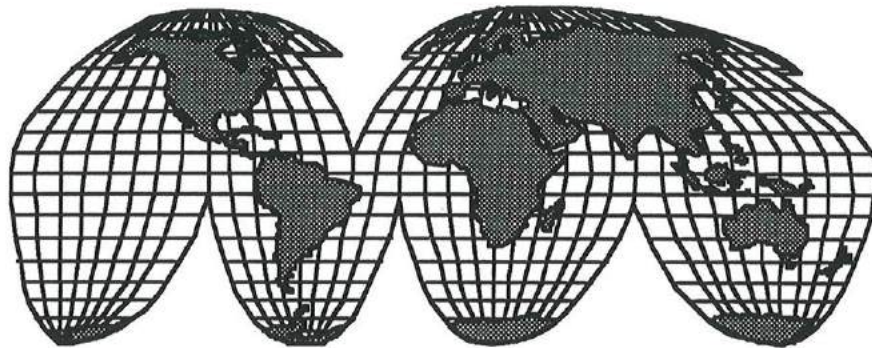

Confidence-Building Defense

A Comprehensive Approach to
Security and Stability in the New Era



Application for the Newly Sovereign States of Europe

Study group on Alternative Security policy
(SAS)

•
Project on Defense Alternatives
(PDA)



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Preface

In 1990 the Study group on Alternative Security Policy (SAS) and the Project on Defense Alternatives (PDA) began a collaborative effort to apply the concepts of "alternative defense" to post-Cold War conditions. The team's focus has been global, encompassing Europe, the United States, and regions of the South.

A turning point in the process of applying alternative defense concepts to Eastern Europe, specifically, was the convening of a conference in Austria during the autumn of 1992, *Europe 2000: The Security Needs of the New Sovereign States*. *Europe 2000* brought together security specialists from 20 European nations, including 11 of the newly sovereign states. The conference discussed in detail the security dilemmas of the new states, paying special attention to problems of ethnic strife, democratization, economic development, and regional cooperation.

Europe 2000 prompted a substantial revision and expansion of the evolving SAS/PDA security model, re-christened "Confidence-building Defense" (CBD). The strategic goal of this approach to defense policy is to build confidence and security in several dimensions, internally and internationally, and thus create a context in which nations will feel freer to implement significant measures of demilitarization and interstate cooperation. We hope this briefing book (and the associated workshops) will facilitate progress toward that goal. It is dedicated to the people of the republics of former Yugoslavia and the republics of the former Soviet Union who have suffered for the lack of a world order worthy of the adjective "new."

Members of the Project on Defense Alternatives and the Study group on Alternative Security policy who contributed their insights and efforts to this briefing book include *Charles Knight, Alan Bloomgarden, John Grin, and Bjorn Moller*. Offering vital editorial and technical assistance were *Rob Leavitt, Tony Palomba, Melani McAlister, and Steve Lily-Weber*. Cover design was by Deborah Perugi. Page graphics were produced by Joy Steinberg of the Audio Visual Group. Copying and binding was by Sir Speedy Printers of Brookline. This project was made possible by a grant from the Peace and Security program of the Ford Foundation.

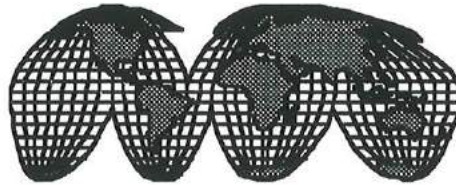
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Confidence-Building Defense:

Fundamental Design Principles and an Application for the Newly Sovereign States



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Confidence-Building Defense: A Security Policy for the New Era

Five years have passed since the fall of the Berlin wall, and the experience of those years confirms that the end of the Cold War is not synonymous with the creation of a new and more stable world order. Although the resolution of the East-West confrontation has opened new opportunities for cooperation and demilitarization, opportunity alone has not been sufficient to guarantee progress. The building of a new order is a task in its own right -- and one that has proved neither simple nor easy. The initial hopes for a smooth transition have run up against the reality of instability and conflict, both residual and new, in many regions of the world.

In parts of Eastern Europe the process of emancipation has been accompanied by a revival of ethnic and national rivalries. This is partly the suppressed legacy of past conflicts, partly the result of new ethno-national impulses released by the disintegration of the old order and animated by economic instability. The present instability is partly a consequence of the difficult transition from state-run to market economies -- a novel development that could easily take ten years to complete. Coinciding with this regional transition has been the accelerated

integration of the world economic system, which poses daunting challenges for even the most vibrant national economies.

Global economic change will produce differentiation, at least for a time, among regions, states, and territories within states. This situation places great pressure on states and on the relations among states. For the former members of the Warsaw Treaty, the Soviet Union, and Yugoslavia, the pressures are especially acute because their interstate spheres of commerce and production, forged along command-economy lines during the Cold War, are presently in disarray.

The necessary complement to economic liberalization in Eastern Europe is a process of democratization, which has both internal and external aspects. The internal involves the development and refinement of democratic forms of governance; the external involves the enhancement of sovereignty. Democracy is a prerequisite of both state legitimacy and civil vitality, but it also creates space for the expression of ethnic animosity, extreme nationalism, and revanchism. Of course, states cannot hope to enjoy the benefits of democracy without accepting its risks and learning how to manage them. Nonetheless, severe economic instability (and the social discord it generates) can overload democratic forms of governance, especially when they are young. Economic restructuring can make matters more difficult in the short term, especially if it is achieved through "shock therapy."

Regarding issues of military security: The assertion and redefinition of national identities throughout the region pose for some states a perceived threat to national sovereignty, national integrity, and state legitimacy (for instance, *via* threats to nationals residing in other countries). Among the former republics of Yugoslavia and some of the former republics of the USSR this condition has reached a point of chronic crisis and war. The states of East Central Europe have skillfully avoided such severe outcomes, so far -- but no guarantee exists for the future. All of the states of the East recognize that regional instability could suddenly push some of their number toward political extremes. None of the security establishments would be very surprised to face a significant external military challenge of some sort during the next ten years, and few feel assured that, should they come under attack, their distress would rouse neighbors or a friendly alliance to their aid. Finally, there is the recognition that the "deterrence umbrellas" of the continent's nuclear states no longer extend very far -- at least with regard to conventional conflict.

Contemplating possible conflict scenarios, as all security establishments must, draws attention to the correlation of power in Eastern Europe,

which inspires confidence nowhere. The Treaty on Conventional Forces in Europe (CFE), negotiated within the context of the former bloc system, has produced a military balance -- now, a number of imbalances -- that causes concern in many capitals. Among the former Soviet republics, for instance, the Baltic Republics and Ukraine are not happy with their lot *vis a vis* Russia, and Russia is not happy with its lot *vis a vis* NATO. Perhaps most disturbing is the fact that the emergence of "multiple balances" has greatly complicated the arms control process.

Complementing the problem of asymmetries is the problem of "uncertain military potentials." Military establishments throughout Eastern Europe are under extreme pressure due to government austerity, CFE-mandated force reductions and re-deployments, and the need to adapt defense postures to entirely new and uncertain strategic conditions. Social, economic, and political crises have also had a negative impact on troop morale and on recruitment prospects. These problems affect different military establishments in different ways and to different degrees; some will recover more rapidly than others. As a result, few Eastern European nations can rest confident in their assessments of their own or their neighbors' military potentials.

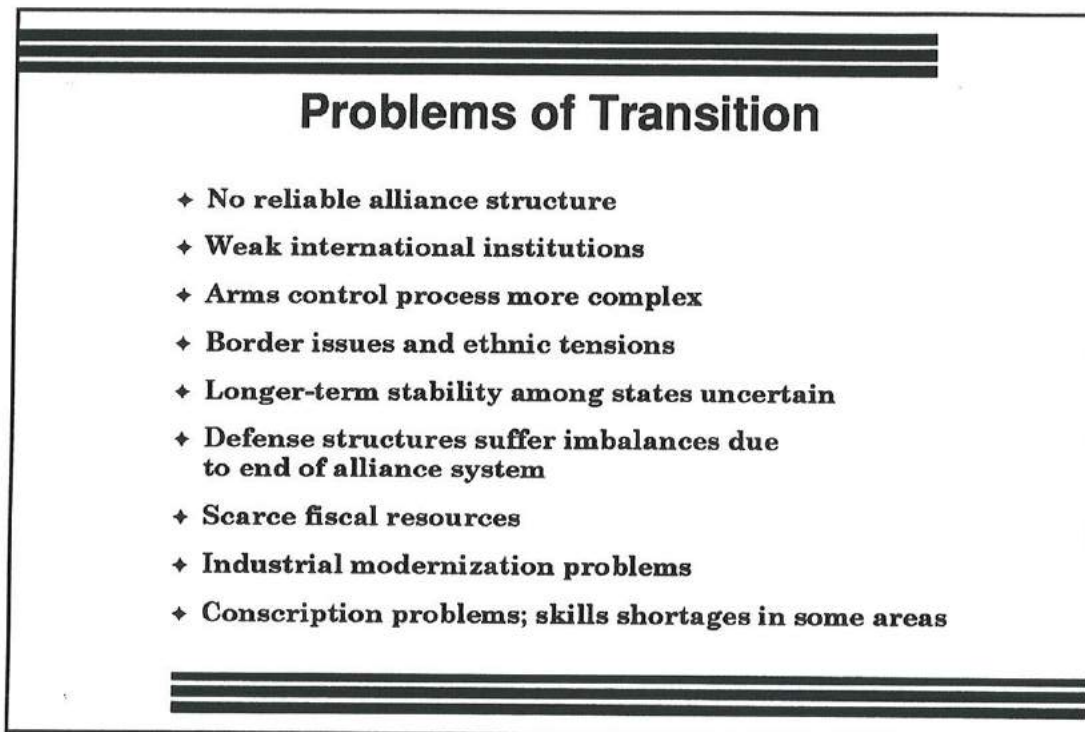


Figure 2

The present condition of instability, uncertainty, and austerity defines the strategic dilemma of the newly sovereign states. Few believe that this

dilemma can be resolved solely from within the province of individual nation states; hence, many have looked for solutions in supra-national forms of cooperation. Many have also looked to the West for assistance in the hope of finding a stable ground on which to base efforts of reconstruction and regional integration.

The West currently enjoys relative stability and prosperity, but it has not yet been willing to fully commit itself to large-scale cooperative efforts. This does not mean that the West is simply unaware that the fate of Europe is, in the final analysis, indivisible. Instead, and paradoxically, the West hesitates because some of the forces that tear at the East tear at the West as well -- although far less fiercely. Concern about global economic transformation, for instance, inspires fiscal austerity not only in the West's foreign assistance accounts, but in its domestic welfare accounts as well. Efforts to accelerate West European integration and to act in concert with regard to the Yugoslav crisis have produced more discord than decisive action. Similarly, the West hesitates in its overtures to the East because it fears the consequent strain on alliance resources and solidarity. In addition, it fears that deeper involvement in Eastern affairs -- for instance, through a selective extension of NATO membership -- may precipitate an otherwise avoidable re-polarization of the continent. Although the West bears a responsibility to do better in the future than it has done so far, the impediments to a positive Western consensus are very serious. Even the modest Partnership for Peace proposal has left many NATO members ill at ease.

Toward a Transitional Security Policy

The once widely-shared hope for a common European home has been badly battered by events in Yugoslavia and some of the former Soviet republics. In this sobering light, nations may look to the security practices of the past to assuage uncertainty and guard against aggression. Chief among these practices is the reliance on exclusive military alliances and punitive deterrence. Unfortunately, these practices can feed mistrust, instability, and arms racing. Although the opportunities for progress remain real and substantial, a deficit of confidence today afflicts even those states with prodigious resources at their disposal.

The principal problems confronting East-Central and Eastern Europe are not military in character, but they have a significant military component. Clearly, neither national economies nor civil societies can fully rejuvenate in a context of fear and suspicion. And, although no purely military policy initiative can quiet the sources of concern, some initiatives could make matters worse -- for instance, by depleting scarce national resources or

adding to interstate tensions. Given the strategic dilemma that confronts the newly sovereign states, an appropriate defense policy would reflect and reinforce the goals of economic renewal, democracy, social harmony, and international cooperation.

To revive the momentum toward a more stable order, nations must devise and implement *interim* or *transitional* security measures. Such measures would aim to meet immediate security needs while building confidence in the capacity of nations to pursue their security goals collectively and in a spirit of openness. A transitional policy would not assume trust among nations, but would aim to facilitate its growth. At the same time, a transitional policy would accelerate the development of global and regional security institutions, while avoiding the impulse to load these institutions with responsibilities that they cannot yet bear.



Figure 3

One necessary element of a transitional security policy is the concept of *nonprovocative defense* (also known as *nonoffensive* or *alternative defense*), which gained renewed prominence in the 1980s. During the Cold War period, analysts East and West developed models of cost-effective, stability-oriented defenses with the aim of lightening the financial burdens of the bloc confrontation, easing the arms race, and reducing military tension. The challenge today is to apply these concepts to a milieu of much lower force levels, tighter economic constraints, and

more complex strategic relationships. An application for the newly sovereign states of Europe must, in addition, pay special attention to the problems of ethnic strife and democratization.

The strategic goal of this approach would be to build confidence and security in several dimensions, internally and internationally, and thus create a context in which nations will feel freer to implement significant measures of demilitarization and interstate cooperation, while continuing their progress toward more democratic forms of governance and economy. This approach, which we call "Confidence-Building Defense" (CBD), would aim to produce a military posture that:

- Ensures a steadfast and reliable defense against aggression even in cases of low force levels;
- Does not contribute to interstate fear, tension, or arms racing -- even during periods of uncertainty or crisis;
- Contributes to progress in arms control and to the development of cooperative global and regional security institutions;
- Achieves security within existing resource and demographic constraints, and not at the expense of economic development;
- Does not contribute to centrifugal forces within society, but instead reinforces the democratic and peaceful resolution of internal disputes.

CBD and the NATO Partnership for Peace

Although the CBD approach differs from NATO's current posture in several important respects, it is fully consistent with East-West security cooperation. Indeed, the CBD approach takes international cooperation as both a first principle and primary goal -- although it clearly distinguishes between *interdependence* and *dependency*. By striving to create a national defense that is as strong, comprehensive, and efficient as possible under present conditions, the CBD approach would address NATO concerns about assuming new responsibilities in the East at a time of fiscal constraint in the West. In addition, the nonprovocative character of a CBD posture would ease the concerns of potential allies about becoming implicated in instability.

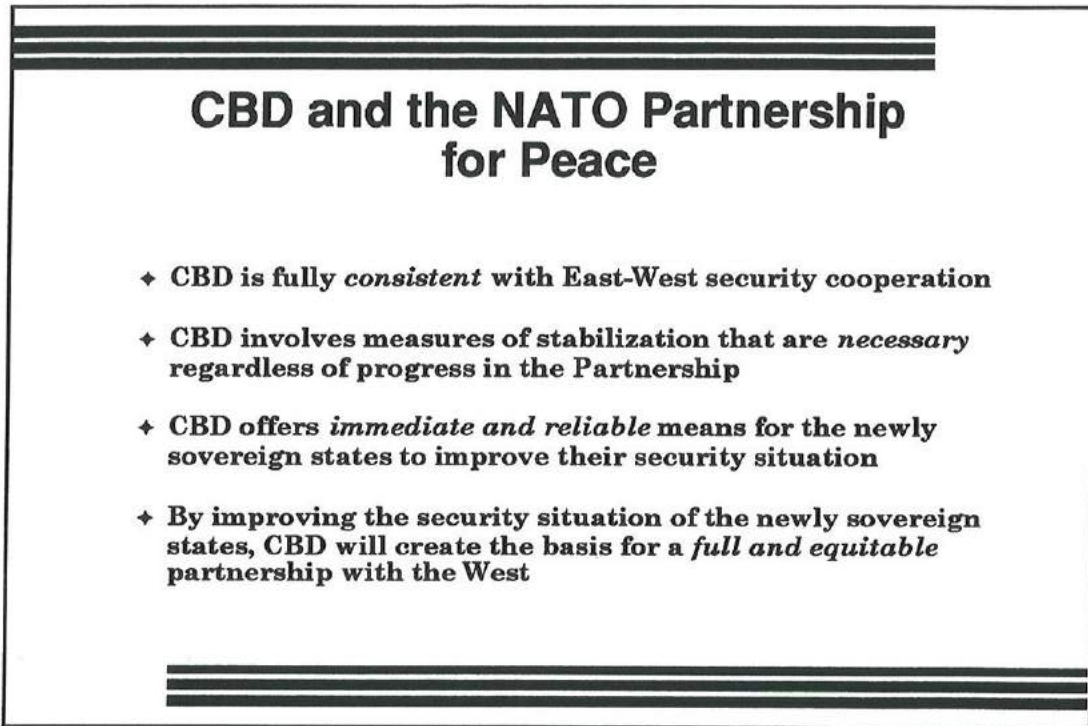


Figure 4

While facilitating cooperation, the CBD approach does not *assume* that cooperation will substantially increase soon. Hence, it does not defer attempts to solve today's security problems on a national or subregional basis, if necessary. CBD cannot promise self-sufficiency in matters of security, nor does it elevate self-sufficiency to the level of principle. Cooperation is better. However, CBD can promise a national defense posture that is highly cost-effective, relatively low in risk, and stabilizing (both domestically and internationally). For this reason it offers an immediate and reliable means for the newly sovereign states to improve their security situation. And it is on this basis that a full and equitable partnership with the West is most likely to mature.

