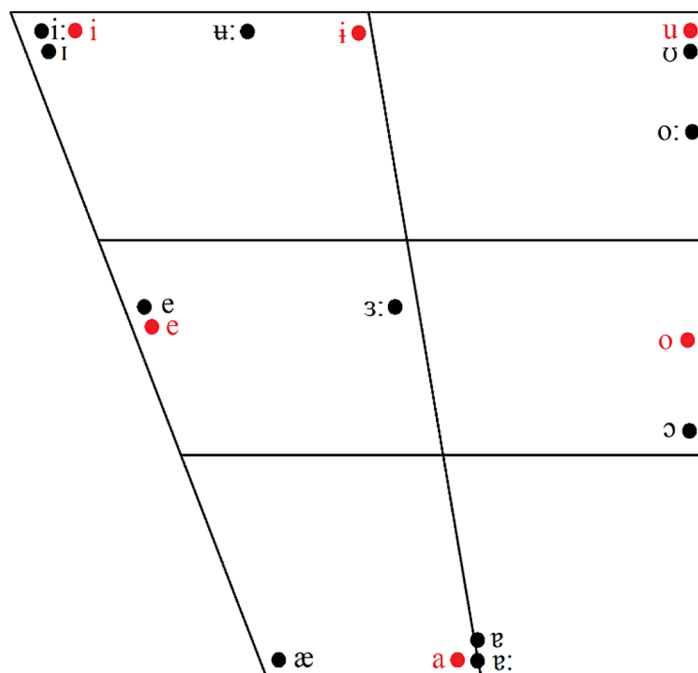


Figure 1. Superimposed Australian English (black) and Russian (red) vowel spaces (monophthongs only; based on Cox & Palethorpe, 2007 and Yanushevskaya & Bunčić, 2015).

vowel *i* (Yanushevskaya & Bunčić, 2015). Figure 1 is a schematic representation of the superimposed Russian and Australian English monophthongs. Because of the differences in the vowel systems, Russian learners of English can experience difficulties in acquiring some of the English vowels. For example, because there is no low front vowel in Russian, they often have difficulty distinguishing DRESS and TRAP and produce a mid-front vowel for TRAP. Russian also lacks front or central high rounded vowels, so the GOOSE vowel would be expected to be produced as a back vowel in Russian-accented English. Thus, looking at specific vowel realizations, it is possible to say whether they are more or less Russian-accented. For example, a higher TRAP vowel would be considered more Russian-accented, as well as a more retracted GOOSE vowel.

Sociolinguistic processes of language variation and change affect both GOOSE and TRAP in Australian English. Just like in many other varieties of English (e.g. Sóskuthy, Foulkes, Haddican, Hay, & Hughes, 2015), Australian English GOOSE has been fronting over time (Cox & Palethorpe, 2001). Historically, there was a raising of the short front vowels, but a reversal of this sound change has been observed more recently with younger speakers producing a low (and somewhat retracted) TRAP (Cox & Palethorpe, 2008). An analysis of Anglo monolinguals' production of these vowels in this paper will demonstrate whether they are used as a resource in within-speaker style-shifting.

Statistical analysis

Exploratory statistical analysis was conducted to investigate the effect of style on GOOSE and TRAP realizations across different speaker groups. I fit several linear mixed effects models (Baayen, Davidson, & Bates, 2008) to the data using the lmerTest package (Kuznetsova, Brockhoff, & Christensen, 2017) in R (R Core Team, 2017) with the normalized formant values of the vowels of

