

The role of fine phonetic variation in sound change: A real-time study of Glaswegian

Aims and objectives

English spelling shows clearly that sound change has taken place in the past, think how we now pronounce *knife* or *night*. Most people also recognize that older and younger speakers sound different. This fine-grained phonetic variability, much below the level of awareness, is a prerequisite for sound change, but there have been surprisingly few studies actually charting sound change.

This project aimed to build a corpus of the distinctive urban dialect of Glasgow, a community known to have experienced substantial demographic change over the 20th century. We intended to harness recent technological advances from two fields, phonetics and statistics, to discover how and why sounds have changed in this variety. We also expected to have to meet technical challenges arising from working with historical recordings from different sources.

Broad findings and conclusions

We have built a digital spoken corpus of Glaswegian, of over 700,000 words, from 142 speakers, recorded over four decades (from the 1970s to the 2000s) and across three generations (older, middle-aged, adolescent), and unexpectedly, six young men from 1916/17. We analysed a large number of vowels and consonants, using the latest phonetic and statistical techniques. Our main findings are:

- Most of the sounds that we examined are subtly changing, even those we expected to be stable
- The particular linguistic context of a sound can influence sound change, e.g. its position in a word in a phrase
- Different ways of talking do not appear to affect sound change
- Several changes seem more closely related to the First World War than to the urban regeneration of the mid-20th century
- Despite substantial mobility over the 20th century in the UK, the direction of sound change in Glasgow is *not* towards Anglo-English
- Patterns of sound change look similar for vowels and consonants

Type of publication resulting

Our research has been presented at 17 international meetings, and in written journal papers and book chapters (6 in print/in press; 4 in preparation). The corpus provides a long-term resource for national and international researchers beyond our project. Our website (<http://soundsofthecity.arts.gla.ac.uk/>) also offers an open-access resource with stories, quizzes, activities and background information to share our findings in an accessible way for the general public, which is also directly useful for those working with the Scottish Curriculum for Excellence.

Strengths and weaknesses of research

We found good solutions for technical problems caused by digitization, background noise and recording quality. The unexpected facility to automatically segment our speech recordings was a tremendous boost to the speed and volume of our work, and enabled us to collaborate with internationally-recognized researchers to implement sophisticated automated analysis procedures for robust statistical analysis. Overall we felt the project to be very successful. At the same time, we were disappointed by the difficulty in locating recordings for some age groups for the 1980s. We had also expected to find an impact of word use on sound change, and more variation in individual speakers; both issues are being pursued in our current research.