East-West military cooperation requires elements of commonality among military establishments, but these requirements apply primarily to communications and to command and control procedures. Any attempt to replicate NATO's military structures across the board is unnecessary and would pose serious dilemmas for the states of Eastern Europe. First, the military restructuring process currently underway in leading NATO nations emphasizes extra-territorial missions. By contrast, the top priority in Eastern Europe remains home defense. Second, NATO's increasing emphasis on high-technology inputs and strategic mobility is not affordable even for wealthy nations like France and Germany. Finally,

The Limits of Partnership

- ✦ **Cooperation especially requires greater compatibility in communications and command-control procedures**
- ✦ **However, attempting to replicate NATO's military poses serious dilemmas:**
 - **NATO lacks a unified doctrine at the operational-strategic level: who shall serve as a model?**
 - **Leading NATO members are now turning to extra-territorial missions; in eastern and south-eastern Europe, home defense remains the top priority**
 - **NATO's increasing emphasis on high technology and strategic mobility is not affordable even for wealthy nations like France and Germany**

Figure 5

Security Policy Option 1: *Threat-based Defense*

- ✦ **Offensive emphasis leads to “revolving door” phenomenon = high-risk gamble susceptible to pre-emption**
- ✦ **Very costly if combined with solid base and flank cover → economic instability**
- ✦ **Fosters security dilemma → offensive arms racing, interstate tension, and crisis instability**

Cannot be made a “Universal Rule”

Figure 6

NATO lacks a unified doctrine at the operational-strategic level, which raises the question, "Who should serve as a model?"

Security Policy Options

Recent strategic thought admits two general military approaches to achieving national defense: the first, which characterizes the practice of both NATO and the former WTO, is based on the threat of a cross-border retaliatory or counteroffensive response to aggression; the second, which we call Confidence-Building Defense, emphasizes defensively-oriented structures and seeks to deter aggression by clearly denying it any easy success.

Especially when low force levels prevail, the offensive emphasis of threat-based defense postures produces the "revolving door phenomenon," in which cross-border aggression is met with cross-border retaliation (*Figure 7*). In theory, deep counter-attack is meant to frustrate aggression by compromising the vulnerable flanks and rear area of the attacking force; at the same time it aims to "punish" aggression by inflicting destruction on the intruder's home. However, for several reasons, this approach makes national defense a high-risk gamble. First, it diverts resources from the immediate home defense effort. Second, it concentrates available assets in large, vulnerable military formations. Finally, it depends for its success on the precise delivery of force deep within hostile and relatively-unknown territory. Nations can attempt to mitigate these risks by combining large offense-capable forces with strong flank protection (*Figure 8*). However, this option drives defense expenditures sharply upward, making it incompatible with fiscal restraint.

If adopted by both sides in a confrontation, threat-based structures cannot promise mutual security, only mutual insecurity. (Thus, this approach cannot serve as a "universal" principal without diminishing security all-around.) Within an offensive-defense regime, individual states can improve their standing only at the expense of their neighbors' security. This dynamic has been called the "security dilemma," and it is a principal stimulus for arms races. Moreover, during periods of political crisis, threat-based military structures increase the likelihood of pre-emptive action. As many conflicts in the Third World attest, this feature is especially destabilizing when force levels are relatively low and national defenses are, consequently, porous or lacking in redundancy. Even during periods of detente, a threat-based defense posture has a discernible negative effect, acting as a counter-weight to improved relations and helping to keep suspicion alive.

Figure 7

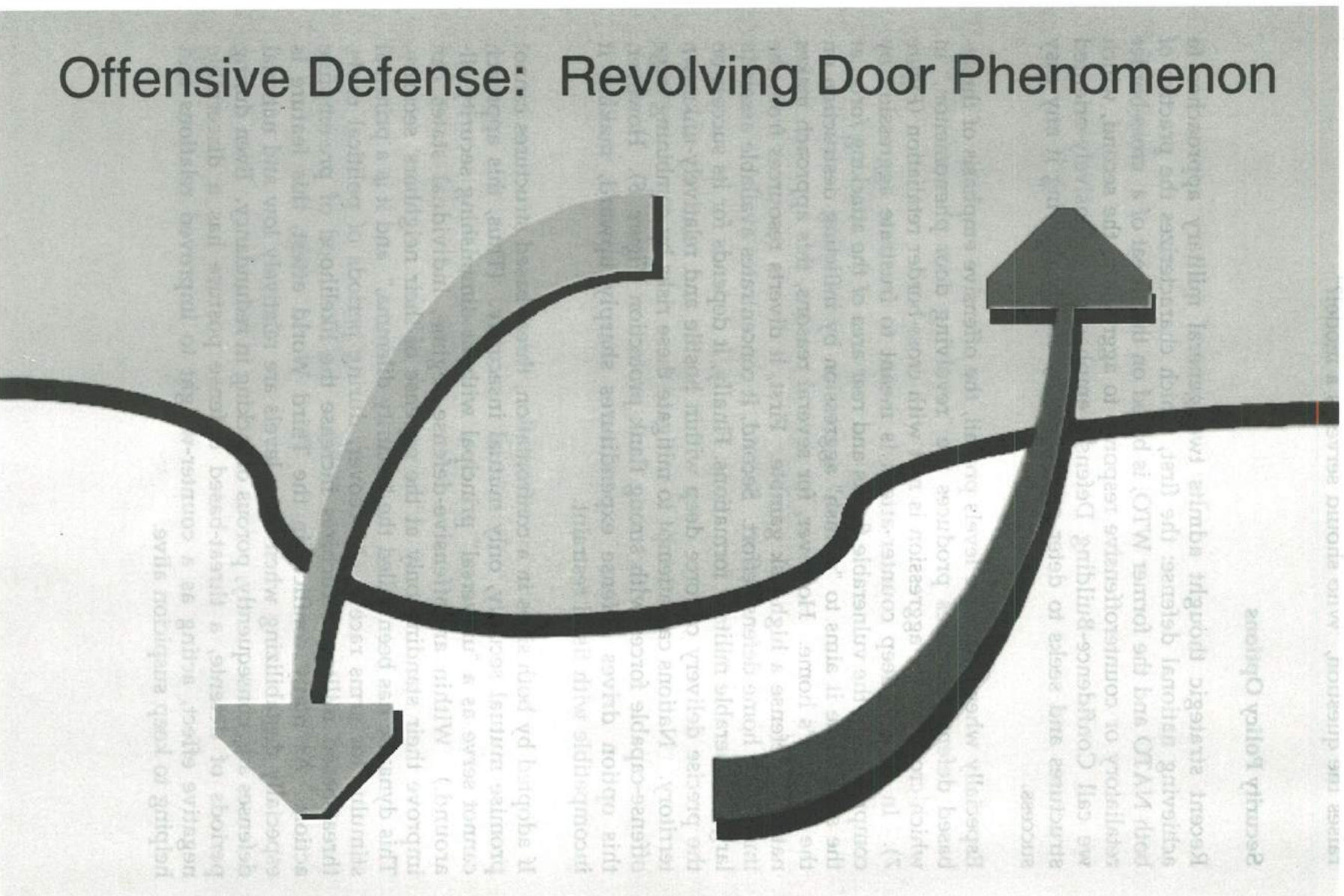
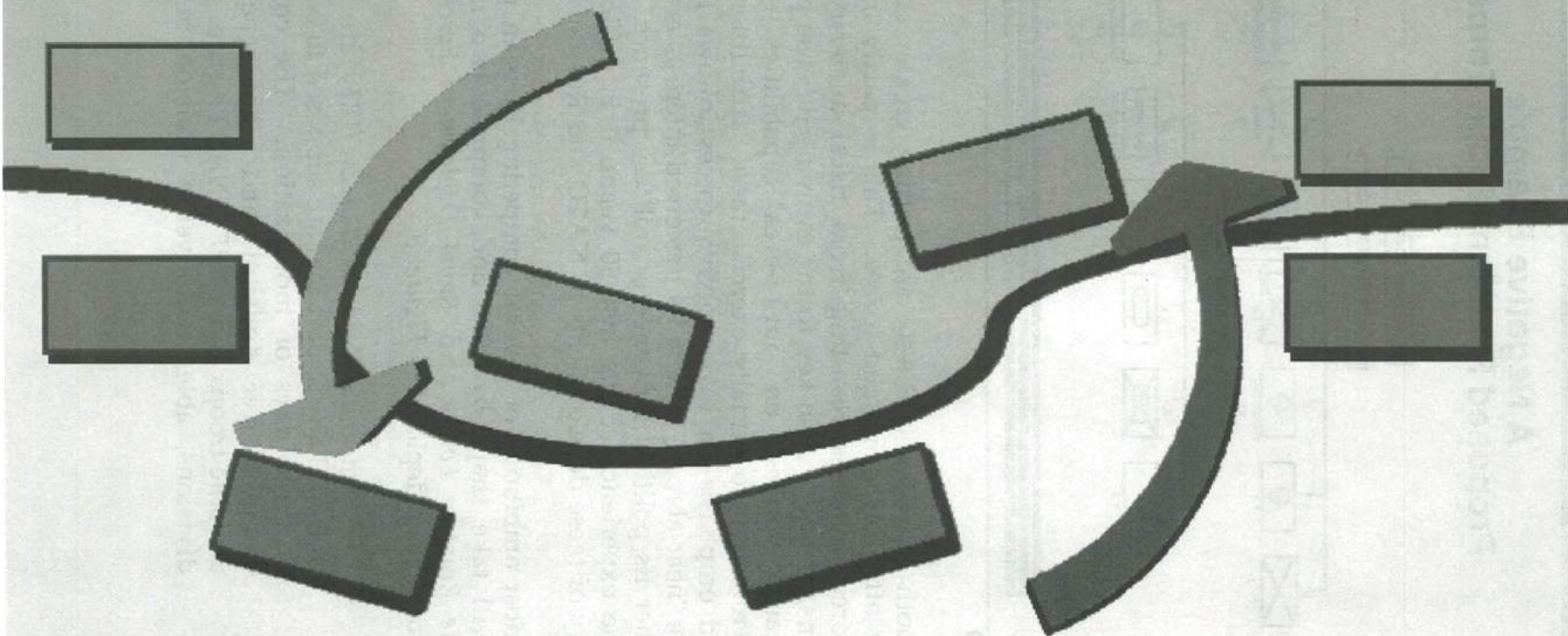


Figure 8

Offensive-Defense with "Flank Protection"



An option incompatible with low force levels & fiscal austerity

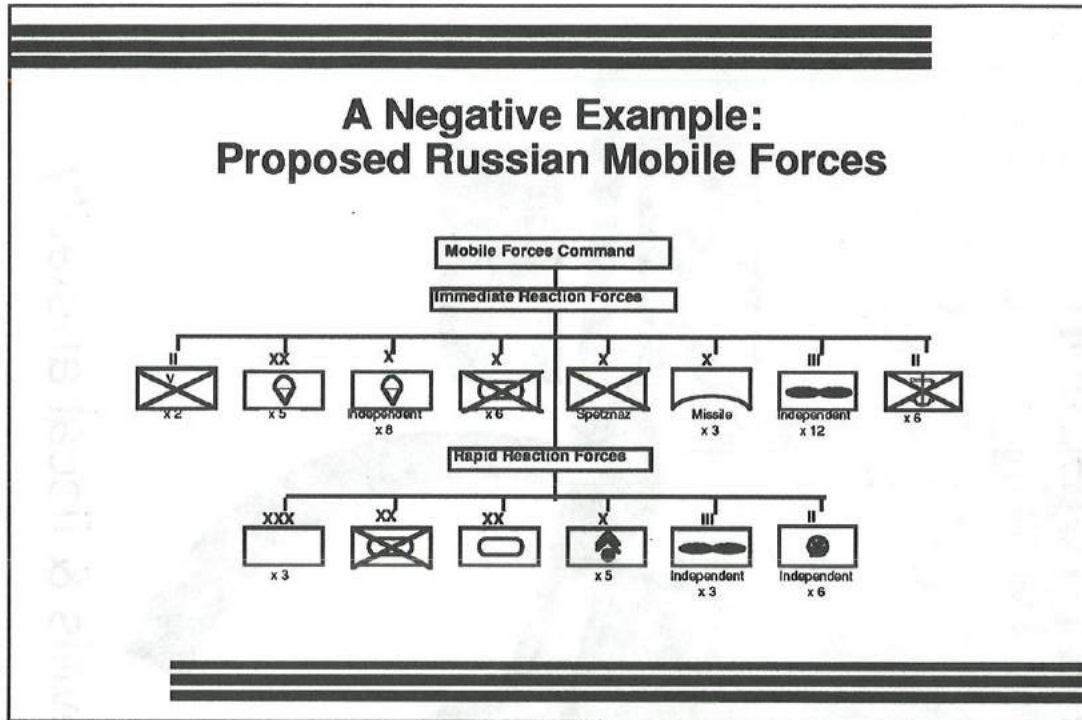


Figure 9

Today both NATO and Russia are putting greater emphasis on high-mobility offensively-oriented forces. This is partly in response to the lower force densities resulting from fiscal austerity, CFE-mandated reductions, or both. Also key to the evolving defense policy of NATO is an increased emphasis on "out-of-area" capabilities -- although NATO remains reluctant to actually exercise these capabilities. For Russia the increased emphasis on high-mobility forces follows from its concerns about the "near abroad," where its perceived interests are more substantial than either its political influence or military presence. And, of course, given the experience of the last 50 years, it is difficult to ignore the symmetry of these developments in NATO and Russian policy.

In the most ambitious of several competing Russian proposals, mobile forces will take shape by 1995 and comprise two major formations: *Immediate Reaction Forces* and *Rapid Deployment Forces*. Their ground force elements are depicted in Figure 9.

- The *Immediate Reaction Forces* (IRF) are light forces with powerful air support that are supposed to be ready within one to three days of mobilization. The core elements will comprise five divisions and eight separate brigades of airborne troops and a SPETSNAZ brigade. Four air transport divisions, able to deliver a division in one sortie, will

provide organic lift. Twelve helicopter regiments will give air mobility to the two air-assault battalions, six naval infantry battalions, and elements of the six light motor rifle brigades. A strong air component (not depicted) of five bomber, two ground-attack, and five or more fighter regiments will compensate for the lack of strong artillery and air defense elements among the ground forces.

- The *Rapid Deployment Forces (RDF)* are heavier combined arms formations to be maintained at three to seven days readiness. They will serve to reinforce the IRF. Three new-style corps (probably with the combat power of five old divisions) form the core. The two older-style heavy divisions currently assigned to the force may be temporary. Five brigades of rocket artillery, three helicopter regiments, and three heavy bomber regiments (not depicted) will provide strong fire support. For a formation of this size, only limited operational mobility will derive from the helicopter regiments, although the six transport battalions will help. *Rapid* mobility over distances of 800 km is out of the question; hence, the strategic potential of this formation detaches somewhat from that of the Immediate Reaction Forces.

Several problems are evident in the Russian blueprint:

- Russia probably lacks the resources and training base to maintain in quality condition the great quantity of airborne and air assault forces that constitute the IRF.
- The mobile forces will incorporate the best elements of Russia's military inheritance from the Soviet Union and will, undoubtedly, absorb the lion's share of future security resources. This means a further weakening of the forces permanently stationed forward in the TVDs, which the mobile forces are supposed to reinforce. (The forward, more defensively-oriented forces are already in very bad shape, at least west of the Urals.) Hence, there is a self-fulfilling logic in the argument that says that the mobile forces are necessary to meet crises in the forward areas.
- The detachment of the IRF from the RDF, both in terms of long-range mobility and degree of present development, portends a serious problem when viewed in the context of the weakness of forward stationed forces. The IRF will be too

light on its own for protracted combat against a large well-equipped adversary, but the RDF will be too heavy to quickly reinforce it in quantity over long distances (800+ km). At any rate, the mobility assets required to deploy both formations quickly and in quantity will not exist. This will leave the IRF elements dependent for a time on whatever "synergy" they can achieve with the weak forward formations, which will not be impressive. Hence, there is the dangerous possibility that commitment of the IRF will deepen, not resolve, any serious military crisis.

- Finally, despite the idealism apparent in the Russian blueprint, the capacity to rapidly deploy over great distances *any* substantial portion of the IRF will seem very provocative to many actors in the region. And this will be true even if the potential of the IRF as it appears on paper is never fully realized.

In summary the Russian plans for a mobile force stand as a powerful negative example. The plans reflect the "cutting edge" doctrine of hyper-mobility that has also gained some popularity in the West, but it entails abandoning the goals of defense efficiency and economy, reliable armed forces synergy, and secure coverage of vital areas. Thus it is virtually guaranteed to deepen the problems of economic crisis, insecurity, and instability in the republics of the former Soviet Union.

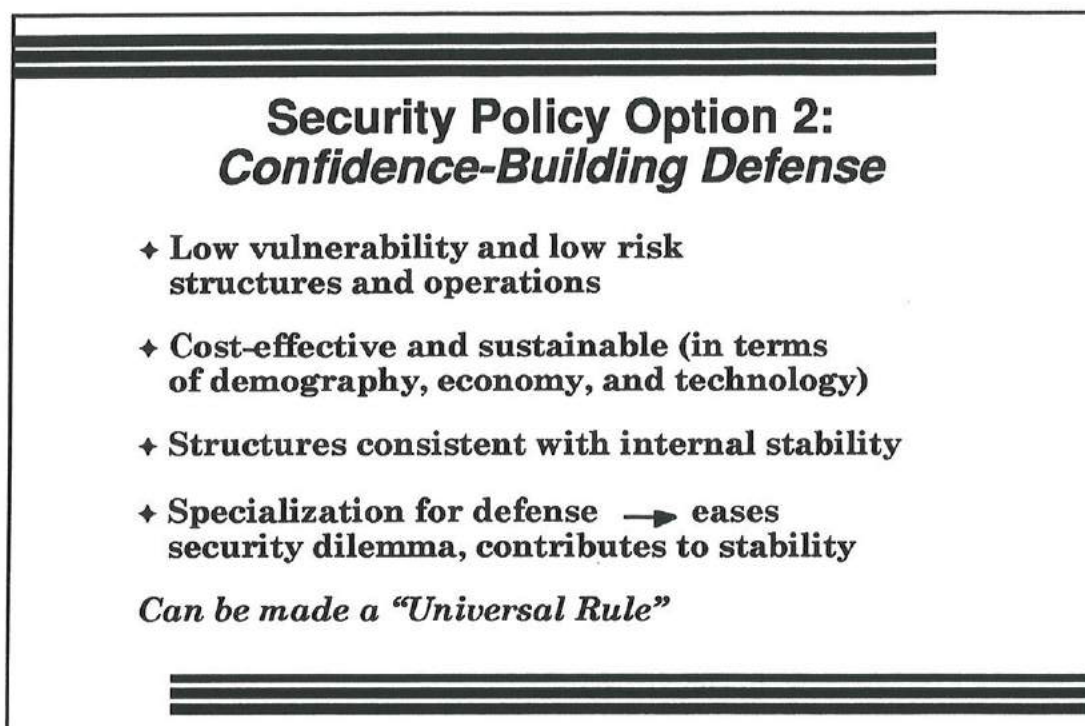


Figure 10

The second approach to security policy, Confidence-Building Defense, seeks to transcend the security dilemma (and avoid the instability that flows from it) by ensuring home defense without resort to a capability for large-scale cross-border offensive action. In other words, CBD military structures and operational concepts would *embody* (and not just *serve*) a defensive strategy. (This does not preclude considerable offensive capability on the tactical level.)

