

Word-specific and sub-phonemic representations: yod-dropping and /u/-fronting in Derby

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Main findings

/u/-fronting: change in progress in Derby English; a preceding yod is a strongly favouring environment

yod-dropping: yod-dropping occurs variably in Derby English, but its rate does not change over time

their interaction: the incidence of yod-dropping in specific lexical items is predictive of /u/-fronting:
 more yod-dropping → less /u/-fronting

Methods

Analysing **normalised F2 trajectories** from corpus of spontaneous/read speech

1. Speakers

- dyadic conversations & wordlists recorded in Derby in 1995 and 2012
- 45 speakers (27 female, 18 male; 3 generations)

2. Data collection

- F2 trajectories extracted automatically using **Penn Aligner** (Yuan & Liberman 2008), **LaBB-CaT** (Fromont & Hay 2008) and **Praat** (Boersma & Weenink 2014)
- all trajectories corrected manually using our own software
- presence/absence of yod coded auditorily using double-blind procedure
- normalised using Watt & Fabricius (2013)

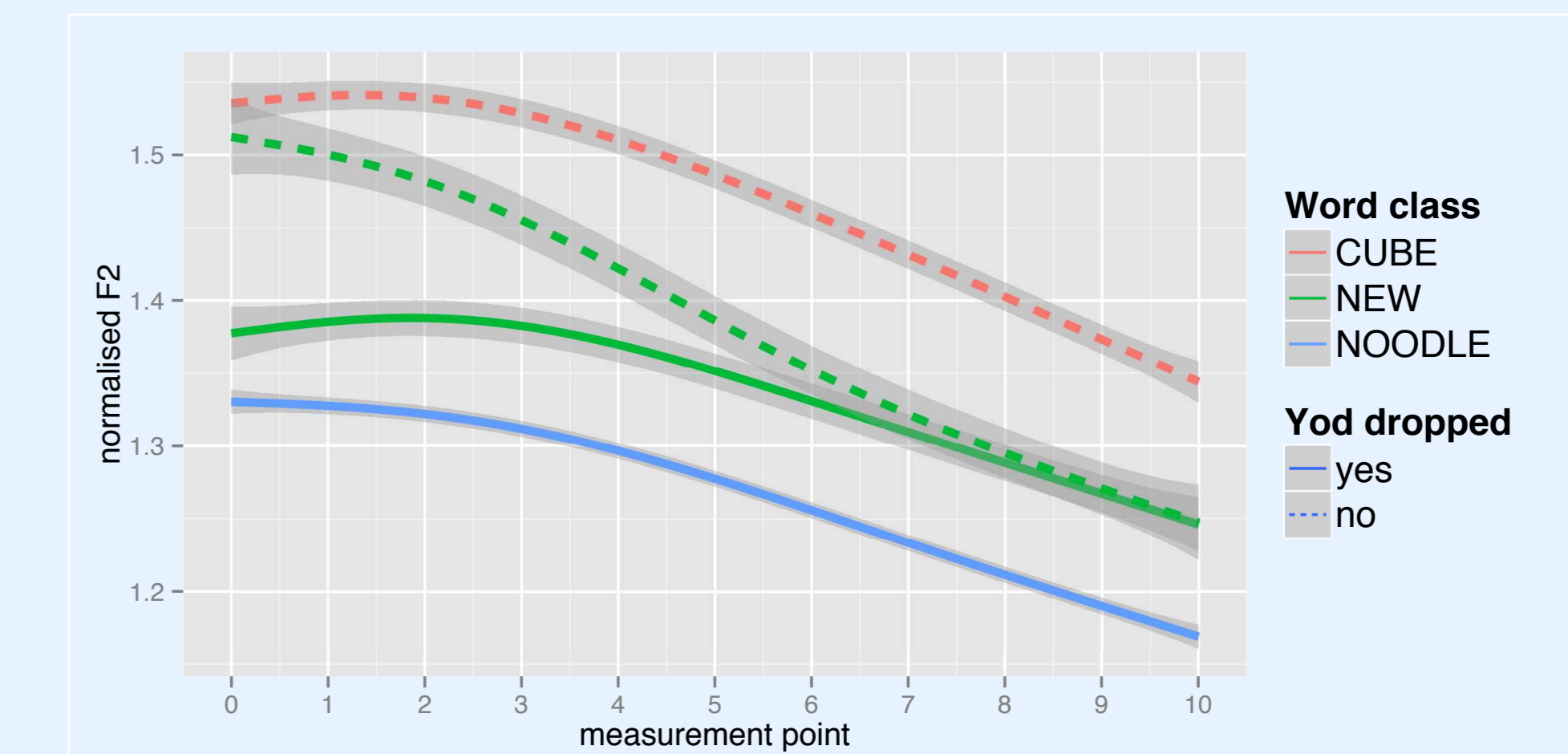
3. Data set

- overall 3703 tokens of /u/ (yod possible: 978; yod-dropping possible: 387)

