

Depth and size



The image features the text "Depth and size" written in a yellow, cursive font against a solid blue background. The text is positioned in the upper half of the frame and has a subtle drop shadow effect, making it appear to float above the surface. The font is elegant and flowing, with a slight slant to the right.

Binocular Vision Is NOT Essential

Cues with 1 and/or 2 eyes:

- accommodation & convergence
- texture gradient
- atmospheric perspective
- linear perspective
- familiar size
- height in the field of view
- shadows
- interposition (occlusion)
- motion
- motion parallax

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Cues with 2 eyes only:

- binocular disparity
 - crossed
 - uncrossed

Horopter & Panum's Fusion Area

Depth (size) constancy

- binocular disparity
Wallach & Zuckerman (1963)
- motion parallax

Physiology: binocular disparity

- Barlow et al.
- Poggio et al.

Atmospheric perspective

Perspective

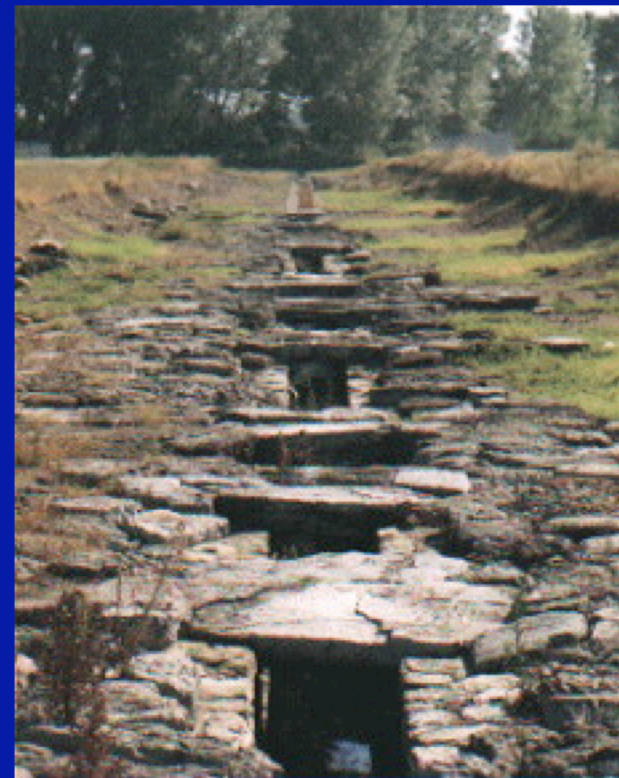
Shadows



Un tipico paesaggio toscano lungo la Via Francigena

Height in the field of view

Interposition

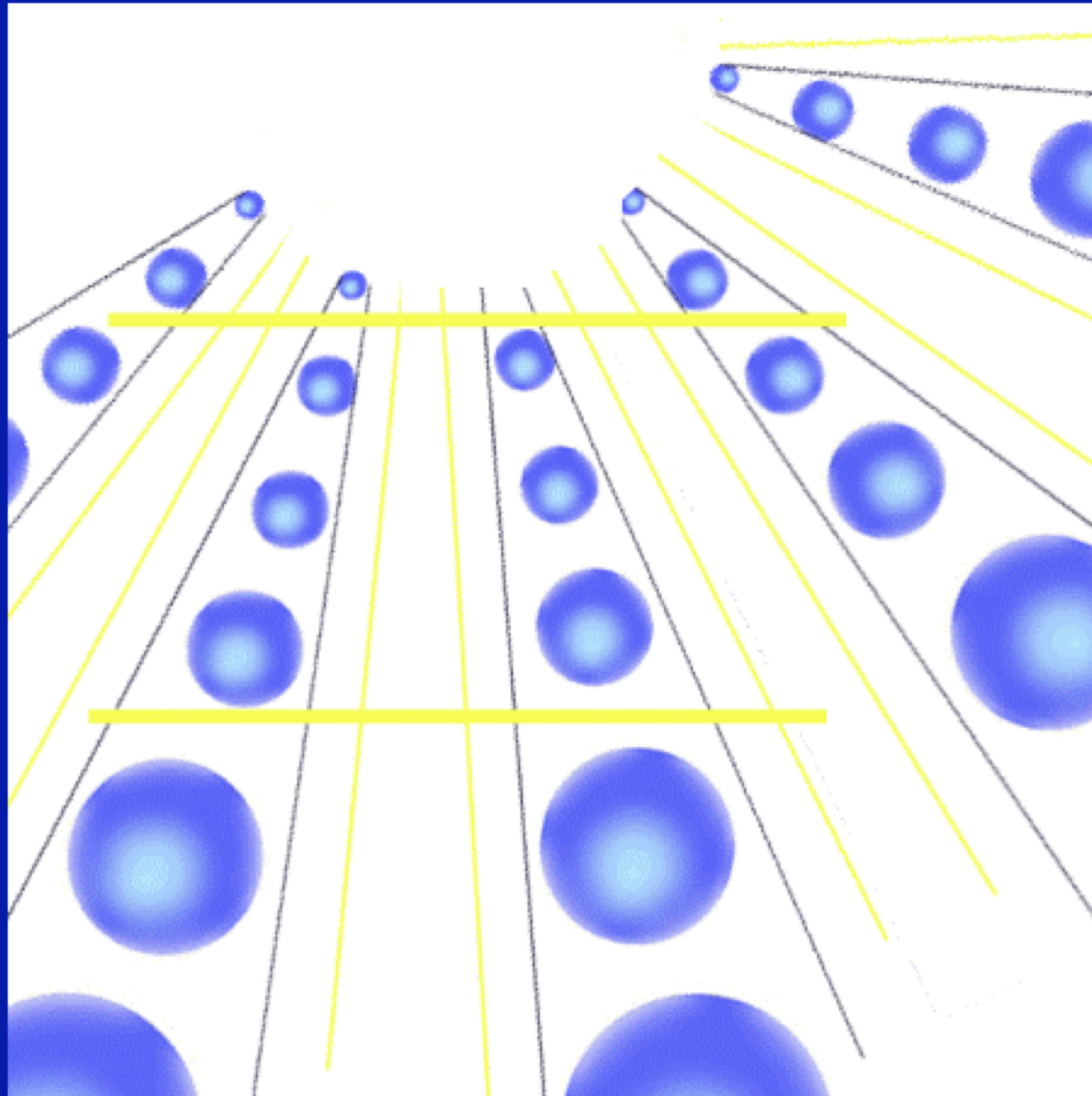


Luni (Liguria). Particolare del decumano massimo, tratto cittadino dell'Aurelia

Atmospheric perspective
Linear perspective
Texture gradient
Height in the field of view
Interposition




Abbazia-ospizio di San Michele della Chiusa (Piemonte).






Familiar size

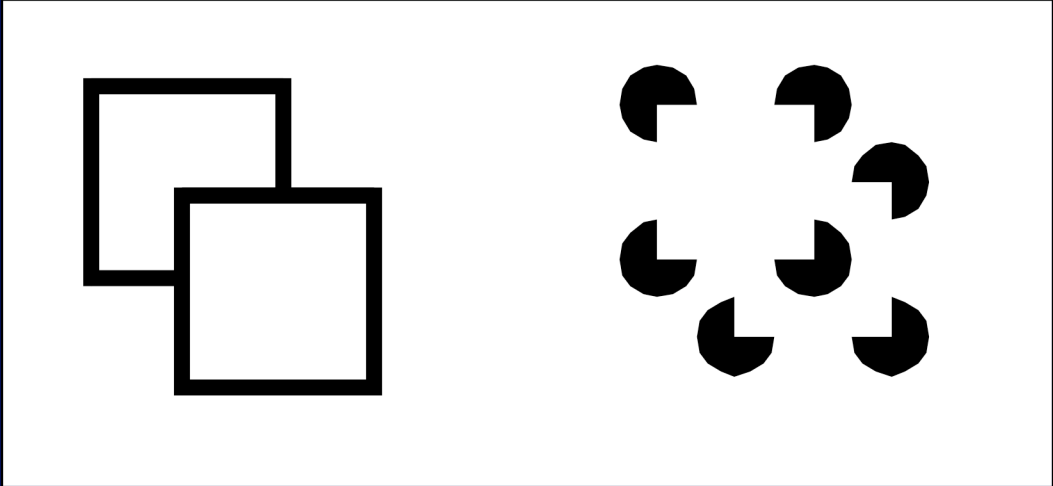
Mobility 1
Made exclusively
for Apple by
Brenthaven
for your
new
12" iBook.

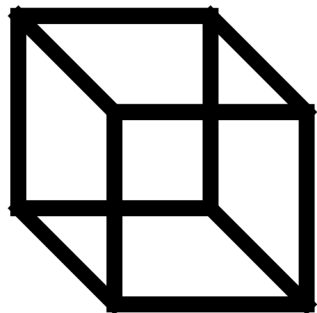


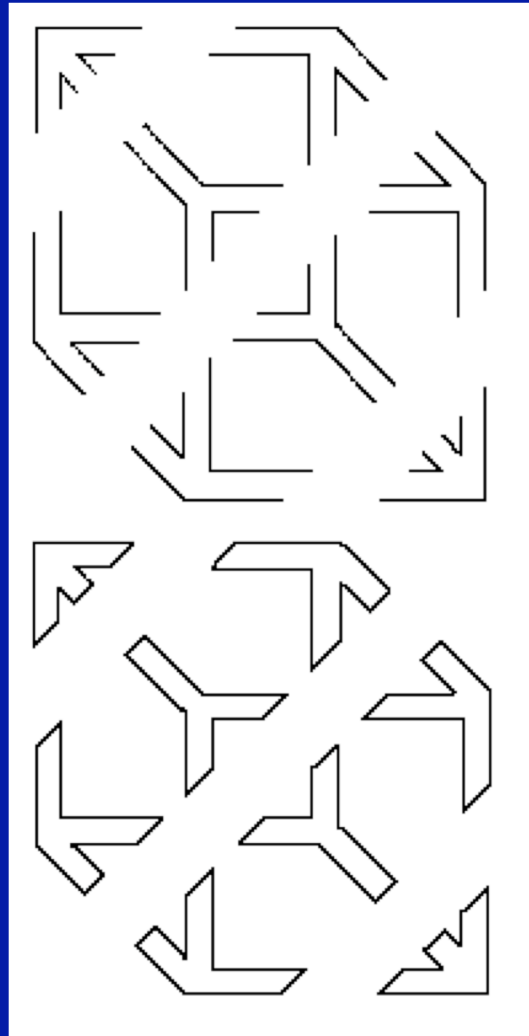
**Student, faculty
or staff?**

Find out if you
qualify for
education
discounts.

