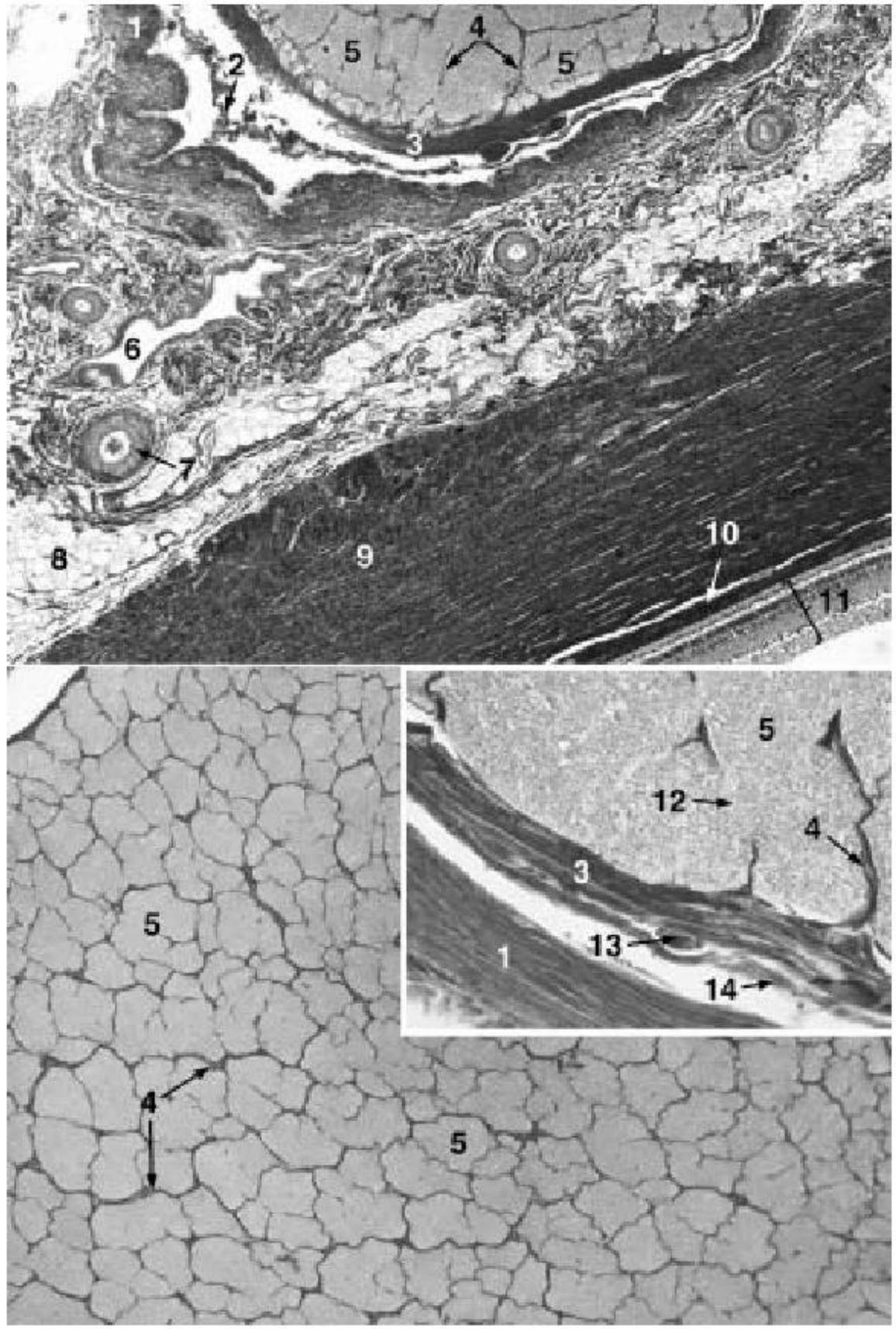
LÁTÓPÁLYA

összeállította

Dr. Csillag András

Nervus opticus – szöveti szerkezet

Histology of the orbital part of the optic nerve. Azan staining. A – section from a segment proximal to the globe, B – section from a segment distal to the globe, inset – high magnification image showing the meningeal envelope.



1. Dura mater
2. Arachnoid mater
3. Pia mater
4. Connective tissue septa
5. Optic nerve fibers
6. Vortex vein in retrobulbar space
7. Posterior ciliary artery
8. Retrobulbar (orbital) fat
9. Sclera
10. Choroid
11. Retina
12. Glial septum
13. Arachnoid trabecula in subarachnoidal space
14. Arachnoid (detached)

