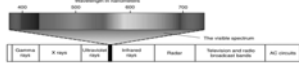


## Vision Requirements

- the presence of light energy at a wavelength within the range of the visible spectrum.



- the formation of an image on the part of the eye called the retina.
- the transmission of information from the eye to the brain about the nature or properties of the light source.

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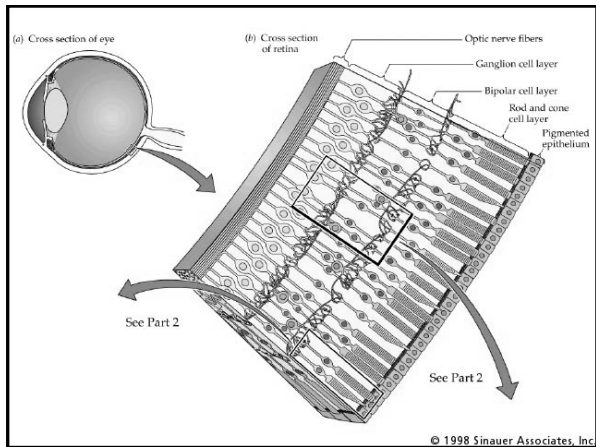
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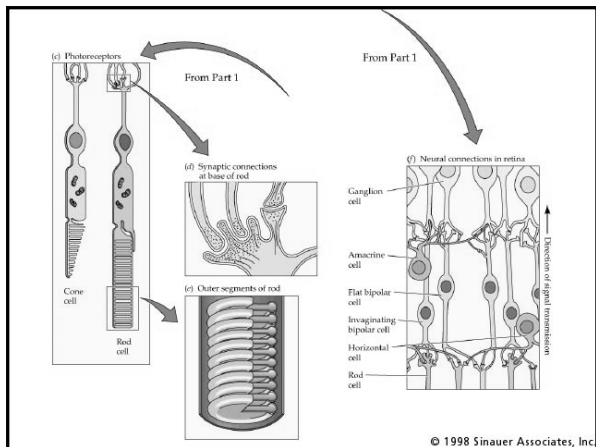
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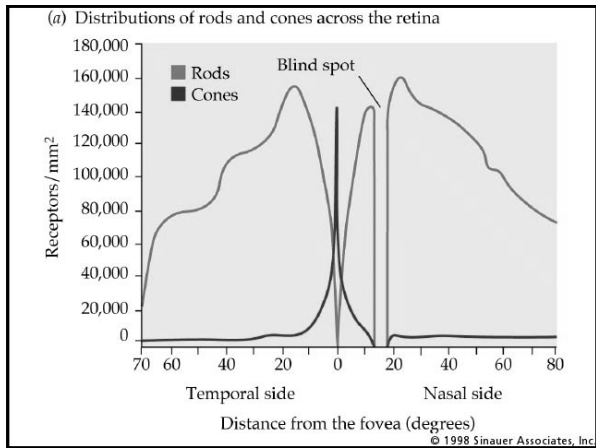
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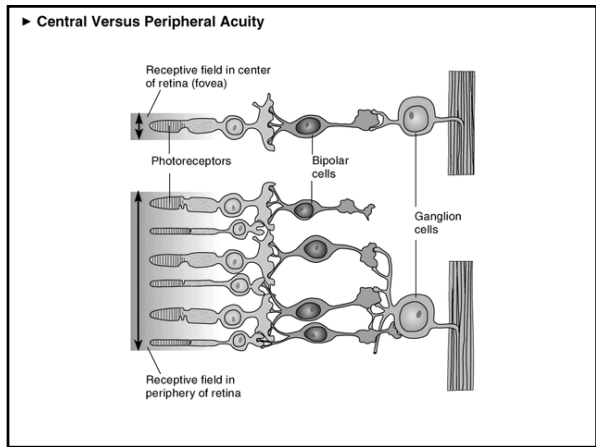
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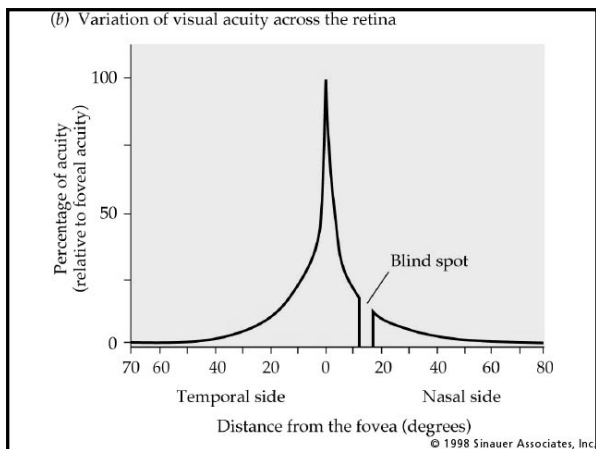
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## Receptive Fields

