3. Psychoanalysis
   - Freud (1856-1939)
     → unconscious mind, repression
     → must examine mind (unconscious) thoroughly through dream analysis, word association, & other techniques

4. Behaviorism
   - John Watson (1878-1958)
     → studied experiments of Pavlov
     → must limit psychology to observable phenomena, but not unobservable things like unconscious mind
     → only look at behavior and causes of behavior
   - P.F. Skinner
     - expanded basic ideas of behaviorism → e.g. reinforcement
     - dominant school of thought from 1920s to 1960s

5. Multiple Perspectives
   - not only one way of thinking about human mind
   - many psychologists are eclectic → draw from 1+ perspectives

Psychological Perspectives
   - Humanist Perspective
     - Abraham Maslow (1908-1970) ] individual choice
     - Carl Rogers (1902-1987) ] and free will
     - opposite to deterministic behaviorists: all behaviors caused by past conditioning
     - such theories not easily tested by scientific method
- Z-score - measures the distance of a score from the mean in units of standard deviation
  Ex: Score of 72% with mean of 80% & standard deviation of 8, so Z-score is -1
- Percentile - distance from a score of zero
- Inferential Statistics
  - Determine whether or not findings can be applied to the larger population
  - Sampling error - the degree to which the sample differs from the population - you want the sample to represent
  - P-value - probability that the difference between groups is chance
    - \( p \leq .05 \) (5%) cutoff for statistically significant results

APA Ethical Guidelines
- Animal Research
  - Clear scientific purpose
  - Must answer specific, important scientific question
  - Animals chosen must be best-suited to answer the question
  - Care for & house animals humanely
  - Acquire animals legally
  - Design experimental procedures that employ least-amount of suffering
- Human Research: no coercion, informed consent, anonymity or confidentiality, no significant risks, debriefing
1. Cornea (protective covering)
2. Pupil (like a shutter), controlled by iris which dilates it
3. Light focused by lenses (curved & flexible) through process called accommodation
4. Image flipped upside down and inverted while light passes through lens
5. Focused inverted image projected on retina

**Step Three: Transduction**

- The translation of incoming stimuli into neural signals (in vision occurs when light activates neurons in retina → many layers)
  - First layer of cells
    - Rods (black & white) and cones (color)
    - Rods: cones is 20:1
    - Cones concentrated towards center of retina - fovea has highest concentration
    - Bipolar cells (activated if enough cones & rods fire)
    - Ganglion cells - activated if enough bipolar cells fired
      - Axons of these cells make up optic nerve that sends impulses to region in thalamus called lateral geniculate nucleus (LGN)
      - LGN - visual cortices in occipital lobes
      - Blind spot - spot where optic nerve leaves retina - has no rods & cones
      - Impulses from LF side of retina to LF hemisphere (same for RT)

**Step Four: In the Brain**

- Feature detectors - nerve cells in brain respond to specific features of visual stimuli (David Hubel & Tooten Wiesel)
extinction - the process of unlearning (in classical conditioning - when CS no longer elicits CR)

spontaneous recovery - the re-emergence of a previously extinguished conditioned response after delay

generalization - the tendency to respond to similar CSs

John Watson & Rosalie Rayner - classical conditioning on humans

aversive conditioning - stimuli are associated w/ undesirable or unwanted behavior (alcoholism, nail biting, etc.)

second-order/higher-order conditioning - once a CS elicits a CR, the CS can be used as a US to condition a response to a new stimulus

biology & classical conditioning

learned taste aversions - while a subject associates the taste of a certain food with negative symptoms caused by it

Garcia effect - the condition in which animals learn taste aversions

operant conditioning

based on association of consequences w/ one's behaviors

law of effect - (Thorndike) if the consequences of a behavior are pleasant, then the stimulus-response (S-R) connection will be strengthened & the likelihood of the behavior will increase

- if consequences of a behavior is unpleasant, then S-R connection weakens - likelihood of re-occurrence lowers

B.F. Skinner - coined term "operant conditioning" - prominent psychologist

Skinner Box - has a way to deliver food to animal & a lever or disc to get the food
- Latent Learning - Learning that becomes obvious only once a reinforcement is given for demonstrating it
- Abstract Learning - It involves understanding concepts (like tree or same) rather learning one specific task (like pressing a bar for food) deeper than S-R connections
- Insight Learning (W. Köhler) - when one suddenly realizes how to solve a problem
Cognition

Overview
- Memory - any indication that learning has persisted over time

Models of Memory
- Three-Box/Information Processing Model
  - Three stages information passes through before it’s stored
- Sensory memory - first step for external events - a holding tank for incoming sensory information (less than a second)
  - George Sperling - recalling nine letters flashed @ 1/25th of a second
- Iconic memory - a split second perfect photograph of a scene
  - Must info in sensory mem. not encoded stored in short-term memory
- Selective attention - determines which sensory information gets encoded
- Short-term/working memory
  - Usually fade in 10-30 sec.
  - limited to about 7 items (George Miller)
  - Chunking - allows you to expand the limits of short-term
- Long-term memory
  - Episodic memory - specific events stored sequentially
  - Semantic memory - general knowledge of world stored as facts, meanings, or categories
  - Procedural memory - skills & how to perform them also declarative
  - Explicit memories - conscious memories of facts/events we tried to remember
  - Implicit - unintentional memories
Developmental Psychology

Research Methods
- Cross-sectional research - uses participants of different ages to compare how certain variables may change over a lifespan
- Longitudinal research - examines one group over a long time

Prenatal Influences on Development
- Genetics
  - Teratogens - chemicals or agents that can cause harm if ingested/contracted by mother
    - Fetal Alcohol Syndrome (FAS) - small, malformed skull, mental retardation, learning disabilities, behavioral problems
  - Polluting chemicals, bacteria, viruses, etc.

Motor/Sensory Development
- Reflexes
  - Rooting, sucking, & grasping reflex
  - Moro reflex - startled baby will fling their limbs out & then quickly retract them
  - Balance reflex - baby’s foot stroked → spread toes
- The Newborn's senses
  - Preferences for tastes and smells (born w/ basic)
  - Almost legally blind
  - Like to look at faces more than anything else

Motor Development
- Myelinated - having/developing a myelin sheath