Confidence-Building Defense:

Fundamental Design Principles

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Note: Military technologies change so that preferred weaponry will change with time. The appropriate mix of forces should be customized in application to particular countries. Principles tend to endure.

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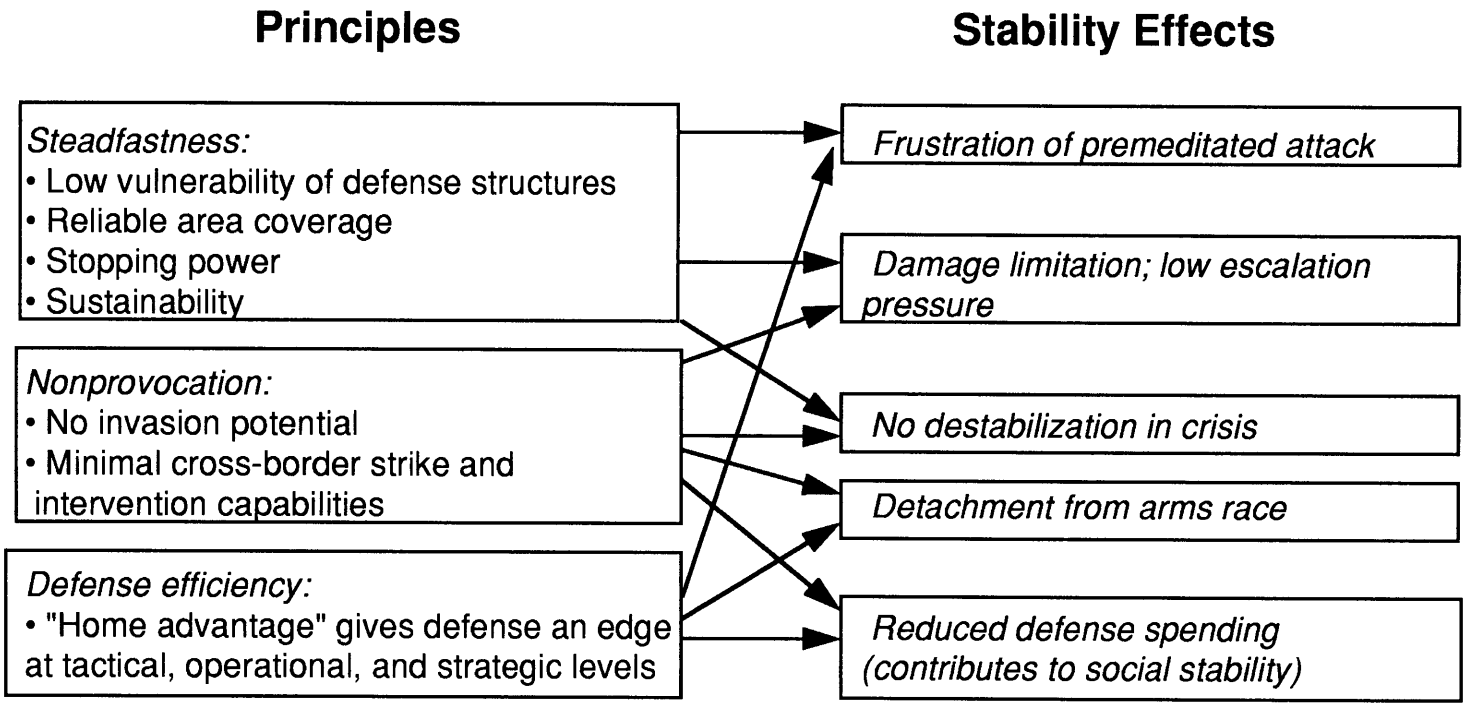
Operational Advantages of System

- Unique division of labor allows rather small forces to secure large areas
- Operating relatively simple combat elements in a stable, supportive context facilitates command and control; improves force allocation
- Due to combination of diverse components, intruders cannot adapt their tactics; must move against resistant medium

CBD Principles and Effects



Force Integration and Operational Guidelines

- Most light and indirect fire units organized in *Network*
- Heavy *Counter-Attack Units* interact with network, add shock power and complicate enemy calculus
- Some Lt. Mech. and Artillery units serve as *Operational Reserves* to thicken net as needed
- Overall integration resembles *Spider-in-its-Web*; Interaction among elements achieves synergistic effect

Most light and indirect fire units organized in *Network*

- Network units emphasize indirect fires, mines, and obstacles; fire often substitutes for movement
- Mobility of network units primarily for self-protection, secondarily for force (re)allocation
- Network has semi-static sensor/communication systems as well as logistical depot organization
- Amount of area covered depends on resource constraints and geostrategic conditions

Overall integration of system resembles a *Spider-in-its-Web*

- System of indirect fire flexibly covers other combat elements
- Network ("web") units detect, contain, and attrit enemy; facilitate allocation of friendly counterattack units
- Shock units ("spiders") provide power sufficient to defeat and eject enemy thrusts
- Integration of network ("web") and counterattack ("spider") elements achieves a synergistic effect
- Indirect fire and operational reserves provide capacity to thicken portions of web; web has some flexibility
- Stability ensured because mobile elements tied to indirect fire system, home-based engineer, and other support

