## Wilhelm Wundt

- Video: [http://youtu.be/lWv3tQUY-9k](http://youtu.be/lWv3tQUY-9k)
- 1879
- First psychology lab in Leipzig, Germany
- Structuralist
- youtube: lWv3tQUY-9k

## Structuralist

Structuralists believe consciousness = basic elements combine to make different perceptions. Wanted to discover form of mental experience.

**Introspection** reporting own conscious thoughts and feelings

Wundt, Titchener

Yale Univ Psychology classes

- Video: [http://youtu.be/P3FKHh2Rzl&list=PLQBxBn90xZalvS5gxsvErSm7cV8BkuClx](http://youtu.be/P3FKHh2Rzl&list=PLQBxBn90xZalvS5gxsvErSm7cV8BkuClx)
- youtube: P3FKHh2Rzl

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## Research Methods

- **independent variable** = cause
- **experimental group** = exposed to cause
- **control group** = not exposed to cause
- **dependent variable** = effect (measures how subjects behave)

## Research Methods (cont)

- **blind study** = subjects don't know if they get drug or placebo
- **double-blind study** = subjects & researchers don't know who gets drug/placebo
- **correlation coefficient** = describes strength of relationship

## Consciousness

Consciousness = a state of being aware and reflecting on the environment around us, not simply reacting to it

Circadian rhythm = predictable factors of the human body "through the day" *circa around, dian day*

**Limbic System**

  - Hippo
  - H
  - A
  - T
- Hippocampus (campus = learning/memories)
- Hypothalamus (FFFF = Fight, Flight, Feed, Mating)
- Amygdala (emotions)
- Thalamus (Tell 'em = senses (except for smell))
- youtube: GDlDirzOSI8

## Brain

- **Brainstem (Medulla)** = breathing & heartbeat
- **Reticular formation** = arousal, sleep, filters stimuli
- **Cerebellum** = voluntary movement
- **limbic system (Hippo HAT)**
  - Hippocampus = memory
  - Hypothalamus = hunger, thirst, sexual behavior
  - Pituitary gland = hormones
  - Amygdala = fear, anger
  - Thalamus = touch, taste, sight, hear

## Limbic System

**Brain Power**

- **motor & sensory homunculus** proportionate representation of brain’s dedication to the part body responsible for motor functionality.

The more brain power involved in planning, execution and control of body part’s movements, the body part is on the clay figure giving a simple, yet accurate representation of the brain’s dedication to different areas of motor function.


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**By sparkledaisy**

[cheatography.com/sparkledaisy/](http://cheatography.com/sparkledaisy/)

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Everyone has a novel in them. Finish Y
Sleep

- When awake, the brain produces alpha waves, which are relatively slow.
- **Stage 1** breathing slows with irregular, erratic brain waves. Alpha waves cease and are replaced with theta waves.
- **Stage 2** deeper relaxation/occasional bursts of rhythmic waves "sleep spindles" and K-complexes.
- **Stage 3** large slow delta waves. Transition to Stage 4.
- **Stage 4** stronger more consistent delta waves. These last 2 stages are referred to as slow-wave sleep.
- REM Sleep: dreams.

Sleep Disorders

- **Insomnia** = recurring difficulty falling asleep.
- **Narcolepsy** = sudden and uncontrollable attacks of sleep during waking hours.
- **Sleep apnea** = stop breathing during sleep which wakes them long enough to breathe. This can occur 100's of times a night.

Gestalt

- Theory of mind of the Berlin School of experimental psychology.
- Gestalt psychology tries to understand the laws of our ability to acquire and maintain meaningful perceptions in an apparently chaotic world.
- Roots in theories by Hume, Goethe, Kant.
- Max Wertheimer's unique contribution was to insist that the "gestalt" is perceptually primary, defining the parts it was composed from, rather than being a secondary quality that emerges from those parts.

Perceptual Sets

- Video: http://youtu.be/n46umYA_4dM
- Predispositions to perceive one thing and not another.
- Crying baby girl - weak & scared
- Crying baby boy - strong and mad
- Expect the mail man and hear noises but he is not there.
- youtube:n46umYA_4dM

Phi Phenomenon

- Optical illusion of perceiving continuous motion between separate objects viewed rapidly in succession.
- Youtube video for more about Gestalt psychology.

