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The cognitive neuroscience of social learning in human evolution

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Abstract

Cumulative culture is believed to be a uniquely human form of social learning, and is therefore believed to be key in understanding how humans evolved such complex social organization and technologies. It is reasonable to believe that our capacity for cumulative culture is the result of a series of interconnected, complex evolutionary processes, but humans abilities for teaching, imitation and communication are believed to play a central role. We plan on combining brain imaging techniques and a transmissions chain design with transmission of evolutionary relevant tasks (knot tying and symbol-production) in order to look at the mechanisms of cumulative culture in a new way. By looking at the brain activation involved in acquiring and transferring these skills we aim to offer new insight on the cognitive and behavioral demands of these technologies and their effect on cultural evolution.