

Shape – Texture experiment

Goal of the experiment

Neuropsychological testing has revealed the existence of a dissociation in the perception of geometrical versus surface features of objects. More in particular, it has been shown that lesions around the Lateral Occipital sulcus (LOs) impairs the capability of correctly discriminate objects shape. For example, patients with a lesion including LOs cannot recognize an object based on its geometrical features such as shape, nevertheless they can perform quite correctly by using surface features such as colour and texture. Conversely, lesions to more medial foci impair the capability of perceiving surface features only. Patients with medial occipital lesions have impaired colour discrimination, but can identify an object quite well on the basis of its shape. We will run an fMRI experiment to test the existence of a similar dissociation in neurological intact brains as well.

Subjects will lay supine in the magnet and will be asked to discriminate visual objects on the basis of their geometrical (shape) or surface (texture) features. Visual stimuli are images of 3D objects, and behavioural responses will be collected via button press. The experiment consists of 8 functional runs (lasting ~7 minutes each) and one high resolution anatomical acquisition.

Participants Requirements

Sex: Male or female;

Age: two set of age are needed:

- 20 – 40 years old;

- 50 – 60 years old;

Handness: right handed subjects;

Vision: Normal or corrected-to-normal vision (using contact lenses);

Where

The experiment is performed at the University of York, and more precisely at the York Neuroimaging Center using a 3Tesla magnet.

Duration and Compensation

We will pay our best subjects (no head motion and very accurate behavioural performance) 10£ per hour. The all experimental session (including forms filling and practice trials) will take 2 hours (for a total compensation of 20£). Participants from Durham will be reimbursed for their train travel expenses.

Principal Investigators

The experiment is part of a research project based at the University of Durham. The experimenter is Dr. Cristiana Cavina-Pratesi and the main investigators are Prof. D. Milner; Prof. C. Heywood and Prof. R. Kentridge.

For more information please contact Cristiana Cavina-Pratesi:

cristiana.cavina-pratesi@durham.ac.uk

Phone number: 0191 3343258