Signal Detection Theory

- Video: http://youtu.be/gRQmTp6W3UA
- Ability to notice stimulus varies with psychological factors including motivation, past experience, expectations.
- Youtube: gRQmTp6W3UA

Theories of emotion

- Cannon-Bard: crazed dog = Arousal & Fear
- James-Lange: crazed dog = arousal THEN fear
- Two-Factor: crazed dog = Arousal & Label (cognitive) THEN fear

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**Canon-Bard Theory**

see stimulus - generates arousal & emotional experience at the same time. Information to sympathetic nervous system (arousal) and cortex (subjective experience)

Dog growls = heart rate increases + realize I'm afraid

**James-Lange Theory**

see it = feel emotion = become afraid because I feel my heart pounding

Without arousal I wouldn't be afraid

**Two Factor Theory of Emotion**

Stanley Schacter's

Emotions experienced depend on how arousal is labeled. What makes each experience different is what you call it.

If you decide you're aroused because someone insulted you = angry

**Noam Chomsky**

Video: http://youtu.be/Zg1bHzBoggk

Language development children have language acquisition device - universal built in mental system that steers us toward interpreting and using language in particular ways.

youtube:Zg1bHzBoggk

A good video describing his theory (1:47 BBC): Noam Chomsky on Language Aquisition

**Joy Paul Guilford**

United States psychologist, best remembered for his psychometric study of human intelligence, including the distinction between convergent and divergent production

Convergent thinking generally means the ability to give the "correct" answer to standard questions that do not require significant creativity, for instance in most tasks in school and on standardized multiple-choice tests for intelligence.

Divergent thinking = creativity = thinking "outside the box"

**Sensory** fleeting awareness of what senses detect

**short term** (working) keep information long enough to solve problems

**long term** unlimited storage

**Charles Spearman**

Video: http://youtu.be/-hMhpB8ikR8

Labeled general intelligence "g" factor Cognitive

youtube:-hMhpB8ikR8

**Memory**

Sensory Systems

- Sensory Memory: briefly holds information in attention
- Working Memory: short term storage for information we’re actively using
- Long Term Memory: unlimited capacity, permanent storage
**Psychological Disorders - Origins**

- **Medical** - caused by biological reasons (injury, genetics, drugs)
- **Psychoanalytic** - childhood conflicts, unconscious, misdirected anger
- **Cognitive** - patterns of thinking are abnormal, success because of others (luck, generous), fail because of self (stupid, no talent)
- **Learn/Behavior** - problem behavior is the problem, some type of classical conditioning or reinforcement has occurred for behavior to continue

**Erikson’s 8 Stages of Development**

- 1. Nurturing = trust vs mistrust (baby-1yr)
- 2. Autonomy vs shame doubt (toddler-2 yr)
- 3. Initiative vs guilt (preschool 3-5 yrs)
- 4. Industrious vs inferior (6-12 yrs)
- 5. Identity vs role confusion (12-18)
- 6. Intimacy vs isolation (18-40)
- 7. Generativity vs stagnation (40-65)
- 8. Integrity vs despair (65 & up)

**Psychological Therapies**

- **Psychoanalytic** developed by Freud. Problems from urges vs. social pressure. Repressed behavior in childhood. Help individual recognize conflict, make it conscious & deal with it in socially acceptable way. - Free association "patient"
- **Humanistic** help people achieve insight to causes of behavior, emphasize life now and future. "client". Client-centered therapy non directive. People have own insight. Provide positive regard & environment. Active listening
- **Cognitive** change thinking so see world accurately & react rationally
- **Learning/Behavioral**
- **Biological/Medical** drugs surgery alter brain functions

**Kohlberg**

- 3 stages of moral development
  1. Pre-moral a. Obedience vs development
  2. Conventional c. good boy, girl-boys and girls are good so they are seen as being a good person. d. law and social order start
  3. Post-conventional e. Social Contract f. universal ethical principle

**PERSONALITY - Individual Difference**

- **Eyesneck** - stable/unstable, introvert/extrovert
- **Big 5 Traits** OCEAN
  1. openness - questioning, independent, curious
  2. consciousness - dependable, self control
  3. extraversion - outgoing, socially adept
  4. agreeableness - conforming, likeable
  5. neuroticism - excitability, anxiousness

**THERAPY - Biological Medical Approach**

- Rely on drugs or surgery. Alter the way brain functions
- Depression = low serotonin neurotransmitter
- Anti-depressants (Prozac, Pail, Zoloft) prevent re-uptake of serotonin (SSRI) result in elevated mood

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THERAPY - Biological Medical Approach (cont)

Anti-anxiety drugs (Librium, Valium) reduce arousal, depress activity in CNS
Anti-psychotics (Clozapine, Thorazine) treat symptoms of schizophrenia, block operation of neurotransmitter dopamine
Barbiturates (tranquilizer) (opiate) Opiates = opium, decreases nervous system, addictive, side effects

