

MAP YOUR VOICE: A USER-GENERATED ARCHIVE OF ENGLISH ACCENTS

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Comparative phonology

Among the 150 million items in the British Library collections are 3.5 million recordings of music, broadcasts, environmental sounds and spoken word recordings. The latter include significant examples of languages, accents and dialects, used in particular by researchers, teachers and actors. Some of the recordings are recitations by different speakers reading out prescribed texts, a practice that enables linguists and phoneticists to easily compare one recording with another. One of the earliest standardised texts used in this way is the *Parable of the Prodigal Son* from the New Testament gospels. This biblical passage forms the basis of part of a collection of recordings (of which the British Library holds a copy) deposited in the Berliner Lautarkiv at Humboldt University, of British prisoners of war in captivity speaking in their natural accents and dialects¹¹. The recordings, made between 1915 and 1918, are possibly the oldest linguistic utterances by ordinary speakers to be preserved. The *Prodigal Son* text was also used in another collection held at the Library, the 1913-29 *Linguistic Survey of India*. The academic value of this particular text derives from the fact that it permits a comparative analysis of several grammatical features such as personal pronouns, noun declensions and present, past and future tenses.

The British Library has been making available some of these dialect and accent recordings online for research and educational uses. Our *Sounds Familiar?* accents and dialects map¹² plots the geographic location of recordings that reveal variations in the pronunciation and vocabulary of speakers around the United Kingdom. Schools in Britain are invited to add their own contributions to the project. The *Sounds Familiar?* contributions use a different standardised text, a passage from *Mr. Tickle*, published in 1971 by Roger Hargreaves (1935-1988), an English author of children's books. *Mr. Tickle*, the first book in the *Mr. Men* series, was written when the author's six-year old son asked "What does a tickle look like?"

*"It was a warm, sunny morning. In his small house at the other side of the wood Mr Tickle was asleep.
You didn't know there was such a thing as a Tickle, did you?
Well, there is! Tickers are small and round and have arms that stretch and stretch and stretch. Extraordinary long arms!
Mr Tickle was fast asleep. He was having a dream..."*

The *Mr. Tickle* extract takes about five minutes to read. It has words and phrases that are easily recited by any speaker of English including young and non-native speakers and it encourages a relaxed style of delivery. Its academic interest lies in the fact that it happens to encompass most of the 24 lexical sets used in spoken English as identified by phoneticist John Wells (Wells, 1982). Each set is identified by a single keyword that refers to groups of words with the same vowel sound. For example, pronunciation of the word *bath* has a clear north-south divide in England, being pronounced with a long [a:] as in *cart* in southern England, while in the north of the country it is spoken with a short [æ] as in *cat* (Robinson, 2010). Some other examples of lexical sets are given in Figure 1.

11 Available online at: <http://sounds.bl.uk/Browse.aspx?category=Accents-and-dialects&collection=Berliner-Lautarkiv-British-and-Commonwealth-recordings>

12 www.bl.uk/learning/langlit/sounds/index.html

Lexical set**LOT****FOOT****FLEECE****BATH****Example in *Mr Tickle***

on, long, what, washed, somebody, stop, shop, doctor, dropped wood, took, looked, looking, could, stood, couldn't, butcher, pushes asleep, he, dream, reached, teacher, see, policeman, greengrocer past, fast, laugh, after, path, classroom, chance

Figure 1. Four of the lexical sets used in the *Mr Tickle* text

Objectives and methods

Map Your Voice ran from December 2010 to April 2011, while the British Library hosted a five-month exhibition, *Evolving English*, which examined the development of written and spoken forms of English over the centuries. Complementary to the online Map Your Voice project, the exhibition contained recording booths where visitors could record their accents. Over 14,000 examples were recorded in the booths by visitors to the Library's exhibition in London. The aims of the Map Your Voice project were to expand an existing set of recordings already in the British Library's collections by capturing new samples of *Mr Tickle* and other texts including from speakers beyond the UK and of all ages besides those of school ages.

Our methods used the online crowdsourcing techniques successfully deployed in a parallel British Library sound project, the *UK Soundmap* (Ranft 2011), that ran from June 2010 to June 2011 and aggregated from 390 different contributors over 2,200 samples of environmental sounds around the UK. We used Facebook, Twitter, blogs and other social media to generate and sustain interest in the *Soundmap*, winner of a UK social media award for innovation. Contributors primarily used mobile phones as recording devices using the free Audioboo¹³ application for iPhone and Android phones, or via Audioboo's website on a standard computer. The mobile Audioboo app automatically captures the recording location, time and date and allows users to add tags, titles and photographs. Combined with the audio file, we used these are to auto-generate a Google map mashup of recordings. That project took advantage of several trends: the ubiquity of mobile phones that have improved audio recording capabilities (there are more mobile phones in UK than the population); the fact that their owners carry their mobiles everywhere; and an ever-growing number of Audioboo users (who have created nearly 0.5 million sound recordings). We were able to tap in to this large active community of sound recordists, using the workflow for acquiring and archiving the Audioboo recordings described in Ranft (2011).

