Previous Research

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A body-part map in the occipito-temporal cortex

Plasticity in the visual cortex following blindness, Hand-position space, Visuomotor interactions.

A body-part map in the occipito-temporal cortex

(Work by Dr. Tanya Orlov)

Large-scale topographic representations of the body have long been established in the somatosensory and motor cortices. Using converging fMRI methods, we identified a topographically organized body-part map within the occipito-temporal cortex (OTC), with distinct clusters of voxels showing clear preference for different visually presented body-parts. This representation was consistent both across hemispheres and participants.

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Plasticity in the visual cortex following blindness

(Work by Amir Amedi, Noa Raz, Renan Ofan)

Perceiving the world in total absence of vision must often be based on verbal descriptions of events and their spatial relationships (for instance, following a basketball game on the radio). Congenitally blind people are therefore likely to depend more on memory in general, and on verbal memory in particular, to interact with the world.

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Hand-Position Space

(Work by Tamar Makin)

Our ability to interact with the external environment critically depends on the brain’s computing of relative spatial locations of objects with respect to the hands, each thought to be coded in a separate set of reference frames. How does the brain achieve the complex interactions between vision, haptics & proprioception? What
happens to this multisensory integration when the hand is amputated?

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Visuomotor Interactions

(Work by Michal Eisenberg)

During daily life, we reach and grasp objects located in a variety of positions in our visual-field. Where is the information regarding the visual (position) and motor (acting-hand) aspects integrated in the brain?

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