

## 9.00 Introduction to Psychology – Fall 2001

Prof. Steven Pinker

### Week 2, Lecture 1: Major Approaches to Psychology I: Freud & Skinner

## Major Approaches to Psychology Part I

### The Psychoanalytic (Freudian) Approach

## The Ubiquity of Freudian Theory in Everyday Life

- “He drives that Corvette because it’s really phallic”
- “My roommate is busy alphabetizing her shirts. She’s so anal!”
- “His mother is really domineering. No wonder he’s so screwed up.”
- “She’s unhappy because she’s so uptight and repressed.”
- “If only Mel had an outlet so that he could vent his hostility and channel it into more productive activities, he wouldn’t have shot up the post office with an Uzi.”



Figure 23.1 Sigmund Freud

## Sigmund Freud

- Some biographical facts. 1856-1939.
- Background in neurology:
  - Aphasia
  - Hypnosis
  - Cocaine

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#### Sigmund Freud, continued

- Radical themes:
  - Unconscious mind
  - Irrationality
  - Sexuality
  - Repression
  - Hidden conflict
  - Importance of childhood
  - Lack of accidents
- Comparison with Copernicus, Darwin

#### Components of Freudian Theory

- 1. Psychic energy (The hydraulic model)
  - Libido

#### Components of Freudian Theory, continued

- 2. The Structural Theory
  - Superego
  - Ego
  - Id

#### The Id (“it”)

- The pleasure principle: Gratification of desire.
- Primary process thinking.
  - Infancy
  - Dreams
    - House = body
    - King & Queen = mom & dad
    - Children = genitals
    - Playing with children = ...
    - Journey = death
    - Stairs = sex
    - Bath = birth
  - “Freudian Slips”
  - Free association
  - Psychosis

### Primary process thinking of the Id, continued

- Symbolization & displacement
  - Phallic symbols
  - Father figures
  - Etc...

### Structural theory, cont.: 2. The Ego

- The reality principle.
- Delay of gratification.
- Secondary process thinking.
- Uses libido to control id:
- Repression and censorship

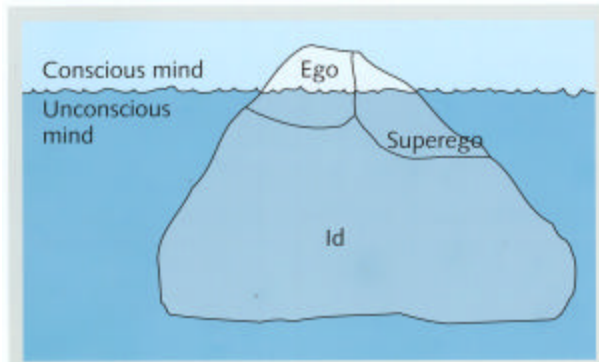
### Structural theory, cont.: 3. The Superego

- Conscience
- Identification with parents, internalization of their rules and values before they are understood.
- Anxiety

### Components of Freudian Theory, continued

- The Topographic Theory
  - The conscious mind
  - The preconscious mind
  - The unconscious mind

### Relation of the topographic theory to the structural theory



### Components of Freudian Theory, continued

- The Developmental Theory (“Psychosexual Stages”)
- Each stage:
  - Physical focus of libido (erogenous zones)
  - Psychological theme
  - Adult character type
- The advancing-army metaphor. Fixation, Regression.

### Freud’s Developmental Theory, continued

- 1. Oral stage (Birth – 18 months)
  - Breast-feeding: Automatic gratification of desire
  - Theme: dependency
  - Conflict: weaning
  - Too early: too independent
  - Too late: too dependent and entitled
  - Oral fixation, regression

### Freud’s Developmental Theory, continued

- 2. Anal stage (Two’s)
  - Theme: control, self-control, obedience
  - Conflict: toilet training
  - Too tough: “Anal retentive.” Orderly, stingy, stubborn
  - Too easy: “Anal expulsive.”
  - Toilet training → Ego

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Freud's Developmental  
Theory, continued

- 3. Phallic stage (Three -- Four)
  - Notice that boys and girls are different
  - Focus on penis
  - Themes:
    - Love
    - Sex
    - Fear
    - Jealousy

Freud's Developmental  
Theory, continued

- Boys:
  - Oedipal feelings
    - Desire for mother, hostility to father
  - Castration anxiety
  - Identification with father
  - If unresolved:
    - anxious promiscuity or asexuality
    - homosexuality

Freud's Developmental  
Theory, continued

- Girls:
  - Penis envy
  - Electra complex
    - Desire for father, hostility to mother
  - Identification with mother
  - If unresolved:
    - Flirts with older men, or dominates (castrates) them

Freud's Developmental  
Theory, continued

- Formulation of superego through identification
- Freud vs. feminism:
  - Penis envy
  - Castration
  - Seduction theory.

