

Variation in West Coast English: The Case of Oregon

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Abstract

This paper presents a sociolinguistic analysis of language use in Oregon, an understudied locale in The West. A production analysis of the speech of 34 Oregonians finds participation in the General West Coast feature of /u:/ (BOOT) fronting, and some evidence of the low back merger. Oregonians also front /oo/ (BOAT) and there is evidence of early participation in the California Vowel Shift (CVS) with change in apparent time that points towards further participation. Additionally, Oregonians participate in /æɪ/ (BAG) and /ɛɪ/ (BEG) tensing, suggested to be distinctive features of the Pacific Northwest. Participants who express an Ideology of Non-Accent on a map task are more likely to participate in BAG and BEG tensing and less likely to rotate CVS vowels. Taken together, the results suggest a broader scope for the CVS than has been previously described, as well as provide evidence of dialect diversity in The West that is linked to speakers' language attitudes.

Introduction

This paper describes the vowel patterns of residents of Oregon, a state that sits within the immense dialect region referred to as “The West” by the Atlas of North American English (Labov, Ash, and Boberg 2006, 280). The ANAE, as well as other early dialectological studies (Carver 1987), found little linguistic evidence of features that mark this region. The ANAE cites only two characteristic features of the West: the low back merger of /ɑ/ and /ɔ/ (BOT and BOUGHT) and the fronting of /u:/ (BOOT), features found elsewhere in North America. This dialectological view aligns with many Western speakers' folk perceptions of language, which focus on both the homogeneity and standardness of Western speech (Evans 2013; Hartley 1999).

The ANAE was intended to serve as a departure point for further scholarship that could sample more broadly within a region. Building on the ANAE's work in the West, this paper focuses on the western part of Oregon, and describes Oregonians who make use of a broad linguistic repertoire of distinctive features that link them to neighboring regions, particularly

California to the south and Washington State to the north. Oregon's geographic location as a transitional area between these two locales provides a unique opportunity to chart the spread of emerging features of West Coast English. This study, alongside others in this volume, combats a view of The West as a monolithic dialect region.

Dialect Distinction in the West

In contrast to the monolithic view of The West, scholarship in California and Washington has identified dialect distinction within the region. Work in both locales has verified the presence of the low back merger and the fronting of BOOT (Fought 1999; Hall-Lew 2011, 2013; Hinton et al. 1987; Kennedy and Grama 2012; Reed 1952; Reed 1961; Wassink 2015; Wassink, this volume). Given the prevalence of these features and their use as a diagnostic of The West in the ANAE, we refer to them here as General West Coast features (Figure 1).

Descriptions of California English focus on the California Vowel Shift (CVS), a rotation of the short vowels /ɪ/ (BIT), /ɛ/ (BET), /æ/ (BAT) and /ɑ/ (BOT), where BIT and BET lower, and BAT and BOT retract in the vowel space. This shift has been documented across the state of California, from the urban west (Eckert 2008; Hinton et al. 1987; Podesva 2011) to the more rural inland areas to the east (D'Onofrio et al., this volume), and from southern California (Kennedy and Grama 2012) north to San Francisco (Cardoso et al., this volume). There is further conditioning of some CVS vowels; /ɪ/ tenses before velar nasals (BING) and /æ/ tenses before all nasals (BAN) (Cardoso et al., this volume; Eckert 2008; Mendoza-Denton 2008). Both Kennedy and Grama (2012) and D'Onofrio et al. (this volume) found that young women lead in the retraction of BAT in California, evidence of change in progress. The behavior of BAT in their data suggests this vowel could be the "triggering event" of the CVS, although there is a lack of consensus in the literature. In addition, California English is also characterized by the fronting of the back vowels /oʊ/, /u:/ and /ɔ/ (BOAT, BOOT and BOOK). Although most descriptions of California English treat the CVS short vowel rotation and back vowel fronting as related processes, we distinguish these two aspects of California English. For the CVS, this chain shift is identical to the Canadian Vowel Shift (Boberg 2005), a [rotation](#) which does not [include](#) back vowel fronting. Further, both BOOT and BOAT fronting are well documented elsewhere in the U.S. in locales where the short vowel rotation is not found (Labov et al. 2006). In the West, both the

ANAE and recent work in Washington (Wassink 2015; Wassink, this volume) find that BOAT remains retracted. For this reason, BOAT fronting is treated as a feature of California English for the purposes of analysis in this paper (Figure 1), as its presence in Oregon would indicate a link to California, while its absence would indicate a link to areas like Washington State.

Scholars have argued in recent years for dialect distinction in the Pacific Northwest (PNW) based on phonological data from Washington State (Freeman 2013; Wassink 2015; Wassink; this volume). These studies have identified the raising of /ɛg/ (in words like *egg* and *keg*, hereafter BEG tensing) and /æɡ/ (in words like *bag* and *hag*, hereafter BAG tensing) as characteristic of PNW speech. For some speakers, there is complete merger of BEG with the BAKE class, while BAG variably raises to overlap with the two (Freeman 2013; Wassink 2015; Wassink, this volume). With respect to change, Freeman (2013) finds men [aged 37-62 \(the older group of two studied\)](#) show the most raised forms of BAG and BEG, the opposite of what is expected for change in progress, while Wassink (2015) argues that BAG raising is spreading in the Seattle area. Despite questions about the direction of change, BEG and BAG tensing is suggested to be the defining feature of a PNW variety.

Though considered part of the PNW, previous sociolinguistic research on Oregon is limited. One study of Portland (Ward 2003) describes BOAT, BOOT and BOOK fronting, and finds that young, working-class women lead these changes. Hartley (1999) conducted a perceptual study in which Oregon speakers performed a regional map task (Niedzielski and Preston 2003). Oregon and Washington emerged as a perceptually salient dialect region for Oregonians in both the map task and the ranking tasks, and speakers from both states were ranked highest on the correctness and pleasantness scales (Hartley 1999, 322-323). However, no research has examined whether Oregonians produce the features more recently found to be distinct along the West Coast; namely, the CVS and BEG and BAG tensing (though see McLarty et al., this volume).

With its proximity to both California and Washington, this study seeks to examine Oregon's relationship to California English and Washington English to establish its participation in West Coast vocalic production. Figure 1 summarizes the vowels under investigation in this study. With a chain shift attested to the south in California, we ask if Oregonians produce features of California English. With BAG and BEG tensing attested just to the north in Washington State, we contribute data from Oregon speakers to assess whether a PNW variety is motivated on the basis of phonological similarity. Finally, we use the methods of perceptual dialectology to

investigate how Oregonians' perceptions of English in their state and in the broader West impact their vowel production.

