Perception
Psyc 303 - 2008 - 1

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Plan for today.

- Go over the Syllabus.
- What is Perception?
- Meta-Theoretical Overview.
  - Theories.
- Quick neuron review.

Course Details

- **Text:** Coren, S., Ward, L. M., & Enns, J. T. (2004). Sensation and Perception, (6th. ed.). Toronto, ON: Harcourt Brace & Company.
  - Earlier/newer editions?
  - Reading load?

More details….

- Tentative outline of topics
  - topics to omit
- Academic Honesty
- Exam Structure (MT and Final)
  - 70 MC
- Web Site
  - tour and utility--no guarantee

More details….

- Lectures
  - start times
  - break times
  - lecture tapes
- Contacting Me
  - office hours - Tues. 1:00 - 2:00 - *in RCB 6319*
  - or by appointment

My Teaching Philosophy

- Role of the Instructor
- Role of the TA
- Role of the Students

Quizzes

- 2 Quizzes – each worth 20%
- 2 weeks before each exam
- week before - 10 possible quiz questions from which 2 will be chosen.

Presentation

- worth 10%
- groups of 3 or 4
- presentations will be a maximum of 15 min in length + questions
- 1 or 2 presentations per week starting the 4th week of classes (excluding quiz and exam days)

Introduction to Perception

- Why study Perception?
  - Intellectual curiosity
  - Change
  - Limits
  - Enhancements

Some basic questions.

- Get into your presentation groups
- Try to answer all five questions for yourself as well as for the group.

- How do we know things?
- How accurately do our senses tell us about the world?
- What is the difference between *Sensation* and *Perception*?
- Are perceptual processes ever affected by what we already know about the world?
- When we see things, do our visual processes operate like a camera?

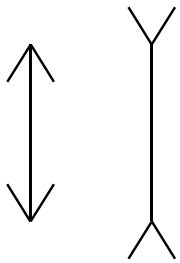
How do we know things?

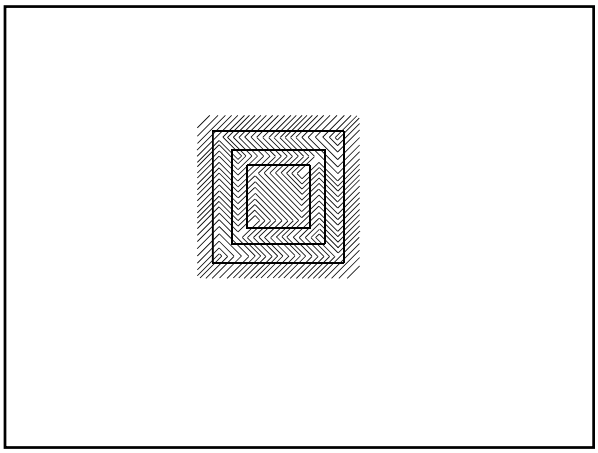
- Only through our senses?
  - everyday experience
  - Scientists

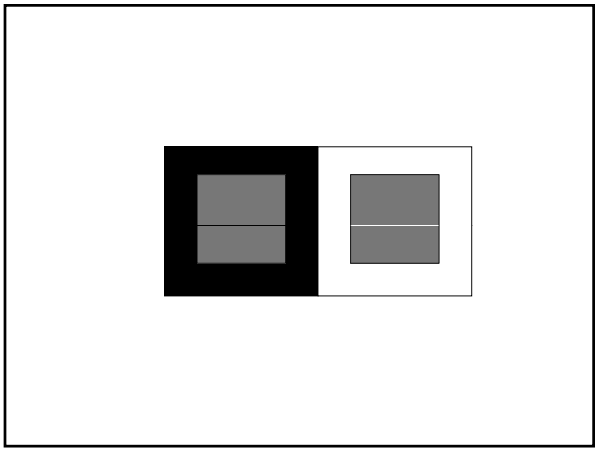
POINT: We know things only from the information about the world that we pickup with our senses.

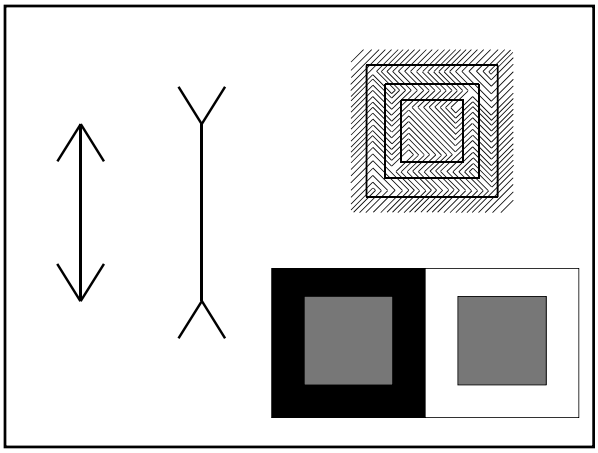
- POINT: we are continually sensing and perceiving all kinds of information from different sources.
- POINT: we tend to take our ability to perceive things for granted—it is so effortless and automatic—yet, the underlying processes are complex and very elaborate.