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#### Freud's Developmental Theory, continued

- 4. Latency stage (Four – puberty)
- 5. Genital stage
  - “Generative” stage; maturity. Not always reached
  - Productivity; artistic, scientific creativity
  - “To love and to work”
  - Theory of female orgasm

#### Neurosis

- Anxiety from superego (conscience) & ego (practicality) repressing id.
- Defense mechanisms of the ego:
  - Denial
  - Repression (don't deny it, but don't think about it either)
  - Reaction formation (gay-bashing, anti-porn, protesting too much)

#### Neurosis, continued

- Projection
- Rationalization (e.g., punishing for own good)
- Displacement (smoke pipe, kick dog, throw darts)
- Sublimation (e.g., dentistry, law, painting)
- Intellectualization

#### Psychoanalytic Psychotherapy

- **Psychotherapist:** Anyone who treats people with psychological problems (MD, PhD, social worker, guidance counselor, minister)
- **Psychiatrist:** MD specializing in psychological problems. Can prescribe drugs
- **Clinical psychologist:** PhD specializing in psychological problems. Can't prescribe drugs; can do testing.
- **Psychoanalyst:** Psychiatrist or psychologist who has been trained in Freudian theory at a Psychoanalytic Institute and has undergone psychoanalysis.

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#### Psychoanalytic Psychotherapy, continued

- Identify conflicts via free association, slips, dreams, resistance, defenses.
- Bring conflicts into consciousness; deal rationally & emotionally with them
- “Talking cure.”
- Transference
- Practical trappings: couch, 50-minute hour, daily, for years. Cure?

#### Psychoanalysis in Intellectual Life

- Literary criticism, e.g., *Hamlet Higgedy-piggledy*, *Hamlet of Elsinore*  
*Ruffled the critics by dropping this bomb:*  
*“Phooey on Freud and his Psychoanalysis. Oedipus, schmoedipus, I just loved Mom.”*

#### Psychoanalysis in Intellectual Life

- Literary criticism, e.g., *Hamlet*
- The arts, e.g., *Psycho*
- Politics, e.g., The Sixties
- Widespread assumptions
  - Importance of early childhood
  - Hydraulic model
  - Repression
  - symbolism

#### Scientific Evaluation

- Burden of proof for:
  - Unparsimonious theory about unobservable entities
  - Remarkable claims (e.g., penis envy, Oedipal conflict)
- Hidden desires + defense mechanisms = unfalsifiability
- Contradictory predictions: Unresolved Oedipal feelings → asexuality, promiscuity, homosexuality
- “Heads I win, tails you lose.”

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#### Scientific Evaluation, continued

- Where's the evidence that:
  - Weaning too early causes independence?
  - Weaning too late causes entitlement?
  - Toilet-training too early causes obsessiveness?
  - Toilet-training too late causes laxness?
  - Etc.

#### Scientific Evaluation

- Failures of some tests:
  - Oedipal conflict (Trobrianders)
  - Dreams
  - Schizophrenia, autism, etc.
  - Childhood & personality
  - Psychoanalytic psychotherapy (vs. drugs)

#### Major Approaches to Psychology Part II

The Behaviorist Approach  
(Stimulus-Response, Skinnerian)

#### The Behaviorist Approach (Stimulus-Response, Skinnerian)

- Behaviorist ideas in every life:
  - “He’s really fat because he was brought up to *associate* food with love.”
  - “Women have been *conditioned* to be nice and to defer to men.”
  - “Our culture *reinforces* boys for aggression.”
  - “I don’t believe that your dog is feeling guilty; you’re just *anthropomorphizing* him.”

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#### The Behaviorist Approach, continued

- Rolling Stones:
  - Oh, yeah, when you call my name  
I salivate like Pavlov's dogs.



