

Towards a classification of the northern Berkshires dialect of American English

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Introduction

The Northern Berkshires region (NBerk) lies at the boundary of three dialect regions (Hudson Valley, Southwest New England, and Northwest New England) defined by *The Atlas of North American English* (ANAE; Labov et al. 2006), but since no data for NBerk was collected by the ANAE, its actual dialect region classification is unknown.

The goal of this study is to explore which dialect features of the three neighboring regions are present in NBerk to better determine which dialect region it belongs to.

Experiment Design

- four subjects (three female, one male), all lifelong residents
- subjects read list of 60 words, then answered casual questions, then read another list of 60 words
- word lists contained tokens of most English vowels, especially / ϵ / as in *let*, / æ / as in *lad*, / α / as in *lot*, / ɔ / as in *law*, / aʊ / as in *loud*, and / aɪ / as in *light*, embedded among dummy words

Analysis

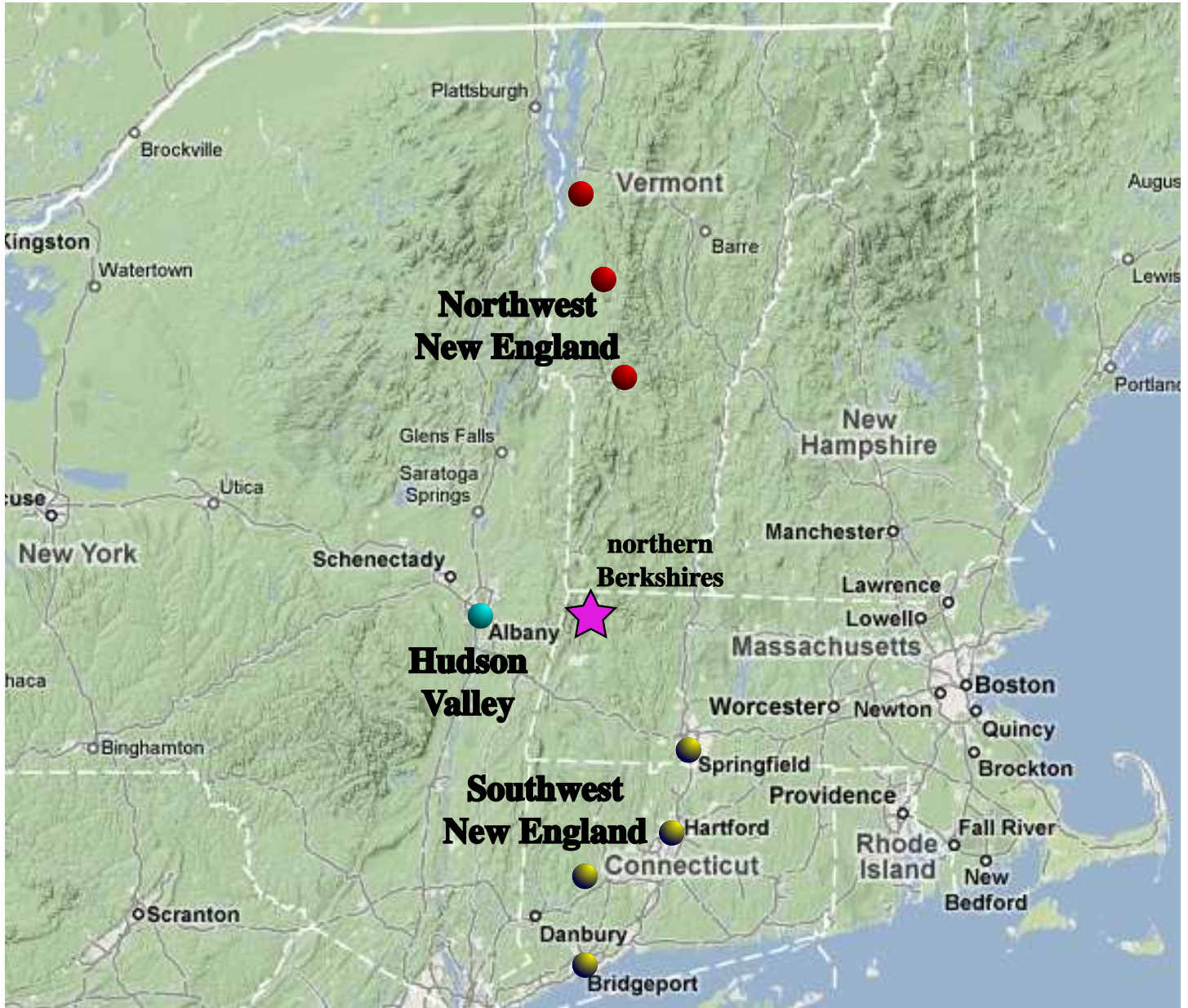
Only tokens before obstruents were analyzed, to avoid shifted formants due to liquids and nasals. For the vowels of interest, F1 and F2 were measured in Praat (Boersma and Weenink 2008).

