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Gesture and pause can facilitate chunking syntactic information in ambiguous phrases

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Abstract

It is known that phrases and sentences can be interpreted to have multiple meanings. Previous studies have focused mostly on prosodic cues and pauses in the disambiguation mechanism of syntactic structures. In this study, we looked into the disambiguation effects of gestures (iconic or beat) and three different duration of pauses (0.1, 0.5, 1.0 sec) at critical word for branching. The participants looked at a computer monitor that showed an actor doing gesture, and two pictures that depict different meanings. The participant was asked to choose the matched picture with the shown gesture. Reaction time was also measured. The result was that participants responded more correctly when gesture of sequential chunking was shown than non-sequential chunking. More pause facilitated interpretation of the non-sequential stimulus, whereas more pause facilitated the reaction for the sequential chunking stimulus. The study showed the importance of chunking syntactic information shown by gesture and pause.