

Refinement of Wargames in the Wargaming Life Cycle

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Presentation to the Connection UK Conference

6 September 2018

The comments presented here are strictly my own and do not represent those of the US government, the Department of Defense or any other organization.

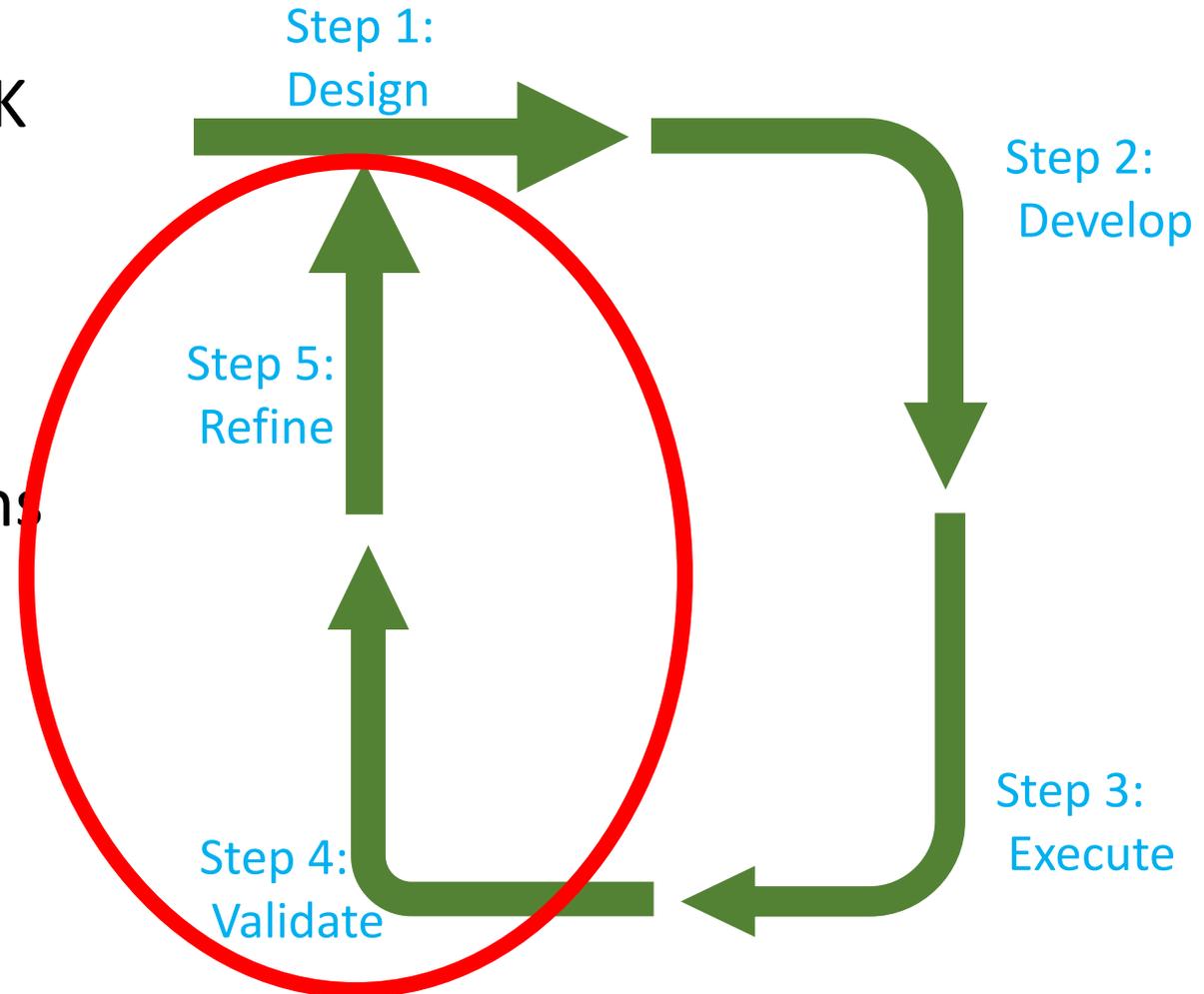


Validation & Refinement

Task Assignment from Connections UK Leadership:

- After Action Reviews
- Post Exercise Reports
- Capture and promulgation of Lessons Identified (LIs)
 - Scenario
 - Game execution
- Governance

UK Wargaming Handbook Wargaming Process



Definitions

- Wargaming: Generally, a wargame is a dynamic representation of conflict or competition in a synthetic environment, in which people make decisions and respond to the consequences of those decisions (Peter Perla in May 2016).
- Wargames are representations of conflict or competition in a synthetic environment, in which people make decisions and respond to the consequences of those decisions (JP 5-0, 16 June 2017).
- Best Practices (JP 5-0 Page V-32)
 - ❖ People making decisions under uncertainty
 - ❖ A fair competitive environment
 - the game should have no rules or procedures designed to tilt the playing field toward one side or another
 - ❖ Adjudication
 - ❖ Consequences of actions taken
 - ❖ Iterative
 - Ideally in a cycle of research/learning as new insights will be gained as games are iterated
 - See Chapter 9 of Peter Perla's *The Art of Wargaming*, Naval Institute Press, 1990.

General Categories of Wargaming

	Creating Knowledge	Conveying Knowledge	Entertainment
Unstructured Problem	Discovery Games	Education Games	Role Playing
Structured Problem	Analytic Games	Training Games	Commercial Kriegsspiel (E.g. Risk)



Exploratory Games

Notes: This table is a combination of two depictions. Dr. Jon Compton's "Analytical Wargaming" (Compton 2014). Elizabeth Bartels presentation, "Gaming: Learning at Play" published in OR/MS Today, August 2014. It is also noted due to the competitive nature of the commercial wargame market, these games have been the source of a lot of innovation in the mechanics of wargame design.

Why are we doing this?

