

UNIVERSITY OF
CAMBRIDGE

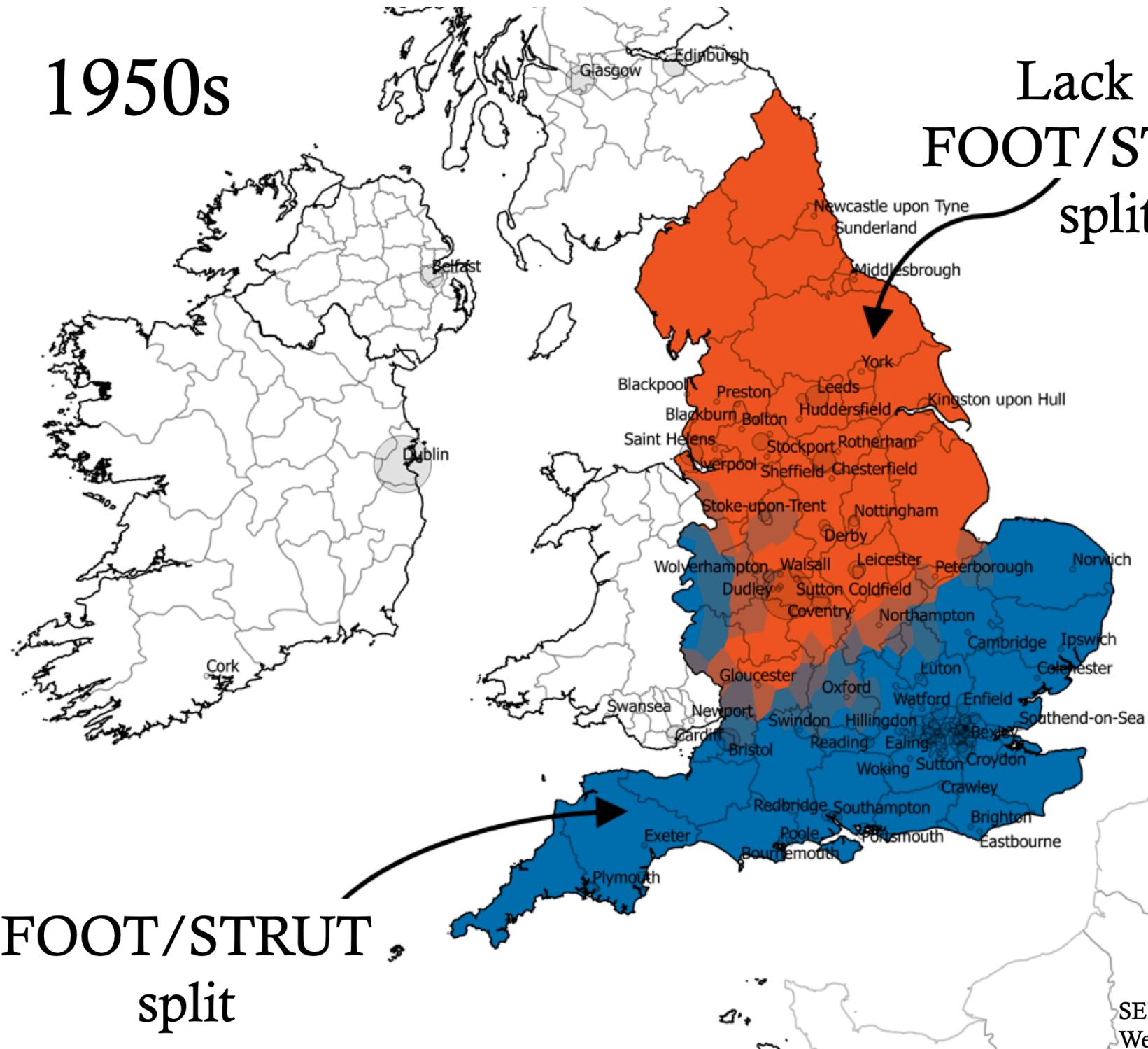
Crowdsourcing variation and change of FOOT/STRUT and TRAP/BATH across England

