

"Cortical processing of auditory objects and action knowledge"

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Little is known about how the human brain processes the complex sounds we encounter every day, transforming the signal into meaningful events or *auditory objects.* We are using functional magnetic resonance imaging (fMRI) to identify and examine cortical pathways activated when people listen to different conceptual categories of sounds, including hand-manipulated tool sounds and animal vocalizations. We found that *tool sounds*, as a category, activate several distinct regions of the left hemisphere in right-handed individuals. Moreover, some of these regions turn out to be right-lateralized in left-handed people, revealing some insight as to their roles in processing audio-motor associations. Our results pertaining to sound recognition, especially *tool-related sounds*, are presented in the broader context of over 60 other neuroimaging studies involving tool-use or tool use knowledge in humans.

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