Neobehaviorism

Operationism
- Operationism: the doctrine that a physical concept can be defined in precise terms relating to the set of operations or procedures by which it is determined
- The validity of any scientific findings or theoretical construct depends on the validity of the operations used in arriving at that finding
- Percy W. Bridgman
  - All physical concepts be defined precisely and that all concepts lacking physical referents be discarded
  - Therefore, a physical concept is the same as the set of operations or procedures which defines it
  - Propositions that cannot be put to the test are meaningless for science
- This was first proposed in physics
- Neobehaviorists incorporated operationism into their psychology

Edward Chance Tolman (1886-1959)
- Purposive Behaviorism
  - Combines objective study of behavior with consideration of purrposiveness, or goal-orientation in behavior
  - Described in *Purposive Behavior in Animals and Men* (1932)
  - Purposiveness can be described in behavioral terms
    - therefore, Tolman was not arguing for a return to consciousness
    - All behaviors are goal-directed

Intervening variables
- Initiating causes and the final resulting behavior must be observable and must have operational definitions
- Five independent variables can function as causes of behavior
  - Environmental stimuli
  - Physiological drives
  - Heredity
  - Previous training
  - age
- Between these variables and the ultimate expression of behavior are an unobserved set of factors – the intervening variables
- Intervening variables: unobserved and inferred factors within the organism that are the actual determinates of behavior

Now have S-O-R, where O = how the organism interprets the stimulus
- Intervening variables cannot be objectively observed
- Can specify independent and dependent variables as observable events
  - which could be used as operational definitions of the intervening variables
- Intervening variables useful for developing behavioral theory
  - as long as they were empirically related to experimental and behavioral variables

Learning Theory
Problem of learning formed a larger part of Tolman’s purposive behaviorism

Rejected Thorndike’s Law or Effect
- Instead substituted a cognitive explanation for learning
- Latent learning:
  - learning that cannot be observed at the time it is occurring
- Recognized as a forerunner to modern cognitive psychology

**Edwin Ray Guthrie (1886-1959)**

One-Trial Learning
- Most significant contribution to psychology is simplified learning theory
- Proposed a general law of simultaneous conditioning
  - Law of Contiguity
- One Trial Learning: a single pairing of stimulus and response is sufficient to establish a connection

**Clark Leonard Hull (1884-1952)**

The Spirit of Mechanism
- Hill committed to an objective behaviorist psychology
- No place for consciousness
- Human behavior is automatic
  - capable of being reduced to the language of physics
  - Behaviorists should regard their subjects as machines

Objective Methodology and Quantification
- Methods would be objective and quantitative
  - Expressed in precise mathematical functions
  - Progress will be seen with the computation of equations which represent laws of behavior
- Four methods useful for scientific research:
  - Simple observation
  - Systematic observation
  - Experimental testing of hypotheses
  - Hypothetical deductive method

Drive Theory
- The basis of motivation is a state of bodily need that arises from a deviation from optimal biological conditions
- Drive
  - a stimulus arising from a state of tissue need that arouses or activates behavior
- Reduction or satisfaction of a drive is the sole basis for reinforcement
- The strength of the drive can be empirically determined
  - length of deprivation
  - intensity, strength, and energy expenditure of the resulting behavior
- Drives are non-specific
  - Any kind of deprivation contributes in the same way to the drive
  - Do not direct behavior; simply energize behavior
  - Direction of behavior is determined by environment
- Two kinds of drive
  - Primary drive
    - associated with innate need states
  - Secondary drive
• related to situations or environmental stimuli associated with the reduction of primary drives

Learning

Law of Primary Reinforcement
• Basically Thorndike’s law of effect
• When a stimulus-response relationship is followed by a reduction in a bodily need, the probability increases that on subsequent occasions the same stimulus will evoke the same response

Secondary reinforcement
• If the intensity of the stimulus is reduced by a secondary drive, that drive will act as a secondary reinforcement

Habit strength
• S-R connections are strengthened by the number of reinforcements that have occurred
• The strength of the S-R association is habit strength

Learning cannot take place in the absence of reinforcement, which is necessary to bring about a reduction of the drive

B. F. Skinner (1904-1990)
“The major problems of the world today can be solved only if we improve our understanding of human behavior”

Skinner’s Behaviorism
• Represents a renewal of Watson’s behaviorism
• Advocated an empirical system with no theoretical framework within which to conduct research
• Devoted to the study of responses
• Concerned with describing rather than explaining behavior
• Research dealt with observable behavior
• Purpose of scientific inquiry is to establish functional relationships between experimenter-controlled stimulus conditions and the organism’s subsequent responses