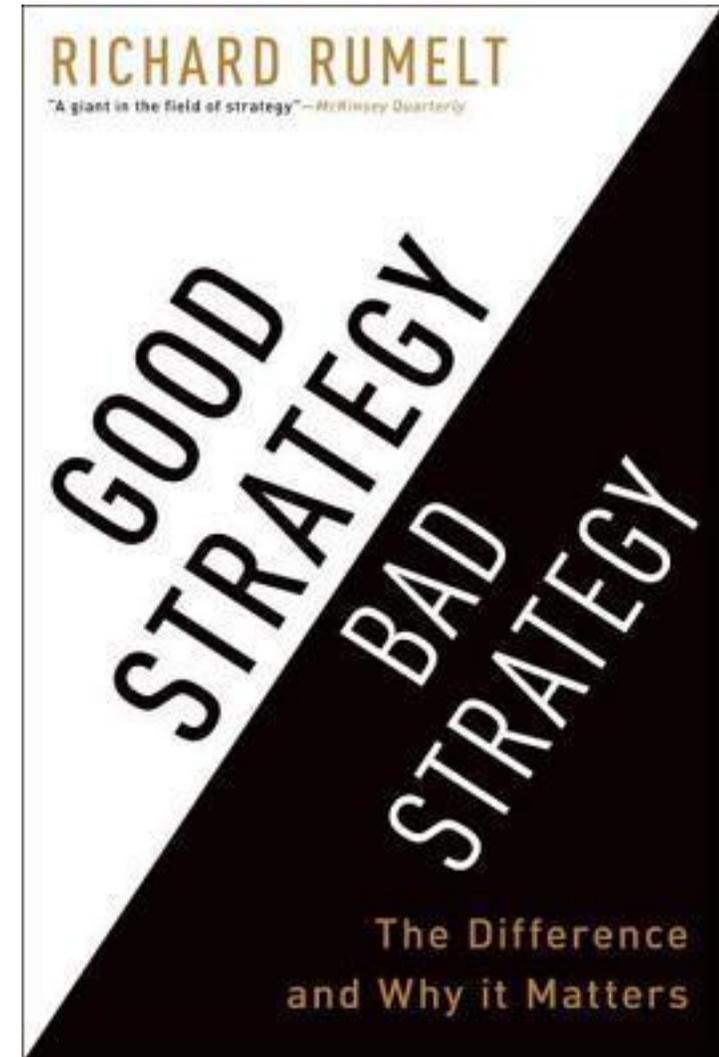
“A good strategy is, in the end, a hypothesis about what will work.”

“A good strategy has at a minimum, three essential components:

- a *diagnosis* of the situation,
- the choice of an *overall guiding policy*,
- and the design of *coherent action*.”

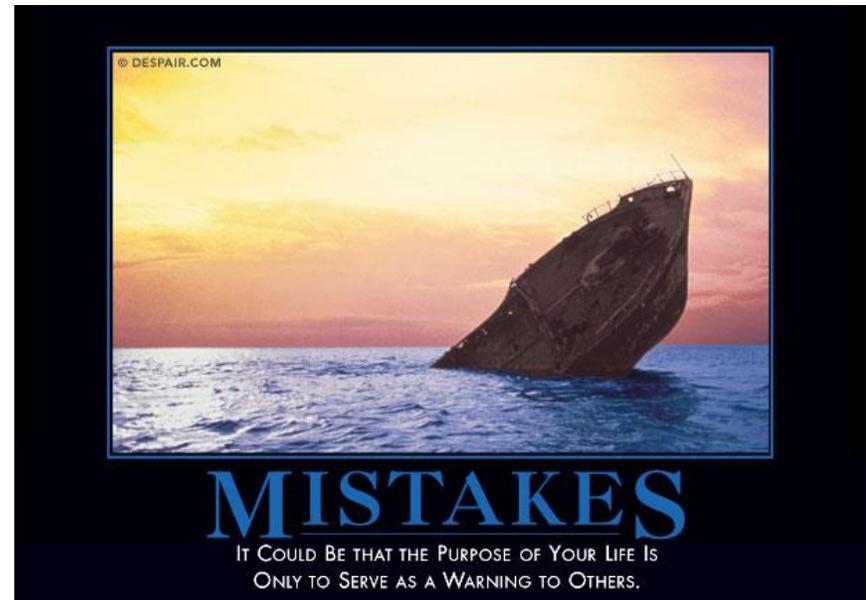
“In general, strategic leverage arises from a mixture of anticipation, insight into what is most pivotal or critical in a situation, and making a concentrated application of effort... The most critical anticipations are about the behavior of others, especially rivals.”

➤ Richard P. Rumel, *Good Strategy/Bad Strategy*, 2011



Jon Compton's Purpose of Wargaming

- *The purpose of an analytical wargame is not to answer any specific question with a point solution. Its purpose is to gain insight into complex questions in order to generate a better analytical focus, be it at the strategic, operational, tactical, or some other level of analysis.*
- To wit:
hypothesis generation within a cycle of research.