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David Britain, Tam Blaxter



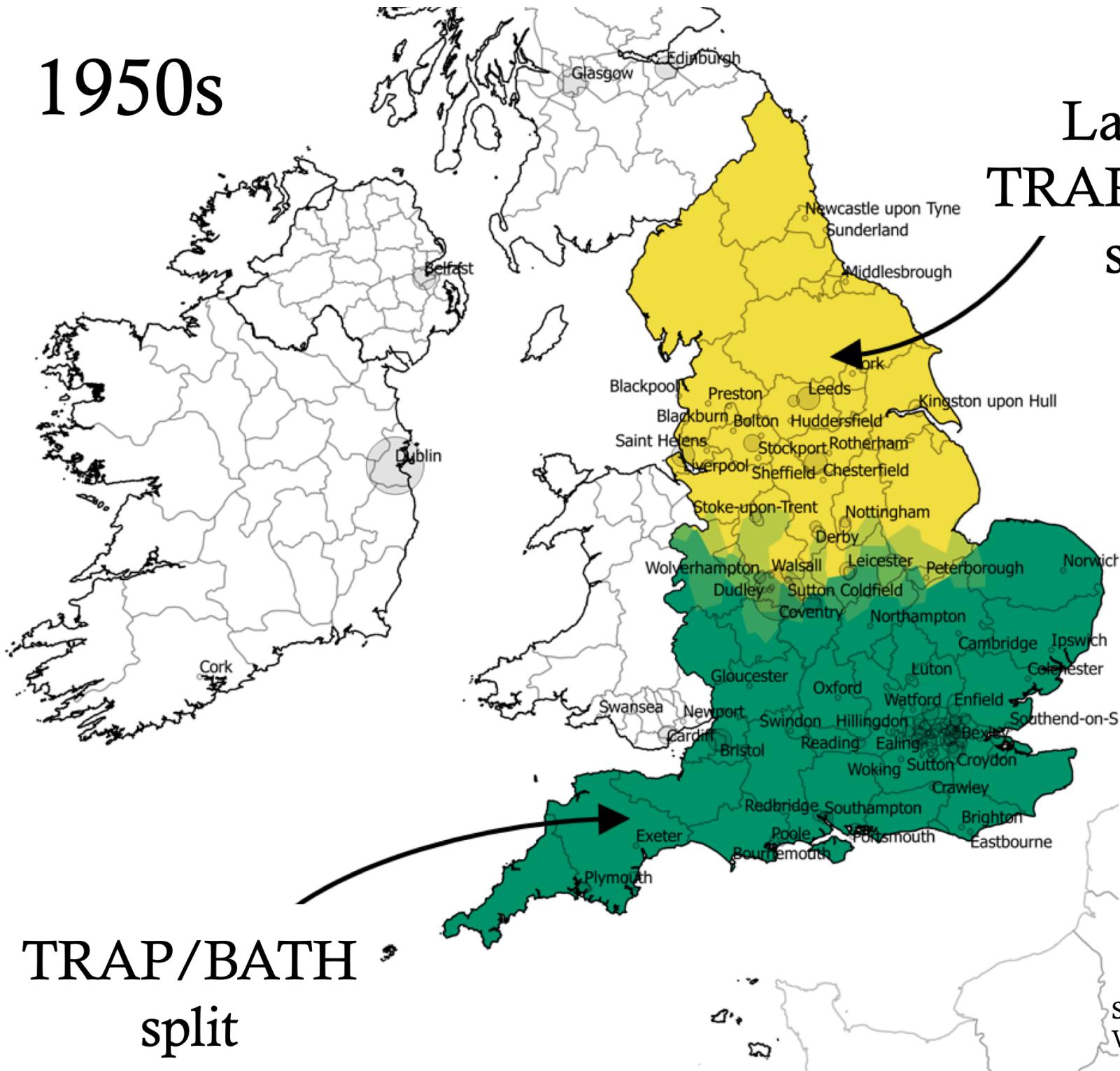
1950s

Lack of
FOOT/STRUT
split

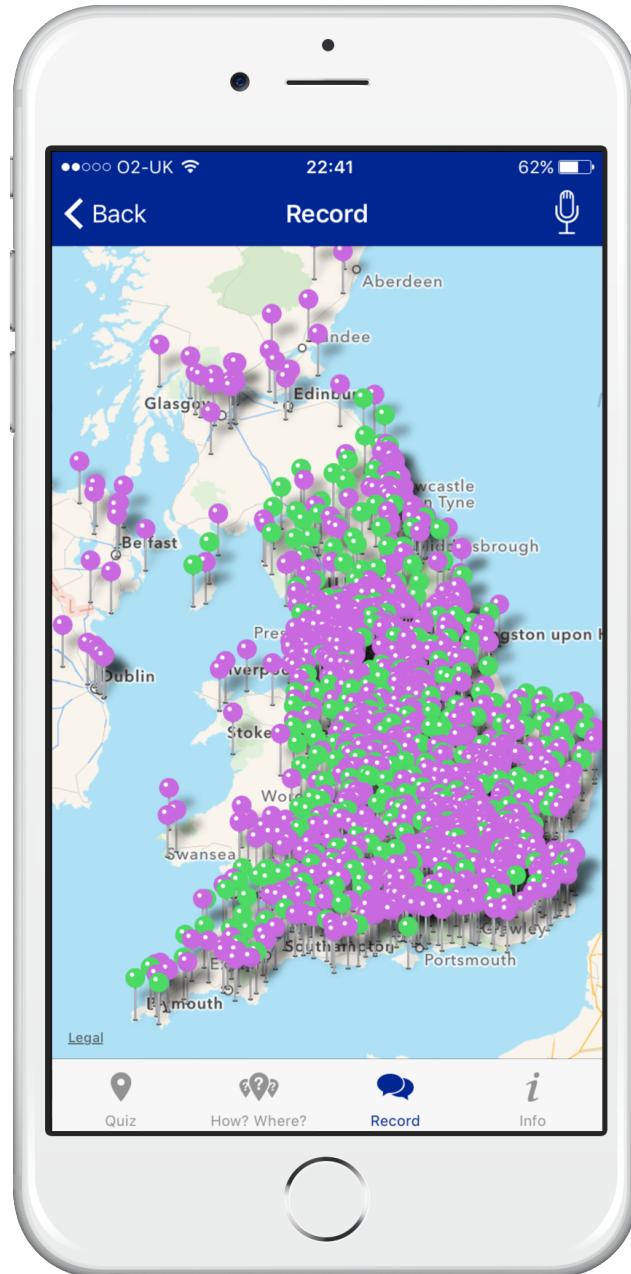
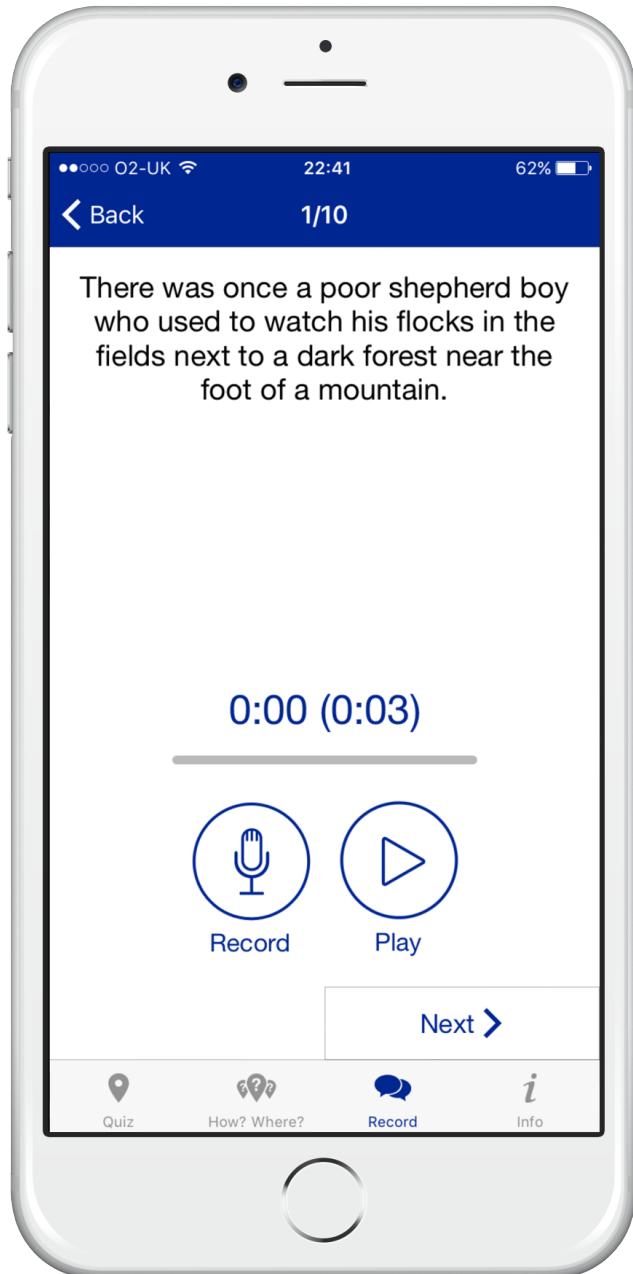


1950s

Lack of
TRAP/BATH
split





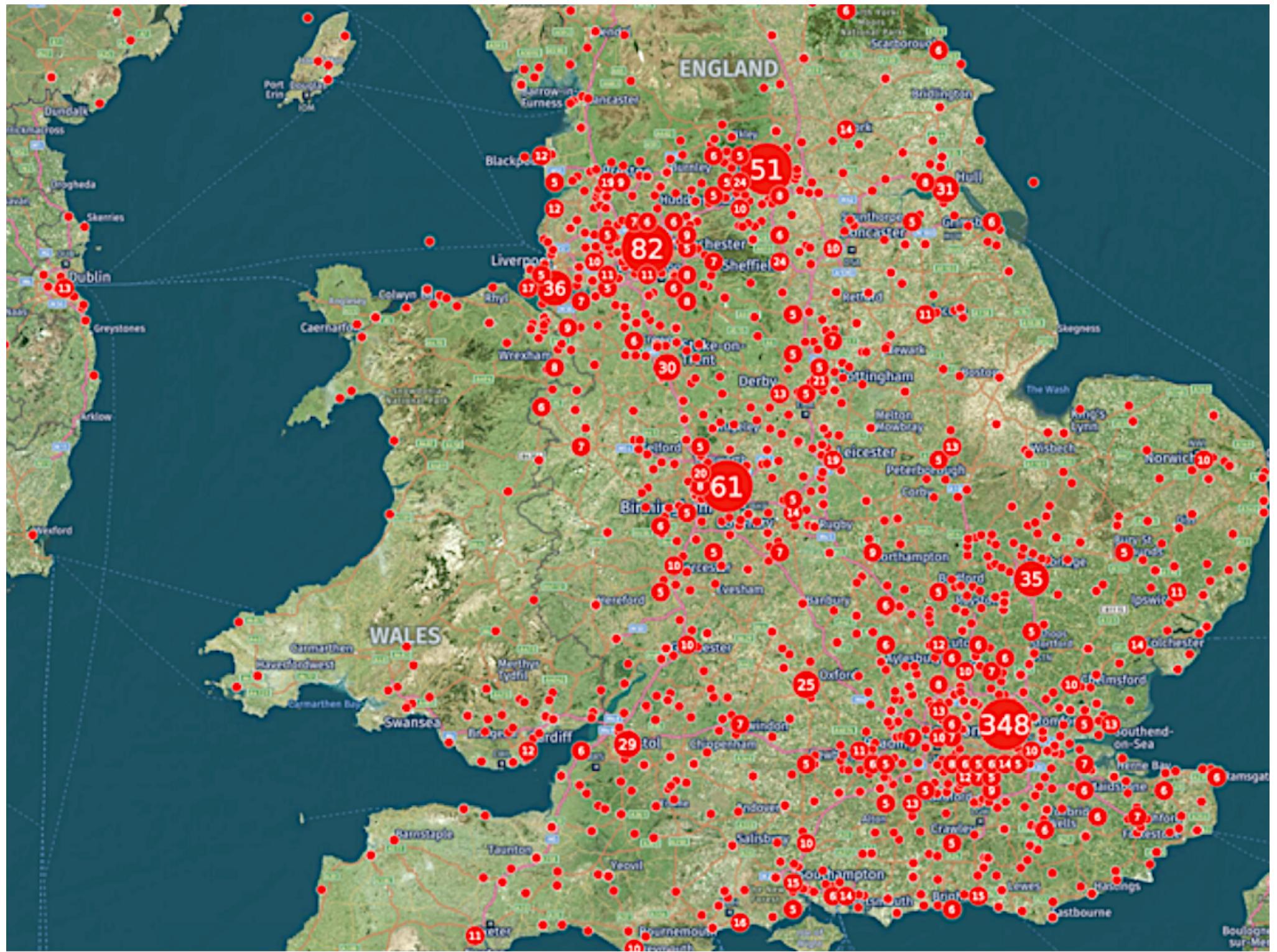


O2-UK 22:41 62%

< Back Record

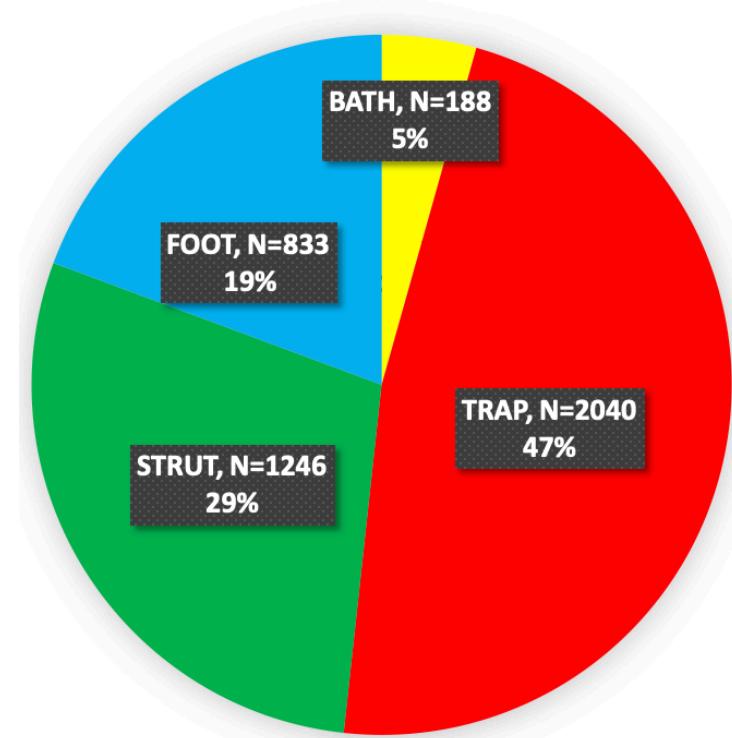
(play) Female, 23	11.01.2016
(play) Female, 34	11.01.2016
(play) Male, 27	11.01.2016
(play) Male, 29	11.01.2016
(play) Female, 22	11.01.2016
(play) Female, 22	11.01.2016
(play) Female, 27	11.01.2016
(play) Male, 49	11.01.2016
(play) Male, 34	11.01.2016
(play) Male, 22	12.01.2016
(play) Male, 38	12.01.2016
(play) Male, 35	12.01.2016
(play) Female, 18	13.01.2016

