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Report

Congruent Embodied Representations for Visually Presented Actions and Linguistic Phrases Describing Actions

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Summary

The thesis of embodied semantics holds that conceptual representations accessed during linguistic processing are, in part, equivalent to the sensory-motor representations required for the enactment of the concepts described [1](#), [2](#), [3](#), [4](#), [5](#), [6](#). Here, using fMRI, we tested the hypothesis that areas in human premotor cortex that respond both to the execution and observation of actions—“mirror neuron areas [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#), [17](#), [18](#)”—are key neural structures in these processes. Participants observed actions and read phrases relating to foot, hand, or mouth actions. In the premotor cortex of the left hemisphere, a clear congruence was found between effector-specific activations of visually presented actions and of actions described by literal phrases. These

results suggest a key role of mirror neuron areas in the re-enactment of sensory-motor representations during conceptual processing of actions invoked by linguistic stimuli.



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