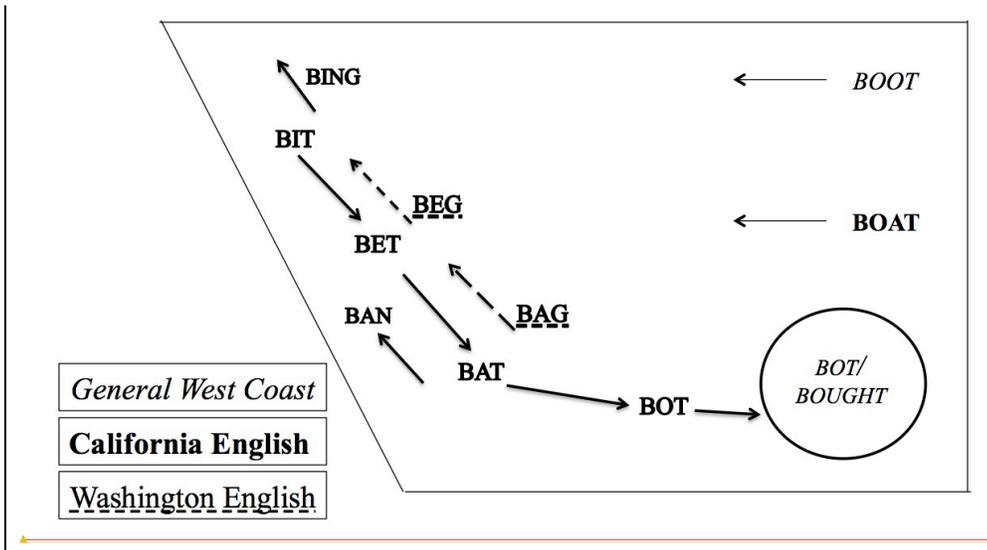


Figure 1: Vowels analyzed in this study

Methods

Short sociolinguistic interviews were conducted with 42 native speakers of Oregon English at Portland Community College in Tigard, Oregon, just outside of Portland. Speakers were recruited based on whether they self-identified as “native Oregonians.” At the beginning of each interview, speakers were asked for a brief summary of where they had lived throughout their lives. Based on these questions, 7 speakers were deemed to be non-native Oregonians and were removed from the study. Of the remaining 34, 22 had been raised in the Portland metropolitan area, and 8 others had grown up elsewhere in western Oregon. Given this, the sample can be seen as representative of western Oregon, which is largely more urban than the eastern side of the state, and more specifically as representative of the Portland metro area. Figure 2 shows the western portion of Oregon State and the location of Portland.

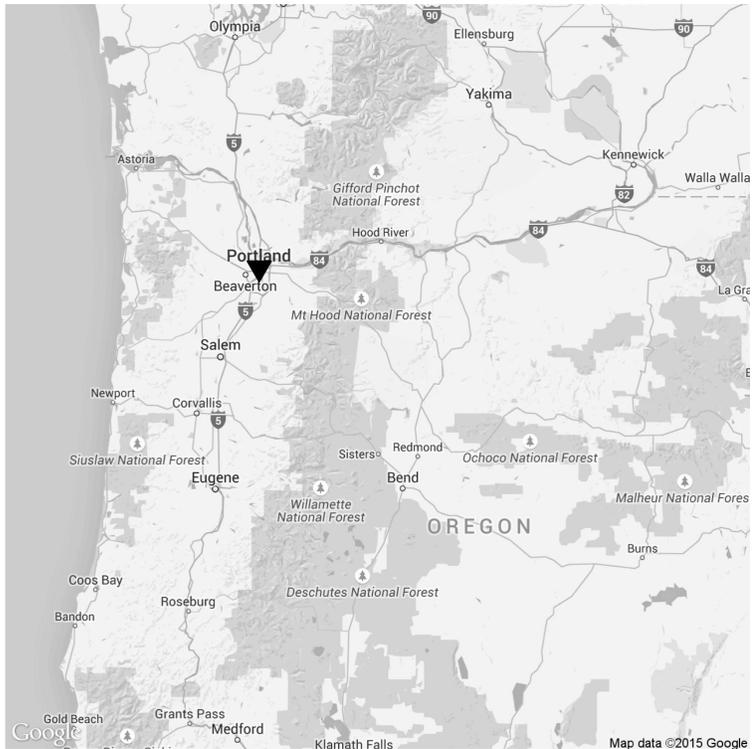


Figure 2: The area of study

Due to the brief nature of the interviews (10-15 minutes), participants were not asked to self-report membership in demographic categories, but were instead grouped after the interview. As Table 1 shows, 21 participants were categorized as men, and 13 as women. Participants were judged to be part of one of three age categories, designed to distinguish college-aged individuals (the majority of students at Portland Community College) from those older: 18-25 (here: younger), 26-40 (here: middle-aged) and over 40 (here: older). Almost all participants were judged to be white, reflective of the low racial and ethnic diversity of Portland, which is 76.1% white (US Census Bureau, 2014). Consequently, race/ethnicity is not analyzed in this study.

	18-25	26-40	over 40	Total
Men	6	8	7	21
Women	7	4	2	13
Total	13	12	9	34

Table 1: The sample of Oregonians

The interview was designed to elicit production data for acoustic analysis as well as speaker attitudes towards English in the West. The first segment was a casual interview, where participants discussed their lives growing up in Oregon. Speakers were then presented with a reading passage and a word list designed to target vowels of interest. Data from casual speech, the reading passage, and minimal pairs are combined for analysis to maximize the overall number of tokens for each speaker.

Finally, participants completed a map task in which they were asked to indicate on a map anywhere they thought people spoke English differently (Niedzielski and Preston 2003). The map showed the state of Oregon with neighboring portions of California, Washington, and Idaho included (Figure 3). Although some cities, towns, and landmarks were included, labels for the surrounding states were intentionally omitted to allow participants to decide whether to note these divisions themselves. Following prior work (Benson 2003; Bucholtz et al. 2007; Evans 2011), the scope of the map was designed to focus on state- and regional-level perceptions. As Evans (2011) notes, map tasks that involve the whole country typically rely heavily on national stereotypes. Upon completion of the map task, participants were asked to elaborate on their comments, and were asked for their opinions about accents in Oregon, the PNW, and other parts of the United States.

Please draw a line around places where you think people's English sounds different.

Next, write down what you'd call that way of talking, if you can think of a label for it. Give an example of what's different there (is it a word or pronunciation they use? Or a special way of talking?).

Date _____ Participant _____

Figure 3: The map task

Production Analysis

The interviews were transcribed in Praat and submitted to the online vowel analysis suite FAVE, or Forced Alignment and Vowel Extraction (Rosenfelder et al. 2011). The FAVE process extracted measurements from over 1,500 tokens per speaker. This output was then checked, with mislabeled tokens re-categorized, outliers removed using the quartile method, and vowels in good contexts selected for analysis (Thomas 2011). The result is an average of 225 tokens per speaker from the full vowel space. The data were then normalized to the Labov Telsur G using the NORM vowel normalization and plotting suite (Thomas and Kendall 2007).

A number of methods were used to analyze the production data. The first was the use of ANAE benchmarks, which are the mean Hz values for each vowel class from the large Atlas sample. Vowels which cross these cut-off points are considered shifted. Benchmarks are provided for the General West Coast feature of BOOT fronting, with benchmarks for both TOOT (/u:/ with coronal onsets) and BOOT (/u:/ with non-coronal onsets), as well as BOAT fronting, a feature treated as part of California English in this study. The benchmarks for BET lowering and BAT and BOT retraction come from the ANAE's description of the Canadian Vowel Shift, which involves an identical rotation of these vowel classes. Kennedy and Grama (2012) used these benchmarks in their analysis of the CVS. By normalizing our Oregon speaker data to the Labov Telsur G, results can be directly compared to these benchmarks, which are given in Table 2.