Aging Theories

Disengagement - mutual withdrawal
Activity - keep active and age well

Hierarchy of Needs

studied what he called exemplary people such as Albert Einstein & the healthiest 1% of the college student population
largest, most fundamental levels of needs at the bottom and the need for self-actualization at the top

Statistics

High stakes
- Coefficient’s Alpha: 0.95 or higher (excellent)

Medium stakes
- Coefficient’s Alpha: 0.70 or higher (good)

Low stakes
- Coefficient’s Alpha: The higher the better, but not always necessary to get high union (e.g., short formative scale)
descriptive statistics (mean, median mode)

Standard deviation - index of how widely scattered scores tend to be around mean

Inferential statistics allow inferences about populations based on sample. Use statistical significance as some differences could have happened by chance.

Coefficient near .00 if correlated by chance. Bigger the coefficient is for the sample, the more reliable correlation. Coefficients > .70 are generally reliable. (+ or - correlation)

SOCIAL PSYCHOLOGY - Cognition

how we process information about others

Attribution theory - explanations generated for others behavior
- dispositional (internal) - explain behavior inside person (personality, intelligence, maturity)
- situational (external) - explain behavior outside (luck, interference from others, social etiquette)

actor-observer difference - observers attribute others’ behavior to dispositions but own behavior to situations. Actor more aware than others of how his behavior changes from 1 situation to another

mental dissonance theory - behavior inconsistent with attitudes = dissonance (unpleasant tension) must explain behavior due to situation

Sensory Adaptation & Habitation

Sensory Adaptation - neural receptors reduce sensitivity to continual stimulus (ie - adapt hot/cold water after brief time, eyes adjust dark room (cones 10 min, rods 30), smell own house)

Habitation - decreased response to stimulus after repeated behavior, used to elicit stronger response (alcohol 1st drink vs alcoholic taking a drink, favorite food, living near train track)

sensitization repeated intense stimulus increases response to weaker

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### Informational Social Influence Theory

<table>
<thead>
<tr>
<th>Video: <a href="http://youtu.be/h6LDV0T5Q8">http://youtu.be/h6LDV0T5Q8</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>4:35 Foot in the Door</td>
</tr>
<tr>
<td>5:30 Stanford Prison Experiment</td>
</tr>
<tr>
<td>8:00 Festinger’s Theory of Cognitive Dissonance - when our thoughts differ from others we feel discomfort we want to resolve</td>
</tr>
</tbody>
</table>

**Rorschach**

Ink Blot tests. Schizophrenics were found to answer questions about ink blot cards very differently than most people.

A neat jpg of the cards as well as common answers can be found [here](http://example.com).

### Edward Thorndike

**Edward Thorndike**

**Video:** [http://youtu.be/fanm-WyQJo](http://youtu.be/fanm-WyQJo)

**Cats & puzzle boxes.**

**Thorndike studied instrumental conditioning,** which involves an increase in the probability of a response occurring as a result of a positive outcome. This type of learning would come to be called operant conditioning by B.F. Skinner.

**Law of Effect** behavior changes because of consequences

**Yerkes-Dodson Law**

**Video:** [http://youtu.be/8CA6Dl3ix0k](http://youtu.be/8CA6Dl3ix0k)

**Moderate levels of arousal lead to optimal performance**

**youtube:** [http://youtu.be/8CA6Dl3ix0k](http://youtu.be/8CA6Dl3ix0k)

### Functionalism and Structuralism

**Video:** [http://youtu.be/qBe9qjX-Ahg](http://youtu.be/qBe9qjX-Ahg)

**youtube:** [http://youtu.be/qBe9qjX-Ahg](http://youtu.be/qBe9qjX-Ahg)

**Edward Titchener 1867-1927**

**Video:** [http://youtu.be/EzQ9D5nm_wE](http://youtu.be/EzQ9D5nm_wE)

**First Psychology lab in the U.S. (1892**

Professor at Cornell)

Studied under Wundt

Structuralism, Stimulus Error, Introspection

Analyze mind

1. identify structure elements
2. how they are grouped
3. cause of specific arrangement of elements

**youtube:** [http://youtu.be/EzQ9D5nm_wE](http://youtu.be/EzQ9D5nm_wE)

### 7 Perspectives

- Neuroscience = physical & brain (makes emotions/memories)
- Evolutionary = Darwinism, survival of fittest, inherited behavior
- Social-cultural = society & culture contribute to behavior
- Psychodynamic
- Behavioral
- Cognitive
- Humanistic

