Partial mergers and near-distinctions: stylistic layering in dialect acquisition

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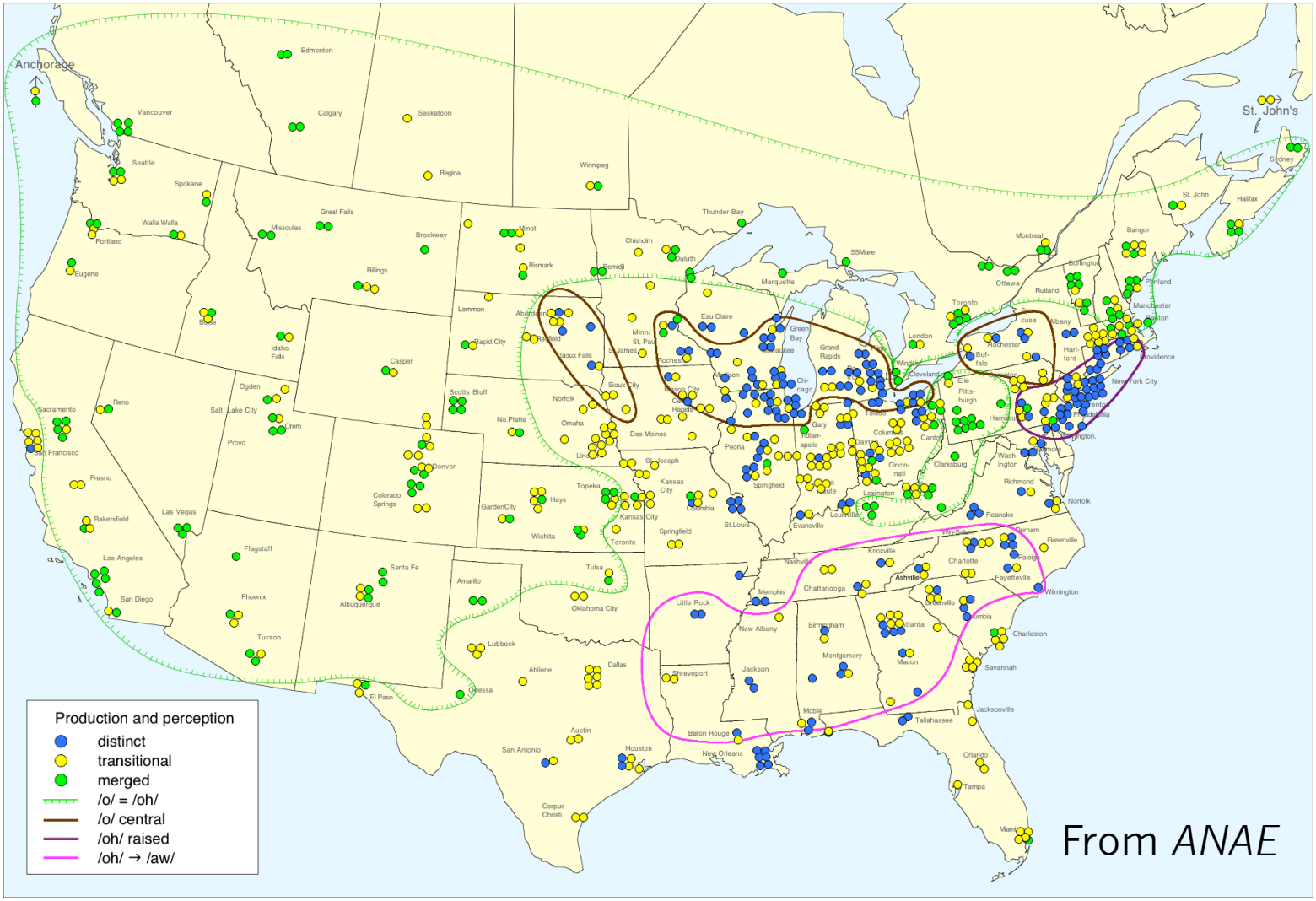
The big questions

