

### Phonological Transfer as a Forerunner of Merger in Upstate New York

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**Low back merger (cot-caught merger):** low back vowel phonemes /o/ as in *lot, cot* and /oh/ as in *thought, caught* undergoing widespread merger across North America.

ANAE (Labov et al. 2006) claims regions of “**stable resistance** to the merger”, including:

- **Inland North**, subject to Northern Cities Shift (NCS): /o/ fronted away from /oh/
- **Eastern Corridor**, including New York City: /oh/ raised away from /o/

Main dialect regions of Upstate New York (Dinkin 2009):

- **Inland North core:** high-frequency fully-advanced NCS
- **Inland North fringe:** inconsistent or partially-advanced NCS
- **Hudson Valley core:** subject to Eastern Corridor raising of /oh/
- **Hudson Valley fringe:** between HV Core and Inland North; some /o/-fronting
- **North Country:** northeastern corner of NY, adjacent to fully-merged regions

**Herzog’s Principle** (Labov 1994): “Mergers expand at the expense of distinctions.”

Data: interviews with 119 Upstate New York speakers (see Appendix for details)

/o/~oh/ minimal pair judgments of 119 speakers:

- 88 judged all minimal pairs **distinct**
- 12 judged all minimal pairs **merged**
- 19 had inconsistent, “close”, or otherwise **transitional** minimal-pair judgments

Exclude 2 speakers whose merged/transitional judgments clearly don’t match production: /o/ and /oh/ fully distinct and widely separated in phonetic space.

Majority of merged or transitional speakers in **North Country**:

only two oldest North Country speakers (out of 19) fully distinct.

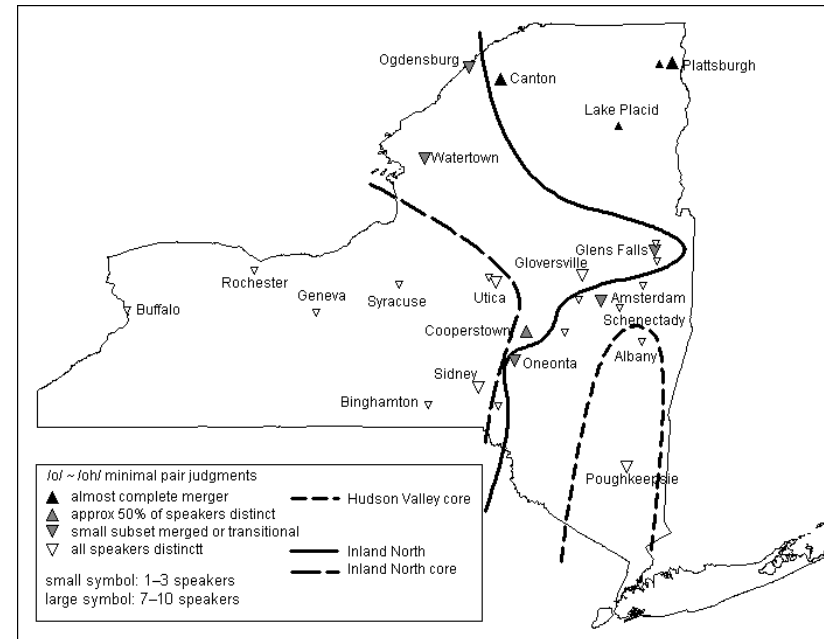
4 younger speakers in **Cooperstown** merged or transitional; 5 older speakers distinct: new dialect formation (cf. Trudgill et al. 2000) apparently in progress

6 transitional speakers (out of 40) in **Inland North fringe**; all others fully distinct

Very few or no merged/transitional speakers elsewhere

Outside North Country, all merged or transitional speakers 27 or younger

Thus: merger seems to be spreading from North Country to Inland North fringe, and perhaps beyond.



Caught-cot merger in perception, including ANAE speakers in Upstate New York

Mechanisms of merger (Herold 1990):

- **Approximation:** gradual narrowing of phonetic distance between two phonemes
- **Transfer:** one phoneme replaced by the other in one lexical item at a time
- **Expansion:** contrast lost suddenly; phonetic ranges combine into single phoneme

Merger in progress by approximation in all regions except Hudson Valley core:

region	n	/o/ F2 vs. year of birth			/o/~oh/ Cartesian vs. year of birth		
		r <sup>2</sup>	p	slope	r <sup>2</sup>	p	slope
N. Country	19	.2923	< .02	-2.353	.4759	< .002	-2.812
IN fringe	40	.3258	< .0002	-2.385	.2271	< .0002	-2.080
IN core	18	.4000	< .005	-2.312	.2346	< .05	-2.224
HV fringe	24	.1808	< .05	-1.313	.2529	< .02	-1.993
HV core	9	.0268	n.s.		.0074	n.s.	

