

## Sociophonetic variation in /t/ in Australian Englishes spoken in two towns in Victoria, Australia

Debbie Loakes<sup>1</sup>, Kirsty McDougall<sup>2</sup> and Adele Gregory<sup>1</sup>  
<sup>1</sup>The University of Melbourne, <sup>2</sup>University of Cambridge  
<sup>1</sup>{dloakes|adele.gregory}@unimelb.edu.au, <sup>2</sup>kem37@cam.ac.uk

Until recently, research on the phonetic characteristics of Australian English has mostly concerned the ‘mainstream’ variety (Mainstream Australian English, MAE) which is predominantly spoken by speakers of Anglo-Celtic background. Aboriginal Australian English (AAE) is a separate variety which has developed among Australian Indigenous communities and exhibits differences from MAE in its sound system, grammar, lexicon and pragmatics (Dickson 2020, Butcher 2008, Malcolm 2008).

Research on the realization of /t/ in MAE has demonstrated sociophonetic variation relating to factors such as regional location, sex, and socioeconomic status (e.g. Horvath 1985, Tollfree 2001, Loakes and McDougall 2009, Docherty et al. 2018, Penney et al. 2020, Ingram 1989, Tait and Tabain 2016). Much less is known about /t/ in AAE, with auditory-acoustic work limited to two studies. Mailhammer et al.’s (2020) study of stops in Croker Island AAE found differences between AAE and MAE in Voice Termination Time, and greater variation in /t/ production in AAE. For example, Aboriginal English stops were realized with passive phonetic voicing, contributing to a percept of voicing in the phonologically voiceless stop series. Loakes et al. (2018) compared /t/ in AAE and MAE for speakers living in Warrnambool, Victoria, and found greater range of /t/ variants in AAE, including more ‘glottal’ variants (full glottal stops, pre-glottalised stops, ejectives), compared with MAE, where ‘breathy variants’ (affricates, fricatives) were preferred. The present research (see also Loakes et al. 2022) extends the authors’ study of Warrnambool to a second town, Mildura, to provide a study of AAE and MAE in two regional Victorian towns.

Speech data produced by 24 AAE speakers (Warrnambool: 13, Mildura: 11) and 28 MAE speakers (Warrnambool: 15, Mildura: 13), in two age groups (18-39 and 40-72 years), balanced for gender, was analysed. Speakers had undertaken a Labovian-style elicitation task including spontaneous and read speech. The present study analyses controlled sentences containing /hVt/ or /hVtə/ words. /t/ tokens were categorised manually in *Praat* using auditory and acoustic profiling implementing the taxonomy of variants established in Loakes et al. (2018).

Results show strong sociophonetic patterning, with marked differences between AAE and MAE. The variants observed (canonical plosive, affricate, fricative, ‘intermediate’ (Jones and McDougall 2009), tap, approximant, pre-glottalised, glottal and ejective) were all present in both varieties, but MAE speakers favoured canonical plosives, fricative and ‘intermediate’ variants, while AAE speakers used more ejectives, pre-glottalised stops, glottal stops and taps, and showed greater variability overall. Region-own-, age-, and to a lesser extent gender-based patterns were also evident. The results will be discussed in terms of a possible link with voice quality and glottal timing (cf. Garellek 2022).

## References

- Butcher, A. (2008) Linguistic aspects of Australian Aboriginal English. *Clinical Linguistics & Phonetics* 22(8): 625-642.
- Dickson, G. (2020) Aboriginal English(es). In L. Willoughby & H. Manns (Eds.), *Australian English Reimagined: Structure, Features and Developments*. London: Routledge. 134-154.
- Docherty, G., Foulkes, P. González, S. and Mitchell, N. (2018) Missed connections at the junction of sociolinguistics and speech processing. *Topics in Cognitive Science* 10: 1-16.
- Garellek, M. (2022) Theoretical achievements of phonetics in the 21st century: phonetics of voice quality. *Journal of Phonetics* 94: 101155.
- Horvath, B. M. (1985) *Variation in Australian English: The Sociolects of Sydney*. Cambridge: Cambridge University Press.
- Ingram, J. C. L. (1989) Connected speech processes in Australian English. *Australian Journal of Linguistics* 9: 1-49.
- Jones, M. J. and McDougall, K. (2009) The acoustic character of fricated /t/ in Australian English: a comparison with /s/ and /ʃ/. *Journal of the International Phonetic Association*: 39(3), 265-289.
- Malcolm, I. (2008) Australian creoles and Aboriginal English: phonetics and phonology. In K. Burridge & B. Kortmann (Eds.), *Varieties of English 3: The Pacific and Australasia*. Berlin: De Gruyter Mouton. 124-141.
- Loakes, D. and McDougall, K. (2010) Individual variation in the frication of voiceless plosives: a study of Australian English speaking twins. *Australian Journal of Linguistics* 30(2): 155-181.
- Loakes, D., McDougall, K., Clothier, J., Hajek, J. and Fletcher, J. (2018) Sociophonetic variability of post-vocalic /t/ in Aboriginal and mainstream Australian English. *Proceedings of the Seventeenth Australasian International Conference on Speech Science and Technology*, Sydney, 5-8. [https://assta.org/proceedings/sst/SST-2018/SST\\_2018\\_Proceedings\\_Rev\\_A\\_IDX.pdf](https://assta.org/proceedings/sst/SST-2018/SST_2018_Proceedings_Rev_A_IDX.pdf)
- Loakes, D., McDougall, K. and Gregory, A. (2022) 'Variation in /t/ in Aboriginal and Mainstream Australian Englishes.' In R. Billington (ed.) *Proceedings of the 18th Australasian International Conference on Speech Science and Technology*, 13-16 December 2022, Australasian Speech Science and Technology Association, Canberra, Australia, 61-65. <https://sst2022.files.wordpress.com/2022/12/loakes-et-al-2022-variation-in-t-in-aboriginal-and-mainstream-australian-englishes.pdf>
- Penney, J., Cox, F. and Szakay, A. (2020) Links between production and perception of glottalisation in individual Australian English speaker/listeners. In *Proceedings of Interspeech 2020, the 21st Annual Conference of the International Speech Communication Association*, 3750-3754.
- Tait, C. and Tabain, M. (2016) *Patterns of gender variation in the speech of primary school-aged children in Australian English: the case of /p t k/*. Paper presented at the Proceedings of the Sixteenth Australasian International Conference on Speech Science and Technology, Parramatta.
- Tollfree, L. (2001) Variation and change in Australian English consonants: reduction of /t/. In D. Blair & P. Collins (Eds.), *English in Australia*. Amsterdam: John Benjamins. 45-67.