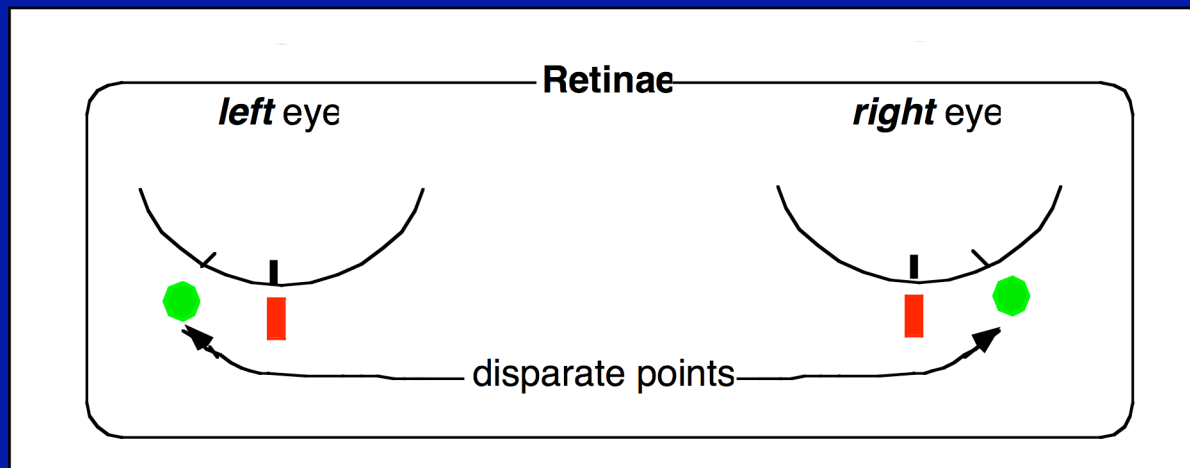
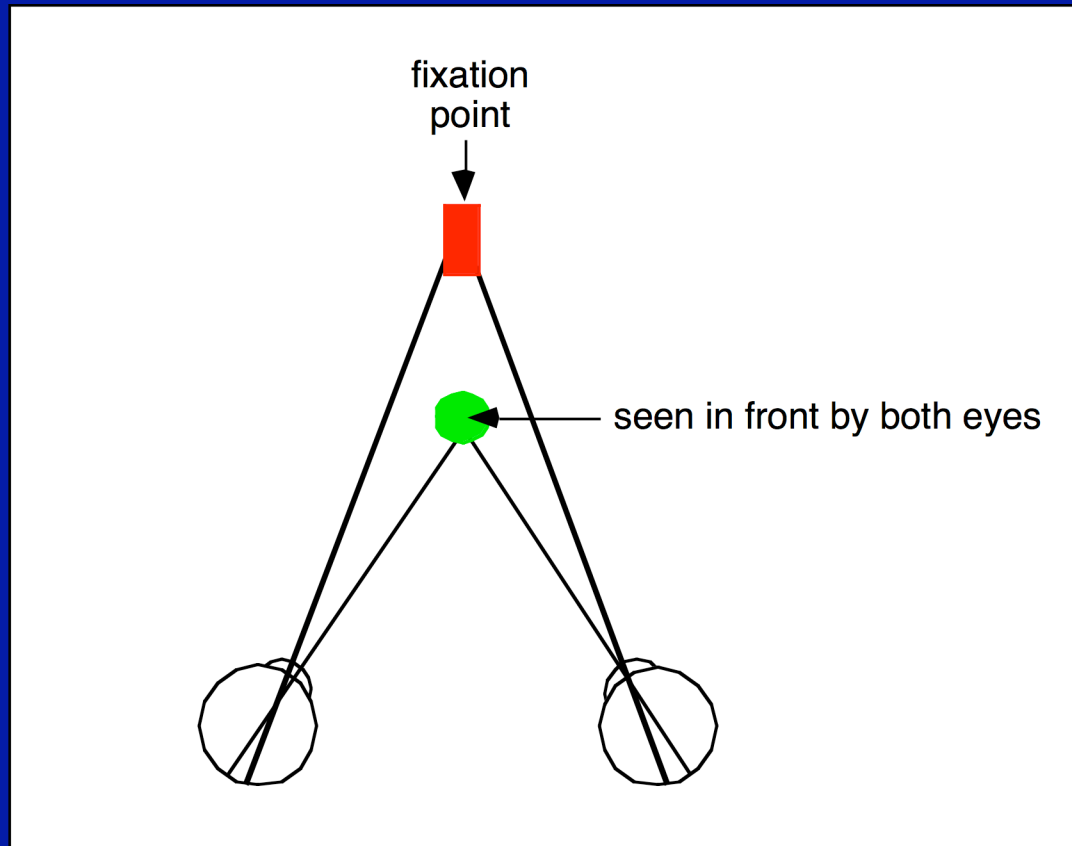