Some light mechanized and artillery units serve as *Operational Reserves*

- Operational reserves combine long-distance mobility with defensive power for terrain-oriented combat
- Stability guaranteed because operational mobility "decoupled" from offensive capability
- Size of reserve depends on force-to-space ratio

Defensively specialized model would use:

- *Light Infantry* for area security and object defense
- *Artillery* for area-control by fire
- *Light Mechanized Infantry* for defensively holding prepared ground
- *Cavalry* for delaying action and to improve force allocation
- *Armor and Heavy Mechanized Infantry* to complicate intruder's calculus and retake lost terrain
- Some light mechanized and artillery units to act as defensively-oriented operational reserves
- *Unit ratio* of $\leq$ 25% Heavy Mech, $\approx$ 45% Artillery, $\geq$ 30% Light Mech, Cavalry, and Infantry

Attributes of Ground Force Elements

Categories	Light Infantry • Dispersed • Fluid • Semi-motorized	Indirect Fire • Lt Mech/Motorized • Tube & Rocket • Combat Drones	Light Mechanized • Infantry • Cavalry • Mortars	Heavy Mechanized • Heavy Armor • Mech Infantry • Heavy Mech Art.
Firepower	⊗ **LOW**	√ **HIGH**	• **MEDIUM**	√ **HIGH**
Shock Power	⊗ **LOW**	• **MEDIUM**	• **MEDIUM**	√ **HIGH**
Ability to Counter-concentrate	⊗ **LOW**	√ **HIGH**	√ **HIGH**	• **MEDIUM**
Invasion Potential	• **MEDIUM**	√ **LOW**	• **MEDIUM**	⊗ **HIGH**
Immediate Presence	√ **HIGH**	• **MEDIUM**	⊗ **LOW**	⊗ **LOW**
Vulnerability	⊗ **HIGH**	• **MEDIUM**	• **MEDIUM**	√ **LOW**
Exposure	√ **LOW**	• **MEDIUM**	• **MEDIUM**	⊗ **HIGH**
Logistics Demand	√ **LOW**	⊗ **HIGH**	• **MEDIUM**	⊗ **HIGH**
Equipment Cost	√ **LOW**	• **MEDIUM**	• **MEDIUM**	⊗ **HIGH**
Personnel Cost	√ **LOW**	• **MEDIUM**	• **MEDIUM**	⊗ **HIGH**
Mil-Political Control	⊗ **LOW**	√ **HIGH**	√ **HIGH**	• **MEDIUM**

KEY: √ = Positive; • = Neutral; ⊗ = Negative

How CBD System Serves Maneuver

- **The defense gains an information advantage because:**
  - Contest unfolds on ground the defense knows well
  - The area-covering network gives the defense eyes and ears everywhere, while targeting enemy information assets
  - CBD system is simple from the inside, complex from the outside; this complicates intruder's calculus while easing command and control for defenders
- **The defense gains a force allocation advantage because:**
  - Complex engineering work prepares the defender's ground
  - Mobility of fire partially substitutes for unit mobility; substantial artillery support also allows lighter units to engage heavier
  - Net facilitates movement of Spider units by providing support, thus allowing shorter "tail"

CBD System Makes the Battlefield a Medium Supportive of Friendly Units and Resistant to Enemy Initiative

Application of CBD to Air Forces

- Air power is the pre-eminent long-range offensive and surprise attack tool
- Goals of confidence-building air force:
  - Neutralize the long-range air power of the aggressor
  - Facilitate defensive force allocation to meet surprise ground assault
  - Convey a posture devoid of pre-emptive intent and capability

CBD Design Guidelines for Air Forces

- De-emphasize surprise and deep strike capabilities; they are destabilizing and not cost effective
- Emphasize CAS and Battlefield Interdiction capabilities, plus flexible interceptor-SAM mix (better exchange ratio than OCA)
- Ensure nonprovocation by separating ground attack and air defense mission via strict aircraft specialization

Application of CBD Principles to Maritime Forces

- Concentrate on flexible coastal protection
- Give up blue water aspirations if geostrategic situation permits
- Develop naval force and operational plans based on:
  - Multi-sensor network, land and sea-based
  - Strong capacity for local mine warfare
  - Coastal rocket/gun batteries and anti-ship RPVs
  - Fast attack craft
  - Land-based armed helicopters
  - Coastal anti-air batteries

CBD Guidelines for Technology Integration

- **Emphasize interaction of complementary force elements and the "intelligence" of whole system;**
  result: less demand on "intelligence" of individual weapons
- **Emphasize robust, reliable designs;**
  result: reduced risk, cost, and logistical requirements
- **Selectively integrate mature high technology as combat "multiplier" when cost-effective**
- **Human element provides the most flexible, reliable, and economical intelligence asset***

* *The converse option, fully "autonomous" weapons and systems, is too costly and vulnerable to countermeasures.*