Quiz How? Where? Record Info



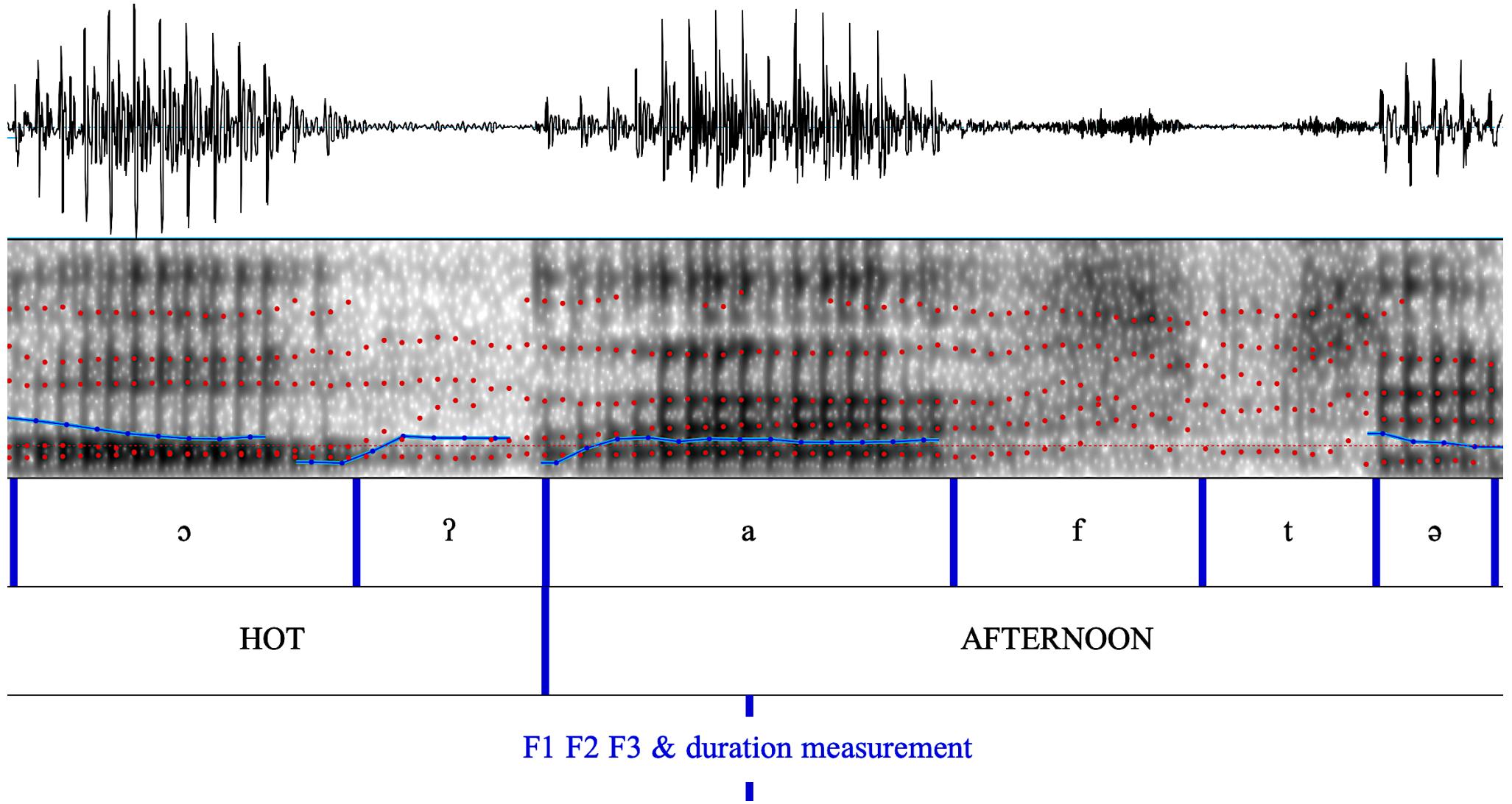
Descriptives

- 95 speakers
- 12 localities
(c. 8 speakers/locality)
- 4 vowels
- Make up of sample
 - Relatively mobile (# moves & distance travelled to work)
 - Ethnicity reflects that of UK population
 - 75% higher education degree
 - Balanced for gender
 - Age median 23, SD 3.5



One hot afternoon, he thought up a good plan to get some company for himself and also have a little fun