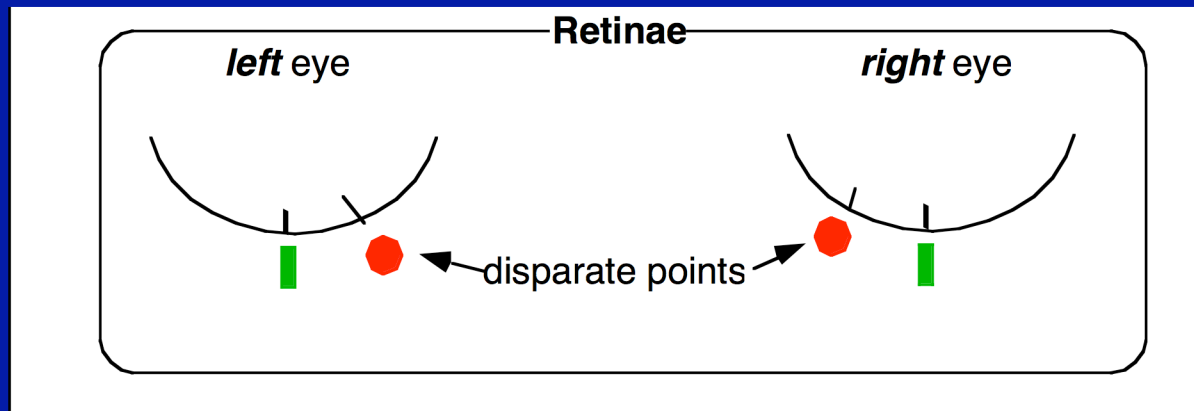
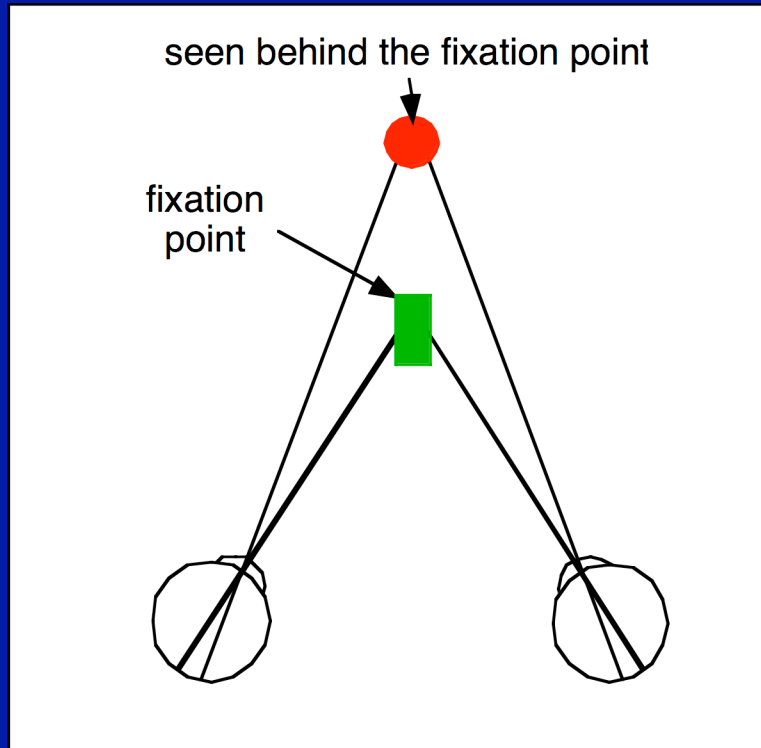


