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C2 in Underdeveloped, Degraded and Denied Operational Environments

Track Two – Approaches and Organization
Preparing Capable Decision Makers for an Uncertain Future Within Underdeveloped, Degraded and Denied Operational Environments

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Outline

• BLUF
• Uncertain Future & More Adaptable
• Smart Power – Smart Defense
  – v All Activities, Groups, Organizations
• Mental Vs Physical Multiplier
• Bringing the Whole Together
  – The Individual and The organization – Small Worlds
  – Visualization and Opportunity
  – Learning Start Point – multi-dimensional
• Summary – Conclusion
BLUF - Summary

• Uncertainty will continue
  – Mitigate via Knowledge & Understanding

• Change the reference frame
  – Different patterns can emerge

• More dimensions
  – New correlations – new influence paths
  – Different views of data
    ➤ Improved context for Knowledge & Understanding
    ➤ Decision Style depends on maker(s) and receiver(s)

• Learning & Development
  • Starts early - Continues
Uncertain Future - More Adaptable

“Boyd explained . . . material elements come in a poor third in deciding which side wins conflict – after moral and mental factors.” Likewise, he notes that Napoleon said, “the moral is to the physical as three to one.” Wheeler - 2012

uncertain: 1: indefinite, indeterminate; 2: not certain to occur; 3: not reliable; 4 a: not known beyond doubt, b: not having certain knowledge, c: not clearly identified or defined; and, 5: not constant: variable, fitful. Merriam-Webster

adaptable: capable of being or becoming adapted – adapt·abil·i·ty; and its synonyms are: versatile, all-around (also all-round), protean, universal. Merriam-Webster

More Tools – Knowledge – Experiences - Dimensions

‘that when all the logical possibilities have been ruled out, it is time to examine the illogical possibilities . . .’ Mr. Spock – Star Trek
Teamwork – More Dimensions

• DoS Quote:
Partnerships “Person-to-person diplomacy in today’s world is as important as what we do in official meetings in national capitals across the globe. It can’t be achieved, though, just by our government asserting it. It can only be achieved by the kind of public-private partnerships that the United States is uniquely known for...people and groups working across sectors, industries; working together with persistence and creativity to fulfill that promise of a new beginning and translate it into positive benefits.” – Secretary Clinton, September 2010 [Italics in original]

• State of New Jersey Experience:
Specifically, while discussing New Jersey coordination and changes since 2001, Clark noted: The New Jersey state police and emergency management professionals now coordinate with Federal agencies including the FBI, Coast Guard, Federal Air Marshal Service, U.S. Immigration and Customs Enforcement, National Guard, and the Bureau of Alcohol, Tobacco, Firearms and Explosives. “If only more agencies looked for ways to use resources for multiple purposes,” (Thomas) O’Reilly says.” (Clark, 2013)

‘Extended’ Individual/Team Organization = Multiple Mental Options ➤ Versatile, All-round View Opportunities
SCIENCE, that is, Knowledge of Consequences; which is called also PHILOSOPHY.

PHYSIQUES, or Consequences from Qualities

Consequences from the Accidents common to all Bodies Naturall; which are Quantity, and Motion.

1. Of Consequences from the Institution of COMMON-WEALTHS, to the Rights, and Duties Of the Body Politique, or Sovereign.
2. Of Consequences from the same, to the Duty, And Right of the Subjects.

Consequences from the Qualities of Bodyes Transient, such as sometimes appear, sometimes vanish.

Consequences from the Qualities of Bodies Permanent,

Consequences from the Qualities of Bodies Terrestrial

Consequences from the Qualities of the Starres.

Consequences from the Influence of the Starres.

Consequences from the Motion, and Quantity of Bodies in speciall.

Consequences from Quantity and Motion Indeterminate; which being the Principles, or the foundation of Philosophy, is called Philosphis Prima

By Figure . . . .
By Number . . .

Consequences from the Motion, and Quantity of the great parts of the World, as the Earth and Starres,

Consequences from the Motion of Speciall kinds, and Figures of Body,

Mechaniques, Doctrine of Weight,

Mathematiques,

Cosmography,

Astronomy,

Science of ENGINEERS, ARCHITECTURE, NAVIGATION,

Meteorology,

Astrology.

Consequences from the Motion of Parts of the Earth, that are without Sense,

Consequences from the Qualities of Animals.

