Module VII: Memory Basics

- Multi-store vs. single-store models
  - Cowan, Embedded process models, spotlight metaphor
- Atkinson & Shiffrin: STM doing more than storage, there is maintenance and rehearsal
  - Activity: Need rehearsal to maintain STM
  - Access: Slow and effortful for LTM
  - Capacity: Leaky bucket metaphor
    - George Miller (1956): Magic #7 ± 2
    - Memory span (digit span)
    - Chunking
  - Maintenance: Rehearsal vs. Built-in
  - Code: Surface vs. Conceptual
- Clinical evidence for STM-LTM distinction
  - HM (epilepsy)
  - NA (fencing accident)
- Forgetting
  - Brown-Peterson Task: Duration of STM?
    - Sebrechts, Marsh, & Seamon (1989): Expectancy
  - Serial Position: Primacy (LTM) vs. Recency (STM)
  - Decay vs. Interference
  - Keppel & Underwood (1962): Proactive Interference?
  - Waugh & Norman (1965): Probe digit, interference
  - Reitman (1973; 1974): Signal Detection
- Maintenance
  - Landauer (1962): rehearsal rate
  - Conrad (1964): letter confusion matrix
  - Seamon & Chumbley (1977): hierarchical organization
- Models of STM / WM
  - Baddeley's Working Memory Model
    - Visuospatial sketchpad, phonological loop, & central executive
  - Salame & Baddeley (1987; 1989): Effects of background noise on phonological loop
  - Valler & Baddeley: Articulatory suppression (“THE”)
    - Selective Interference
  - Baddeley's rotor pursuit task

Module VII: Long-Term Memory

- 3 Processes: 1. Encoding/Acquisition, 2. Retention, 3. Retrieval
  - Clive Wearing: Lost episodic memory
  - H.M.: encoding or retrieval?
Serial Position Effects

- Types of LTM: Declarative (Semantic, Episodic) vs. Nondeclarative (Procedural, Implicit)
  - Repetition priming
- Measuring memory: Recall, Recognition, Implicit tests
- Tip-of-the-Tongue States
- Forgetting
  - Rust metaphor (decay)
  - Bad retrieval cues
  - Interference
    - Proactive vs. Retroactive Interference
    - Two List Paradigm (A-B, A-C)
    - Keppel & Underwood (1962)
    - Wickens release from PI
- Network Models (Collins & Quillian, 1967; 1969)
  - Nodes, Connections, ISA links
  - RTs to primary vs. secondary properties (Collins & Quillian, 1969)
  - Spreading activation
    - Semantic priming
  - Schema-based memory errors
    - Brewer & Tryons (1981): graduate student office
- Very Long Term Memory
  - Bahrick et al. (1975): Memory for classmates can last over 80 years!
  - Williams & Hollan (1981): Scalloped recall, retrieval cues
- Savings in Relearning

Module IX: Memory Codes

- Korsakoff's syndrome
  - Proposed Cause?
  - Role of hippocampus in transfer to LTM
- Levels of Processing (Craik & Lockhart, 1972)
  - Time in STM vs. Attention & Processing
  - Deep vs. Shallow Encoding
    - Structural, Phonemic, Semantic
  - Elaborations
  - Rogers, Kuiper, & Kirker (1977): self-referential
  - Nairne, Pandeirada, & Thompson (2008): survival value
  - Problems with LOP?
    - Measurement, Serial stages assumption, Circularity, Overspill coding
- Transfer Appropriate Processing
  - Morris, Bransford, & Franks (1977): How you test matters
  - Cognitive operations
    - Sliced HAM
• Recall clergy vs. Recall birds
  o $5 bet to reorganize months
• Encoding Specificity
  o Retrieval Cues
  o Circumstances / Context
    o Godden & Baddeley (1975): Navy divers
    o Bower, Monteiro, & Gilligan (1978): State-dependent (mood) retrieval
• Miller’s junkbox metaphor
• Foos’s rabbit method
• Durso & Johnson (1979): Orienting task affects memory
  o Verbal vs. Imaginal Elaboration
• Tulving’s Remember vs. Know distinction
  o Paradigm, examples

