Easy guessing, hard listening – Neural mechanisms of speech comprehension

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Abstract

Comprehending speech is an astonishing faculty of the human brain, especially so under adverse listening conditions. How and by which neural mechanisms do we cope so well with the fleeting percepts of speech? In addition to "facilitating" influences such as semantic context, listeners also cope with challenging listening situation by fully exploiting their sensory and cognitive resources, e.g. their working memory capacities ("compensation"). I will present data from functional MRI (fMRI), magneto- and electroencephalography studies (M/EEG; with an emphasis on neural oscillations) that utilize acoustically degraded speech stimuli to pursue the neural underpinnings of these facilitation and compensation mechanisms in detail.

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