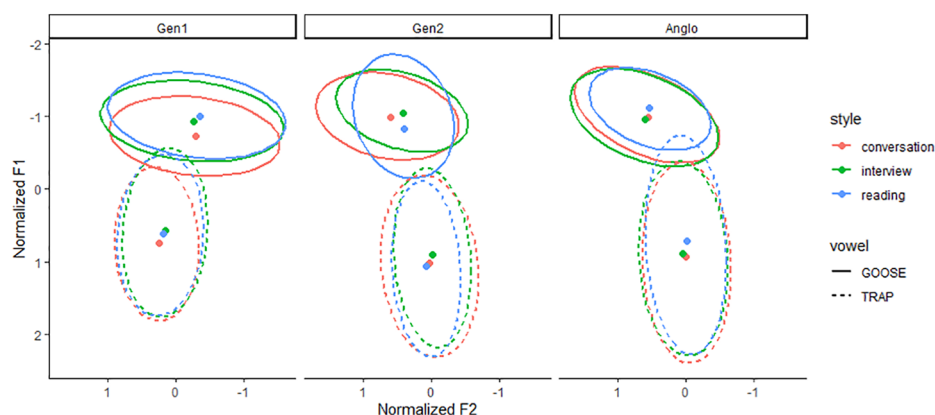


Figure 2. Mean first formant and second formant values for GOOSE and TRAP with 1sd ellipses in conversation, interview, and reading styles for first generation, second generation, and Anglo speakers.

interest as the dependent variables (F2 for GOOSE (degree of retraction) and F1 for TRAP (degree of raising)). Fixed effects are the predictor variables under investigation (e.g. style); random effects allow to treat observations as non-independent under repeated measures (e.g. participant); and random slopes allow for fixed effects to vary in relation to a given random effect (e.g. the effect of style may vary from one participant to another; Barr et al., 2013).

In each case, a more saturated model was fit first, with four 2-way interactions between generation on the one hand and style, vowel duration (in seconds; centered), preceding, and following phonological environment on the other hand as fixed effects; as well as word and participant, nested within generation, as random effects; and style as a random slope for participant. Generation and style were included as independent variables to investigate style-shifting across generations. Vowel duration was included in the model to account for the potential centralization effect of shorter vowels. Phonological environment accounts for possible assimilation effects. Following Jansen (2019), for GOOSE, preceding phonological environment was coded as /j/, anterior coronal, or other; and following phonological environment was coded as obstruent, sonorant, or other. For TRAP, following phonological environment was coded as nasal, obstruent, and other in order to account for the effects of the documented nasal split in Australian English (Grama, Travis, & González, 2019).

Gen 2 participants (as hypothesized to fall between Gen 1 and Anglo speakers in their production) and conversation style were treated as the baseline. The models were pruned until only significant predictors remained ($p < 0.05$). P -values were calculated via Satterthwaite's degrees of freedom method (Kuznetsova et al., 2017). The random slope was excluded for the benefit of model convergence (Matuschek, Kliegl, Vasishth, Baayen, & Bates, 2017).

Results

Mean F1 and F2 values for GOOSE and TRAP across the three styles and groups of participants are plotted in Figure 2. Visual analysis suggests that the Gen 1 speakers produce a higher TRAP and a more backed GOOSE, compared to Gen 2 and Anglo speakers. Overall differences between Gen 2 and Anglo speakers are not readily identifiable. In terms of within-group style-shifting, Gen 2 speakers seem to have produced a more fronted GOOSE in conversation compared to other styles; no apparent style-shifting in GOOSE F2 is observed in the Gen 1 and Anglo speakers. As for TRAP F1,

Table 2. Summary for model of GOOSE second formant.

