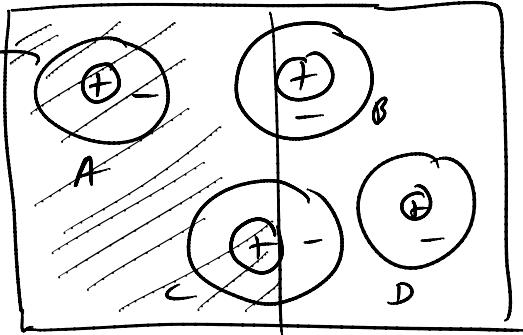


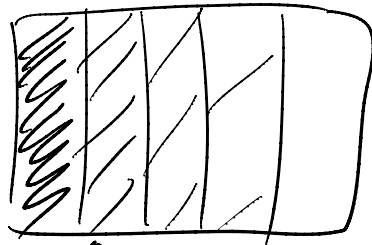
$$A = \frac{.15(.25 - .1)}{(4 \times .25)} = .15^2 = .0225$$



$$C = .075 (.25 - .1(3 \times .25 + 1.0)) = .005625$$

one explanation for Mach bands : ganglion cell receptive fields

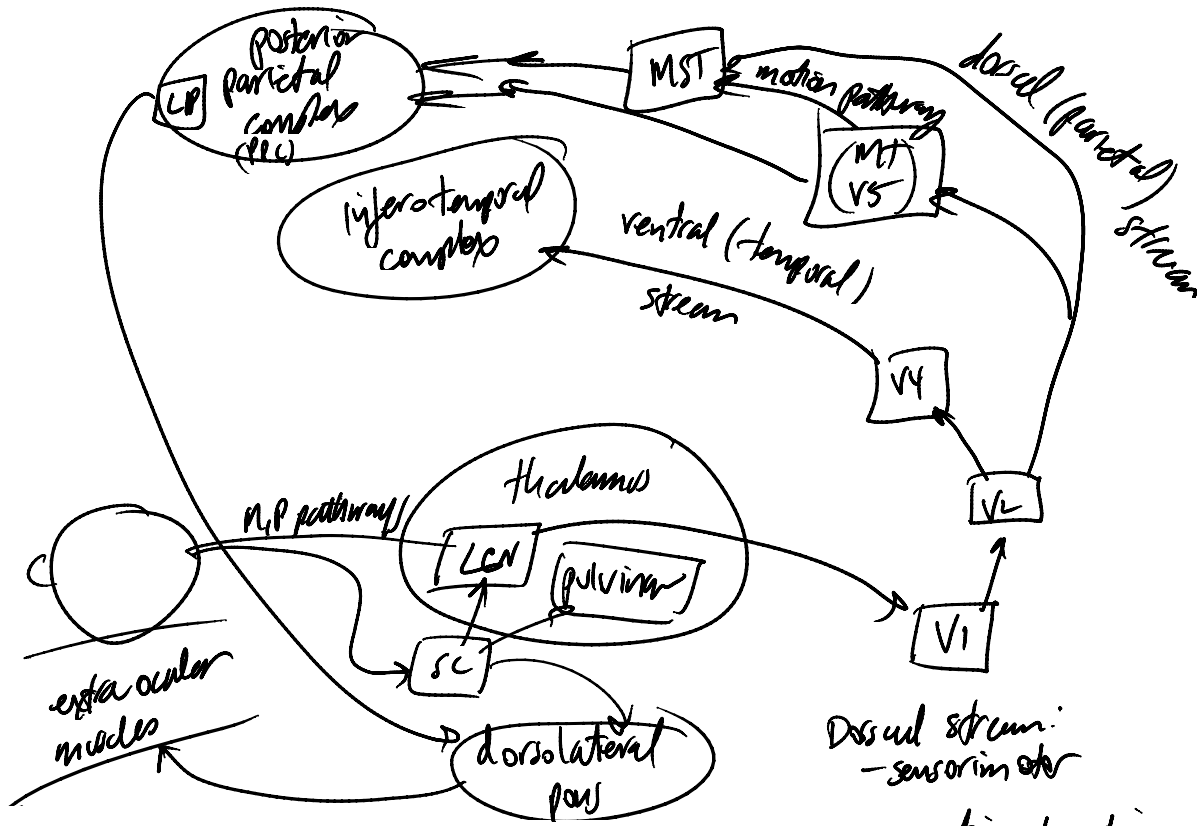
Mach band illusion:



↑ left edge appears brighter than right edge even though black, uniform grey

The brain & visual pathways
(focusing on M-, P- channels)

- └─ parvo-cellular } foveal
- └─ magno-cellular } peripheral



MT: middle temporal area } motion
MST: middle superior temporal } centers
LIP: Lateral Intra-Parietal

Dorsal stream:
- sensorimotor
- motion location
- where?
Ventral stream
- cognitive aspects
- what?

Areas of note:

- SC (superior colliculus): involved in programming eye movements
 - also remaps auditory space into visual coordinates (presumably for target location)
 - ↳ in CS: HRTF - head-related transfer function
→ programming head-related sound
 - ↳ which part of the brain specifies "direction" & "velocity" (trajectory) of eyeball
- in general:
 - parietal cortex: "disengages attention"
 - SC "narrows attention"
 - pulvinar: "engages attention"
- visual areas:
 - V1: detection of range of stimuli: color, motion, orientation
 - V2, V3, V3A, V4, MT: higher-level vision (recognition)
 - MT & MIP: motion processing

Key question: there is a certain amount of
specialization — do these specialized "centers"

work alone?
probably not —
high degree of
"cross talk" &
interconnections

see discussion on
Zeki's comments — be wary of overemphasizing brain