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# Comparative study of abstract representations in humans and non-human primates

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## Abstract

The ability to manipulate and recognize abstract representations seems to be a fundamental aspect of human nature, existing since the dawn of our species and transcending cultural barriers. In contrast, non-human primates exhibit very limited proficiency in recognizing abstract representations. This research delves into this human singularity for visual abstraction, through neuroimaging experiments conducted in both humans and non-human primates. Stimuli presenting the same concept (e.g. a house or a face) but varying in abstraction levels (photos, drawings, symbols, and words) were initially presented to a monkey, while intracranial recording of his brain were obtained (16 Utah arrays distributed in V1, V4 and IT). Preliminary results indicate that monkey display early signs of abstraction, particularly for evolutionarily ancient categories such as faces. MEG and fMRI recordings of human subjects are also currently underway, striving to unveil the neuronal mechanisms that set our species apart in the domain of visual abstraction.