Macro cognition: Studying the Cognitive Adaptation to Complexity

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Please Cite As
Expanding the Realm of Possibility

Functions

MACROCOGNITION

Processes

(Re-) Planning
Adapting
Detecting Problems
Coordinating & Collaborating
Sensemaking
Deciding
Maintaining Common Ground
Managing Attention
Developing Mental Models
Identifying Leverage Points
Storybuilding & Projecting the future
Managing Uncertainty & Risk

ARA
Macro-cognitive Metrics: Sensemaking

- Paradigms
  - Garden path/FOCUS
  - Starter kit
  - Look ahead
  - Sherlock Holmes
  - Prediction paradigm

- Measurement dimensions
  - Seeking information
  - Forming and revising mental models
  - Detecting problems
  - Using frames to form expectancies and anticipations
Why do we need “Macrocognition”?

- Differences from microcognition
  - Escape from stovepipes
  - Vain appeals for naturalistic study of cognition
    - George Miller, Herb Simon, Allan Newell
  - Cognitive Psychology guards its borders well

- Opportunities for progress
  - Study the “messy” contextual conditions
  - Macrocognition speaks directly to sponsors and SMEs
  - Stance towards SMEs
  - Focus on strengthening cognition, not on limits
  - Community of practice for dialog across domains
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