HEGELIAN DIALECTIC

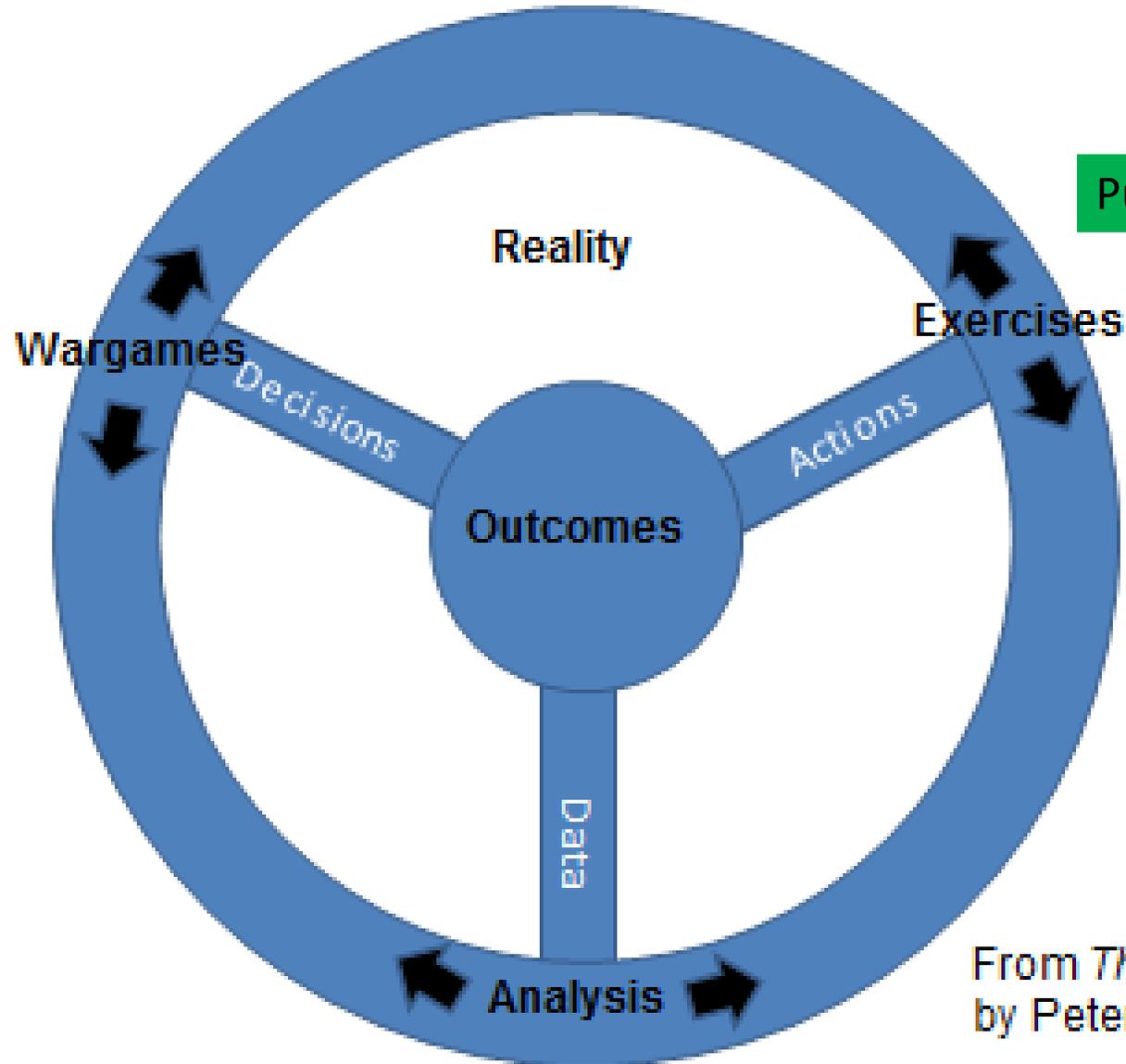
THESIS

ANTITHESIS

SYNTHESIS

PROGRESS COMES THROUGH
THE INTERACTION OF OPPOSITES

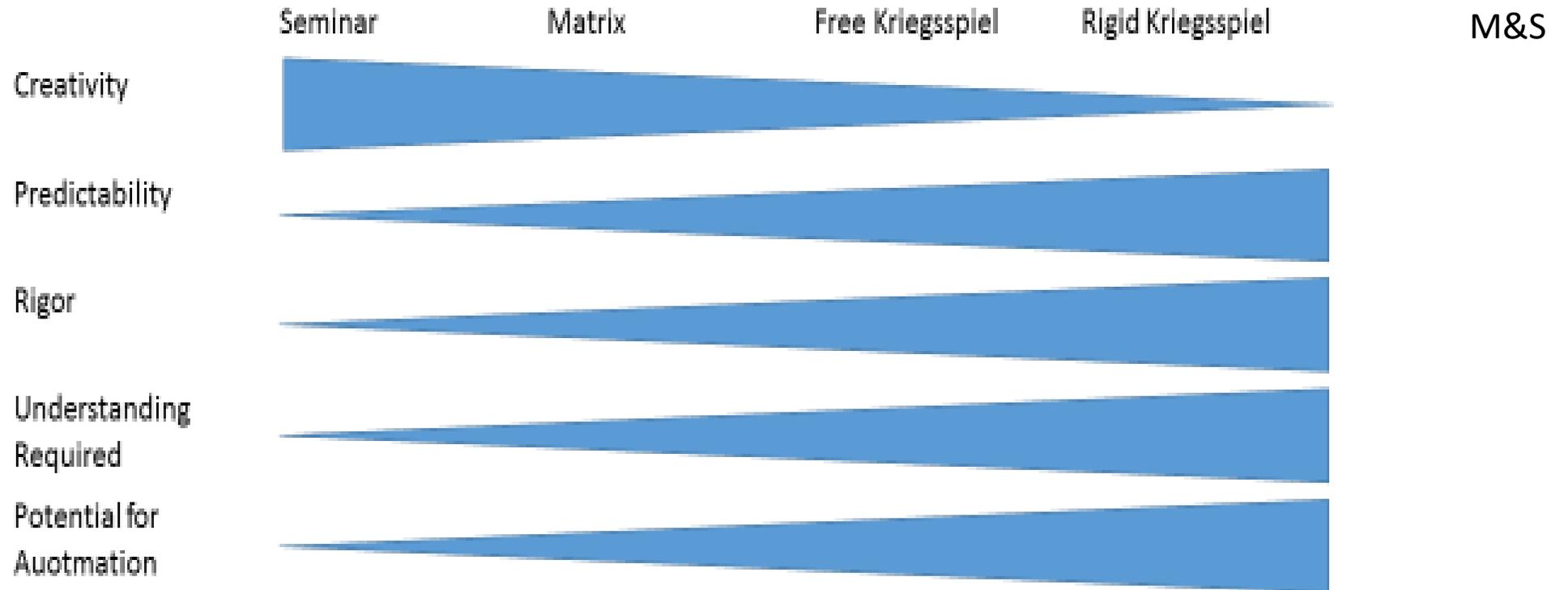
The Cycle of Research



Purpose is Organizational Learning

From *The Art of Wargaming*
by Peter Perla

Characteristics of the Continuum of Wargaming Styles



Seminar Games can be good (if structured)
but

Good analysis requires moving down the continuum

The Second Audience



