Knowledge Management for Agility

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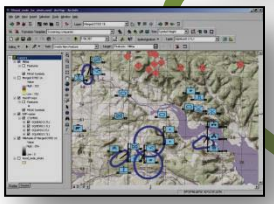
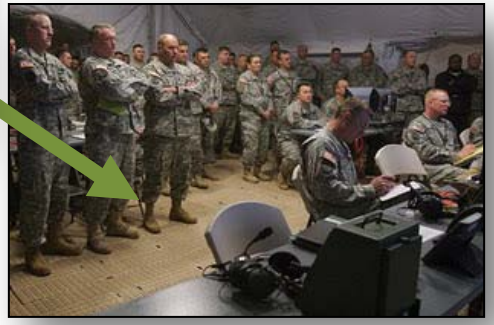
Purpose

Recognize the need to build on objective (scientific and logical) knowledge to provide decision makers with

narrative knowledge that recognizes alternative perceptions of reality

support dynamic understanding of complex situations





and enable effective agility across the full spectrum of operations.

Agility

- The ability to recognize and deal effectively with changes in circumstances which may come from:
  - Adverse developments or adversary actions
  - Opportunities arising from external forces
  - Capacity to shape or design developing situations
- Agility always implies success—change for change's sake is not agility

Different Forms of Knowledge

Logico-scientific reasoning **is a rigidly logical form of knowledge:**

- ✓ **Objects/relationships/events are objectively definable**
- ✓ **Relevant systems are bounded, well-formed and exhibit repeatable behaviors**
- ✓ **Sensemaking is bottom-up, problem-focused process of seeking solutions**
- ✓ **Observed data is either fitted into existing problem frameworks or used to draw generalized inferences**
- ✓ **Reasoning serves to (1) identify critical performance issues and (2) predict the likelihood of future system states**