Consequences from the Qualities of Minerals, as Stones, Metals, etc.

Consequences from the Qualities of Vegetables.

Consequences from the Qualities of Animals in general

Consequences from the Qualities of Men in Speciall

Consequences from Vision,

Consequences from Sounds,

Consequences from the rest of the Senses.

OPTIQUES.

MUSIQUE.

ETHIQUES.

POETRY.

RHETHEORIQUE.

LOGIQUE.

The Science of

Just and Unjust.

Consequences from the Passions of Men,

Consequences from Speech,

In Magnifying, Vilifying, etc.

In Persuading,

In Resolving,

In Contracting,

In Magnifying.

Vilifying, etc.

Persuading,

Resolving,

Contracting.

The Connected and Unconnected Groups

Non-Integrating Gap

When Worlds Collide, Rules Diverge

Increasingly, US National security policies strongly distinguish between Core and Gap

The World of Civilizations: Post-1990 (S. P. Huntington)

Like Graham Allison – Must examine with Different Models
Changes the parameters, dimensions – Reveals Differing Relationships

Western
Latin American
African
Islamic
Orthodox
Sinic
Buddhist
Hindu
Japanese


Statement A: Approved for Public Release
MODEL a la CLAUSEWITZ
UNLIMITED WAR vs LIMITED WAR

Universe

CHAOS REALM
(IDEAL) (UNLIMITED)

GOVERNMENT & POLITICS

UNLIMITED WAR

GENERAL & ARMY

LIMITED WAR

EXPERIENCE REALM
(REAL) (LIMITED)

POPULATION & POLITICS

GROUP

INDIVIDUAL

TACTICS (IMPLEMENTATION)

CAMPAIGN/OPERATIONS
(PLAN)

EXPERIENCE (REAL) (LIMITED)

f'(x) Experience
– Newton – 3 dimension

f(x)_Universe
– Quantum – n dimension

Statement A: Approved for Public Release
FLEXIBLE DETERRENCE OPTIONS – SPECTRUM OF TOOLS FOR NATIONAL SECURITY POLICY IMPLEMENTATION

“WAR IS MERELY THE CONTINUATION OF POLICY BY OTHER MEANS” – CLAUSEWITZ

Over Lapped FDO Dimensions

FDOs – Tailored Responses

Flexible Deterrent Options
Small Discriminate Response Options

Informational
- Place sanctions on C4I tech transfers
- Protect friendly C4I assets
- Maintain open dialogue with press
- Heighten public awareness

Military
- Increase reconnaissance collection
- Activate procedures to begin reserve callup
- Initiate show of force actions
- Exercise pre-positioned equipment
- Deploy CVBG or SAG to the region

Diplomatic
- Show international resolve
- Reduce diplomatic ties
- Win support of allies and friends
- Evacuate American citizens (NEO)

Economic
- Discontinue assistance programs
- Freeze international assets
- Enact trade sanctions
- Restrict corporate transactions
- Seize real property in the US

Opportunity: 4-Dimensions ➪ + Radar Graphs

Source: Joint Forces Staff College, JFSC PUB 1 – Figure 4-14 – Tailored Responses; 2000, p. 4-22
Smart = Soft + Hard : Power
(Mental Vs Physical Multiplier)

“We Europeans must understand that soft power alone is really no power at all... Without hard capabilities to back up diplomacy.”

“international relations, the term ‘smart power’ refers to the combination of hard power and soft power strategies. It is defined by the Center for Strategic and International Studies as "an approach that underscores the necessity of a strong military, but also invests heavily in alliances, partnerships, and institutions of all levels to expand American influence and establish legitimacy of American action."”