Apparent-time trend toward merger by approximation **predates** transitional minimal-pair judgments in Inland North fringe.

Another mechanism of merger: **phonological transfer**—  
one phoneme replaced by the other in a **particular phonological environment**.

(oIC): original /o/ followed by /l/ plus a consonant (usually /f/ or /v/).

86 tokens of (oIC) in data:

- 53 tokens of *revolve* (elicited in person in Canton, Cooperstown, Morrisonville, Ogdensburg, Oneonta, Plattsburgh, Poughkeepsie, Sidney, and Watertown)
- 14 tokens of *golf*
- 11 of *involved*, 2 *involvement*, one *involving*
- 3 *resolve*, one *evolve*, one *volcano*

Exclude 9 tokens produced by speakers with full *caught-cot* merger.

Of remaining (oIC) tokens, **20** contain /o/ and **57** /oh/.

Transfer of (oIC) to /oh/ is **phonologically regular**: lexical items are affected equally.

word	total tokens	total /o/	total /oh/	percent /o/
<i>revolve</i>	45	11	34	24%
<i>golf</i>	14	4	10	29%
<i>involved etc.</i>	13	3	10	23%

Speakers using /o/ for (oIC):

- all seven speakers in **Poughkeepsie** (born 1932–1993)
- two in **Amsterdam** (born 1945, 1955)
- one in **Canton** (1938, only Canton speaker with distinct minimal-pair judgments)
- three in **Cooperstown** (1926–1957)
- two in **Oneonta** (1946, 1952)
- two in **Sidney** (1947, 1949)

So:

- Only /o/ is used for (oIC) in HV core; only /oh/ in Inland North fringe.
- Outside HV core, speakers born later than 1957 use /oh/ exclusively for (oIC).

Thus /oh/ for (oIC) is increasing in apparent time and apparently correlated with other indices of merger: absent where approximation is absent, more advanced in the regions where merger is more advanced in perception.

**Diffusion of merger:**

- Object of dialect diffusion is surface features, not abstract structure (Labov 2007)
- Therefore merger *per se* isn't the immediate result of diffusion; phonetic and phonological **changes in the direction of merger** are.

*ANAE* data contains 45 tokens of (oIC) from non-merged speakers, including:

- 9 /oh/ out of 12 from the **Midland**
- 10 /oh/ out of 15 from the **South**
- 1 /oh/ out of 10 from the **Eastern Corridor**
- 3 /oh/ out of 8 miscellaneous tokens

...confirming that the Eastern Corridor resists transfer of (oIC) more than other regions.

Why is the Eastern Corridor more resistant to merger than the Inland North?

Labov (to appear) distinguishes **reversible** from **unidirectional** sound changes:

- raising of **tense peripheral vowels** (like Eastern Corridor /oh/) is **unidirectional**
- fronting of **low vowels** (like Inland North /o/) is **reversible**

Thus sound changes in the direction of merger are **more marked** in the Eastern Corridor (though not completely impossible; cf. Becker 2009); and therefore it is less likely to undergo such changes.

**Appendix: Data set**

- 91 in-person interviews with upstate NY natives, conducted 2006–08; including Short Sociolinguistic Encounters (Ash 2002) and scheduled interviews:
  - Amsterdam (5), Canton (7), Cooperstown (5), Glens Falls (7), Gloversville (7), Morrisonville (1), Ogdensburg (7), Oneonta (9), Plattsburgh (7), Poughkeepsie (7), Queensbury (2), Sidney (6), South Glens Falls (3), Utica (7), Watertown (10), Yorkville (1)
- 28 telephone interviews with upstate NY natives, conducted 2006–08, *ANAE* methodology:
  - Amsterdam, Canton, Cobleskill, Fonda, Geneva, Gloversville, Lake Placid, Ogdensburg, Saratoga Springs, Schenectady, Sidney, Walton (2 each); Cooperstown (4)

Vowel formants measured in Praat, log-mean normalized in Plotnik using methodology of *ANAE*.

Speakers' F1/F2 means for phonemes are computed disregarding tokens before nasals and liquids.

In-person interviews included *cot-caught* and *dawn-don* minimal-pair judgments; telephone interviews included *dawn-don*, *hot-caught*, *sock-talk*, and *taller-dollar*.

Regions:

- **Inland North core**: Geneva, Utica, Yorkville; plus *ANAE* data from Binghamton, Buffalo, Rochester, Syracuse
- **Inland North fringe**: Glens Falls, Gloversville, Ogdensburg, South Glens Falls, Walton, Watertown
- **North Country**: Canton, Lake Placid, Morrisonville, Plattsburgh,
- **Hudson Valley core**: Poughkeepsie plus *ANAE* data from Albany
- **Hudson Valley fringe**: Amsterdam, Cobleskill, Hartford, Oneonta, Saratoga, Schenectady
- unclassified: Cooperstown, Queensbury, Sidney

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