THE LANGUAGE CIRCLE

MPI FOR HUMAN COGNITIVE AND BRAIN SCIENCES, STEPHANSTRASSE 1A, LEIPZIG

04.09.2024, 13:00 CEST

Wilhelm Wundt Room and on Zoom: https://zoom.us/j/94686183586

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The temporal structure of intonation units in spontaneous speech: cross-linguistic and neuroscientific investigations

Across different grammatical and sociocultural conditions, human beings produce utterances in similar prosodic phrases termed intonation units (IUs). In spontaneous speech, IUs have a similar temporal structure, beginning every 1-1.6 seconds when produced in sequence. Linguistic research suggests that IUs constitute important building blocks of language, which underlie functions such as the pacing of information and temporal expectation in language. In this talk, I will briefly discuss the universality of IUs, and present a recent study in which we identified a neural response unique to the boundary defined by the IU. We measured the EEG of human participants, who listened to different speakers recounting an emotional life event. We analyzed the speech stimuli linguistically and modeled the EEG response at word offset using a GLM approach. We identify a neural response unique to the boundary defined by the IU, which is in part independent of the magnitude of the acoustic boundary yet cannot be accounted for by syntactic information alone. Finally, we study the unique contribution of IUs in predicting delta-band EEG, and find that IU-related neural activity could be a time-locked component that captures the previously characterized low-frequency neural speech tracking.

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