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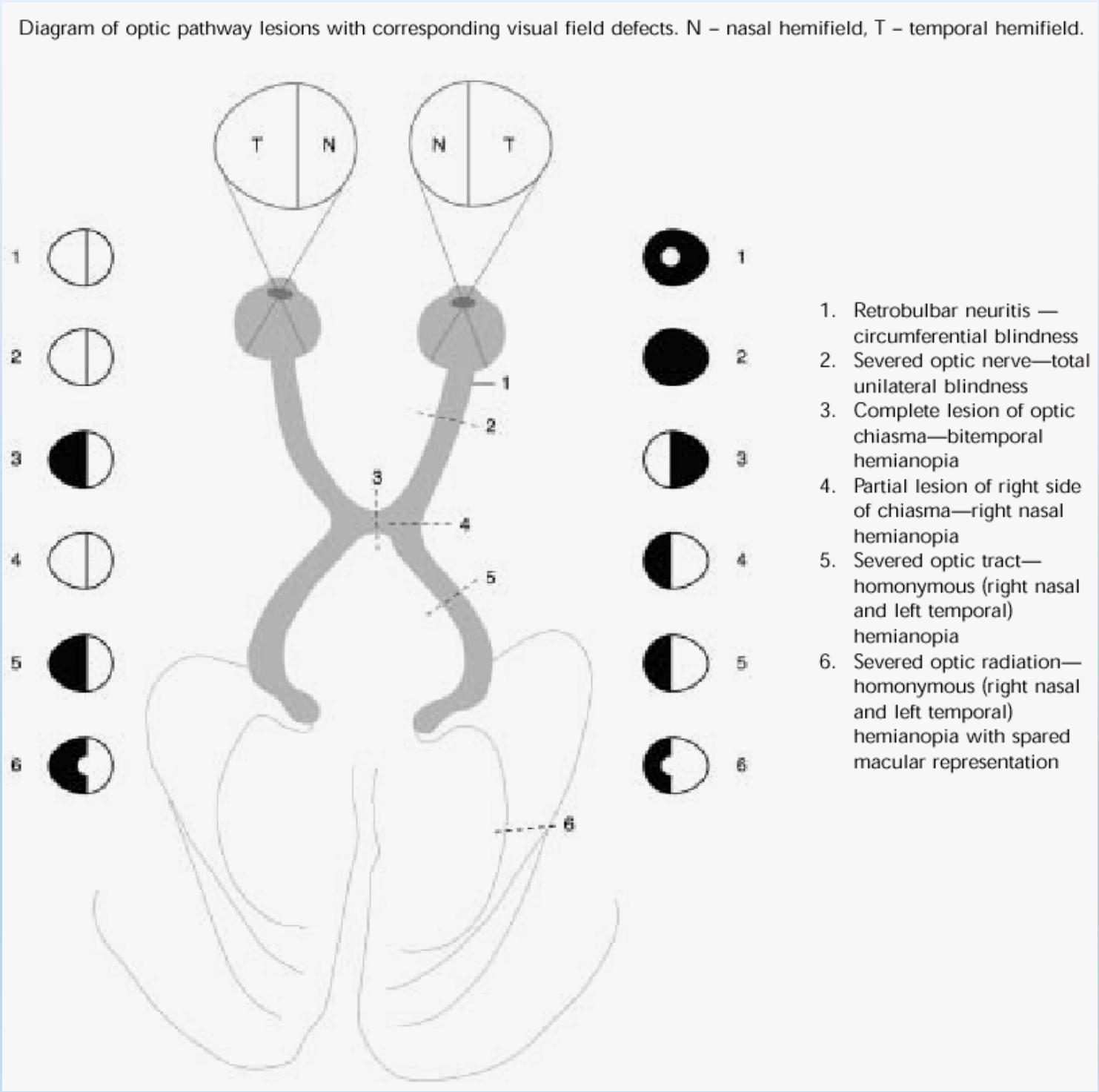
A látópálya sérüléseit követő látótér-kiesések