#### Components of the Behaviorist Approach

#### 1. Environmentalism & Learning

- Traditional idea: criminality, genius, morality, etc., were “in the blood.”
- John B. Watson:
  - Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors.

## 2. Behaviorism

- A philosophy of psychology: Anti-mentalism
- Taboo: beliefs, desires, wishes, memories, images, emotions, ideas, feelings, perceptions, expectations, ...
- OK: stimuli, responses, reinforcers (rewards)
- Explanation by
  - Current stimulus situation
  - Past history of learning

## 3. Stimulus-Response Theory

- Two major learning mechanisms (“conditioning”)
  - Classical conditioning
  - Operant conditioning

## Classical Conditioning

- Other names: Pavlovian conditioning, respondent conditioning, conditioned reflex
- Respondants versus operants – similar to “involuntary” versus “voluntary.”

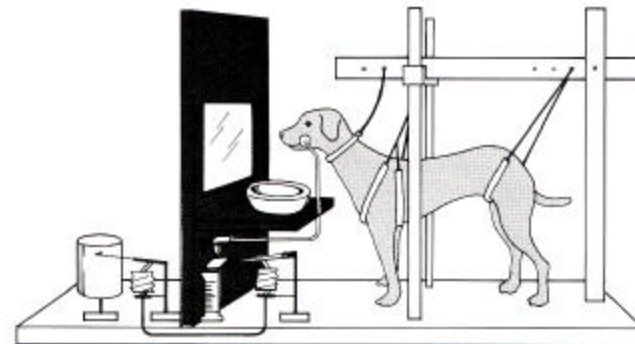
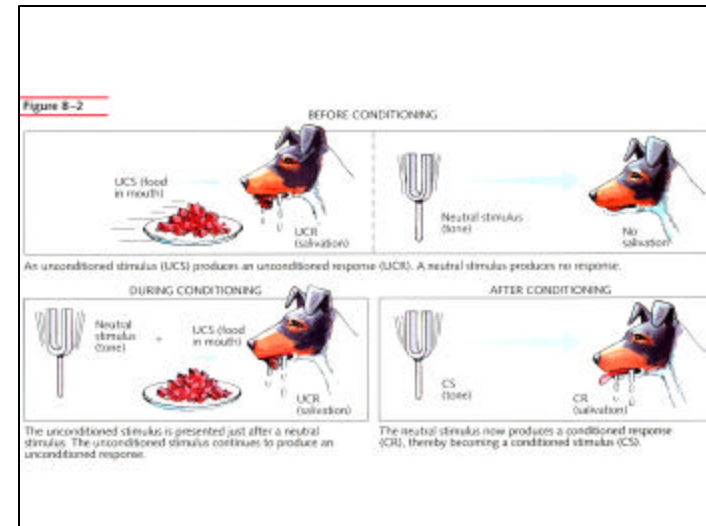
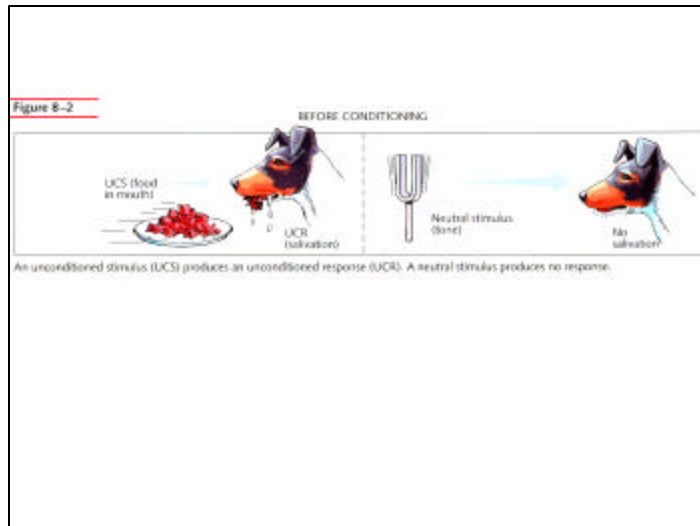