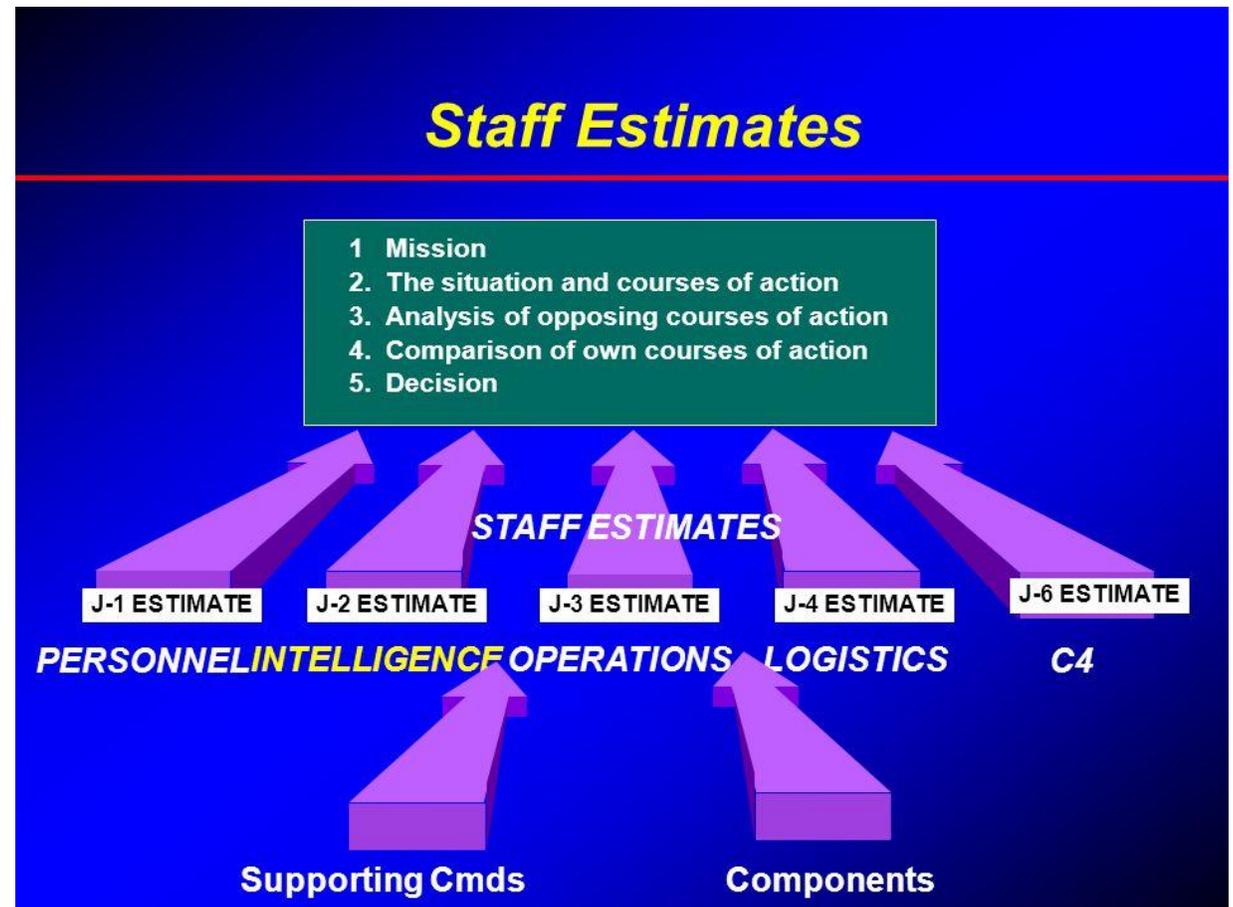
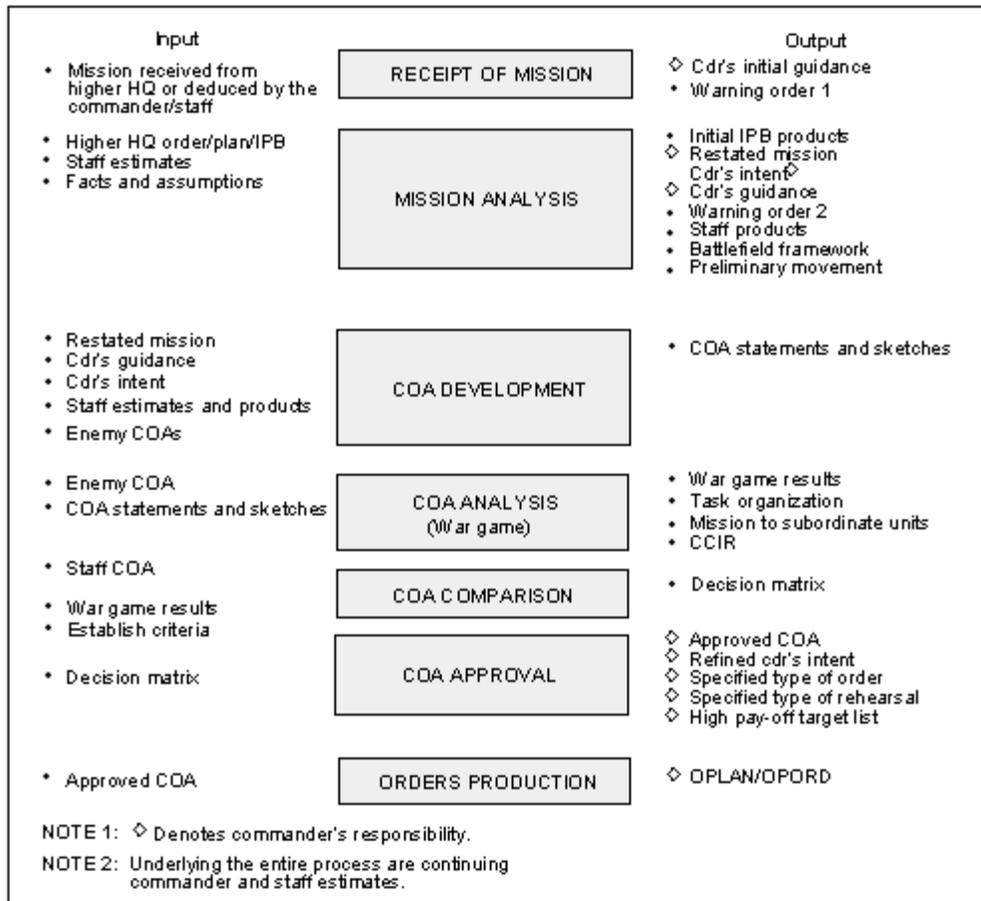
What you and your sponsor thought of the game



What others think was happening.
What does the sponsor's boss think?



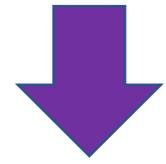
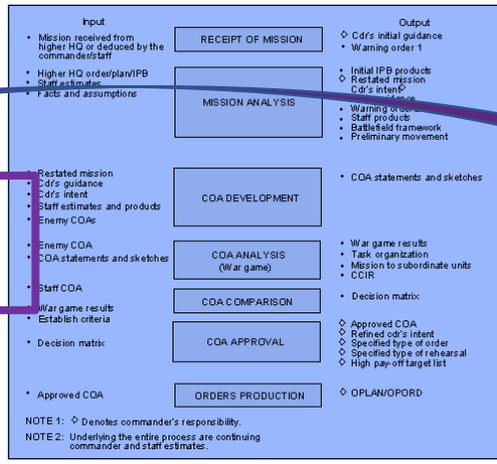
Joint Planning Process Prior to Playing Game



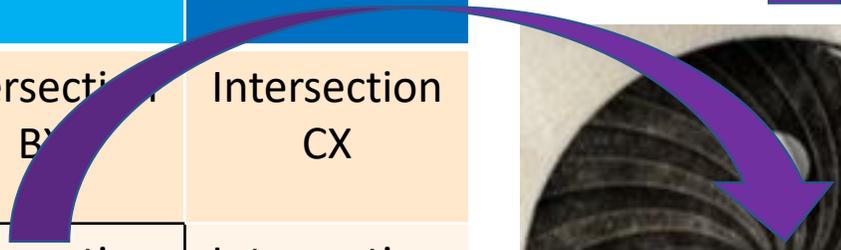
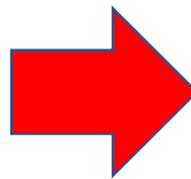
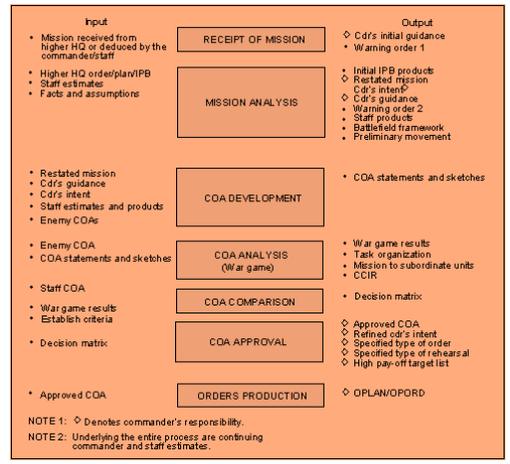
Ideal Iteration

