

Technology, Training and Countermeasures--Controlled Lethality Weapons

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A Theory

- Selection, Development, Research and Use of Technology is Best Done with a Clear End-State Objective
- Disruption is the End-State Objective
- Human Factors as Well as Human Effects Must be a Consideration
- Technology Only a Partial Solution

Disruption

- Interruption of Action or Intended Action
- Target: Any Part of a System
 - Personnel, Technology or Combination
 - “Hardware, Software or Wetware”
- Examples:
 - OODA Loop Interruption (Personnel)
 - Engine-Stopping Device (Equipment)

Technology

- Disruption-to-Destruction Capability
- Technical Improvement is a Discovery Process
 - Promising Candidate Technology
 - Suitable Effect
 - Useable Form, Modified Through Use
 - Improve by Experiment, Testing and Use
 - Function Follows Failure

Training

- The Goal is Engagement Proficiency
 - Technical Proficiency is Baseline but Insufficient
- Required Skills Include:
 - System Technology Limits
 - Skillful Situation Assessment
 - Individual Working Knowledge of ROE and Force Policy

Countermeasures

- The Art of Disrupting, Deflecting or Defeating an Opposing Action
- Essential Element of R&D
- May Influence Selection of Candidate Technology
- Process for Vulnerability Analysis
 - **Susceptibility, Accessibility, Feasibility**

Points of Emphasis

- The Capability Range is from Disruption to Destruction
 - One “System,” But Different Tools
- Discovery Process, Like Gunpowder
 - Select Promising Technology
- Human Interaction + Technology
- Watson Watt’s Law of Third Best

Watson Watt's Law of Third Best

- Best Never Comes
- Second Best Takes Too Long
- Identify the Third Best
- The design that can be validated in time to meet an identified need...*and get on with it.*