

Neural dynamics of visual selection

Citation for published version (APA):

van Aalderen-Smeets, S. I. (2007). *Neural dynamics of visual selection*. Print Partners Ipskamp.
<https://doi.org/10.26481/dis.20070504sa>

Document status and date:

Published: 01/01/2007

DOI:

[10.26481/dis.20070504sa](https://doi.org/10.26481/dis.20070504sa)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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Neural dynamics of visual selection

Sandra van Aalderen-Smeets, 4 mei 2007

- 1| Subjective stimulus visibility does not only depend on the correct perceptual representation in the brain, but also on the consolidation of the stimulus representation in working memory.
- 2| The visual processing of a single level of a multiple-level hierarchical stimulus is influenced by directly neighboring levels and not by more distant hierarchical levels in the stimulus.
- 3| The locus at which visual attention operates in the human visual cortex is dependent on the correspondence between the size of the attended stimulus in visual degrees and the size of the receptive field of neurons at that locus in the visual cortex.
- 4| The mechanism of selective visual attention is not merely an enhancement of the processing of the attended stimulus, but is rooted in the outcome of the competition between two stimuli to be represented in the visual cortex. The output represents the winning stimulus while the input from the losing stimulus is ignored.
- 5| Visual processing is not a dominantly unidirectional flow of information. A substantial part of the information enters the brain in higher visual areas and travels backwards. These recurrent and feedback loops are often underestimated.
- 6| Successfully combining fMRI and MEG/EEG is not crucially dependent on new developments in data acquisition and analysis, but more on increased understanding of the brain and the information content in the data.

- 7| Traditional analysis methods for EEG and MEG only offer a limited view on the dynamics of the brain. More insight might be gained with a frequency analysis approach to neural processing.
- 8| What we experience and believe as being true is often just a creation of our brain. Both your memories as well as perceptions are highly fallible and imperfect representations of the true events in the outside world.
- 9| *“By believing passionately in something that still not exists, we create it. The nonexistent is whatever we have not sufficiently desired.”* Franz Kafka
- 10| Eigen verantwoordelijkheid van het kind is niet het uitgangspunt maar het resultaat van opvoeden.
- 11| Rotsklimmen is een katalysator voor het ervaren van situated cognition; de bewegingen komen alleen voort uit de aanraking met de rots, de mogelijkheden van de rots en het gevoel van de open ruimte onder je.