

Vowel Raising in Washington State: the cat's out of the B(ɛg)?

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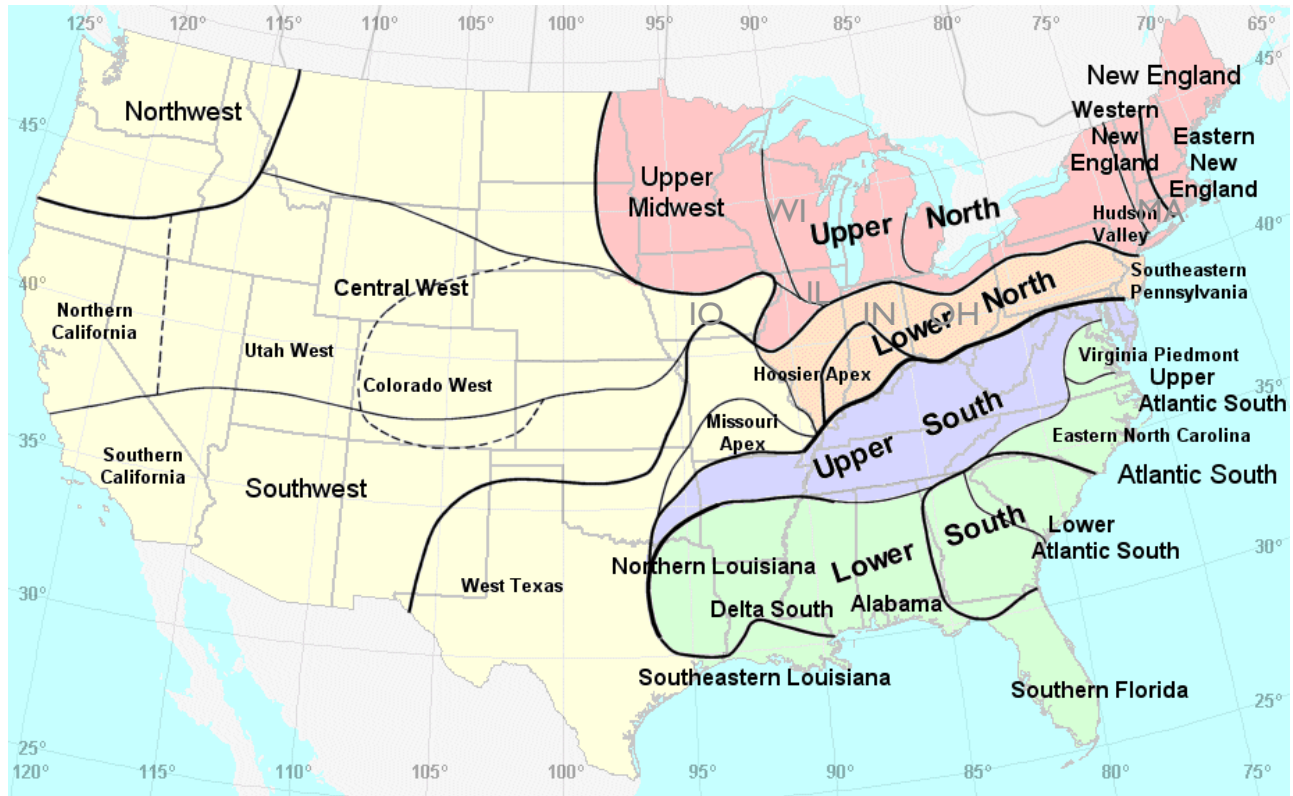
The **Pacific Northwest English Study**



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Aims of the talk

- Background:
 - ▶ A brief history of Pacific Northwest English (as we know it)
 - ▶ Sound change in progress: Sources of the raising of (æ) in the PNW
- The Vowel System of PNWE
- What's the *BAG* deal?
- Concluding Remarks



source: Carver, 1987

- Washington has been subject to ongoing, variable linguistic input. In the earliest period (1850s), settlers arrived from Illinois, Iowa, Indiana, Ohio, New England, coastal routes including Vancouver, WA, and California. (Wolfram and Schilling-Estes, 1998; Sale, 1976; Taylor, 2003)



- Reed (1952) noticed raising of (æ) in HANG
- Reed (1961) reported infrequent raising of (ɛ) EGG, and (æ) BAG
- Gordon (2004) asserts that The West shows no raising for (ɛ)
- Labov, et al. (2006) “the West shows considerable mixing,” with /g/ > /d/ and /n/ > /g,d/

Labov et al. (2006:182)



What's the BAG deal?