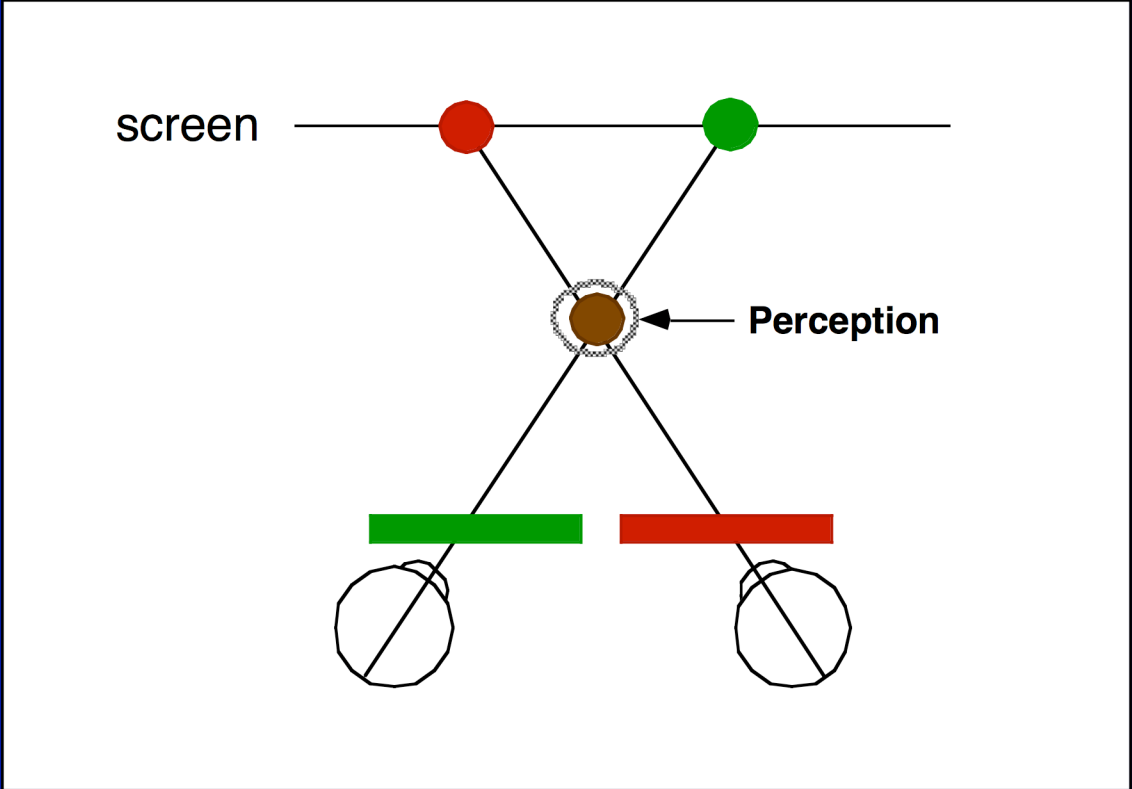


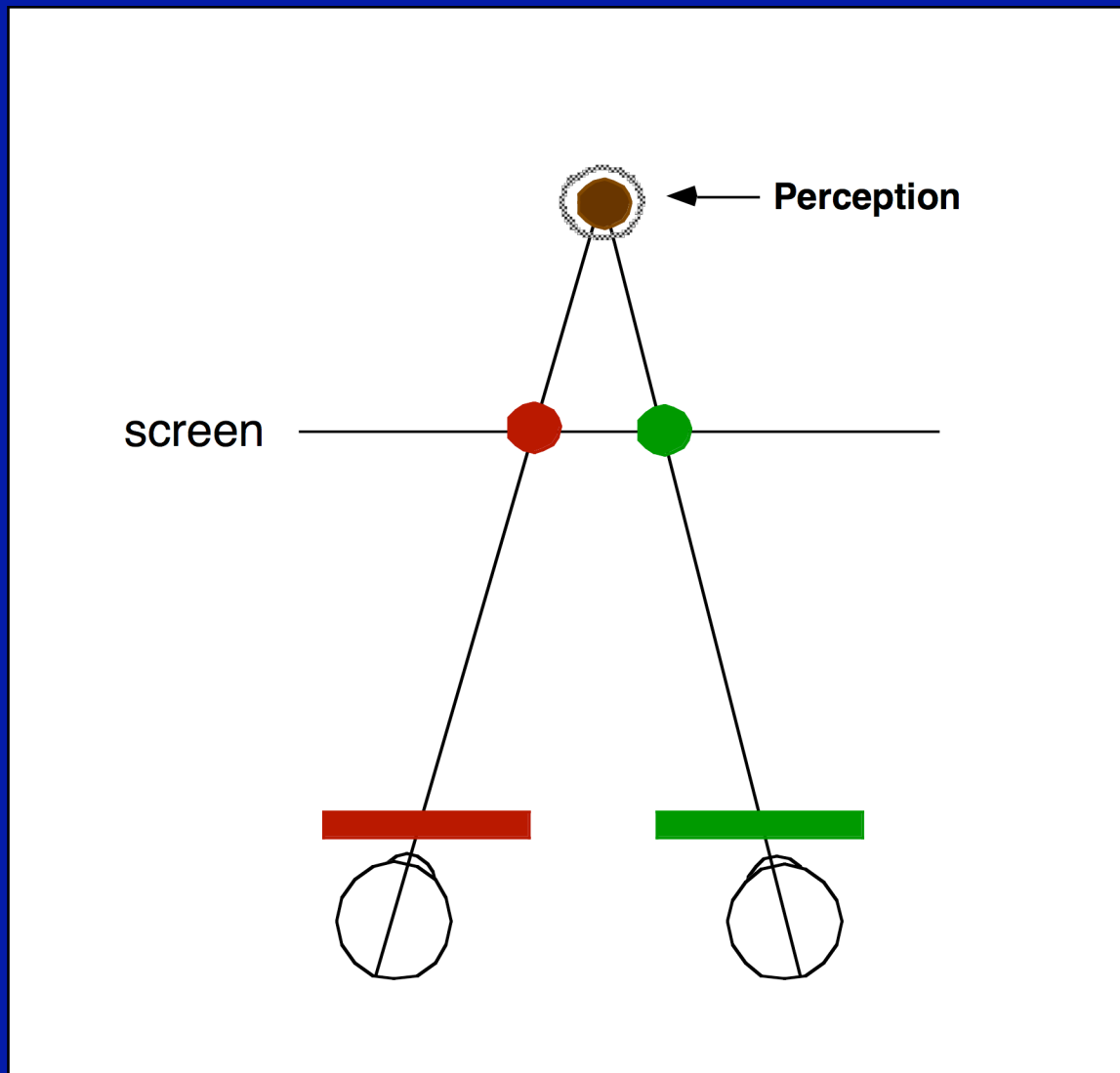
Crossed Disparity



Uncrossed Disparity

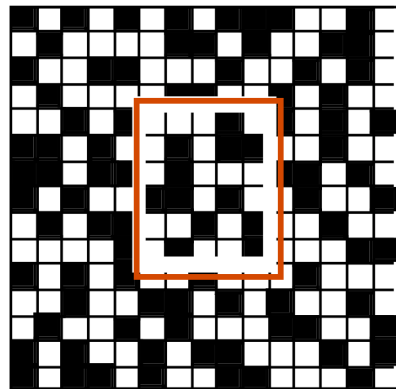




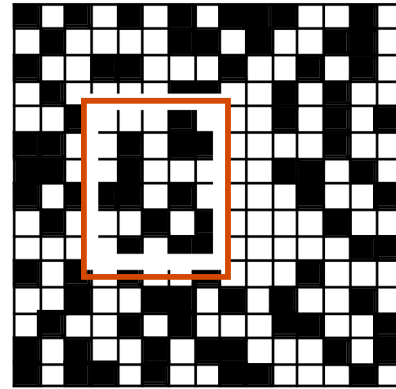


Julesz random dot stereogram

Left eye