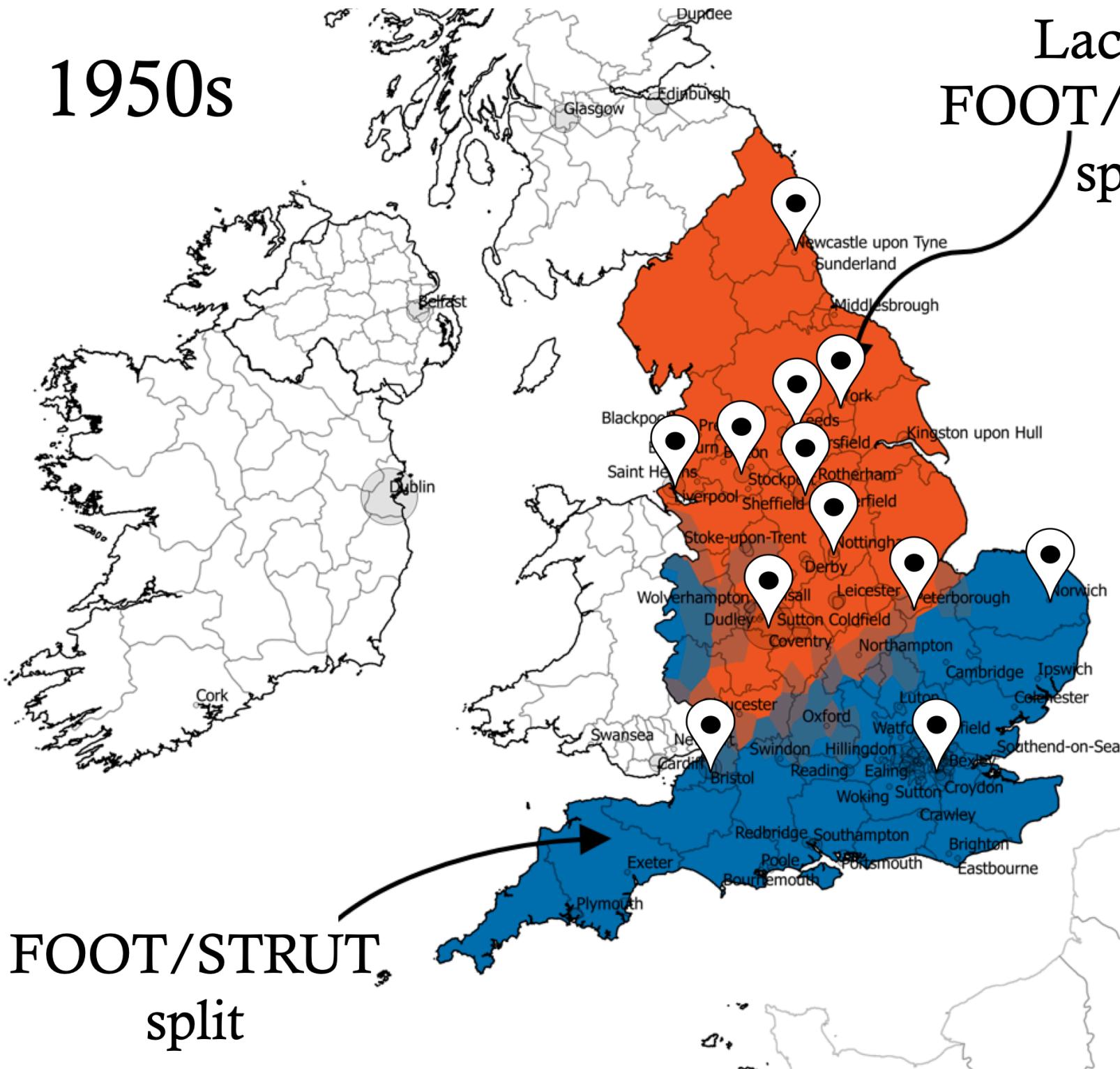


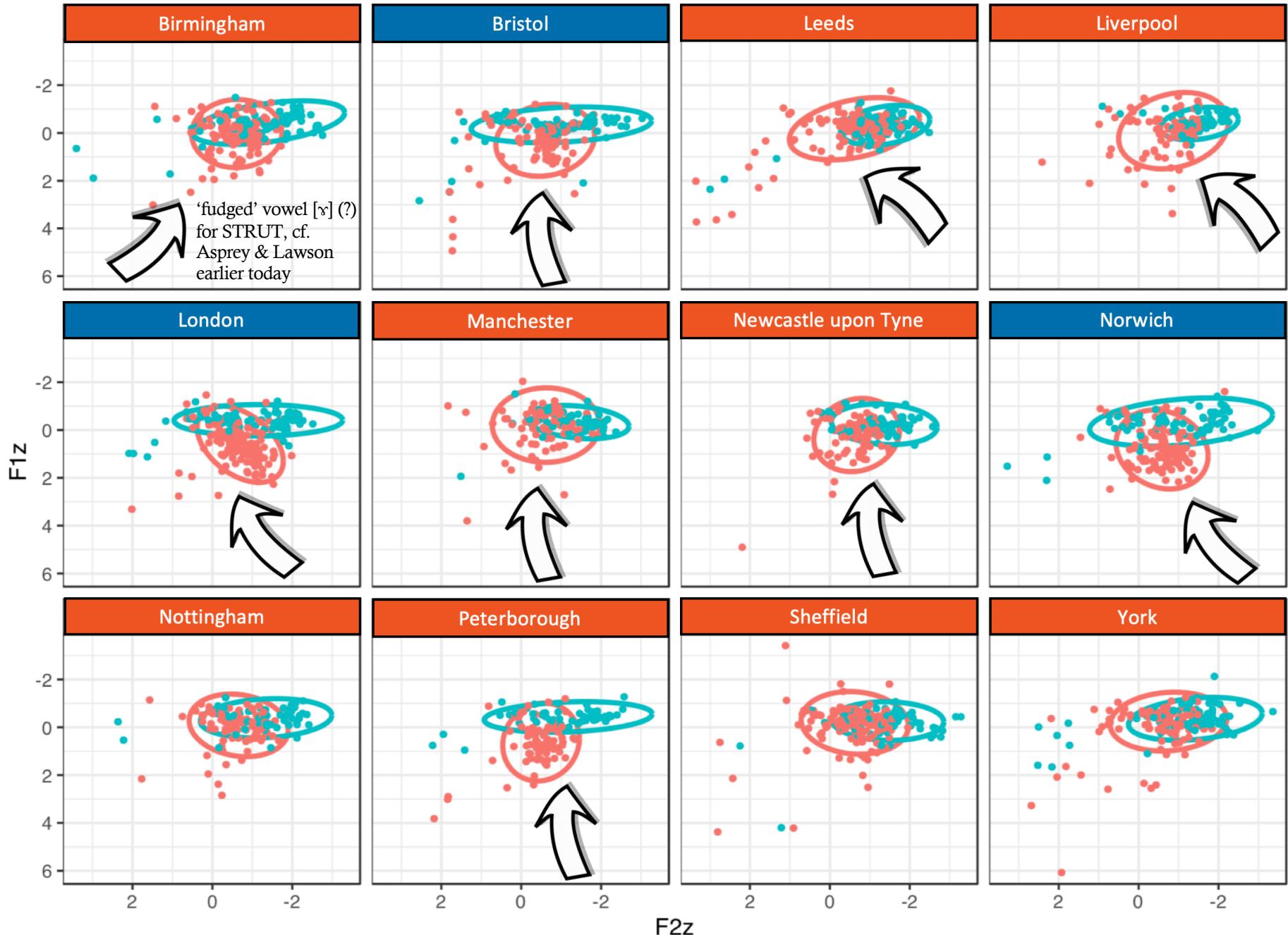


Lobanov (1971) normalization

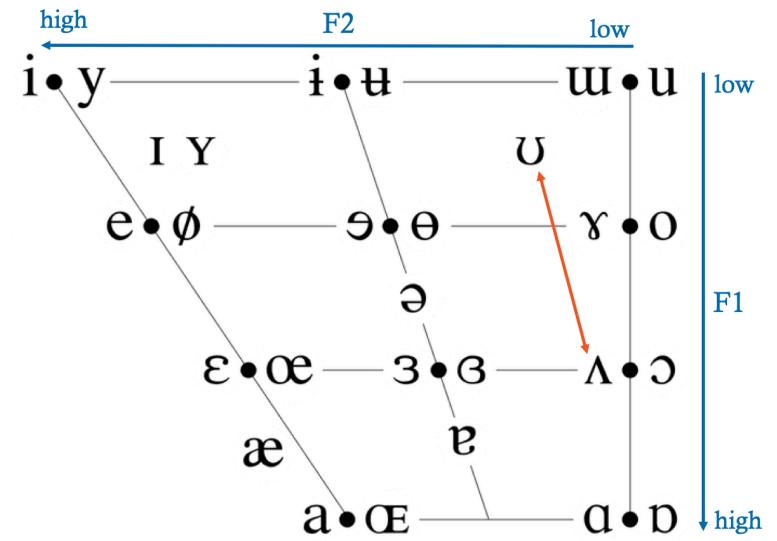
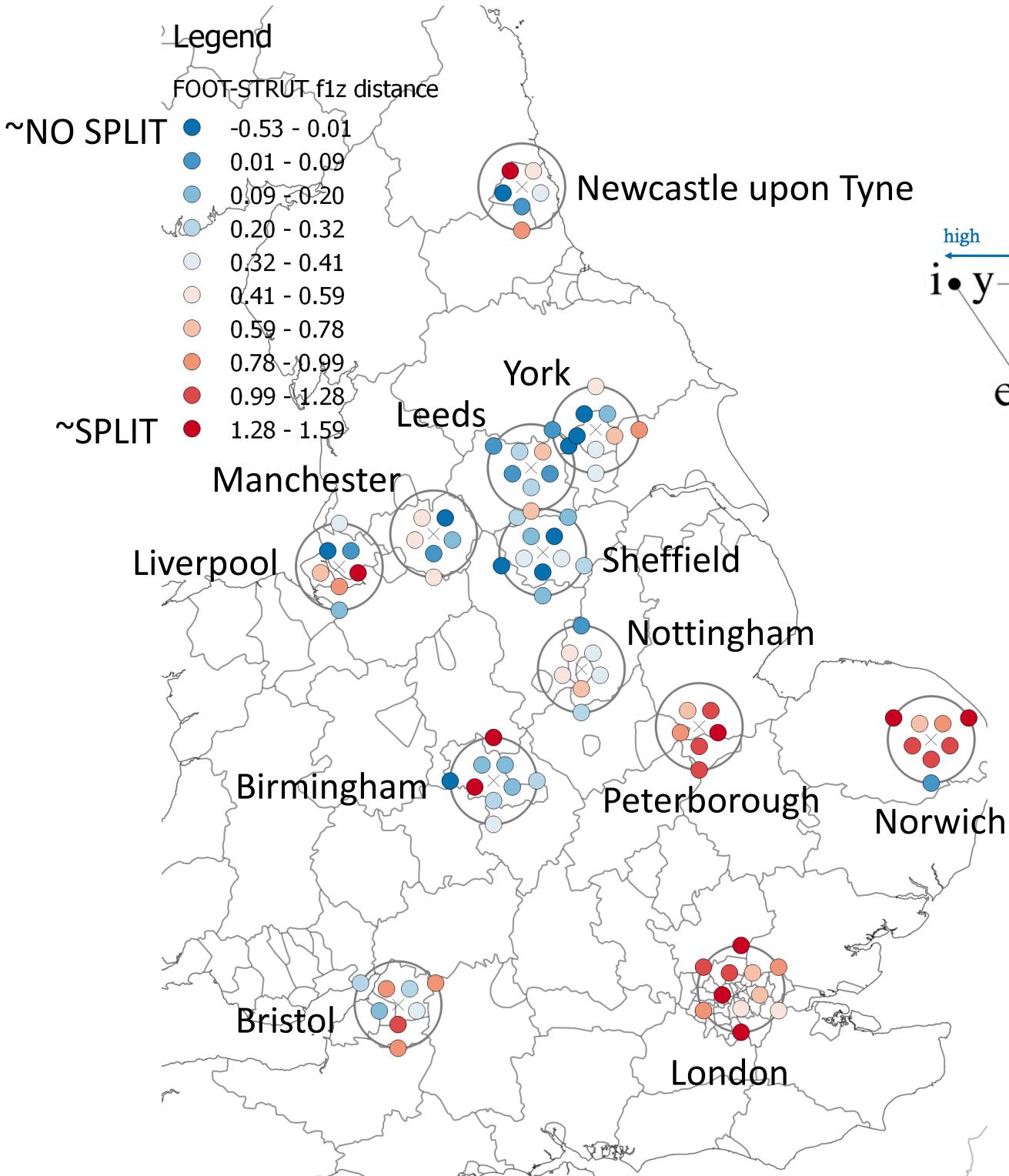
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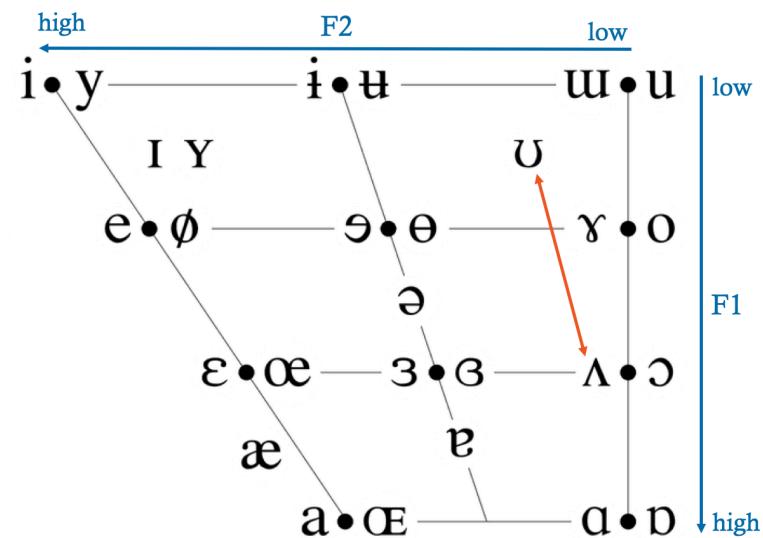