A CBD posture would also try to minimize the degree of "gamble" involved in defense planning by emphasizing low vulnerability and low-risk structures and operations. Finally, it would seek to relieve social instability by operating within resource constraints and adopting military structures consistent with democratization and social cohesion.

If implemented unilaterally, a CBD posture would not only improve the defense potential of the initiating state, it would also indirectly improve the defense prospects of neighboring states, because it involves a reduction in the initiator's offensive potential. Thus, a unilateral act moves a region (or at least two states) toward the condition of "mutual defensive superiority" in which each side's defensive potential clearly outweighs the other's offensive potential. If all or many nations follow suit, the resulting situation would be highly stable and reassuring. For these reasons, CBD principles can be made a universal principle.

CBD structures embody three basic qualities: (1) Nonprovocation -- meaning no large-scale invasion or surprise attack potential and the **minimization of strike and intervention capabilities**; (2) **Steadfastness**, which implies a lack of lucrative target concentrations and no invitation to intrusions through weakspots or a "single-salvo" defense; and (3) Defense efficiency, which seeks to fully exploit the defender's "home advantage" at the tactical, operational, and strategic levels.

These three qualities (which also serve as principles) are systematically linked with several ends (or effects):

- Frustration of premeditated attack (achieved through the steadfastness and efficiency of the defense)
- Low escalation pressure and damage limitation (achieved through the "no target" principle and lack of large-scale cross-border offensive or surprise attack capability)
- No de-stabilization during periods of interstate political crisis (achieved through the lack of large-scale cross-border attack capability and through the steadfastness of the defense, which limits the putative "bonus" for surprise attack by an adversary)
- Detachment from arms races (achieved through the emphasis on efficient defensively-oriented forces, whose growth poses no security challenge to one's neighbors)
- Reduced defense spending (achieved directly through the emphasis on efficient defensive structures and the lack of expensive cross-border attack capabilities, and indirectly through detachment from arms races)

CBD Assessment of Ground Force Elements

Figure 12 assesses common ground force elements in terms of qualities associated with combat power, cost, and stability. Most of these qualities are fairly obvious in their meaning, except perhaps "immediate presence," which refers to the element's capacity to meet an intruder within its area of responsibility without significant redeployment. By contrast, "ability to counter-concentrate" refers to redeploying to meet an intruder within one's area of responsibility using shock power, firepower, or both (or information assets, if the mission is reconnaissance rather than destruction.)

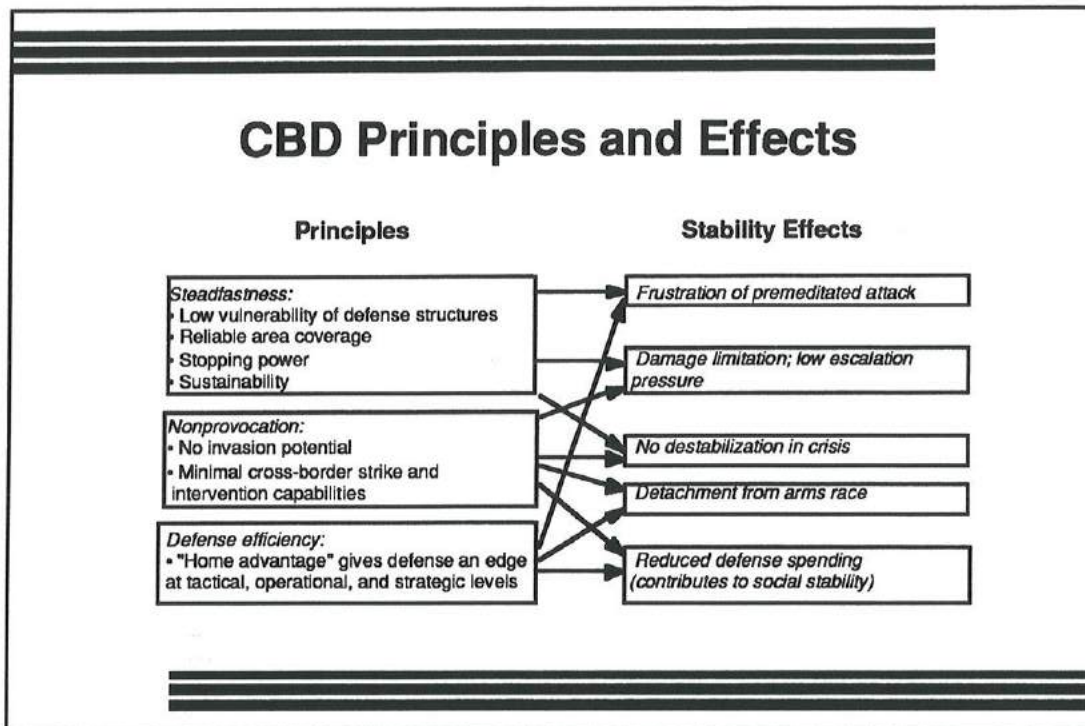


Figure 11

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

Figure 12

Of course, the adherence of a national defense posture to CBD principles can be adequately judged only on the level of overall force structure, deployment pattern, and operational concepts. Nonetheless, this chart provides a good initial assessment of how individual combat elements measure up to CBD principles, and it indicates the limits of an acceptable force mix. An ideal structure would combine *high* firepower, shock power, ability to counter-concentrate, immediate presence, and military-political control with *low* vulnerability, exposure, cost, logistics demands, and invasion potential.

The chart also makes apparent the fact that **Indirect fire** and **light mechanized** elements best balance the various qualities associated with combat power, cost, and stability.

Heavy mechanized elements, however, have a clear advantage in terms of the important qualities of shock power and low vulnerability -- and thus are necessary components of an effective defense array. Still, heavy units suffer especially from high cost, exposure, and invasion potential.

Light Infantry units are inexpensive and, used properly, enjoy low exposure, a medium capacity to counter-concentrate, and a high degree of immediate presence. In closed or constricted terrain, or in a rear-area object defense role, they are often the optimal choice. They can even be useful in more open terrain in a countermobility role if operating from prepared positions and well supported by artillery. Light units, thus, offer a nation an inexpensive way to accomplish some area coverage -- but their shortcomings in contests against heavier units and the problems of political instability that are so often associated with militia must limit the resort to these units.

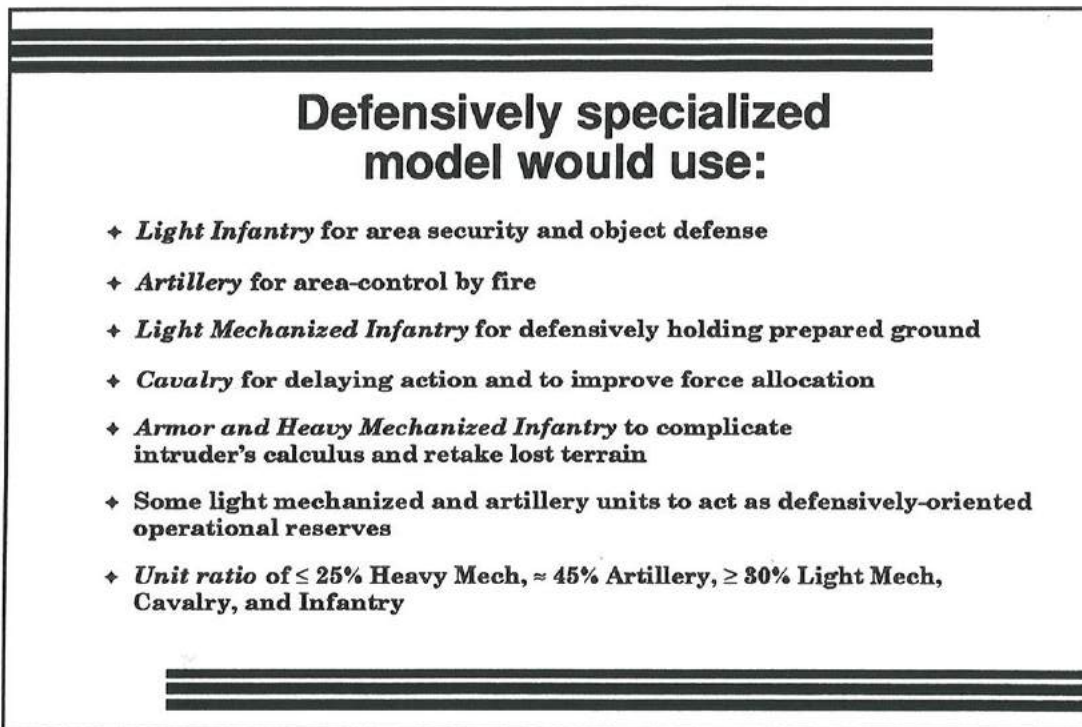


Figure 13

Taking a further step, we allocate roles and missions to the various elements in accord with their capabilities and the needs of defense. This helps us more fully define an appropriate mix and balance among them.

Light mechanized cavalry assumes its traditional role of reconnaissance and as a force that can move quickly to delay or distract an intruder. **Light mechanized infantry** operating across prepared ground and in conjunction with artillery serves to fix the intruder in place. In some circumstances **light infantry** (given organic firepower in the form of modern mobile multi-barrel mortars) can assume a similar role in some areas, especially if reinforced by **light mechanized** forces. Generally speaking, however, their role is the more limited one of selective area security and object defense.

Artillery is central due to its capacity for cost-effective area control by fire. It is the trilogy of artillery, light mechanized units, and prepared ground that accomplishes the first and foremost objective of defense: to find and halt an intruder. Not incidentally, this trilogy also serves well to disrupt and attrit.

Armor and heavy mechanized infantry constitute a dynamic, counterattack element that can serve to destroy or expel an intruder, and more generally to complicate the intruder's calculus (thus inhibiting adaptation to the defensive array).

Finally, some **light mechanized and artillery** units can serve as **defensively-oriented operational reserves**. This gives the defense the capacity to deploy sufficient stopping power to wherever an intruder's main thrusts may fall without relying on a very large and mobile armor element (which could seem to pose a major offensive threat to one's neighbors).

The precise ratio among these elements would depend on strategic, geographic, demographic, and socio-economic factors. However, efforts to apply CBD principles to a variety of circumstances suggest a widely-applicable, although approximate, CBD force mix: Artillery would usually constitute a little more than 40 percent of the total. Armor and heavy mechanized units would usually constitute 25 percent or less. At least 30 percent of the force would be a mix of light mechanized, cavalry, and infantry units.

At the national level, the various CBD ground force elements would assemble into one or more Area Control Corps (ACC) and one or more Independent Rapid Reinforcement Brigades (IRRB) -- the latter being the operational reserves. A representative *Table of Organization and Equipment (TOE)* gives a better sense of their organization.

The Area Control Corps (*Figure 14*), covering up to 35,000 square kilometers, would comprise 25,000 personnel when fully mobilized. Its centerpiece would be three artillery-infantry brigades, constituting an area-covering "artillery base system." Operating within and among the artillery brigade areas would be an armored brigade. Complementing these four combat brigades at the corps level would be a variety of support units, an air defense battalion and, for added flexibility, one battalion each of cavalry, armor, and rocket artillery.

Figure 15 provides a more detailed view of the three artillery-infantry brigades, which form the core of the system, and the armored brigade. Each of the artillery-infantry brigades is built around three artillery battalions. These battalions would operate in protected areas of about 300 square kilometers, but would cover a much larger territory (perhaps 1500 square kilometers) with their fire. Each artillery-infantry brigade also has a light-mechanized infantry battalion and a light infantry battalion. Both of these possess organic indirect firepower in the form of mobile multi-barrel mortars. However, the light-mechanized infantry battalion, which would operate in more open terrain, is strengthened by the addition of Tank Destroyers (mounting missiles).

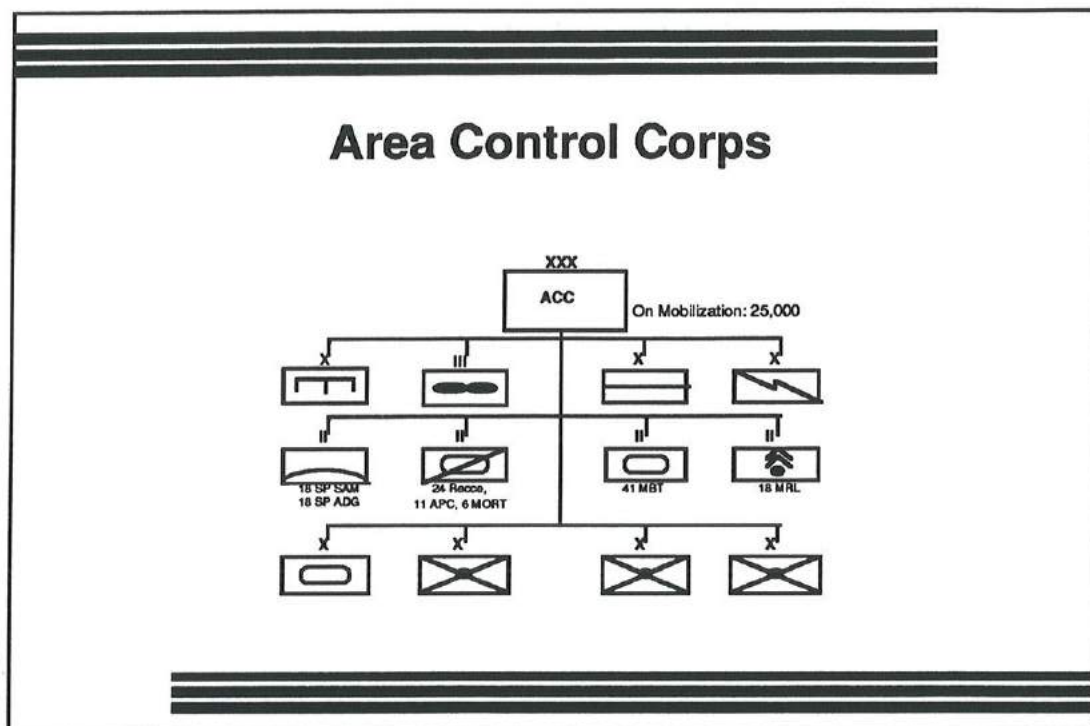


Figure 14

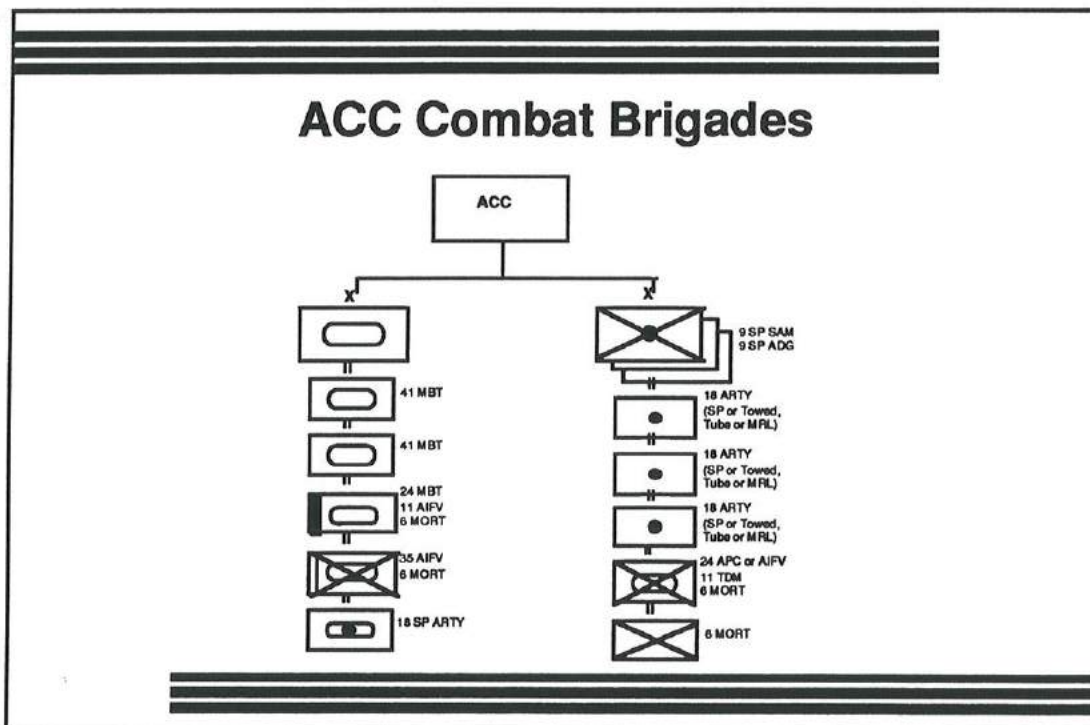


Figure 15

The complementary armored brigade has four maneuver battalions and one battalion of self-propelled artillery. Two of the maneuver battalions are typical heavy armor, one is armored infantry (or "heavy mechanized infantry" in American parlance), and one is a heavy "combined arms" battalion (which unites the characteristics of armor and armored infantry).