When Looking at FDOs:
- More Moral and Soft Options (Wheeler - Point)
- Opens Doors to Agencies, NGOs, IGOs
- Normative: Moral Power and Influence

Smart Defense is a Strategy component supporting Smart Power

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The New “Horizontal” Scenario

- No clear beginning/end: drags on slowly
- Definition of who is enemy changes over time
- Allies come and go; some may turn on you
- Strategy evolves; strikes, not battles
- Definition of the “problem” is subject to debate
- World goes on meanwhile; situation seems frozen

Changing the View and the Analysis Dimensions

Post-Cold War Horizontal Scenario
The Global Politics of Civilizations: Emerging Alignments

Japan

Orthodox (Russia)

Islam

Sinic (China)

Hindu (India)

Latin American

West

African

More Conflictual

Less Conflictual

Another Dimension Set – The Human Terrain

Derived from 'The Clash of Civilizations and the Making of World Order', Samuel P. Huntington, Touchstone, 1997, Fig. 9.1, p. 245.
C2 / Decision Approach Space
Spatial Display

• Business wise – Functional v Divisional
  – Hybrid more likely

HISTORICAL CHOICES AMONG C2 SYSTEM PHILOSOPHY

<table>
<thead>
<tr>
<th>Directive Specificity</th>
<th>C2 Philosophy</th>
<th>Historical Example</th>
<th>Theater HQRs Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Specific</td>
<td>Control Free</td>
<td>German WW II</td>
<td>Loose</td>
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<tr>
<td></td>
<td>Selective Control</td>
<td>Israeli</td>
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<tr>
<td>Objective Specific</td>
<td>Problem Bounding</td>
<td>UK</td>
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<td>Problem Solving</td>
<td>US</td>
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<td>Order Specific</td>
<td>Interventionist</td>
<td>Modern Soviet</td>
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<td></td>
<td>Cyclic</td>
<td>Chinese</td>
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</tbody>
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- Amenable to information system support
- Requires inherently creative and therefore capable people

2-Dimensions

3-Dimensions

Source: Understanding Information Age Warfare: Alberta, et al., CCIPP, Washington DC, 2016; Figure 94, p. 170.
Instantiation & Possibilities

Position of C2 Approach / Decision Style

Current Instantiation ➤ Implied Possibilities
Network Types – Another View of Transition to n-Dimensions

Self-organized Scale Free Network and a key hub.

Scale Free Networks overlap.

Scale Free Networks become closer. Formal organizations evolve to provide linking rule base. Associated Scale Free Networks become formalized and so “Small World.”

New formal organizations and their rules provide context for new self-organizing Scale Free Networks to spawn, and so on...

Several Interesting Sources

- **Allison** – 3-dimensions - distinct
  - Bureaucracy Policy – Individual Personality – Rational Actor
- **Asimov** – continuum of unifying rules/principles
  - Four Laws of Robotics
- **Card** – Wiggins Children – synergism of individuals for multiple purposes/outcomes
  - Peter – Valentine – Andrew (Ender)
  - Locke – Demosthenes – Warrior/Speaker
- **Dickson** – continuum of individual ➔ complete/whole
  - Marriage of the ‘types’ – becoming whole and complete
  - Paul Formain – Donal Graeme – Hal Mayne
  - Philosophy/Ethics – Warrior – Faith/Zeal
  (Exotics – Dorsai – Friendlies)
A New View of Terrain Models

- Like Allison, Huntington, and Barnett
  - Different parameter mapping opportunities
  - Added Dimensions
    - Offer Potential for Quantum Aspect
- Decision Making Implication
  - Complexity of world orders and grouping of individuals
  - Complexity of Decision Styles and Receivers

Longterm Development and Growth – No End - Unifiying Aspects-
Transform C2/Decision Approach – Real to Ideal – Linear To Quantum

• REAL
  – Current: C2 Approach/Decision Approach at Three Dimensions
    • Linear approximation of data relationships; and,
    • Operation at one location/action style at a time
    • Move along a surface for solutions/decisions

• IDEAL
  – Future: C2 Approach/Decision Approach Extended to N-Dimensions
    • Quantum aspects of n-parameter data relationships; and,
      ★ Simultaneous operation at multiple location/action styles
      ★ Move through the surface/data for solutions/decisions
Summary Points – Conclusion

• Uncertainty will remain
  – Knowledge ➔ Understanding (n-dimensions)
    • Projected source ‘to mitigate’
• N-dimensions ➔ new patterns/visualizations
  – Reveal alternate paths
    • Quantum tunneling opportunities
  – Multiple patterns of interaction – Human terrain
• Transition to n-dimensions
  – Leaders & Leading Organizations
    • Linear ➔ quantum n-dimensions
    • Multiple styles at same time – maker & receiver
  – Improved Knowledge and Understanding

Complex Threats = Complex Systems = Complex Decisions

Mr. C. Deegan, Former Executive Director, PEO IWS
¿ – Questions – ?