To make comparisons for the entire group, formants were also normalized using the same methods in the ANAE, with each speaker's formants multiplied by a normalization factor F :




$F = \exp(G - S)$, where:

G = avg of nat.log of all formants for group

S = avg of nat.log of all formants for speaker



ANAe source locations for:

-  Hudson Valley
-  Northwest New England
-  Southwest New England

Low Back Merger

ANAE: The low back merger (in which *cot* and *caught* are pronounced the same) occurs in NWNE, but not in Hudson Valley or SWNE.

/ɑ/ and /ɔ/ were distinct from each other for all four speakers, as well as the for the normalized group (MANOVA $p < 0.001$ in every case).

Thus, **NBerk patterns with both Hudson Valley and SWNE** by having no low back merger.

Northern Cities Shift

ANAE's "EQ Criterion": The first stage of the Northern Cities Shift has /æ/-raising (in which *bat* is pronounced closer to [bæt]), and the final stage has /ɛ/-backing (in which *bet* is pronounced closer to [bʌt]), so that:

$$\begin{aligned} \text{F1 of /æ/} &< \text{F1 of /ɛ/} \\ \text{F2 of /æ/} &> \text{F2 of /ɛ/} \end{aligned}$$

ANAE: The NCS is present in the Hudson Valley, with /æ/-raising, but has not progressed all the way to /ɛ/-backing. Neither of these two stages of the NCS exists in NWNE or SWNE.

NBerk data:

speaker	/æ/ F1;F2	/ɛ/ F1;F2	F1(æ) < F1(ɛ)?	F2(æ) > F2(ɛ)?
#1	605;1769	602;1608	—	✓
#2	900;2016	776;1764	—	✓
#3	960;1839	788;1856	—	—
#4	927;1730	925;1672	—	✓
norm.	850;1821	786;1716	—	✓

Thus, **NBerk patterns with both SWNE and NWNE** by having no /æ/-raising, **but patterns with none of the neighboring regions** by having /ɛ/-backing!

Canadian Raising

ANAE's criterion: Difference in F1 before voiced versus voiceless codas is > 60 Hz for nuclei of /aɪ/ and /aʊ/.

ANAE: Canadian Raising does not occur in the Hudson Valley, NWNE, or SWNE.

NBerk data:

speaker	F1(a(ʊ)) / __ [+voi]	F1(a(ʊ)) / __ [-voi]	diff.	> 60 Hz?
#1	767	733	34	—
#2	972	981	-9	—
#3	896	933	-37	—
#4	1024	955	69	✓
norm.	899	942	43	—

speaker	F1(a(ɪ)) / __ [+voi]	F1(a(ɪ)) / __ [-voi]	diff.	> 60 Hz?
#1	681	686	-5	—
#2	924	872	52	—
#3	959	866	93	✓
#4	933	770	163	✓
norm.	879	798	81	✓

Thus, **NBerk patterns separately from Hudson Valley, NWNE, and SWNE** by possibly having something like Canadian Raising in transition (esp. for /aɪ/).

Summary

	HV	NWNE	SWNE	NBerk
Low Back Merger	—	✓	—	—
NCS: /æ/-raising	✓	—	—	—
NCS: /ɛ/-backing	—	—	—	✓
Canadian Raising	—	—	—	✓?

Though somewhat like SWNE (more than like either Hudson Valley or NWNE), **NBerk seems to form its own dialect region**, due to presence of /ɛ/-backing and possibly transitional Canadian Raising.

References

Boersma, P. and D. Weenink (2008) Praat: Doing phonetics by computer. <http://www.praat.org/>

Labov, W., Ash, S., and C. Boberg (2006) *The Atlas of North American English*. Berlin: Mouton de Gruyter.