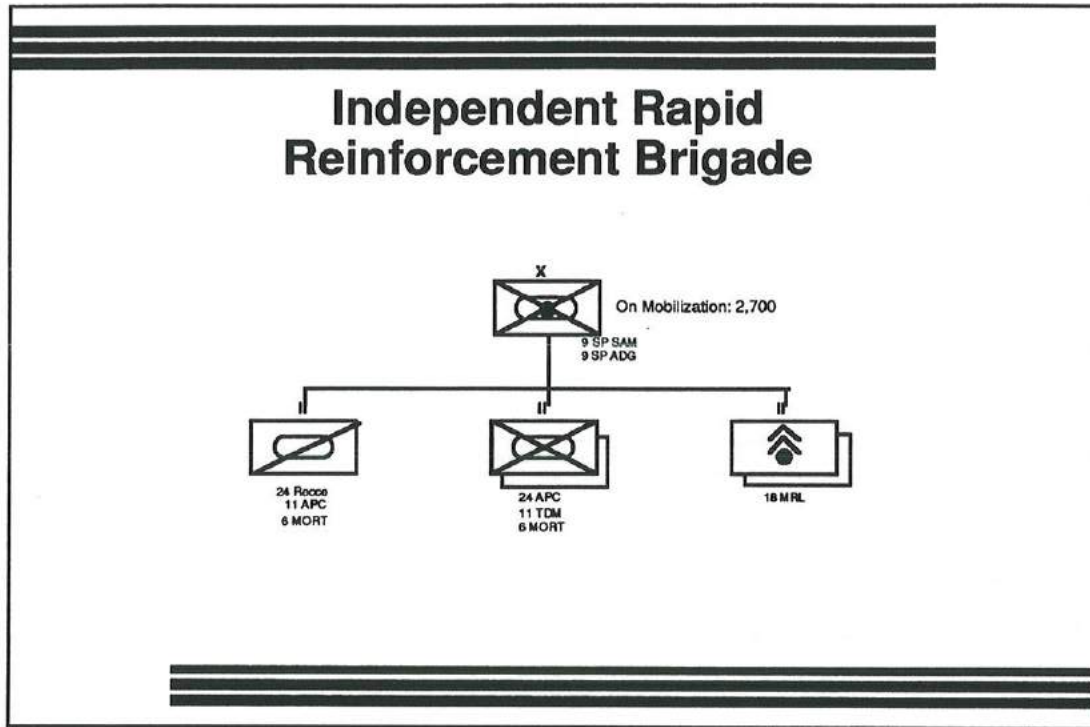


Figure 16

Complementing the Area Control Corps on the national level are Independent Rapid Reinforcement Brigades (IRRBs, *Figure 16*). These serve as defensively-oriented operational reserves, which can "thicken" defenses as needed anywhere in the country. Each IRRB has a single light cavalry, two light mechanized infantry, and two rocket artillery battalions. The rocket artillery battalions give the IRRBs a very substantial capacity for longer tactical range salvo fire. When fully mobilized each IRRB incorporates 2700 soldiers.

CBD Table of Equipment		
	Area Control Corps	Independent Rapid Reinforcement Brigade
MBT	147	0
Recce	24	24
AIFV/APC	129	59
TDM	33	22
ARTY & MRL	198	36
MORT	54	18
SP SAM/ADG	90	18

Figure 17

Figure 17 presents a summary of the major combat systems of the standard Area Control Corps and Independent Rapid Reinforcement Brigade. Several features stand out when reviewing the table of equipment:

- As intended, the ACC is relatively light in armor for a formation of its size (25,000 personnel fully mobilized) and area of responsibility (up to 35,000 square kilometers).
- However, the ACC possesses a great deal of indirect fire capability. The ratio of artillery, rocket launchers, and large-caliber mortars to tanks is 1.7 to 1.
- Turning to the IRRB, the absence of armor is distinctive -- and key to its character as a *defensively-oriented* operational reserve.
- In the case of the IRRB, the predominance of artillery is once again clear. Indeed, for a formation of its size, which is one-tenth that of an ACC, it can bring a remarkable weight of indirect fire to bear -- about 20 percent as much as an entire ACC. It would also add considerably to the number of Tank Destroyers in any ACC it comes to support.

- When viewing the ACC and IRRB together, the emphasis of the system as a whole on artillery stands out most clearly: the ratio of artillery assets to armor is more than two to one. (This is not to imply, however, that the number of ACCs and IRRBs in a national system will be necessarily equal. Nor is it to imply that no more than a single IRRB would ever reinforce an ACC.)

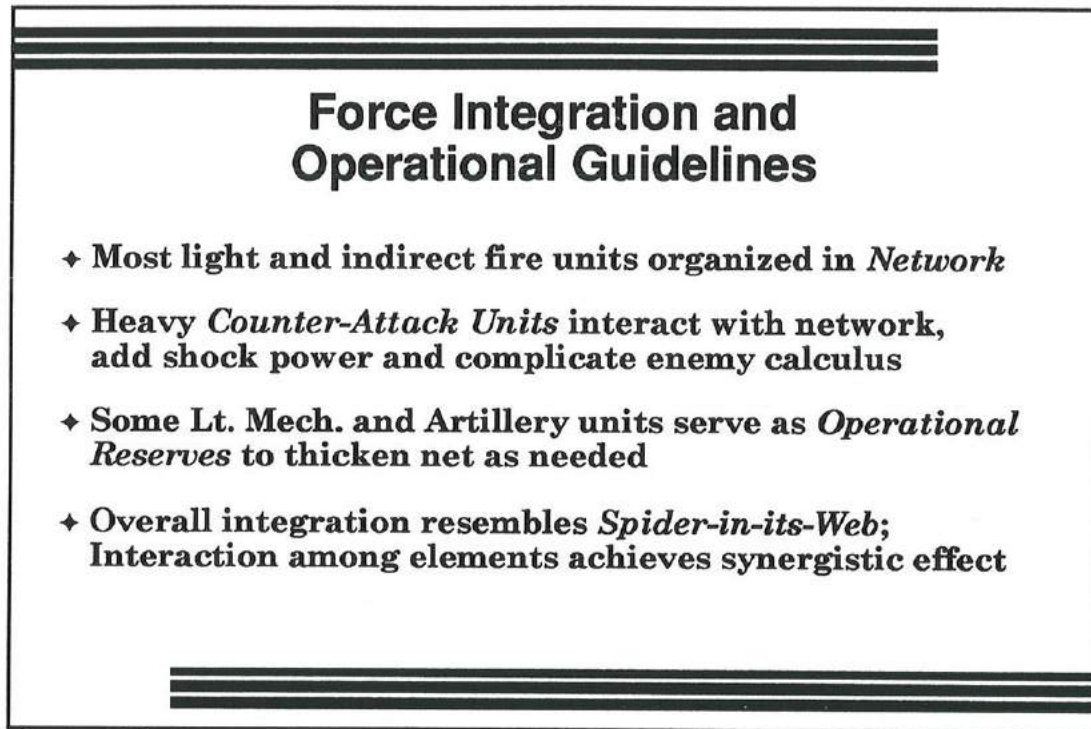


Figure 18

Force Integration and Operational Guidelines

A relatively large proportion of the light and indirect fire units assume a network pattern (or "web") anchored on the battalion-sized artillery base areas. This allows for "all-around" or, at least, multi-directional defense, and it achieves robustness through structural simplicity, dispersion, and depth. The network could cover the entire territory of the nation. However, given a scarcity of resources, "selective area control" may be more appropriate. In this case, the web's "meshes" would be relatively dense only along endangered border sections, key avenues of advance, and/or around centers of strategic importance.

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**

Figure 19

The web forces would consist of infantry (light mechanized and/or motorized) mainly in a countermobility role. The infantry would be assigned to particular areas and specialized to make optimal use of rapidly constructable obstacles, mines, and advantageous terrain features. The infantry would be supported by strong non-line-of-sight (indirect fire) elements, such as large-caliber mortars, tube and rocket artillery, mine scattering launchers, and fiber-optically guided missiles. Some of these elements would be organic to the infantry battalions; most would exist in the artillery battalions of the artillery-infantry brigade. To enhance the terrain-holding capacity of the light mechanized infantry, they would incorporate missile-equipped Tank Destroyers; however, the key to the light units capacity to hold ground against a heavier intruder is their synergetic interaction with artillery. Being light mechanized or motorized, they would also be capable of limited lateral and retrograde movements. As a general rule, however, the system substitutes mobility of fire for the costly mobility of troops. Underlying and integrating the artillery-infantry brigade areas would be a semi-static sensor/communication system as well as logistical depot organization.

Figure 21 portrays the three artillery battalions with characteristic overlapping fields of fire. It also gives a detailed view of an artillery battalion base area with fortified positions, dispersed artillery batteries, and supporting air defense company.

Figure 22 shows the broader brigade-area network that is anchored on the three artillery bases (which appear as black dots). This network comprises a light mechanized infantry battalion and an adjacent light infantry battalion. Sensor screens and minefields are also shown. Finally the depiction includes a light cavalry company originating at corp level.

Heavy mechanized units provide the dynamic counterattack ("spider") element of the system. The effectiveness of this element depends on its interaction with the network elements. And it serves not only to destroy or eject an intruder, but to complicate the intruder's attempts to adjust to the defensive array. In other words, the dual structure of the defense denies an aggressor the opportunity to easily streamline forces for use in a particular, homogenous combat environment. (This feature has often been lacking in many earlier nonprovocative defense schemes, which tended toward weapon "mono-culture" and homogenous arrays.)

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**

Figure 20

Figure 21

Artillery Base System - (Brigade Level)