Wargame Design

Game Rules Refinement
Previous Results



	COA A	COA B	COA C
COA X	Intersection AX	Intersection BX	Intersection CX
COA Y	Intersection AY	Intersection BY	Intersection CY
COA Z	Intersection AZ	Intersection BZ	Intersection CZ



Post Game Lesson Capture

Rapporteurs

- Critical element of your data collection plan
 - Don't Skimp
- What Training did you provide them?
 - Play role in test game

Survey

- Advantages
 - Independent views on the topic
 - Fresh in mind
 - If game done well, vivid imagery
 - Context
- Disadvantage
 - Players are tired
 - Travel/Dinner plans
 - Participants are notorious for not filling out surveys
 - Keep them short

Hotwash

- Advantages
 - Players are generally interested in discussing their views with group
 - Synergy of discussion
- Disadvantages
 - Dominant voices crowd out others

Structured Analytic Techniques

- Silent Clustering
- Advantage: very thorough & limits biases
- Disadvantage: Time

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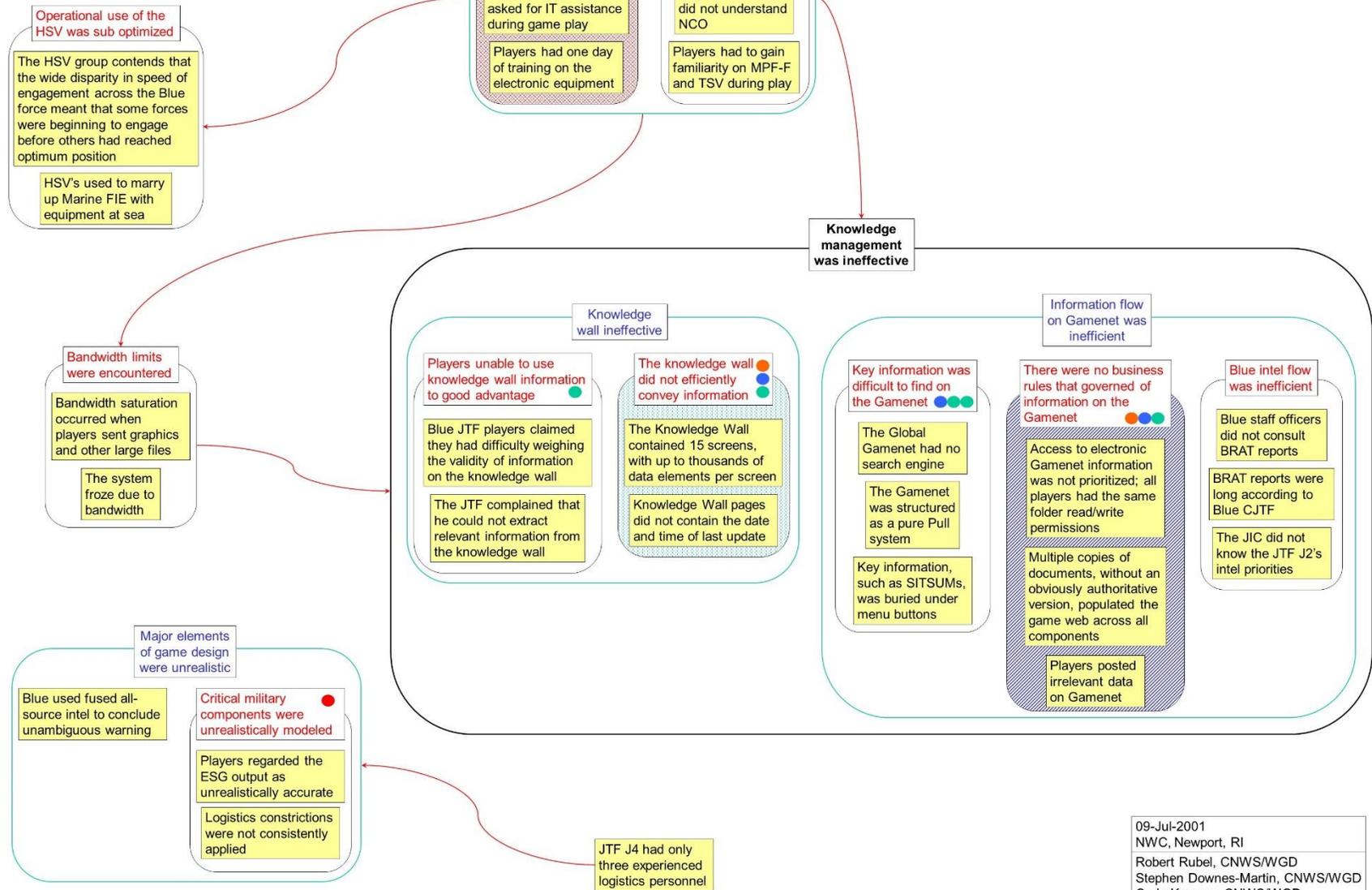
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What Factors kept us from achieving Network Centric Operations in GLOBAL 2000?

Lack of Player Competency in an Environment without Rules Resulted in Ineffective Information Flow.