Results continued

Interaction between yod-dropping and /u/-fronting:

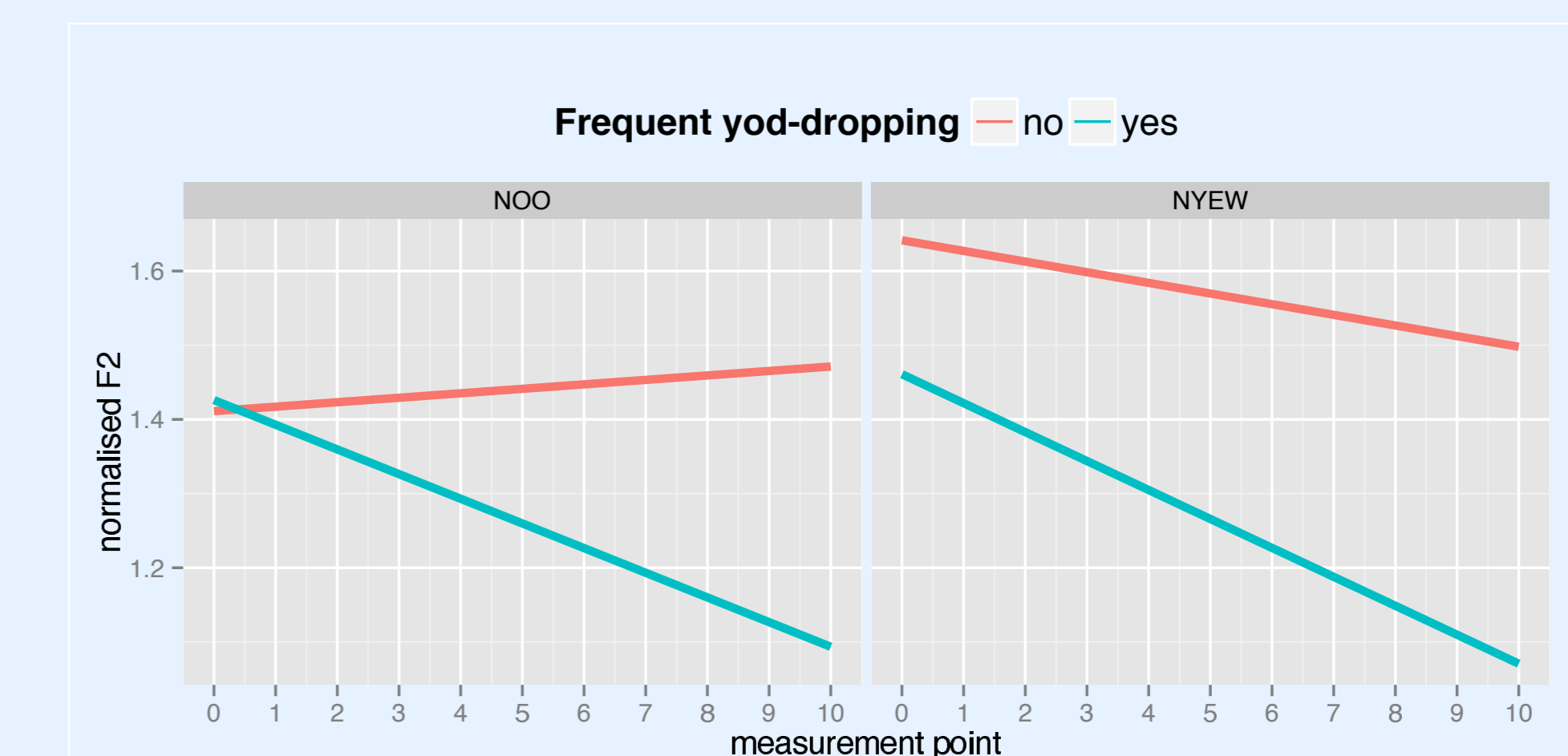
1. How do **NEW** variants with/without yod-dropping compare to **CUBE** and **NOODLE**?