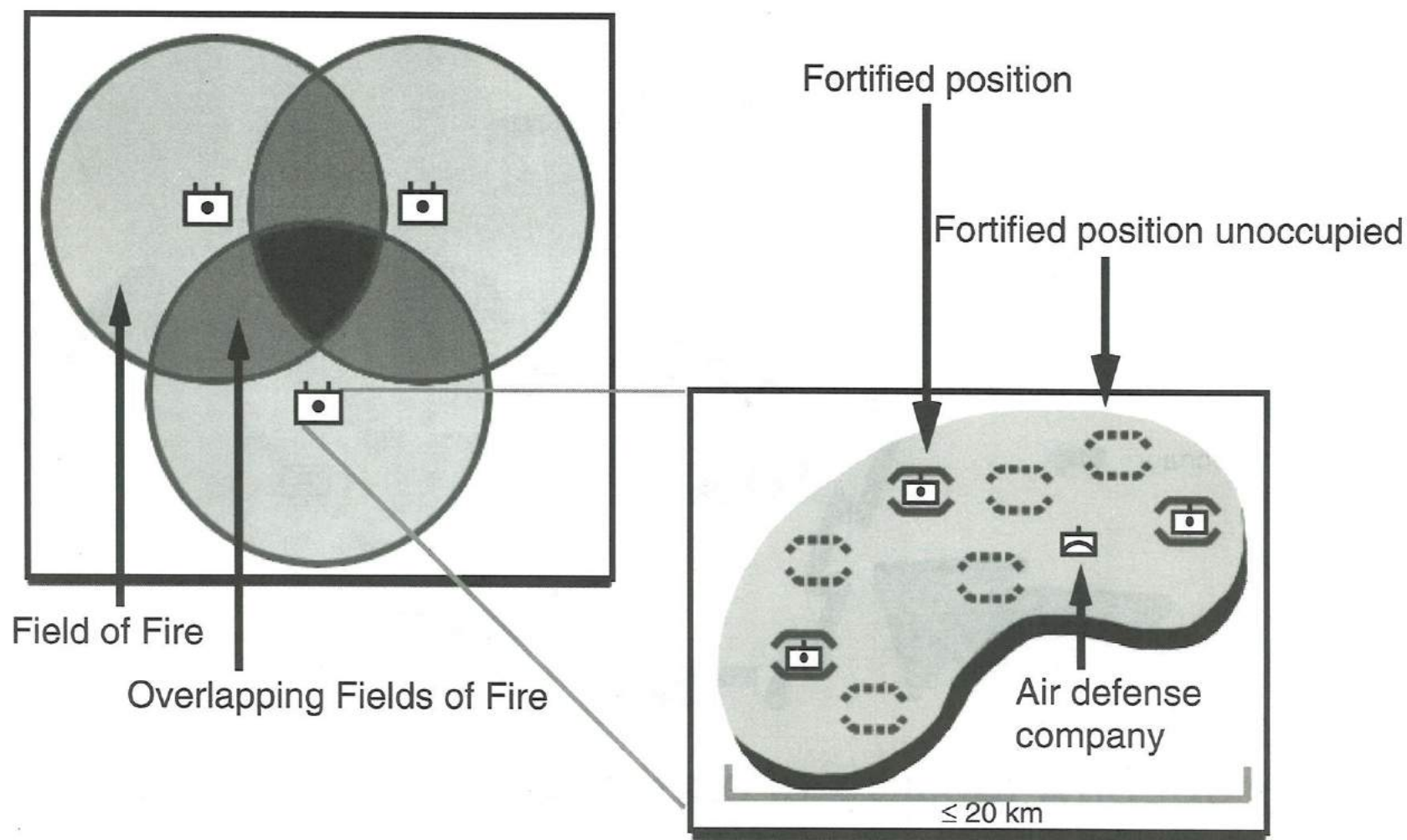


Figure 22

Network Elements Cooperate in Artillery Brigade Area

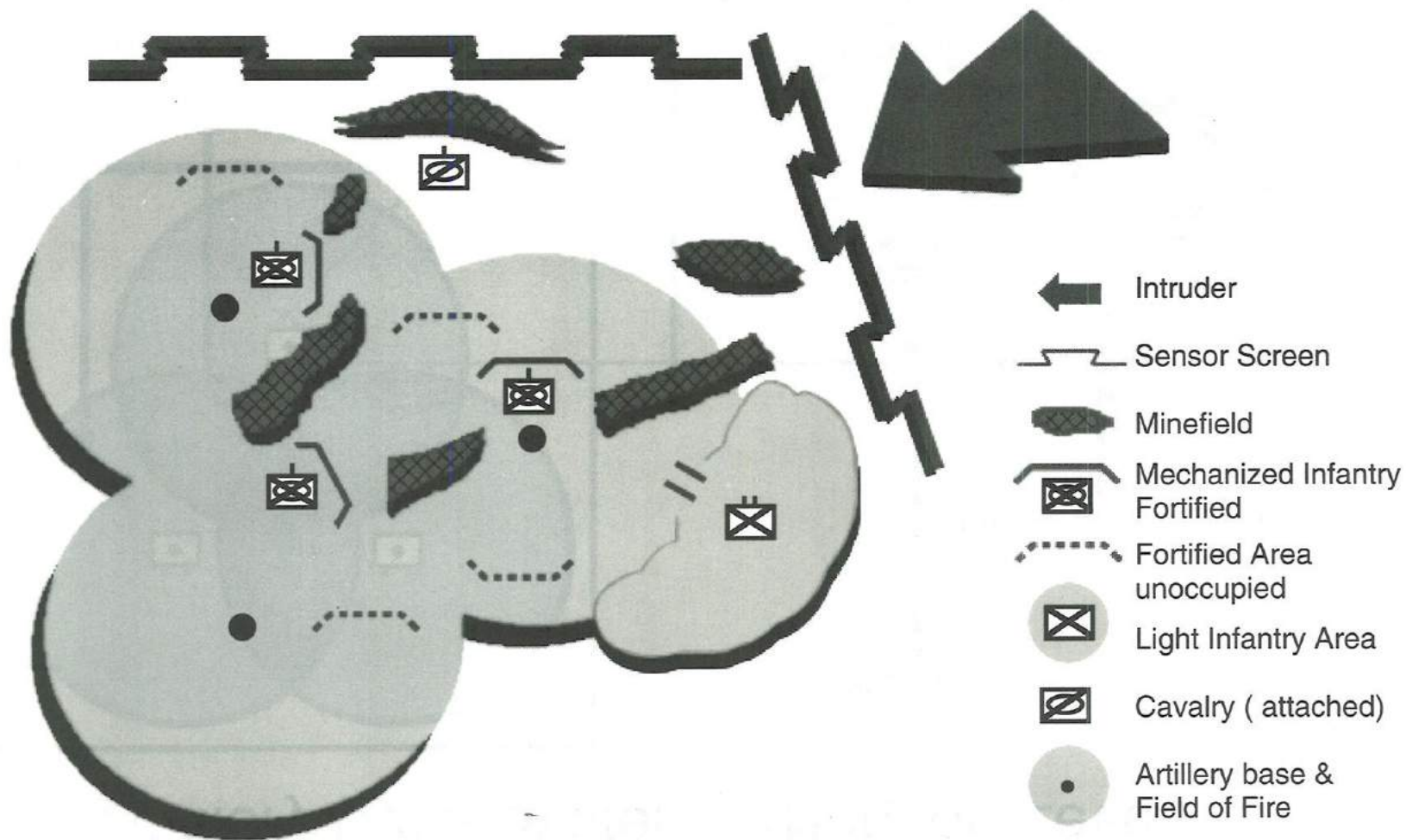


Figure 23

Artillery Brigade Area Reinforced

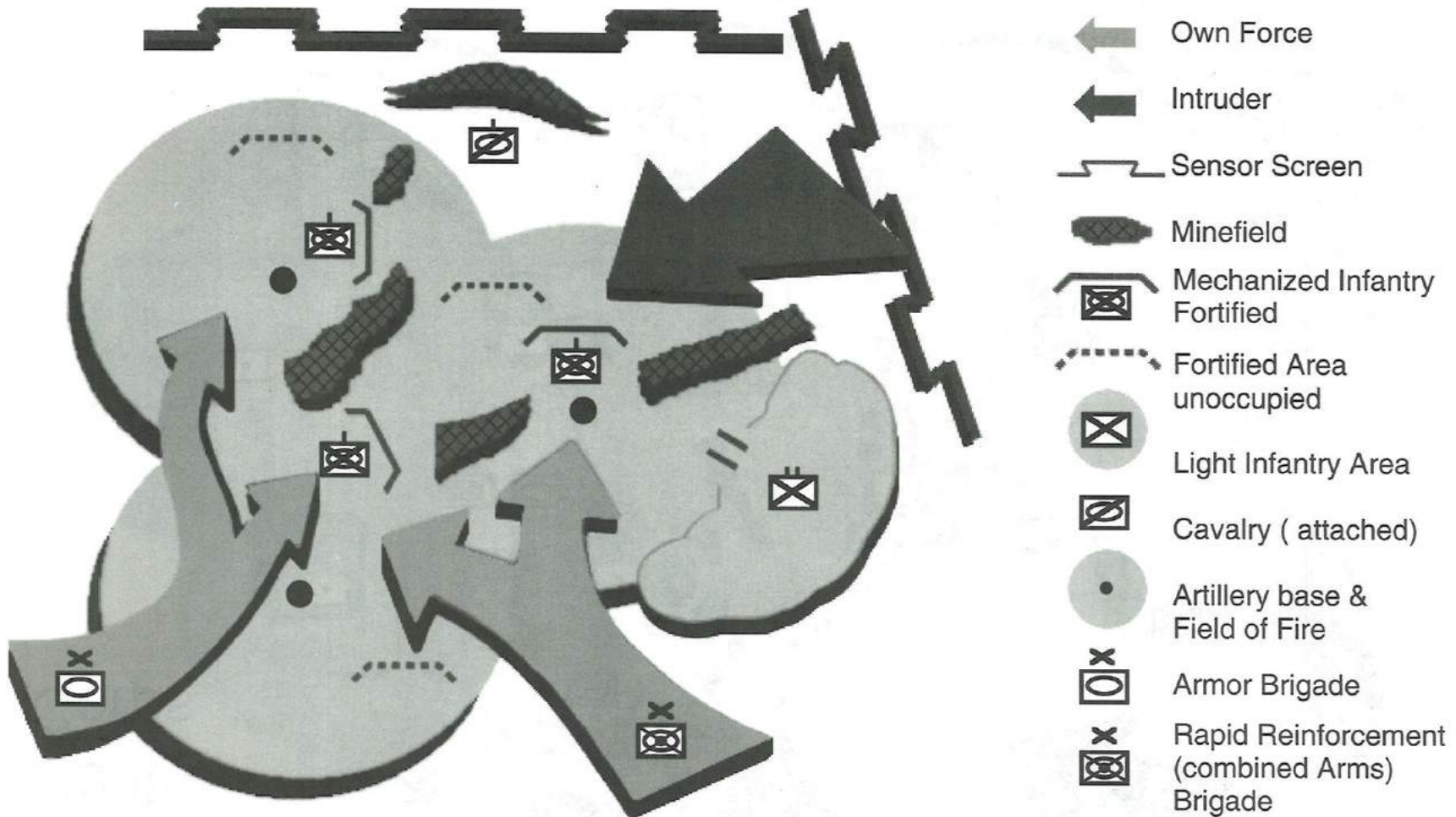


Figure 24

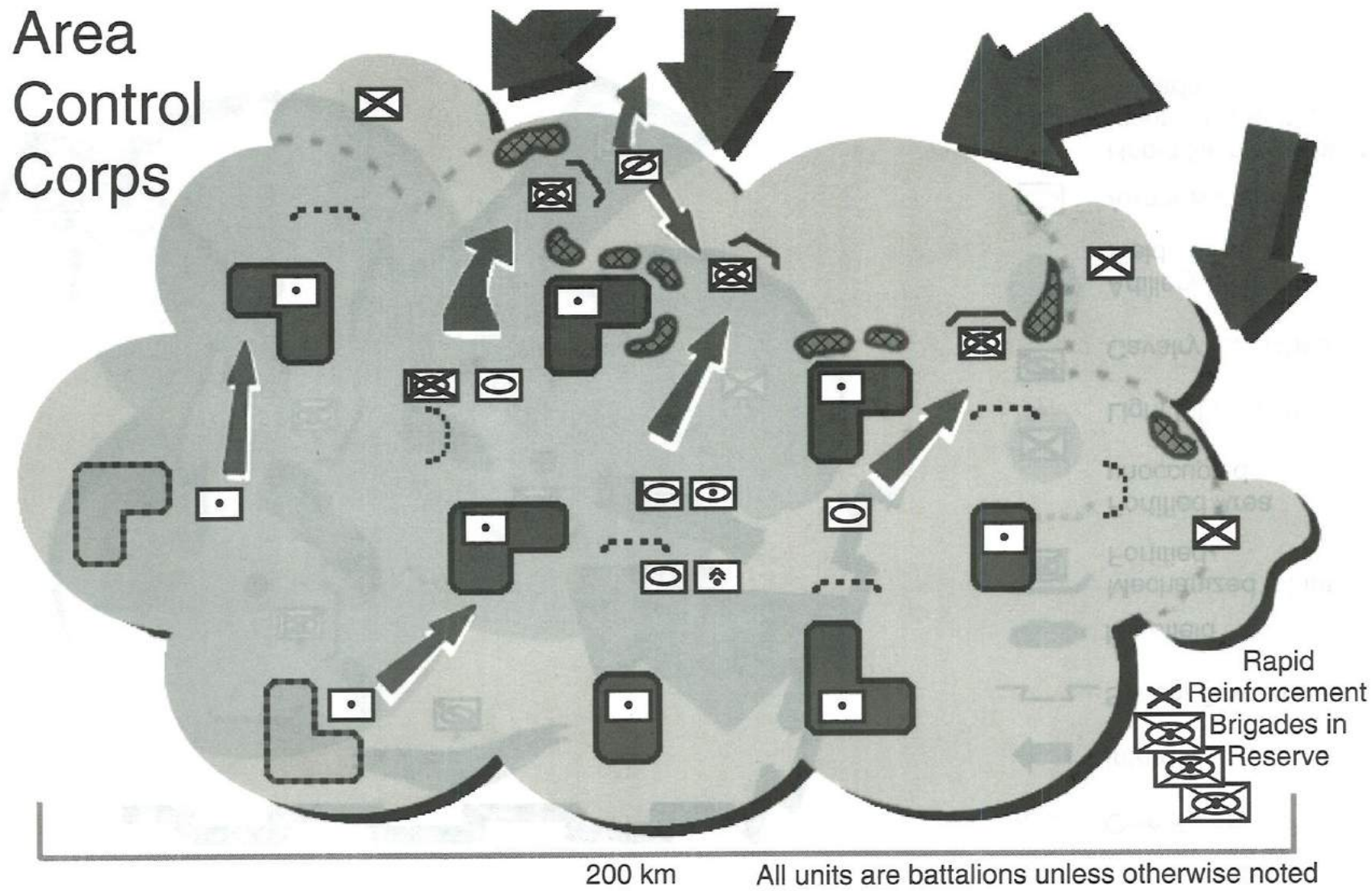
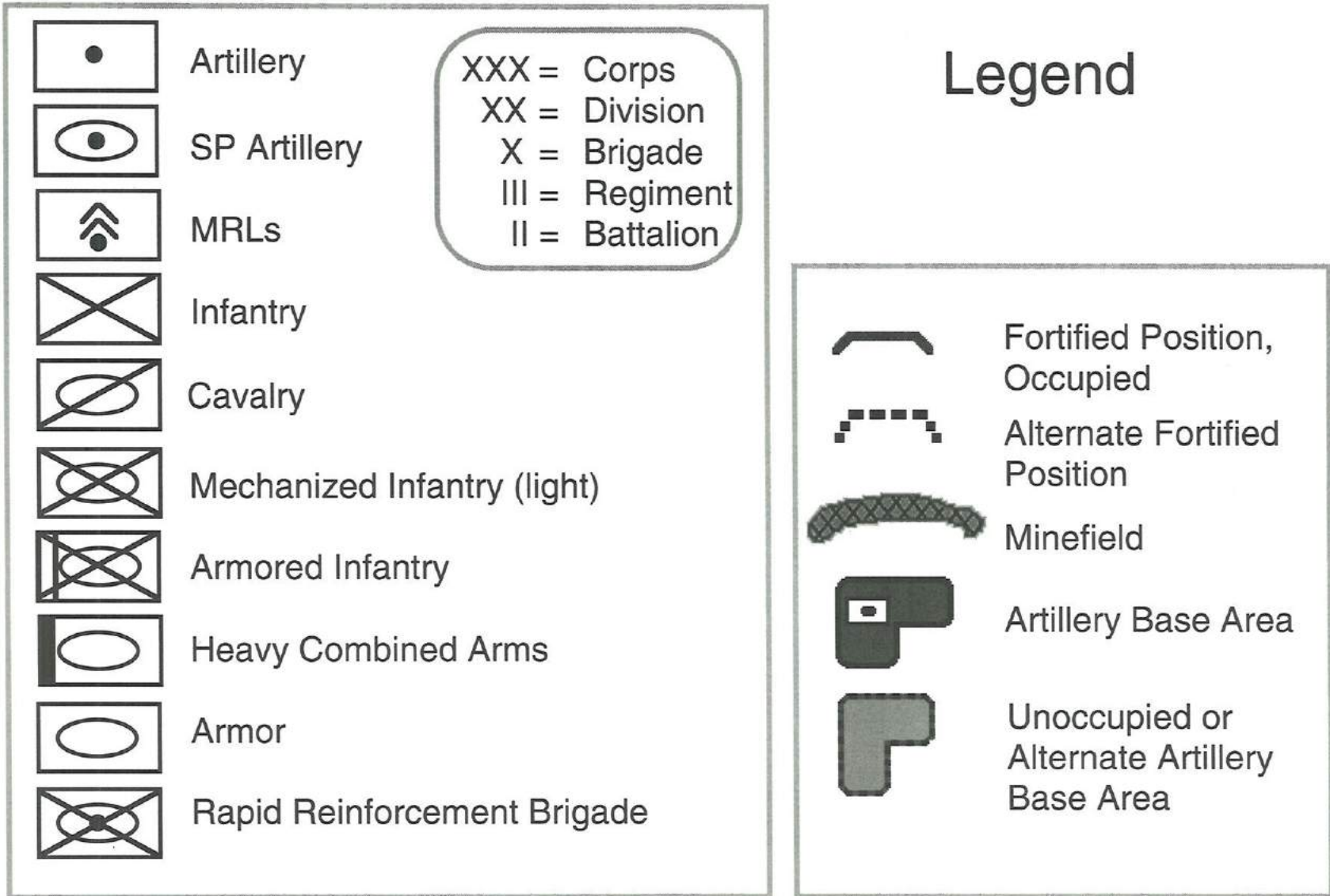


Figure 25



In order to ensure optimal force allocation or to meet unexpected threats, some light mechanized and artillery units serve as an operational reserve. The lower the overall force-to-space ratio, the higher the proportion of operational reserves in the national force mix. In order to meet CBD's nonprovocation criteria, however, these forces would not be structured or equipped for tactical attacks. Their role is to provide the overall system with some capacity for rapid and flexible counter-concentration on the operational (or "grand tactical") level, while minimizing the provocative potential this might entail. This goal is assured by decoupling defensive and offensive mobility: the units are highly mobile operationally, but because they lack a strong capacity for tactical attack, this mobility does not translate into an offensive capability on the operational level. Travelling on light mechanized vehicles or in transport helicopters, the proposed operational reserves would be capable of swift, long marches, thus ensuring optimal force allocation. Once they have arrived at the right spot, they would plug into the area scheme, adding their infantry and substantial indirect fire assets (thus, thickening the web as needed). Like their network counterparts, the light mechanized infantry of the operational reserve would fight in a defensive, terrain-oriented mode.

Figure 23 depicts an artillery brigade area and network elements being reinforced by both the corps-level armored brigades and an Independent Rapid Reaction Brigade.

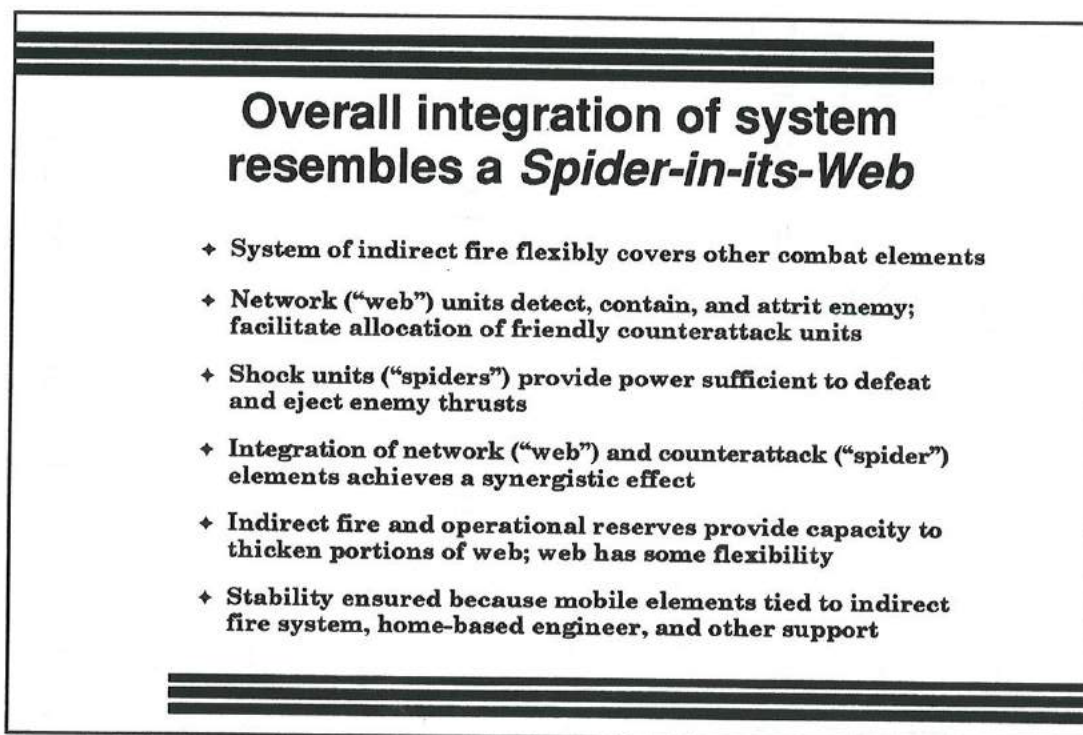


Figure 26

The overall integration of the system adheres to a "spider-in-its-web" principle. Two aspects of the analogy are relevant: first, the synergy of spider and web, which amplifies the power of both elements; second, the interdependence of spider and web, which limits the independent potential of the spider forces. All units with more than local mobility -- particularly counterattack elements and operational reinforcements -- are tailored and equipped to be dependent on the underlying defensive web structures which provide informational, logistical, engineer, and fire support.

The web or network does more than simply tether mobile elements to home territory. It also (1) frees them from having to carry around many necessary support elements, thus improving their speed and flexibility; and (2) it acts to detect, contain, and attrit invading units, thus easing some of the time pressure on armor units and operational reinforcements. In turn, the mobile elements stabilize the web wherever and whenever it faces a critical challenge. Hence, the network elements can achieve secure area-coverage in a cost-effective fashion -- that is, without having to infuse every locality with enough "on-the-spot" combat power to defeat a main attack should it come. Overall the synergist cooperation of the different elements operating on prepared, friendly ground permits a better exploitation of increasingly scarce defense resources.

Figure 24 presents a view of an entire ACC with an IRRB held in reserve off to the lower right. All units in the picture are battalions unless otherwise noted. Figure 25 presents a unit legend. The ACC incorporates three artillery brigades allocated among nine base areas, plus one self-propelled artillery and one rocket artillery battalion. Among its other battalions are one cavalry, three armor, one combined-arms (heavy), three light mechanized infantry, one armored infantry, and three light infantry. In the depiction mobile elements are moving forward to block an incursion before commencing flanking and envelopment attacks. Two artillery battalions have left their base areas and are moving to reinforce other base areas. Several heavier elements are holding back slightly (at the center of the corps area) while the aggressor commits units. All told, 23 maneuver and artillery battalions are shown deployed in the corps area with another 15 standing by in three operational reserve brigades. Also note the use of fortified positions and minefields to shield forward deployed units and canalize the invading force.

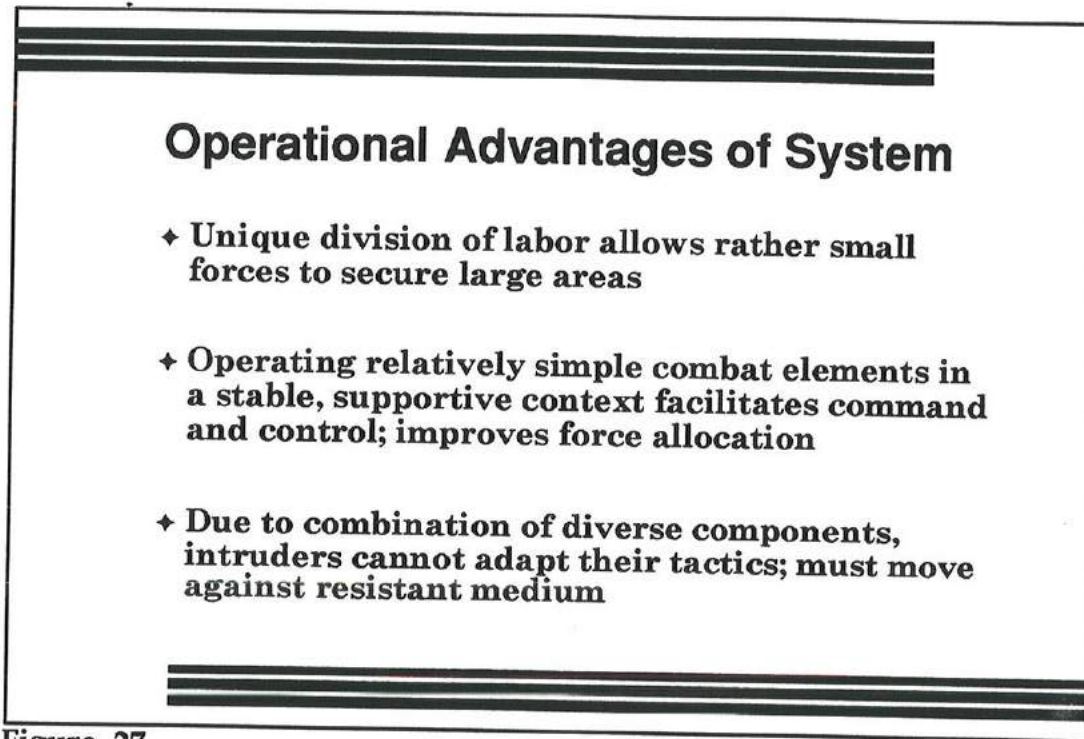


Figure 27

"Sword and Shield" or Spider-in-its-Web?