sémás ábrázolás



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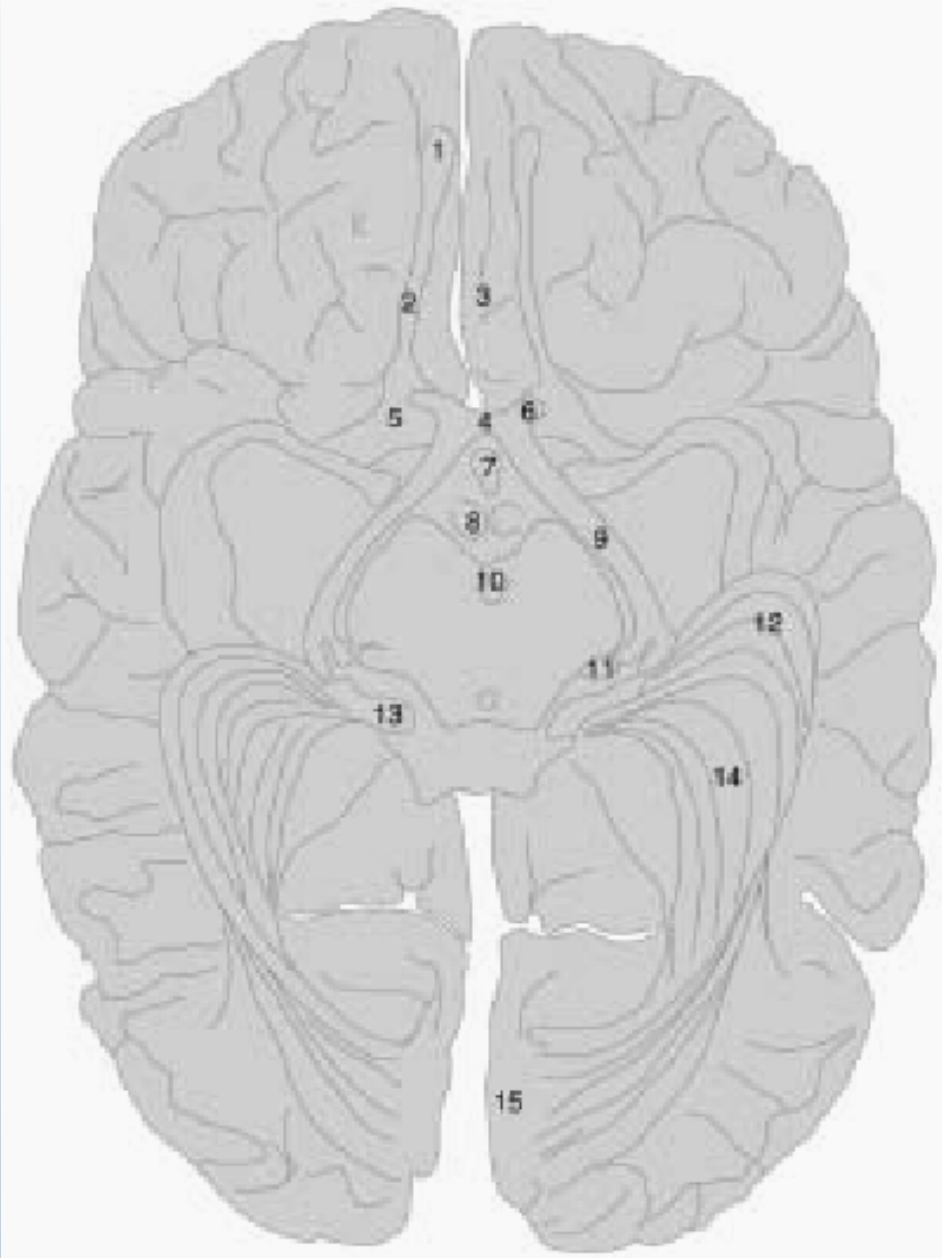
A látópálya főbb alkotórészei

ventralis nézet

Anatomical drawing depicting the main structures associated with the visual pathway. Ventral aspect.



1. Olfactory bulb
2. Olfactory tract
3. Straight gyrus
4. Optic chiasma
5. Olfactory trigone
6. Optic nerve
7. Tuber cinereum
8. Mamillary body
9. Optic tract
10. Interpeduncular fossa
11. Superior quadrigeminal brachium
12. Loop of Meyer
13. Lateral geniculate nucleus
14. Optic radiation
15. Visual cortex

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A corpus geniculatum laterale kísérletes degenerációja (Rhesus majomban)

A tractus opticus átvágása után az azonos oldali relé-sejtek elpusztulnak, míg a GABAerg interneuronok nem sérülnek)