Module X: Memory Distortions
• Allport & Postman (1958): serial reproduction and racial prejudice
• Loftus & Palmer (1974): retrieval bias
  o Hit, smashed, collided, bumped, contacted
• Interference, Misleading Information, and Eyewitness testimony
  o Loftus (1974): importance of eyewitness to jury
  o Brigham, Maas, Snyder, & Spaulding (1982): eyewitness identification with delay
  o Sanders (1984): Role of lures in memory errors
  o Cutler, Penrod, & Dexter: Eyewitness knowledge of cause of memory errors
  o Loftus & Greene (1980): face reconstruction with misleading features
• Loftus, Miller, & Burns (1978): Stop vs. Yield sign
  o Misleading information
  o Overwriting hypothesis
• McCloskey & Zaragosa (1985): influence of guessing
  o Novel distractors
• Tversky & Tuchin (1989): advice against forced-choice paradigm
• Picture Memory
  o Shepard (1967): better than words
  o Standing (1973): memory for 10,000 pictures
• Faded Snapshot vs. Constructivist
  o Hierarchical Organization
    ▪ Stevens & Coupe (1978): relative location of cities
  o Grouping & Categories (Hirtle & Jonides, 1985)
    ▪ Ann Arbor campus
    ▪ In group vs. Out group
  o Cognitive reference points
    ▪ East vs. West Coast
    ▪ Cluster effect
    ▪ Thorndyke (1981): distance to window in cluttered vs. empty room
Alignment (Tversky, 1981): continental alignment
Rotation (Tversky, 1981): North vs. South America

Module XI: Psycholinguistics I

- Purpose of language: Production & Structure
- Slobin (1982) on linguistic comparison: English, German, Turkish
- Chomsky (1965): Competence vs. Performance
  - Linguistics vs. Psycholinguistics
  - Structure, Process, & Function
    - Clawhammer blueprint
- Pragmatics
  - Role of context
  - Indirect speech acts
- Phrase Structure Grammar & Structure of Language
- Ambiguities
- MacKay & Osgood: garden path sentences
- Caplan (1972): constituent boundaries
- Sentence Parsing & Function of Language
  - Grice’s implicatures
  - Austin: Descriptive vs. Performative utterances
  - Searle: The Sky is Gray
    - Locutionary, illocutionary, perlocutionary
  - Grice’s Cooperative Principle
    - Role of Grice’s Maxims: Quantity, Quality, Relation, Manner
  - Herb Clark (1979): indirect requests
    - Liquor store / Jim Beam

Module XII: Psycholinguistics II

- Processes in Language
- Language universals (grouping, word order, agreement)
- Searle’s Literal First View
- Clark & Lucy (1975): RTs to direct vs. indirect requests
- Gibbs (1983) reanalysis of Clark & Lucy (1975): “Please be friendly to other people”
  - Can indirect meaning ever be computed more quickly than direct?
- Determining boundary of constituents
  - Caplan’s Oil
  - Kimball’s Three Syntactic Rules
    - Functor Words
    - Right-Most Rule
    - Adjacency
- Interaction between Semantics & Syntax
  - Verbs: semantics can tell us about syntax
    - Noah Illusion
Marotsos: development and understanding of passive sentences

Autonomous vs. Interactive views

- Marslen-Wilson & Tyler (1987): Semantics before clause boundary?
  - Landing planes
- Swinney (1979): bugs in the corner of the room
- Marslen-Wilson & Tyler: Another RT study (Semantics & Syntax, Syntax, Neither)
- Pragmatics

Text Comprehension

- Kintsch
  - Two Inputs: Reader & Text
  - Propositions and WM
  - Reinstatement search vs. Inferences
  - Briton et al. (1990): Removing words to create inferences reduces “harmony” and comprehension

- Swazi tribe: Propositions and Speed of comprehension