	β	Standard error	df	t	p
(Intercept)	-0.160	0.130	63.030	-1.233	0.222
Gen_Anglo	0.043	0.141	36.275	0.307	0.761
Gen_Gen I	-1.146	0.134	36.764	-8.581	0.000***
style_interview	-0.082	0.038	6932.700	-2.161	0.031*
style_reading	-0.122	0.076	6958.341	-1.590	0.112
duration	-0.494	0.174	6837.593	-2.833	0.005**
follow_obstruent	0.305	0.085	464.986	3.571	0.000***
follow_sonorant	-0.216	0.107	571.249	-2.023	0.044*
precede_coronal	0.346	0.094	613.233	3.674	0.000***
precede_j	1.009	0.085	765.957	11.818	0.000***
Gen_Anglo:style_interview	0.134	0.052	6948.465	2.598	0.009**
Gen_Gen I:style_interview	0.133	0.045	6935.331	2.948	0.003**
Gen_Anglo:style_reading	0.204	0.096	6880.984	2.123	0.034*
Gen_Gen I:style_reading	0.160	0.088	6842.027	1.811	0.070
Gen_Anglo:duration	0.590	0.266	6960.943	2.217	0.027*
Gen_Gen I:duration	-3.062	0.213	6847.265	-14.403	0.000***
Gen_Anglo:follow_obstruent	0.088	0.076	6125.347	1.158	0.247
Gen_Gen I:follow_obstruent	-0.097	0.070	6074.217	-1.385	0.166
Gen_Anglo:follow_sonorant	0.143	0.095	6741.332	1.507	0.132
Gen_Gen I:follow_sonorant	0.219	0.092	6142.848	2.374	0.018*
Gen_Anglo:precede_coronal	-0.177	0.082	6759.180	-2.164	0.030*
Gen_Gen I:precede_coronal	0.401	0.078	6671.306	5.171	0.000***
Gen_Anglo:precede_j	0.038	0.082	6651.063	0.461	0.645
Gen_Gen I:precede_j	0.247	0.078	6523.113	3.187	0.001**

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Gen 1 speakers seem to have produced lower TRAP realizations in the conversation style while Gen 2 speakers produced a higher TRAP in the interview style and Anglos in the reading style. Although such visualizations are useful, they do not tell us anything about the statistical significance of observed differences. Additionally, such potential confounders as vowel duration and phonological environment are not taken into account. The following statistical analysis aims to ascertain whether the observed differences between styles and speakers are statistically significant while controlling for the confounding variables.

The GOOSE vowel

The final model for the GOOSE vowel is presented in Table 2. Higher numbers in the β (estimate) column mean a fronter and, therefore, more Australian-like production of the GOOSE vowel. The results indicate that Gen 1 participants produced a significantly more retracted GOOSE compared to the baseline, suggesting an effect of speaker generation. The GOOSE vowel realizations in the interview style were more retracted compared to the baseline, supporting the style-shifting account of variation. Generation and style participated in a significant interaction such that Anglo and Gen 1 participants produced a fronter GOOSE in the interview and reading styles compared to Gen 2 (the interaction is presented in Figure 3). When relevelled to Anglo speakers being the baseline, no

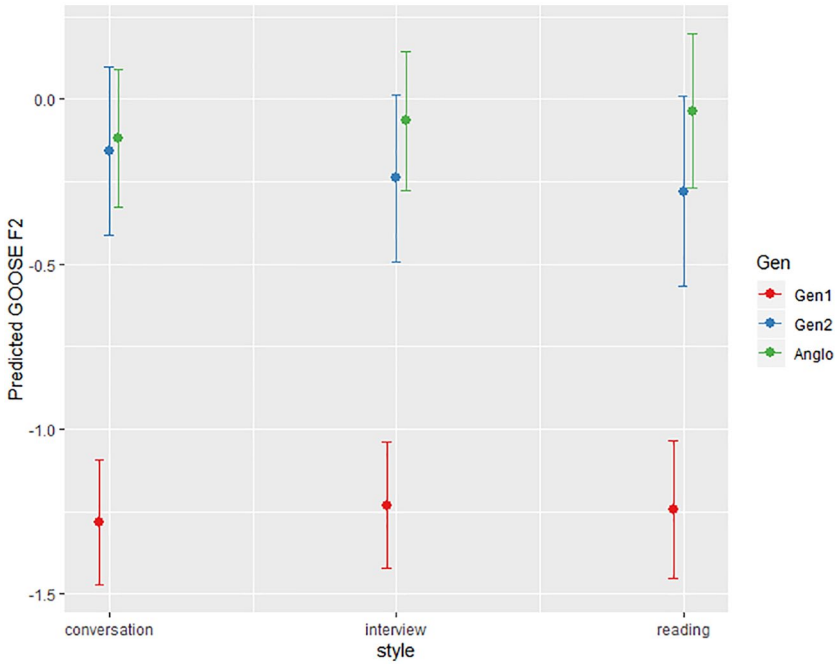


Figure 3. Interaction between generation and style in model of normalized goose second formant.

