FENS Forum 2010 - Amsterdam

- Posters: to be on display from 8:00 to 13:15 in the morning and from 13:30 to 18:45 in the afternoon.
Poster sessions run from 09:30 to 13:15 in the morning and from 13:30 to 17:30 in the afternoon.
A one hour time block is dedicated to discussion with the authors (authors should be in attendance at
their posters as from the time indicated.)
- For other sessions, time indicates the beginning and end of the sessions.

First author   Hagoort, Peter (poster)

Poster board F9 - Tue 06/07/2010, 12:15 - Hall 1
Session 145 - Human cognition 4
Abstract n° 145.9
Publication ref.: *FENS Abstr., vol.5, 145.9, 2010*

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Title   The suppression of repetition enhancement: a review

Text   Repetition suppression is generally accepted as the neural correlate of behavioural priming and is often used to selectively identify the neuronal representations associated with a stimulus. However, this does not explain the large number of repetition enhancement effects observed under very similar conditions. Based on a review of a large set of studies we propose several variables biasing repetition effects towards enhancement instead of suppression. On the one hand, there are stimulus variables which influence the direction of repetition effects: visibility, e. g. in the case of degraded stimuli perceptual learning occurs; novelty, e. g. in case of unfamiliar stimuli a novel network formation process occurs; and timing intervals, e. g. repetition effects are sensitive to stimulus onset asynchronies. On the other hand, repetition effects are not solely automatic processes, triggered by particular types or sequences of stimuli. The brain is continuously and actively filtering, attending to and interpreting the information provided by our senses. Consequently, internal state variables like attention, expectation and explicit memory modulate repetition effects towards enhancement versus suppression. Current models i.e. the accumulation, fatigue and sharpening models of repetition suppression have so far left out top-down factors and cannot or can only partially account for repetition enhancement effects. Instead we propose that models which incorporate both stimulus bottom-up and cognitive top-down factors are called for in order to better understand repetition effects. A good candidate is the predictive coding model in which sensory evidence is interpreted according to subjective biases and statistical accounts of past encounters.

Theme   F - Cognition and behaviour
Human cognition and behaviour - Attention