Vowel Behavior	ANAE Benchmark
TOOT fronting	F2 > 1550 Hz
BOOT fronting	F2 > 1200 Hz
BOAT fronting	F2 > 1278 Hz
BET lowering	F1 > 650 Hz
BAT retraction	F2 < 1825 Hz
BOT retraction	F2 < 1275 Hz

Table 2: ANAE benchmarks for vowel behavior (Labov et al. 2006)

For statistical analysis, group-level t-tests were performed to assess nasal conditioning in California English (BAT vs. BAN and BIT vs. BING), as well as Washington English BAG and BEG

tensing (BAG vs. BAT and BEG vs. BET). For BOT and BOUGHT, t-tests were performed for each individual speaker to assess merger. All t-tests are two-sample, unpaired, unequal variance, and one-tailed, and use a threshold of $p < .05$ to determine significance.

A further measure of low back merger calculated was the Euclidean Distance between BOT and BOUGHT. This measure, as well as all relevant formant data, was modeled in Rbrul (Johnson 2012) to investigate the impact of social predictors on the data. All models are linear regressions with the ED or formant data run as a continuous response variable, and age and gender included as fixed effects. In addition, some models explore the impact of two additional ideology variables, explained in more detail below. A step-down model of main effects was fit to each response variable.

Map Task

The maps were analyzed through a content analysis of labels appearing on the maps, which grouped individual labels (a total of 109 across 32 maps) into larger themed categories (Bucholtz et al. 2007; Evans 2011). Because our research questions centered on Oregon's relationship (in production as well as perception) to neighboring states in the West, we sought to operationalize our participants' attitudes towards dialect diversity along the West Coast. After the completion of the content analysis, we chose two categories that emerged from that analysis – “Ideology of Non-Accent” and “California” – to operationalize for quantitative analysis. The “Ideology of Non-Accent” category was used to divide participants based on whether they noted an Ideology of Non-Accent – a belief in a homogenous, accentless variety (Lippi-Green 1997) – or did not. The “California” category was used to divide participants based on whether they noted the boundary between Oregon and California or did not. These binary variables were then added to the regression models investigating the CVS and BAG and BEG tensing, with the goal of linking speaker attitudes towards West Coast English with speaker production of West Coast vocalic features.

Results: Production

Figure 4 presents the production data for the full sample, with each data point representing a speaker's normalized mean value in F1 and F2 for a vowel class in unconditioned contexts.

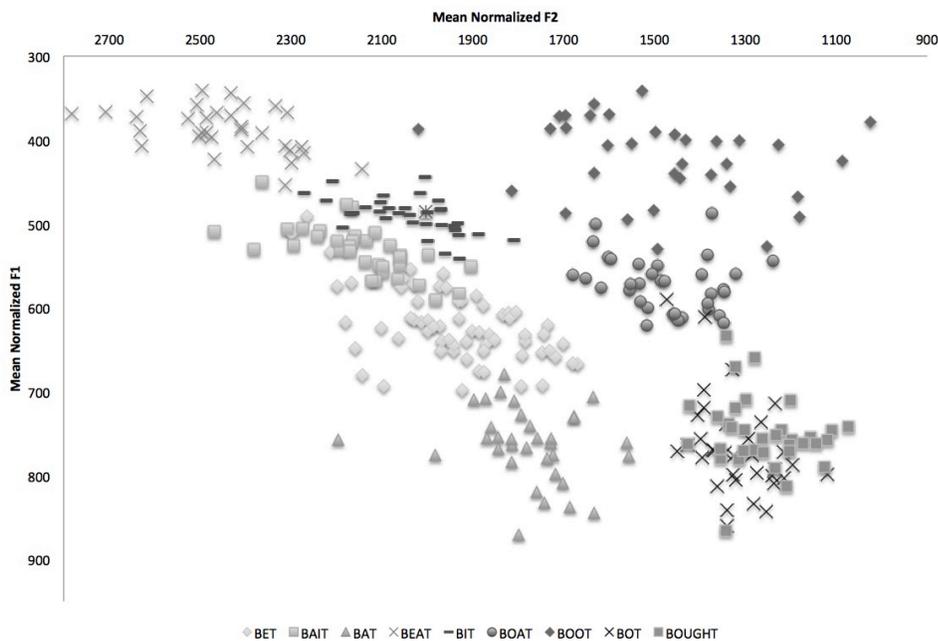


Figure 4: Mean formant values for the full sample, normalized to the Labov Telsur G

General West Coast Features

Oregon English speakers participate in BOOT fronting, a feature of General West Coast English. All speakers have a mean F2 for TOOT that is greater than 1550 Hz (see Table 2 for benchmarks), and all but four (82%) have a mean F2 for BOOT greater than 1200 Hz,ⁱ in line with the expectations of conditioning (that post-coronal TOOT will be fronter than BOOT) for this sound change (Labov et al. 2006). BOOT /TOOT are also front of BOAT for most speakers, consistent with the general pattern that BOOT fronting precedes BOAT fronting in The West and elsewhere (Kennedy and Grama 2012; Labov et al. 2006; Ward 2003).

In 2003, Ward reported that the low back merger was complete in Portland. Here, t-tests were performed for each individual speaker. Tests for 21 speakers (62% of the sample) attained significance at the $p < .05$ level in both F1 and F2 at the vowel onset; i.e., these speakers are merged for BOT and BOUGHT. For those speakers who were not fully merged, more maintained a distinction in F1. The greater extent of merger in F2 could be related to BOT retraction, a feature of the CVS (although only 32% of speakers meet the ANAE benchmark for BOT retraction, see below). Euclidean Distances for Oregonians range from 6 to 174, with lower values indicating less distinction between the two vowels. A linear regression fit to the ED scores, with age and gender as fixed predictors (see Appendix A), found gender, but not age, to be a significant predictor, with women maintaining a greater distinction between the two vowels. This same gender effect was found in Wassink (2015). In sum, while the majority of speakers are merged for BOT and BOUGHT, almost 40% remain distinct. This, combined with no age effect, makes the Oregon data look different from other West Coast studies, which find robust change in progress towards merger (Cardoso et al., this volume; D'Onofrio et al., this volume). Further, the longitudinal work of McLarty et al. (this volume) finds that the low back merger has been well established in Oregon for some time. Because the results here contrast with the dominant view of low back merger in the West, further work is needed to resolve its status in Oregon.

California English Features

Of those features considered distinctive of California English, four have quantitative benchmarks in the ANAE: BOAT, BAT, BET, and BOT. A summary of Oregon speakers' vocalic behavior with respect to these benchmarks is presented in Table 3. Oregon speakers clearly participate in BOAT fronting: 33 of 34 speakers meet the Atlas benchmark for a fronted BOAT, with mean F2 values greater than 1278 Hz. A linear regression model fit to the F2 of BOAT, with age and gender as fixed effects (Appendix A), found both to be significant predictors of BOAT, with younger men leading in BOAT fronting. The findings for age support a picture of a change in progress, although the finding that men lead women is unexpected.

Recall that in the CVS, BET lowers, and BAT and BOT retract in the vowel space. As Table 3 shows, Oregon speakers participate in CVS behavior to varying degrees. There is fairly robust BAT retraction, with almost three quarters (74%) of the sample meeting the ANAE benchmark

for a retracted BAT. A linear regression model fit to the F2 of BAT ([Appendix A](#)) found that age, but not gender, was a significant predictor of BAT, with young speakers leading in BAT retraction. This indicates change in progress in our sample for this CVS feature, and suggests that the CVS may be making inroads in Oregon.

