

Does language hit the beat? Studying speech rhythm across prosodically diverse languages by means of sensorimotor synchronisation

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For decades, the concept of rhythm in language has been controversially debated (Roach 1982, Cummins 2012). There is a great deal of disagreement on the unit, the definition, the study method and the sheer existence of rhythm in language (cf. Nolan & Jeon 2014). However, it has also been noted that previous studies did not involve the core feature of rhythm – its ability to entrain movement (Cummins 2009, 2012). Rhythmic perception-action coupling through sensorimotor synchronisation has been predominantly studied with non-verbal, simple and complex auditory signals like metronome and music (e.g., Repp 2005, Repp & Su 2013). In this talk, I will demonstrate that a growing body of applications of the paradigm to naturalistic linguistic data provide a valuable tool for studying and understanding rhythmic properties of speech and language (e.g., Rathcke et al. 2021, Rathcke & Lin 2024). I will present a series of sensorimotor and perceptual experiments with English, French and Japanese participants and discuss emerging findings which jointly support the idea that processing and encoding of linguistic prosody relies on domain-general aspects of the perceptual and motor system. The results of this work provide new insights into the origins of the controversy surrounding the idea of speech rhythm and rhythmic typology.