Stages of perception

Stage 1: Features

Stage 2: Patterns

Stage 3: Visual working memory

The eye:

* Most interested in retina, fovea in particular
* Photoreceptors line in a layer called retina
  + Most interested in retina, fovea in particular
  + Rods (low light)
  + Cones (normal / high light)
  + Highly disproportionately distributed near fovea
    - If fovea not aimed at spot, far lower detail

Most important patterns for visualization:

* Non-aligning bars easing to perceive (d & e)
* Rest need specific size and contrast

Light looks more light near dark, dark looks more dark near light

Thrichromacy Theory:

* We perceive lights and colors at around 3 different wavelengths (Red, Green, Blue), from specialized cones

Opponent process model:

* How signals are processed

Color in data visualization:

* Luminance (how bright)
* Saturation (how colorful)
* Hue (what color)

Color contrast not enough, must have luminance contrast (for clarity, not artistic reasons)