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**Visual Influences on Alignment to Voice Onset Time**

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In speech alignment, interlocutors inadvertently imitate aspects of each others utterances. Alignment also occurs when talkers are asked to shadow (identify out loud) recorded words heard over headphones. For example, the voice onset time (VOT) of consonants produced by subjects will be greater when shadowing heard words whose consonants have been modified to have extended VOTs [K. Shockley, et al., *Percept. Psychophys.* 66, 422 (2004)]. An experiment was conducted to test whether alignment to VOT has a purely acoustic basis. For this purpose, visual speech tokens composed of a face articulating /ba/ syllables at three different rates, were each dubbed onto a series of seven audio /ba/ syllables varying in VOT. Subjects were asked to simply shadow the audiovisual /ba/s. Results revealed that both the visible syllable rate and audio VOT of the stimuli influenced the VOTs of the shadowers' produced syllables. The implications of these results for theories of alignment, audiovisual integration, and the perceptual primitives of speech are discussed.