

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

Citation for published version (APA):

Schuhmann, T. (2010). *The what and when in brain stimulation : studying language production and deception with optimised neuronavigated transcranial magnetic stimulation*. Universitaire Pers Maastricht.

Document status and date:

Published: 01/01/2010

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Download date: 16 Jan. 2021

The what and when in brain stimulation

Studying language production and deception
with optimised neuronavigated
transcranial magnetic stimulation

Teresa Schuhmann

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*).