THE FACE OF CHANGE IN ENGLISH DIALECTS: 1950 V 2018

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ABSTRACT

In this case study we examine change in the FACE vowel across England. We used contemporary dialect data from more than 40,000 speakers – collected with the English Dialects smartphone app – and compared them to historical Atlas data from the 1950s. Results revealed substantial leveling tendencies towards Standard Southern British English [ei] – Geordie [iə] and [iɐ], however, appear to resist this change. We further discuss methodological limitations, such as the reliability of collecting response data through smartphone applications. Using this case study as a model, future work using the English Dialects App Corpus aims to reveal further patterns of feature diffusion and dialect leveling in English dialects.

Keywords: sound change, English dialects, dialect levelling, crowdsourcing, dialectology

1. INTRODUCTION

The FACE vowel has been shown to vary across the United Kingdom. In many areas in the South of England and The Midlands, FACE – as defined in Wells' lexical set [25] – has been found to be commonly realised as a wide diphthong, i.e. with substantial tongue movement. Previous, mostly dated studies, have shown, for instance, that [æɪ] is typical in Cockney London English and the West Midlands [8]. [æi] is also commonly found in Sandwell [11] and Norwich [22]. [ɛɪ] has been reported in Bristol [8], Southampton [8] and Derby [5], while [ɛi] was the most popular variant in Leicester [8], Milton Keynes and Reading [26].

Narrow diphthongs, such as [ɐ̟ ɪ] have been found in RP [8], South East London [20] and areas further north including Liverpool [8] and West Wirral [14]. [ei] has been reported to be most common in Manchester [8] and Cardiff [13], while the centring diphthong [ɪə] has been noted in Tyneside [8]. Monophthongal variants have also been documented in a number of cities across Northern England, Scotland and Ireland. [eː] was commonly used in Newcastle [24], Sheffield [18], Bradford [16], Huddersfield [16], Wakefield [3], and in what is termed "mainstream and fashionable Dublin English" [7, 8]. The short monophthong [e] has been reported in Glasgow [19], Edinburgh [4], Belfast (London) Derry [12] and West Yorkshire [6]. [ɛː] was typical in Middlesbrough [8], Bradford [8], Hull [8], Lancashire [8], and Local Dublin English [7, 8]. The short monophthong [ɛ] has also been reported for the words *make* and *take* in Bradford, Hull, Manchester and Lancashire English [8] as well as in the Western Fenland [1].

The descriptions provided in the majority of the literature cited above are based on auditory analysis of recordings collected between the 1970s and the late 1990s and roughly reflect the regional distribution found in the Survey of English Dialects (SED) [15]. Therefore, it is not known if these findings accurately represent the way FACE is realised today. Furthermore, Earnshaw & Gold's [6] recent analysis of FACE in West Yorkshire is the only study to have considered how FACE has changed over time in this region by comparing findings from 1980s to the present day. Consequently, the present study aims to address a gap in the literature by both providing an up-to-date picture of FACE and by comparing this with previous findings to determine how FACE has changed over time.