The *UK Soundmap* project successfully encouraged the capture of a new collection of a wide variety of everyday sounds, whether the sounds of nature, urban transport, street sounds or other public spaces, that together give an impression of Britain's sonic environment in the early 21st century, as chosen by contributing participants. For the *Map Your Voice* project, on the other hand, we needed to build on existing research collections of *Mr Tickle* recitations and other controlled vocabularies to improve the possibility of direct comparison between recordings, and by collating recordings worldwide. Each contributor was asked to tag their recording with the name of the place or region where they were brought up, their year of birth and their gender.

Interest in the project was triggered using conventional press and publicity methods coupled to the Library's complementary exhibition. It quickly generated considerable interest with many articles and media coverage, for example on BBC national radio stations¹⁴.

¹³ <http://audioboo.fm>

¹⁴ For example: www.bbc.co.uk/news/uk-11640951

Results

1,500 recordings were contributed to *Map Your Voice* in five months, via mobile phones and web browsers, primarily from North America and Western Europe with smaller numbers from Africa, Asia, Australasia and Latin America. We rejected 25% of the recordings offered. The reasons for rejection included the absence of location information, poor audio quality, or deviation from the prescribed text. The results were added automatically to a public website where contributors and anyone with an interest can play the sounds directly from an interactive map interface¹⁵ (Figure 2). Due to the large number of map points, we used Google fusion tables to create the map code rather than the standard Google map API that causes web page code bloat with many map points. The original audio files and metadata are being added to the British Library's collections and will be accessible permanently via a map interface on the Library's website at www.bl.uk/sound



Figure 2. The Map Your Voice interactive map

As an alternative to the *Mr. Tickle* text, contributors were also invited to recite a short sequence of six words: controversy, garage, neither, scone, schedule, attitude. These words were selected as they have known variations on a regional and global scale. Preliminary results from a random sample of 60 North American and 60 United Kingdom and Ireland contributors already have shown interesting patterns in the pronunciation of these words. For example the word *controversy* is pronounced CONtroVersy in the United States, whereas two thirds of UK and Ireland speakers say conTROVersy, stressing the second rather than the first syllable. Another example is the word *neither*, pronounced in one of two ways, with 75% of US speakers preferring *nee*-ther, 25% saying *nye*-ther. Across the Atlantic, UK and Ireland speakers in the sample showed a 50:50 split in the choice of pronunciation (Robinson 2011) (Figure 3).

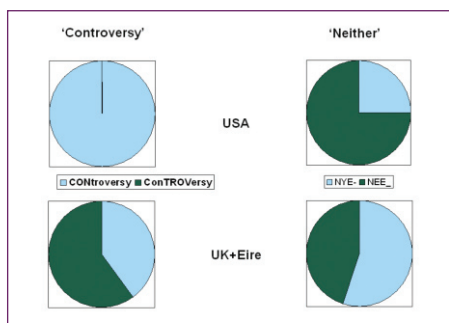


Figure 3. Pronunciations of controversy and neither

15 www.bl.uk/evolvingenglish/maplisten.html

Challenges

Several issues were addressed during project planning and assessing the results:

1. **Moderation:** the necessity for moderating contributions before publication to eliminate content with deliberate or inadvertent capture of copyrighted audio, defamatory words or obscenities. Moderating the sounds and giving prompt feedback to each contributor was the most time consuming part of the project.
2. **Sampling Bias:** compared to the general population, contributors tend to have a clear geographic and socioeconomic bias (middle class, metropolitan, British-born, familiar with IT and ownership of expensive smartphones). This caused a skewed representation of accents.
3. **Audio Quality:** the mobile phone recording quality is very variable, depending on the mobile phone type and the way it is used by contributors who may be relatively inexperienced as sound recordists.
4. **Metadata Quality:** the amount of user-generated accompanying information was the minimum to enable scholarly use of the aggregated recordings. More data would enhance the quality of the data but reduce the number of contributions.
5. **Map Interface:** The map positions shown on the public map at the time of the project showed the locations of the recordings, not necessarily the same as the locations of the dialects spoken. This caused confusion with many contributors and listeners.
6. **Authenticity:** a further consideration was that some users, rather than reading in their usual voice, would 'rise to the occasion' as if performing on stage or radio broadcast.

Conclusions

The process of making and uploading recordings for the collection website was largely managed by contributors, however manual filtering by the Library staff of the recordings was still essential for quality control. Library staff completed the process of archiving the audio files and importing the user-generated metadata into our catalogue. The metadata and audio quality was good enough to give a broad overview of regional variations and provide valuable examples for illustrating these. Their potential for more rigorous analysis will be limited by amount of metadata and variability in audio quality. Future projects could use a specially developed upload interface to ensure more controlled metadata and a higher audio quality level.

Nevertheless, Map Your Voice quickly showed its worth. It was simple to implement and cost effective. The research and educational value of the newly acquired recordings is proven; for example, samples of recordings are already being used by Sheffield University staff for their linguistics courses. Both the subject matter and the project methodology generated considerable interest and help to raise the profile of the sound collections at the British Library: the website alone received over 150,000 unique visits within five months. We could not have gathered such a data set any other way, and we hope to raise funding for a continuation of the survey in future. Other archives are encouraged to use this new technique in their own countries for the online acquisition of recordings submitted by volunteers.

Acknowledgements

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