

Aligning ears and mouths: the consequences of synchronizing heard and spoken language

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The brain has rhythms, and so does speech. It is a fortuitous outcome of recent research that the temporal structure of speech and the temporal organization of various brain structures align in systematic ways. (One might ask, of course: how could it have been otherwise?) The role that oscillatory activity might play in perception and cognition continues to be elucidated through experiments of various types. An empirical observation that is now well established is that the auditory system reliably ‘entrains’ to the temporal modulations of speech - although the underlying mechanisms and the functional relevance remain vigorously debated. Here I address the question of whether these widely discussed phenomena extend to the relation between perception and action. How motor systems and perceptual systems interact has been a foundational question in psychology and neuroscience, and on the basis of new behavioral and neural experiments on sensorimotor synchronization, I will argue against my own previous positions and demonstrate an unanticipated and compelling role for synchronization of speech through the ears and speech through the mouth.