Human organism is like a machine
• behaves in lawful, predictable ways in response to external forces
• Did not consider it necessary to use large numbers of subjects or to make statistical comparisons between the average responses of treatment groups
• Favorite method is single-subject research

Operant Conditioning
• Positive reinforcement: application of a pleasurable stimulus that increases the likelihood that a behavior will reoccur
• Negative reinforcement: withdrawal of an aversive stimulus that increases that likelihood that a behavior will reoccur
• Positive punishment: application of an aversive stimulus that decreases the likelihood that a behavior will reoccur
• Negative punishment: withdrawal of a pleasurable stimulus that decreases the likelihood that a behavior will reoccur

Operant Conditioning
It is better to reinforce behavior than it is to punish behavior

- Law of acquisition:
  - the strength of an operant behavior is increased when it is followed by the presentation of reinforcing stimulus

Schedules of reinforcement

- Continuous reinforcement
  - Reinforcement of a response every time it occurs
- Partial reinforcement
  - Reinforcement of response only a portion of the time they occur

Schedules of Reinforcement

- Fixed-ratio schedule
- Variable-ratio schedule
- Fixed-interval schedule
- Variable-interval schedule

Punishment works if the 3 Ss are met
If these three conditions are not met, then the misbehavior actually becomes negatively reinforced on a Variable Ratio schedule of reinforcement

Verbal Behavior
- The sounds we make in speaking are a kind of behavior
- These verbal behavioral responses can be reinforced by other speech sounds or by gestures that same way other behaviors can be reinforced

Behavior Modification
- The use of positive reinforcement to control or modify the behavior of individuals or groups

Social Learning Theories: The Cognitive Challenge

Albert Bandura (1925-present)
- “It is amusing to see radical behaviorists, who contend that thoughts have no causal influence, devoting considerable time to speeches, articles, and books in an effort to convert people’s beliefs to their way of thinking.”

Social Cognitive Theory
- Less extreme form of behaviorism than Skinner’s
- Research focus was to observe the behavior of human subjects in interactions
- Did not use introspection
- Emphasized the importance of reinforcements in acquiring or modifying behavior
- Also recognized the importance of expectancies, beliefs, and instructions

- Thus, when an external reinforcer alters behavior, it does so because the person consciously recognizes the reinforcement and expects it to reoccur in the future
- Individuals can learn all sorts of behavior without experiencing reinforcement directly

Vicarious reinforcement:
- Learning can occur by observing the behavior of other people, and the consequences of their behavior, rather than by always experiencing reinforcement personally
Bobo Doll experiment

Modeling
   Self-efficacy
   One's sense of self-esteem and competence in dealing with life's problems
   People high in self-efficacy are capable of dealing with the diverse events in their lives
   People with low self-efficacy feel helpless and hopeless about their ability to cope

Behavior Modification
   Focused on externals and the behavior to be changed, not the internal conscious or unconscious conflicts
   Modeling techniques are usually sued to help shape behavior

Julian Rotter (1916-present)
Cognitive Processes
   1st psychologist to use the term “social learning theory”
   We learn behavior primarily through social experiences
   Emphasized cognitive processes much more than Bandura
   Four principles that govern behavioral outcomes
   - We form subjective expectations of the outcomes of our behaviors in terms of the amount and kind of reinforcement likely to follow it
   - We estimate the likelihood that behaving in a certain way leads to a specific reinforcement and adjust our behavior accordingly
   - We place different values on different reinforces and assess their relative worth for different situations
   - Because each of us functions in a psychological environment that is unique to us as an individual, the same reinforcement can have different values for different people

Cognitive-Behavioral Therapy
   Started with Joseph Wolpe
   Treatment of phobias
   My favorite: Albert Ellis (1913-present)
   Principles of Cognitive-Behavioral Therapy
   ABCDE model
   Rational vs. Irrational Beliefs
   Cognitive distortions

Cognitive Distortions
   All-or-nothing thinking
   Overgeneralization
   Mental filter
   Discounting the positive
   Jumping to conclusions
   Magnification
   Emotional reasoning
   Shoulding on yourself
Behavior Therapy Today

**Hayes**

Behavior therapy is in a transition stage
Anomalies
Philosophy of science changes

**New Therapies**

Dialectical Behavioral Therapy
Functional Analytic Psychology
Integrative Couples Behavior Therapy
Mindfulness Based Cognitive Therapy
Acceptance and Commitment Therapy

**Acceptance and Commitment Therapy**

**ACT**

Ontology
Contextualism
Truth Criterion
Epistemology
General Clinical Goals
Therapeutic Assumptions
Key Goal
Methodology
Acceptance
Values
Commitment

**References**