Two Types of Dialect Features and Two Types of Dialect Boundaries

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Research questions:
    Why are the **geographic boundaries** of dialect features **where they are**?
    Why do **different types** of linguistic feature have **different boundaries**?
I'm addressing these questions with two dialect case studies in **New York State**.

Why New York State?
According to *Atlas of North American English* (Labov et al. 2006), NY is at the boundary
    of several dialect regions, including **Inland North** and **Western New England**:
Western New England:
   • Includes Albany as well as cities in western New England proper
   • Subdivided by Boberg (2001) into NW and SW New England
Inland North:
   • Home of the Northern Cities Vowel Shift (NCS)
   • Includes Syracuse, Rochester, Buffalo, and points west
Collecting data from the area **between these regions** will give insight into where the
    boundaries between dialect regions are located.

The data:
119 sociolinguistic interviews with speakers from Upstate New York (Dinkin 2009):
• 91 Short Sociolinguistic Interviews (Ash 2002 methodology) conducted in person
        (speakers recruited by approaching them in public places)
• 28 telephone interviews following methodology of *ANAE*
        (speakers recruited by cold-calling random phone numbers)
12 communities with at least 7 interviews each:
    Amsterdam, Canton, Cooperstown, Glens Falls, Gloversville, Ogdensburg, Oneonta,
    Plattsburgh, Poughkeepsies, Sidney, Utica, Watertown
All speakers lived in or near towns where they were interviewed for whole childhood.

**Case study 1**, a lexical feature: **-*mentary* words**
Words like *elementary*, *documentary* are frequently pronounced in the data with
    secondary stress on penultimate syllable: *eleméntàry*, etc.
Pronunciations of at least two *-mentary* words were elicited from each speaker;
    425 total tokens of *-mentary* words collected; 15 ambiguous tokens are discarded.

Elementary shows stressed penult **least** often among *-mentary* words.
Oldest speakers (born **before 1943**) use stressed penult **less** than younger speakers do;
    this suggests **change in apparent time** toward stressed penult.
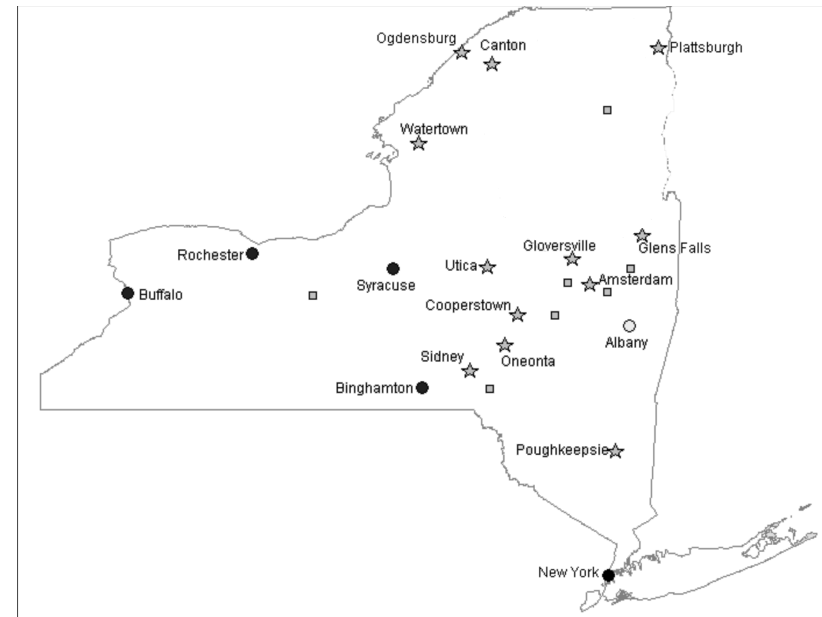
New York State, showing *ANAE* communities (circles), communities with 7–10 speakers sampled in
this study (stars), and communities with two speakers sampled in this study (squares).

Word	% stressed penult	*n*
elementary (phone & wordlist)	70%	114
elementary (spontaneous)	70%	20
rudimentary	75%	8
documentary	81%	108
complimentary	84%	79
sedimentary	86%	81
Total	79%	410

Results for stressed-penult *-mentary* by lexical item (and style).

word	age group	factor weight
elementary	oldest	.093
elementary	younger	.396
other words	oldest	.422
other words	younger	.592

Results of **multiple logistic regression** demonstrating effect of interaction of age and lexeme;
no other factors tested as statistically significant except region.

Interpret this as a **nalogical change**, bringing the pronunciation of -*ary* in -*mentary* words in line with other words, such as *library*, *fragmentary*, etc.