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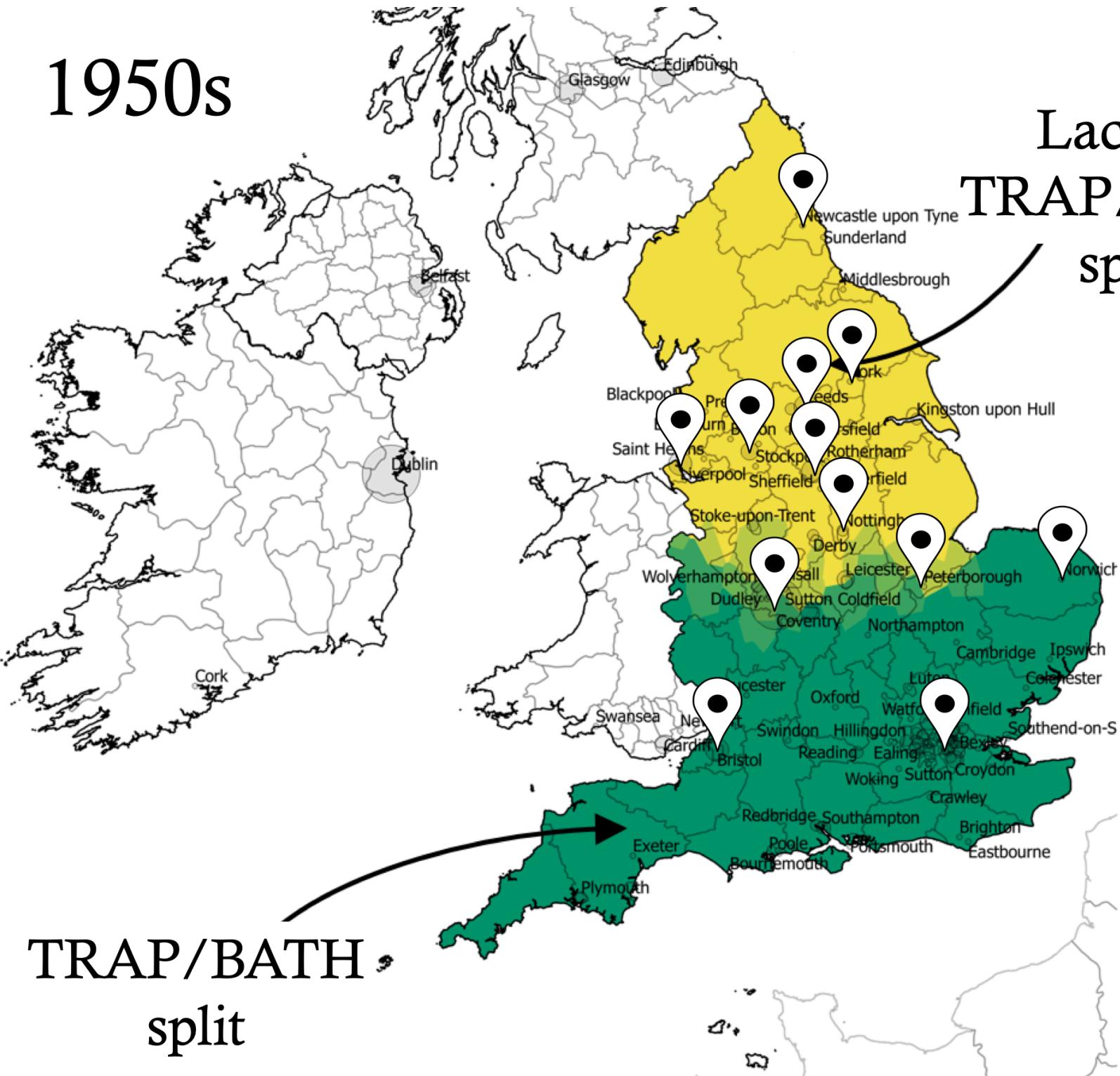


Modelling FOOT/STRUT

- Linear regression on the difference between mean formant values per speaker / vowel (i.e. difference between speaker mean F1z for STRUT and FOOT)
- FOOT/STRUT split is purely geographical: higher distance from London = lower magnitude of split