significant effect of style was found for the baseline. This suggests that while Gen 2 speakers are similar to Anglos in terms of their overall GOOSE F2, they demonstrated style-shifting not attested in the Anglo group.

Vowel duration had a significant effect such that vowels of longer duration exhibited a lower F2 for the baseline, reflecting a central tendency for shorter vowels. Vowel duration was also involved in a significant interaction with generation, such that Gen 1 speakers produced a more retracted GOOSE and Anglos a less retracted GOOSE with increased vowel duration compared to Gen 2 (Figure 4). This suggests that the three groups of speakers may have different targets in their production of GOOSE, and all three differ from each other.

As for linguistic conditioning in Gen 2 speakers, preceding anterior coronals and /j/ and following obstruents favored a fronted realization of GOOSE, and following sonorants favored a backed realization. There was a significant interaction between generation and phonological environment such that there was a reduced backing effect of following sonorants for Gen 1 speakers. Gen 1 speakers produced an even more fronted GOOSE after coronals and /j/, and Anglos produced a less fronted GOOSE after coronals, compared to Gen 2 speakers. These results suggest substantial differences in linguistic conditioning of GOOSE between Gen 1 and Gen 2 speakers, and a smaller but also significant difference between Gen 2 and Anglo speakers.

The TRAP vowel

The final model for the TRAP vowel is presented in Table 3. Higher numbers in the β (estimate) column mean a lower and, therefore, more Australian-like production of the TRAP vowel. Gen 1 participants produced a significantly higher TRAP compared to the baseline. The interview style realizations of TRAP were significantly higher compared to the baseline, supporting the style-shifting account of

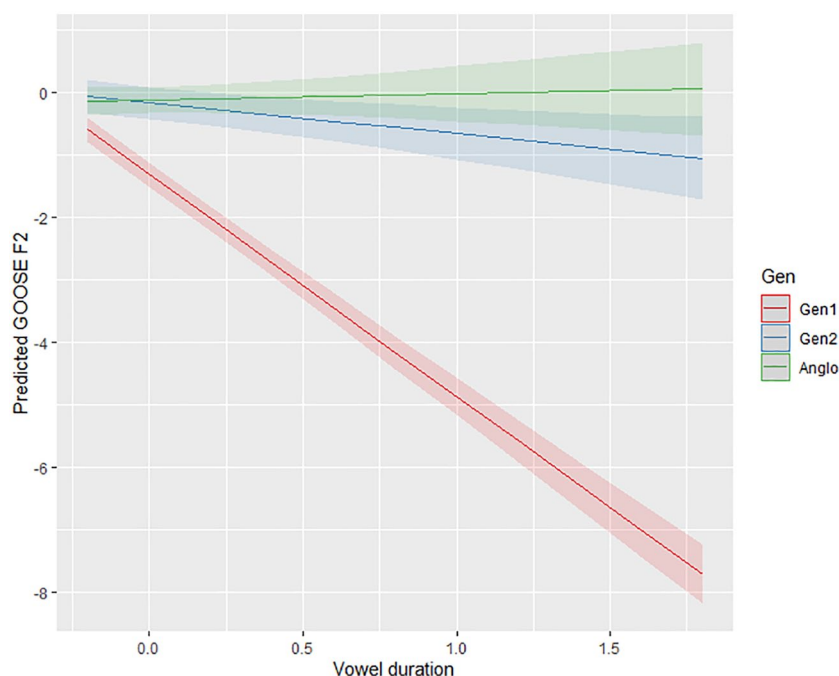


Figure 4. Interaction between generation and vowel duration in model of normalized GOOSE second formant.

