

Speech rhythm as a coordination system

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During speech production, some syllables are produced with prominence (e.g., higher intensity). Consequently, in a speech signal, two rhythmic components at different time scales can be extracted: one corresponding to variations caused by syllable production, and the other to those caused by prominence.

How prominence is produced is strongly related to a language-specific prosodic system, but it is also influenced by specific speech production objectives or situations. It has been shown that the coordination (i.e., the mutual dependence) between the two rhythmic components can vary between languages. Our studies have also demonstrated that this coordination level can be reinforced when speakers' auditory feedback is delayed. This finding suggests a reorganization of the speech rhythm coordination system when speakers experience temporal perturbations during speech production, aimed at maintaining production stability.

Recently, we have been investigating how speakers organize this coordination system when producing familiar or unfamiliar prosodic patterns. This line of research may provide insights into the interaction between prosody and the emergence of speech rhythm, as well as the nature and function of this coordination system in speech production.