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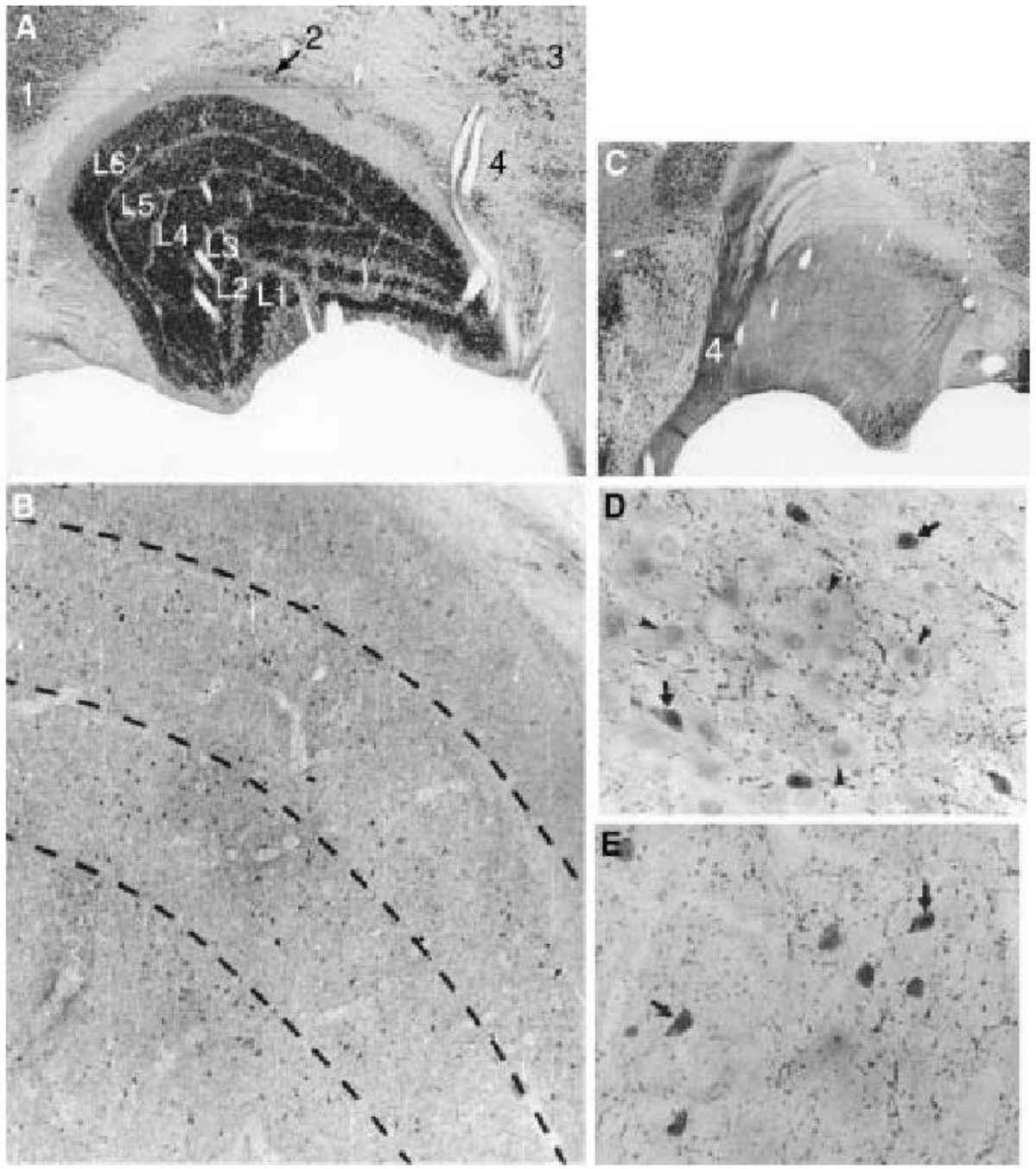
Experimental histological observations in the primate (Macaque monkey) lateral geniculate nucleus (LGN). Light micrographs of vibratome sections stained with Azure II-methylene blue (A,C) or immunostained for the inhibitory neurotransmitter GABA (B,D,E). A – parvocellular and magnocellular layers of the LGN of the control (right) side; B – GABA immunoreactive interneurons (darkly stained) accumulating in the layers of LGN. The interlaminar borders are indicated by dashed lines; C – LGN of the deafferented side (four months after transection of the corona radiata in the left hemisphere). The nucleus is reduced in size and the relay cells are absent. D – In the parvocellular layer of the control LGN both GABA immunoreactive interneurons (arrows) and non-immunostained relay neurons (arowheads) are present. E – In the parvocellular layer of the deafferented LGN only the GABA immunolabelled interneurons are present, whereas the relay neurons have degenerated. Courtesy of J. Takács, L. Moiseeva, V. Silakov and J. Hámori.