2. METHODS

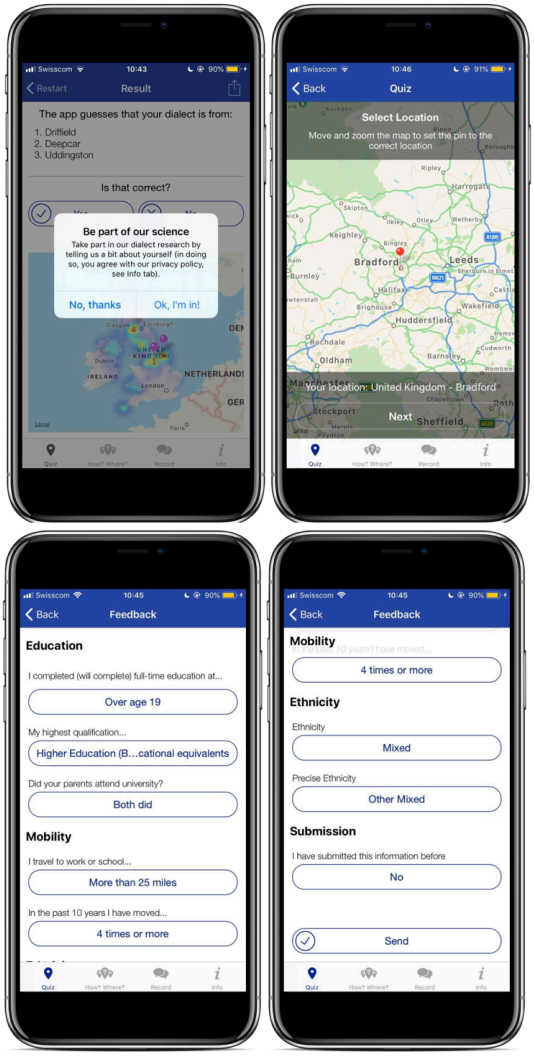
2.1. English Dialects App & Procedures

We use data from the English Dialects App (EDA) corpus [10]. The app's main functionality is the prediction of the user's dialect – which is based on 26 discriminative maps from the Survey of English Dialects [15]. The app prompts users to select their pronunciation variant from a list of each of the 26 variables by tapping on the screen. Variants have IPA transcriptions, when necessary, and are accompanied with sounds for users to listen to (recorded by the third author). See the prompt for 'bacon' (containing the FACE vowel) in Figure 1. When users arrive at the end of the quiz, the app presents a list of five localities that best correspond to the user's dialect. Users can then evaluate the predicted dialect (Figure 2, top left). They are prompted to indicate their correct dialect by placing a pin on a map to the locality that best represents their regional dialect (Figure 2, top right). Users then fill out a questionnaire on mobility behaviour, ethnicity, and educational background and send off their data (Figure 2, bottom left and bottom right). In this

contribution we compare the users' values for FACE, as elicited in 'bacon', to those of the SED.

Figure 1: 'bacon' and its dialectal variants for users to select.

Figure 2: Evaluation of dialect prediction by users.



2.2. Speakers

The corpus consists of data from 46,833 speakers (i.e. users) from the UK, Channel Islands, Isle of Man, and the Republic of Ireland. The speakers come from 41,328 localities, with an average of 1.13 speakers / locality (median = 1 speaker / locality). 47.96% of the speakers are female, 51.90% are male. On average, speakers are 34.93 years old (median=32). In terms of education, 67.35% of speakers have a university degree or equivalent. 94.34% are white, with the next biggest ethnicity group, Asian, representing 2.27% of users. The sample is relatively evenly distributed in terms of mobility: at one end of the spectrum, 26.44% of speakers live in the same house they lived in a decade ago; at the other end, 22.34% of speakers have moved four or more times in the last ten years.

3. RESULTS

3.1. Agreement with Atlas

Figure 3 shows the EDA – SED degree of difference scores: 0 (blue) showing little difference, 100 (red) showing high degree of difference. This was calculated as follows. First, kernel density estimations were calculated from both the SED and EDA data (an interpolation and smoothing method of this type is needed since the survey points for the two datasets are different; for more detail on KDE in dialectology see [2, 17]). Then the absolute differences in the rates of each variant in the two surveys was summed at every point in space and divided by two. This gives a measure where 100% indicates that all usage is of different variants and 0% indicates that all usage is of the same variants in the same proportions.

Figure 3: Degree of difference between EDA and SED.

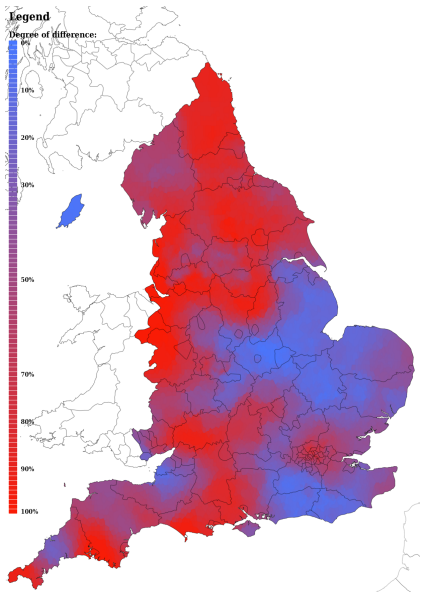


Figure 3 reveals that much of the North, Yorkshire, the West Midlands, the South-West as well as Greater London shows substantial change (red). Much of the East Midlands, East Anglia, the South-East as well as the Isle of Man remains largely unchanged (blue).

3.2. Change in real time

Figure 4 compares SED vs. EDA data (mode response for EDA). EDA (unintentionally) collected data from Scotland, Wales and the Republic of Ireland – while the SED did not, hence the differences between the SED and EDA maps shown below.

Figure 4: SED (bottom) vs EDA (top).