### Foretting Curve

*How do we forget?*

**Video link** about the forgetting curve.

**Video link** about how to learn efficiently.
## B.F. Skinner

- Video: [http://youtu.be/T-d6jypCsUw](http://youtu.be/T-d6jypCsUw)
- **Behaviorism, -1960's**
- *behavior of organisms*
- Blank Slate = molded by environment..
- Pigeon operant conditioning, reward system

## Brain Organization

![Brain Organization Diagram](Image)

Cerebral cortex (outer cover) = motor, cognitive, sensory processes

- **Left/Right Hemispheres**
  - Frontal Lobes = coordinating movement in higher level thinking (planning & predicting consequences of behaviors)
    - Wernicke’s area = language comprehension
    - Broca’s area = speech production
  - Parietal lobes - top of head, behind frontal lobes = touch, hands/feet
  - Temporal lobes - above parietal, sides of ears = hearing
  - Occipital lobes - base of skull in back = vision (ocular)

## Left & Right Brain

- Video: [http://youtu.be/82tIv9cqB7A](http://youtu.be/82tIv9cqB7A)
- Very interesting!
  - youtube:82tIv9cqB7A

## Biological Approach

- **Focus on understanding how physiological & biochemical processes = psychological phenomena**
  - genes, nervous system, hormones, neurotransmitters

## Dream Theories

**Freud**
- **Manifest content of latent desires.**
- Disguising the wish dreamer avoids anxiety

**Activation synthesis theory**
- brain's neurons fire randomly during sleep, as we wake, construct dream to make sense of images

**Information processing**
- way to consolidate information, sort thru day’s events

**Physiological Functions**
- dreams stimulate the brain which may help build neural connections

## Resources

- **Link to Quizlet cards about Psychology vocabulary words.**

## Sleeping

- Video: [http://youtu.be/rMhus-0wFSo&index=9&list=PL8dPuuaLjXtOiPRKzVLY0jJY-uHOH9KVU6](http://youtu.be/rMhus-0wFSo&index=9&list=PL8dPuuaLjXtOiPRKzVLY0jJY-uHOH9KVU6)
- youtube:Rmhus-0wFSo&index=9&list=PL8dPuuaLjXtOiPRKzVLY0jJY-uHOH9KVU6
- **Sleeping Disorders. What happens when you sleep.**
- Mike Birbiglia talks about his sleepwalking disorder.
- Funny!

## Gestalt

- Gestalt psychologists rules for brain piecing together meaningful experiences from fragments of sensation.
- youtube:ZWucNQawpWY
### Perception

**Gestalt** (German for "a whole" or "form") Psychologists were among the first to study how the brain makes things from fragments of sensations.

Depth perception—both eyes work together to gather Binocular cues, which use the space between the eyes (retinal disparity) and how much the eyes turn inwards, towards the nose (convergence) to roughly estimate distance.

Monocular cues—one eye.

Linear perspective=parallel lines appear to converge.

Motion parallax—refers to apparent movement of stable objects as we move.

Perceptual sets: predispositions to perceive one thing and not another will affect the way reality is viewed.

### Sensation & Perception

**Video:**
http://youtu.be/unWnZvXJh2o&list=PL8dPuuaLjXlOPRKnVLY0JlY-uOH9KVU6&index=5

**Sensation** - Bottom up (vision, hearing, smell) receive and relay outside information to the brain.

**Perception** - Top Down brain interprets & organizes that information.

**youtube:** unWnZvXJh2o&list=PL8dPuuaLjXlOPRKnVLY0JlY-uOH9KVU6&index=5

### Motion parallax

**Video:** http://youtube.be/iMnvakdfIUM

Apparent movement of stable objects as we move. Drive down the road and close objects appear to be moving backward and the nearer they are the faster they move. Far away objects move with you but more slowly as they get farther away.

Youtube video for more about Motion parallax.

### Invisible Gorilla

Video: http://youtube.be/16&v=UtKt8YF7dgQ

Attention, intuition

**youtube:** 16&v=UtKt8YF7dgQ

### Cognitive Approach

**reaction to behaviorism**

Focus on explain behavior in terms of expectations, feelings, thoughts, problem solving, attention, expectations, memory, thought processes

### Jean Piaget

**Sensorimotor stage** (0-2) can't differentiate self from environment

**preoperational** (2) stable world, language, symbols, fantasy/reality, object permanence, no logical reasoning, lack conservation, egocentric

**concrete op.** (7-11) logic rules, concrete, cause/effect, role taking

**formal op.** (12-) logic of science, abstract thinking, metaphors

**assimilation** = interpret sights based on current understanding

**accommodation** = changed understanding

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Jean Piaget (cont)
equilibrium = balance
disequilibrium = changes in child's understanding of world

Jean Piaget
Video: http://youtu.be/TRF27F2bn-A
youtube:TRF27F2bn-A

Piaget's Schema, Assimilation, Equilibrium
Video: http://youtu.be/3-A9SgbAK5I

Equilibrium = balance
Disequilibrium = changes in child's understanding of world

Franz Mesmer
18th century hypnotist
Trying to help patients with medical issues
Aligned their "magnetic forces" = animal magnetism
Hypnotized people fill social role (role play) behavior controlled by normal, conscious processes. Now used for pain control.

