UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title Neural Basis of Event Words

Permalink https://escholarship.org/uc/item/1z91b7p8

Journal Proceedings of the Annual Meeting of the Cognitive Science Society, 33(33)

ISSN 1069-7977

Authors

Dravida, Swetha Bedny, Marina Saxe, Rebecca

Publication Date 2011

Peer reviewed

Neural Basis of Event Words

Swetha Dravida MIT Department of Brain and Cognitive Sciences

Marina Bedny MIT Department of Brain and Cognitive Sciences

Rebecca Saxe

MIT Department of Brain and Cognitive Sciences

Abstract: On some accounts, word-meanings are organized in the human-brain according to their sensory-motor attributes. We tested an alternative hypothesis: word-meanings are neuroanatomically dissociable along abstract conceptual dimensions (entities vs. events). We measured brain activity in the left middle temporal gyrus (lMTG), a brain region that has previously been shown to respond more to verbs than nouns during semantic tasks. While undergoing fMRI, participants judged the semantic relatedness of six types of word-pairs: motion verbs (to roll), emission verbs (to sparkle) and perception verbs (to observe), animal nouns, fruit/vegetable nouns, and event nouns (the wedding). Replicating previous results, lMTG BOLD signal was higher for verbs than for object nouns. BOLD was also higher for event nouns than object nouns. We hypothesize that the lMTG responds to the conceptual category of events, rather than the grammatical category of verbs. These data suggest that lexical-semantic information is organized according to abstract conceptual dimensions.