

GUEST TALK

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"Sensitivity to syntax in visual cortex"

It has been shown that violations of sentence structure can affect brain responses as early as 125ms after the presentation of a word (e.g., Friederici, TiCS 2002). This talk focuses on a recent finding from MEG that word category violations (e.g., "the tastelessly soda" as opposed to "the tasteless soda") elicit an increased amplitude of the visual M100, the first major visual response generated in visual cortex at 100-150ms (Dikker et al., Cognition 2009). This is surprising, since no sensitivity to linguistic factors has been previously reported for this stage of visual processing. We suggest that the most likely interpretation of this result is that continuous syntactic predictions are generated based on context, and that these predictions include estimates about the likely physical appearance of an upcoming word category. Some recent findings tentatively support this claim by showing that the extent to which an encountered word matches form predictions affects M100 amplitude. (E.g., for "the tastelessly soda" M100 amplitude correlates with how much the word "soda" 'looks like' an English participle.).

Wednesday, July 8th, 2009, 05.00 pm

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