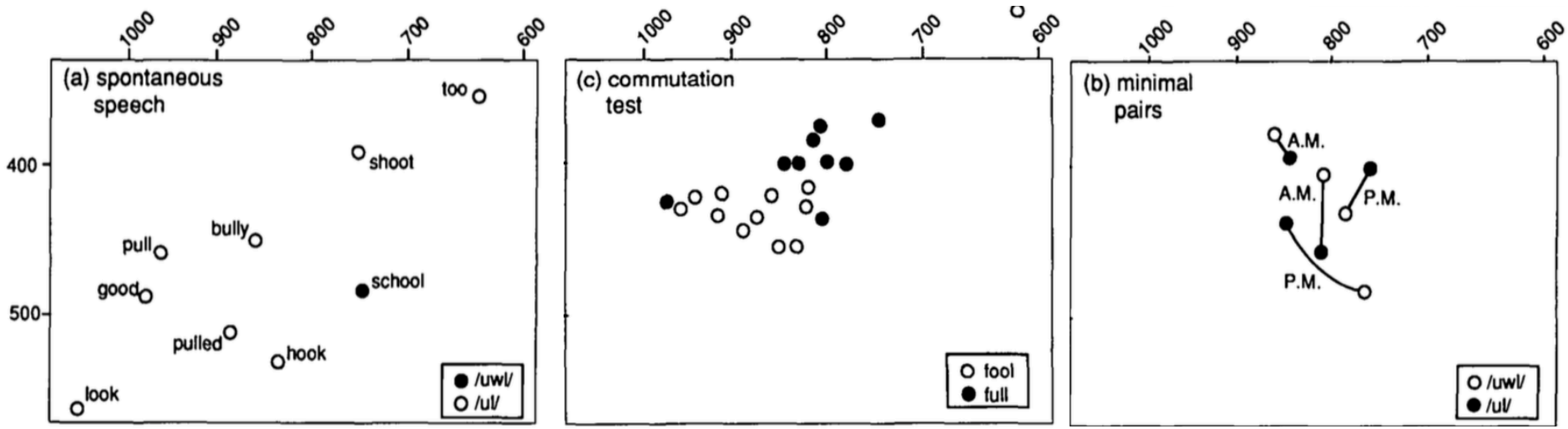
- When people are immersed in new dialect input, how do their linguistic productions and the norms underlying them change?

- How do we account for these patterns?

The cot/caught merger



Near-mergers



Dan Jones & The pool/pull merger (plots from Labov, Karen, & Miller 1991)

