The what and when in brain stimulation : studying language production and deception with optimised neuronavigated transcranial magnetic stimulation

Stellingen behorende bij het proefschrift

The what and when in brain stimulation

Studying language production and deception with optimised neuronavigated transcranial magnetic stimulation

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1. Magnetic brain stimulation allows for causal structure function mapping in cognitive studies *(this thesis)*.
2. By employing an online chronometric TMS design, not only the functional relevance, but also the exact point in time at which an area critically contributes to a given behaviour can be charted *(this thesis)*.
3. The target site for TMS should always be determined based on individual brain data, be it functional or anatomical *(this thesis)*.
4. In event-related cognitive TMS studies, short bursts of high frequency TMS are a good compromise between sufficient temporal resolution and behavioural effect sizes *(this thesis)*.
5. Triple-pulse TMS over Broca's area is capable of interfering with picture naming online, thus while participants are attempting to speak *(this thesis)*.
6. The left inferior frontal, superior temporal and middle temporal gyri are all three causally relevant for successful picture naming, and contribute to the process of language production at different stages in time (*this thesis).*
7. Studying deception reveals intercultural differences in the ease of lie telling.
8. Participants in TMS experiments can sometimes report severe subjective side effects after TMS, surprisingly mainly after placebo stimulation.
9. Science moves, but slowly slowly, creeping on from point to point *(Locksley Hall).*
10. A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it *(Max Planck).*

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