Figure 4.3 (4.2) Apparatus for salivary conditioning

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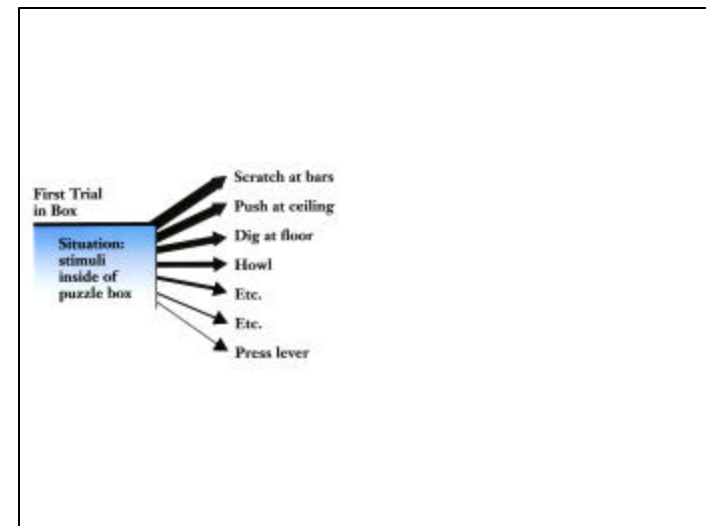
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## Operant Conditioning

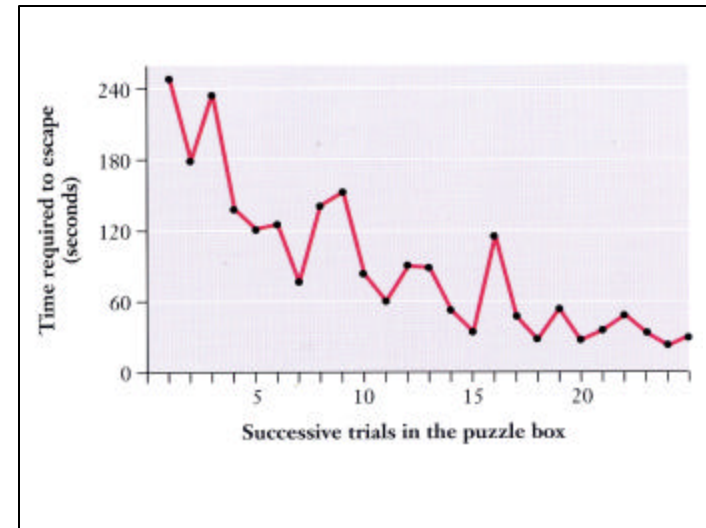
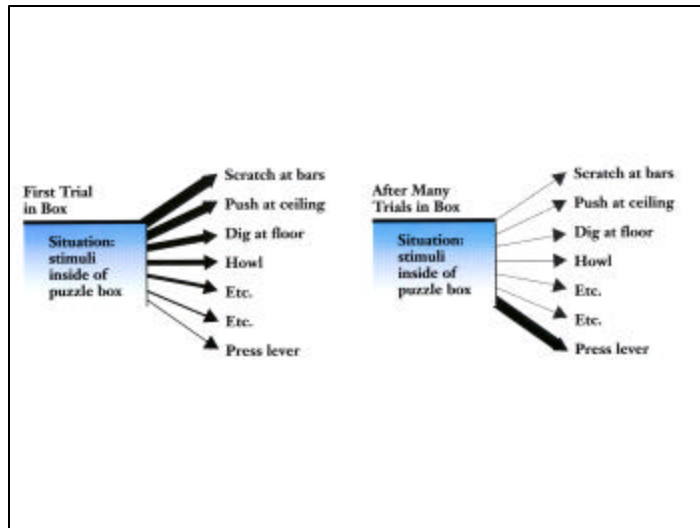
- Other name: Instrumental conditioning; Reinforcement; the Law of Effect.
- Thorndike and his cats.



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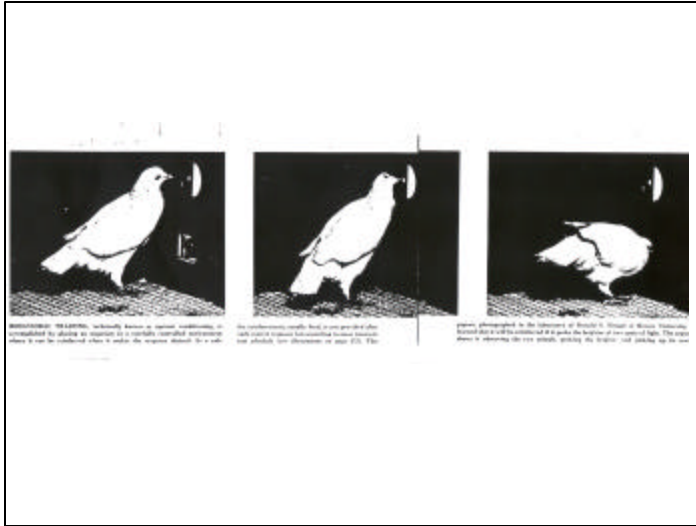
### Operant Conditioning, continued