See Labov, Keren, & Miller 1991 for more examples

Near-mergers

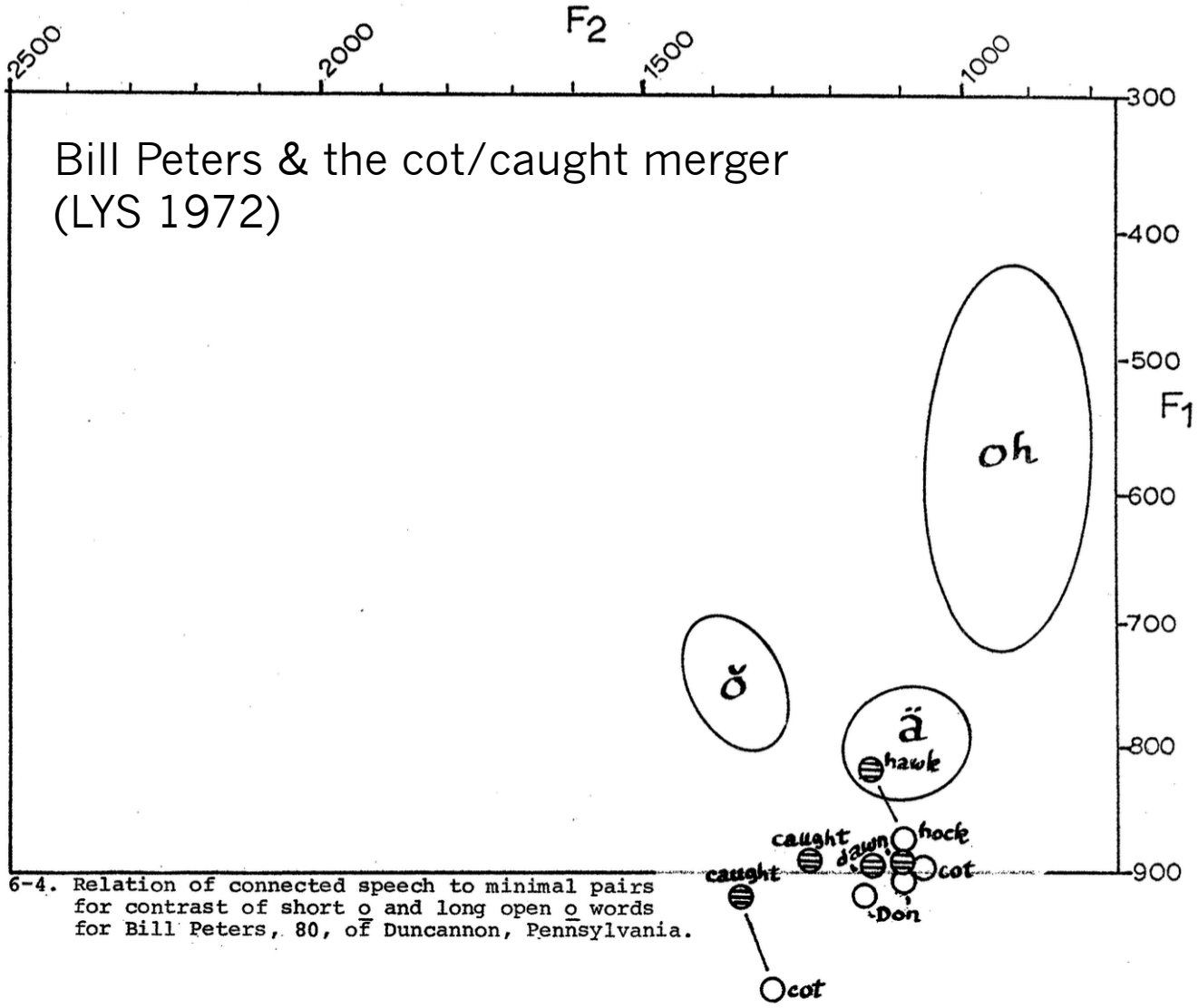


Figure 6-4. Relation of connected speech to minimal pairs for contrast of short o and long open o words for Bill Peters, 80, of Duncannon, Pennsylvania.

Style variation & norms

- citation styles are better taken as an indication of '*phonic intention*, illustrating the norms of the speaker, in part, rather than a reliable indication of performance'
  (Labov 1966/2006:152)

- '...depending on the particular sociolinguistic configuration, the mean values may shift radically backwards towards an older, corrected value, or radically forwards towards the apparent target of the change'
  (Labov *et al.* 1991: 57).

Style variation & norms: same community/variety

- When individuals are faced with community change
  - perception leads production
  - citation styles lead naturalistic styles
- What is behind this?
- Production (esp. conversation) lags behind
  - because of accumulated exemplars
  - because of well-practiced motor plans, etc.
- Norms of individual can change more easily along with norms of their community

Style variation & norms: different community/variety?

- Does perception lead production?
- Do the norms of individual change to that of new community?

- Usually not.

Two asymmetries

- Mergers easier to acquire than distinctions?
- Children better at acquiring new things than adults?

Our data

	Merged > Distinct	Distinct > Merged
Adults	17 Canadians in NYC 8 "MA" with "RI" spouse or environment	10 "RI" with "MA" spouse or environment
Children	3 "RI" with merged parents (one family)	3 "MA" with distinct parents (one family)

Three or four styles per speaker:

- spontaneous conversation (all speakers)
- picture naming (all New England children, some adults)
- reading passages (New Englanders)
- word list (Canadians)
- minimal pairs (all speakers)

reading passage, word list share words with minimal pairs

Measurement, models, and plots

- FAVE-align on a restricted set of LOT and THOUGHT words, excluding word-final tokens and tokens after [j] and [w].
- semi-automatic extract, 5 formants under 5000 Hz (men) or 5500 Hz (women/children), at F1 max, hand-fixed errors
- one model for each speaker, including all styles
- common fixed effects for preceding and following place
- common random intercept for word
- separate word-class effect for each style

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> lmer(F1 or F2 ~ Preceding.Place + Following.Place +
        Style * Class + (1 | Word), dat)
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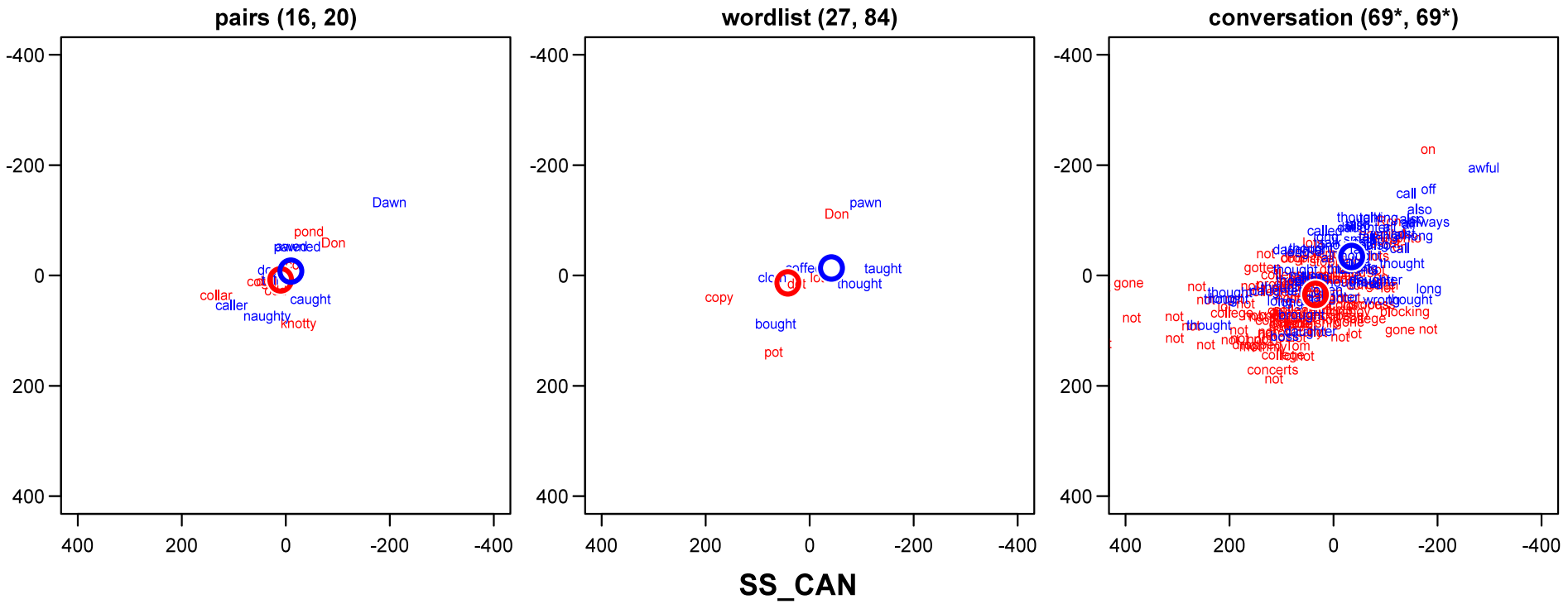
mean symbols: Class + Class:Style