variation. Generation and style participated in a significant interaction such that Anglo participants produced a lower TRAP in the interview style (counteracting the significant effect of style for Gen 2 participants: when revealed no significant effect of style was found for Anglo speakers) and Gen 1 participants produced a higher TRAP in the reading style (the interaction is presented in Figure 5). The significant interaction suggests that bilingual speakers exhibited style-shifting not attested in the monolingual speakers.

Vowel duration had a significant effect such that vowels of longer duration exhibited a higher F1, reflecting the central tendency of shorter vowels. Vowel duration was also involved in a significant interaction with generation, such that Gen 1 speakers produced a higher TRAP and Anglos had a tendency for a lower TRAP with increased vowel duration in comparison with Gen 2 speakers (Figure 6). In this regard, Gen 2 speakers are more similar to Anglo than Gen 1 speakers.

As for linguistic conditioning, Gen 2 speakers produced a higher TRAP before nasals. There was also a significant interaction between generation and the following phonological environment such that Gen 1 speakers produced a lower TRAP before nasals compared to Gen 2 speakers. These results speak to significant differences in linguistic conditioning of TRAP F1 between Gen 1 and Gen 2 speakers, and no difference between Gen 2 and Anglo speakers.

Discussion

The two main questions that this paper asked were: (a) whether bilingual speakers would style-shift on the mainstream–ethnic continuum in English; and (b) whether Gen 1 and Gen 2, and monolingual speakers would style-shift similarly. Two vowels with different realizations of the

Table 3. Summary for model of the TRAP first formant.

	β	Standard error	df	t	p
(Intercept)	1.627	0.105	24.250	15.493	0.000***
Gen_Anglo	-0.164	0.127	20.790	-1.297	0.209
Gen_Gen I	-0.471	0.120	20.820	-3.938	0.001***
style_interview	-0.145	0.036	10120.000	-4.028	0.000***
style_reading	0.022	0.061	10120.000	0.370	0.711
duration	5.249	0.267	10020.000	19.636	0.000***
follow_other	-0.132	0.143	2557.000	-0.918	0.359
follow_nasal	-0.488	0.059	942.900	-8.333	0.000***
Gen_Anglo:style_interview	0.158	0.047	10110.000	3.337	0.001***
Gen_Gen I:style_interview	-0.076	0.044	10100.000	-1.751	0.080
Gen_Anglo:style_reading	-0.059	0.076	10000.000	-0.784	0.433
Gen_Gen I:style_reading	-0.234	0.070	9950.000	-3.339	0.001***
Gen_Anglo:duration	0.645	0.348	10120.000	1.854	0.064
Gen_Gen I:duration	-1.437	0.318	9993.000	-4.524	0.000***
Gen_Anglo:follow_other	0.044	0.163	6144.000	0.269	0.788
Gen_Gen I:follow_other	-0.342	0.172	4669.000	-1.994	0.046*
Gen_Anglo:follow_nasal	-0.077	0.044	10110.000	-1.741	0.082
Gen_Gen I:follow_nasal	0.396	0.041	10100.000	9.640	0.000***

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

counterparts in Russian and English were analyzed: GOOSE; and TRAP. I will first consider overall inter-group differences in realizations of the variables and then their sociolinguistic conditioning.

To begin with, the three generations were found to differ in their overall production of the vowels. Gen 1 speakers produced a more retracted GOOSE and a higher TRAP, that is, more Russian-like, ethnic realizations, compared to the Anglo and Gen 2 speakers. Gen 2 speakers also produced a more retracted GOOSE in the interview and reading styles compared to Anglo; the difference for TRAP did not reach significance. Generation also participated in an interaction with vowel duration: the longer the GOOSE vowel, the more retracted its production by Gen 2 speakers and even more so by Gen 1 speakers; and the longer the TRAP vowel the higher its production, with a significantly shallower slope in Gen 1 speakers. Finally, there was a significant interaction between generation and phonological environment: while differences were found for all groups for GOOSE, for TRAP only Gen 1 behaved differently from the other two groups.

