Hemispheric asymmetries in fronto-parietal networks underlying attentional control

Propositions of the thesis

Hemispheric Asymmetries in Fronto-Parietal Networks Underlying Attentional Control

1 Transcranial magnetic stimulation (TMS) over right and left frontal eye field specifically impairs voluntary shifts of spatial attention.

2 The right frontal eye field mediates attention shifts to both hemifields whereas the left frontal eye field mediates attention shifts to the contralateral hemifield.

3 Localization of TMS target points based on functional group data can be improved by using whole-brain alignment schemes that exploit curvature information of the cortical surface.

4 The auditory and somatosensory side effects of TMS influence behavior dependent on the experimental task, time point of stimulation, and stimulation site.

5 TMS experiments require strict control conditions that should be based on empirical knowledge rather than untested assumptions.

6 TMS applied to the healthy human brain can provide valuable insights into the functional deficits observed after brain damage and vice versa.

7 When two competing theories cannot be falsified for decades, chances are that they somehow both turn out to be true.

8 Investing time in sound psychophysics is indispensable.

9 Most experiments simply don't work out. Does anybody know why?

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