Psychological Disorders
Video: http://youtu.be/wuhJ-GkRRQc&spfreload=10
youtube:wuhJ-GkRRQc&spfreload=10

Intelligence
Video: http://youtu.be/9xTz3Qjclol
youtube:9xTz3Qjclol

Spearman "g" factor, factor analysis, spatial numeric reasoning.
Thurstone - psychometrics, 7 clusters of mental abilities
Gardner - multiple abilities in different forms, savant syndrome, 8 intelligences
Sternberg - 3 intelligences, analytical, creative, practical
divergent thinking, emotional intelligence, eugenics,
Alfred Binet - mental age test (IQ)

Personality Theories
Video: http://youtu.be/sUrV6oZ3zsk

Social Cognitive

Individual Difference Trait

Psychoanalytic

Humanistic
youtube:sUrV6oZ3zsk

PERSONALITY - Social Cognitive

Social-Cognitive Theories on Personality
- Internal locus of control: the perception that you can control our own lives.
- External locus of control: the perception that chance or outside forces beyond our personal control determine our fate.

Cognition. Proposed by "Bobo" Bandura
Interaction between traits & social contexts
Watch & imitate others & think about how that affects us.
We are creators & products of the situations we surround ourselves with.

PERSONALITY - Humanistic

People basically good
Carl Rogers "Self Theory" - person centered true self - talents, thoughts, desires, feelings self concept - what we think we are like ideal self - what we think we would like to be self actualization - accept who you are conditions of worth - hinder self actualization

Self Esteem literature
Maslow rejected standard tests and measured self concept through therapy and questionnaires.
THERAPY - Psychoanalytic Approach

Nervous System

- Video: http://youtu.be/OZG8M_kdA1M
- Graded potential, action potential, refractory period
- youtube:OZG8M_kdA1M

Testing Reliability

- Video: http://youtu.be/erRnFk0s9h8
- Test-retest reliability, internal consistency, split-half reliability
- youtube:erRnFk0s9h8
- Cronbach’s alpha - measures reliability (.70 or higher)
- Validity, face validity (content), Predictive validity, construct validity
- Standardized

see Quizlet cards for definition of terms

Social Psychology - Social Influence

- direct/indirect pressures exerted by others to change one’s behavior
- foot-in-the-door technique - get compliance with small request first
- door-in-the-face technique - make request so big it’s turned down, then on to smaller request
- lowballing - get commitment then increase effort/cost required to fulfill
- conformity - change behavior to follow group norms
- Solomon Asch researcher used confederates to influence study results
- Stanley Milgram researcher people susceptible to demands of authority

Social Psychology - Aggression & Altruism

- frustration-aggression hypothesis
- aggression is always product of frustration and frustration leads to aggression (wrong, sometimes frustration = cry)
- more testosterone = more aggression
- aggressive cues - guns, knives, black clothing = higher levels of aggression among provoked people = weapons effect
- altruism

Diathesis-Stress Theory

- Genetic predisposition (diathesis) + environmental factors (stress) = mood disorders
Kitty Genovese - raped and murdered 1964 in front of 38 witnesses who did not help (bystander effect)
social-exchange theory = maximize rewards minimize costs (minmax principle)
Encourage helping behavior: social responsibility norm help people who need it & reciprocity norm help people who help us. kin selection hypothesis helping family leads to our genes passed on

Whorfian Hypothesis
Video: http://youtu.be/g0gkcY1SB-0
a theory in linguistics: one's language determines one's conception of the world

The strong version says that language determines thought, and that linguistic categories limit and determine cognitive categories, whereas the weak version says only that linguistic categories and usage influence thought and certain kinds of non-linguistic behavior.
youtube:g0gkcY1SB-0

Interval Reinforcement
reinforcements after a response at end of a given time period
variable interval schedule time between reinforcements changes
fixed interval schedule occur on the same day each week
ratio schedules partial reinforcement schedules (reinforcement delivered based on the number of correct responses).
fixed ratio schedule correct number of responses required remains the same
variable ratio schedule number of required responses changes