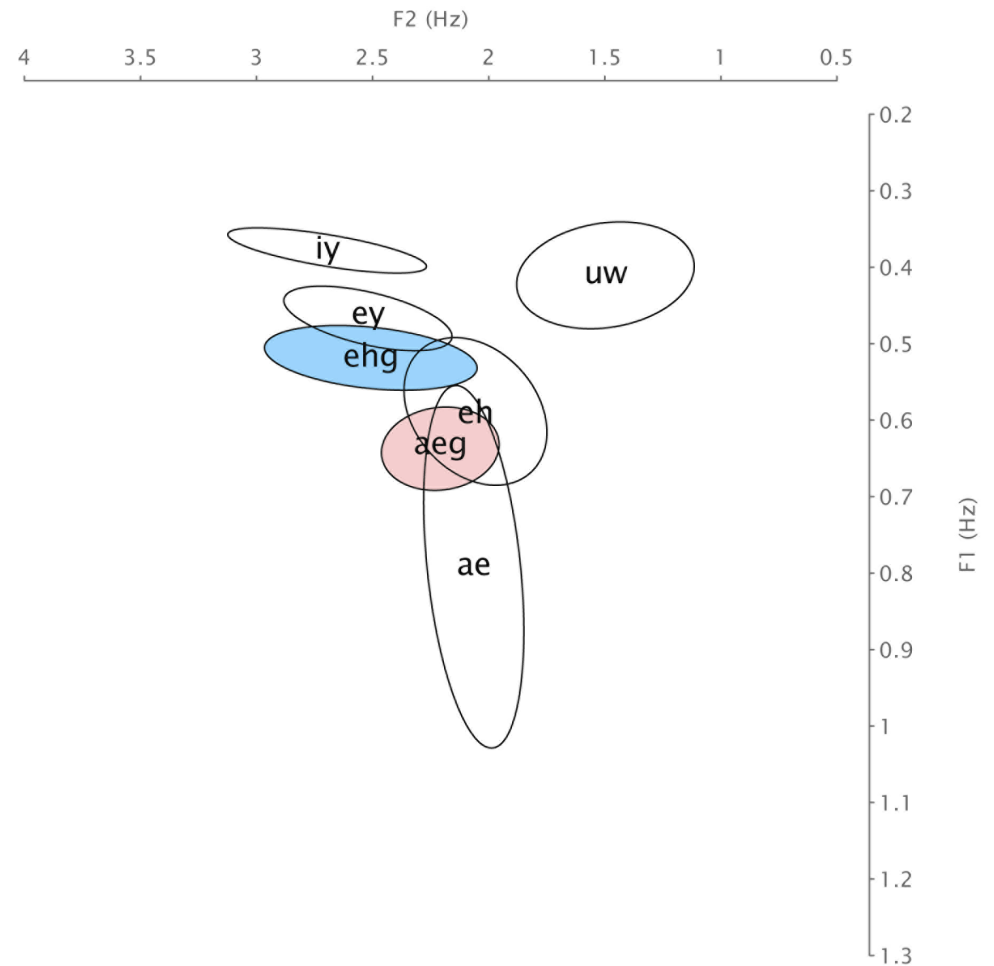
- I. 3-way merger would be a problem for vowel system economy

Problem:

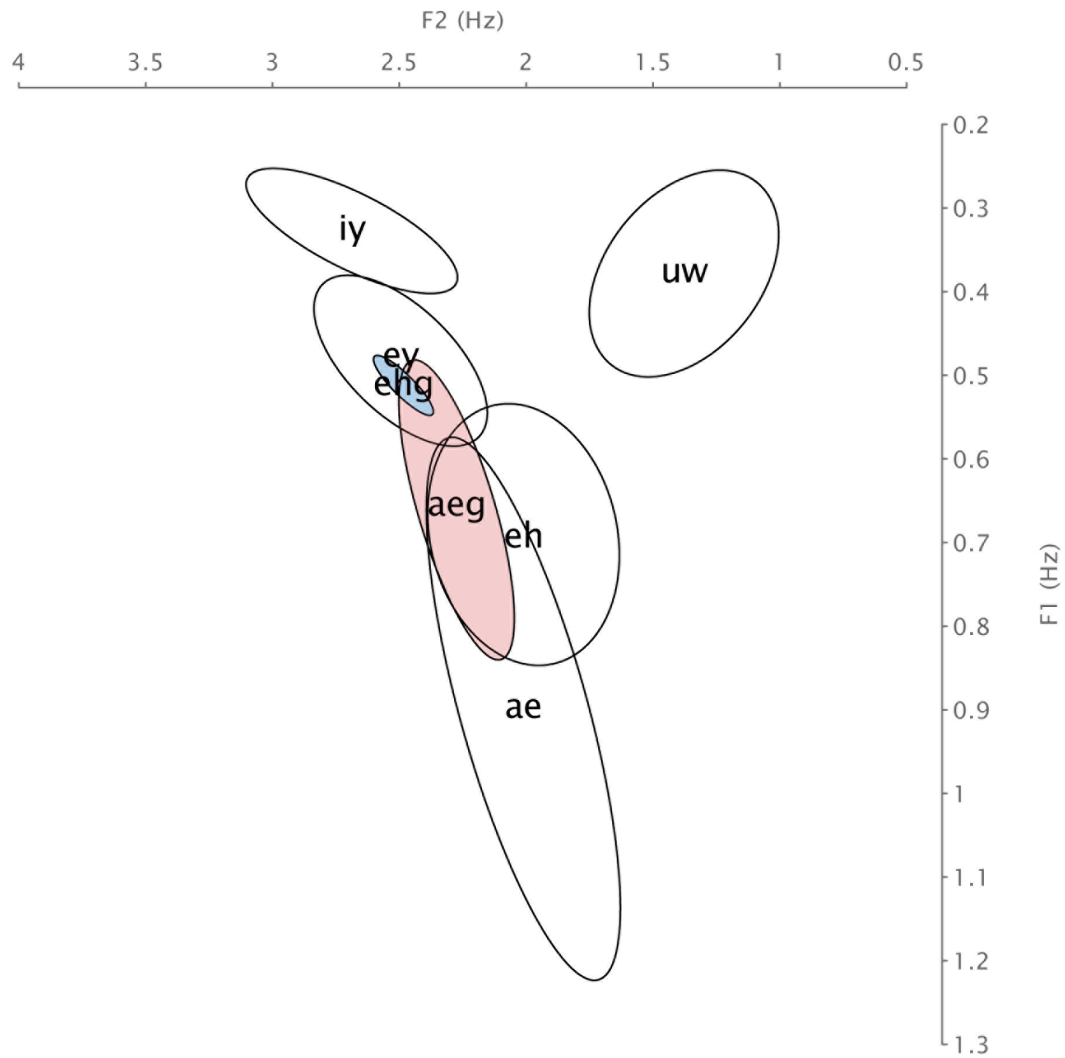
- I: Raising of (ɛ) and (æ) to (ey) means disrupting the symmetry of the vowel system, maintenance of phonetic distinctions (Martinet 1952)
 - ▶ (eyg) may be susceptible to phonetic crowding: low functional load “bagel”, “vague”, “plague”, “pagan”
 - ▶ no (æg~eyg) minimal pairs
 - ▶ many (æg~ɛg) minimal pairs:
 - ▶ e.g., lag/leg, rag/regular

Speaker 8 (Caucasian female)

- (æg) BAG tokens fall within the distribution of the larger (ɛ) BET class
- (ɛg) BEG class itself, (“ehg” in the figure) overlaps the (ey) category
- Wassink et al. (2009), Freeman (2013), Riebold (2014)



Speaker 2 (Caucasian female)



- (ɛg) targets fall entirely within the distribution of (ey)