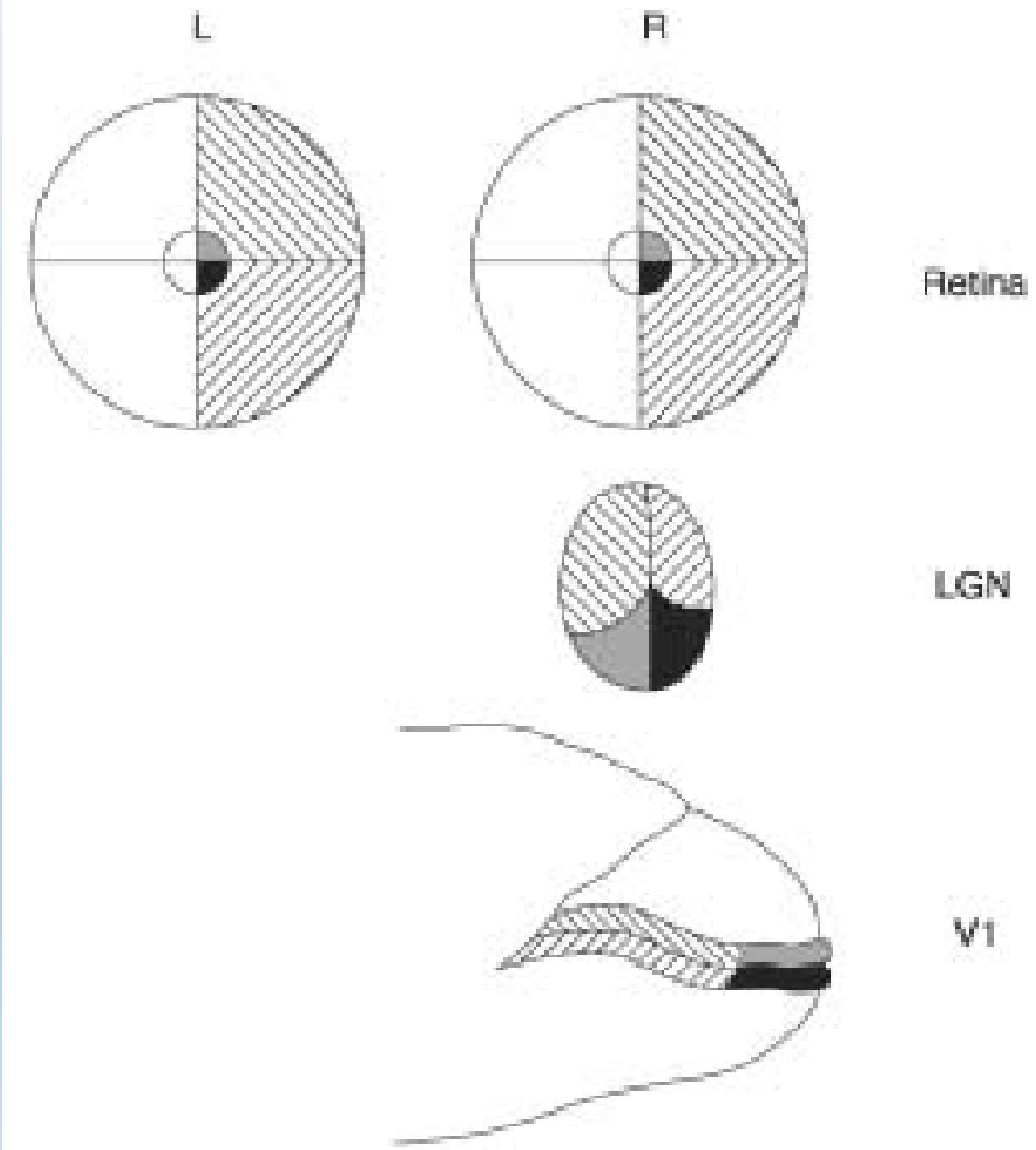


1. Putamen
2. Pregeniculate (GLv) nucleus
3. Subthalamus
4. Cerebral peduncle

L1—L2 Magnocellular layers
L3—L6 Parvocellular layers

A retina vetületei

Projection of the left (L) and right (R) retinae on the right lateral geniculate nucleus (LGN) and primary visual cortex (V1).



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A látókéreg sémás ábrázolása

