2.2: The Role of Hypothesis

“A fact is a simple statement that everyone believes. It is innocent, unless found guilty. A hypothesis is a novel suggestion that no one wants to believe. It is guilty, until found effective.”

—Edward Teller

Main point: Hypotheses is a useful way of dealing with gaps in data (which always exist) as well as basis of seeing the future (prediction)—going beyond the information given

- a belief (currently unsupported) that helps explain data (observations)
- can also help explain complete data—look for higher-order patterns

- three types of approach to using hypotheses to explain data:
  1. situational analysis (situational logic)
     - relatively few instances—low generality
     - many issues each—high articulation
  2. theory
     - many instances—high generality
     - relatively few issues for each instance—low articulation
  3. comparison (analogy)
     - intermediate between situational analysis and theory

- hypotheses can be useful in several ways:
  - provide predictions; give us control over a situation
  - suggest new questions in a research area
  - suggest new applications in other areas / industry

- important to have an effective way of selecting among these approaches
  - e.g., satisficing, incrementalism, consensus, analogy, principles (maxims)