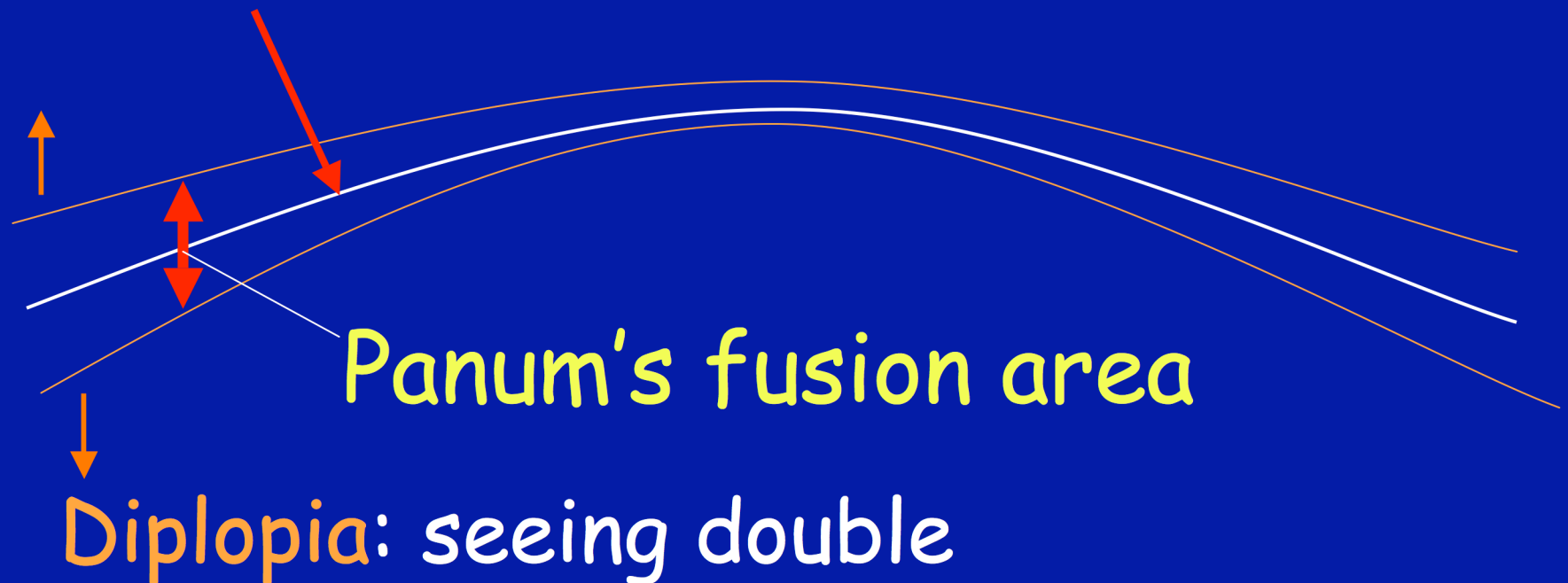
Right eye



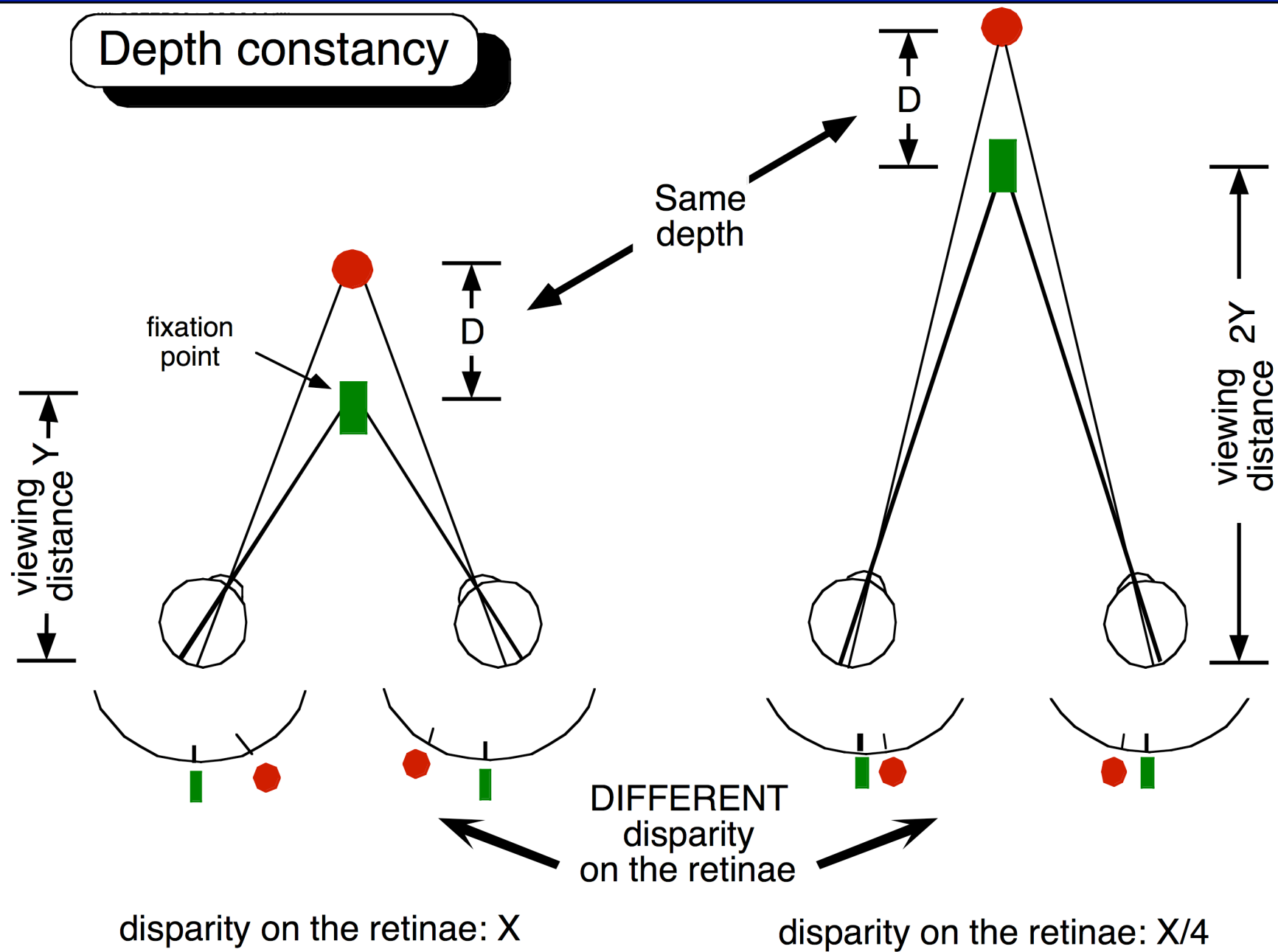
Disparity only

Horopter & Panum's Fusion Area

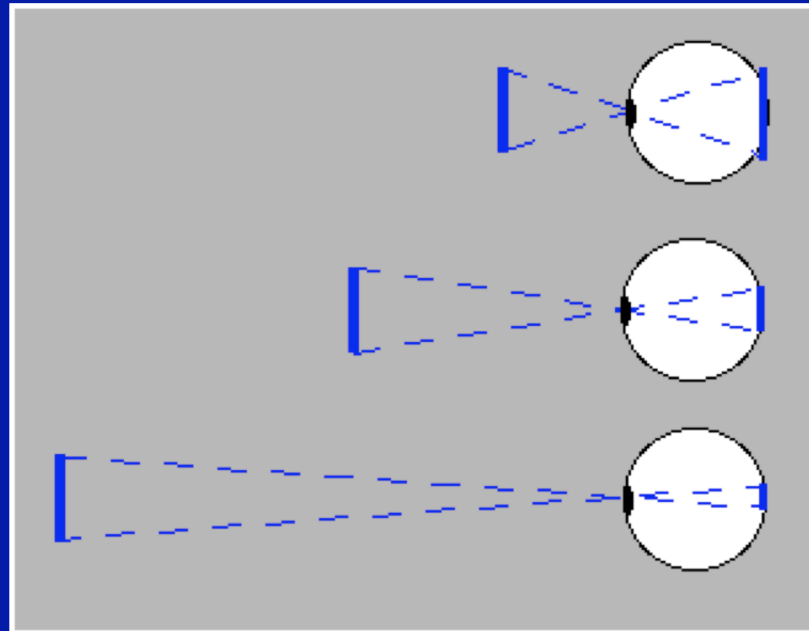
Horopter: fixation distance



Depth constancy

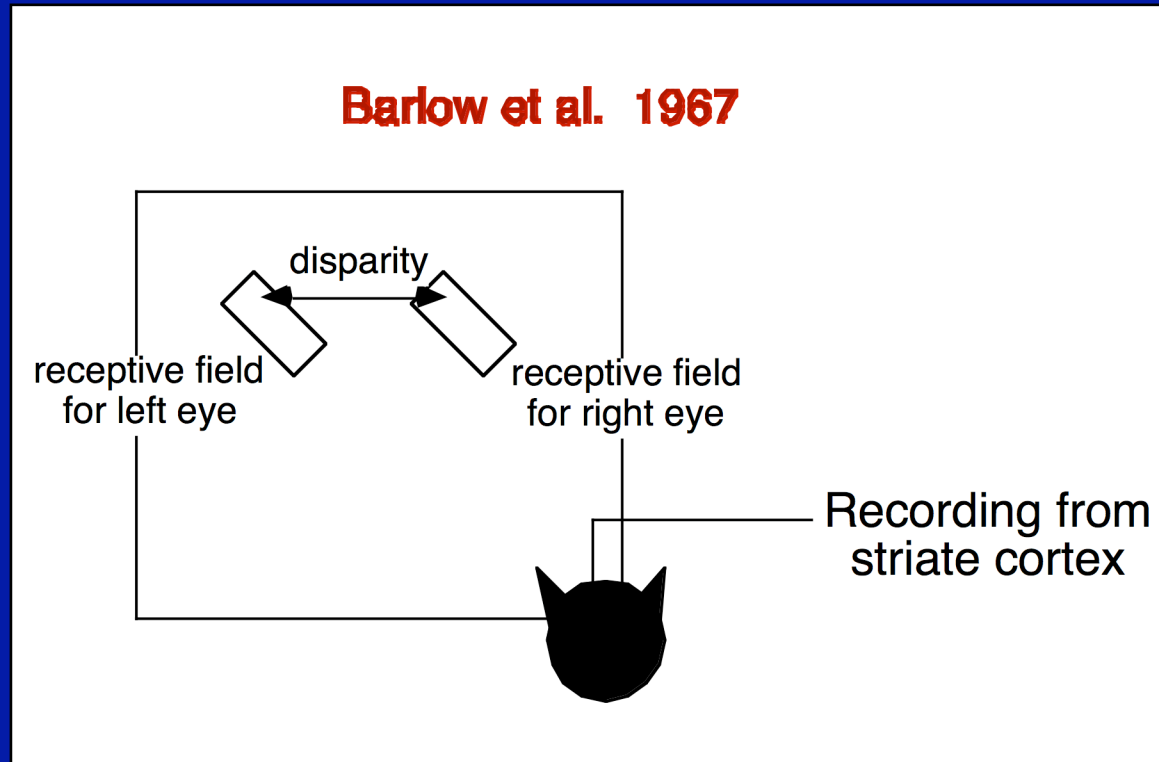


Size constancy