token symbols: Class + Class:Style + Word + residual error

M to D: Canadians summary

speaker	*gender*	*age*	*yrs Can*	*yrs NYC*	*partner*	*remain?*	*ΔF2 conv*	*conv > pairs?*	*judged*
LW	female	31	21	10	D	N	**73**	Y	same
SS	female	54	27	27	D	Y	**69**	Y	same
LG	female	46	39	7	D	N	**65**	Y	same
LC	female	30	29	1	M	N	**44**	Y	same
JC	male	48	*30*	18	M	Y	**43**	Y	same
DB	female	58	47	11	D	N	**41**	Y	same
EW	male	50	34	16	Taiwan	Y	**39**	Y	same
VJ	female	70	26	44	M	Y	**35**	Y	same
TM	female	41	38	3	D	Y	**34**	N	same
JF	female	45	31	14	M	Y	**32**	Y	same
GH	male	54	39	15	M	Y	**30**	Y	same
BW	male	37	35	2	M	N	**25**	Y	same
BK	female	54	33	21	D	Y	23	=	same
CW	female	54	26	28	M	Y	**22**	Y	same
ES	male	42	37	5	D	N	**16**	N	same
PW	male	32	32	0	none	N	16	N	same
NW	female	39	25	14	M	Y	15	Y	same