The results for both BET and BOT are less conclusive, as only some speakers meet the criterion for lowering and retraction, respectively. In both cases, only about a third (32%) of speakers meet the ANAE criteria. However, age and gender are significant predictors for BET lowering ([Appendix A](#)). For gender, women lead in lowering, while for age, the middle-aged group (those aged 26-40) [leads in BET lowering](#), followed by the youngest speakers and then the oldest. While not a perfect pattern for age, both middle-aged and younger speakers (aged 18 to 40) have positive coefficients in the linear model ([and the same mean Hz values](#)), while older speakers have a negative coefficient, suggestive that BET is lowering in apparent time in Oregon. For BOT retraction, age is not selected as a significant predictor, but gender is ([Appendix A](#)), with women producing more retracted BOTs than men.

Table 3 is arranged to highlight what looks like an implicational scale for the introduction of California English features into Oregon. All speakers save one front BOAT. Many who front BOAT also retract BAT, and for many speakers both BOAT fronting and BAT retraction must be present for BET lowering and BOT retraction to occur. Only two speakers lower BET (Speaker 17) or retract BOT (Speaker 6) without also retracting BAT, and only one speaker rotates all three CVS vowels without fronting BOAT (Speaker 25). This suggests that the CVS is gaining ground in Oregon with BAT retraction as the triggering event of the chain shift. There is no consensus on the triggering event of the CVS: it may be triggered by the retraction of BOT as it merges with BOUGHT (Boberg 2005; Clarke, Elms, and Youssef 1995; Roeder and Jarmasz 2009), the lowering of BIT (Kennedy and Grama 2012), or the retraction of BAT (Kennedy and Grama 2012: 52). Indeed, D’Onofrio et al. (this volume) demonstrate that for speakers in Merced and Bakersfield, CA, BAT retraction and the movement of BOT to merge with BOUGHT occur in tandem, casting doubt on the necessity for identifying a triggering event. What is clear from the prior literature is that there may be different paths for the CVS in real time. The results here lend support to BAT retraction as the triggering event, given the strong evidence for change in apparent time for this feature in Oregon English. The regression findings for BET, which show

Speaker	fronted BOAT F2 > 1278	backed BAT F2 < 1825	lowered BET F1 > 650 Hz	backed BOT: F2 < 1275	BIT lower than BAIT?
PNW011	X	X	X	X	X
PNW018	X	X	X	X	X
PNW038	X	X	X	X	
PNW039	X	X	X	X	
PNW022	X	X	X	X	
PNW024	X	X	X	X	
PNW025		X	X	X	
PNW009	X	X	X		X
PNW016	X	X	X		
PNW034	X	X	X		
PNW023	X	X		X	
PNW035	X	X		X	
PNW041	X	X		X	
PNW001	X	X			
PNW003	X	X			
PNW004	X	X			
PNW005	X	X			
PNW007	X	X			
PNW010	X	X			
PNW012	X	X			
PNW019	X	X			
PNW020	X	X			
PNW026	X	X			
PNW027	X	X			
PNW037	X	X			
PNW017	X		X		
PNW006	X			X	
PNW002	X				
PNW013	X				
PNW015	X				
PNW028	X				
PNW030	X				
PNW031	X				
PNW036	X				

Table 3: ANAE Benchmarks for California English vocalic behavior

women and non-older speakers in the lead in lowering, and BOT, which show women in the lead in retraction, are suggestive that there will be further rotation of these vowels as well.

The ANAE does not provide a benchmark for the fourth vowel to rotate in the CVS: BIT, which lowers in the vowel space. Kennedy and Grama (2012) evaluate BIT relationally, by noting whether a speaker’s mean for BIT is lower than their mean for BAIT. Only 3 Oregon speakers meet this criterion for a lowered BIT, as shown in Table 3. Interestingly, all three of these speakers (Speakers 9, 11, and 18) are well advanced for other CVS behavior. A linear regression model fit to the F1 of BIT, with age and gender as fixed effects (Appendix A), found that age is a significant predictor of BIT height, with young people leading in BIT lowering. This is further support of change in progress in the direction of increased CVS behavior for Oregonians.

<u>Vowel</u>	<u>F1</u>	<u>F2</u>
<u>BAN mean</u>	<u>625 Hz</u>	<u>2096 Hz</u>
<u>BAT mean</u>	<u>765 Hz</u>	<u>1785 Hz</u>
<u>t-value</u>	<u>21.3954</u>	<u>-19.5268</u>
<u>p-value</u>	<u>< .00001</u>	<u>< .00001</u>
<u>Significant at p < .05</u>	<u>*</u>	<u>*</u>
<u>BING</u>	<u>518 Hz</u>	<u>2119 Hz</u>
<u>BIT</u>	<u>489 Hz</u>	<u>2042 Hz</u>
<u>t-value</u>	<u>-4.8466</u>	<u>-3.5172</u>
<u>p-value</u>	<u>< .00001</u>	<u>0.00028</u>
<u>Significant at p < .05</u>	<u>*</u>	<u>*</u>

Table 4: California English nasal conditioning. Summary of two-sample, unpaired, unequal variance, one-tailed t-tests performed on the F1 and F2 of BAN and BAT and BING and BIT

In addition to the CVS rotation of short vowels in unconditioned environments, there is conditioned tensing of BIT and BAT before nasals. As shown in Table 4, BAN is significantly higher and fronter than BAT.ⁱⁱ Although a nasal tensing system is considered the default in American English (Thomas 2001), making it possible that Oregonians have adopted this default, BAN tensing is not found in Washington State (Wassink, this volume), and so may be indicative of alignment with California English. In addition, Cardoso et al. (this volume) find a change in

apparent time towards raising of BAN in nearby San Francisco. For BIT, recall that Californians tense this vowel when it is followed by the velar nasal /ŋ/, or BING (Eckert 2008; Mendoza-Denton 2008). For BING, there is less evidence of California English behavior in Oregonians' speech. While there is a significant difference between BIT and BING, it is not in the expected direction in F1: BING is lower than BIT. However, in F2, BING is significantly fronter than BIT.

Figure 5 shows the vowel space of Speaker 22, who demonstrates robust participation in California English features, including BOAT fronting, rotation of BAT, BET, and BOT, a tensed BING, and a tensed BAN. Notably, this young woman maintains distinct low back vowels.

