

# Lecture 3 notes and knowledge

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# 1 Pre-lecture

Preparation: Read chapter 4

- **What are some principles of Figure-Ground organization?**  
*Depth, Surroundedness, Symmetry, Convexity, Meaningfulness, Simplicity*
- **What grouping principles are used to identify the doors, windows and wheels of a bus passing by, as part of the same object?**  
*Perceptual grouping(Proximity, etc), perceptual interpolation(Ink spots, edge detection)*  
*Gestalt: Proximity, common fate, similarity*
- **What are some challenges the human brain need to face in identifying objects visually?**  
*Gestalt principles, edge detection, using these properly to stitch together the figure*
- **What is meant by bottom-up and top-down information? Can you give examples of when either is used?**  
***Top-down:** Knowledge and expectations, which affects perception (Expect jon to walk through a door, makes you recognize him faster, and what is more likely to be in a specific scene.)*  
***Bottom-up:** Information contained in the neural signals from the receptors.*  
*An example can be a wound, seeing it happen (Top-down) differs from feeling it (Bottom-up).*

# 2 Lecture

# 3 Knowledge

- Give examples of principles for figure-ground organization.
- Give examples of different grouping principles used by the visual system
- Explain the role of bottom-up and top-down information flow in object recognition

# 4 Important notes