

## Generational Phases: The Low Back Vowels in Cooperstown, New York

Aaron J. Dinkin, San Diego State University  
adinkin@sdsu.edu

### Cooperstown, NY:

village in rural Otsego County, central New York State; population ca. 2000: home of National Baseball Hall of Fame, nearby baseball summer camps, etc. Pilot data from Cooperstown (Dinkin 2012, 2013) exhibited rapid apparent-time **loss of Northern Cities Shift** and **adoption of low back merger**—seemingly faster than other communities in which NCS loss has been observed (e.g., Thiel 2019, Wagner et al. 2016, Driscoll & Lape 2015; Durian & Cameron 2018). Loss of NCS often found to be change from above **led by middle class**; Cooperstown’s population is **more middle-class** than many other NCS-losing communities that have been studied.

As a **tourist town** with a relatively **mobile population**, Cooperstown is also exposed to substantial **dialect contact**.

	Cooperstown	Ogdensburg	Syracuse	Lansing	Chicago
median income	\$63,750	\$38,910	\$34,716	\$38,642	\$52,497
% college degree	56%	17%	27%	26%	32%
% white-collar job	60%	33%	35%	31%	40%

Indices of middle-class status in Cooperstown vs. other communities where NCS loss studied; data from 2013–2017 U.S. Census Bureau American FactFinder estimates

**Data:** 57 new sociolinguistic interviews collected, summer 2018; 40 analyzed so far. Speakers grew up in **Cooperstown school district** from age 8 or younger. Interviews include 2 low-back **minimal-pair judgments** (*caught-cot*, *don-dawn*); formants extracted, Lobanov-normalized with FAVE (Rosenfelder et al. 2014).

	1943–1952	1955–1964	1967–1978	1985–1993	1997–2000
female	3	6	2	5	4
male	3	4	6	4	3

Current sample by gender and year of birth; total  $n = 40$

### Results: merger judgments

- **All speakers born 1997 or later** judge at least one minimal pair merged
  - Speakers **born 1985–1993**: men judge both minimal pairs distinct; 4 out of 5 women judge at least one merged
  - **Nobody** born before 1980s has any merged minimal-pair judgments
- Merger in **judgments**: a relatively recent, **female-led** change.  
Below, “merged judgment” denotes speakers with **at least one** merged minimal-pair judgment.

### Results: merger in production

**Adjusted Euclidean distance** (Nycz & Hall-Lew 2014) between LOT/THOUGHT narrowing in apparent time ( $p < 10^{-4}$ ) with female lead ( $p < 0.05$ ). (Linear model of AED vs. age, gender, education, and whether parents are from Cooperstown) Euclidean distances in 1985–93 age group similar to 1967–78, despite merged judgments: younger people have **near-merger**; perception of merger ahead of production.

### LOT F2:

overall **backing in apparent time**, but:  
Apparently **sharp gender differentiation** among speakers born **before 1960**: men have mean LOT fronter than 1480 Hz; women backer than 1460 Hz.  $p \approx 0.002$  in mixed-effects regression on F2 vs. age, gender, education, parents from Cooperstown, speaker and word as random effects.  
After 1965, no apparent gender differentiation or apparent-time change; mean  $\approx 1360$  Hz. Women apparently led backing of LOT toward THOUGHT in older age group... but men caught up after the 1950s?



Mean F2 of LOT by age, gender, and minimal-pair judgment

### THOUGHT F1:

no **overall** apparent-time change in F1, but **sharp gender differentiation** in oldest age group again—**Born before 1970**, men have mean THOUGHT F1  $> 770$  Hz; women have F2  $< 770$  Hz. ( $p < 0.001$  in mixed-effects regression with same predictors as above.) After 1970, gender differentiation disappears again; mean  $\approx 760$  Hz. **range of variation** in THOUGHT F1 much smaller than pre-1970 (except one outlier). In THOUGHT, men in older age group appear closer to merger with LOT, although women lead change toward merger overall.



Mean F2 of THOUGHT by age, gender, and minimal-pair judgment

In oldest age groups, men have **fronter LOT** and **lower THOUGHT**— looks like men are **leading the Northern Cities Shift** in older generations, or **trailing the loss** of NCS, with respect to these vowels.

But that state of affairs disappears right after this generation—

NCS has no relevance to organization of low back system post-1965 or so. Post-1965, LOT/THOUGHT are stable, THOUGHT not as high as pre-1965 women; but younger women begin to lead change **toward merger in judgments**.

Data can be divided into **generational phases** with respect to LOT/THOUGHT:

- **Baby Boomers** (pre-1965): men have more NCS-like LOT/THOUGHT
- **Generation X** (1967–1978): no gender differentiation, no merged judgments
- **Millennials** (1985–1993): women almost all have merged judgments, men don't
- **Generation Z** (post-1996): everyone has merged judgments

**Pace of adoption of merger** organized in terms of **recognizable cultural generations**; sharpest reorganization is between Baby Boomers and Gen X.

Close look at progress toward low back merger in middle-class post-NCS community: merger goes to completion **in judgments** in 30 years apparent time, **women leading**, with little further overall approximation **in production** until Gen Z.

Model of how **distinct but close** LOT/THOUGHT becomes merger over 3 generations:

- First: some speakers have **close productions** of LOT/THOUGHT;
- Next generation: **similar range** in production, but now with gender differentiation, so women have close productions **within that range**, with merged judgments;
- Next: now all speakers are close in production with merged judgments.

Cooperstown apparently has had **little migration from merged regions**, so process of merger is unlike that of communities with such migration (e.g., Johnson 2010).

**End of Baby Boom** / early 1960s frequently described as a turning point in NCS loss (e.g. Nesbitt 2019, Thiel 2019, Dinkin 2011)

How do other vowels in Cooperstown behave across Baby Boom / Gen X transition?

- TRAP: Boomers' mean TRAP F1s in range 715–816 Hz; post-Boomers 760–865 Hz  
High range of TRAP disappears abruptly, with no apparent-time trend post-1965
- STRUT: Most speakers' F2 in range 1375–1500 Hz; Baby Boom has two back outliers
- DRESS: Post-Boomers mean F2 in range 1770–1910; Boomers have wider range and two front outliers (i.e., showing **less NCS**) with F2 > 2040 Hz
- PRICE Canadian raising: Boomers' F1 range 685–795 Hz for pre-voiceless PRICE; post-Boomers, unraised PRICE disappears abruptly and all F1 > 742 Hz

Overall, we mostly see **abrupt change** and/or **narrowing in range of variation**.

This resembles new-dialect formation patterns observed by Kerswill & Trudgill (2005):

wide variability in second generation gives way to more focused third generation.

But parents of Baby Boomers seemingly mostly grew up in the region—

probably not enough in-migration to trigger koineization at that point.

Early '60s: a dialectal watershed period with major consequences for the Inland North.

#### Acknowledgements:

Thanks to my research assistants for transcribing the Cooperstown interviews: Alyssa Blancada, Mitchell Celaya, Clara Fulks, Bea Morales, Matt Springer, Mike Stephens, and Shane Taylor. This research was supported by the University Grants Program and a Critical Thinking Grant at San Diego State University.

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