Preparing Capable Decision Makers for an Uncertain Future Within Underdeveloped, Degraded and Denied Operational Environments

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Detailed FDOs listings
Detailed FDOs Part 1

- **Informational**
  - Heighten public awareness of the problem and potential for conflict
  - Gain popular Support
  - Promote U.S. policy objectives through public policy statements
  - Take measures to increase public support
  - Maintain on open dialogue with the press
  - Take steps to gain and maintain the confidence of the public
  - Gain Congressional support
  - Heighten Informational Efforts
    - Quickly
    - Honestly
    - Within the security restraints imposed by the crisis
  - Keep selected issues as lead stories
  - Protect friendly C4I assets
  - Impose sanctions on C4I technology transfers
  - Interrupt satellite loan link transmissions

- **Diplomatic**
  - Reduce international diplomatic ties
  - Promote democratic elections
  - Reduce national embassy personnel
  - Initiate noncombatant evacuation procedures
  - Alter existing meetings, programs or schedules
  - Take actions to win support of allies and friends
  - Identify the national leader who may be able to solve the problem
  - Use the UN or other international institutions
  - Work within an existing coalition or alliance (seek to avoid unilateral actions whenever possible)
  - Increase cultural group pressure
  - Restrict activities of diplomats
  - Show international resolve
  - Clearly indentify the steps to a peaceful resolution
  - Prepare to withdraw U.S. embassy personnel
  - Pursue measures to increase regional support
  - Coordinate efforts to strengthen international support
  - Initiate actions to start the development of a coalition of nations
    - Heighten informational efforts directed at:
      - The international community
      - The people within the nation
      - The allies of the opponent
      - The coalition formed to overcome the crisis
Detailed FDOs Part 2

- **Military**
  - Employ ready in-place units
  - Upgrade alert status
  - Increase strategic reconnaissance
  - Increase collection efforts
  - Initiate or increase show-of-force actions
  - Employ electronic measures
  - Conduct aircraft flyovers
  - Increase exercise activities, schedules, and scope
  - Increase military exchanges and staff visits to the area
  - Pre-stage or deploy contingency ready brigades
  - Pre-stage airlift
  - Pre-stage airlift support assets
  - Institute provisions of existing host-nation agreements
  - Emplace logistics infrastructure where possible
  - Impose restrictions on military personnel retirements, separations, and leaves; establish curfews
  - Open pre-positioned storage facilities
  - Deploy SAG/MAG to the region
  - Deploy CVBG to the region
  - Move MEB to the region
  - Raise units’ deployment status
  - Begin moving forces to air and sea ports of embarkation
  - Increase mobile training teams
  - Deploy tactical fighter squadrons
  - Move forward-deployed ARG/MEU(SOC) to the region
  - Activate procedure to begin reserve callup
  - Increase naval port calls or air squadrons visits to the area
  - Deploy AWACS to the region
  - Move MPS/AWR to the region
  - Use naval or air capability to enforce sanctions
  - Open and secure sea and air lines of communication
  - Pre-stage sealift and airlift reception assets to air and seaports of embarkation
  - Increase informational efforts: PSYOP; Measures directed at the military forces of the opponents; and Mission awareness

- **Economic**
  - Freeze monetary assets in the U.S.
  - Seize real property in the U.S.
  - Enact Trade sanctions
  - Freeze international assets where possible
  - Sponsor trade sanctions/embargo actions in UN and/or other international organizations
  - Reduce security assistance program
  - Embargo goods and services
  - Cancel U.S.-funded programs
  - Encourage corporations to restrict transactions
  - Heighten international efforts directed at:
    - Financial institutions, questioning the soundness of continuing actions with the opponent’s businesses
    - Reducing or eliminating corporate transactions

Statement A: Approved for Public Release
Alignment and Balance

• Obama, who supposedly speaks so well, is behaving better than he is speaking. In an essay in the May/June issue of the American Interest ("Leading from Behind: Third Time a Charm?"), Owen Harries and Tom Switzer argue that Obama understands the "most important sentence ever written about American foreign policy," Walter Lippmann's formulation: "Without the controlling principle that the nation must maintain its objectives and its power in equilibrium, its purposes within its means and its means equal to its purposes, its commitments related to its resources and its resources adequate to its commitments, it is impossible to think at all about foreign affairs."