M to D: Canadian example

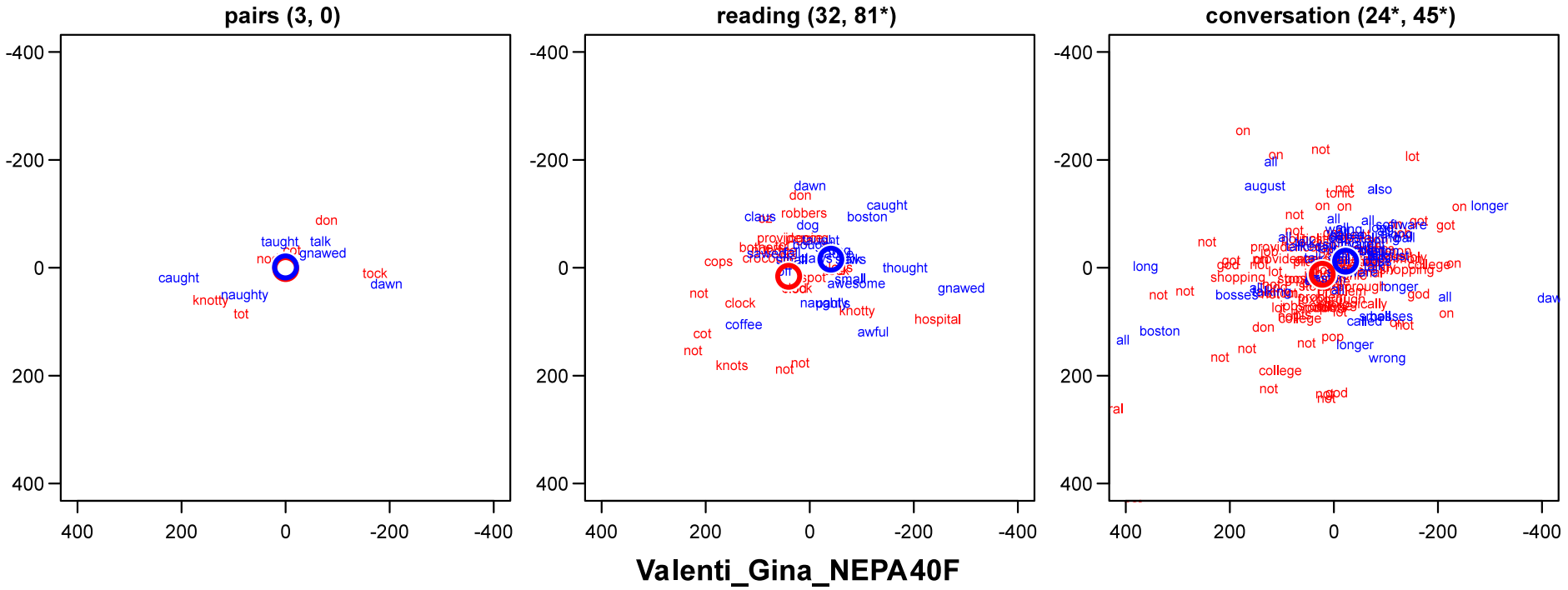


speaker	*gender*	*age*	*yrs Can*	*yrs NYC*	*partner*	*remain?*	*ΔF2 conv*	*conv > pairs?*	*judged*
SS	female	54	27	27	D	Y	**69**	Y	same

M to D: New England adults

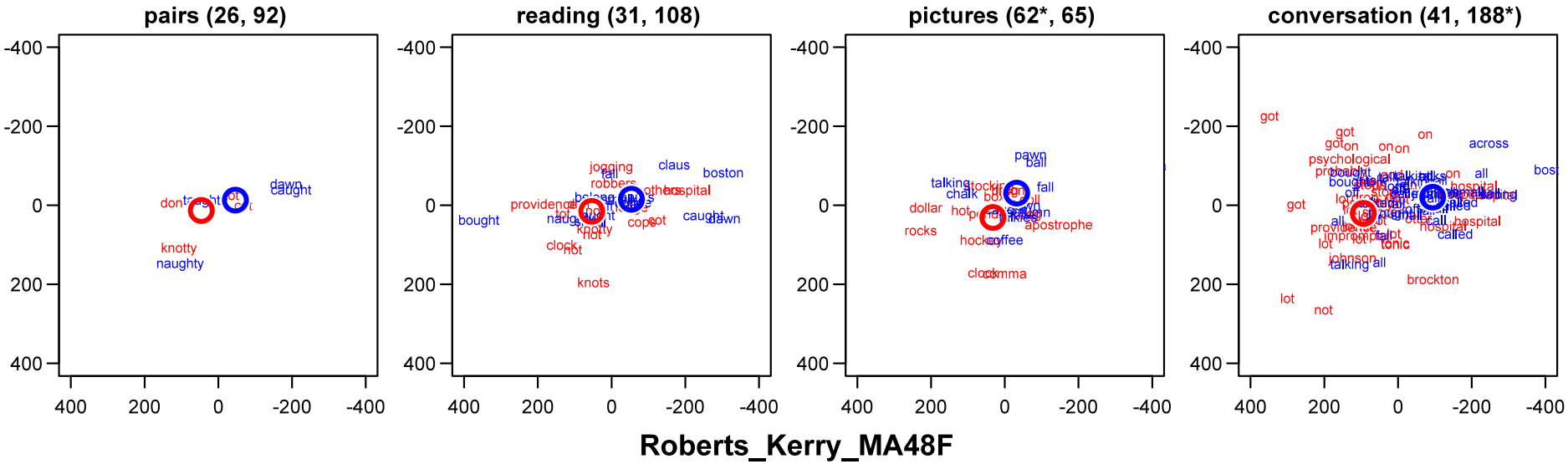
speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv > pairs?*	*judged*
KR	female	48	12	23 (then M)	D	D	**188**	Y	same
RE	female	47	25	22	D	D	**153**	close	same
MP	male	48	18	30	M	D	**122**	close	mixed
MA	male	34	N/A	10	D	M	**114**	N	mixed
KC	female	36	N/A	16	D	both	**75**	Y	same
GV	female	40	34	6	D	D	**45**	Y	same
JS	female	78	N/A	55	D	both	40	Y	same
VH	female	44	38	6	D	?	–61	N	same

M to D: New England adult
(merged in pairs, small diff. in conversation)



speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv > pairs?*	*judged*
GV	female	40	34	6	D	D	**45**	Y	same

M to D: New England adult
(larger distinction, esp. in conversation)