- What is a receptive field?
- A single ganglion may receive information from a number of receptors—which might be spread across a large area. This region is called the cells **receptive field**.
- Organize and combine information.
- Key--Photoreceptors respond with an intensity that is proportional to the intensity of light shining on that location.

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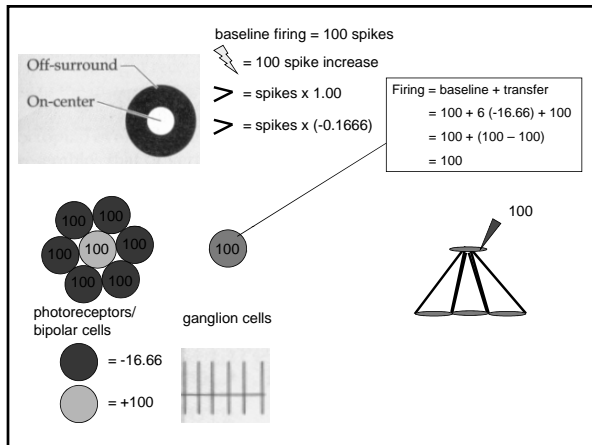
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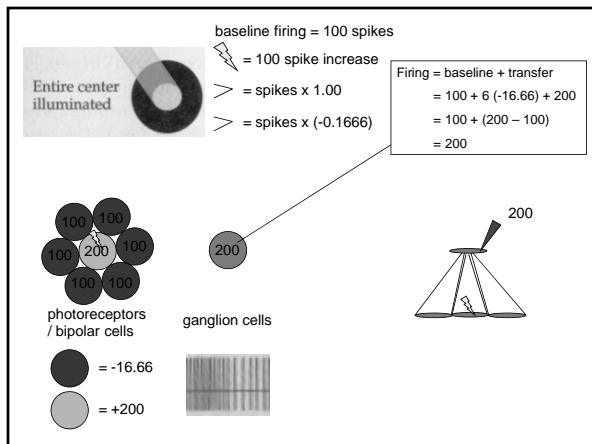
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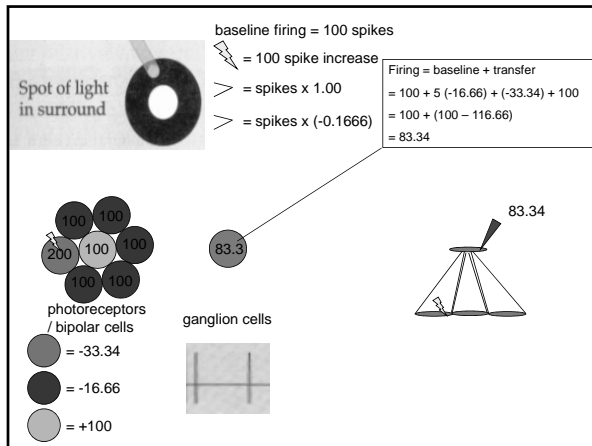
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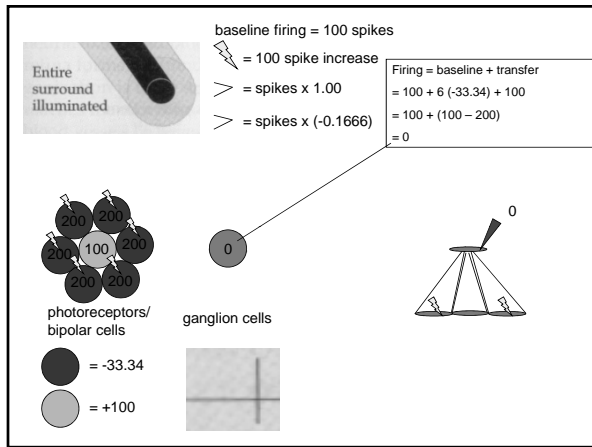
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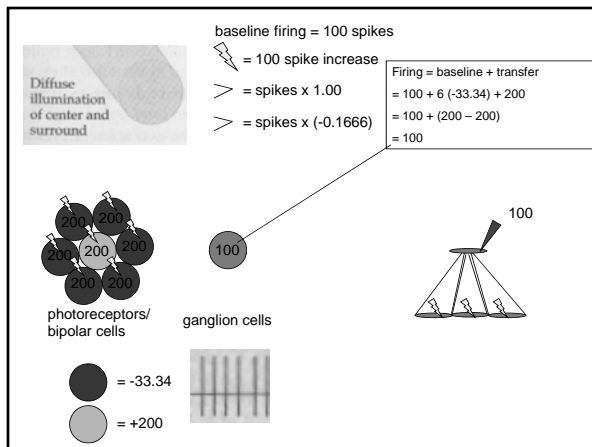
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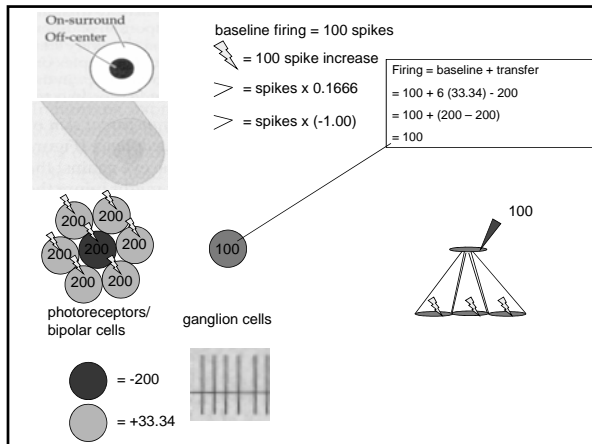
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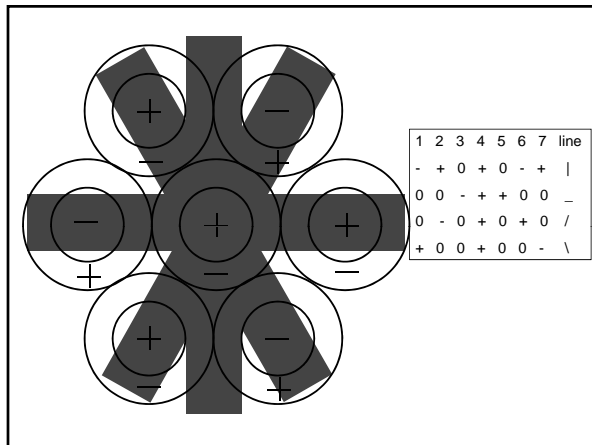
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### Types of Ganglion Cells