As expected for analogical change (e.g., Bynon 1977:43), the **most frequently used word** (*elementary*) is **least advanced** in the change, especially for older speakers.
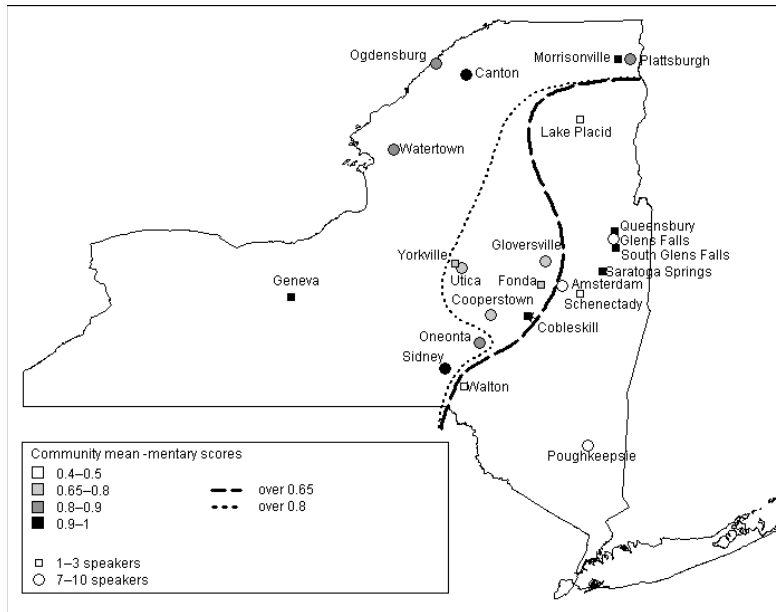
Community results for -*mentary* stressed penult in interview data

Geographical results:
* All communities sampled use at least 40% -*méntàry*
* -*méntàry* is least prevalent in the eastern part of the state

Sinhababu (2007) anecdotally expands known range of -*méntàry* westward:
"Four out of five women who grew up in Rochester and go out on Thursday night pronounce 'documentary' with the stress on the next-to-last syllable."

Evanini (2009) finds **sharp boundary** at the western edge of New York State:
18/21 speakers in Chautaqua County (western edge of N.Y.) used -*méntàry*;
only 2/33 speakers in northwestern Pennsylvania did so.
This contrasts with relatively gradual decline of -*méntàry* frequency toward eastern N.Y.

Rapid and anonymous telephone survey to broaden data (Dinkin & Evanini 2010):
* Evanini and I phoned school offices across New York State and adjacent parts of Pennsylvania, etc. to elicit the word *elementary* in natural conversation
* Methodology suggested by rapid anonymous phone study of *caught-cot* merger conducted by Labov in 1966, described in *ANAE* (p. 65).
* Probably slightly underestimates actual range of -*méntàry*, since *elementary* is least favorable word for stressed penult, and respondents aren't guaranteed of local origin
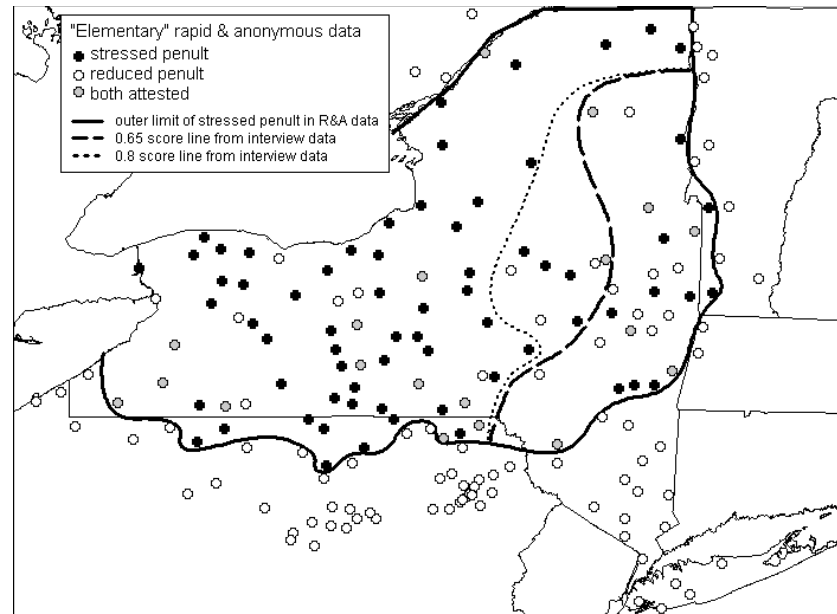
Results of rapid and anonymous *elementary* telephone survey, plus isoglosses from interview data

Rapid and anonymous **results**:
* Confirms interview data: -*méntàry* least frequent in eastern New York
* Confirms Evanini (2009): -*méntàry* absent in northwestern Pennsylvania
* Further east, -*méntàry* seems to respect traditional **North–Midland boundary** (Kurath 1949) separating northern counties of Pennsylvania from the rest of the state
* -*méntàry* exists in all parts of New York State **except NYC area and Long Island**
  —i.e., it is an Upstate New York feature, but absent from Downstate.