Reinforcement
Something that feels good is reinforcement (not punishment)
Positive reinforcement - stimulus
a) presented
b) desirable
= feels good (earn $1.00 for every magazine sold = sell more magazines)
negative reinforcement - stimulus
Reinforcement (cont)
a) REMOVED
b) desirable
= feels good (take aspirin to remove headache)
interval schedule = odds of reinforcement go up with passage of time
ratio schedule = odds of reinforcement go up depending on how many responses are made
variable ratio - number of responses are made vary from one win to the next

Drive
Drive = disrupts homeostasis
Instinct = complex behavior, unlearned, same throughout species (baby smiles when eating sweets)
drive reduction theory - physiological need creates an aroused tension state (drive) motivating fulfillment of the need -- homeostasis
How your ear works

Video: http://youtu.be/6MXoHKwWmU8

Ear Drum
Ossicles (Hammer/Malleus, Anvil, Stirrup)
Cochlea (hair cells on basilar membrane)

It’s all about FUNCTION
How mental experiences were adaptive & functional for people. Believed consciousness and behavior in general, helped people/animals adjust to environments. Understand “mind” = understanding what the mind has accomplished
William James

Behaviorist Approach
Learned responses to predictable patterns of environmental stimuli
Pavlov (classical conditioning)
Skinner (operant conditioning)
Study animals to apply to humans

John B Watson

How your brain works

Video: http://youtu.be/JiTz2i4VHFw

Priming, Fast brain, Slow brain

Associative Learning

Video: http://youtu.be/qG2SwE_6uVM

Subject links together certain events, behavior, stimuli in process of conditioning.

Pavlovian, reflexive, elicited, pair 2 stimuli, CS + US, stimuli appear regardless of learner’s behavior

Operant Conditioning - learning an association between stimulus and response (Reinforcement = increase in behavior Punishment = decreases behavior) BF Skinner

John B Watson

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Priming, Fast brain, Slow brain

Associative Learning

Video: http://youtu.be/qG2SwE_6uVM

Subject links together certain events, behavior, stimuli in process of conditioning.

Pavlovian, reflexive, elicited, pair 2 stimuli, CS + US, stimuli appear regardless of learner’s behavior

Operant Conditioning - learning an association between stimulus and response (Reinforcement = increase in behavior Punishment = decreases behavior) BF Skinner

John B Watson

How your brain works

Video: http://youtu.be/JiTz2i4VHFw

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William James

Conscience and behavior helped people and animals adjust to the environment

Functionalist Principles of Physiological Psychology (1st Psychology text book 1890)

Functionalist Approach

Video: http://youtu.be/fBTsnWqHw

1890 William James - Father of modern Psychology
People function like a machine (industrial revolution)
Based on evolutionary thoughts (close to Darwin’s “origin of species”)

Neurons

Video: http://youtu.be/x4PPZCLnVkA

Sensory (Afferent = To cell) receive info from senses

Motor (Efferent = Away from cell) from spine/brain to signal muscle contractions

Inter (Association = connecting) Think, see, perceive

Neurotransmitters

Electrical & chemical process
Dendrites, axon, myelin sheath
Neuron rest = -70 mV

Glia = “neuronal glue” hold neurons together, provide nutrients

John B Watson

1878 – 1958
Behaviorist. established the psychological school of behaviorism.
Conducted research on animal behavior, child rearing, and advertising

“Little Albert” experiment (condition fear of a white rat into “Little Albert”, an 11-month-old boy)

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### Neurotransmitters

**Video:** [http://youtu.be/W4N-7AlzK7s](http://youtu.be/W4N-7AlzK7s)

**youtube:** W4N-7AlzK7s

### Psychodynamic Approach

**Thoughts, feelings, behaviors come from interaction of drives & society restrictions on your ability to express them.**

Freud (sex/ aggressive drives most important)

Much behavior unconscious & rooted in childhood

### Sigmund Freud

1886 specialized in nervous disorders (talking cure)

free associate

*Uber Coca* 1st publication (about benefits of cocaine)

1900 *interpretation of dreams* psychoanalysis

ID - pleasure principle (immediate gratification, impulsive) (devil)

EGO - reality principle (mediates between id & superego) (self)

SUPEREGO - morality principle (social part, get along with others) (angel)

Phobia - cause when you want something you can’t have

By sparkledaisy

[cheatography.com/sparkledaisy/](http://cheatography.com/sparkledaisy/)

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### Freud - Psychosexual Stages

**Video:** [http://youtu.be/mOaqXK7z9LM](http://youtu.be/mOaqXK7z9LM)

**Psychosexual stages**

1. Oral stage
2. Anal stage
3. Phallic stage

**youtube:** ZWucNQawpWY

### Defense Mechanisms

Freud

**regression** returning to earlier way of behaving (adult throwing temper tantrum)

**rationalization** attempts to justify irrational behavior with rational arguments

**projection** attributing characteristics you don't like in yourself to other people

**reaction formation** involve doing opposite of what you really want to do

**Sublimation** channeling of impulses or energies regarded as unacceptable, especially sexual desires, toward activities regarded as more socially acceptable, often creative activities

**displacement** anger is directed elsewhere not necessarily socially acceptably (kick the dog instead of your boss)

### Humanistic Approach

people aren’t merely machines with determined behaviors.