- Parvo cells
  - colour & form detectors
- Magno cells
  - motion detectors

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## Visual Pathways

- Geniculostriate system. Eye --> *lateral geniculate nucleus (LGN)* in the *thalamus* --> the primary visual cortex—called the *striate cortex*.
- Tectopulvinar system. Eye --> *tectum (superior colliculus)* --> to part of the *thalamus* called the *pulvinar* --> visual cortex.

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## Visual Areas

- Cells
  - Simple
  - Complex
  - End-stopped (Hypercomplex)
- V1 & V2
- V3
- V4
- V5

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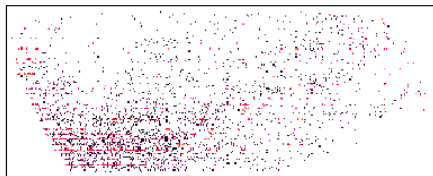
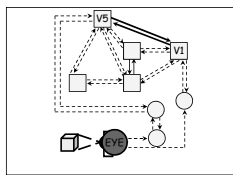
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V1 layer 4b

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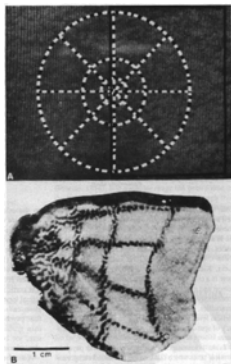
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Tootell, Silverman, Switkes, and De Valois (1982)



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