These results highlight the differences between generations. Gen 1 speakers were found to differ from Anglo, producing more Russian-like variants, which is not surprising for L2 speakers of English, in line with models of L2 phonology such as the Perceptual Assimilation Model (Best, 1995), the Speech Learning Model (Flege, 1995), and the Second Language Linguistic Perception Model (Escudero & Boersma, 2004). Gen 2 speakers were found to differ from both Gen 1 and Anglo speakers. On the one hand, this demonstrates that they are unlike Gen 1 speakers, being native speakers of English; on the other, they exhibit differences in the production of GOOSE from Anglo participants, being bilingual speakers. In cases of both Gen 1 and Gen 2 speakers the direction of difference is consistent with the substrate transfer explanation of ethnolect formation, similar to the findings of Boberg (2004), Sharma (2011, 2017), and Sharma and Sankaran (2011). At the same time, Gen 2 speakers are significantly different from Gen 1 speakers in the phonetic quality of realizations and the variables' linguistic conditioning (a significant difference between Gen 2 and Anglo speakers was

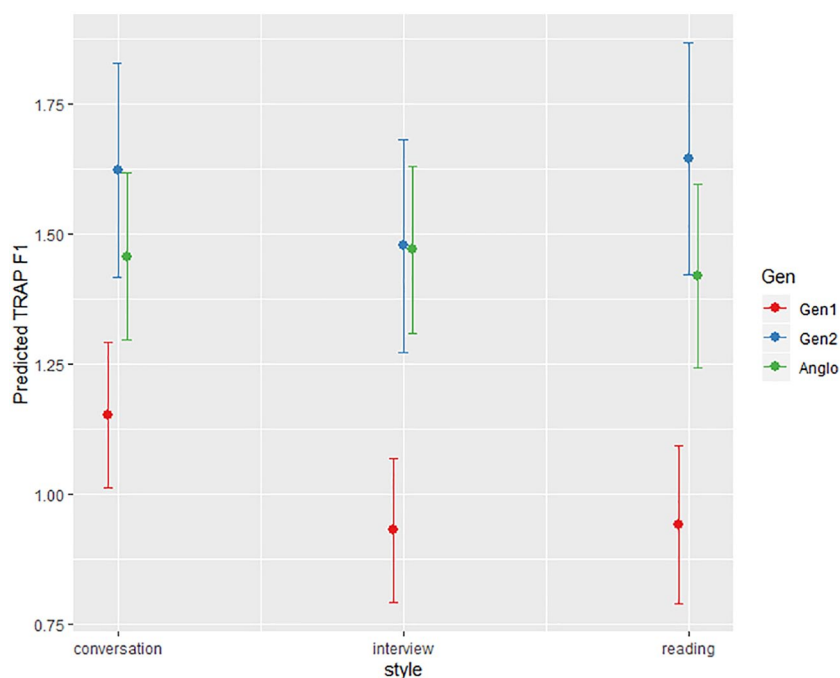


Figure 5. Interaction between generation and style in model of normalized TRAP first formant.

