

Psych Chapter 9: Thinking and Language

Thinking

- Cognition
 - Refers to all the activities associated with thinking including knowing, remembering and communicating
 - Concepts: a mental grouping of similar objects, events, ideas or people
 - Give us so much information with little amount of words
 - Organize our concepts into hierarchies which further categorize
 - Form our concepts through definition
 - i.e. learning that a triangle has three sides
 - most often form our concepts through prototypes
 - a mental image or best example that incorporates all the features we associate in a category
- Solving Problems
 - Trial and error
 - Thomas Edison and the light bulb
 - Algorithm
 - A methodical, logical rule or procedure that guarantees solving a particular problem. Contrasts with the usually speedier, but more error prone heuristics
 - Heuristics
 - A simple thinking strategy that often allows us to make judgments and solve problems efficiently, usually speedier and more error prone
 - Insight
 - A sudden and often novel realization of the solution to a problem, it contrasts with strategy based solutions
 - Obstacle to Problem Solving
 - Confirmation bias
 - A major obstacle to problem solving
 - We seek evidence verifying our ideas eagerly than evidence that might refute it
 - Ex: war in Iraq. Thought had nuclear weapons. Sought information to support, but not to refute
 - Fixation
 - The inability to see a problem from a fresh perspective
 - When we incorrectly approach a problem it is difficult to restructure how to approach it
 - Mental set: predisposes how we think
 - Refers to our tendency to approach a problem with the mind-set of what has worked for us previously
 - Impedes the ability to solve new problems
 - Functional fixedness
 - To think of only familiar functions for objects without imagining another use
- Making Decisions and Forming judgements
 - Follow intuition rather than making judgments systematically
 - Using and Misusing Heuristics
 - The representative heuristic

- Judging the likelihood of things in terms of how well they seem to represent, match, particular prototypes may lead us to ignore relevant information
- The availability heuristic
 - Estimating the likelihood of an event based on their availability from memory; if instances normally come to mind we presume such events are common
 - How easily it can pop into mind due to distinctiveness or vividness
 - Ex: if someone from a certain ethnic group commits a terrorist attack, we are more likely to think of that group as terrorists because the information is vivid
- Overconfidence
 - A tendency to overestimate our knowledge and judgments
- Exaggerated fear
 - The opposite of having overconfidence is having an exaggerated fear about what may happen. Such fears may be unfounded.
 - The 9/11 attacks led to a decline in air travel due to fear.
- The belief perseverance phenomenon
 - Often fuels social conflict
 - In a study of the relation of capital punishment and crime, both sides studied two supposedly new research findings, one supporting and the other refuting the claim that the death penalty deters crime. Each side was more impressed by the study supporting its own beliefs, and each readily disputed the other study. Thus, showing the pro- and anti-capital-punishment groups the same mixed evidence actually increased their disagreement.
- The perils and power of intuition
 - Intuition: an effortless, immediate feeling or thought as contrasted with explicit, conscious reasoning
 - Allow us to react quickly and adaptively, but often cause errors in judgment
 - Intuition is born from experiences, just like good nurses learn to make rapid judgment
- The effects of framing
 - Framing: the way an issue is posed: how an issue is framed can significantly affect decisions and judgments
 - Taking the same information but presenting it in different ways
 - A surgeon tells the patient that they have 10% chance of dying and another that they have 90% chance of living, but the response is not the same

Language

- Our spoken, written, or signed words and the ways that we combine them to communicate meaning
- Structure
 - Phonemes
 - In language, the smallest distinct sound unit
 - The first thing developed in language
 - Change in phonemes provide change in meaning
 - Reason why one language has trouble learning another due to different phonemes
 - Morphemes
 - The second building block, the smallest unit of language that carries meaning
 - Prefixes and suffixes as well as some phonemes like I or a
 - Grammar

- Grammar: a system of rules in a given language that enables us to communicate with and understand others
- Semantics: is the set of rules that we use to derive meaning from morphemes
- And words and sentences
 - Like added -ed to laugh is in the past
- Syntax: refers to the rules we use to organize words into sentences
- Development
 - When do we learn language?
 - Receptive language
 - Start without language and by four months can discriminate speech sounds
 - They look at the lips to distinguish what motion makes what sound
 - By seven months segment language into words
 - Productive Language
 - Ability to produce words after the receptive phase
 - Babbling stage: beginning at about 4 months, the stage of development in which the infant spontaneously utters various sounds at first unrelated to the household language
 - By 10 months, the babbling sounds like the native language of the household
 - Around age one most children reach the one-word phase
 - That stage in speech (from 1 to 2) during which a child speaks in single words
 - One-Word Stage: Beginning at or around his first birthday, a child starts to speak one word at a time and is able to make family members understand him. The word doggy may mean look at the dog out there.
 - At 18 months learn a word a day rather than a word per week and enter the two word stage
 - When the child utters words in telegraphic speech
 - Normally consists of verb and a noun
 - Two-Word Stage: Before the 2nd year, a child starts to speak in two-word sentences. This form of speech is called telegraphic speech because the child speaks like a telegram: "Go car," means I would like to go for a ride in the car.
 - Longer Phrases

SUMMARY OF LANGUAGE DEVELOPMENT

Month (approximate)	Stage
4	Babbles many speech sounds.
10	Babbling resembles household language.
12	One-word stage.
24	Two-word, telegraphic speech.
24+	Language develops rapidly into complete sentences.