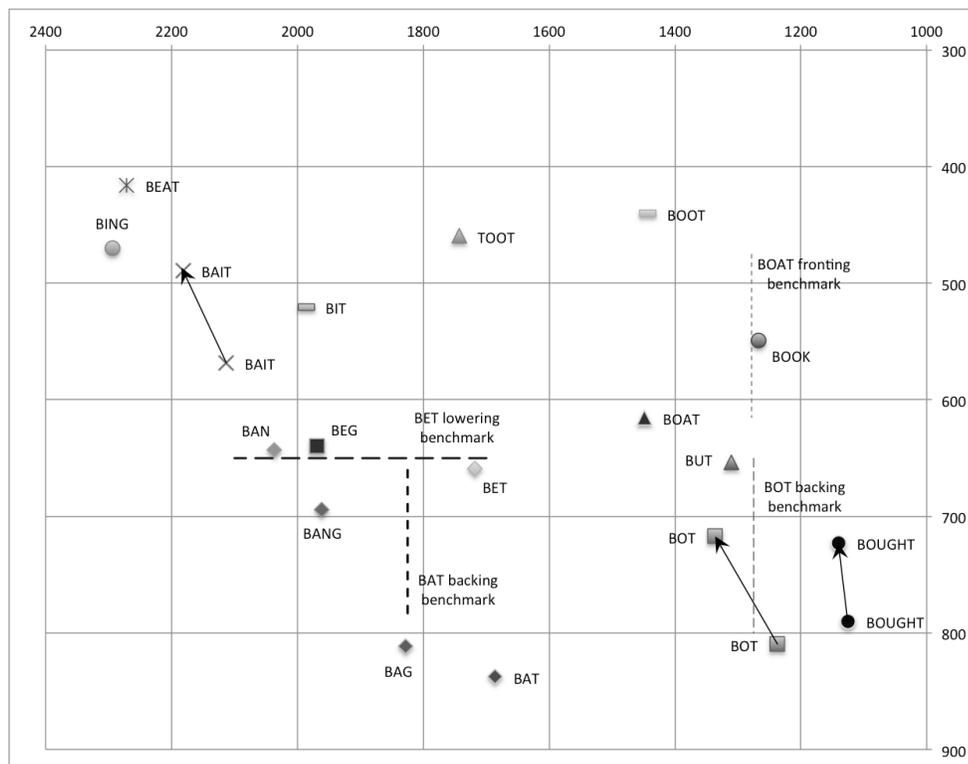


Figure 5: Mean formant values for speaker 22 (F, 18-25), who fronts BOAT, retracts BAT, lowers BET and retracts BOT

Washington State BEG and BAG tensing

Speakers in Washington State have demonstrated the tensing of BEG and BAG, the merger of BEG with BAIT, and the partial overlap of BAG with these productions (Freeman 2013; Wassink 2015; Wassink, this volume).ⁱⁱⁱ Although studies in Washington only analyzed the height of BEG and BAG, the current data confirm the presence of both raising and fronting of BEG and BAG in Oregon. As shown in Table 5, both BEG and BAG are significantly higher and fronter than BET and BAT.

Vowel	F1	F2
BEG <u>mean</u>	609 Hz	2038 Hz
BET <u>mean</u>	629 Hz	1859 Hz
<u>t-value</u>	4.6310	-16.4626
<u>p-value</u>	< .00001	< .00001
<u>Significant at $p < .05$</u>	*	*
BAG	726 Hz	1903 Hz
BAT	765 Hz	1784 Hz
<u>t-value</u>	7.1829	-10.8541
<u>p-value</u>	< .00001	< .00001
<u>Significant at $p < .05$</u>	*	*

Table 5: Washington State BEG and BAG tensing. Summary of two-sample, unpaired, unequal variance, one-tailed t-tests performed on the F1 and F2 of BEG and BET and BAG and BAT

However, regression analyses conducted on the F1 and F2 of BEG and BAG complicate the picture of tensing as a distinctive PNW feature. For BEG in both dimensions, gender but not age is a significant predictor (Appendix A). In F1, men lead in raising, while in F2, women lead in fronting. For BAG, age but not gender predicts the formant data, but it is older speakers who lead in both raising and fronting. This is the opposite of the expectation for a change in apparent time in the direction of BAG tensing. If anything, this would indicate change in the opposite direction, as young people have lower, more retracted BAG. Further, these results for age mirror those

found by Freeman (2013) in Seattle, as well as by McLarty et al. (this volume), whose younger contemporary speakers do not tense BEG and BAG but whose older contemporary speakers do.

Figure 6 shows the vowel space of Speaker 3, a young female. This speaker tenses both BEG and BAG. While her BOOT and BOAT are fronted, her BOT and BOUGHT remain distinct and there is little evidence of CVS participation, with BAT just meeting the benchmark for retraction.

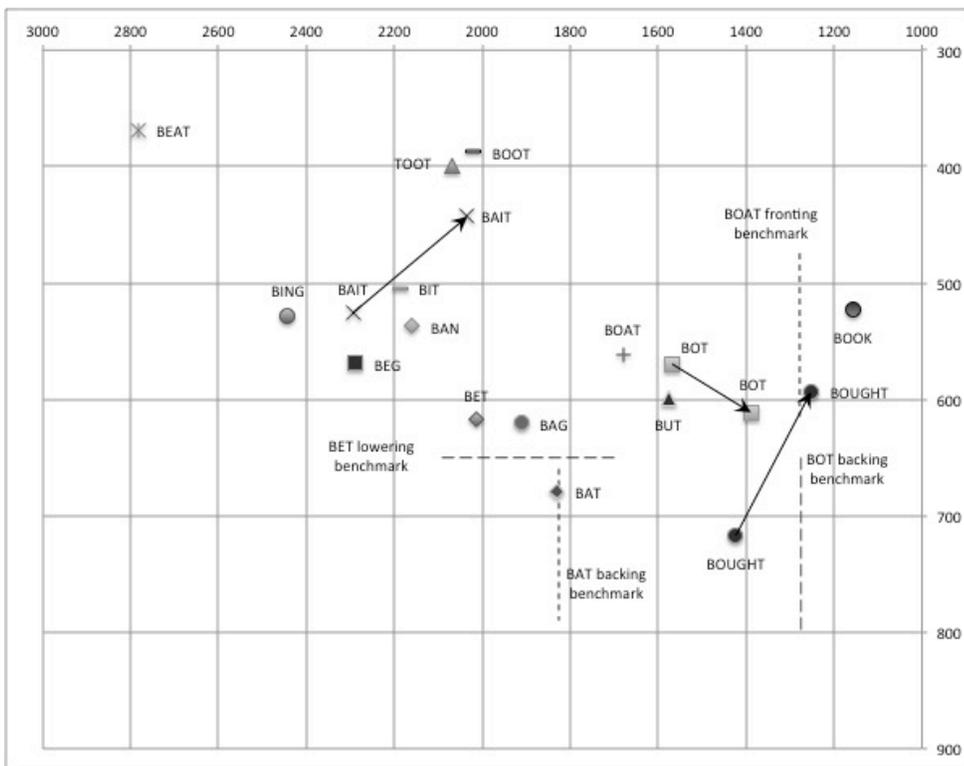


Figure 6. Mean formant values for speaker 3 (F, 18-25), who has BEG and BAG tensing.

In summary, Oregon speakers produce the General West Coast feature of BOOT fronting. Although the majority of speakers are merged for BOT and BOUGHT, this is not the complete merger that was expected given the prevalence of the low back merger in the West. Speakers show evidence of California English behavior to varying degrees. Speakers overwhelmingly front BOAT, an established California English feature previously found in Portland (Ward 2003)

and verified by McLarty et al. (this volume) for Oregon, but not present in Seattle (Wassink 2015) or in the ANAE findings. Oregonians appear to be at an early stage of participation in the CVS, with robust BAT retraction, and some BET lowering and BOT retraction. Further, there is evidence of change in apparent time, with young speakers leading in BOAT fronting, BAT retraction, and BIT lowering, while women lead in BET lowering and BOT retraction. Oregonians also tense BAN, a feature of California English. Finally, similar to Washington state speakers, Oregonians tense BAG and BEG, but it is older speakers who lead in this behavior.

Results: Perceptual Dialectology

Qualitative analysis of map data

The production results paint a transitional picture for Oregon English, with evidence of vocalic behavior aligned with both California English and Washington English. Here, results from Oregonians' attitudes towards English along the West Coast are incorporated to investigate whether and how perceptions of language use align with vowel production. Recall that the map used for the map task (Figure 3) showed participants the state of Oregon as well as parts of Washington, California, and Idaho. This section presents an overview of the labels provided during the map task, with a focus on Oregonian's perceptions of dialect distinction within the West as a potential area of insight into the production results.

