CHAPTER 4: Representation in Memory

1. What is the difference between intermediate and long-term memory? Be sure to mention their respective functions and implicated brain regions.
   a) Intermediate memory is memory of more recent events that falls temporarily between short-term and long-term memory. With intermediate memory, rapid learning and recall of specific events occurs, implicating the hippocampus.
   b) Long-term memory is the vast storage of information that one can potentially bring to mind. Slow learning with rapid recognition of patterns occurs with long-term memory. Such functions implicate the neocortex, in particular the medial temporal lobe.
2. Describe the anchoring and adjustment process. Which model of social memory does it fall under?
   a) This impression formation mechanism updates one's impressions with new pieces of information, occurring simultaneously with memory encoding and storage. This updating process is based on an equally weighted average of (1) the cumulative evaluations of the items so far, and (2) the items currently staying in working memory, including the new memory.
   b) This process falls under the PM-1 Model of social memory.
3. Describe in your own words what the inconsistency advantage is in person memory models. What is required for the inconsistency advantage to arise, and when does it fail to surface?
   a) The inconsistency advantage is the phenomenon where people give extra attention to inconsistent material, resulting in extra associative linkages for that material, thereby increasing their retrieval routes to that material and ability to recall it.
   b) In order for the inconsistency advantage to arise, one must have a baseline understanding of what another person consistently does—which means that they need to observe a good number of consistent behaviors to recognize something inconsistent. For example, one study found that participants needed to see at least 25 consistent behaviors for a person to develop a strong enough impression of that person in order for them to exhibit the *extra attention to inconsistency* that the inconsistency advantage rests on (Srull, Lichenstein, & Rothbart, 1985).
   c) However, this inconsistency advantage is observed under only certain conditions. When researchers depart from that standard, the inconsistency advantage fails to surface. Such departures include:
      - Having well-established expectancies of the target,
      - Having multiple-trait expectancies of the target,
      - When behaviors are descriptively but not evaluatively inconsistent (evaluative refers to the positive/negative connotation of a target)
      - When one has time to think about their impressions after seeing the information

- When one needs to make a complex judgment
- Or when one is multitasking.

4. Provide a metaphor to explain parallel distributed processing (PDP). This could be the metaphor provided in the text or your own.
   a) The metaphor in the text describes parallel distributed processing (PDP) as a grid of bulbs, different combinations lighting up depending on what needs to be displayed on the grid. Each bulb in this metaphor represents a memory unit, each unit participating in many different memory patterns as one feature of the whole. (Other metaphors should share these key features.)
5. How can categorical processing contribute to the phenomenon of "false memories?"
   a) To result in false memories, leading questions that encourage someone to respond in a given direction or volunteer novel information as if it were known fact must fit within plausible pre-existing mental categories.
   b) This is related to "false alarms," where items that fit within a category are especially likely to be identified as familiar, even if they have never before been presented.
   c) When information is category-consistent with actual memories, it is sometimes experienced as familiar or known, even if it has not been encountered before.
6. Describe at least one shortcoming of prototype models and one shortcoming of exemplar models. What solutions to the prototype-exemplar debate were described in the text?
   a) Prototype models fail to address that (1) social categories are more often represented by ideals or extremes than abstract conceptions, (2) people collect exemplars rather than just knowing the gist about a group, (3) people calculate covariance of people they encounter from a group, not always consulting the average, (4) people's goals and expertise determines how they access categories, (5) people form fuzzy hierarchies rather than clear ones, complicating the prototype argument, and (6) people's categories and prototypes change, but the prototype models do not do a good job of explaining how.
   b) Exemplar models' shortcomings arise when we consider that several phenomena seem to involve both exemplar and prototype models. Exemplar models also cannot account for knowledge of variability in a category or correlating features of a category.
   c) The chapter describes evidence that people use prototypes and exemplars in creating and maintaining categories. One proposed idea is that exemplars are used as building blocks for a category, allowing an abstract generalization to form. When this prototype fails, exemplars are returned to for troubleshooting.