Motivated by desire for optimal growth and development

**self-actualization**

All have unique desires/skills/needs. Must be able to express them.

People basically good, focus on positive aspects of development.

### Naturalistic Observation

inter-judge, inner-rater, inter-observer

Studied as occurs in real-life settings.

### Eye

Two photoreceptors in retina, rods & cones - change physical light energy into neural messages (transduction)

The rods more numerous, (120 million), & more sensitive than cones. But they're not sensitive to color.

The 6 to 7 million cones provide eye’s color sensitivity. They’re more concentrated in the central yellow spot (macula). In the center of that region is the "fovea centralis", a 0.3 mm diameter rod-free area with very thin, densely packed cones.
**Eye**

- **iris** = controls pupil size and amount of light
- **optic nerve** = eye signals to brain
- **retina** = light sensitive inner eye surface
- **lens** = between pupil and retina, focuses light

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**Opponent Process Theory**

There are some color combinations that we never see, such as reddish-green or yellowish-blue.

Opponent-process theory suggests that color perception is controlled by the activity of three opponent systems.

Three independent receptor types all have opposing pairs: white and black, blue and yellow, and red and green.

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**Young-Helmholtz Theory**

- Theory of color vision = the sensation of any color can be achieved by the superposition of pure red, green and blue colors
- Video: http://youtu.be/Jzl9VPnA3OY
- (video mentions color blindness)
- youtube: Jzl9VPnA3OY

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**Sensation**

Psychophysics-relating to sensation.

- **Absolute threshold** = the intensity needed for stimulus to be detected 50% of the time it is presented
- Just noticeable difference (jnd) or the difference threshold = minimum stimulation required for detection.
- **Weber's law** = Difference is harder to detect in more intense stimuli.
- Sensory adaptation = prolonged exposure to an unchanging stimulus causes nerves to fire less and detection diminishes.

Sensation-related to transforming energy from outside stimulus into neural energy to be used for perception.

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**Weber's Law**

- Difference threshold increases in proportion to the intensity or magnitude of stimuli. Difference harder to notice with more intense stimuli than weaker ones.
- Video: http://youtu.be/wVhiezByMSU

Difference in 40 - 60 watt bulb compared to 70 - 90 watt bulb (20 watts difference)

"Vader's" Law :)

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**Heuristics**

- **representative heuristic** - how similar or "representative" one event is. Assessing similarity of objects and organizing them based around the category prototype.
- **availability heuristic** - judging the likelihood that an event will happen from what has happened in the past
- **heuristics** - judgmental shortcuts generally get us where we need to go – quickly – but at the cost of occasionally sending us off course

(Algorithm - always produces the answer, but takes longer)

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**Psychological Disorders**

- **Anxiety** - dread, fear, terror
- Generalized - persistent but don't know source, sweaty palms, shake, nail bite
- Panic - sudden onset episodes
- OCD - thoughts & behavior
- **Mood** - depression, mania or both
- Major - 2 weeks of sadness, hopeless, discouragement
### Psychological Disorders (cont)

- Bipolar
- **Dissociative** - fragmented personality
  - Amnesia - can’t remember personal info
  - Fugue - leaves work, confused, assumes new identity
- Identity Disorder (multiple personality)
- **Schizophrenia** - hallucinations, delusions
  - Paranoid - believe famous, delusions of grandeur or persecution
  - Disorganized - disorganized speech, inappropriate behavior
  - Catatonic - odd motor activity, echopraxia, echolalia
- **Somatoform** - physical symptoms can’t be explained medically
  - Conversion - impaired motor/sensory function
  - Hypochondria
- **Personality** - behavior inconsistent to culture
  - Paranoid - suspicious, distrustful (not delusional)
  - Antisocial - impulsive, no conscience
  - Borderline - relationship/self image problems
  - Narcissistic - needs admiration

### PERSONALITY - Psychoanalytic

**Psychodynamic**

- Jung, Adler, Horney, Erikson, Rorschach-inkblot
- Freud (sex, aggression) dream analysis
- Freud and Jung - free association

**Thematic Apperception Test:** pictures you narrate

- Behavior motivated by unconscious needs
- People are basically bad

#### Alfred Binet

First to make intelligence test which determined test takers “mental” age. This has changed into the IQ test we are familiar with today.

