Final Review– Psych 200 – Spring 2016

False Memories from Scratch

How to create false memories – the need for multiple exposures over time.

Inability for others to differentiate false memory from real – resistance of Ss to believe the false memories are false.

Recovered Memory Contraversy - similarity between false memory paradigms and recovered memory techniques.

EX of false recovered memories

Nadean Cool & Sheri Storm

Report of the Crime Victims Compensation Program

Is treatment that asks people to relive trauma helpful?

Crisis debriefing – evidence for poor long term prognosis

How might re-living the trauma influence memory?)

Neuroimaging results showing different activation in posterior parahippocampus for real vs. false memory.

Categorization

Why we categorize – predictions, understanding the novel, provides lots of info.

How do we perform categorization?

Definitional theory – weaknesses

Prototype theory

Evidence for – Typicality effects; naming effects; priming effects

Weaknesses – variability within a category

Exemplar theory

Consistent with evidence used to support prototype; explains variability within a category

Weakness- not very economical; how do you decide where to put each exemplar

Homa et al's training study – suggests early rely on exemplars, after training more reliance on prototype – but probably still some exemplars

Organization of Categories

Hierarchical organization – superordinate, basic, and subordinate levels

Basic Level special – naming tasks; amount of information at each level

Experience can change levels.(experts) and classification strategies (cross cultural)

Collin & Quillian's Semantic Network Model

Nodes with features on highest level possible; economical

Evidence from sentence verification tasks & same level advantage

Some difficulties – typicality & some data that doesn't fit

Collins & Loftus Association networks w/ spreading activation

Weaknesses – not falsifiable; no a priori predictions

Language

Vs. Other Forms of Communication (e.g., gestures)

Animal communication

displays, dances, pheromones

Vervet monkeys and vocabulary

The difference between language and signaling

Critical properties of a language

Communicative

Arbitrary

Structured

Generative

Dynamic

Mammals and language
> Dolphins – taught about 40 words (w/different parts of speech) & simple grammar
>> Understand grammar (word order) and respond to novel combinations
> Primates - Gau raised with infant human – learned to understand 100 words by 16 months, then never got better, never learned grammar
>> - Washoe – trained in ASL –learned ~150 signs; could combine words in novel but appropriate orders, never understood grammar.
>> Kanzi- Learned keyboard language "Yerkish" picked it up spontaneously while they were training his primary care giver, understands over 200 words, responds appropriately to spoken utterances spontaneously produces 2 and 3 word sentences, sensitive to word order

Hardcore psycholinguists say this cannot be language –add additional criteria
> Chompsky's additional criteria – structured grammar, specialized brain mechanism, has to be integrated into the cognitive structures.

Continuity v. discontinuity theory –
> Evidence for innate language acquisition device
>> Language is universal, tacit learning of grammar, innate desire to impose grammar (pidgin/creole languages), wired to hear speech

Chomsky's approach to grammar – basic rules that govern phrase structure grammar (s = NP VP; NP= Det N; VP = V NP or V S – how the last one makes it recursive and unlimited)

Understanding Language- There is ambiguity at every level
> Signal –
>> vowels have most the energy, consonants most the meaning (poor signal to noise ratio)
>> Have phoneme detectors (not letter detectors) – Evidence: ambiguous stimuli and adaptation
>> Noise can mask language – The Phonemic Restoration effect
>> Vision helps disambiguate the signal – McGurk Effect
>> Parsing of Phonemes difficult – no breaks in the energy, coarticulation
>> Context is important for disambiguating the signal at the phoneme level
>>> EX: phonemic restoration effect in context
>>> Pollack & Pickett- people couldn't identify their own words without context
>>> Expectation allows people to decipher very limited sound signal.
>> Parsing words- effects of statistics (transitional probabilities)

> Even if get all the correct words there is ambiguity in interpretation
>> EX: Newspaper headlines
>> Surface structure v. deep structure;
>> Again context seems key to disambiguating

Does context constrain interpretation from outset, or is it a later process
> Marslen – Wilson Cohort Model – representation of words are activated in parallel based on bottom up, as more phonemes role out they constrain possible words – also context might come in to constrain late.
> Cross modal lexical priming
>> Method
>> Finding: early on all possible words activated – as reveal more of the word fewer candidates are still activated = Evidence that encoding is sequential – Also eye tracking evidence
> Context does not seem to constrain meaning early on – Cross modal lexical priming evidence= early multiple meanings active; late only correct one survives (even with disambiguating context)
> Constraint of common knowledge
>> Again is constraint early or late?
>>> Eye tracker evidence suggests late

Bilingualism – Early theories saying it is problematic and how that study was wrong
> Advantages- better performance on test of L1, better at following complex directions, and problems solving
> When to learn?
>> Evidence for critical/sensitive period for first language learning (Genie, and Victor)
>> Original claims that there was a critical period for L2 learning; but more recent evidence that shows no evidence of critical period-only that L2 performance continually declines with age of learning – theories about why L2 learning might decline with age (cognitive and environmental).