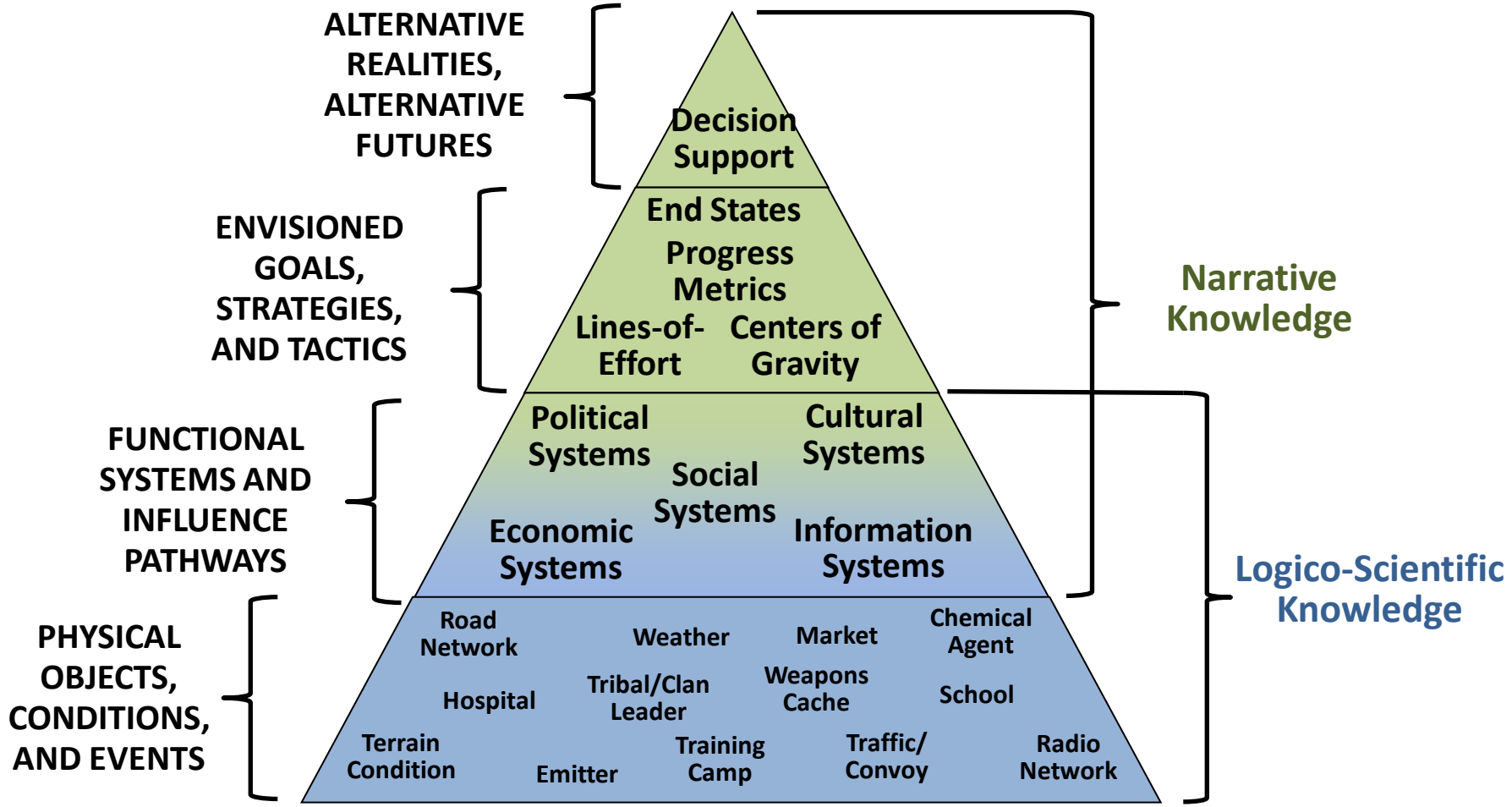
THE WORLD OF INFORMATION TECHNOLOGY

Narrative reasoning **is a more abductive form of knowledge:**

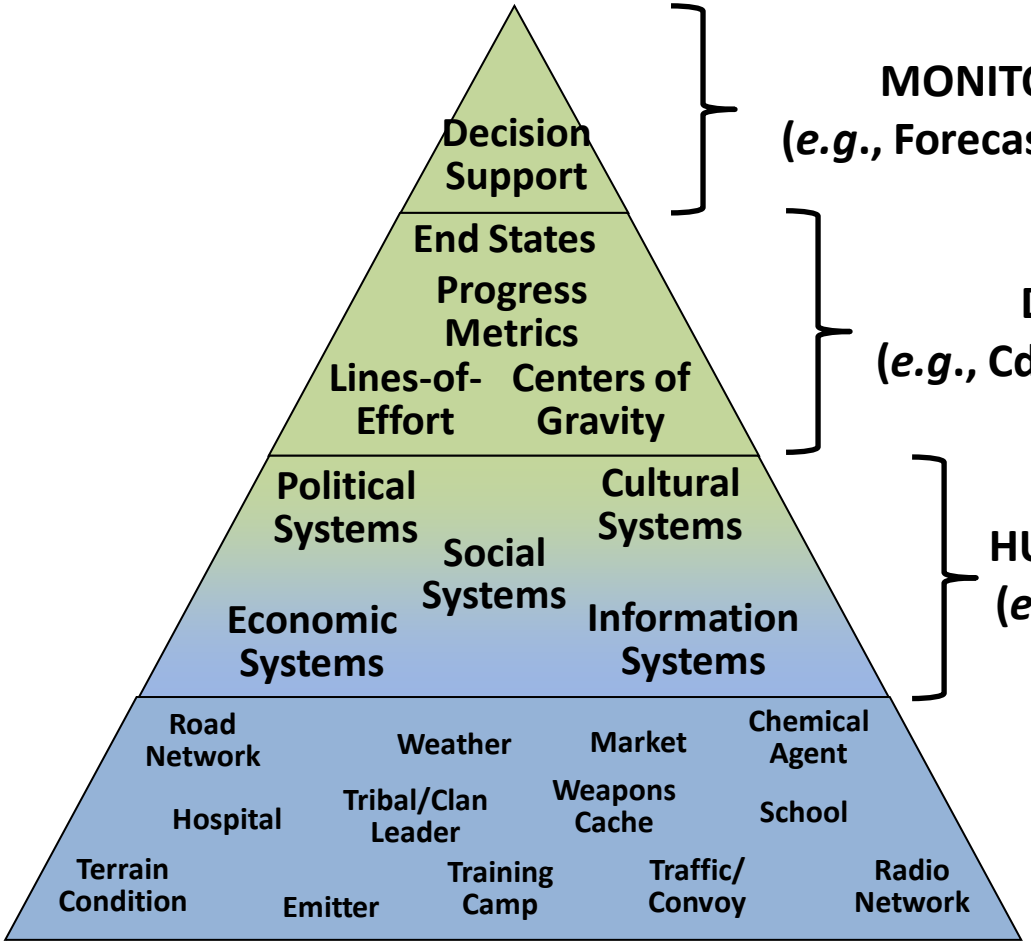
- ✓ **Objects/relationships/events are defined relative to goals, experience, and context**
- ✓ **Relevant systems are open, loosely-formed and exhibit emergent/novel behaviors**
- ✓ **Sensemaking is holistic, context-focused process of seeking situation understanding**
- ✓ **Observed data is interpreted by experience to build meaningful stories and understand richness and complexity of a situation**
- ✓ **Reasoning serves to (1) provide best explanation of observed actions/state changes and (2) develop anticipation of new opportunities and risks**

