Behaviorism and Cognitive Psychology

Epistemology (philosophy of knowledge)
- empiricism / behaviorism / learning / animals
- rationalism / cognitivism / memory / humans

Behaviorism is based in conditioning theories
Cognitive Psychology is based in information processing theories

Conditioning theories:
classical conditioning
- e.g., ring bell then give dog food – dog learns to salivate at bell
- how animals learn about regularities in their environment that are NOT under their control

operant conditioning
- e.g., rat presses bar in cage, then gets reward ("reinforcement")
- how animals learn about regularities in their environment that ARE under their control

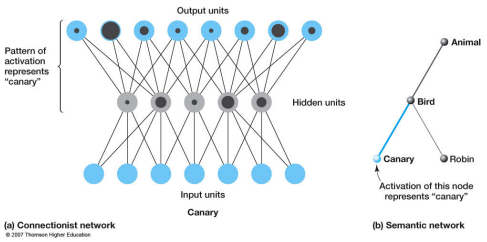
Natural science vs Social science
- study of natural phenomena vs human culture and institutions
- both are "science" though: both apply scientific METHOD to phenomena of interest

Why is psychology scientific? One part of an answer:
Science makes models… so what is a model?
- pared down simplified idealized description, equation, algorithm, flow chart, etc.
- or physical representation like globe or map or atom
- allows prediction of what will happen, and explanation in terms of familiar or visualizable or otherwise more understandable phenomena
- mind as computer program, atom as little solar system, behavior as machine-like, rat behavior as model for human behavior
- stuff gets left out - moreso in "noisier" sciences (physics -> chemistry -> biology -> psychology -> other social sciences)

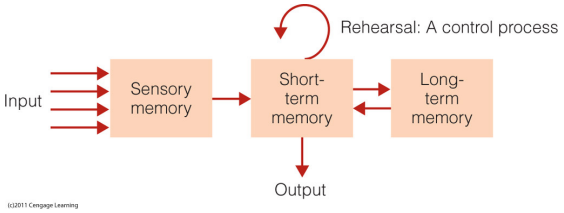
Rescorla-Wagner Model of Classical Conditioning

$\Delta V_i = S_i \times (A_j - V_{sum})$

Parallel Distributed Processing model of semantic memory



"Modal model" of short term and long term memory



Behavior is the test for models, whether in behavior-ISM or in cognitiv-ISM, because it's the only aspect of either that can be observed

Classical conditioning: phenomenon, procedure, model

- phenomenon: all animals learn what leads to what, through experience
- procedure: ring bell for dog then give it food, to create new association
- model: describe phenomena in terms like "Conditioned Stimulus" and "Unconditioned Stimulus", propose that their pairing close together in time creates an association, theorize about what strengthens or weakens associations, etc…