09-Jul-2001
 NWC, Newport, RI
 Robert Rubel, CNWS/WGD
 Stephen Downes-Martin, CNWS/WGD
 Craig Koerner, CNWS/WGD
 Curtis Plunk, CNCS
 Monica Rickard, CNCS

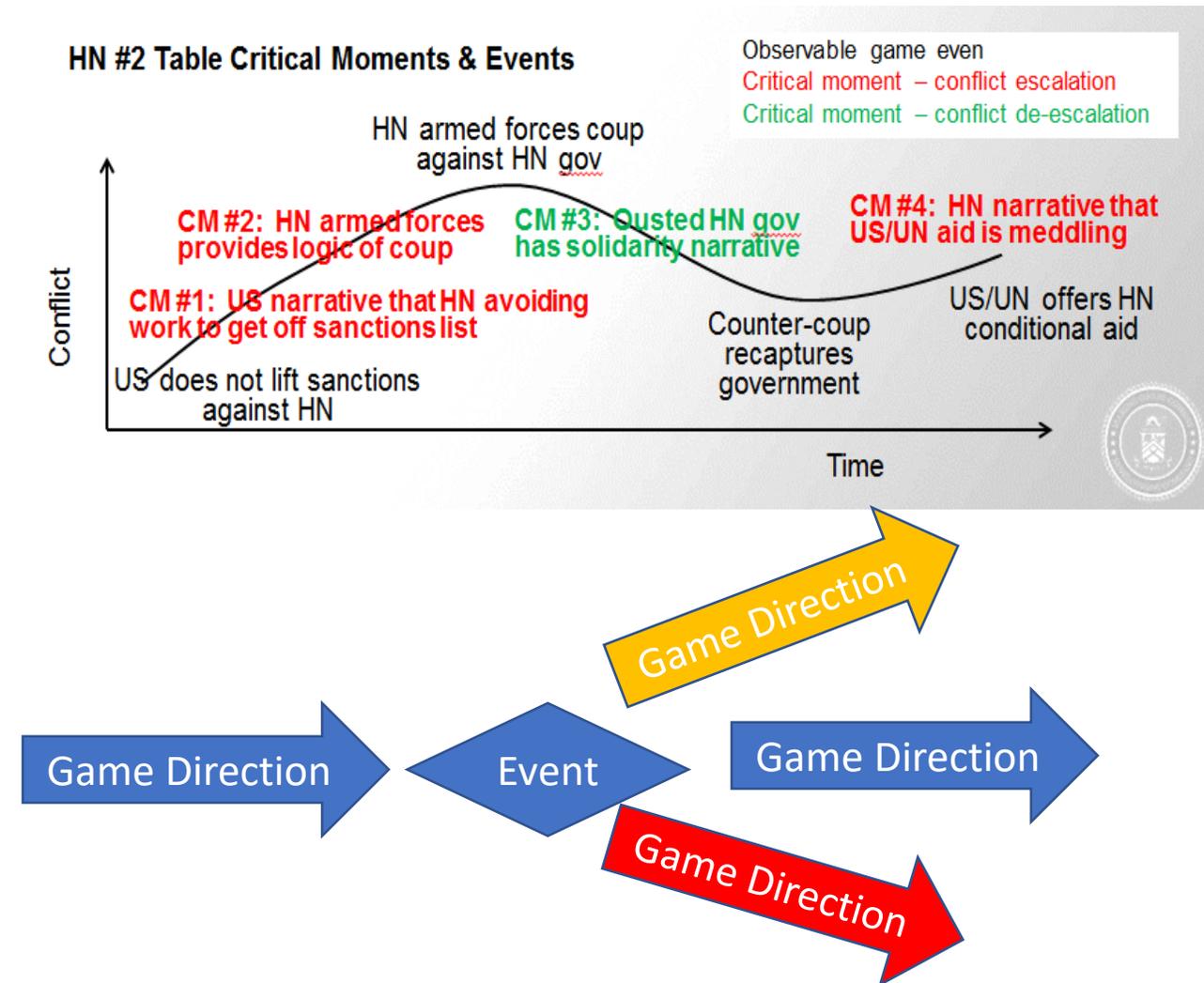
Survey Questions

- What did you see as the most critical event in the game, the event which drove the narrative of the outcome of the scenario?
- What was the most surprising insight you gained in the course of the game?
- What did you like about the game?
- What did you not like about the game?
- Did you observe an event that you thought was not properly adjudicated? What was it? What was it about the results you thought were inaccurate or implausible?
- Any other comments?

Analyzing the Game – Critical Event Analysis

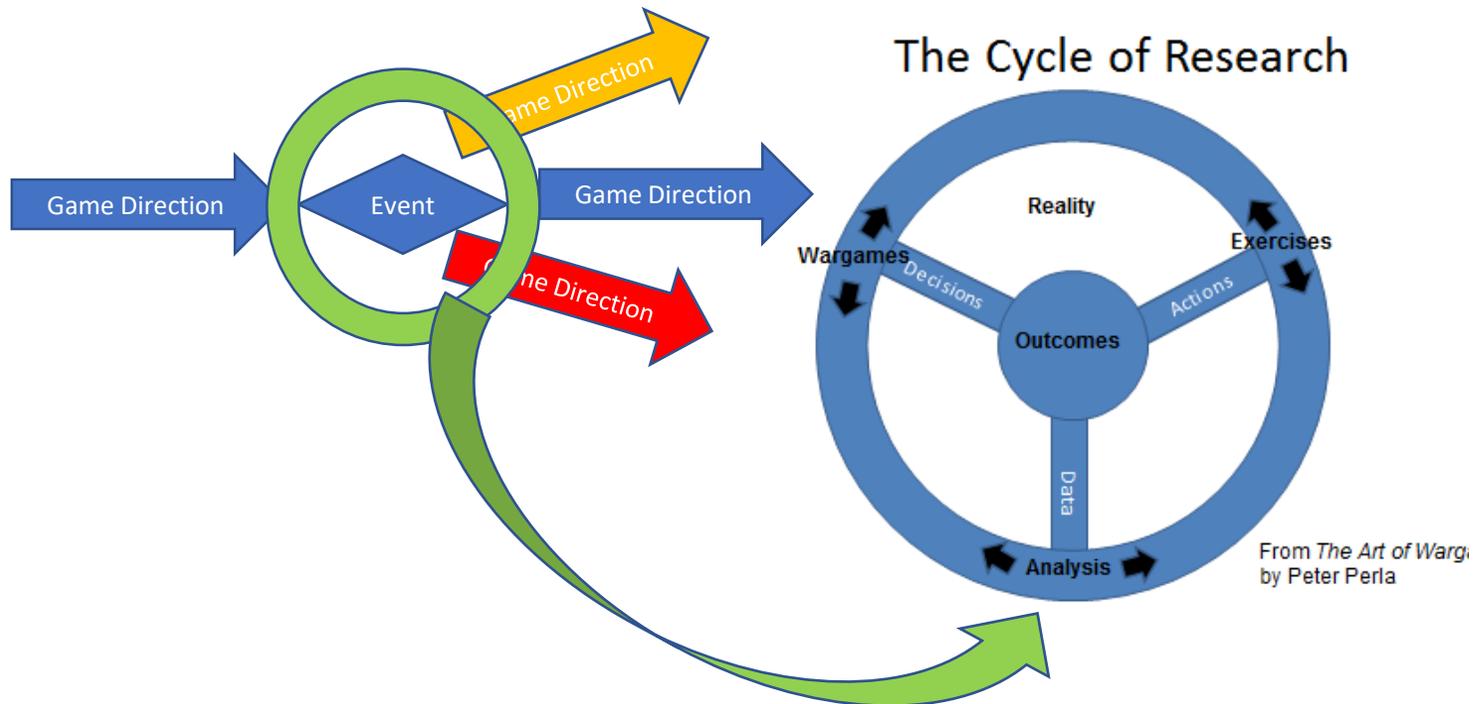
Rapporteurs Report:

- What actions did the player/team consider?
- Which one did they select?
- Why? What was their theory of victory?
 - What was their strategy?
 - Hypothesis of what would work?
- Critical Event – An observable event in the game which changed the direction of the game or had a significant impact on the outcome
 - Often challenges widely held assumptions

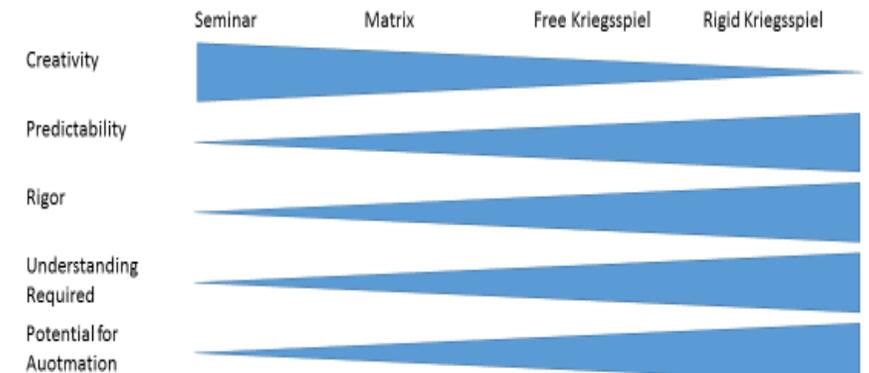


Importance of Iteration

- Advance Phenomenology
- Improve Game Design
- Diagnose Competition



Characteristics of the Continuum of Wargaming Styles



Phenomenology Development

Importance of Iteration: Strategy & Doctrine Development

TASK ORGANIZATION (if changed)

1. SITUATION.

- a. Enemy Forces.
- b. Friendly Forces.

2. MISSION.

3. EXECUTION.

- a. Commander's intent.
- b. Maneuver.
- c. Fires.
- d. Intelligence and electronic warfare.
- e. Individual tasks.
- f. Coordinating instructions.

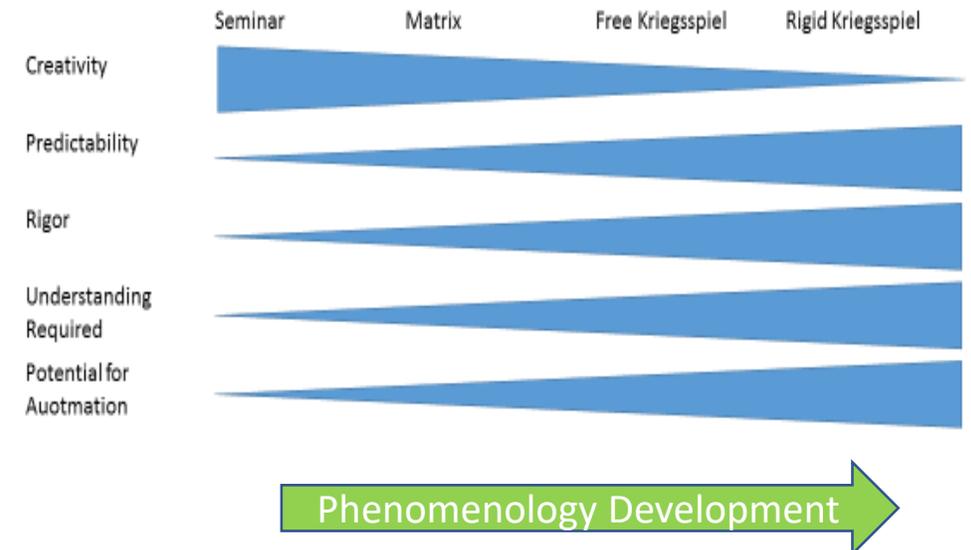
4. SERVICE SUPPORT.

If changed.

5. COMMAND AND SIGNAL.

If changed.

Characteristics of the Continuum of Wargaming Styles

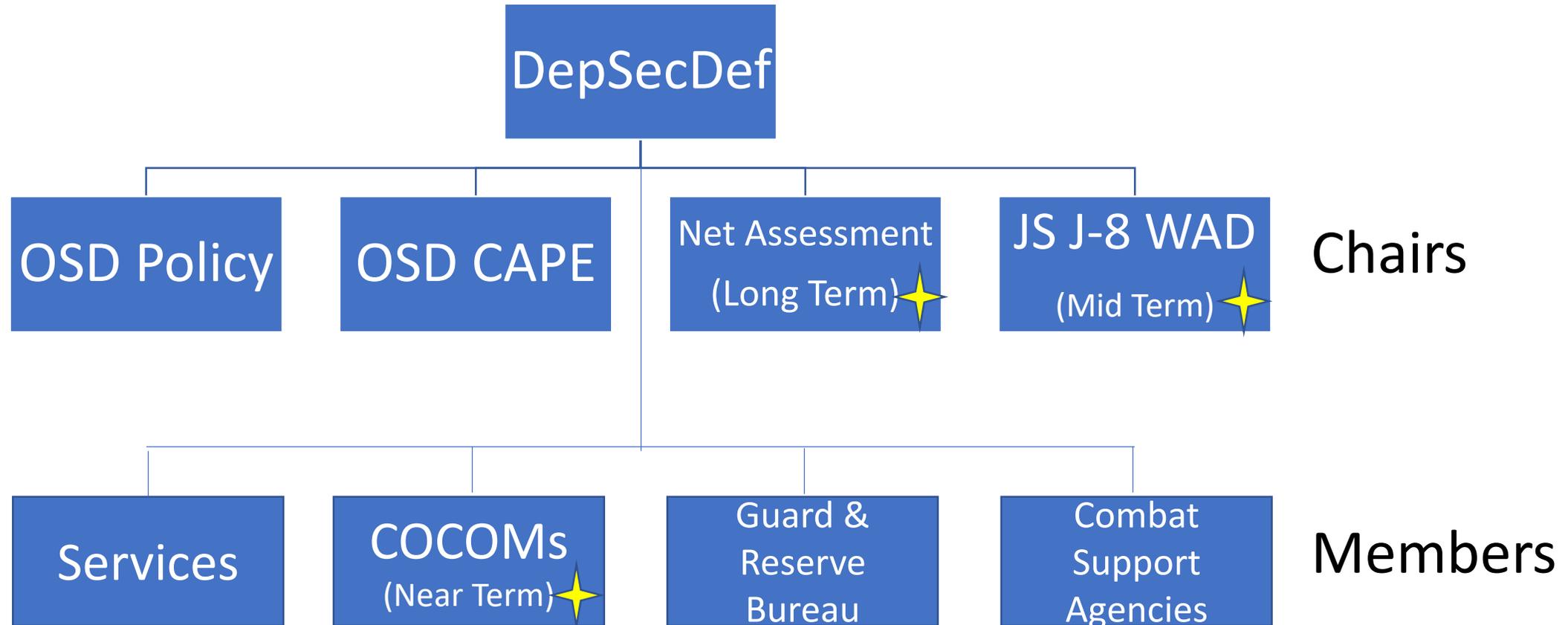


Game Series Analysis

When a large body of wargames is available, certain types of analysis can be performed. However, the wargames is a pseudo experiment on hypothetical scenarios – caveat emptor. Games in this category are rarely truly independent of each other.