THE WORLD OF INTELLIGENCE & POLICY ANALYSIS

Knowledge Pyramid Includes Both Narrative and Scientific Knowledge



Knowledge Construction



MONITORING, LEARNING, ADAPTATION
(*e.g.*, Forecasting, Assessment, Running Estimate)

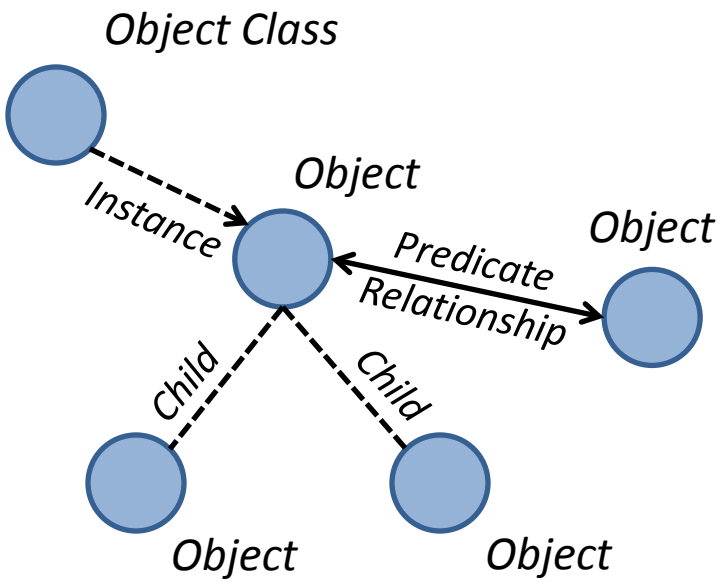
DESIGN & PLANNING
(*e.g.*, Cdr's Intent, Mission Analysis)

HUMINT COLLECTION & ANALYSIS
(*e.g.*, Debriefings, Interrogations)

TECHNICAL COLLECTION & ANALYSIS
(*e.g.*, GEOINT, SIGINT, Nat'l)