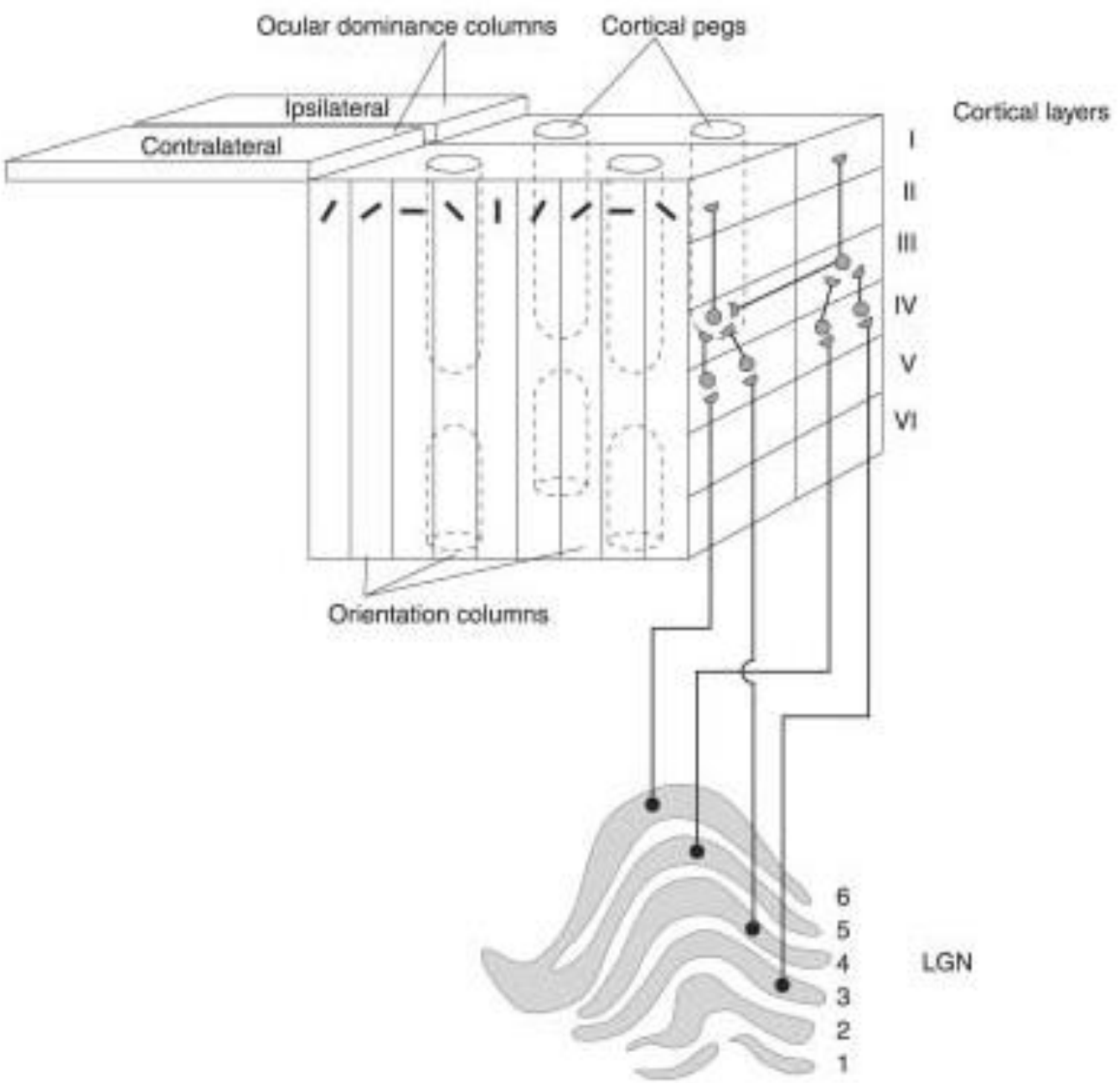

Fig. 2.64

Block diagram of primary visual cortex with the geniculocortical afferents. Redrawn and modified after Kandel ER and Schwatz JH (1985) *Principles of Neural Science, Second Edition, Elsevier New York*

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Citokrómoxidáz reakció emberi látókéregben