The key to the CBD system's unique efficiency, cost-effectiveness, and nonprovocative character is *defensive synergy*, and *not* the simple bifurcation of the defense into "offensive" and "defensive" elements. This point is lost on advocates of "sword and shield" structures, which strive for an efficient nonprovocative character, but end up exhibiting the same dangerous weaknesses found in more offensively-oriented forms of defense.

Typically, "sword & shield" models (Figure 28) combine a shallow infantry/engineer barrier along a threatened border with a large operational reserve of armor and artillery that is held back from the border but that possesses a high degree of offensive mobility. The shallowness of the barrier makes fast, accurate deployment of reserves absolutely vital. The homogeneity of the barrier simplifies the aggressor's task and, thus increases the probability of breakthrough.

Synergy between the sword and shield components occurs sporadically and superficially. Due to poor synergy, the operational reserves need a high unit weight. This slows them down, thus creating a need for redundancy to ensure accurate and timely allocation. Finally, because the

operational reserves are quite large and comprise typical self-contained heavy units, they suggest a threat of cross-border attack.

By contrast, the spider-in-its-web system (Figure 29) augmented by defensively-oriented operational reserves (1) integrates armor and artillery in an area-covering system, relying on the synergy of the elements to reduce the demand for armor, (2) deploys the system in a depth sufficient to absorb rather large attacks, and (3) utilizes a smaller, defensively-oriented operational reserve -- an option made viable by the depth and defensive synergy of the spider-in-its-web system.

At first look, the sword and shield system does seem to derive one worthwhile advantage from the capacity of its sword elements to operate in an offensive mode independently of the shield: The armored "sword" can rapidly redeploy to meet and destroy a threat emerging from an entirely undefended direction. However, the most realistic threat of this kind is a large-scale enemy *desant* -- and armor is too heavy and slow to deal with it in a timely way. By contrast, a typical CBD system would rely for a quick response on home-guard militia, who provide rear area security and object defense. CBD's defensively-oriented operational reserves would reinforce the home guard with substantial artillery and light mechanized assets, including tank destroyers. (If necessary, some of the heavier spider elements could eventually add their weight as well.) Significantly, should the CBD operational reserve be used in this way to meet an unexpected "rear" area threat, the *immediate* defensive power of the "forward" spider-in-its-web system would not be dangerously diminished. This constitutes a critical advantage over the sword and shield system because it is precisely by posing a rear area threat that an aggressor might hope to entice the sword elements into abandoning the forward shield, which is very vulnerable on its own.

Figure 28

Sword & Shield: Barrier Defense with Large Counter-attack Element

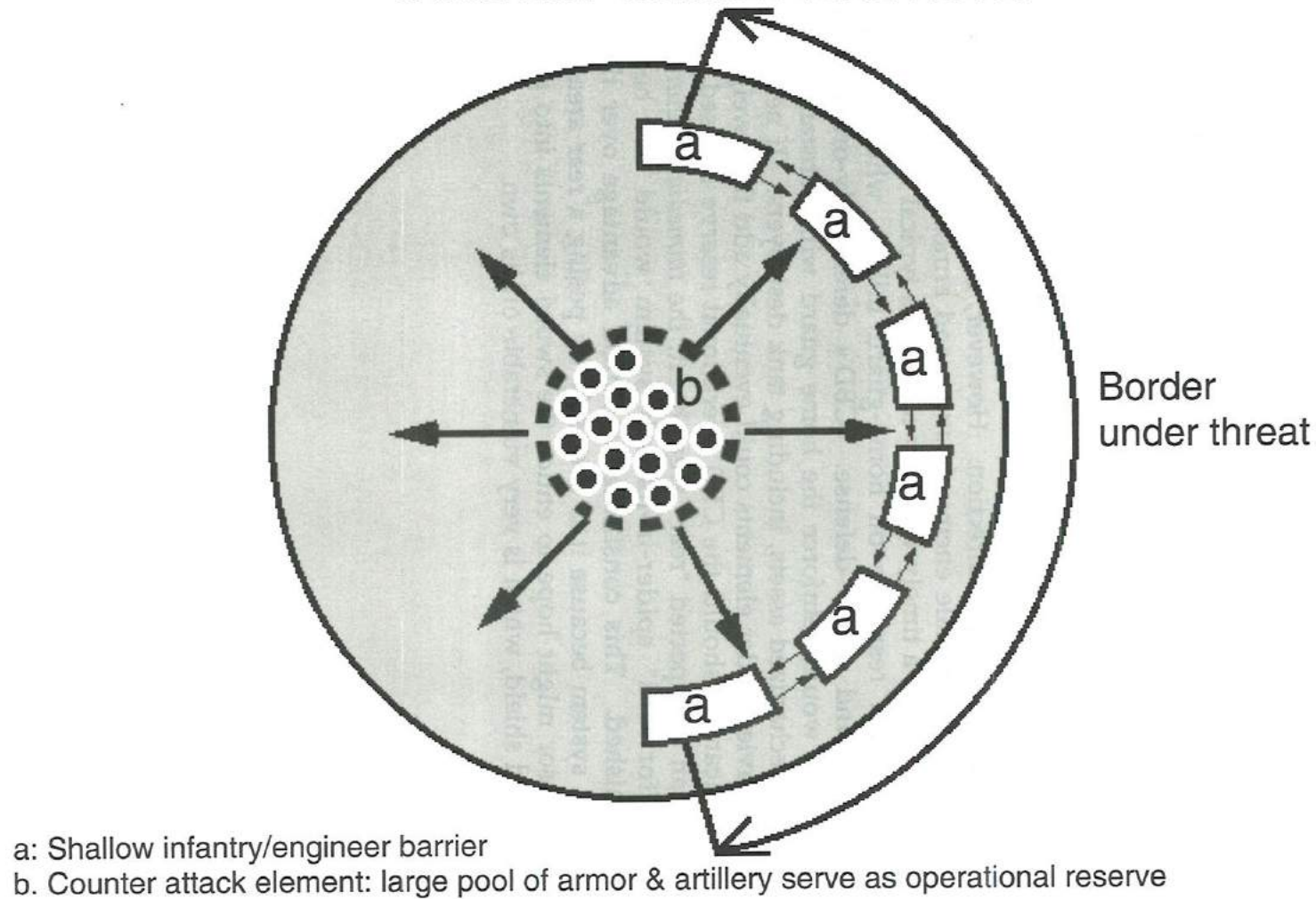


Figure 29

CBD System: Spider & Web with Defensive Support

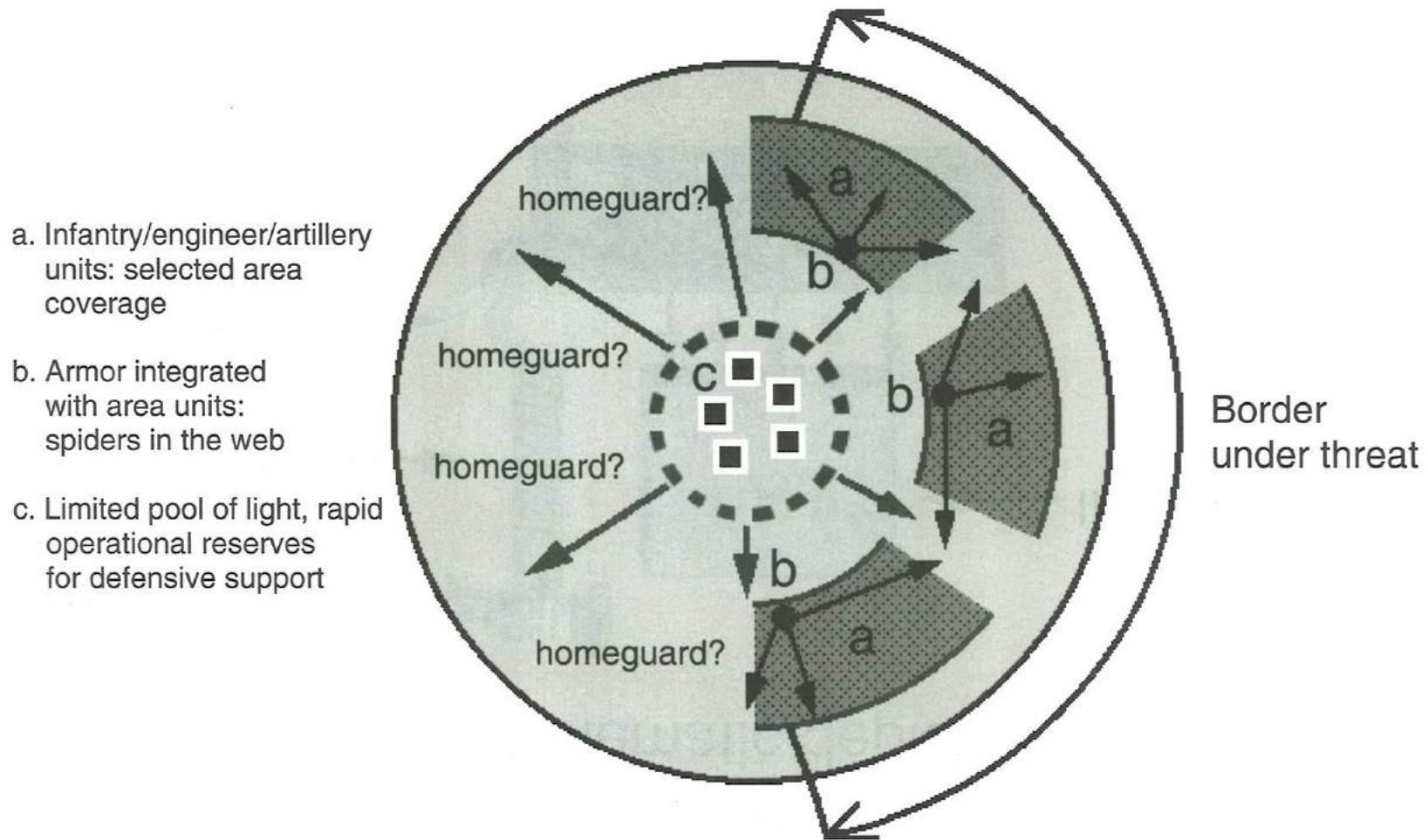
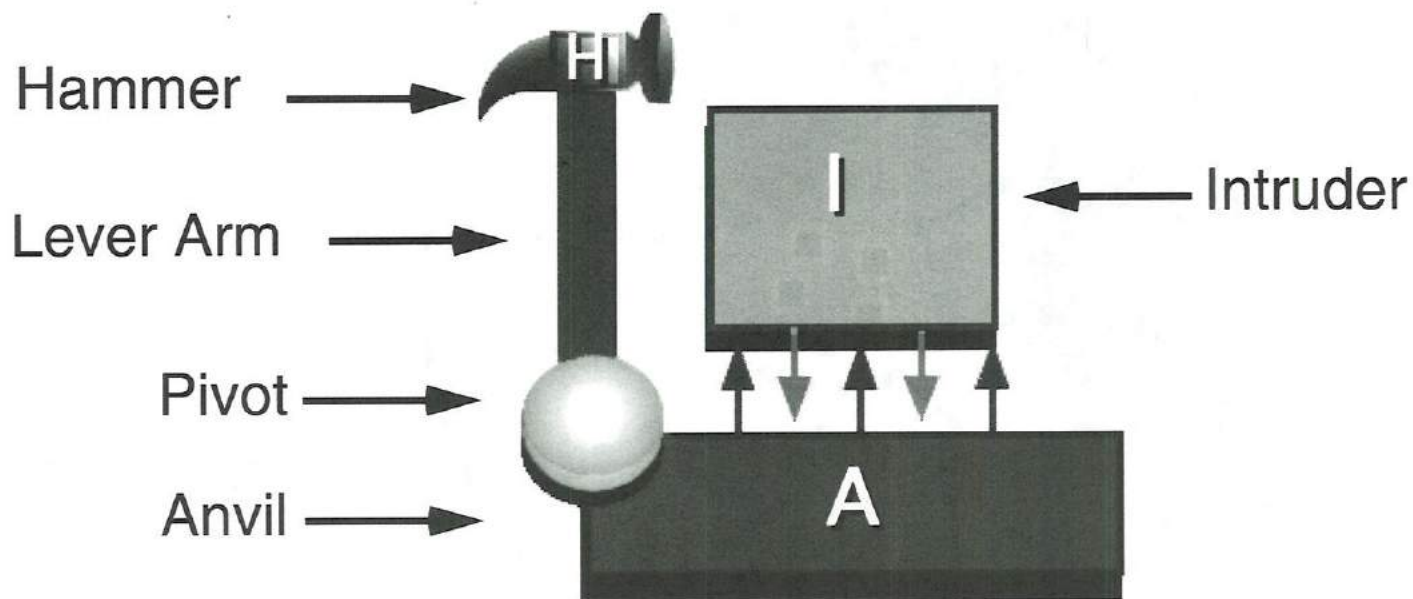


Figure 30

Hammer & Anvil (schematic depiction)



Confidence-Building Defense:

Tactical Maneuver Principles



Study group on Alternative Security policy
(SAS)

•
Project on Defense Alternatives
(PDA)



When the CBD force elements begin to engage the intruder's units, they will employ intensive maneuver and active defense tactics. Much of the recent enthusiasm for maneuver warfare has too closely identified the concept of "maneuver" with "movement" *per se*. From this perspective, a defense posture based on a relatively-static, terrain-oriented network might seem inconsistent with maneuver. However, this misconstrues both maneuver precepts and the nature of CBD structures which, in fact, have been designed to facilitate maneuver.

Perhaps the most common expression of maneuver tactics is the "hammer and anvil" variation. Figure 30 represents the elements of this variation in schematic form:

I represents an Intruding force,
A represents a friendly holding force or "Anvil," and
H represents a friendly counter-attack element or "Hammer."

The Anvil serves to halt and fix the intruder through engagement. The Hammer then pivots on the holding force to deliver a flanking attack or, better yet, to execute an envelopment. The key here is not "movement" as much as "relational movement" (and the important word in this phrase is

Figure 32

Hammer & Anvil (realistic depictions)