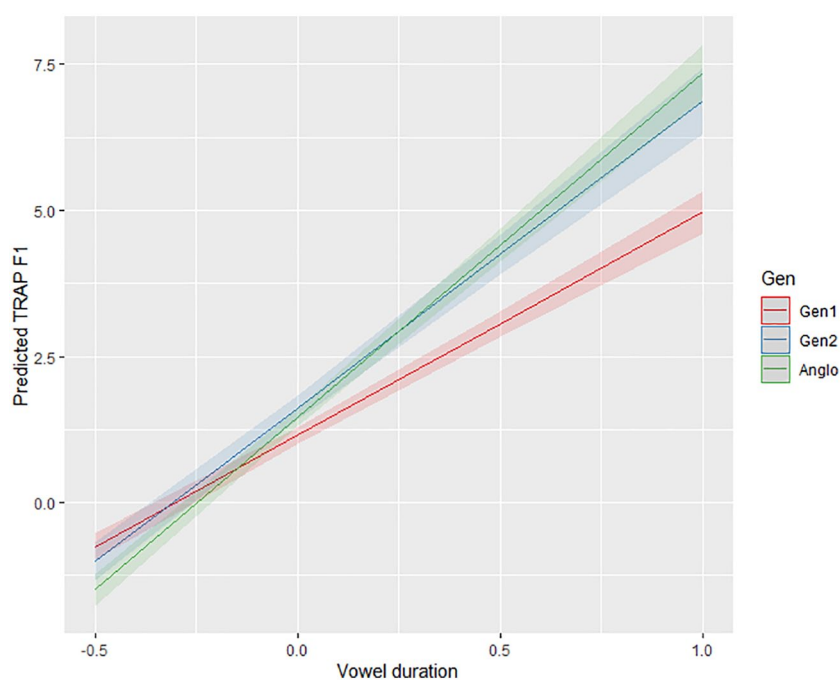


Figure 6. Interaction between generation and vowel duration in model of normalized TRAP first formant.

only found for two out of eight tested linguistic conditions and in 7/8 cases between Gen 2 and Gen 1), supporting a weaker interpretation of ethnolects (Hoffman & Walker, 2010).

An alternative explanation for inter-group variation in production of GOOSE and TRAP is that different groups of speakers are at different points on the GOOSE-fronting and TRAP-lowering continuum of language change in Australian English¹. Anglo speakers then may be ahead of the bilingual speakers and Gen 1 speakers lagging behind in this case of language change. While this may be possible, some previous work, and particularly work in Australia, demonstrates that ethnolect speakers may lead language change, making it a less likely explanation (Carlock & Wölck, 1981; Horvath & Sankoff, 1987; Labov, 1972). I now turn to style-shifting in the hope that this will elucidate this matter further.

An effect of style was found for the bilingual groups only. Gen 2 speakers produced a more retracted, Russian-like GOOSE in the interview compared to the conversation style. Gen 1 and Gen 2 speakers produced a higher, more Russian-like TRAP in the interview compared to the conversation style; and Gen 1 speakers additionally produced a higher TRAP in the reading style. As a reminder, the participants were interviewed by a Russian speaker, so it seems that more Russian-like variants were associated with the style where the interlocutor was a speaker of Russian. This is similar to the Rampton (2011) and Sharma (2011, 2017) findings where speakers produced more ethnic variants when speaking to other speakers of the same background. This sort of style-shifting is consistent with audience design (Bell, 1984) and identity construction (Eckert, 2000) accounts of variation with more ethnic variants produced as a result of convergence or highlighting ethnic aspects of identity. A more detailed, qualitative analysis of positioning within a setting with a controlled audience may help to distinguish these.

To compare style-shifting in bilingual and monolingual speakers, variation in the production of the vowels was found for the bilingual speakers but not the monolingual speakers. Despite GOOSE and TRAP participating in processes of language variation and change in Australian English (Cox & Palethorpe, 2001, 2008), no style-shifting was found for the Anglo participants. No effect of style found for the monolingual speakers helps us to be confident that the attested variation is not a Type 2 variation reflecting what is already present in the majority community. This lends additional support for the existence of ethnolinguistic repertoires (Benor, 2010; Clyne, et al., 2001) and Type 3 variation (Gnevsheva, 2016; Nance et al., 2016) in bilingual speakers, which may not be found in monolingual speakers of the majority variety.