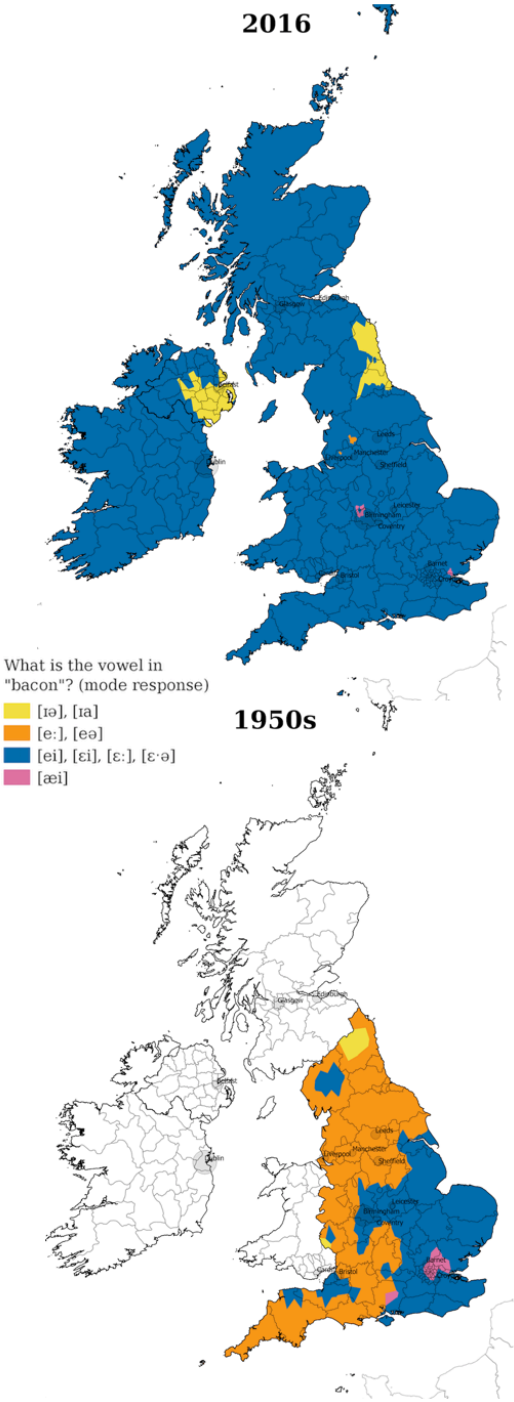


Figure 4 reveals that change in the South-West is more substantial than in the North (especially so in the North-East) – a pattern that appears to be recurring in other variables [10]. Figures 5, 6, and 7 show the relative frequencies for [iə] and [iɐ] (yellow), [eː] and [eə] (orange), and [æi] (pink). In all the patterns shown – here and below – speaker age had relatively little effect on sound change.

Figure 5: SED (left) vs. EDA (right) – relative frequencies for [iə] and [iɐ].

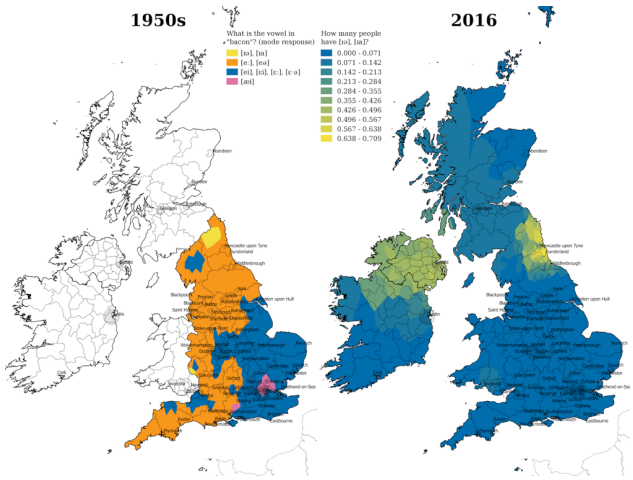


Figure 6: SED (left) vs. EDA (right) – relative frequencies for [eː] and [eə].

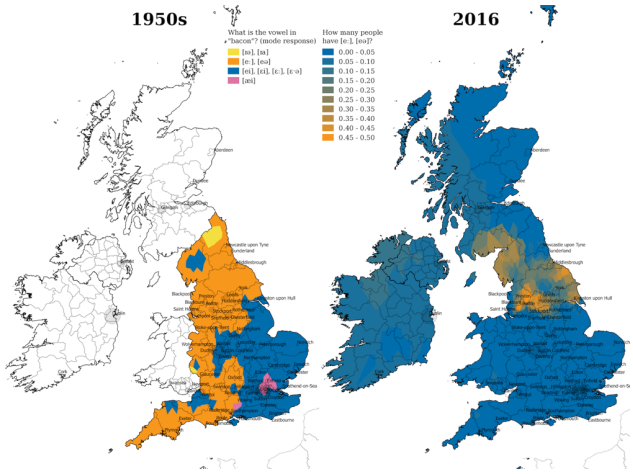


Figure 7: SED (left) vs. EDA (right) – relative frequencies for [æi].