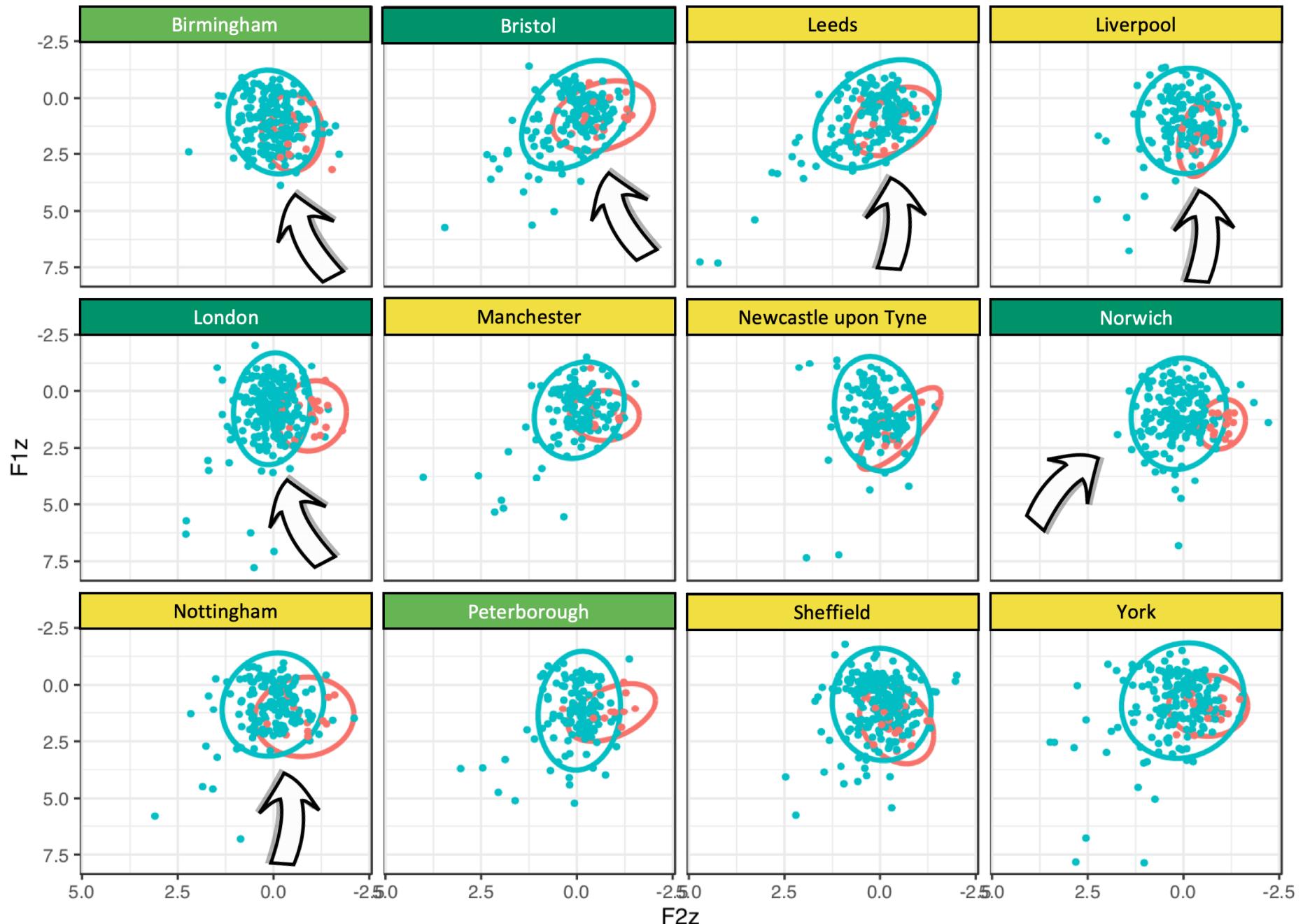


1950s

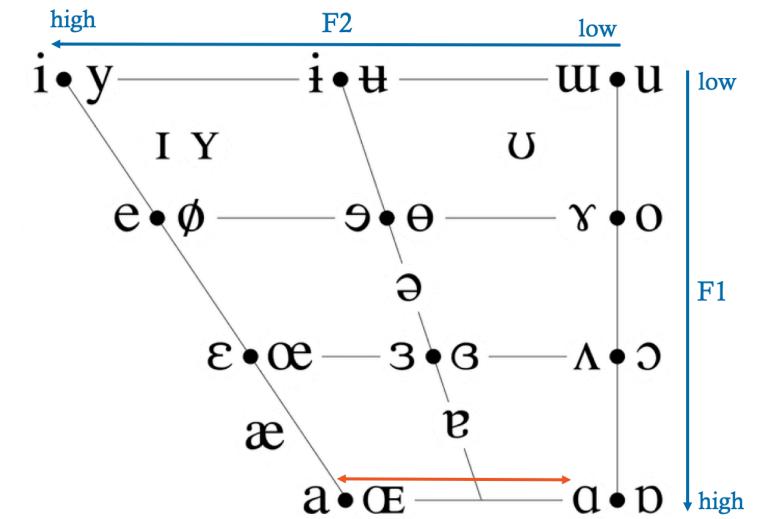
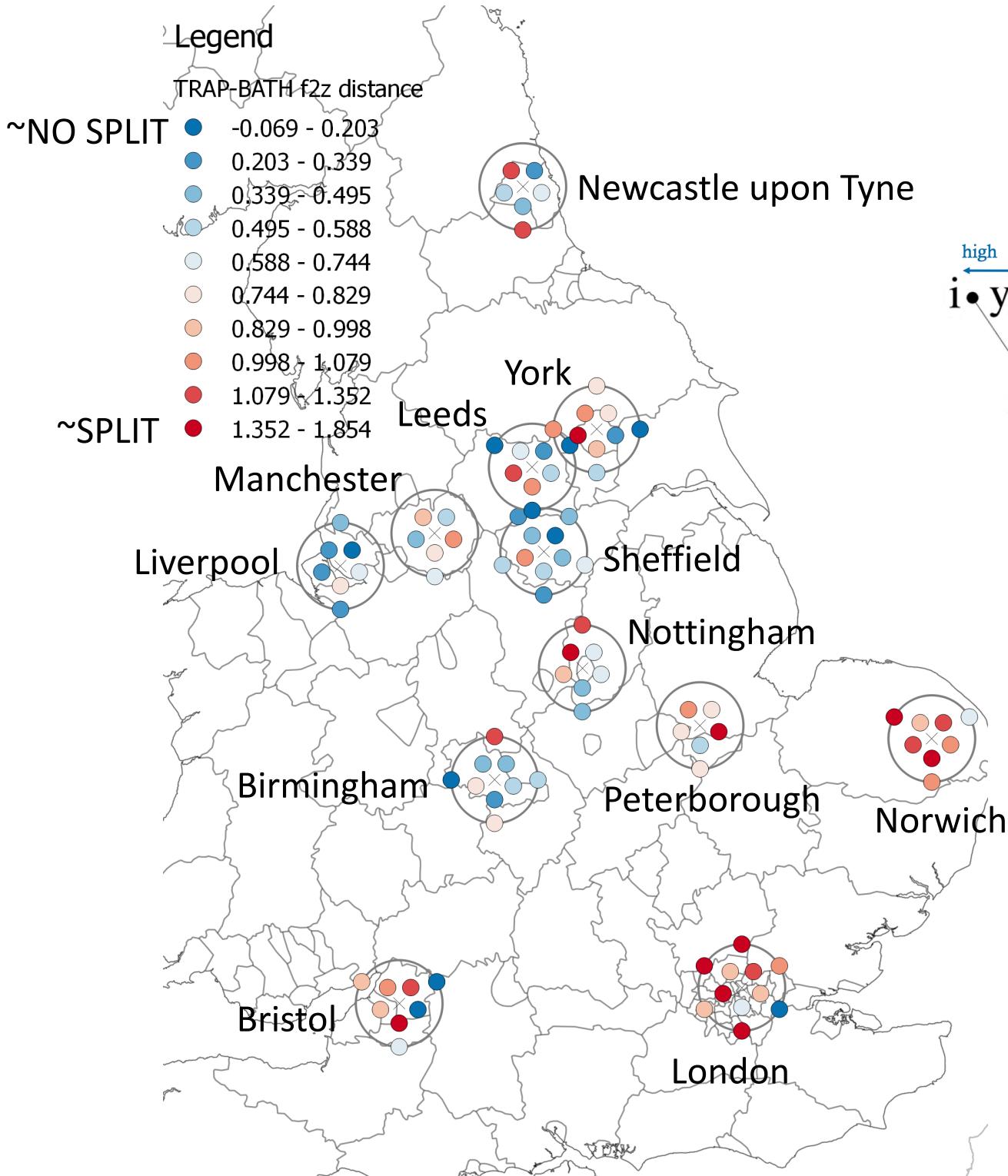


Lack of
TRAP/BATH
split

TRAP/BATH
split

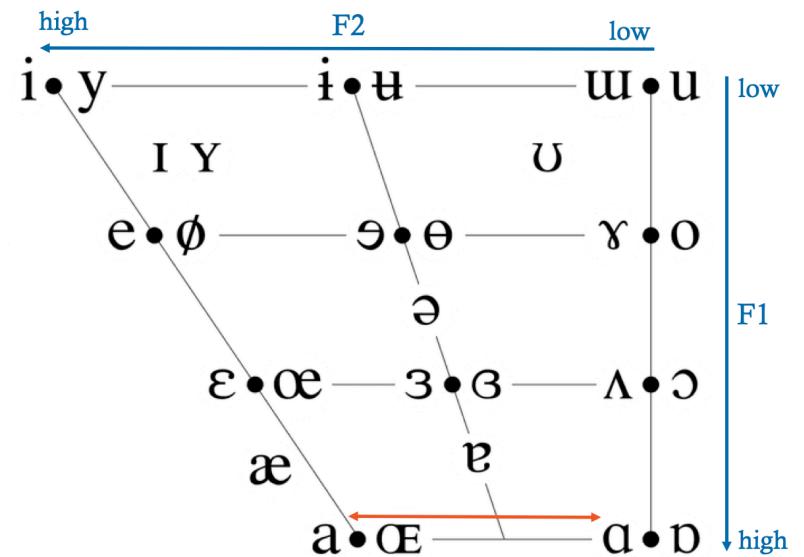


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Modelling TRAP/BATH

- Linear regression on the difference between mean formant values per speaker / vowel (i.e. difference between speaker mean F2z for TRAP and BATH)
- Geography: higher distance from London = lower magnitude of split
- Age: older speakers = lower magnitude of split



Discussion

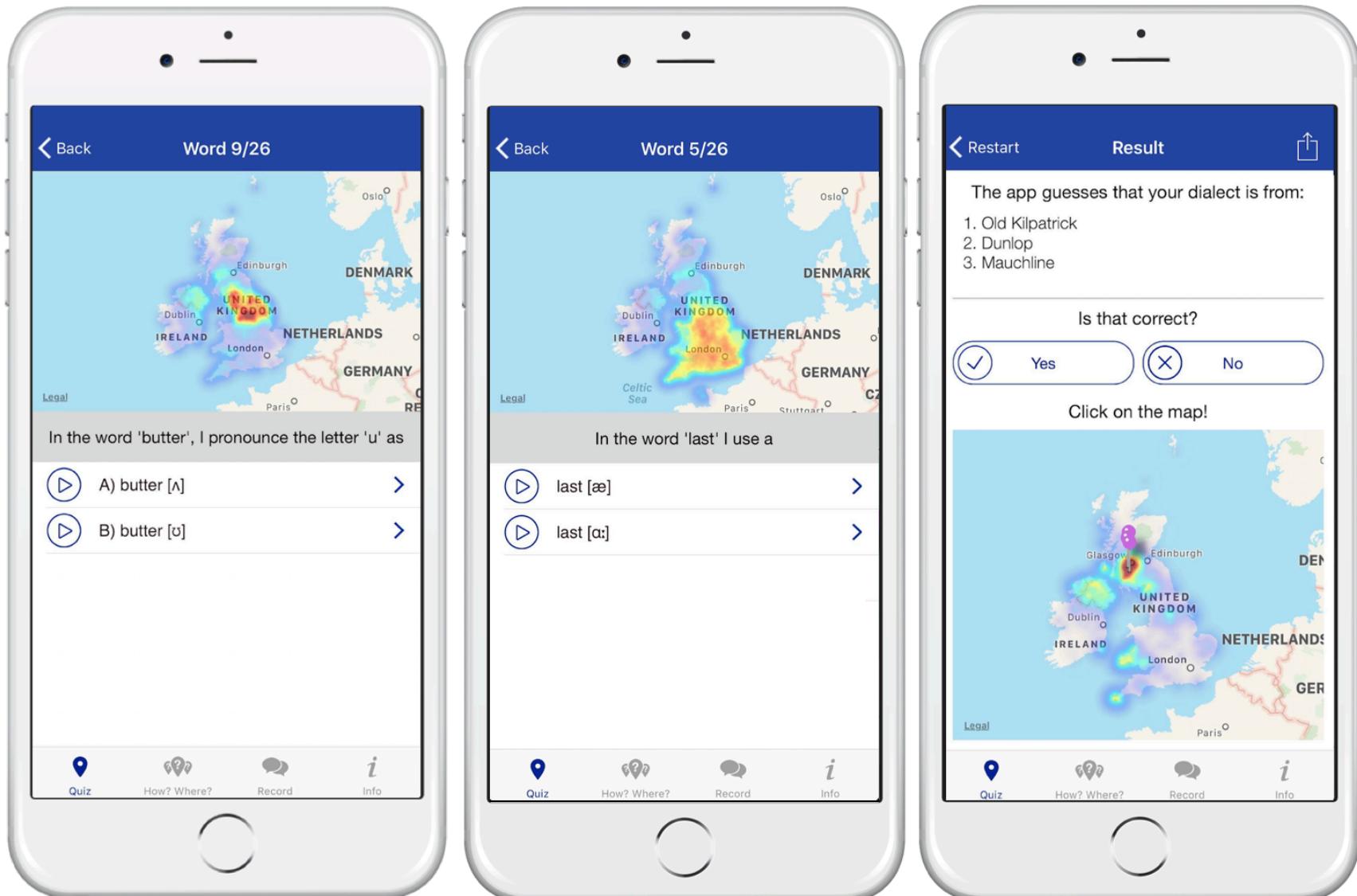
- **FOOT/STRUT**
 - Purely geographical
 - Comparison to historical data:
 - Some ‘fudging’ / ‘mixing’ of STRUT vowels in cities that traditionally show lack of split (e.g. Newcastle, Manchester)
 - Peterborough appears to be heading towards split (vs. SED)
 - Possible reasons for difference:
 - Influence of RP?
(Hughes et al. 2015, Baranowski & Turton 2018, Strycharczuk et al. 2019)
 - Different make-up of sample: app vs. NORMs

Discussion

- **TRAP/BATH**
 - Undergoing change (effect of age; older people show lower magnitude of split)
 - Midlands:
 - Is Nottingham moving towards split? (vs. SED)
 - Is Birmingham moving towards absence of split?
(vs. SED, Thorne 2003); Asprey et al.'s talk right after ☺

Next steps...

