Simulating language change in Tswana

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This study describes the influence of socio-political changes in the South African phylum on the current shape of Tswana, a Bantu language of the Sotho group. Tswana has phonetically marked post-nasal devoicing which has been described in detail by Zsiga et al. (2006) and Coetzee & Pretorius (2010). It has been well-documented that post-nasal devoicing (/mb/ → [mp]) is a phonetically unintuitive phenomenon which costs more articulatory effort than producing sequences of nasals followed by voiced stops (Wesbury & Keating, 1984). We use simulations based on Social Impact Theory (Nettle, 1999). In particular, we model social dynamics of Tswana speakers by assigning them either to *small world* (parochial) communication networks or *whole world* intensive code switching networks typical of the present linguistic situation in SA. With our in-house instantiation of Wedel’s (2004) exemplar model, we examine the behavior of contrasting voicing realizations across speakers. The model simulates emergence and maintenance of contrast in the context of speaker/hearer interactions. Exemplar-based categories compete for assignment and storage of incoming percepts and the production process is biased towards gesture re-use. By employing this model, we can ascertain, via simulation, how the contrasting realizations can emerge and stabilize within a generation, inspect the selection processes which yield these realizations, and examine the acoustic changes which bring about the contrast.

**References:** 