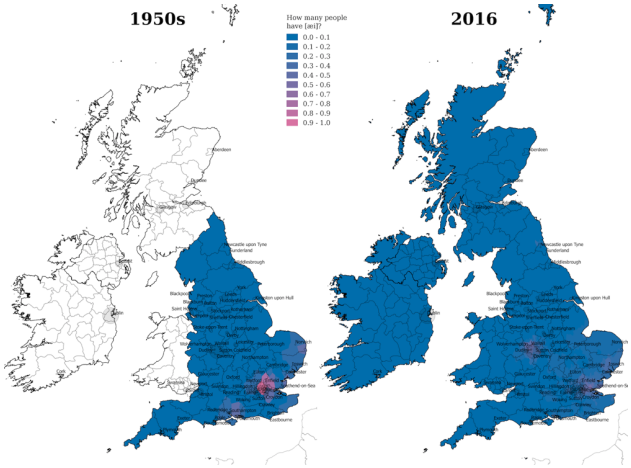


Figure 5 reveals that the region around Newcastle appears to be a special case, whereby even rural regions around Newcastle seem to be taking on the traditional local [iə] and [iɐ] forms. The fate of [eː], cf. Figure 6, and [eə] is very different, as these variants are receding (Yorkshire, Northumberland, and Lancashire) or have fully receded (western Midlands, West Country). Substantial levelling towards Standard-like [ei] – [ɛɪ] is evident in these regions. Figure 7 reveals that Cockney [æi] is still there, but too, appears to be disappearing. Interestingly, however, this form can now be found in the West Midlands (Wolverhampton).

4. DISCUSSION

4.1. Patterns of sound change in FACE

On the surface, our results reveal a case of dramatic dialect levelling: the loss of socially marked or minority linguistic variants in favour of a majority or unmarked one [21], ultimately contributing to a decrease in linguistic diversity. In this case, [eː] in the North and South-West and [æi] in London have lost considerable ground to [ɛɪ], the already dominant form in the South and East, and one common in middle (rather than upper) class standardised accents. Due to the distinct sample structures of the SED and EDA, however, the degree of shift is probably overestimated – the older data come from elderly non-mobile rural men assumed to be users of the most traditional surviving forms of the dialect, while the more recent data are skewed towards more educated, mobile, digital native young adults [10]. The SED presents a somewhat rosy picture of the health of the attriting variants in the 1950s, therefore, and the EDA a 'worst case scenario' for the 2010s. The North-East of England demonstrates considerable resistance to these levelling tendencies, however, with [iə] apparently being used across a wider area in the EDA than in the SED. This is consistent with what we found for other variables, such as the use of clear [l] in postvocalic positions (such as in 'shelf', 'melt'), and the use of the word 'spelk' (instead of, for example, 'splinter') for a piece of wood under the skin. This resistance may be explained both by an especially strong sense of regional identity, as well as a distinct rejection in the North-East of variants indexed as 'Southern' [23].

4.2. Methodological limitations

Aside from the skewed sampling of EDA briefly mentioned in 4.1, there are three more technical methodological limitations that need addressing, mostly to do with the reference material (SED). Firstly, at this stage, we have only compared FACE in the EDA as represented in 'bacon' to 'bacon' in the SED. A closer look at the SED data reveals, however, that there is substantial intra-speaker variation in FACE depending on the word in question (including 'clay', 'gable', and 'whey'). Looking at the FACE vowel in these words suggests that using only 'bacon' as a reference point slightly under-represents [æi] in the South-East, substantially under-represents [æi] in the South-West, under-represents [ɪa] in the North-East, substantially under-represents [ɪa] in the West Midlands, and over-represents [ɪa] in the South-West. Future work will need to compare EDA FACE data to SED FACE realisations across multiple words.

Secondly, the groupings of phones into variants used in the EDA diminishes confidence in our results to some degree. Given a forced choice between recordings of [eː], [ɛi], [æi] and [ɪə], what will speakers with [ɛː], [eə], [ɪa], [ia], [ɛə], [eɪ] etc. choose? Might the centring offglide be very salient, so that speakers with [ɛə] and [eə] are more likely to choose [ɪə]? It is further unclear whether speakers with [ɛː] are likely to choose [ɛɪ] rather than [eː]. This grouping of phones into variants will need to be tested with speakers using these different variants.

Finally, when selecting their variant, users are essentially performing a perception task: an intuition test where they select their variant by listening to recordings (cf. §2.1). We are currently testing listeners' discrimination ability using the sound files embedded in the app. A first pilot revealed that 74% of the people could accurately discriminate glottalised variants, 91.2% could discriminate th-fronted variants, and 97.1% could discriminate velarised variants [9]. The same test will need to be conducted on the FACE vowel variants used in the app.

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