

Japanese articulatory setting: the tongue, lips and jaw

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Recent work on articulatory setting (AS), a language's underlying or default setting of the articulators, has confirmed that some aspects of AS are indeed language specific (Gick et al., 2004; Wilson, 2006). However, research to date on AS has been limited to English and French. The present study extends this research to the Japanese language and compares the Japanese AS to those of English and French. A Vicon MX460 motion capture system records head, lip, jaw, and probe movement, while ultrasound records tongue movement. Japanese data are provided by 20 native speakers in an intentionally monolingual Japanese data collection environment. Subjects are seated on a stool with their heads leaning against a wall and with the ultrasound probe on a tabletop microphone stand. Stimuli consist of 120 sentences (about 10 minutes) for each of the 20 subjects. The rest position of the articulators between sentences is used to measure AS. Analysis, including correction for head movement, is done using MATLAB image processing software. Results will be presented showing the typical AS for speakers of standard Japanese and how it compares to the AS for Canadian English and that for Quebecois French.

Gick, B., Wilson, I., Koch, K., & Cook, C. (2004). Language-specific articulatory settings: Evidence from inter-utterance rest position. *Phonetica*, 61, 220-233.

Wilson, I. 2006. Articulatory settings of French and English monolingual and bilingual speakers. PhD dissertation. University of British Columbia.