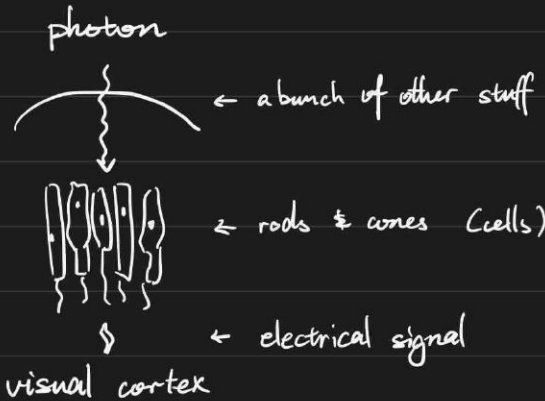


# Lecture 6 Perception

\* All perception wrong! Our brain construct understanding based on limited info!

## #1 Biological Basis

→ Vision as example



Fire diff neurons at diff places in visual field

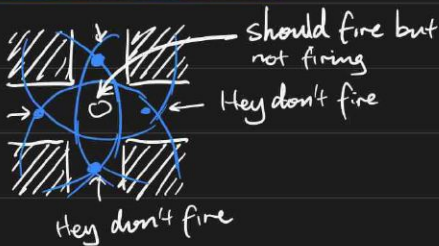
(feature detection in NN)

### Lateral inhibition

see sth interesting →  
make surrounding not fire  
→ edge detection



### Hermin Grid



### Retinotopic mapping

Make visual representation  
Near things on near neurons



### Receptive fields

Respond to certain region in visual field / certain feature / certain stimulus

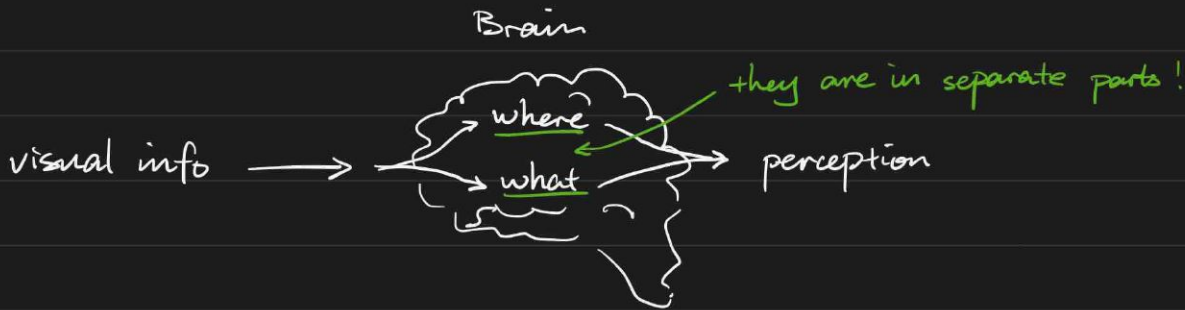
- Motion
- Orientation
- Direction
- Length

i.e. extra stimuli

\* **Relative Threshold** - How much need to change to make you notice something  
→ candle in dark vs candle here in lecture hall.

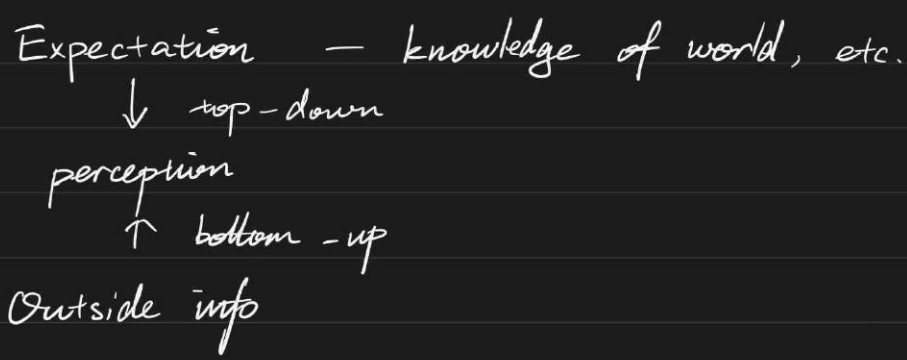
## #2 Visual Deficits

### \* Visual Pathway



- What system damage
  - Visual agnosia — can't recognise things
  - Prosopagnosia — can't recognise faces specifically
- Where system damage
  - Only able to draw part of sth.
  - Fail to dress / clean / make up etc.
- Blind sight
  - Not aware they can see, but they can

### #3 Perceptive Strat & Illusions



→ Some illusions

- Brightness constancy: brain auto correct brightness using context
- Colour ... .. colour ... ..
- Shape ... .. shape ... ..
- Size ... .. size ... ..