-méntàry distribution follows communication patterns and culturally salient boundaries:

Historically **low traffic flow** across North-Midland line in north-central PA (Labov 1974)
  —so *-méntàry* boundary here corresponds to a communication minimum.
In **NW** PA, **high** traffic flow across historical North-Midland line (Evanini 2009);
  and there, the *-méntàry* line corresponds to the **state** boundary instead.
Upstate/Downstate line is a **culturally salient regional boundary** of NY State:
 In a map-drawing task given to Upstate New York informants (Dinkin 2013),
  an Upstate/Downstate line was one of the most frequent regional divisions drawn,
  and the **most** frequent perceptual dialect division.
Upstate/Downstate boundary corresponds to **no other known linguistic feature**.

Most frequently drawn regional boundaries in New York State by 19 people from Oneonta area:
  16/19 drew Upstate/Downstate boundary; 16/20 drew Western NY / Central NY boundary.

Case study 2, a phonetic pattern: the **Northern Cities Shift**

The Northern Cities Shift
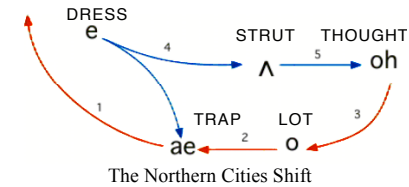
NCS is known to exist from Syracuse west to Wisconsin; eastern boundary of the NCS
  must be in the sampled region
F1/F2 measured by hand for 400–500 vowel nuclei for each speaker;
  measurements are normalized using *ANAE* methodology.

Labov (2007) defines vowel mean diagnostics for participation in NCS:
  • **LOT/STRUT**: /o/ **fronter** than /ʌ/
  • **LOT/DRESS**: /e/ **less than 375 Hz fronter** than /o/
  • **TRAP/DRESS**: /æ/ both **fronter and higher** than /e/
  • **TRAP**: /æ/ **higher** than 700 Hz (i.e., F1 is less than 700 Hz)
  • **LOT**: /o/ **fronter** than 1500 Hz
NCS score defined as **number of these criteria satisfied** by any given speaker.

	number of NCS criteria satisfied					
	zero	one	two	three	four	five
ANAE NY Inland North			1		3	4
Utica				2	3	2
Gloversville			3	1	5	
Glens Falls			2	2	3	
Ogdensburg		1	2	4	2	
Watertown			6	1	3	
Sidney			3	2	1	2
Cooperstown	1	3	3	1	1	
Amsterdam		1	6			
Oneonta		2	6	1		
Poughkeepsie	1	2	3	1		
Plattsburgh	2	3	2			
Canton	4	3	2			
ANAE WNE	2	5	4	1	1	

Number of speakers with various NCS scores in cities with sample sizes of 7 or more

Cities with 7 or more speakers in sample, grouped by NCS score:
- Speakers in Utica mostly score 4–5, resembling *ANAE* Inland North.
- Speakers in Amsterdam, Oneonta, Poughkeepsie, Plattsburgh, and Canton mostly score 2 or less, similar to *ANAE* Western New England.
- Speakers in Gloversville, Glens Falls, Ogdensburg, and Watertown score 2–4, midway between WNE and Inland North speakers.
- Sidney and Cooperstown are apparently retreating from the NCS in apparent time.

Define regions based on these results:
- **Inland North core**, **Inland North fringe**, **Hudson Valley**, **North Country** (see map)

