**Functional Asymmetries and Cerebral Asymmetries of Cortical Activity**

Since today the research of laterality revealed a mass of evidences of lefthemispheric advantage in performance when verbal stimuli are processed and reversed a righthemispheric advantage when visual material is processed. But it is obvious, that only a few studies exists, that do research into asymmetries in performance and asymmetries of electrophysiological brainactivity in one common experimental setting. Most scientists concluded from functional asymmetries to structural asymmetries, without underlying a fundamental theory to integrate both dimensions of asymmetry.

The present investigations based on the visual half field paradigm which is well established in research of recognition. In two tachistoscopic experiments target stimuli where presented to either the left or right visual half field on a computer monitor. In a first experiment verbal stimuli and in a second experiment emotional faces where used. Specially the amplitude and latency of the P300 component was explored in this study to investigate, if this component is qualified to explain lateralized cognitive processes.

In summary the main finding is, that although clearly performance asymmetries in reactiontime and hits revealed, no effects in laterality of electrocortical asymmetries where detected. The typical pattern of left/right hemispheric asymmetry revealed in a lot of experiments, could not replicated in the electrophysiological parameters which where investigated in these studies. Indeed functional asymmetries in hits and reactiontime can give a first reference to underlying structural asymmetries, but with regard to the actual results it is ambiguous to draw a conjunction from functional asymmetries of performance to cerebral asymmetries of cortical activity.