Tone contrasts and speaking rate in Shona: a production study

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Studies on the production and perception of tones in Asian languages (Xu 2008) have shown that time is an important variable in tone contrast, especially peak timing and dynamic pitch changes. The present study aims to describe timing effects in the production of lexical tone contrasts (High vs Low) in Shona (Bantu, S10). Bisyllabic tonal minimal pairs (e.g. gomba(LL) "adulterer" vs gomba(LH) "hole in ground") were produced in context by one male speaker in different conditions: 1) reading passage (three rates: slow, normal, fast), 2) prompted free speech and 3) free speech (in a game playing setting). Tokens were analyzed for syllable duration, position of F0 peaks and pitch slope. Each minimal pair was compared to identify how 1) they contrasted and 2) their contrastive features were affected by speech conditions like speaking rate. Preliminary results show that peak location and magnitude distinguish members of tonal minimal pairs, and that speaking rate tends to minimize contrasts based on F0 peaks, thus making dynamic pitch changes the principal cue to tone.