- Positive versus negative reinforcement.
- Positive versus negative punishment.
- Extinction
- Continuous versus Intermittent schedules of reinforcement.
  - Fixed or Variable Ratio
  - Fixed or Variable Interval
- Stimulus generalization (what animal does)
- Stimulus discrimination (what experimenter trains animal to do).

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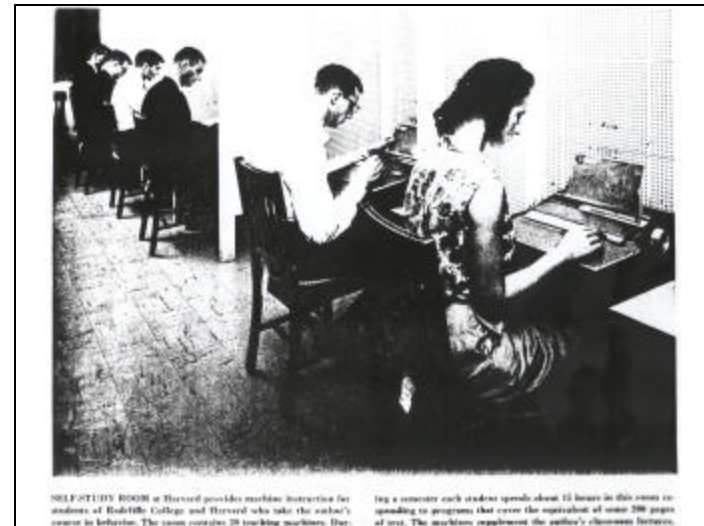
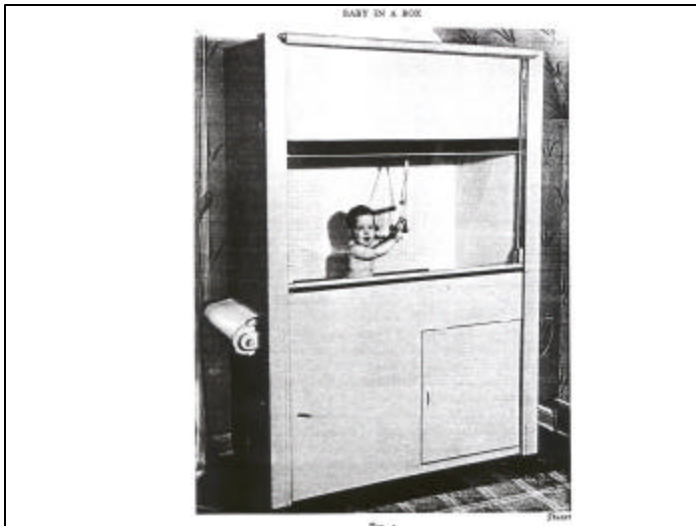
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### Operant Conditioning, continued

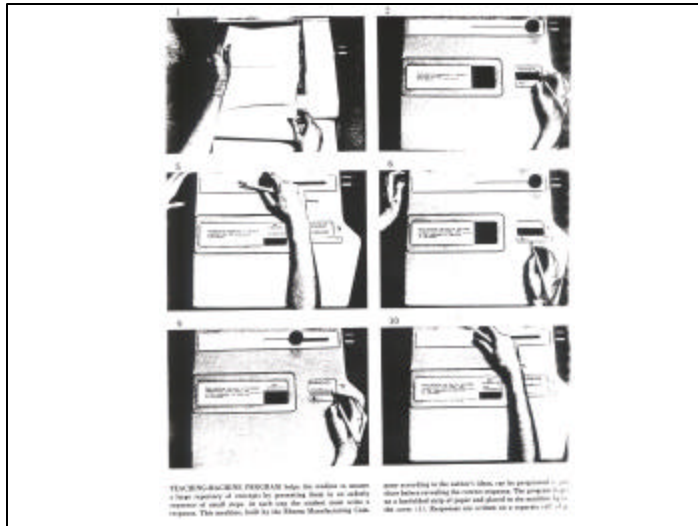
- Shaping successive approximations.
- Secondary reinforcers & chaining.
- Pigeons & pingpong.
- Which other organisms?