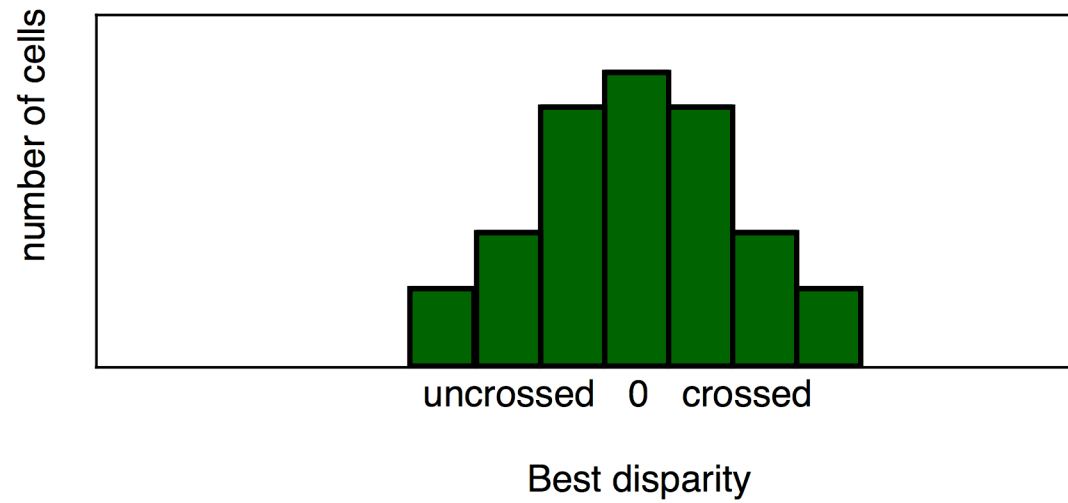


The size of the proximal image is inversely proportional to the square of the viewing distance.
In other words, when we increase the viewing distance by a factor of 2, we decrease the size of the image on the retina by a factor of 4.