- Qualitative
 - Recurring themes
 - Dominant strategies
- Quantitative
 - Effects of tactics
 - Employment of platforms and weapons systems
 - Organization or procedural ideas
 - Reference: Frederick D. Thompson 1983

US Defense Wargaming Alignment Group



★ = Time Horizon Lead

Defense Wargame Alignment Group (DWAG)

Wargame Incentive Funds (WIF)



- 4 Threats



China



Russia



North Korea



Iran

- +1: Transnational Violent Extremism



- +3: Capability Areas

- Cyber
- Space
- Nuclear



Wargame Repository (WGR)



- Must commit to providing a report to DWAG to get funds
- Report and insights go into WGR
- WGR is electronic and resides on US SIPRnet
- Over 700 wargames currently

Defense One Article on Wargaming Incentive Funds, etc.

<https://www.defenseone.com/ideas/2018/08/better-wargaming-helping-us-military-navigate-turbulent-era/150653/>

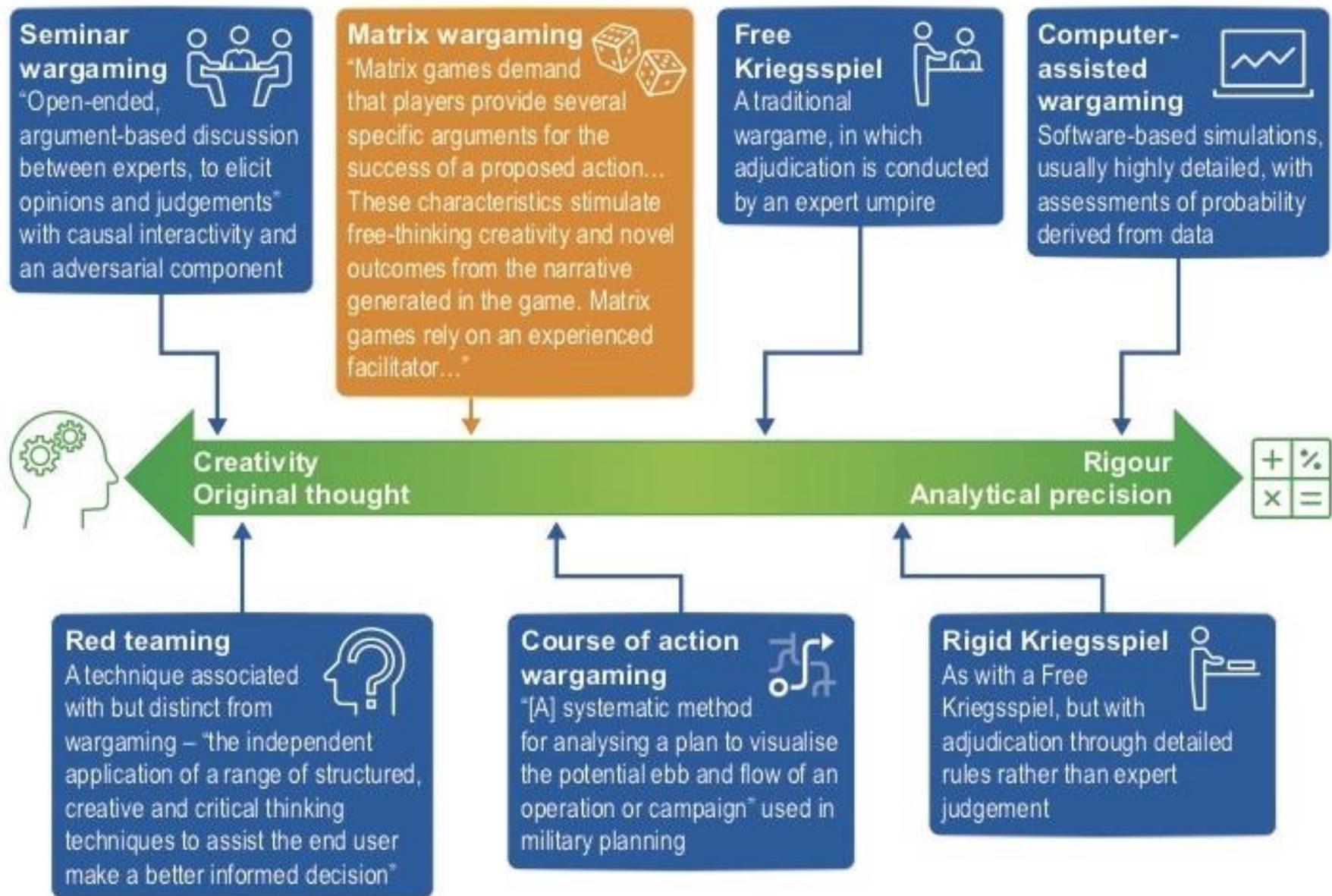
Questions ?



THE SPANISH INQUISITION

Just when you least expect them.

Emphasis of selected structured analytical techniques



Wargaming and M&S

- Wargaming: Human decision making under conditions of uncertainty (complex)
- Modeling & Simulation: Systems in competition in a complicated environment

Complementary but not the same

Narrative Analysis

- Thematic analysis – where the emphasis is on the content of the text or narrative, more so than how it is told. Themes are identified and compared between narratives.
- Structural analysis – where there is attention paid to both the themes as well as to the way the story is told. Here, the assumption is that narratives have structures and elements that can be identified and analyzed.
- Interactional analysis – with the emphasis on the process between teller and listener. Examples in this category include research on narratives in medical, social service, and court settings.
- Performative analysis – (an extension of interactional analysis) where the narrative is seen as performance. Narrative in this approach may be thought of as a form of storytelling and dialogue between characters in front of an audience.
- Catherine Kohler Reissman, *Narrative Analysis* (Sage Publications, 1993), Qualitative Research Methods Series 30, p. 18.