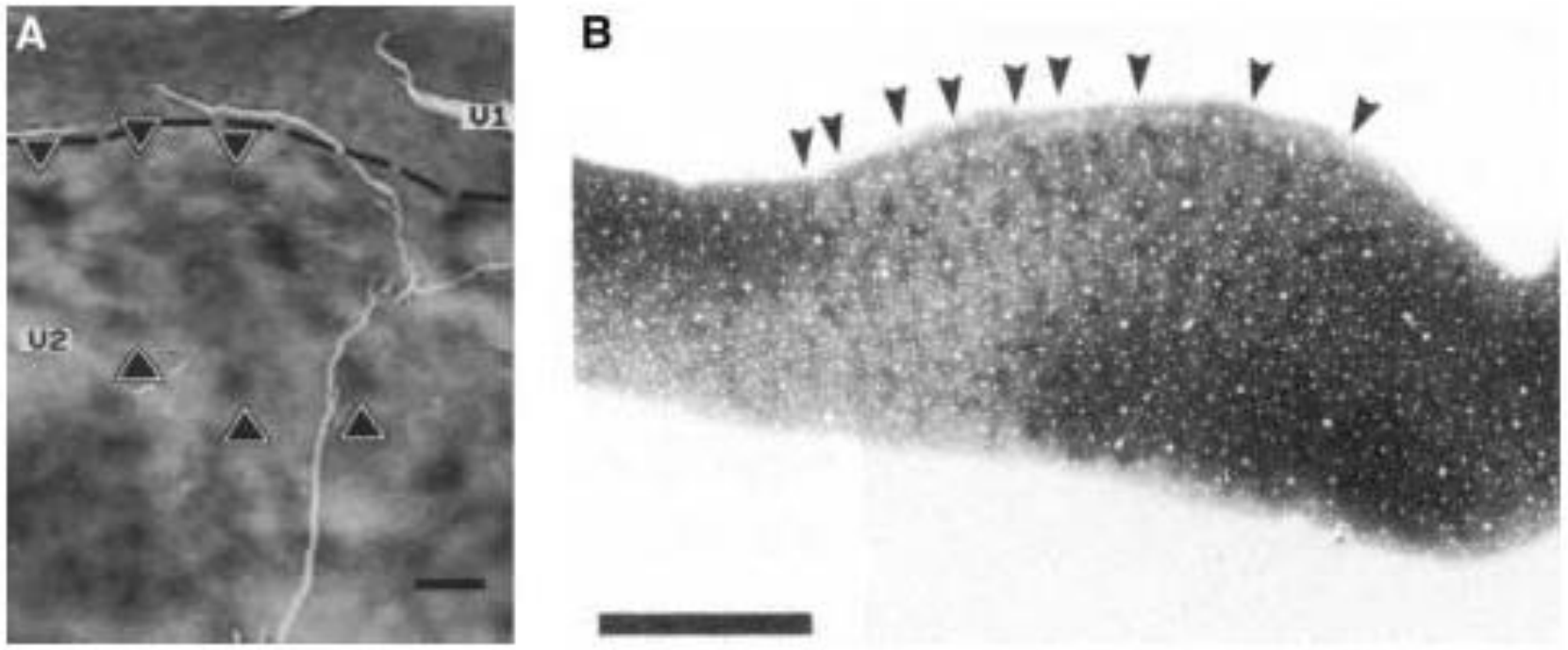

Fig. 2.65

Cytochrome oxidase (CO) activity in the human visual cortex. A – Topography of CO from flattened cortex, mostly within layer 4. Patchy CO-rich stripes are visible in V2, running from upper left to lower right. Three prominent stripes are highlighted by downward-pointing and upward-pointing triangles. Calibration bar: 2 mm. Reproduced from Tootell RBH, Born RT and Ash-Bernal R (1993) in: Balazs G, Ottoson D, Roland PE (Eds) Functional Organization of the Human Visual Cortex, Pergamon, Oxford, p. 69. B – Tangentional section demonstrating CO-rich blobs (puffs) in area 17, forming rows (arrowheads) orthogonal to the 17/18 border. Calibration bar: 5 mm. Reproduced from Wong-Riley MTT (1993) in: Balazs G, Ottoson D, Roland PE (Eds) Functional Organization of the Human Visual Cortex, Pergamon, Oxford, p.168.

