Stellingen

behorende bij het proefschrift

The Electrophysiology of Language Comprehension
A Neurocomputational Model

van

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1. The N400 component indexes the retrieval of the conceptual knowledge associated with a word from long-term memory.

2. The retrieval processes underlying the N400 component are mediated by the left posterior Middle Temporal Gyrus (lpMTG; Brodmann area 21).

3. The P600 component is a family of late positivities that reflect the word-by-word construction, reorganization, or updating of a mental representation of what is being communicated.

4. The integrative processes underlying the P600 component are mediated by the left Inferior Frontal Gyrus (lIFG; Brodmann areas 44/45/47).

5. If the processing system is tricked into believing that 'Moses took two animals of each kind onto the ark', this will be manifested in a reduction of P600 amplitude, not N400 amplitude.

6. Component overlap is severely underrated; many P600-effects that are thought to be absent, are in fact obscured by a preceding increase in N400 amplitude.

7. Language processing research needs to shift from studying language users processing isolated sentences, to studying language users involved in active conversation.

8. Neurocomputational modeling provides a means to unify electrophysiological and hemodynamic measurements of brain activity.

9. "You are more than your genes. You are your connectome." (*Sebastian Seung*)

10. N400 $= 1 - cos(lpMTG_t, lpMTG_{t-1}) \wedge$ P600 $= 1 - cos(lIFG_t, lIFG_{t-1})$