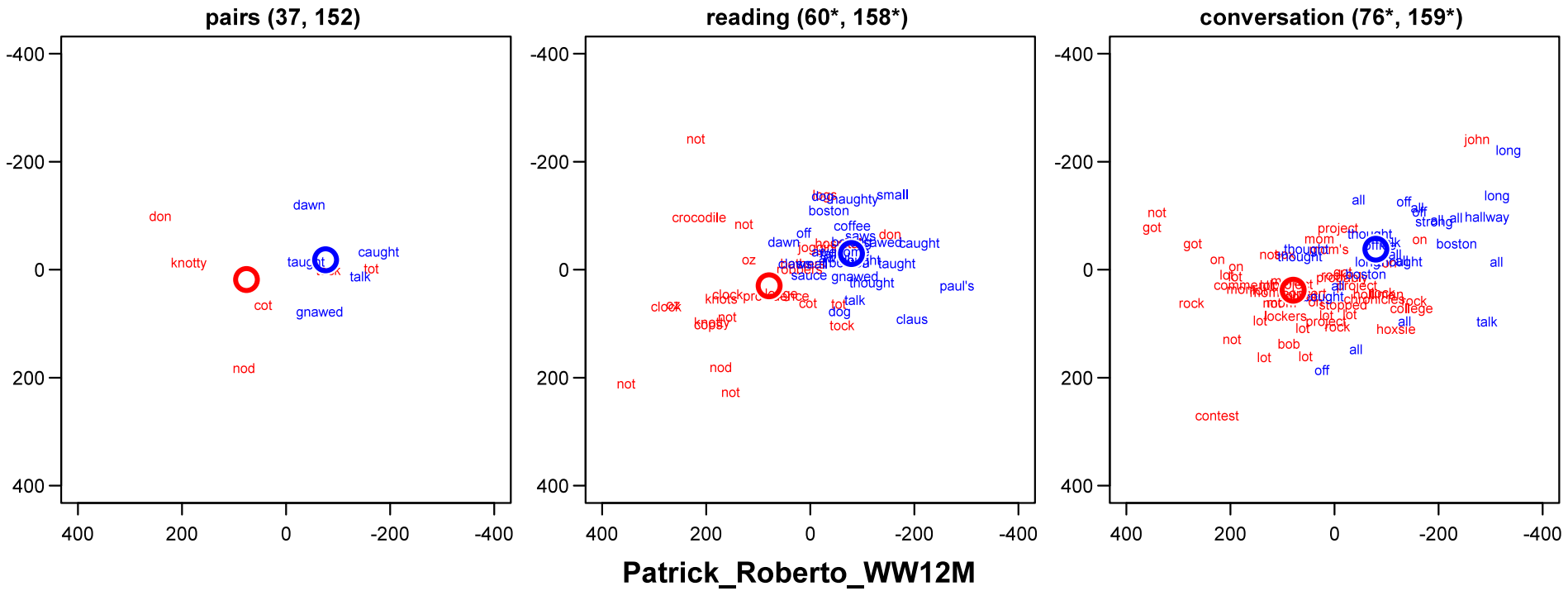


speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv > pairs?*	*judged*
KR	female	48	12	23 (then M)	D	D	**188**	Y	same

M to D: New England children

speaker	*gender*	*age*	*parents*	*peers*	*ΔF2 conv*	*conv > pairs?*	*judged*
Juan Patrick	M	15	M	D	**164**	Y	different
Roberto Patrick	M	12	M	D	**159**	close	same
Paco Patrick	M	11	M	D?	**127**	Y	same

M to D: New England child
(distinction w/o clear style-shifting)



speaker	*gender*	*age*	*parents*	*peers*	*ΔF2 conv*	*conv > pairs?*	*judged*
Roberto Patrick	M	12	M	D	**159**	close	same