How accurately do our senses tell us about the world?









How accurately do our senses tell us about the world?

- not always completely accurate
- So What?

POINT: Sensory information is usually but not always accurate.

What is the difference between Sensation and Perception?

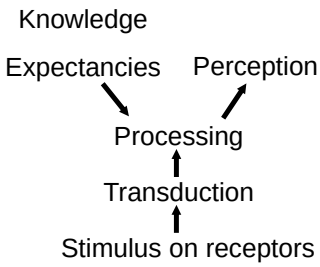
- A simple distinction:
  - Sensation is the *immediate, basic experience* generated by external stimuli.
  - Perception involves the *interpretation of these sensations*, giving them meaning and organization.

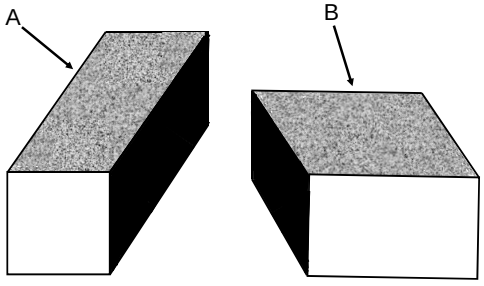
Sensation and Perception--cont.

- No clear boundary--fuzzy line.
- Physical Energy --> Symbolic Signal = "Transduction"
- POINT: Think of Sensation as the initial processing carried out by our sensory systems and Perception as the interpretive processing of this sensory information.

Are perceptual processes ever affected by what we already know about the world?

- bottom-up/data-driven
- top-down/conceptually-driven





- POINT: Perception is sometimes affected by what we already know about the world, in which case it is conceptually-driven. But there are also situations in which perception is *not* affected by this high-level information so it is data-driven.

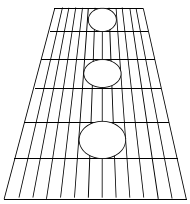
When we see things, do our visual processes operate like a camera?

- Inner Screen Theory
- Homunculus

- POINT: When we see, our visual processes are NOT the same as the operations of a camera. They are much more elaborate.

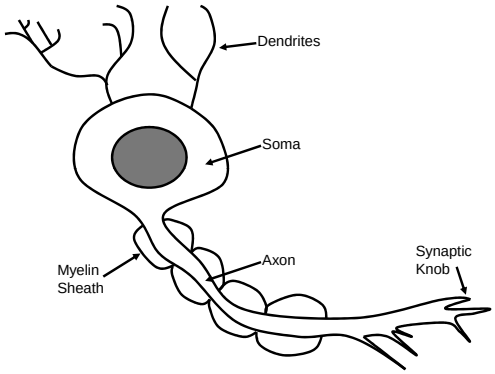
Theoretical Approaches

- Biological Reductionism
- Direct Perception
- Computational Theories
- Intelligent Perception
  - Constructive Theories
- Which One?



Review of the basics...

- Neurons
  - components



Review of the basics...

- Neurons
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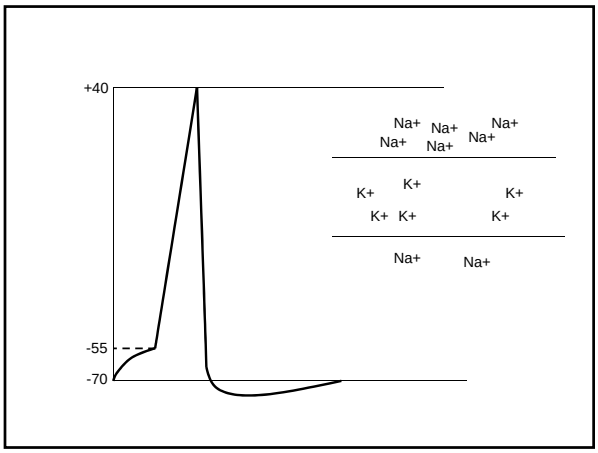
- Action Potential (spike)



Review of the basics...

- Neurons
  - components
- Action Potential (spike)
- PSP (EPSP & IPSP)
- Resting firing rate