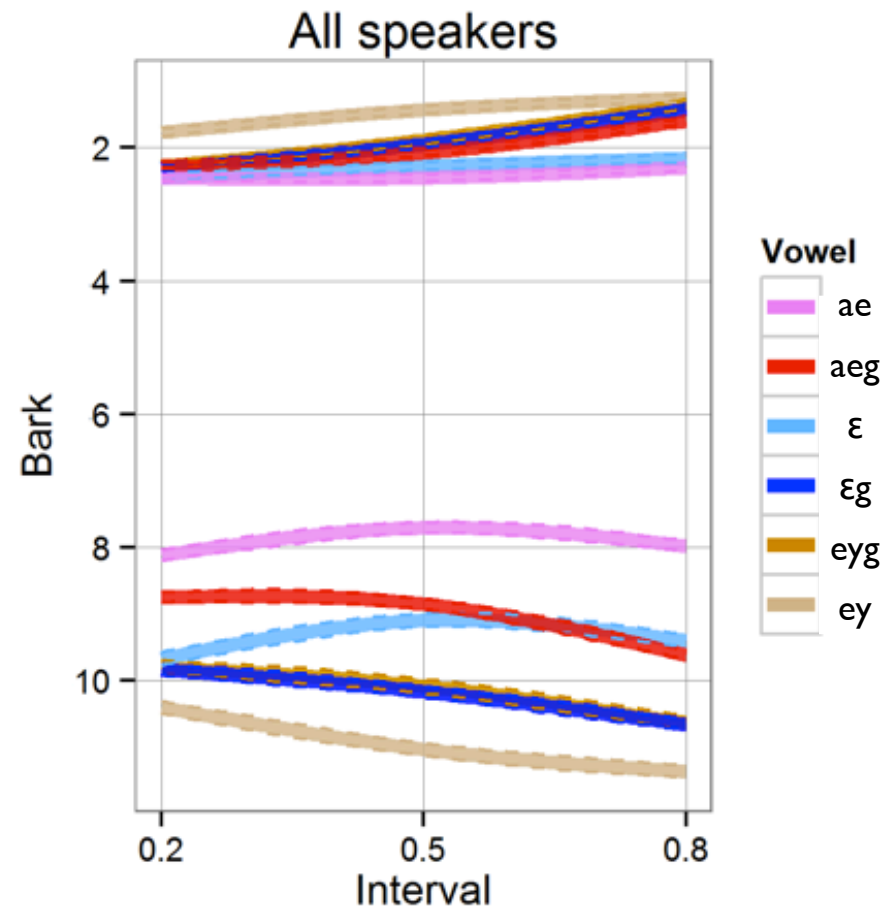
Table 1: % of speakers in each generational cohort who show COMPLETE SPECTRAL OVERLAP for (æg) with a neighboring vowel at midpoint.

Gen.	(ey~æg)	(εg~ æg)	(ε~æg)	(æ~æg)
1	0%	0%	20%	60%
2	13%	50%	35%	63%
3	40%	40%	40%	60%

Table 2: Pearson coefficients (r) showing the influence of age on overlap fraction for (æg) with a neighboring vowel at midpoint.

	(ey~æg)	(εg~ æg)	(ε~æg)	(æ~æg)
r	0.30	-0.05	0.19	0.15

- (ey~eyg) appear to become more separate as speaker age decreases
- (ey) is higher than (eyg)
- (εg~eyg) BEG, BAGEL are similar in trajectory



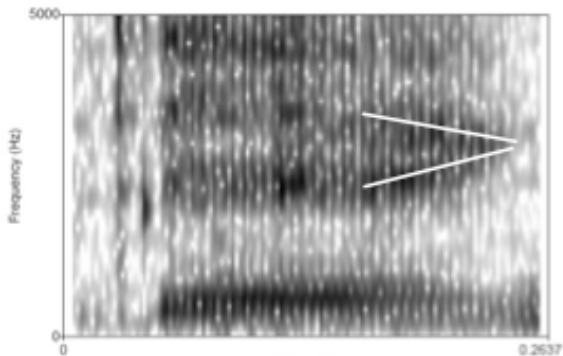
source: Freeman (2013)

