Prototype model of category structure

- Alternative influential view in the ‘70s
  - It came out of *empirical* investigation (psychology; E. Rosch and coll.)

- Graded centrality
  - Not all members have the same status
    - Goodness-Of-Exemplar (GOE)
    - Scoring lists of putative members
    - People have no trouble scoring
    - Results are uniform (within communities)
  - Prototypes (prototypical members)
Prototype model of category structure (Cont’d)

- GOE correlates with
  - Frequency and order of mention
  - Order of learning
  - Family resemblance
  - Verification speed (below consciousness)
  - Priming (below consciousness)
Prototype model of category structure (Cont’d)

- Representation of conceptual categories
  - Prototype theory: Two versions (not equivalent)
    1. Represents concepts in terms of a list of the attributes of members (but not necessary and sufficient)
      - Centrality of an item depends on how many relevant features it possesses
      - It could be that no member has all prototype features
    2. Similarity
      - Concept represented by an ideal exemplar; membership and centrality defined in terms of similarity to the prototype
Levels of categorization

- Categories occur at different levels of inclusiveness
  - Living thing-animal-dog-spaniel
- Basic level category
- Superordinate level
- Subordinate level
- Not just a matter of positions in the chain
Basic level categories

- The most inclusive level ...
  - at which there are characteristic patterns of behavioral interaction
  - for which a clear image can be formed
  - for which part-whole information is represented (e.g., members of superordinate artifactual categories TOOL or FURNITURE don’t have common part-whole structures)
  - used for everyday neutral reference
Basic level categories (Cont’d)

- Represent the best category into which the immediate superordinate category can be divided, in terms of:
  - Degree of difference between members of the category and members of neighboring categories
  - Internal homogeneity (degree to which members resemble one other)
  - Informativeness

- E.g., ANIMAL – DOG – SPANIEL
Prototype theory: some problems

- Simplistic nature of feature list
  - Best example can be influenced by context
  - Spoon: feature WOODEN lowers GOE if it is small, but not if it is large

- Contrasting categories
  - No explanation for the mutual exclusion relation between categories such as CAT, DOG, LION, CAMEL

- Boundaries in prototype theory
  - Do they exist? (psychologically: yes!)