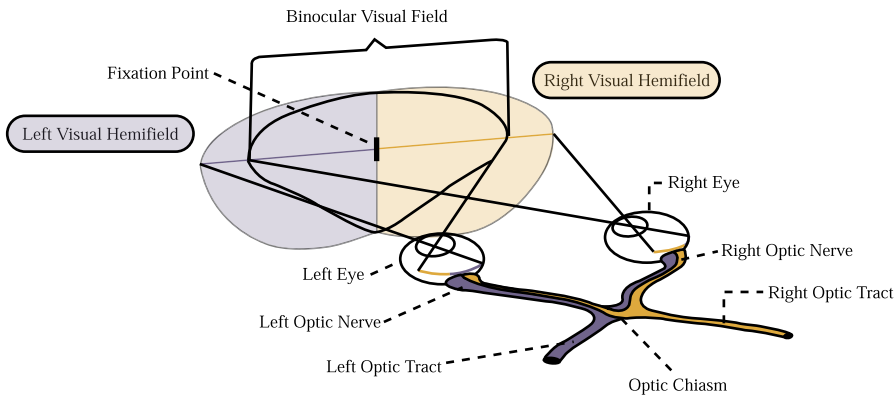


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9.01 Introduction to Neuroscience  
Fall 2007

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**Retinofugal Pathway Lesions**



L optic nerve (1):

L optic tract (2):

Optic chiasm (3):

Figure by MIT OpenCourseWare. After figure 10.3 in: Bear, Mark F., Barry W. Connors, and Michael A. Paradiso. *Neuroscience: Exploring the Brain*. 2nd ed. Baltimore, Md.: Lippincott Williams & Wilkins, 2001. ISBN: 0683305964.

- Targets of the optic tract:

**Lateral Geniculate Nucleus (LGN)**

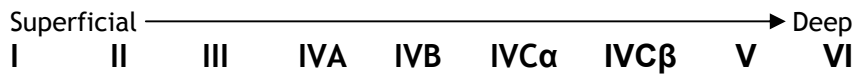
-  LGN processes information from  visual field

Retinal Output		LGN	
Eye	Ganglion Cell Type	Layer	LGN Cell Type
		6	
		5	
		4	
		3	
		2	
		1	
		Ventral to each principal layer	

- LGN neuron receptive fields:

## Primary Visual Cortex (V1, Area 17, Striate Cortex)

### - Retinotopicity:



### - Target of most LGN neurons:

- Magnocellular:

- Parvocellular:

- Koniocellular:

- IVC  $\rightarrow$  II, III, IVB

-

### - Intracortical connections

- Horizontal

- Radial

### - Outputs

- II, III, IVB:

- V:

- VI:

### - Organizational models

- Ocular Dominance Columns:

- Cytochrome Oxidase Blobs:

- Cortical Modules:

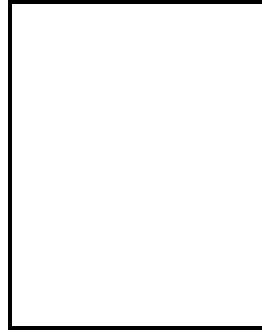
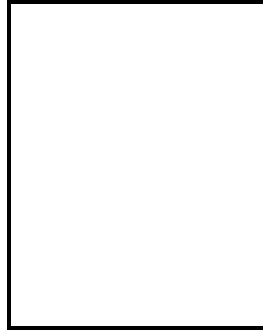
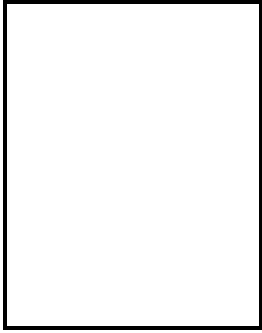
### - Higher visual areas

- “Where” (dorsal) pathway:

- “What” (ventral) pathway:



V1



LGN



Retina