Hudson Valley name suggested by dialect region with similar boundary defined by Kurath (1949) on the basis of **lexical** features.
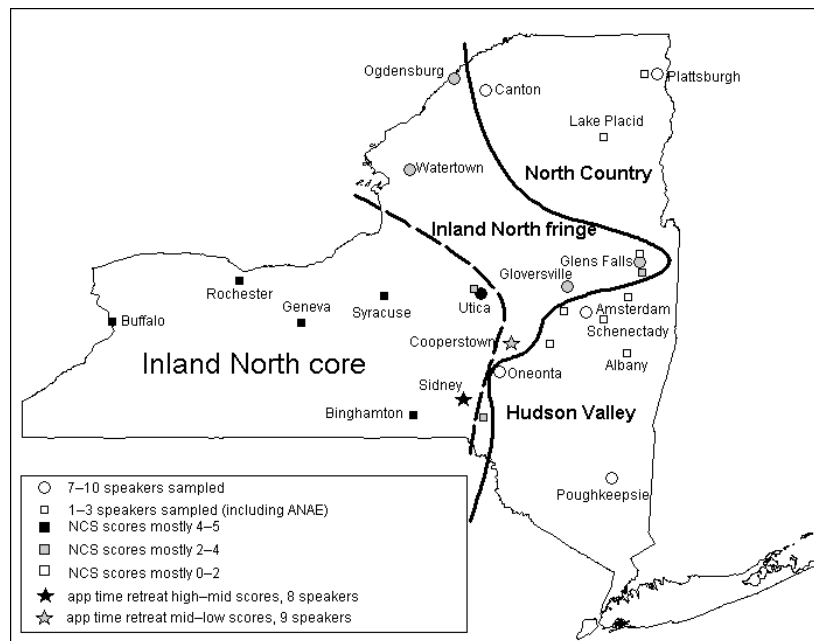
Dialect regions defined on the basis of NCS scores

Although Hudson Valley has lower NCS scores than Inland North, it still has **higher** NCS scores than **most non–Inland North regions**.
Hudson Valley is **same as Inland North** with respect to LOT/STRUT, LOT/DRESS criteria; **TRAP/DRESS** makes the sharpest regional distinction.
Define **TRAP/DRESS index** as F1 **difference** between /e/ and /æ/, so **higher index** means **more Inland North–like** pronunciation.

	min	max	mean		min	max	mean
ANAE NY Inland North	−26	+266	+87	Oneonta	−140	−39	−88
Utica	−35	+280	+69	Cooperstown	−150	+75	−96
Gloversville	−61	+96	+4	Amsterdam	−125	−75	−103
Sidney	−80	+134	−6	Canton	−152	−67	−107
Watertown	−86	+51	−19	Poughkeepsie	−168	−43	−121
Glens Falls	−73	+25	−19	Plattsburgh	−184	−108	−148
Ogdensburg	−87	+52	−25	*ANAE* WNE	−187	+15	−83

TRAP/DRESS indices of communities with seven or more speakers sampled

TRAP/DRESS index defines a sharp distinction:
- In Inland North (core or fringe), almost all TRAP/DRESS indices are above −62.
- In Hudson Valley and North Country, almost all TRAP/DRESS indices are below −62.
- Thus the eastern boundary of the Inland North is the maximum extent of **raised /æ/**: other NCS features extend more or less across the boundary.

Why the sharp linguistic boundary between Inland North and Hudson Valley? It **doesn't correspond** to modern-day **communication patterns**.

Settlement history of this region:
- **New York State** originally Dutch "New Netherland" colony; many settlements founded by Dutch settlers. Came under English control in 1664; but e.g. Poughkeepsie was Dutch-speaking until 1770s (Platt [1905] 1987).
- **Western New England** was staging ground for settlement of Inland North (Boberg 2001, *ANAE*, Labov 2011)

Compare two very close cities with very sharply different TRAP/DRESS indices:
- **Amsterdam** had leading Dutch families in early 19th c. (Donlon 1980); by 1804, "the hamlet had acquired a considerable population, with an almost equal proportion of Dutch and Yankees" (Frothingham 1892b).
- **Gloversville** area basically depopulated after Revolution; "the immigration was largely of Anglo-Saxon elements…. Among the early settlers the Connecticut influence seems to have been strongest." (Frothingham 1892a).

Settlement history of the other communities:
- **Glens Falls** first settled by Quakers ultimately from Connecticut. (Hyde 1936). Moreover, in 1784 "joining the Quakers were Yankees, many from Connecticut, in a migration that went on unabated until nearly 1850." (GFHA 1978).
- **Utica**: by 1800 population mainly from New England (Roberts 1911).
- **Watertown** founded 1800 (Gould 1969); early landowners mostly from Oneida County, where Utica is located (Hough 1854).
- **Ogdensburg** was settled in 1800s by New Englanders, many migrating by way of Utica area (Merriam 1907).
- **Sidney**: county settled by New Englanders (Murray 1898); majority of settlers identified in *History of Delaware County* (1880) are natives of Connecticut.
- **Cooperstown**: settlers "principally from Connecticut" (Cooper 1838).
- **Poughkeepsie** was settled by Dutch families in 1680s, and Dutch was the main language of the city until almost the 1770s (Platt [1905] 1987).
- **Plattsburgh**: prominent settlers apparently mostly from Long Island (Hurd 1880).
- **Oneonta** had German, New England Yankee, and New York Dutch influences among earliest settlers (Campbell 1906).
- **Canton**: most settlers "from Vermont" (Hough 1853).