Table 6 presents the six largest categories that emerged from a content analysis of the map task. The most prominent category refers to a belief in a standard U.S. English, a language ideology common to regions whose residents are linguistically secure, like the Midlands and the Inland North, despite the presence of dramatic chain shifts like the Northern Cities Shift (Campbell-Kibler 2012; Niedzielski 2002). Hartley's work in Oregon also suggested that residents saw the PNW as an area where Standard English is spoken (1999). Evans (2013) found that many participants believe English is homogenous in Washington State, prompting the title "Everyone talks the same." We adopt the term Ideology of Non-Accent from Lippi-Green (1997) to refer to this belief in "a mythical, homogenous standardized spoken language." (47) This language ideology was the most commonly expressed on the map task: many Oregonians rejected the notion that the map area had any distinctive features. Figure 7 shows the map of a

speaker characterized as having an Ideology of Non-Accent; this participant essentially declined to participate in the map task and simply wrote “All The Same” across the entire region depicted. In Table 6, the Ideology of Non-Accent category includes labels about Non-Accent at different geographic levels. Some speakers noted urban centers in the Pacific Northwest like Portland, Salem, Tacoma, and Seattle as distinguished by a lack of dialect distinction, while others circled or labeled the entire map.

Category	Frequency	Example Label
Ideology of Non-accent	22 (21%)	“All the same;” “Sounds like TV people;” “average/normal/native/normal English”
Country	17 (16%)	“Country people, farmer + truckers;” “Affected Southern accent;” “Drawl – cowboy accents?”
California	13 (12%)	“Sacramento, hyphy ^{iv} , etc.” “S. Cal – beach talk, succinct;” “Different!”
Pronunciation	12 (11%)	“Warsh = Wash;” “Southern accent – a little bit”
Rate of Speech	10 (10%)	“Slower;” “Slightly faster than normal Oregonians, due to fast pace lifestyle in Portland”
Laid Back	9 (8%)	“Laid back, casual, fun;” “Relaxed;” “Laid back/hippyish”

Table 6: The six largest categories from a content analysis of the map task

The second most common type of label was categorized as “Country,” with comments like “farmers and truckers,” or “southern accent.” The majority of these labels was located on the eastern parts of the map, both in Oregon and in eastern Washington State and in Idaho, and was used to oppose the rural east (seen as “Country”) to the urban coastal west, where “average, native, normal English” is spoken. This aligns with other work in the West that highlights the importance of an urban/rural divide that generally contrasts urban, coastal regions to rural, inland regions, both in production (D’Onofrio et al., this volume) and in perception (Evans 2013; Villarreal, this volume). Since the speakers in this study represent the western, urban part of Oregon, and metro Portland more specifically, their negative attitudes towards rural areas to the east are evident.

05

Please draw a line around places where you think people's English sounds different.

Next, write down what you'd call that way of talking, if you can think of a label for it. Give an example of what's different there (is it a word or pronunciation they use? Or a special way of talking?).



Figure 7: A participant who demonstrates an Ideology of Non-Accent

A third category was formed from participants who noted the presence of California in some way, with labels like “Southern California – beach talk, succinct,” “Sacramento – hyphy,”

or simply “Different.” Many participants indicated positive attitudes toward California, using labels like “Happy, smile more, laugh more” and “laid back, causal - fun” (Figure 8). The remaining three categories were Pronunciation (for example, many participants pointed out that residents of Washington used an intrusive /r/ in pronouncing their state’s name), Rate of Speech (which appears linked to the urban/rural divide, with faster talkers in urban areas and slower talkers in rural areas) and a lifestyle attribution, labeled “Laid Back,” which encompassed descriptions like “relaxed” and “hippyish.”

Linking Perceptual Dialectology to Production

After the content analysis was complete, two categories from Table 6 were operationalized with the goal of linking speaker attitudes towards English in The West with the production data. We first looked to the “California” category, given that the production results found evidence of the introduction of the CVS in Oregon. Participants were divided into those who noted California in some way on the map task ($n = 13$) and those who did not ($n = 21$). We hypothesized that these notations indicated increased awareness of California and California English, which would correlate with greater use of CVS features. Second, we looked to the “Ideology of Non-Accent” category, given its prevalence in the sample. Participants were divided into those who noted an Ideology of Non-Accent in some way on the map task ($n = 19$), and those who did not ($n = 15$). We hypothesized that an Ideology of Non-Accent, a belief in standard speech, would correlate with decreased use of marked regional features. While acknowledging that these binary distinctions no doubt obscure important distinctions within subgroups, the aim was to begin to explore whether grouping participants according to perceptual responses would predict vowel production. These binary variables were added as predictors in regression models on both the CVS and Washington State vocalic features explored in the production data above: the CVS features of BIT lowering, BET lowering, BAT retraction, and BOT retraction, and the Washington State tensing of BEG and BAG. [A summary of these regression models is presented in Appendix A.](#)

The California variable was not a good overall predictor of variation. In eight models, it was selected as a predictor [four](#) times: noting California on the map task predicted a [fronter BAT](#),

27

Please draw a line around places where you think people's English sounds different.

Next, write down what you'd call that way of talking, if you can think of a label for it. Give an example of what's different there (is it a word or pronunciation they use? Or a special way of talking?).

