The balance of power

PROPOSITIONS OF THE THESIS

THE BALANCE OF POWER

INVESTIGATING ATTENTION NETWORK INTERACTIONS AND ALPHA POWER MODULATIONS USING NON-INVASIVE BRAIN STIMULATION

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1. In the context of visuospatial attention, the left hemisphere is generally stronger than the right hemisphere, supporting the notion of left hemispheric dominance at “baseline”

2. When shifting attention in visual space, the right hemisphere inhibits and enhances incoming visual information, the left hemisphere only enhances it

3. The evaluation of single hemispheric contributions involved in left and right attention shifts requires the inclusion of spatially noninformative “neutral” cue trials in the task

4. Time-dependent compensatory mechanisms take place within a certain brain network when one of its nodes is purposefully inhibited

5. TMS allows overcoming compensation within cognitive brain systems, thus opening a new avenue of experimentation and possible treatments

6. Electrophysiological signals can reveal neural effects of Transcranial Magnetic Stimulation (TMS) in the absence of behavioral effects

7. Combining different techniques for the investigation of the human brain is fundamental in order to get deeper insights into its functioning

8. Discordant theories need not be mutually exclusive, they might just explain different aspects of the same mechanism

9. Science is about discovering pieces and putting them together. Curiosity and commitment play a major role in this process

10. There are still so many things we are not able to explain. This is what makes research exciting