Gießener Abendgespräche Kognition und Gehirn

Mittwoch, 18.00 bis 20.00 Uhr im Philosophikum I, Raum F5

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Visual Imagery in Human Reasoning

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Visual mental imagery is the subjective experience of seeing objects or events in front of the 'inner eye', although they are not actually present. Previous research indicates that (1) visual images help to remember what has been experienced in the past or when objects need to be inspected or manipulated, and (2) visual images are correlated with neural activity in early visual cortices, demonstrating a possible overlap between visual imagery and visual perception. However, recent research demonstrated that visual imagery can also disrupt cognitive processes and impede thinking. In this *transcranial magnetic stimulation* (TMS) experiment, participants had to solve relational reasoning problems that varied in their imageability (easy or difficult to visualize as a mental image). While solving the problems, TMS pulses were either applied to primary visual cortex (V1) or a control site (Vertex). Findings suggest a causal link between mental imagery, primary visual cortex, and reasoning with visual problems. Moreover, participants exhibited much lower error rates when TMS was applied to V1. Thus, the disruption of visual images in primary visual cortex can facilitate reasoning.

Alle Interessierten sind herzlich willkommen!