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A Brodmann-féle kérgi mezők

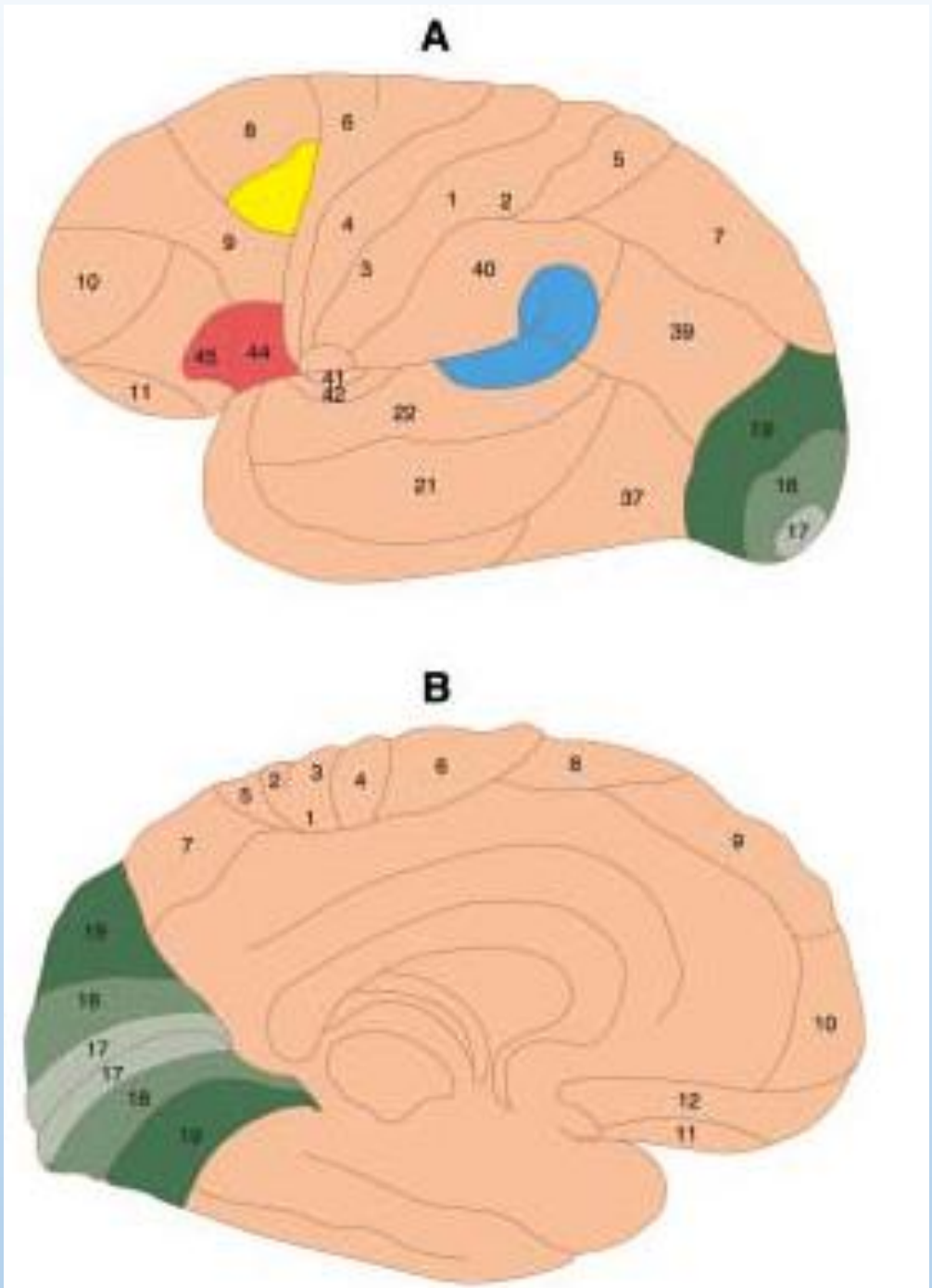

Fig. 2.66

Areas of functional localization on the lateral (A) and medial (B) surface of the cerebral hemisphere. Numbers refer to the areas of Brodmann. Yellow – frontal eye field, red – motor speech area of Broca, blue – Wernicke's sensory speech area, dark green – striate cortex, green – parastriate cortex, light green – peristriate cortex.

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A látópálya főbb intrakortikális kapcsolatai

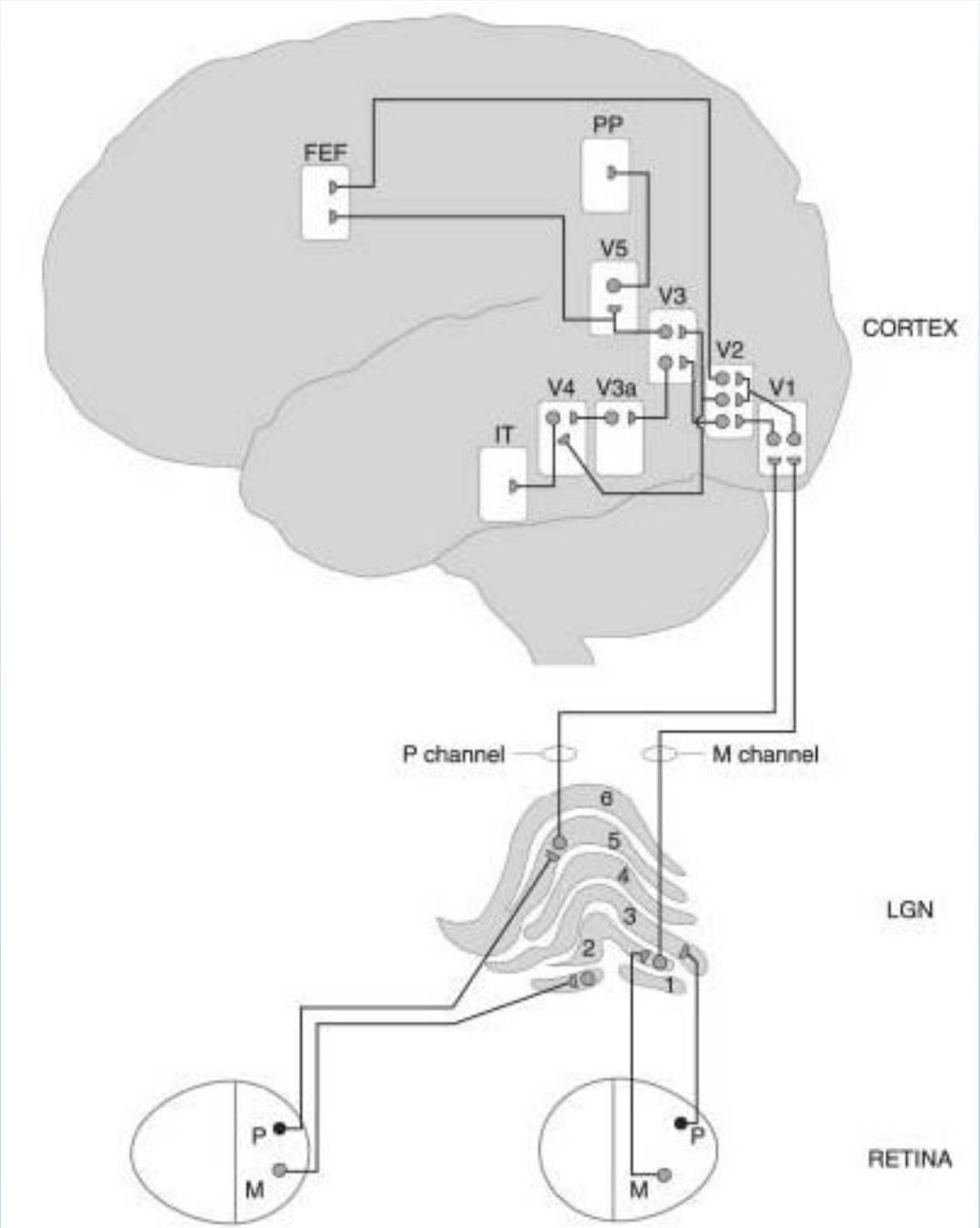

Fig. 2.68

Diagram of ascending visual input channels and main intracortical pathways. FEF – frontal eye field, IT – inferior temporal area, PP – posterior parietal area

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