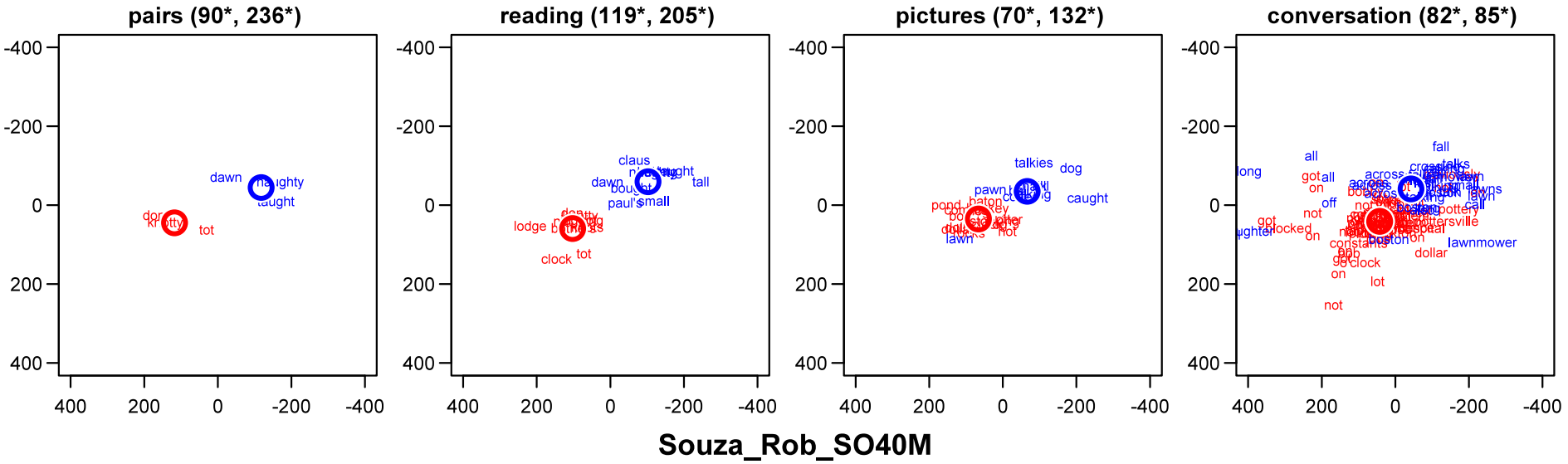
Summary of findings: M to D

- The Canadians in NYC nearly all acquire a small distinction (15 – 75 Hz in F2).
  - Nearly all of them have a larger difference in conversation than in minimal pairs.
- The New England adults tend to learn a larger distinction (50 – 200 Hz in F2).
  - Most of them are also more distinct in conversation.
- The three N. E. children are not obviously different than the adults, but may show less style-shifting.
- One of the children, but none of the 25 adults, judged the minimal pairs as distinct.
- The amount of separation is not clearly related to length of exposure to the distinct pattern.

D to M: New England adults

speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv < pairs?*	*judged*
KH	female	42	24	18	M	M	**80**	Y	different
RS	male	40	22	18	M	both?	**85**	Y	different
DH	male	44	24	20	M	M	**86**	Y	different
KR	male	43	30	13	M	M	**124**	Y	different
JS	male	76	N/A	55	M	both	**153**	close	different
TD	male	46	N/A	32	M	both?	**164**	Y	different
EC	male	37	N/A	23	M	both	**166**	N	mixed
BP	female	47	23	24	M	both?	**177**	N	mixed
WJ	male	73	7	66	German	M	**189**	N	different
AA	female	35	25	10	M	M	**205**	Y	different

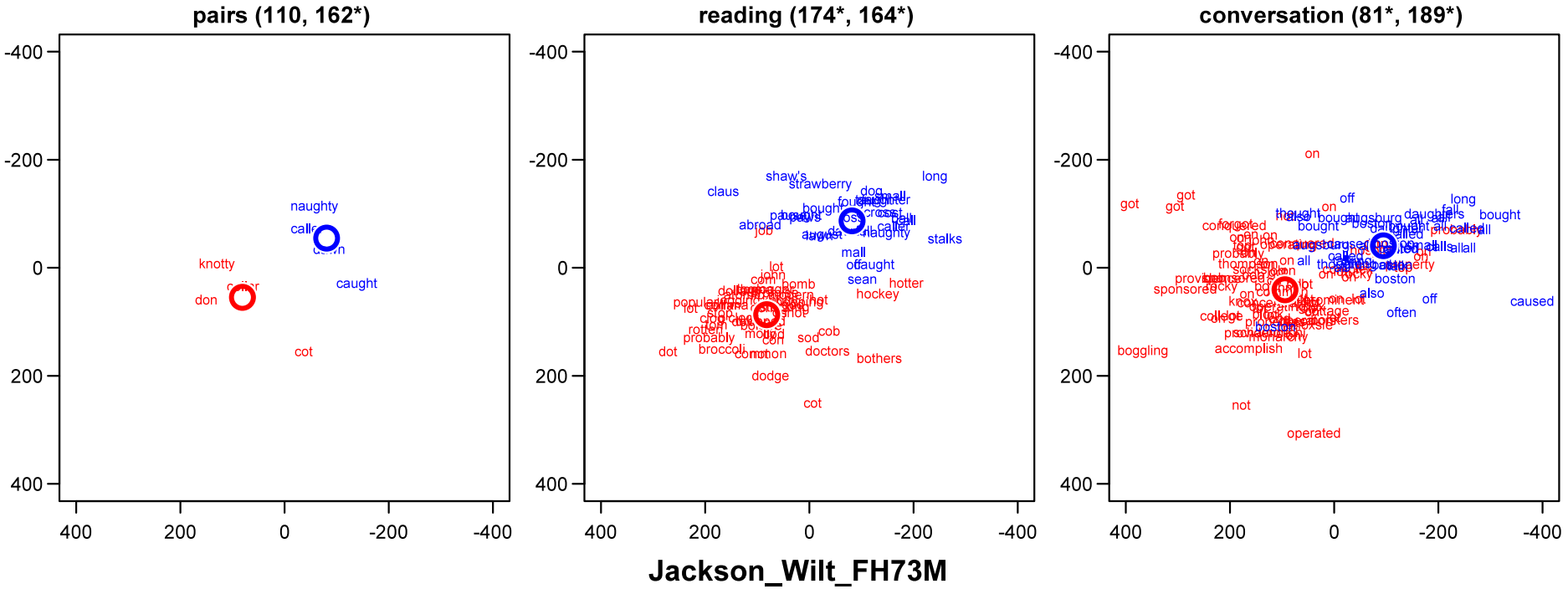
D to M: New England adult
(good example of style-shifting)



speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv < pairs?*	*judged*
RS	male	40	22	18	M	both?	**85**	Y	different