An alternative explanation is that these vowels have stabilized for the Anglo speakers or the contexts were not a strong enough condition for monolingual style-shifting. It then makes it a possible case of Type 2 variation in bilingual speakers where GOOSE and TRAP are markers and are used for style-shifting, but for Anglos these variables are indicators that have arrived at the end state of linguistic change and are no longer used for within-speaker style-shifting. I find this explanation less probable for two reasons. First, as mentioned earlier, ethnolect speakers may be expected to lead the change instead of Anglos (Carlock & Wölck, 1981; Horvath & Sankoff, 1987; Labov, 1972). Second, an attention-to-speech account of style-shifting in monolinguals would predict more innovative forms (i.e. a fronted GOOSE and lower TRAP) in the conversation style, then interview, and finally reading style (Labov, 1972). While this relationship holds for GOOSE in conversation and interview styles for Gen 2 speakers and for TRAP in conversation and interview styles for Gen 1 and Gen 2 speakers, the realization of the variables in the reading style is not more conservative, supporting the ethnolectal (Type 3) rather than attention-to-speech (Type 2) account of style-shifting. Recording participants with a bilingual interlocutor in the conversation style and an Anglo interviewer in the interview style would help to disentangle these issues further.

Lastly, I compare Gen 1 and Gen 2 speakers in their style-shifting. While there were certain similarities between Gen 1 and Gen 2 speakers in their style-shifting (a higher TRAP in the interview compared to the conversation), there were also differences such as no style-shifting in the GOOSE

vowel and a significant difference between conversation and reading in TRAP for Gen 1 speakers. One explanation for the absence of style-shifting in the GOOSE vowel and its presence in the TRAP vowel for Gen 1 speakers is the difference in their counterparts' status in the Russian language. To produce an Australian-like GOOSE, Russian L1 speakers have to change the phonetic quality of an existing phoneme; to produce a TRAP vowel, they have to create a new phoneme, distinct from DRESS. Because a back GOOSE would not create comprehension issues for their interlocutors, the variable may not reach the required level of awareness for a fronted GOOSE to become part of their repertoire and be used for style-shifting. For Gen 2 speakers, both more backed and fronted GOOSE are part of their repertoire and are available for sociolinguistic work. As for the differences in style-shifting in the TRAP vowel between the two bilingual generations, it is possible that the difference in the reading style stems from different associations with reading out loud in the school setting: while reading out loud in English may trigger associations with an Australian school for Gen 2 speakers, it would probably be a Russian school for Gen 1 speakers. Such intergenerational differences suggest that Gen 2 speakers do not necessarily acquire these ethnolectal variation patterns from the Gen 1 directly, but may reallocate the features for their own meaning-making purposes, supporting a weaker interpretation of ethnolects (Hoffman & Walker, 2010; Sharma & Sankaran, 2011). Further work is needed to identify the specific sociolinguistic meaning behind such style-shifting.

Conclusion

The study investigated style-shifting between more mainstream and more ethnic realizations in the English of bilingual speakers and found that such variation exists in both Gen 1 and Gen 2 speakers. While there were significant similarities in their style-shifting in terms of direction of formant value differences and relative position of some styles, there were also differences between the two generations in terms of which vowels and contexts demonstrated significant differences and in their linguistic conditioning, which leads me to accept the weaker interpretation of ethnolects. This means that while ethnolectal features may be derived from the substrate, they may be reallocated by Gen 2 speakers for their own sociolinguistic purposes.

Future work would benefit from considering the differences in the exact social meaning indexed by ethnolectal features in the style-shifting in the speech of Gen 1 and Gen 2 speakers (as in Kiesling, 2005). Future studies should also investigate how Type 3 variation applies to both linguistic features that participate and do not participate in processes of language variation and change and are used for style-shifting by monolingual speakers, under assumption that Type 2 and Type 3 variation can apply concurrently. Additionally, a consideration of the speakers' production and style-shifting in the community language would help to better understand the relationship between the two languages.

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