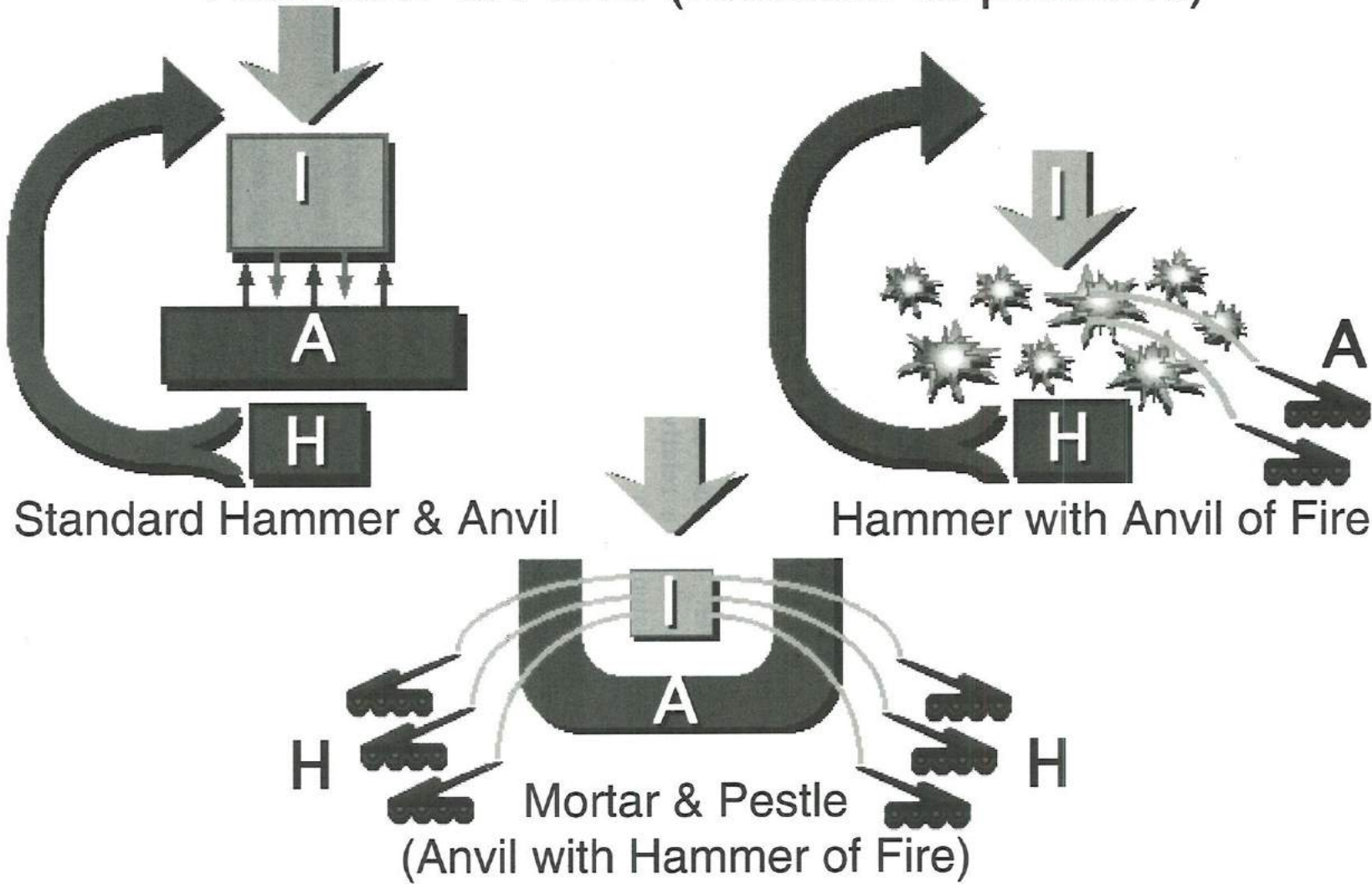
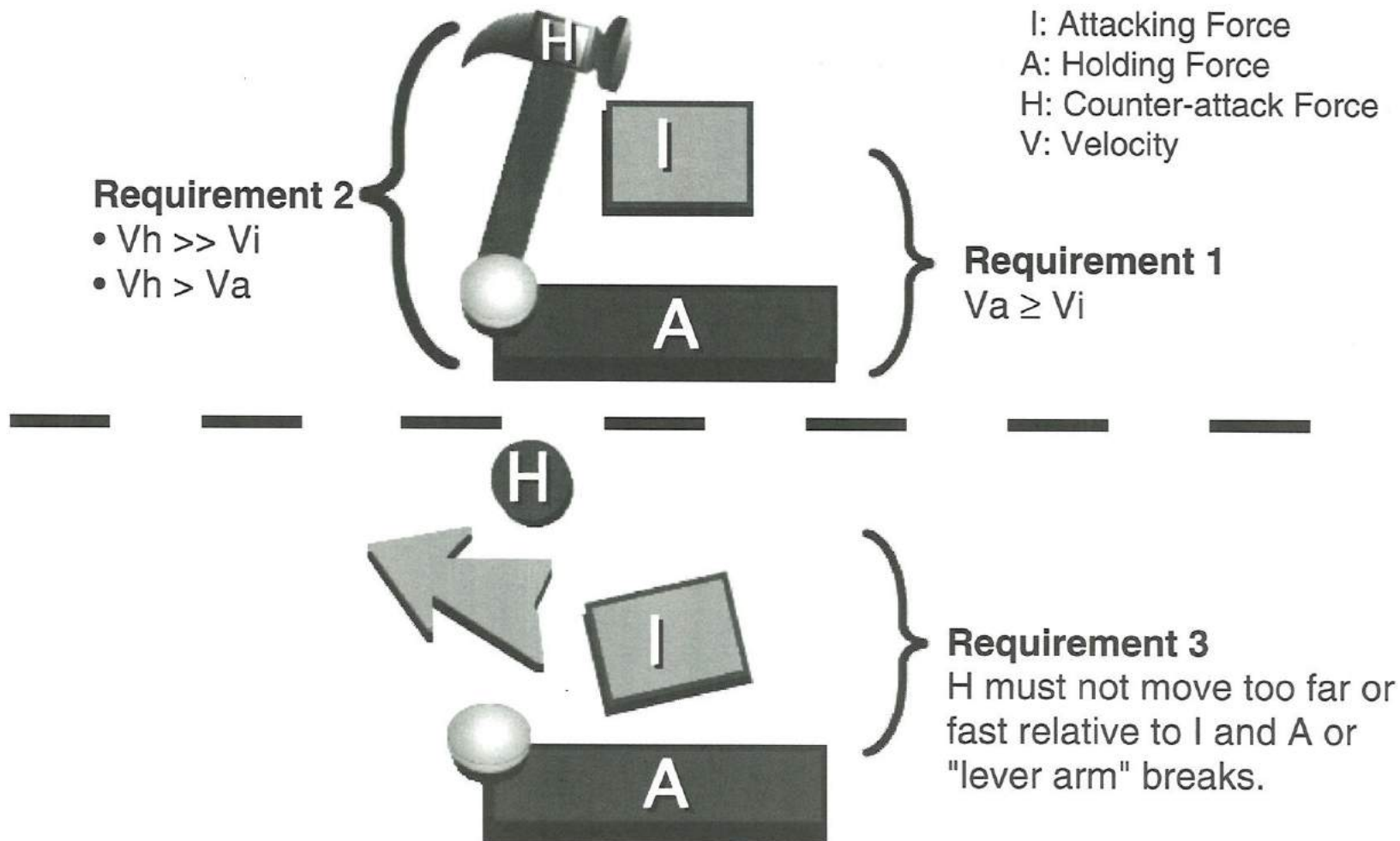


Figure 33

Hammer & Anvil: Requirements of Success



"relational"). Using "hammer and anvil tactics" the defenders establish a relationship of "leverage" over the intruding force and compromise the power of the intruding force by threatening or attacking its vulnerable flanks or rear.

Figure 32 shows three realistic versions of the "hammer and anvil." In the first, the anvil would comprise light mechanized units fighting on prepared ground, supported by artillery, and (if necessary) reinforced by armored infantry. Heavier units (armor, armored infantry, and self-propelled artillery) would most often comprise the Hammer. In the second depiction (on the right of the Figure), artillery alone creates an anvil of fire, around which the hammer pivots. In the third, which is also known as the "mortar and pestle," the intruder is trapped within a defile and/or a "mortar" of light and heavy units, while artillery serves as the hammer.

Returning to a schematic presentation, Figure 33 defines the requirements for successful completion of the hammer and anvil. The requirements are expressed in terms of Velocity (V), which here implies both rate of advance and direction:

Requirement 1 -- in order to fix the intruder, the Anvil must be able to move at least as fast as the intruding force. ($V_a \geq V_i$)

Requirement 2 -- the Hammer must be able to move much faster than the Intruder ($V_h \gg V_i$). Given this and Requirement 1 ($V_a \geq V_i$), it follows that the Hammer must also be able to move faster than the Anvil. ($V_h > V_a$)

Requirement 3 -- the Hammer must not move too far or too fast relative to the Anvil and the Intruder or the relationship of leverage between friendly and intruding forces breaks down. This is because "leverage" partly depends on the maintenance of a secure connection between the Hammer and Anvil. This helps prevent an enemy exit and ensures support for the Hammer. Should the lever arm fail or be compromised, the Hammer could become isolated from the Anvil -- a situation that would diminish the strength of both.

How the Spider-in-its-Web System Supports Hammer and Anvil Tactics

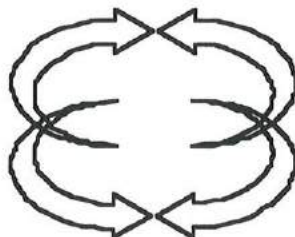
- ✦ Requirement 1 ($V_a > V_i$) easily fulfilled: in all cases the network facilitates V_h while impeding V_a
- ✦ Requirement 2 ($V_h \gg V_i$) can be fulfilled because:
 - Network screens H as it moves, while I remains engaged with A
 - Network eases logistic and C3I strain on H thus enhancing mobility
- ✦ Requirement 3 can be met because network provides H with multiple, alternative pivots and it reinforces lever

Figure 34

The Spider-in-its-Web system can meet all three requirements with a unique degree of efficiency, principally due to the contribution of its area-control elements. Because these facilitate the action of the Anvil while impeding that of the Intruder, $V_a > V_i$ is easily fulfilled. Because the "web" elements screen and support the mobile Hammer, it can outpace and out-maneuver the Intruder. And finally, because the web reinforces the lever and provides the Hammer with multiple alternative pivots, it helps maintain the integrity of the system against enemy countermoves.

Confidence-Building Defense:

Addendum on Maneuver Warfare



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CBD: Addendum on Maneuver Warfare

In the words of one strategic analyst, attrition is "war waged by industrial methods." In the attrition approach, the adversary is defined as a series of targets to be "serviced" (that is, destroyed). Other than the achievement of initial surprise in the attack, there is little art or artifice in the approach. As an ideal type it takes as its prime objective the physical destruction of the adversary's material strength; it associates success with material superiority; and it adopts as a basic principle the simple imperative; "more."

In maneuver warfare, by contrast, "the goal is to incapacitate by *systemic* disruption" and dislocation. The target is the *coherence* of the adversary's combat systems, methods, and plans. The hope is that a very selective action can have a cascading effect -- an effect disproportionately greater than the degree of effort. An analogy from architecture would be the removal or destruction of the keystone of an arch. Here the arch is conceived as a "system" whose dynamic element is gravity which has been converted to useful purpose by the positioning of the keystone -- the removal of which disrupts the stability of the system, resulting in its destruction.

Principles of Maneuver Theory

- ✦ **Identify and compromise enemy "centers of gravity"**
- ✦ **Set the terms of battle: accentuate friendly strength and enemy weakness; minimize friendly vulnerability and enemy strength**
- ✦ **Find and exploit "gaps;" align friendly strength against enemy weakness**

Figure 36

We distinguish three principles of maneuver: (1) identify and target enemy centers of gravity, (2) set and maintain favorable terms of battle, and (3) find and exploit "gaps" in enemy strength.

(1) In the example of the arch, the keystone is a "center of gravity" (in the strategic, not literal sense). Notably, it is not a "weakness," nor a "strength" of the system (arch), but rather a *source* or *enabler* of strength. In war, centers of gravity are not absolute, but instead *relative* to the adversary's character, methods, objectives, and plans. (In the First and Second World Wars, for instance, one of the Allied powers' strategic centers of gravity was the secure industrial capacity of the United States, which Germany targeted indirectly by means of submarine warfare.) If centers of gravity have a universal or defining attribute, it is this: attacking them successfully has a cascading or catastrophic effect on enemy morale, organization, and operations. Centers of gravity exist at every level of war, and the epitome of maneuver is for a unit to upset an enemy center at one or more levels higher than its own level of organization, and to do so with minimal combat.

(2) Setting the "terms of battle" (which among other things may include time, place, pace, intensity, and type of engagement) means ensuring that combat proceeds under conditions favorable to the

defense. In general, the aim is to set terms that *accentuate* friendly strengths and enemy weaknesses while *minimizing* friendly vulnerabilities and enemy strengths. The challenge for the practioner of maneuver is to establish and maintain this condition.

(3) Despite its linear connotation, the injunction to "find and exploit gaps" means aligning friendly strength against enemy weakness in the combat process. Success in setting the terms of battle facilitates this effort, while restricting enemy opportunities to exploit gaps in friendly strength.

The three aspects of maneuver operate together to achieve disproportionate effects, in the following fashion: centers of gravity define the objective, the imperative to find and exploit "gaps" defines the approach to the objective, and setting the terms of battle facilitates the effort overall while controlling for enemy counter-initiatives. Indeed, the greater the success in setting the overall terms of battle, the easier it is to find gaps and compromise centers of gravity.

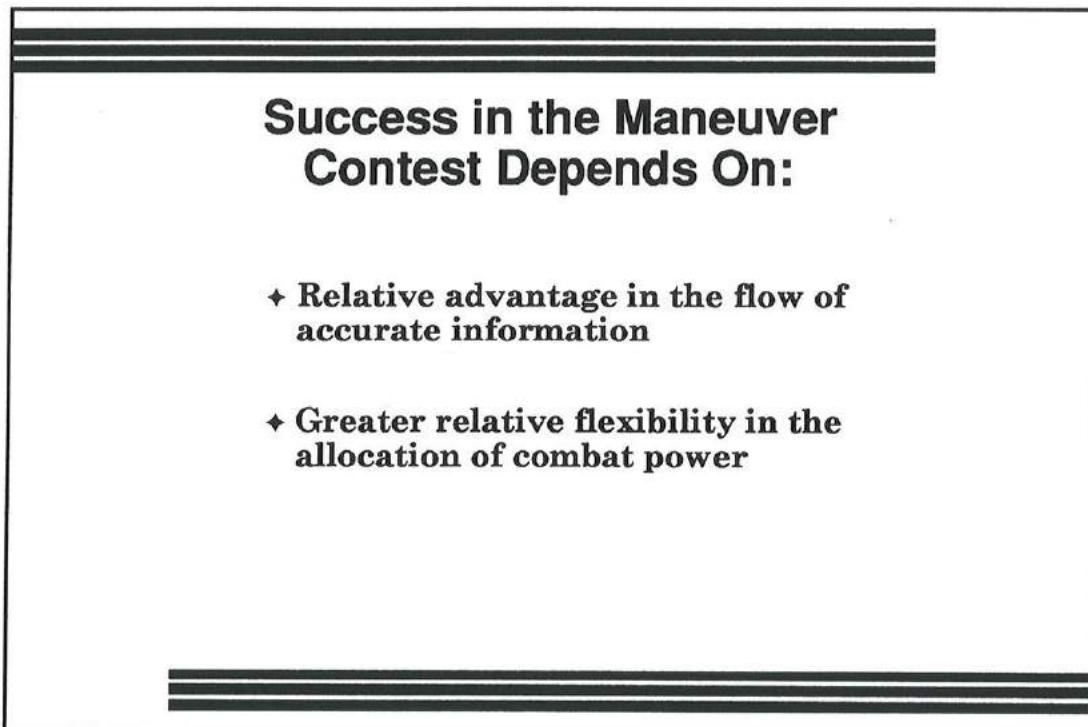


Figure 37

Any significant success in the maneuver contest depends on (1) achieving and maintaining a relative advantage in the flow of accurate information and (2) possessing greater relative flexibility in the allocation of combat power. The CBD approach fulfills these criteria in two ways:

First, it gains an information advantage by (i) emphasizing operations on territory the defense knows well, (ii) constructing an area-covering network with eyes and ears everywhere, (iii) targeting enemy information assets in detail, and (iv) adopting an organizational form that is complex from the outside, but simple from the inside. The very organization of the system is an information asset because it ensures an active "sensing" presence across the field of action.

Second, it gains a force allocation advantage by (i) preparing the battlefield with complex engineering works, (ii) using indirect fire and terrain-oriented combat to amplify the potential of lighter, faster units, (iii) partially substituting the mobility of fire for that of troops, and (iv) providing support to heavier units that shortens their tails and thus facilitates their rapid allocation.

In these ways the system sets favorable terms of battle, transforming the battlefield itself into a medium supportive of friendly maneuver and resistant to enemy initiative.

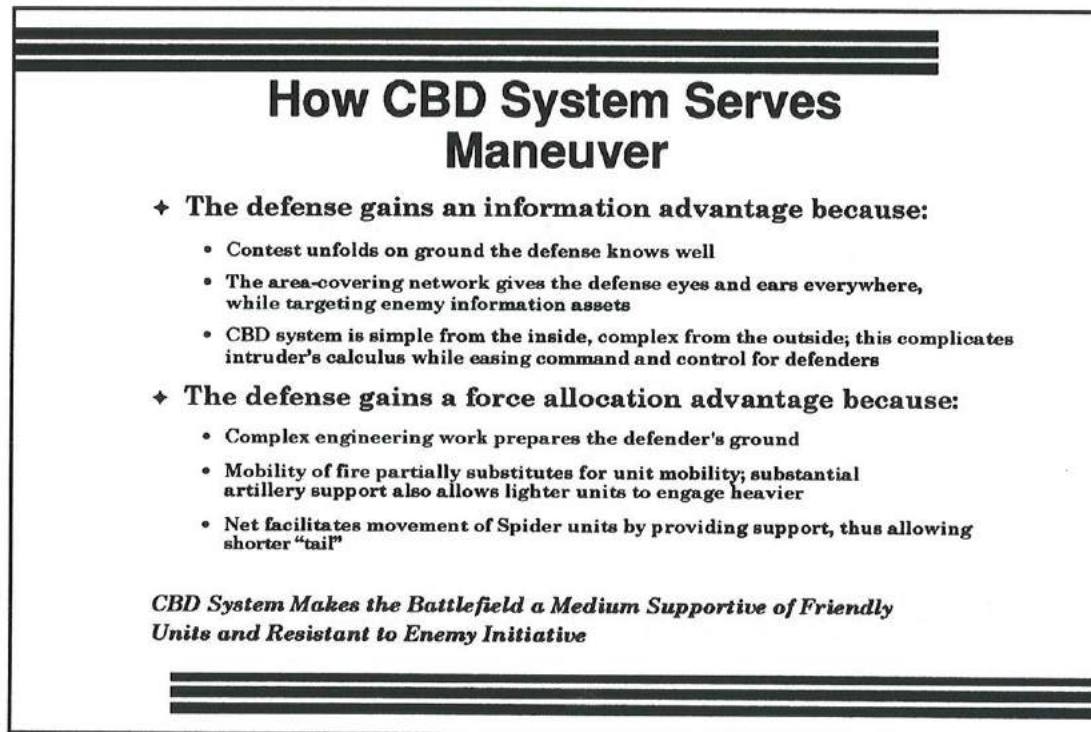


Figure 38

Confidence-Building Defense:

Evaluation of the System



Historical Evidence

In recent history three examples stand out to support the viability of terrain-oriented, defensively-specialized military structures: the Russo-Finnish "Winter War" (1939-1940), the Battle of Alam Halfa (summer 1942), and the Battle of Kursk (summer 1943).

In the *Winter War*, the Finnish Army relied on poorly equipped, guerrilla-style light infantry, operating without sizable heavy reserves, to thwart a large-scale mechanized thrust. Despite an eventual Soviet victory resulting from a grotesque imbalance of forces, Finnish achievements in minimizing damage and terrain losses remain remarkable. Thousands of low-scale tactical victories added up to strategic success.

At *Alam Halfa* the British Army finally stopped Rommel's "Afrika Korps" by employing a checker-board system consisting of artillery/infantry strong points secured by mechanized cavalry and backed up by relatively small elements of heavy armor in a counterattack function. The tactical success of the British forced the Germans to give up an operational, if not strategic, offensive.

Recent Historical Support for Defensively Specialized Structures

- ✦ **Alam Halfa – British Army vs. Rommel's Afrika Korps, summer 1942**
- ✦ **Kursk salient – Red Army vs. Wehrmacht, summer 1943**
- ✦ **Winter war – Finnish army plus irregulars vs. Red Army, winter 1939/1940**

Figure 40

In the *Kursk* salient, the Red Army's layered defense -- up to 250 km deep and 500 km wide -- was based on infantry/engineer/artillery components and supported by heavy armor. The tactical-operational victory won by the Soviets was of strategic relevance. This is paralleled by the fact that the "battle" of *Kursk* had, indeed, grand dimensions (covering an area larger than most East European countries of today).