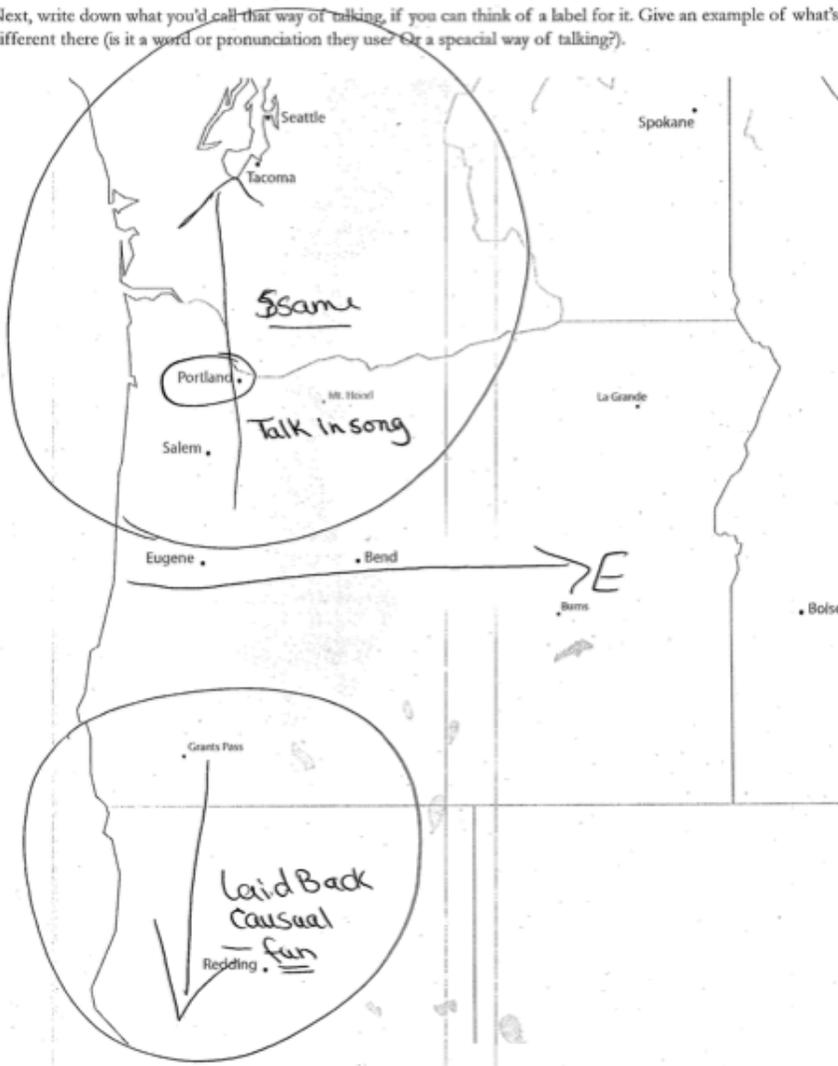


Figure 8: A participant who notes California positively on the map task

a lower BEG, a fronter BEG, and a fronter BAG. The first result relates to a California English feature, but in the opposite direction of our hypothesis: those who note California on the map task are less likely to back BAT. The other three results relate to Washington state BEG and BAG tensing, and there is no discernable pattern: those participants who noted California on the map task are more likely to front both vowels, but are also more likely to lower BEG. Overall, this measure of speaker perception does not seem to be linked to speaker production in any meaningful way. This might be because the variable is too broad in simply opposing those who note California to those who do not. Noting California most likely indicates a range of attitudes towards the state; conversely, it cannot be known whether those who did not note California on the map task are less aware of the state and its linguistic features. This was a hypothesis that does not appear to be borne out in analysis.

In contrast, the Ideology of Non-Accent variable was a significant predictor in seven of eight regression models. As seen in Appendix A, participants who note an Ideology of Non-Accent on their maps lead in three of the four measures of BEG and BAG tensing: they have a higher BEG, and a higher and fronter BAG, than those who do not note this Ideology on the map task. For the CVS rotations, participants who note an Ideology of Non-Accent are less likely to participate in all four of the CVS shifts: they produce a higher BIT, a higher BET, a fronter BAT, and a fronter BOT than those do not note this Ideology on the map task. In short, participants who hold an Ideology of Non-Accent are more likely to participate in BEG and BAG tensing (in contrast to our hypothesis), but less likely to rotate CVS vowels.

One interpretation for these results is that participants who hold an Ideology of Non-Accent are more oriented to the Pacific Northwest, a region that is clearly associated with standard, homogenous speech (Evans 2013; Hartley 1999), and less oriented to California or a broader West Coast variety marked by CVS rotation. Related to this is the notion that the CVS and BEG and BAG tensing have differing statuses with respect to social salience. The CVS is part of California English, a variety that has been referenced in popular culture for decades (Hinton et al. 1987). Those participants who hold an Ideology of Non-Accent, then, may be aware of California's dialect distinction, and are choosing not participate in the vowel shift associated with their salient dialect neighbor to the south. In contrast, BEG and BAG tensing may lack the salience of the CVS, not a surprise given how recently it has been described by linguists, and how little it shows up in popular discourse. Those participants who possess an Ideology of Non-

Accent, then, may not be aware that these productions mark dialect distinction in the West. If anything, it is those participants who express the most uniquely PNW Ideology – that of “everyone talks the same” – who produce the most uniquely PNW features – BEG and BAG tensing.

Further explorations are necessary to argue with any certainty for a link between perception and production for Oregonians, but these results are certainly suggestive of a connection between a view of English in the West – The Ideology of Non-Accent – and production of West Coast English features – the adoption of BEG and BAG tensing and the non-adoption of CVS vowel rotation.

Conclusion

The speech of the Oregonians in the present study reflects their geographic location on the West Coast between California and Washington, suggesting that clean divisions of the West Coast into distinct dialect regions may not capture the fluidity of vocalic behavior in The West. Speakers participate in the General West Coast fronting of BOOT, and many – although not all – are merged in the low back space. The existence of speakers who maintain a distinction between BOT and BOUGHT, combined with a lack of evidence for change in apparent time, is surprising: follow-up research should be done to confirm the status of the low back merger in Oregon. For features of California English, some vowels show robust shift, like BOAT fronting and BAT retraction, while there is more limited BET lowering and BOT retraction. These vowels appear to stand in an implicational relationship, as depicted in Table 3. The implicational scale, in combination with evidence of change in apparent time – with young people leading in BOAT fronting, BAT retraction, and BIT retraction, and women leading in BET lowering and BOT retraction – suggest that California English features will continue to spread in Oregon. Further, the prevalence of BAT retraction lends support for this vowel to be the triggering event for the CVS.

These results suggest that the term “California Vowel Shift” may in fact be a misnomer if this shift is active and spreading in Oregon and elsewhere. Indeed, the CVS rotation of BIT, BET, BAT, and BOT is identical to another “CVS” – the Canadian Vowel Shift, which operates across Canada (Boberg 2005; Clarke et al. 1995; Labov et al. 2006; Roeder and Jarmasz 2009).

Although the current study cannot resolve the issue of whether these two shifts are in fact the same, we would again point to Oregon's geographic location north of California and south of the Pacific coast of Canada as potential evidence for a broader shift that characterizes the so-called "Third Dialect" of North American English (Labov 1991). As more and more studies identify the CVS outside of California and Canada, a new name for this vowel rotation may be needed. Further, combined work may also lead to more information as to its triggering event, be it low back merger, BAT retraction, or BIT lowering.

Turning northward, Oregonians do participate in the BEG and BAG tensing suggested to be a distinctive feature of a PNW English (Wassink 2015; Wassink this volume), but they do not appear to be advancing this change. Instead, regression models find that older speakers lead in the tensing of BAG, while there is no age pattern for BEG. These results in apparent time are echoed in the work of Freeman (2013) and McLarty et al. (this volume). So while the overall finding of BEG and BAG tensing in these data links Oregon to Washington and lends support for a distinct PNW variety, the fact that this variety's only distinctive feature may be in recession suggests caution in assigning a PNW dialect moniker. It is possible that dialectologists failed to recognize BEG and BAG tensing as a distinctive feature of the region early on (see the small note in Reed 1961), when its use was active and change was robust. Another possibility, suggested in Wassink (2015), is that speakers may raise BAG through diphthongization rather than at the midpoint or nucleus (52), such that the current analysis fails to look at the correct measure of raising. Further investigation is called for, though the recession of BEG and BAG tensing in apparent time, considered in tandem with the evidence for California English behavior in Oregon but not in Washington, leaves the status of a unified PNW variety in doubt at this time.

Yet Oregonians are linked to Washingtonians in their assertion of an Ideology of Non-Accent (Evans 2013), a language attitude that is linked to production in these data. Participants with an Ideology of Non-Accent are more likely to produce BEG and BAG tensing, and less likely to produce CVS vowels, suggesting that this language ideology could play an important role in resolving Oregon's status as a transitional area where resources are linked to both California and Washington. Whether the Ideology of Non-Accent will be maintained in the face of the spread of the CVS in Oregon remains to be seen: perhaps Oregonians will resist sounding like their salient southern neighbor, or perhaps their language attitudes will change as they become more aware of

their language use. In continued study of the region, the connections suggested here between perception and production should prove a fruitful area for further research.

