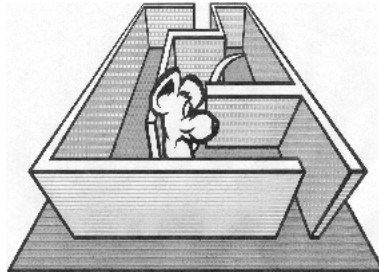# Psyc 104: Learning

Chs 1 & 2 Intro and Methods

Intro to Learning and History

Chapter 1

Behavior and Learning

- What is *behavior?*

    – Example: Observing a child randomly pushing the buttons on a stereo

Behavior and Learning

- What is *learning?*

   • Example: Pushing volume button more when notice the change in loudness that occurs.

Behavior and Learning cont.

•Why "Potential Behavior"?

    •behavior changes are not always immediate (can be exhibited at a later time).

        •Example: the child now will begin pushing buttons on many different objects that she encounters in the future.

    •Every time you learn something new, you have the <u>potential</u> to behave differently!
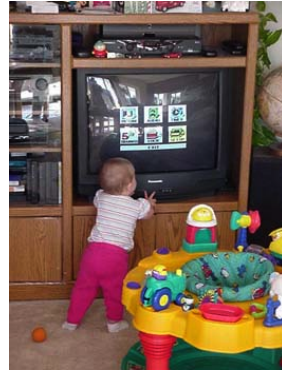
Behavior and Learning cont.

- What causes these types of behavioral changes?
  - Classical Conditioning
    -
  - Operant Conditioning
    -
  - Observational Learning
  - Inherited patterns of behavior
    - e.g. fixed action patterns

Historical Background

- Aristotle: Empiricism and Laws of Assoc.
- Descartes: Mind-body Dualism and the Reflex
- The British Empiricists
- Structuralism
- Functionalism

- PROBLEM:

Behaviorism

- John Watson disliked previous approaches

- Wanted Psychology to be a true science

- Law of Parsimony – the simpler the explanation, the better!
- Learning is more important than genetics

5 Schools of Behaviorism

- Watson's Methodological Behaviorism
- Hull's Neobehaviorism
- Tolman's Cognitive Behaviorism
- Bandura's Social Learning Theory
- Skinner's Radical Behaviorism

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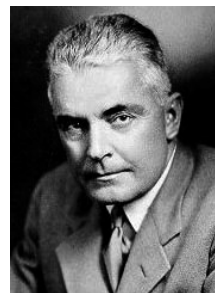
Watson's Methodological Behaviorism

- Most extreme form
- Study

- Psychology's "mentalism" must be stopped for the discipline to survive

---

Methodological Behaviorism: Role of Internal Processes

- Internal processes consist of:
  - Conscious processes

  - Unconscious processes

- Internal processes exist, BUT:

Other Characteristics of Methodological Behaviorism

- Called "S-R Theory"
- Learning:

  – Example: Lights turn off in classroom(S)-->talking stops(R)
- Mechanistic view (robotic)
- Extreme position on the nature vs. nurture issue
  - Only a few reflexes & basic emotions were inherited

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Hull's Neobehaviorism

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Hull's Neobehaviorism

- Disagreed with Watson:
  - Rejected Watson's view that unobservable events (internal processes) couldn't be studied
  - Thought

    - Example: "thirst" defined as number of minutes since last drink
  - Believed some of these processes could mediate between the environment and behavior
   - Called these mediating processes
    - Processes were

Hull's agreement with Watson

- Shared the view that Psychology's mentalistic emphasis must go!
  - Only used internal variables that could be measured
    - Example: tired measured as # hours since sleep

- Also took a pure S-R approach to learning

- Theory was also mechanistic

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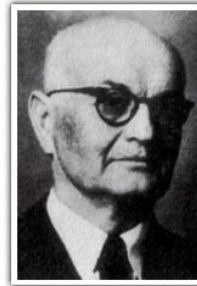

Tolman's Cognitive Behaviorism

- Disagreed with Watson and Hull:
    - Analyzed behavior more holistically – NOT just as a series of S-R connections
    - Viewed behavior to be "goal directed"
    - Influenced by Gestalt psychologists
        - "Whole greater than the sum of its parts"
    - Believed that internal cognitive processes like "expectations" and "hypotheses" guided behavior instead of just physiological processes (like Hull's view)

Tolman's Cognitive Behaviorism

- Example: Navigating through the environment
  - Hull Says:
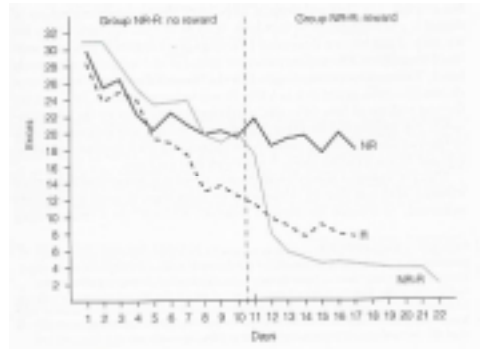

