

Occipital lobe

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March 17, Source: of montreal Summary: Dr. Olivier Collignon of the of Montreals Saint-Justine Hospital Research Centre compared the brain activity of people who can see and people who were born blind, and discovered that the part of the brain that normally works with our eyes to process vision and space perception can actually rewire itself to process sound information instead.

Dr. Oliver Colligon undertook the research together with Dr Franco Lepore of the Centre for Research in Neuropsychology and Cognition. The findings were published in March 15 in the Proceedings of the National Academy of Sciences.

In the research Collignon said. The visual cortex is involved in processing sight. They are located at the back of the brain, which is called the occipital lobe. The study shows that some regions of the right dorsal occipital stream do not need visual experience to develop a specialization for the processing of spatial information.

11 individuals born blind and 11 others not born blind were used in the research. The activity of the brain was monitored via MRI scanning while in the same time being subjected to a series of tones. " The results showed the brains fascinating plasticity," Collignon said " The brain set aside certain set of regions for spatial processing, even if it is denied of its natural inputs since birth. Brain visually deprived is flexible enough that it uses " neuronal niche" to do functions that are close to the ones needed by the remaining senses. Such a research demonstrates that the brain should be more considered as a function-oriented machine rather than a pure sensory machine."

The findings provoke quite a number of questions on how this rewiring happens during the development of blind new born babies. Collignon <https://assignbuster.com/occipital-lobe/>

discovered that " at infancy, the brain is sculpting itself on the based on experience, with some synaptic connections gotten rid of and others strengthened,". Synaptic connections enable our neurons, or brain cells, to communicate. " After a peak of development ending approximately at the age of 8 months, approximately 40% of the synapses of the visual cortex are gradually removed to reach a stable synaptic density at approximately the age of 11 years. It is possible that that the rewiring occurs as part of the maintenance of our ever changing neural connections, but this theory will require further research," Collignon said.

Reference

University of Montreal. " Some blind people see with their ears, neuropsychologists show."

ScienceDaily. ScienceDaily, 17 March 2011. .