

Week 6 Presentation: Hubel's Eye, Brain, and Vision

Hubel's Eye, Brain, and Vision

Introduction:

This presentation delves into David Hubel's foundational work on the primary visual cortex, exploring how the brain deconstructs the visual world into oriented lines and edges.

Brainstorming Questions:

1. **The Spooky Coat Rack:** Think of a time you mistook a shadow or a coat rack for a person in the dark. Retell this “scary story” to a 5-year-old, explaining how your brain “guessed” wrong based on the shape. Contrast this with a robot, which would just see “wood and metal,” to explain why humans are better at guessing but also easily tricked.
2. **The “Staticky” Phone Call:** Have you ever read a text message with typos but understood it perfectly? Explain, as if you were talking to, your grandma how her brain is a “super-guesser” (Top-Down Processing) that fills in the blanks based on what she *expects* to see or hear, just like understanding a friend’s voice over a bad phone connection.
3. **The Upside-Down Family:** Look at a photo of a family member upside down. Is it weirdly hard to recognize them? Use this experience to explain to a child why faces are special “puzzles” that our brain likes to solve all at once (holistically), not piece-by-piece like a Lego set, and why it gets confused when the pieces are flipping around.

Recommended Readings:

- Hubel, D. H. (1995). *Eye, brain, and vision*. Scientific American Library.