Problem Solving
Difference between the lab and real life (puzzle problems v. real world problems)

The problem solving cycle
>   Problem identification
>   Definition (identifying the important/relevant aspects, legal and illegal operators, current state, goal state)
>>   How you represent the problem makes a huge difference
>>>   Insight – the ah-ha you get when you represent the problem correctly
>>>>   Metcalfe & Wiebe (math v. insight)
>>>>   Incubation – helps but may not be due to unconscious processing – allows re-structuring of the problem.
>>>>   Neuro of insight – Bowden & Jung-Beeman –inhibition of visual cortex just before solution of insight– perhaps allowing one to re-visualize the problem
>   Strategy formation- Problems with situationally produces mental sets
>   Organization of Information
>>   Maier & Ducker – Functional fixedness (candle and two string examples)

Types of Strategies
>   Algorithm – guarantee success – may require brute processing beyond human capability
>>   Simple/Dumb Search - Random test and generate – inefficient
>>   Search the problem space – e.g. tower of hanoi
>>   Human limits – memory and slow processing speed
>   Heuristics – short cuts for us humans
>>   Hill climbing - problem = local maximum, also may not be direct.
>>   Subgoals – EX: Missionaries and Cannibals – Hill won't work but subgoals do
>>>   Simon & Reed – subgoal advantage
>>   Analogy – in theory great but people are bad at identifying problem isomorphs.
>>>   Reed, Ernst & Banerji – jealous husband and wives for missionaries
>>   Analogical Paradox
Experts in problem solving – Focus on structural rather than surface factors, spend more time analyzing problem before attempting solution, less likely to be open to new methods, are no better outside of their area of expertise

Decision making
>   Start in economics – Theory based on people as rational and wanting to maximize outcome – normative theory
>>   Decisions deductive based on math, probability & logic but did not predict human behavior
>>   Deductive reasoning – general to specific- good logic
>>>   Categorical Syllogisms
>>>>   2 premises and a conclusion – describe relationships between categories using all, no, some
>>>>   Valid = conclusion follows logically from premises; can be different than true
>>>>   People are poor at detecting valid/invalid syllogisms
>>>>   Can be evaluated with Venn Diagrams
>>>>   Types of mistakes people make are telling (the belief bias - Whether you believe the conclusion biases whether you think the logic is valid or not).
>>>   Conditional Reasoning (if then logic)
>>>>   EX; Wason's card selection task
>>>>   People perform poorly & have a Confirmation bias
>>>>   People perform better when concrete/familiar situation
>>>>>   Pragmatic reasoning schemas
>>>>>   Permission Schemas – Social exchange theory
>>>>>   Domain specific reasoning
>>>   Conclusion: Don't follow rules of abstract logic, specific reasoning schemas for particular circumstances
>   Probabilities – people poor at calculating probabilities
>>>   Bayes Theorem
>>>   Ignoring base rates
>   Inductive reasoning – from the specific to the general
>>   Heuristics & Biases
>>>>   Representativness heuristic- assess likelihood by comparison to prototype
>>>>>   Ignore base rates – unless no other info, or practice in domain
>>>>>   Conjunction fallacy

Availability heuristic – judge frequency by easy of generating cases from memory

  Salience affects estimates

  The good old days?

Anchoring & Adjustment – we estimates a starting point and don't adjust enough

  Tversky & Kahneman (T&K) – random anchor

  Sales people behavior

Hindsight bias- once we know we think we always knew/ it's obvious

  Carli – errors in memory and hindsight bias

Choosing more of a bad thing

  K et al – cold water; Redelmeier & K colonoscopy

Do we know why we make the decisions we make?

 Nisbett & Wilson – No!

  Method, results and interpretation

  EX: lingerie, dissonance

 Bem & McConnell – dissonance and distortion of initial belief

 Framing effects - Risk aversion when gains involved, risk-seeking when losses involved

 Mental Accounting and why retailers offer credit cards.

Are experts better than simple linear prediction models? – no