Add dialect quiz data ('response data') to the analyses...

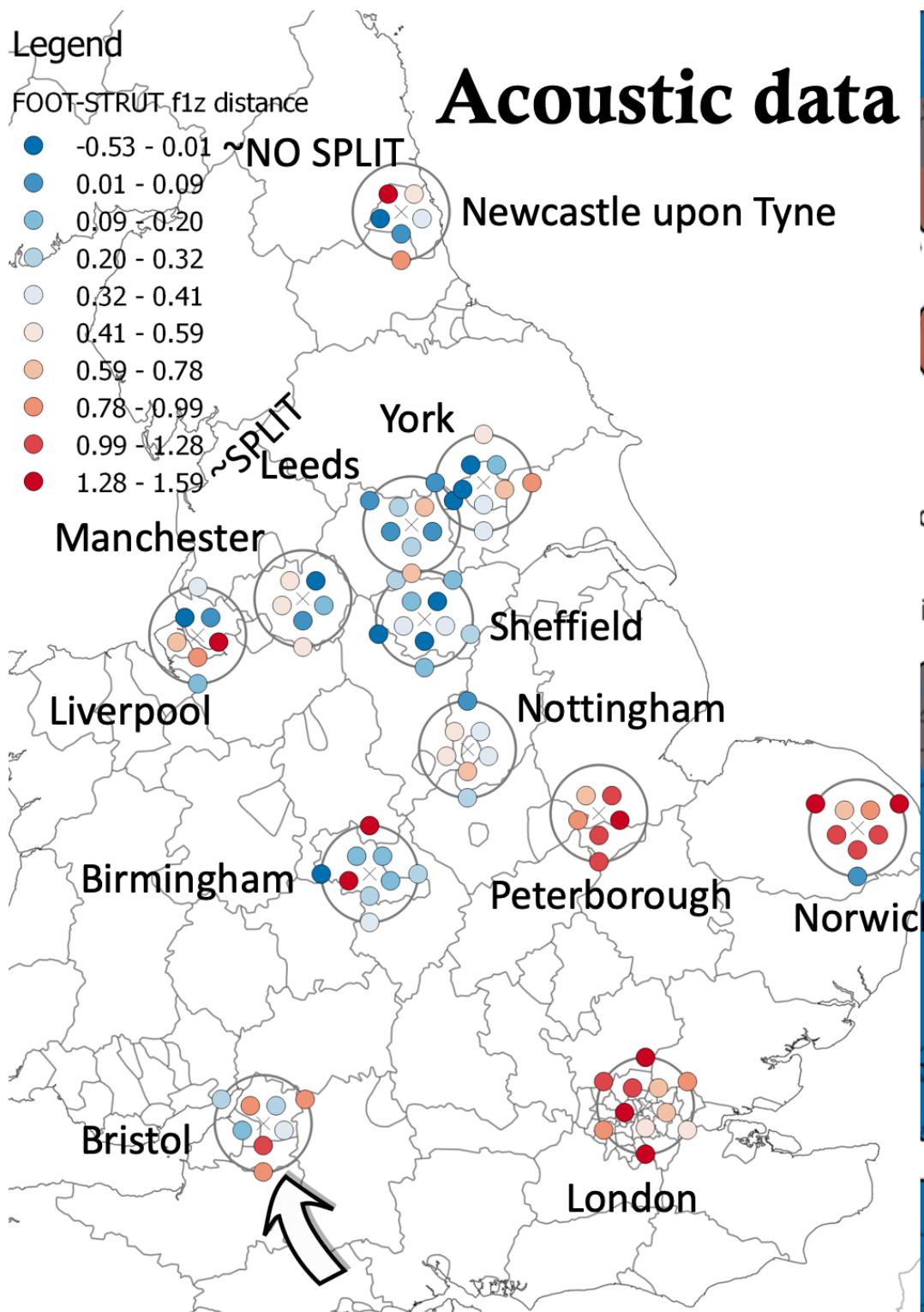


Legend

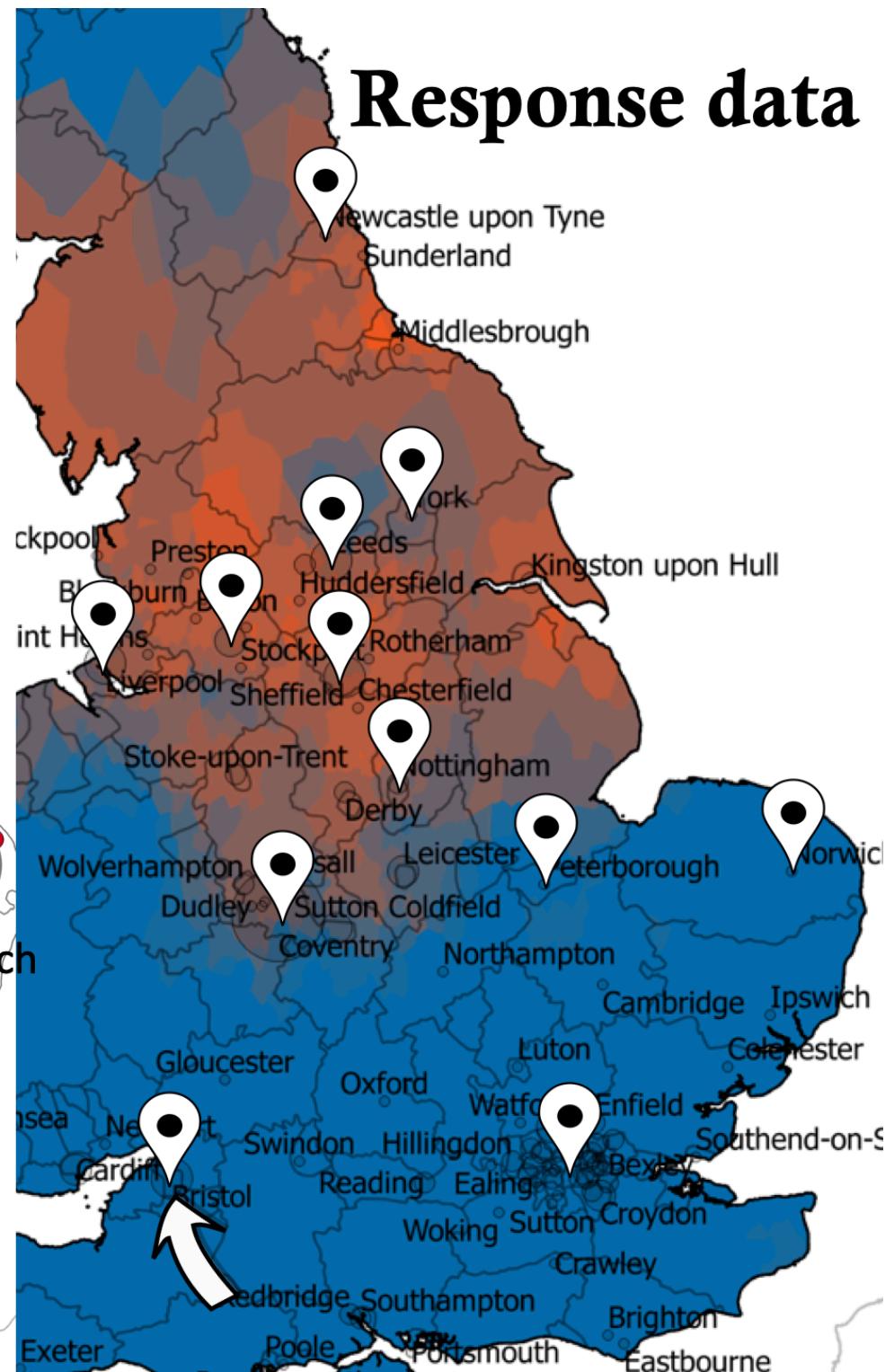
FOOT-STRUT f1z distance

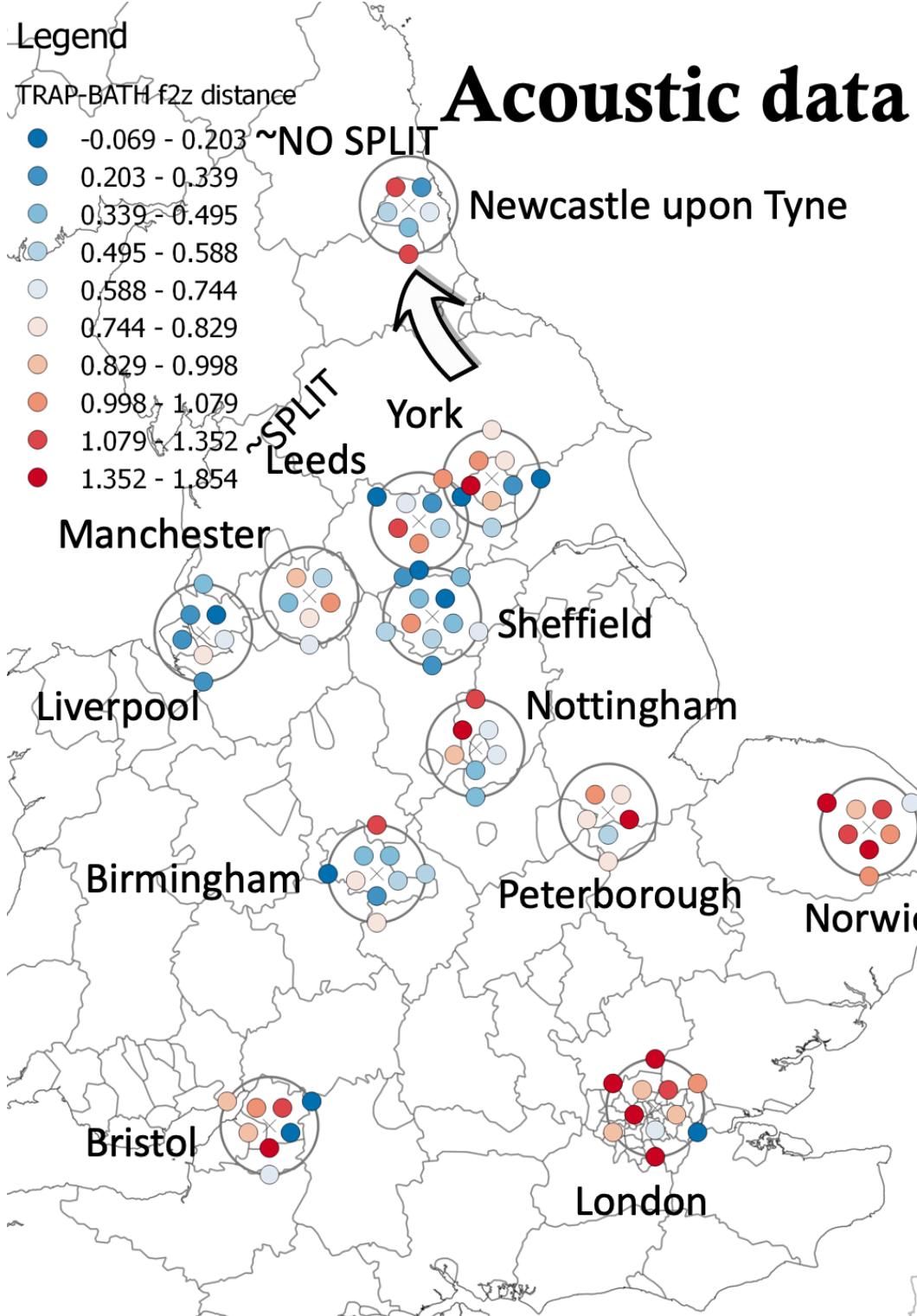
- 0.53 - 0.01 ~NO SPLIT
- 0.01 - 0.09
- 0.09 - 0.20
- 0.20 - 0.32
- 0.32 - 0.41
- 0.41 - 0.59
- 0.59 - 0.78
- 0.78 - 0.99
- 0.99 - 1.28
- 1.28 - 1.59

Acoustic data

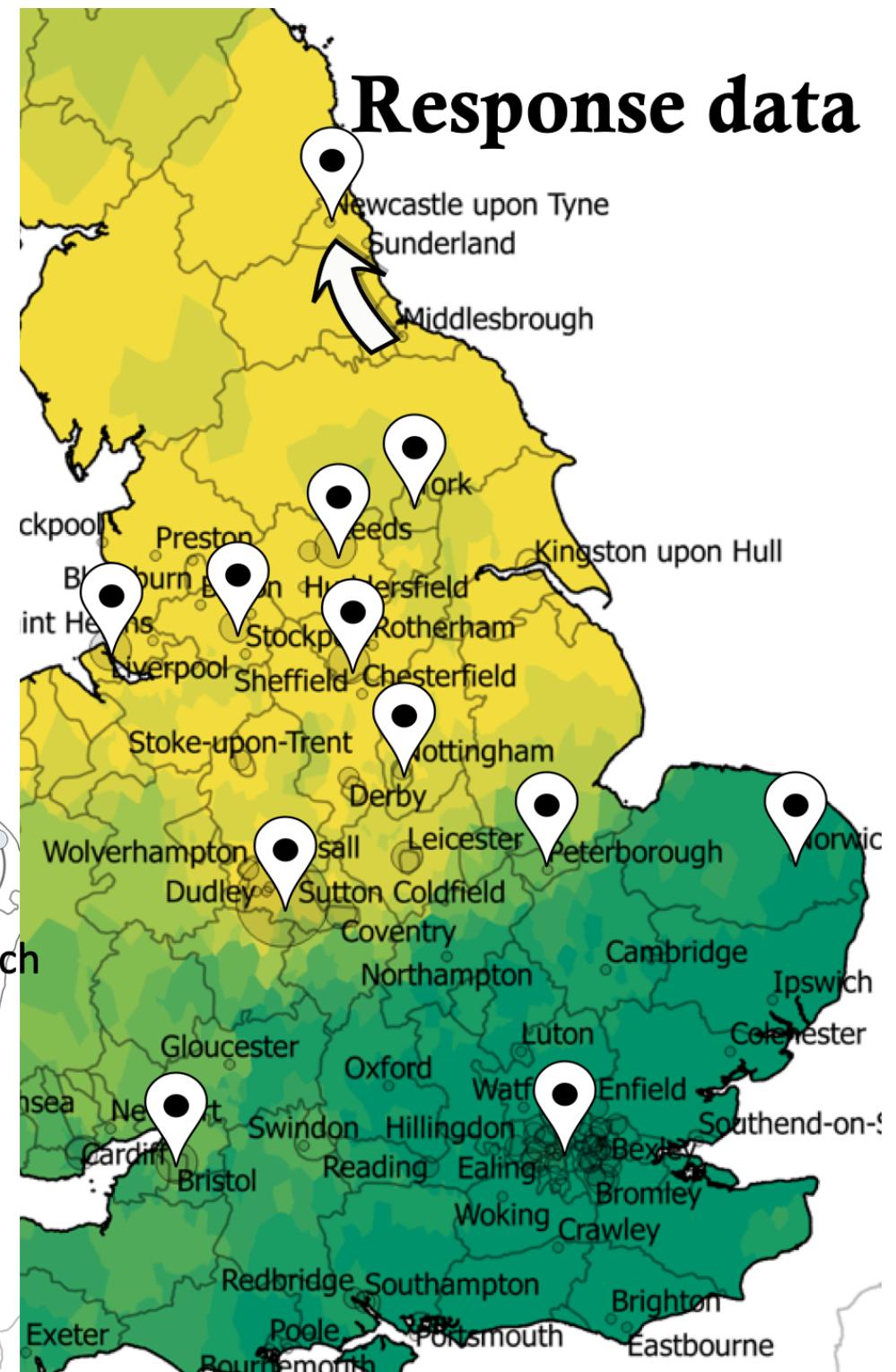


Response data





Acoustic data



References

- Baranowski, M., Turton, D. (2018). The FOOT-STRUT vowels in Manchester: Evidence for the diachronic precursor to the split? *University of Pennsylvania Working Papers in Linguistics* 24 (2), 2.
- Deterding, D. (2006). The North Wind versus a Wolf: short texts for the description and measurement of English pronunciation. *Journal of the International Phonetic Association*, 36 (2), 187-196.
- Hughes, A., Trudgill, P., & Watt, D. (2015). *English accents and dialects: An introduction to social and regional varieties of English in the British Isles*. Routledge.
- Labov, W. (1996). When intuitions fail. In 32nd regional meeting of the Chicago Linguistics Society (Vol. 32, pp. 76-106).
- Leemann, A., Kolly, M. J., & Britain, D. (2018). The English Dialects App: The creation of a crowdsourced dialect corpus. *Ampersand*, 5, 1-17.
- Lobanov, B. M. (1971). Classification of Russian vowels spoken by different speakers. *The Journal of the Acoustical Society of America*, 49(2B), 606-608.
- Orton, H., & Dieth, E. (1962). *Survey of English dialects*. Arnold & Son: Leeds.
- Strycharczuk, P. , G. Brown, A. Leemann, D. Britain (2019). Investigating FOOT-STRUT in Northern Englishes using crowdsourced data. *Proceedings of the ICPHS 2019*.
- Thorne, S. (2003). ‘Birmingham English: a sociolinguistic study.’ Unpublished PhD thesis, University of Birmingham.
- Wells, J. (1982). *Accents of English Volume 2: The British Isles*. Cambridge: Cambridge University Press.