Developmental Psychology I -
What is Behaviourism and How did it Die?

- Classical Conditioning
  - Pavlov and his Dogs
- Operant Conditioning
  - Skinner and his Pigeons
- Language Acquisition
- Observational Learning
  - The Bobo Doll
Classical Conditioning - Pavlov and His Dogs

**BEFORE CONDITIONING**
- UCS (food in mouth) → UCR (salivation)
- Neutral stimulus (tone) → No salivation

An unconditioned stimulus (UCS) produces an unconditioned response (UCR).
A neutral stimulus produces no salivation response.

**DURING CONDITIONING**
- Neutral stimulus (tone) + UCS (food in mouth) → UCR (salivation)

The unconditioned stimulus is repeatedly presented just after the neutral stimulus. The unconditioned stimulus continues to produce an unconditioned response.

**AFTER CONDITIONING**
- CS (tone) → CR (salivation)

The neutral stimulus alone now produces a conditioned response (CR), thereby becoming a conditioned stimulus (CS).
Learning and Unlearning

• In classical conditioning learning is the association of a CS with a UCS to the extent that the CS produces the UCR (now it is a CR)
• Generalization occurs when the CS is changed slightly and the CR still happens
• Discrimination occurs when the CS is changed and the CR does not happen
• Extinction occurs when the CS no longer produces the UCR
Operant Conditioning

• How does an organism learn to do things it doesn’t normally do? That is how do you ever get behaviour that doesn’t occur as an UCR?
• Operant Conditioning has an answer - behaviour that is rewarded will occur more often in the future; behaviour that is not rewarded will occur less often
• Complex behaviours can be shaped through rewards
• Learning is the acquisition of new behaviours
Types of Reinforcers

- Positive reinforcer - getting good things
- Negative reinforcer - removing bad things
- Note a negative reinforcer is not a punishment
- Primary reinforcers - pleasant in their own right
- Conditioned reinforcers - pleasant through their association (note the classical conditioning here)
Language Acquisition

• Skinner’s account - we learn language through reinforcement
• Chomsky’s account - we have an inborn ability to learn language
• Here behaviourism was clearly wrong
Observational Learning

• Do we only learn by being rewarded or punished?
• Bandura thought that perhaps we can learn just by watching. Note how this requires thought to intervene.
• Let’s look at the Bobo Doll study.
• Implications for violence on TV and in the movies.
The Big Picture -
The fundamental Issues Being Addressed

• Nature vs. Nurture
• How applicable is the science of psychology to everyday life
• Is there still a role for behaviourism?
Developmental Psychology II
The Big Picture

• Physical Development
  • We will focus on big changes early and late
• Cognitive Development
  • Piaget’s Theory
  • Recent evidence extending and qualifying this theory
• Social Development
  • Attachment Theory
  • Erikson’s Theory
  • Gender Development
Physical Development
Infancy
Physical Development
Declines in Old Age

Proportion of normal (20/20) vision when identifying letters on an eye chart

Percent correct when identifying smells

Percent correct when identifying spoken words

The accident rate jumps over age 65, especially when measured per miles driven.

Fatal accidents per 10,000 drivers

Fatal accidents per 100 million miles
## Cognitive Development

**Piaget’s Theory**

### Table 4.1

<table>
<thead>
<tr>
<th>Typical Age Range</th>
<th>Description of Stage</th>
<th>Developmental Phenomena</th>
</tr>
</thead>
</table>
| Birth to nearly 2 years| *Sensorimotor* Experiencing the world through senses and actions (looking, touching, mouthing, and grasping) | • Object permanence  
                           |                                                      | • Stranger anxiety |
| About 2 to 6 years     | *Preoperational* Representing things with words and images but lacking logical reasoning | • Pretend play  
                           |                                                      | • Egocentrism  
                           |                                                      | • Language development |
| About 7 to 11 years    | *Concrete operational* Thinking logically about concrete events; grasping concrete analogies and performing arithmetical operations | • Conservation  
                           |                                                      | • Mathematical transformations |
| About 12 through adulthood | *Formal operational* Abstract reasoning                                             | • Abstract logic  
                           |                                                      | • Potential for mature moral reasoning |