II. Actuation of sound change: Possible phonetic motivations

Actuation of Change

/g/

/ŋ/



source: Baker, Mielke and Archangeli (2008)

- Acoustic outcome of an adaptive articulatory configuration.
- English, Tlingit, Dutch, Spanish (Fant, 1960).
- Acoustic record: Visible in transition from V to C, F2 approximates F3 (fronting).
- Articulatory mechanism: the tongue dorsum rises, and the velum lowers.
- Low vowel raising (F1 lowering) may occur (Stevens, 2000:367).
- Auditory percept: diphthongization possible (dynamic trajectory).
- PNWE pattern — breaking free from a language universal?

Settlement origins of (æg)-raising?

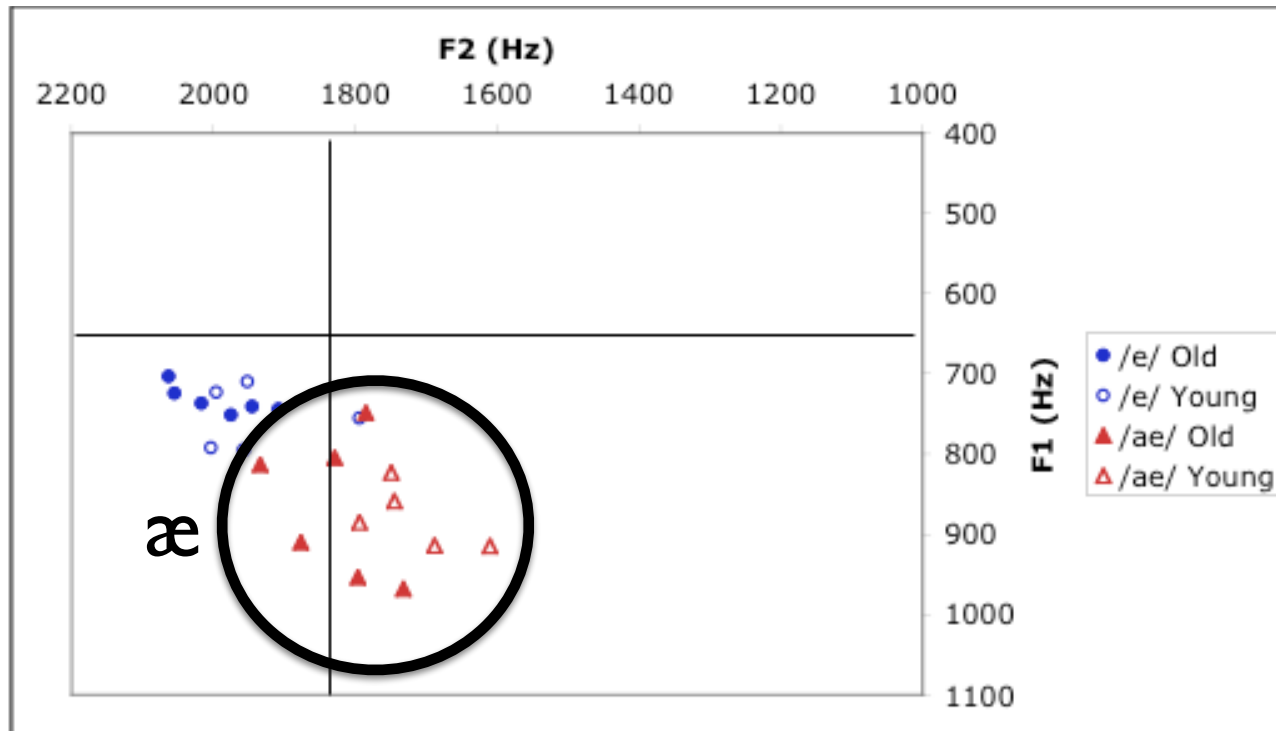
Upper North? Not likely.