→ the yod-ful vs. yod-less variants of **NEW** pattern together
 → they are distinct from **CUBE** and **NOODLE**

2. Is gradient word-level variation in the level of yod-dropping predictive of /u/-fronting as well?

→ e.g. *new* shows more yod-dropping than *student* – less /u/-fronting in *new*?
 model predictions from a linear mixed effects regression model:



→ indeed, words with more yod-dropping show less /u/-fronting

Background

1. Derby English

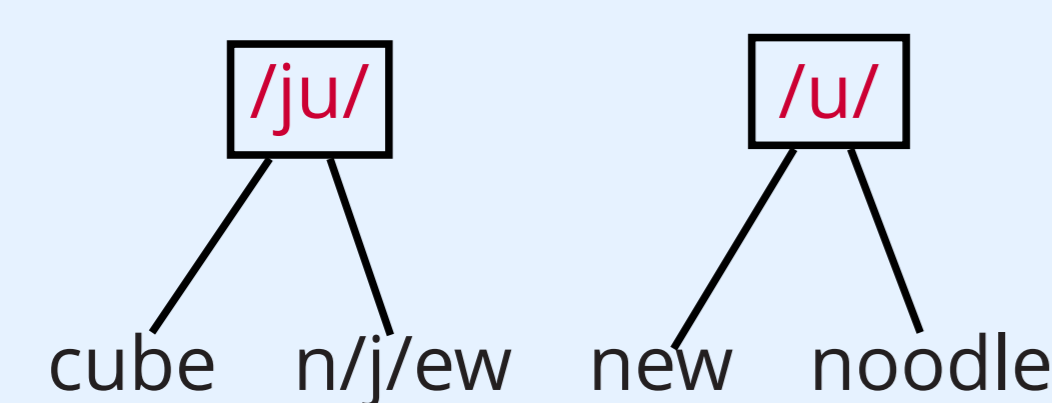
- dialect spoken in the north midlands of England
- shows /u/-fronting (Docherty & Foulkes 1999)
 - after yod (e.g. *cube*): favouring environment
 - before /l/: inhibited
- variable yod-dropping after /t, d, n/ (e.g. *new, student, duty*)

Question: how do yod-dropping and /u/-fronting interact with each other?

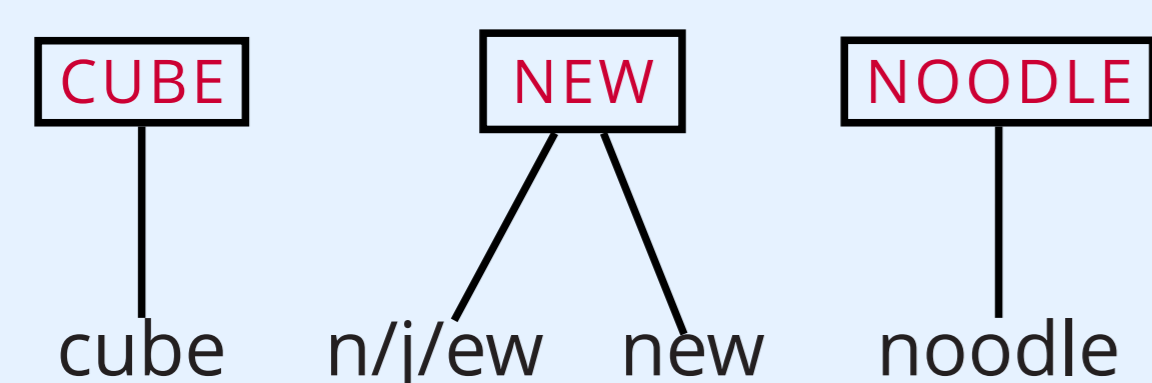
- **CUBE**-type words (yod always present) → more fronting
- **NOODLE**-type words (yod never present) → less fronting
- **NEW**-type words (yod variably present) → ?