  - Tolman says:

    - Build up a

Intervening Variables in Tolman's Approach

- <u>Cognitive Map</u> -

- 3 groups of rats
  - Given reward (R)
  - Given no reward (NR)
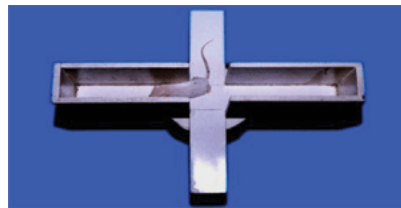 - Given no reward and then after 10 days began giving a reward (NR-R)
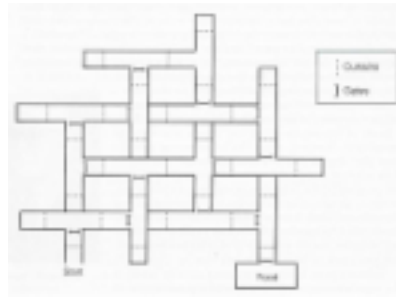
Concepts in Tolman's Approach

- Latent Learning

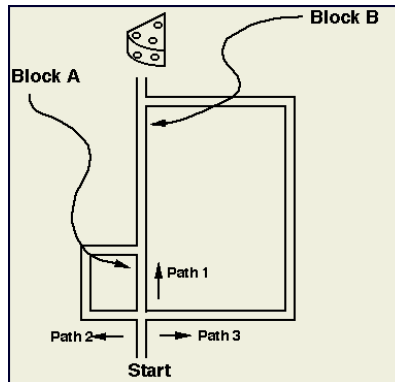
- Distinction between "learning" and "performance

Place learning vs response learning

- Place learning:

- Response learning:

- Results:

Concepts in Tolman's Approach

- Blocked Paths
  - Rats explore a maze
  - Then food provided
    - Take Path 1 (shortest)
    - If blocked at A,

    - If blocked at B,

  –

Ways that Tolman Agrees with Watson & Hull

- Thought it was necessary but "shameful" to have to incorporate internal processes to explain behavior

- Believed it was only okay to include internal processes because they were *inferred* from directly observable behavior

5 Schools of Behaviorism

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- Hull's Neobehaviorism
- Tolman's Cognitive Behaviorism
- **Bandura's Social Learning Theory**
- Skinner's Radical Behaviorism

Bandura's Social Learning Theory

- Most different from Watson's view

- Interested in the influences of

- Emphasized

  – E.g. If I also clean up my room I'll expect to get reinforcement.

Bandura's Social Learning Theory continued

- Believed in *"reciprocal determinism"*

  - For example:
    - Having aggressive thoughts can result in aggressive behavior.
    - The aggressive behavior in turn effects the environment by causing others to have aggressive thoughts and actions
    - Their actions then affect your environment and change your thoughts.

Influences of Bandura's Theory

- Helped stimulate the development of Cognitive Theory by building on Tolman's approach
  -
  -
  -

- Laid the groundwork for the popularity of Cognitive Behavioral Therapy
  - Treatment -

    - Example: (depression) change areas in env. that cause extra stress and works to omit pessimistic thoughts
- Led to research on the influence of television (and other aspects of pop culture) on behavior

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Skinner's Radical Behaviorism

- Another strict form of behaviorism

- Emphasized influence of <u>environmental consequences</u> on overt & covert behavior & rejects internal events as *explanations* for behavior.
  - "overt behavior":
  - "covert behavior":

Ways Skinner Agreed with Watson

- Disliked the increasing interest in internal processes
  - Emphasized the influence of the environment on overt behavior
  - <u>Rejected</u> the use of internal processes (or covert behaviors) to <u>explain</u> overt behavior
    - e.g. can't use "fear" to explain running away
  - Believed "thoughts" and "feelings" were themselves behaviors that needed to be explained by environmental events
    - e.g. use being bitten by a dog to explain "fear" of dogs

Characteristics of Skinner's View

- Emphasized environmental consequences on causes of behavior
  - e.g. baby stands up for the first time --> praised
  - Baby will try to stand up again in the future (caused by praise)

- Not as mechanistic as Watson and Hull (we're not helplessly controlled by environment)
  - *Countercontrol –*

Research Methods: For Outside of Class

- Understand basic definitions in boldface in text so when we refer to them they are familiar.
  - For Example:
    - stimulus & response
    - Overt & covert
    - Appetitive and aversive
    - Deprivation and satiation
    - Contiguity and contingency
    - Types of Recording Methods
    - Basic Research Designs