Communities **with high TRAP/DRESS indices** settled mainly from **SW New England**; others settled either from NYC and Hudson Valley or from NW New England.
The distinction is most secure at the **Inland North fringe / Hudson Valley** boundary.

Although 1800s settlement history is **not relevant to modern communication patterns**, it's still reflected in this modern dialect boundary for the NCS.

Synthesizing the two case studies

To sum up, NCS and -*méntàry* have **very different boundaries**:
- **NCS**, a systematic **phonetic** feature, has boundaries corresponding closely to **settlement boundaries** from the 1800s.
- **-méntàry**, a **lexically specific** feature, has boundaries corresponding to present-day **culturally salient boundaries** and communication patterns.

Can we find patterns like this for **other dialect boundaries**?
- The southern boundary of the NCS and other phonetic features **in Ohio** corresponds closely to 19th-century settlement history as well (Thomas 2010).
- The *soda*/*pop* boundary (Campbell 2003) matches the **Western**/**Central** NY boundary, the **second most frequently identified** region in the map-drawing task.
So again, the **phonetic feature** matches **settlement patterns**, while the **lexical feature** matches **popularly recognizable cultural boundaries**.

Settlement boundaries are **hundreds of years old**, not very relevant to modern life; but the origin of the NCS is seemingly **much more recent than that**:
Mid–20th century dialectology such as Kurath & McDavid (1961) **did not detect** NCS.

Hudson Valley / Inland North boundary in New York **was** known to Kurath (1949), but on the basis of **lexical** rather than **phonetic** features.
North/Midland boundary in Ohio was initially defined through lexical features as well.
Most of these lexical features are now **archaic or rare agricultural terms** (Labov 2010), which can **no longer serve as important dialect-differentiating features** but have been replaced by **phonetic features with the same geographic boundaries**.
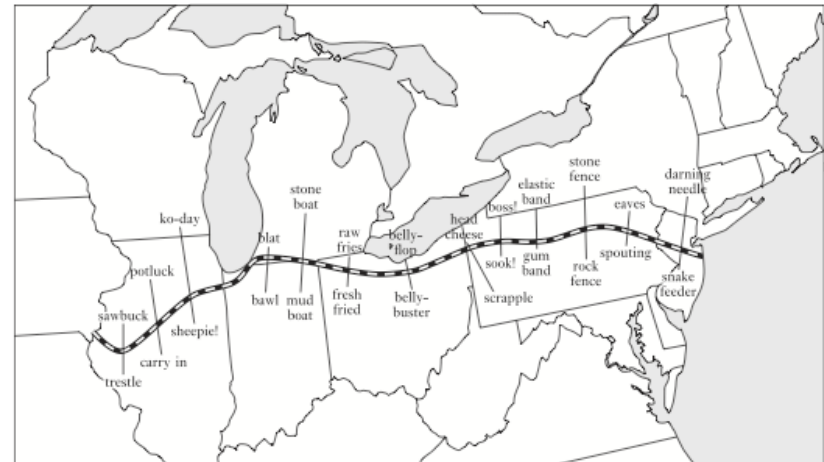
From Labov (2010): Several mostly obsolete lexical variables used by Carver (1987) to define the North/Midland boundary.

In other words:
- In earlier dialect research, **settlement boundaries** were found to correspond to boundaries for **lexical dialect features**.
- As those lexical features have become obsolete, **phonological** dialect features have emerged with the **same geographic boundaries**.
- **New lexical features** have emerged, many with regional distributions **unrelated** to the distributions of the new phonological features and older lexical features.
- Instead, the new lexical features have boundaries corresponding to modern **communication patterns** and **culturally salient regions**.

What is the **explanation for this pattern**?
Lexical change **takes place rapidly** and can be **noticed as soon as it happens**.
• It spreads relatively quickly along lines of communication that are relevant at the time
  —settlement lines during periods of settlement, salient regions later on.
Sound change may **start small** and/or result from **subtle phonetic prerequisites**.
• The early precursors of large-scale phonetic change may **escape contemporary notice**
  —due to phonetic subtlety, they may go undetected by linguists.
• These **precursors** develop along lines of communication **when they originate**.
• But **by the time** major changes develop, culturally salient regions **may change**
  —thus major phonetic features match **historic** regional boundaries, not current ones.

This suggests a **general proposal** on the two kinds of dialect boundaries:
  ***Today's lexical** boundaries are **tomorrow's phonetic** boundaries.*

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