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Motor interference changes meaning

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Abstract

What role does the motor system play in language understanding? Here we show that effector-specific motor interference can change how people interpret language about actions. An action like voting can be understood in terms of its concrete details (writing marks on a ballot) or its abstract significance (influencing an election). If neural circuits for performing motor actions enable people to mentally represent an actions concrete details, then occupying these circuits with a secondary motor task should make the actions details harder to represent. Consistent with this hypothesis, in two experiments (N=180), tapping a complex rhythm with either the hands or the feet increased the proportion of abstract interpretations of phrases describing actions with the same effector. Thus, meaningless motor activity causes qualitative changes in language comprehension: Performing different actions can lead to different understandings of the same words and phrases.