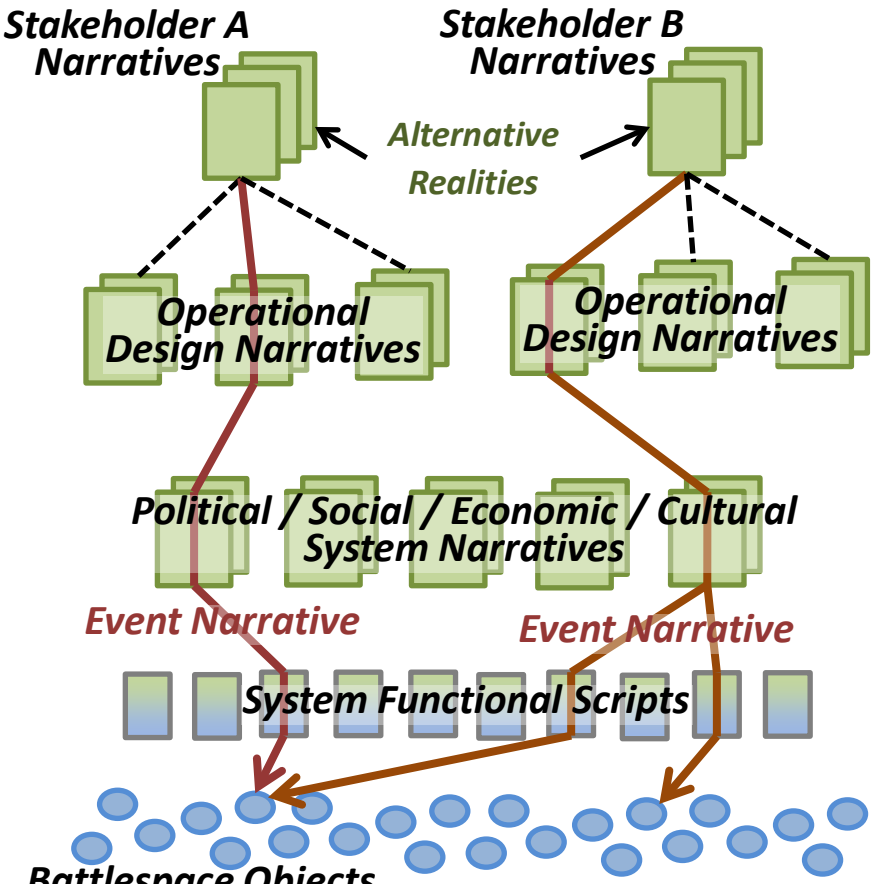
Recognizing Alternative Realities

LOGICO-SCIENTIFIC



FORMAL LOGIC

NARRATIVE



KNOWLEDGE MANAGEMENT (SENSEMAKING)

Narrative Reasoning: Alternative Perceptions of Reality

Al Anbar Province
Pre-Sunni Awakening Movement

COALITION PROVISIONAL AUTHORITY

Demilitarize Iraq

Stimulate Economy

Establish Democracy

Rebuild Infrastructure

Increase Security

Contextual Interpretation

Disband Iraqi Army

Privatize Iraqi Economy

Democratic Elections

Reconstruction Contracts

Suppress Tribal Militias

Foreign Occupation of Iraq

Subvert Tribal Control

Subvert Tribal Autonomy

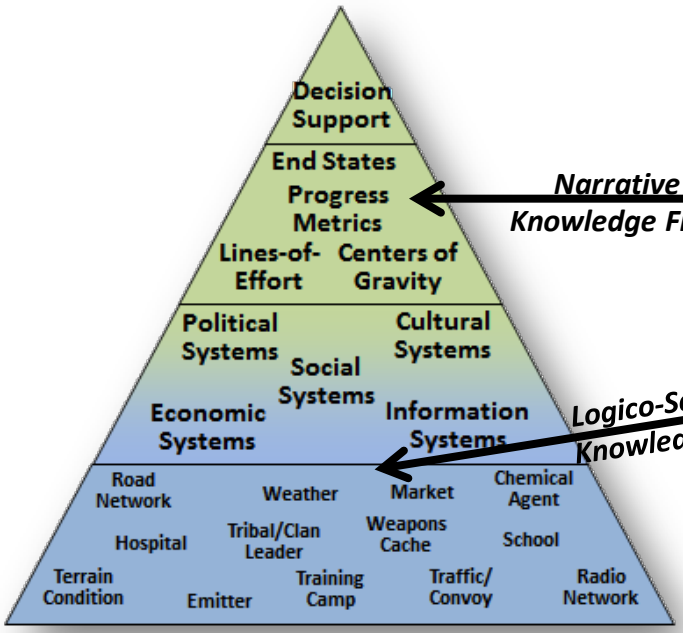
Subvert Tribal Leadership

Reduce Tribal Power

Contextual Interpretation

SUNNI TRIBAL LEADERS

Technical Approach: Understanding Multiple Realities



Narrative Knowledge Files

Logico-Scientific Knowledge Files

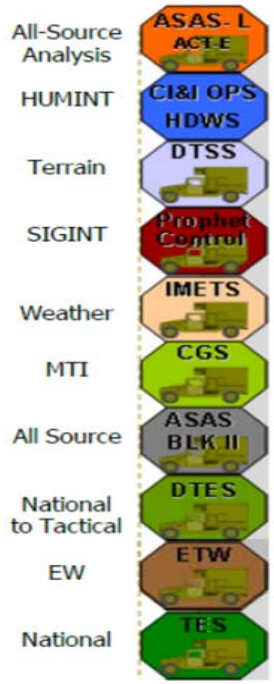
Integrating Architecture

NARRATIVES AND STORYTELLING

Alternative Narratives

Linked

GEOINT
SIGINT
Coalition
All Source
ISR Mgmt
Weather
HUMINT
Battle Command



Summary

1. **Military units must build/maintain contextual understanding in order to create effective solutions in a complex PMESII environment**
2. **Current intelligence systems provide access to objective reports, but do not place them within a dynamic framework for understanding**
3. **Adding narrative knowledge enables examination of alternative realities and futures**
4. **Concept of narrative knowledge management extends across a wide range of commands, missions, and organizations**

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QUESTIONS?
THOUGHTS?
PUZZLES?