- Wisconsin English (Bauer & Parker, 2008; Benson et al. 2011; Zeller, 1997)?
- Only dialect that has been reported to show (æg) → (eyg) raising
- However,
 - ▶ Benson et al. found (æ)-raising before consonants OTHER THAN /g/ in 78% of their speakers
 - ▶ Not a significant source for settlers to the PNWE

Conclusion: Most compelling evidence suggests that PNWE (æg)-raising appears to be an independent development.

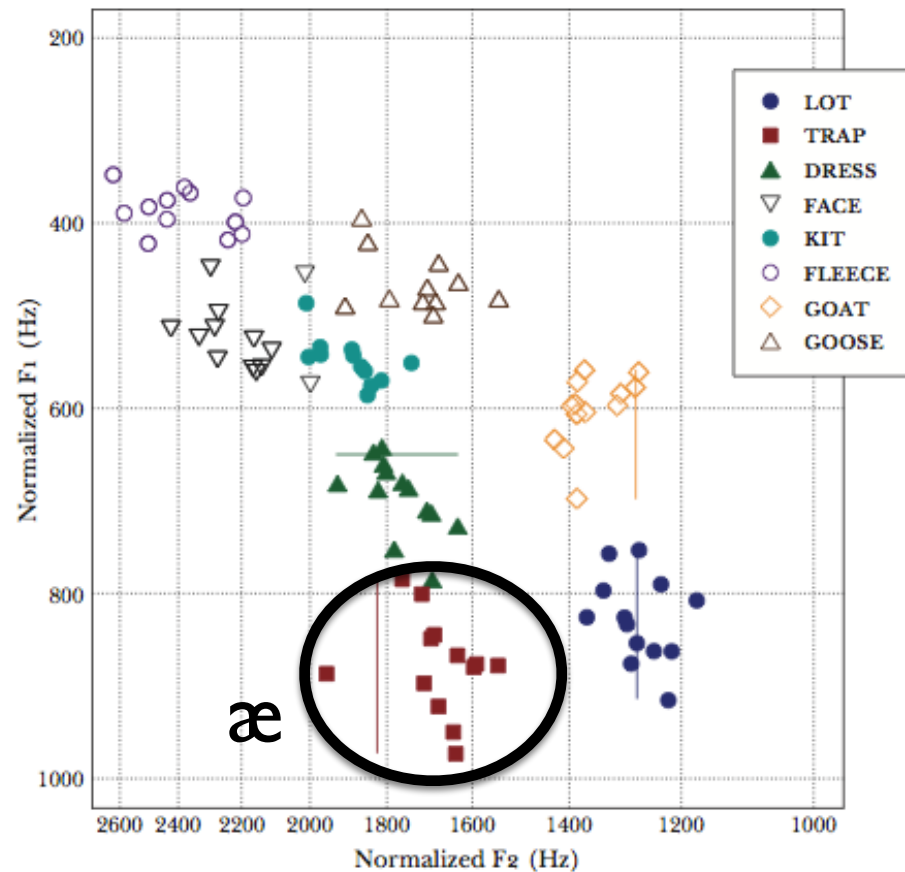
III. Role in regional differentiation

Vancouver, B.C.



- prevelar raising distinguishes Washington English from Canada to the north (d'Arcy, 2001; Swan, 2013; Sadler-Brown and Tamminga, 2008)

California



- Prevelar raising also distinguishes Washington English from California to the south (Kennedy & Grama, 2012).

Oregon

- Becker, et al. (2013) find Oregonians utilize BOTH California Vowel Shift (CVS) features as well as PNWE (æɨ)-raising.
- Contradicts (æ)-lowering found by Conn (2000)
- CVS: TRAP (æɨ) IS retracted in younger speakers
- PNWE: pre-/g/ TRAP (æɨ) and DRESS (ɨɨ) ARE raising
- Question: can we determine the extent and advancement of raising, and time its actuation?

Concluding remarks

- 70-80 years into the pre velar raising pattern, BAG is important regionally
- Distinct from neighbors both to the north and south
- Further research should focus on:
 - ▶ archival data (and within-family variation)
 - ▶ piecing together the historic facts relevant to dialects of settler population
 - ▶ gathering data in comparable environments
 - ▶ clarifying the role of early and late trajectory differences that may contribute to perceptual distinctiveness of overlapping vowels

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