Visuospatial effects of saccadic adaptation

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To see the objects around us structured spatially we need a neural map representing visual space. Information about external space is coded metrically in oculomotor maps which represent targets for saccade eye movements. If saccade motor maps structure visual space, modifications in these maps should be accompanied by changes in visual space perception. We used saccade adaptation to induce modifications in saccade maps. After adaptation subjects mislocalized visual stimuli. Two different kinds of saccade adaptation have been reported in the literature: A fast adapting process associated with changes in saccade dynamics and a slower process which might involve plasticity in the saccade target representation. We found that mislocalization was induced only by the latter mechanism. The magnitude of the mislocalization depended on the size and persistence of errors between intended and actual saccade amplitudes. Modulations of saccade adaptation by changes in initial eye position were followed by comparable modulation in visual mislocalization. The tight agreement between the change of eye movement control and the change of localization shows that perceptual space is shaped by motor knowledge rather than simply constructed from visual input.

Analysis of speech characteristics during an interview may provide direct access to emotional state in the domain of disgust sensitivity

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Based on the component process model of emotion (Scherer, 1986) emotional states inflect vocal parameters of speech. In line with the MODE model (Fazio, 1990) for the application of emotion regulation strategies cognitive control resources are needed. In our study (N =104; 2386 speech samples) we investigated whether disgust relevant parameters of a computer based acoustic speech analysis (Praat speech analysis software, Boersma, 2001) predict self-rated disgust state after the presentation of disgusting stimuli. In the analysis we considered acoustic features related to the process of respiration, phonation and articulation. We expected a higher correlation for subjects low in availability of control resources than for subjects with available control resources. The availability of control resources was manipulated by deprivation of sleep vs. no deprivation. Preliminary results show the several significant acoustic correlates of disgust, i.e. features related to changed intonation, pressed speech, and nasality.