D to M: New England adult

(if he's shifted at all, all styles have shifted together)



speaker	*gender*	*age*	*age moved*	*years of D2*	*partner*	*other*	*ΔF2 conv*	*conv < pairs?*	*judged*
WJ	male	73	7	66	German	M	**189**	N	different

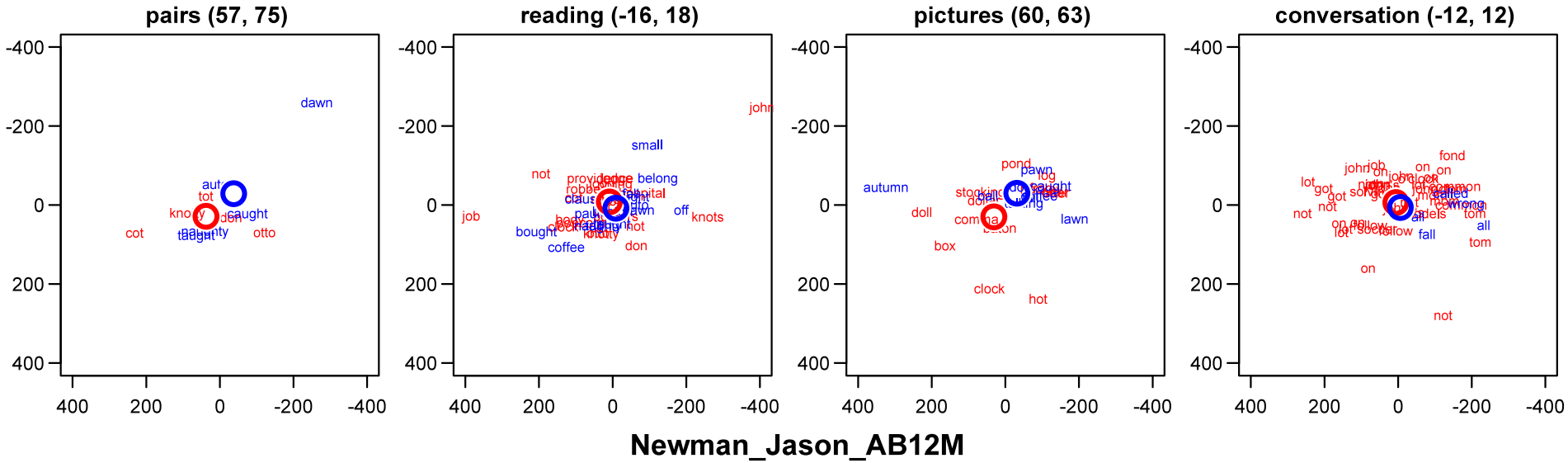
D to M: New England children

speaker	*gender*	*age*	*parents*	*peers**	*ΔF2 conv*	*conv < pairs?*	*judged*
Tim N.	M	18	D	M?	21	N	different
Joe N.	M	15	D	M	**79**	Y	different?
Jason N.	M	12	D	M	12	Y	different

* These children were homeschooled for some grades (different years for all three), so they have had less contact with peers than typical children would.

D to M: New England child

(merged in conversation, hint of difference in pairs)



speaker	*gender*	*age*	*parents*	*peers**	*ΔF2 conv*	*conv < pairs?*	*judged*
Jason N.	M	12	D	M	12	Y	different

Summary of findings: D to M

- Natively-distinct adults accommodate, but do not lose the distinction, no matter how long they are exposed to the merger.
  - For those with the clearest evidence of learning, the vowels appear most approximated in conversation.
- Children of distinct parents readily acquire the merger from merged peers.
  - Minimal pair judgments may be the only remaining evidence of the distinction.

Summary of findings: two asymmetries

- Adults seem to learn D just as well as M (not very well, but better than reported).
- Children probably learn D better than adults.
- Children definitely learn M better than adults.
- For kids, mergers are especially easy to learn.

Discussion part 1

- we see (or infer) parallel lifespan changes involving the LOT/THOUGHT contrast
- when a second dialect is acquired in a new community, “production leads perception” in both directions of change
  - people show most accommodation to the new dialect in spontaneous speech, but reflect old norms in minimal pair productions (and even more so, in minimal pair judgments)
- M > D speakers acquire ‘near-distinction’, raising questions that near-mergers don’t

Discussion part 2

- near-mergers and near-distinctions: production of contrast without perception
- near-M: perception of contrast lost
- near-D: perception of contrast never there
- near-M: a ‘suspended’ underlying contrast with retention of surface differences?
- near-D: hard to reconcile with feed-forward model where contrasts are underlying
- a hybrid exemplar model may succeed
  - naturally predicts these very small contrasts?

Further research

- a bigger study of movers (M > D and D > M) to reveal factors predicting overall size of change and size of style gradient (both varied greatly here)
- a longitudinal study would be especially valuable for D > M speakers, whose 'starting point' is otherwise unknown
- children pose two more puzzles:
  - why norms reflect parents' speech
  - how M learned so well, if old exemplars D

Thank you!

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