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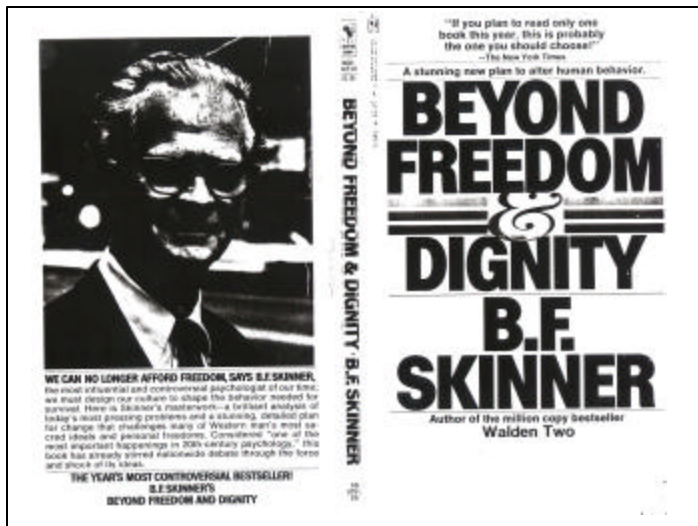
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## Skinner and Human Behavior

- Programmed learning.
- Token economies.
- Behavior therapy.
- Utopian visions: *Walden Two*; *Beyond Freedom and Dignity*



## Scientific Evaluation

## 1. Chomsky's Critique of *Verbal Behavior*



- Skinner explained language as reinforced behavior.
- But virtually every sentence a person utters is *creative*.
  - “Mommy, can I put my head in the mailbox so the mailman can know where I are?”
  - “We holded the baby rabbits.”

## Chomsky's Critique of *Verbal Behavior*, continued

- Behaviorists' answer: “Stimulus generalization” and “response generalization” – these sentences are *similar* to ones that have been reinforced under similar stimuli.
- Problem with answer: *similar in what way?*
  - *Physical* definition of stimulus, response, reinforcement: wrong.
  - *Abstract* definition of stimulus, response, reinforcement: just common sense – doesn't explain anything!

- Another example of creative behavior:
- “Your money or your life!”
- Appropriate responses for the first time, but how?
  - *Physical* explanation: “In the past, when the guy was in the presence of a **mugger-in-striped-jersey** stimulus, the response of **handing over his wallet** was positively reinforced by **not being killed**, and the response of not handing over his wallet was positively punished by being killed.”
  - *Abstract* explanation: In the past, when the guy was in the presence of a **threat**, the response of **compliance** was reinforced by **safety**.

- Again:
  - *Physical* definition of stimulus, response, reinforcement: wrong.
  - *Common-sense* definition of stimulus, response, reinforcement: empty.
- Behaviorism redescribes old-fashioned, common-sense ideas about “beliefs” and “desires” as *bogus* stimuli and responses, not physical things you can measure.

## 2. Innate Constraints on Learning

- *Equipotentiality* as a keystone of behaviorism.
- Chomsky: Innate basis for human language.
- Garcia: Preparedness (belongingness).
- If learning is biologically prepared, general laws of learning explain only a small part.

TABLE 4.3 (4.2) BELONGINGNESS IN CLASSICAL CONDITIONING

Training				
<i>In all groups: CS = saccharine taste + light + sound</i>				
US:	Shock		X-ray illness	
<i>Test</i>				
<i>Water with:</i>	Saccharine taste	Light + sound	Saccharine taste,	Light + sound
<i>Results</i>	No effect	Aversion	Aversion	No effect

## 3. Computers

- Rehabilitation of internal representations, processes.
  - “Why isn’t my computer printing?”
  - “Because the program doesn’t *know* you replaced your dot-matrix printer with a laser printer. It still *thinks* it is talking to the dot-matrix and is *trying* to print the document by asking the printer to *acknowledge* its message. But the printer doesn’t *understand* the message; it’s *ignoring* it because it expects its input to begin with ‘%’ ...”
- Demise of the homunculus objection.