**A Method of Measuring the Development of Young Children**

- Early 1900s
- Mental age divided by chronological age X 100 = score

### Flynn Effect

- **nurture refers to the effects of the environment on development**

  - “secular rise in IQ scores”
    - substantial and long-sustained increase in both fluid and crystallized intelligence test scores measured in many parts of the world from roughly 1930 to the present day.
    - New test subjects take older tests, almost every case average scores are significantly above 100.
    - Test score increases continuous & approx. linear from earliest years of testing to present

#### Carol Gilligan

attachment
- Mother - imprint (Konrad Lorenz)
  - (Harry Harlow - experiments with monkeys and attachment to mothers)
- Boys = justice
- Girls = caring

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Everyone has a novel in them. Finish Yours!
https://apollopad.com
### Carol Gilligan (cont)

- moral development based on relationship with mothers

### Altered States

- Hypnosis, Hallucinations, Psychoactive drugs (effect brain) (pain)
- Dissociation - detach from surroundings while still conscious (split consciousness)
- **Depressants** - alcohol, opiate, barb. (morphine, heroine)
  - too much opiate ingestion and body stop making natural opiates (endorphins) = withdrawal
- **Stimulants** - caffeine, nicotine, amphetamines (meth, ecstasy, cocaine)
- **Hallucinogens** - plant, fungal, synthetic (LSD, psychedelics)

### Pregnancy - First Trimester

- **Zygote** = 1 cell, sperm & egg
- **Embryo** = attaches to uterine wall
- **Fetus** = movement occurs
- **Teratogen** = substance that causes birth defects
- reflexes = suck, swallow, touch

### Infant Reflexes

- **Babinski, Moro, Palmar Reflexes**
  - Video: http://youtu.be/0V4x0iQODTk
  - youtube:0V4x0iQODTk

### Palmar Reflex

- Flexion of the fingers following tickling of the palm in infants.
- Reappearance may be attributed to certain neurological conditions (dementia, lesions, stroke)

### Moro Reflex

- Normal reflex in newborns - 3-4 months.
- Video: http://youtu.be/s_IAFst43TE
- Presence of reflex may suggest injury to bones or spinal cord.
- AKA: Startle response; Startle reflex; Embrace reflex

### Babinski Reflex

- Normal in children up to 2 years old, disappears as the child gets older (maybe as early as 12 months)
- Present in a child older than 2 years/adult, often a sign of a brain or nervous system disorder -
  - Amyotrophic lateral sclerosis (Lou Gehrig disease)
  - Brain tumor or injury
  - Meningitis
  - Multiple sclerosis
  - Spinal cord injury, defect, or tumor
  - Stroke

### Pregnancy - First Trimester

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### Social Exchange Theory

- human relationships are formed by the use of a subjective cost-benefit analysis and the comparison of alternatives

### Social Responsibility norm

- obligation to act for the benefit of society at large

### Bystander effect

- in a crowd, no one helps
  - [Video](https://www.youtube.com/watch?v=cgE5q5rOl9A)
Reciprocity norm
Video: http://youtu.be/ofxxvc1KPa8
We feel obligated to help those who have helped us.
The kin-selection hypothesis is one explanation.
youtube:ofxxvc1KPa8

Frustration Agression Hypothesis
Video: http://youtu.be/oe8PJ8rVV0M
Frustration produces a readiness for aggression if triggered
youtube:oe8PJ8rVV0M

Sensory Memory

Implicit (procedural) = being aware of how to do something without consciously know how
Explicit (declarative) = being aware of what you know
Iconic = brief photographic memory of an image
Echoic = brief memory of an auditory stimulus
Flashbulb = vivid memories of emotionally charged events
Working = short-term memory

Motivation
Arousal Theory A theory of motivation suggesting that people are motivated to maintain an optimal level of alertness and physical and mental activation.
Instinct Theory all organisms are born with innate biological tendencies to help them survive. All behaviors are driven by instincts (goal-directed and innate patterns of behavior that are not the result of learning or experience). (babies root)
Drive Reduction Theory physiological need creates an aroused tension state (drive) motivating fulfillment of the need -- homeostasis
Theory X type X individuals are inherently lazy and unhappy with their jobs. Therefore, an authoritarian management style is required to ensure fulfillment of the individuals' objectives.
Theory Y managers assume employees can be ambitious, self-motivated and exercise self-control. Employees enjoy their mental and physical work duties and for them, work is as natural as play