Physiology: Binocular cells

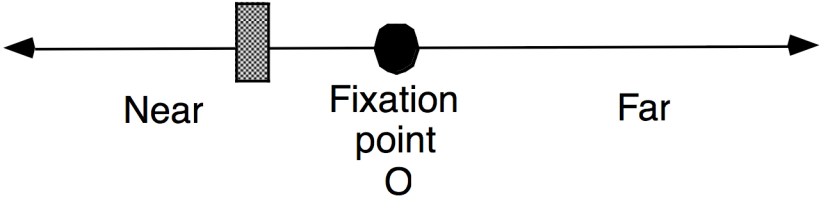
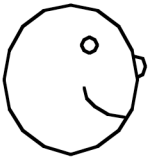


Binocular cells selective to different disparities

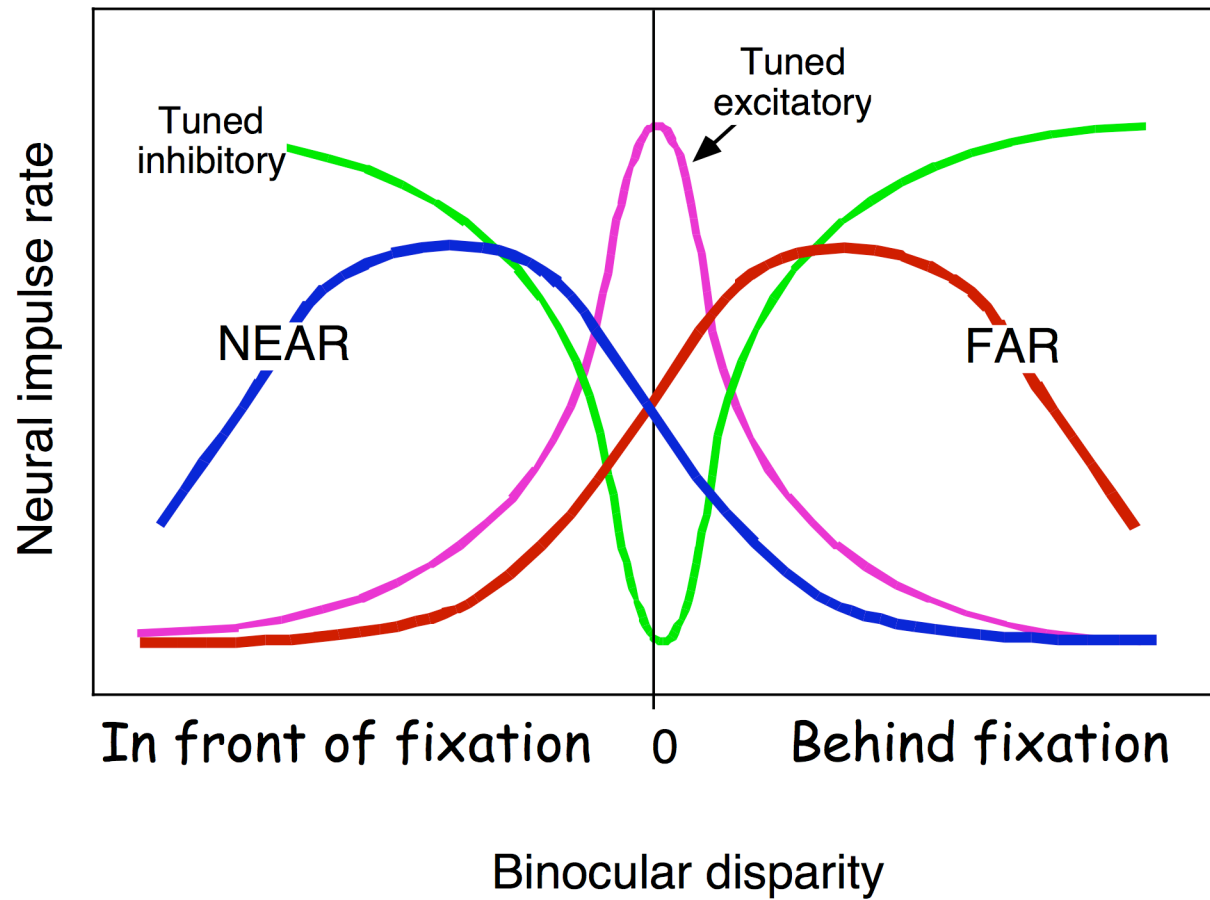


Poggio et al.

Alert monkey



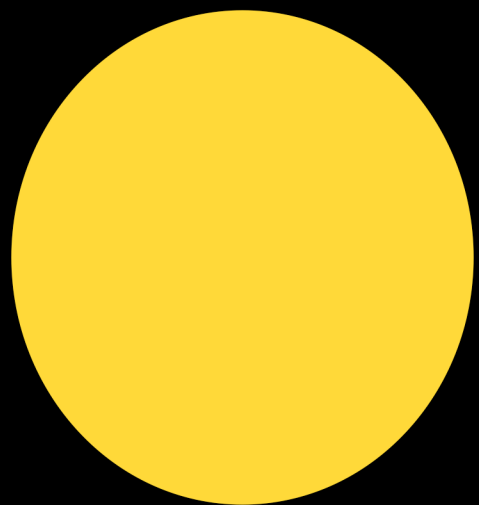
Types of binocular cells



The moon illusion



http://www.yorku.ca/hono/parallax_demo/



Size aftereffect