2. Sub-phonemic vs. word-level representations

only **sub-phonemic representations** in phonetic realisation:



only **word-level representations** in phonetic realisation:



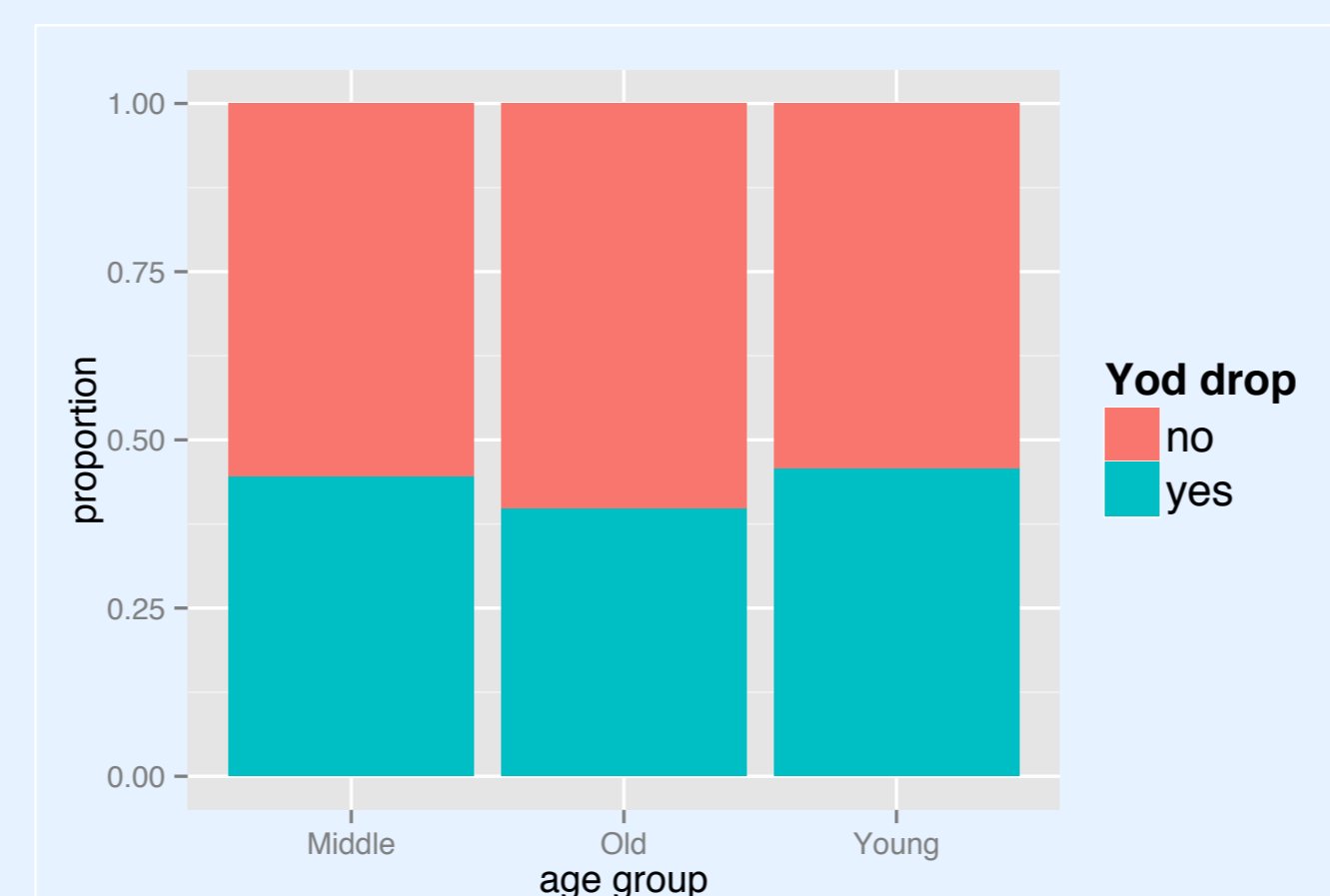
or perhaps a combination of the two?

Results

/u/-fronting: /u/ is clearly fronting over time



yod-dropping: no change in rate of yod-dropping



Conclusion

- /u/ is fronting in the dialect of Derby
 - no change in the frequency of yod-dropping (stable variation)
 - the degree of yod-dropping in specific lexical items is predictive of /u/-fronting
- **strong evidence for word-specific representations** (perhaps alongside sub-phonemic ones)