The data here and in the rest of the volume stand in contrast to earlier presentations of The West as monolithic (Labov et al. 2006). The West is full of dialect diversity, active sound change, and changing language ideologies, and the current volume contributes to the increase of contemporary sociolinguistic scholarship that both describes and connects this Western dialect diversity.

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Appendix A: Summary of linear regression models fit to the production data.

The response variable for each model is presented in the left-most column, followed by the intercept (given in log-odds). The p-value for each factor and its significance at the $p < .05$ level is then reported. Finally, the levels of each significant factor are presented with their accompanying coefficients from the linear model and their means values.

<u>Model</u>	<u>Intercept</u>	<u>Factor</u>	<u>p value</u>	<u>Significant at $p < .05$</u>	<u>Level</u>	<u>Coefficient</u>	<u>Mean</u>
<u>BOT and BOUGHT ED</u>	<u>78.18</u>	<u>Age</u>	<u>0.528</u>	<u>n.s.</u>	-	-	-
		<u>Gender</u>	<u>0.0296</u>	<u>*</u>	<u>Women</u>	<u>15.066</u>	<u>93</u>
					<u>Men</u>	<u>-15.066</u>	<u>63</u>
<u>F2 of BOAT</u>	<u>1460.984</u>	<u>Age</u>	<u>< .00001</u>	<u>*</u>	<u>Younger</u>	<u>43.146</u>	<u>1504</u>
					<u>Middle</u>	<u>-2.251</u>	<u>1465</u>
					<u>Older</u>	<u>-40.895</u>	<u>1428</u>
		<u>Gender</u>	<u>0.014</u>	<u>*</u>	<u>Women</u>	<u>-19.09</u>	<u>1454</u>
					<u>Men</u>	<u>19.098</u>	<u>1480</u>
<u>F2 of BAT</u>	<u>1796.391</u>	<u>Age</u>	<u>< .00001</u>	<u>*</u>	<u>Younger</u>	<u>-36.132</u>	<u>1753</u>
					<u>Middle</u>	<u>-32.323</u>	<u>1765</u>
					<u>Older</u>	<u>68.456</u>	<u>1865</u>
		<u>Gender</u>	<u>0.414</u>	<u>n.s.</u>	-	-	-
		<u>California</u>	<u>.00005</u>	<u>*</u>	<u>Note CA</u>	<u>21.111</u>	<u>1801</u>
					<u>Do Not Note CA</u>	<u>-21.111</u>	<u>1773</u>
		<u>Ideology of Non-Accent</u>	<u>0.0431</u>	<u>*</u>	<u>Note INA</u>	<u>13.027</u>	<u>1804</u>
					<u>Do Not Note INA</u>	<u>-13.027</u>	<u>1760</u>
<u>F1 of BET</u>	<u>628.893</u>	<u>Age</u>	<u>0.0267</u>	<u>*</u>	<u>Younger</u>	<u>2.291</u>	<u>634</u>
					<u>Middle</u>	<u>9.415</u>	<u>634</u>
					<u>Older</u>	<u>-11.706</u>	<u>610</u>
		<u>Gender</u>	<u>0.0122</u>	<u>*</u>	<u>Women</u>	<u>7.291</u>	<u>637</u>
					<u>Men</u>	<u>-7.291</u>	<u>622</u>
		<u>California</u>	<u>0.956</u>	<u>n.s.</u>	-	-	-
		<u>Ideology of Non-Accent</u>	<u>0.0261</u>	<u>*</u>	<u>Note INA</u>	<u>-7.037</u>	<u>622</u>
					<u>Do Not Note INA</u>	<u>7.037</u>	<u>638</u>
<u>F2 of BOT</u>	<u>1322.96</u>	<u>Age</u>	<u>0.342</u>	<u>n.s.</u>	-	-	-
		<u>Gender</u>	<u>0.023</u>	<u>*</u>	<u>Women</u>	<u>-16.414</u>	<u>1307</u>
					<u>Men</u>	<u>16.414</u>	<u>1339</u>
		<u>California</u>	<u>0.723</u>	<u>n.s.</u>	-	-	-
		<u>Ideology of Non-Accent</u>	<u>0.00151</u>	<u>*</u>	<u>Note INA</u>	<u>22.254</u>	<u>1346</u>
					<u>Do Not Note INA</u>	<u>-22.254</u>	<u>1301</u>

F1 of BIT	489.446	Age	0.0328	*	Younger	4.856	494
					Middle	-4.903	485
					Older	0.047	489
		Gender	0.057	n.s.	-	-	-
		California	0.099	n.s.	-	-	-
		Ideology of Non-Accent	0.0128	*	Note INA	-4.056	486
Do Not Note INA	4.056				494		
F1 of BEG	614.977	Age	0.594	n.s.	-	-	-
					Gender	< .00001	*
					Men	-12.77	600
		California	0.0169	*	Note CA	7.439	618
					Do Not Note CA	-7.439	604
		Ideology of Non-Accent	0.0347	*	Note INA	6.47	619
					Do Not Note INA	-6.47	602
		F2 of BEG	2052.979	Age	0.25	n.s.	-
Gender	< .00001						*
					Men	-36.652	2013
California	0.0015			*	Note CA	25.074	2064
					Do Not Note CA	-25.074	2022
Ideology of Non-Accent	.619			n.s.	-	-	-
F1 of BAG	727.571	Age	0.009	*	Younger	7.084	737
					Middle	12.253	737
					Older	-19.336	698
		Gender	0.087	n.s.	-	-	-
		California	0.057	n.s.	-	-	-
		Ideology of Non-Accent	< .00001	*	Note INA	-19.634	707
					Do Not Note INA	19.634	752
		F2 of BAG	1906.184	Age	< .00001	*	Younger
Middle	-35.261						1871
Older	63.951						1987
Gender	0.317			n.s.	-	-	-
California	0.007			*	Note CA	22.063	1912
					Do Not Note CA	-22.063	1897
Ideology of Non-Accent	< .00001			*	Note INA	67.624	1963
					Do Not Note INA	-67.624	1818

i It is worth noting that the token counts for BOOT are quite small, in some cases as low as 1-2 tokens, due to the low frequency of words with /u/ in non-coronal contexts.

ii These tests compare unconditioned BAT to BAN before the front nasals /n/ and /m/ only. The status of the velar nasal following environment for BAT is important here as it contrasts a California English feature (where BAT tenses before all nasals) with a Washington State one (where BAT may tense before all velars, although only /g/ has been investigated in the literature). In Oregon data, BAT before the velar nasal is significantly different from BAG in both F1 and F2. It is also significantly different from BAN in F2, but not significantly different in F1. Although it appears to pattern with other nasals and not with BAG (indicating a more “California-like” behavior), because the t-test results were not conclusive in both F1 and F2, the velar nasal following environment is excluded from calculations. It is of note that [Cardoso et al.](#) (this volume) found a robust change in apparent time in the direction of raising of BAT before velar nasals in San Francisco.

iii At the time of data collection, we were not aware of the possibility that BAT and BET before /g/ could be merging with BAIT before /g/. Very few words fit into the BAIT before /g/ category: *bagel, pagan, plague, vague, Reagan*. Unfortunately none of these words were targeted in the reading passage or word list, and none came up in interview speech, so this class cannot be investigated here.

iv [The term “hyphy” is a slang term that means “hyperactive,” and is associated with hip hop culture in Oakland and, by extension, the Bay Area.](#)