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### Plasticity of the human visual brain after an early cortical lesion.

Mikellidou K, Arrighi R, Aghakhanyan G, Tinelli F, Frijia F, Crespi S, De Masi F, Montanaro D, Morrone MC

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*Neuropsychologia*. 2017 Oct 31

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13 Dec 2017



**FM Marlene Behrmann**  
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DOI: 10.3410/f.732073581.793538629

This fascinating paper documents near-normal central field vision in an individual with a massive unilateral right lesion to the optic radiations as a result of surgery to resect a subependymal giant cell astrocytoma at age 3 months. Very detailed psychophysics investigations (e.g. measuring visual acuity and contrast sensitivity) and neuroimaging (structural and functional) reveal surprisingly good residual vision, including conscious vision (in contrast with blindsight). An impairment in form and contrast vision was observed in the far periphery of the affected visual field. Intriguingly, the middle temporal complex (MT+) and the parieto-occipital sulcus (POS) in the intact hemisphere show responses to both contralateral and ipsilateral field stimulation and strong structural connections between MT+ and the lateral geniculate nucleus (LGN) were noted on diffusion measurement. This study reveals that strong thalamo-cortical projections may serve as the neurobiological basis of plasticity in such cases.