A review of these campaigns and battles should serve to remove any sense that defensively-oriented operations imply passivity or that they need rely on stolid fortifications like those of the Maginot Line. In all cases the defensive battle involved intensive maneuver either within and around a prepared area or unbounded by field preparations but heavily dependent on terrain. The examples should also dispel any notion that defensively-specialized structures entail homogenous light units or weapon monocultures. Instead, the examples illustrate a distinctive combined-arms synthesis -- one that draws on the full range of arms but combines them in a unique fashion and ratio. The battles of *Alam Halfa* and *Kursk* show artillery ascendant in an anti-armor role; the *Winter War* draws attention to the potential of lighter troops -- as does the action of anti-tank infantry at *Kursk*. Finally, the three cases suggest the flexibility of defensive arrangements. The applications cover areas ranging from 2500 square kilometers to over 100,000. Defensive preparations range from the intensive (*Alam Halfa*, *Kursk*) to the selective (Finland). The Finnish case,

in particular, shows that defensive principles do not imply a single, uniform application even within a single nation. This flexibility makes the approach relevant to a variety of terrain, demographic, and economic conditions. (See *Background Readings: "Three Recent Historical Examples of Defensively-oriented Military Operations."*)

European Nations That Have Devised Defensive Structures

- Norway
- Sweden
- Finland
- Denmark
- Switzerland
- Austria
- Hungary
- Romania
- USSR (Gorbachev period)

**Typically, network structures integrate locally based
elements with relatively small mobile component**

Figure 41

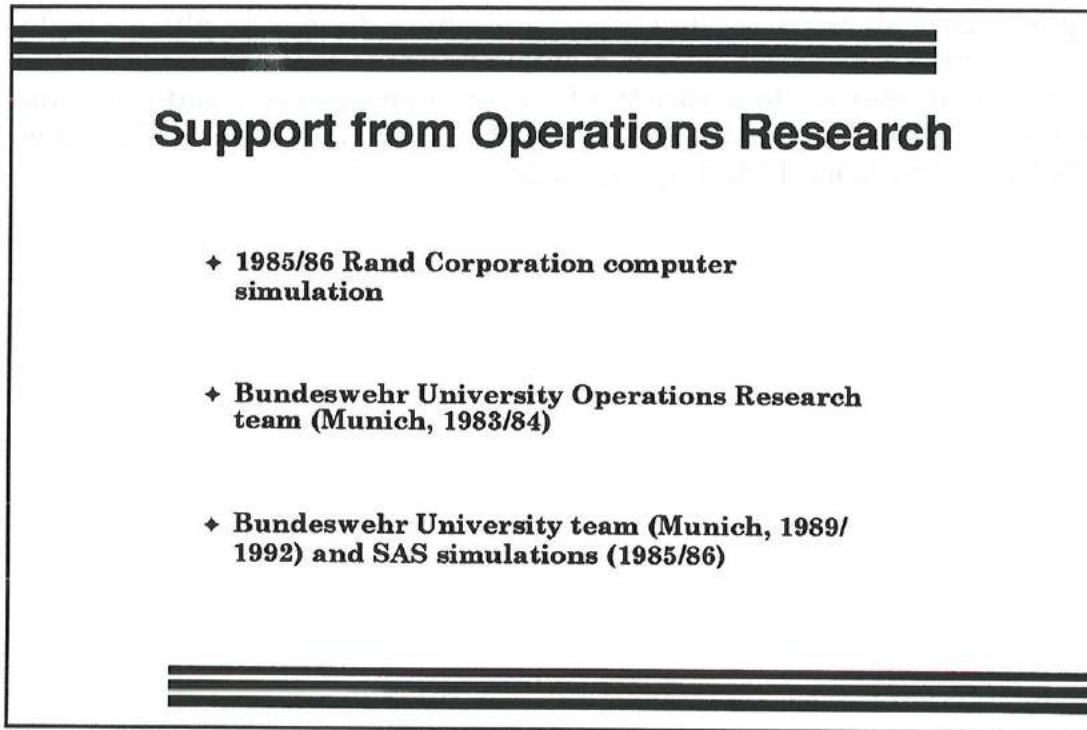


Figure 42

Operational Research

- *Rand Corporation computer simulation (1985/86):*

"Distributed Area Defense" using light fluid (motorcycle) infantry + direct and indirect fire precision-guided weapons stops or seriously attrits much larger mechanized forces (Battalion vs. up to one division).

- *Bundeswehr University Operational Research team (Munich, 1983/84):*

Obstacles + dug-in infantry or special light cavalry (both with mix of simple and advanced anti-tank weapons) proved more cost-effective than multipurpose mechanized formations.

- *Bundeswehr University team (Munich, 1989/92) and SAS simulations (1985/86):*

Moderately mobile local elements (structured for defense) + operational reserves (not capable of tactical counterattack): at operational/strategic level defense is more efficient than offense.

Rand Corporation Computer Simulation (1985/86)

In 1985/86 analysts at the Rand Corporation in Santa Monica, California USA, analyzed the utility and effectiveness of one version of "distributed area defense." In their model the area defense units were of two types, direct fire units (equipped with portable precision weapons) and less-numerous indirect fire units (operating precision missile systems mounted on armored reconnaissance vehicles). Both types of units would deploy in a defense area 50 to 100 kilometers deep all along the inter-zonal border. The direct fire units would operate primarily along the edges of wooded and urban areas, forcing an invader to use main routes. The indirect fire units, operating from concealed positions in woods and towns, would bring large volumes of fire to bear on the enemy forces as they moved through the open areas. The Rand design lacked typical maneuver or "shock" elements.

To evaluate their concept Rand used a methodology called Manual Assisted Gaming of Integrated Combat (MAGIC). This involved (1) a three-dimensional terrain board representing a 500-square-kilometer patch of Germany, (2) a computer program that relied on a Defense Mapping Agency database to help select defense positions and enemy attack routes and (3) another computer program to assess the result of force-on-force engagements. The Rand analysts conducted numerous runs of a scenario in which two Soviet regiments attacked through an area held by a battalion-sized area-defense unit. They found that although the lead Soviet regiment successfully crossed the area, it lost virtually all of its tanks as well as many other vehicles in the process. The second regiment also lost a very significant portion of its tanks and vehicles. The area-defense indirect fire units contributed substantially to the attrition of the attacking units.

Several enemy countermeasures to area defense were also tested, including increased use of attack helicopters, artillery barrages, and infantry sweeps. Attack helicopters were found to be highly vulnerable to the air defense capability of the area units. Artillery barrages and infantry sweeps were somewhat more successful but required the enemy advance to slow to a mere crawl. Successful neutralization of the dispersed area elements by artillery required barrages that were both very intensive and extensive, consuming huge volumes of ammunition. The infantry sweeps were less costly in material, but more costly in lives; moreover, the authors noted that they had not given their area defense units a strong anti-personnel capability -- a condition that could be easily remedied. In sum, the Rand analysts concluded that "the distributed area-defense concept has considerable promise."

Bundeswehr University Operational Research Team (1983/84)

In 1983/84 a team of the Bundeswehr University in Munich (H.W. Hofman, R.K. Huber, and K. Steiger) carried out "a comparative systems analysis of alternatives for the initial defense against the first strategic echelon of the Warsaw Pact in Central Europe." The project title was "On Reactive Defense Options."

Using a battalion/regimental-level Monte Carlo-type simulation model ("BASIS"), the team ran several hundred battle experiments on four "active" and ten "reactive" defense options -- assuming a variety of terrain conditions typical of central Europe. The active defense options represented existing and hypothetical armored infantry and tank battalions of the Federal German Army. The reactive ones were derived mostly from "alternative defense" proposals generated in West Germany, but they also included force elements representative of the Austrian and Swiss approach.

The results supported what the authors called the "defense efficiency hypothesis," which holds that at the tactical level (at least) the advantages that accrue to a defender are most effectively exploited by units specialized for defensive operations (that is, "reactive" defense units.) In the study, Swiss stationary infantry, a "fire barrier" formation of limited mobility (designed by the OR team), and SAS-style cavalry proved to be particularly successful. The study also made it clear that reactive defense elements must have a balanced weapon mix. Otherwise they are extremely sensitive to visibility deterioration. (For recent work on operational allocation see R.K. Huber, "Multipolare Sicherheitssysteme fur Europa," *Oster. Milit. Zeitschrift*, No. 5, 1990, pp. 412-417.)

Bundeswehr University and SAS Team Simulations (1985/86)

In 1985/86 the Study Group on Alternative Security Policy (SAS) conducted a series of wargames to examine Soviet blitzkrieg options *vis-a-vis* NATO. These games were map-based and involved military officers as well as civilian defense experts from three countries, playing the leadership of those ground forces which were, at that time, facing each other in the North German plain: Soviet/East German *versus* Dutch, West German, and British troops. These games did not involve computer simulation. Instead, an umpire dealt with tactical questions (for instance, about march times) and made judgements about the outcome of encounters. The umpire came from a neutral country and was assisted by a NATO officer and an "alternative defense" expert.

The exercise suggested that a Soviet first echelon attack (with characteristically beefed-up forces), achieving strategic surprise (Christmas Eve Scenario), could plausibly penetrate NATO defenses to a very significant depth. This vulnerability was attributed to two factors: too many "gaps in the fence" and armored reserves that were too slow and inflexible to seal the gaps in a timely fashion. By contrast, it was shown that a spider-and-web model had the potential to solve these problems: A "distributed area defense" would have accomplished tactical delay everywhere -- thereby creating a favorable context for the use of highly-mobile light operational reserves.

Common Criticisms of CBD Approach

- ✦ **CBD is too light in armor to stop and defeat armor invasion force**
 - ✦ **CBD elements are too dispersed and static to rapidly concentrate against offensive thrust**
 - ✦ **Lack of CBD cross-border attack threat gives aggressor freedom to devote entire force to invasion**
 - ✦ **CBD would weaken deterrence because it cannot threaten cross-border punishment**
-
-

Figure 43

Is CBD too Light in Armor to Defeat an Invasion Force?

CBD system replaces excess heavy units with anti-armor elements:

- Non-heavy direct and indirect fire systems
- Field fortifications, obstacles, and mines

These slow, attrit, and canalize invading armor, and multiply the effect of friendly armor

By contrast, NATO and former-WTO practice put too much emphasis on armor:

- Used it for roles better suited to lighter, more mobile forces
- Used redundant armor to compensate for lack of area coverage
- Required excess armor for cross-border offensive strategy

Figure 44

Are CBD Elements too Dispersed and Static to Rapidly Concentrate?

- ✦ Essential CBD units are highly mobile within defense area
- ✦ Because of net support, CBD mobile units are faster and more flexible than traditional counterparts
- ✦ Net also relieves time pressure on CBD counterattack units by slowing invader
- ✦ NATO and former-WTO have practiced a risky alternative: all units very mobile but concentrated in a few places, leaving large gaps

Figure 45

Does Defensive Posture Give Aggressor Freedom to Devote All Assets to Invasion?

- ✦ Dedicated aggressor is *not* averse to risk; will hold back no more than minimum from attack, regardless of defender's posture
- ✦ Friendly units most efficient in defensive role on home territory; inefficiency of "offensive defense" would give advantage to aggressor
- ✦ CBD area-covering net provides unique capacity to foil multi-prong attacks

Figure 46

Will CBD Fail to Deter War Because It Lacks Cross-Border Attack Capability?

- ✦ CBD deters by threatening defeat on the battlefield: deterrence by denial
- ✦ The effectiveness of conventional "deterrence by punitive threat" has been overstated
- ✦ Conversely, the strength of "deterrence by denial" has been underestimated
- ✦ Among equals, emphasis on punitive conventional threat will contribute more to instability than deterrence

Figure 47

Confidence-Building Defense: National Application and Implementation



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The specific application of CBD principles presented in this briefing assumes post-CFE conditions in Europe. An earlier application to Cold War conditions is summarized in the article "The Spiderweb Defense," which is included in the appended collection of *Background Readings*. Among the conditions dictating the new application to Europe are lower force-to-space ratios, austerity, a more complex and uncertain strategic environment, and, in some contexts, problems of internal stability and ethnic tension. (SAS/PDA have also developed or are developing applications for the Middle East, South Asia, and South Africa: See "Toward Defensive Restructuring in the Middle East" in the *Background Readings* section.)

Considerable variation is possible within the present model intended for application in post-CFE, post-bloc Europe. Area Control Corps are designed to cover up to 35,000 square kilometers. However, even a medium-size country (100,000 sq kilometers) might need only one ACC deployed across main avenues of intrusion, if the potential threats it faces are limited and coming from one direction. The model makes provision for the use of home guard units and other light infantry outside the immediate coverage of the ACCs -- assuming that internal stability conditions permit greater reliance on these type of forces. The

Independent Rapid Reinforcement Brigades can also operate outside the ACCs in a defensive support mode, eventually supported by ACC armor and artillery elements if need be. Hence, the potential defensive reach of the system is not entirely defined by the extent of the ACCs.

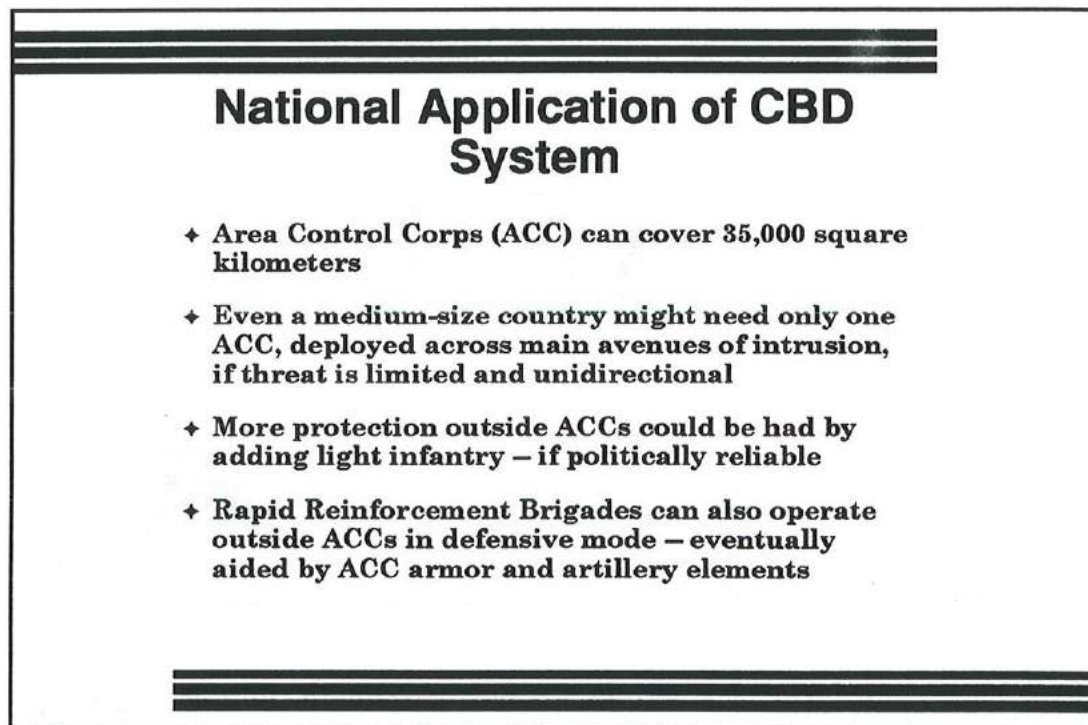


Figure 49

The numbers of ACCs and IRRBs that a nation would deploy depends both on the degree of threat and the density of force that is feasible given resources and other constraints -- such as the CFE Treaty limits on equipment holdings. Generally speaking, if force density or personnel numbers must decrease for any reason, while threat remains constant, the ratio of IRRBs to ACCs should increase.

Figure 50 presents a possible constellation of ACCs and IRRBs for each of several states of Eastern-Central Europe. The illustrative constellations correspond both to area requirements and to CFE Treaty limits on major combat equipment. In most cases, the CBD national equipment holdings are set approximately 15 percent above the requirements for the associated CBD structures in order to allow for replacement stock. The total national CBD holdings for Armored Personnel Carriers and Armored Infantry Fighting Vehicles do not include the CBD requirements for Reconnaissance vehicles and missile-equipped Tank Destroyers. Should any part of the national holdings of Recce and TDM vehicles fit the CFE definitions for APCs or AIFVs, their number would add to the appropriate

column in *Figure 50*. In no case, however, would these push the illustrative CBD total above the CFE-mandated threshold.

An issue related to the national application of CBD structures is mode of implementation. Clearly, multilateral conversion to CBD structures would offer the greatest gains in stability. However, due to its complexity, comprehensive restructuring is difficult to negotiate. (Indeed, even simple quantitative arms reduction measures will be more difficult to devise and negotiate under the new multilateral conditions in Europe.)

CFE Treaty Limits and CBD National Holdings							
	CBD Posture ACC/IRRB	Tanks		APC/AIFVs		Artillery	
Country		CFE	CBD	CFE	CBD	CFE	CBD
Belarus	4/6	1800	680	2600	1000	1615	1535
Czech Rep	2/3	957	340	1367	500	767	765
Hungary	2/3	835	340	1700	500	810	770
Poland	4/7	1730	680	2150	1070	1610	1600
Slovakia	1/2	478	170	683	290	383	380

Figure 50

A process of defensive restructuring should not and need not await multilateral agreements, for several reasons. First, the CBD system is designed to improve a nation's defense potential regardless of the posture of neighboring states. In this respect, it should be treated the same as any good defense modernization plan. Although it cannot close extreme security gaps, it can substantially narrow them -- thus raising a potential aggressor's risks and costs, buying time for the defense, and limiting the potential damage to the defender. All of these results serve to strengthen deterrence. A final reason to avoid delay in implementation is that a CBD posture would save precious resources and ease the economic strain on state and society.

Defensive restructuring would improve security all around, even if adopted unilaterally. It thus offers states a secure means to unilaterally stimulate a process of detente. Short of formal negotiated steps, unilateral transarmament can set in motion a process of informal reciprocal initiatives. Given the difficulty of negotiating the specifics of a multilateral (or even bilateral) process of comprehensive restructuring, reciprocity may offer the surest way forward. A possible middle ground is to reach a nonspecific agreement "to restructure" in accord with some general defensive guidelines, leaving the specifics to a process of reciprocal unilateral steps. However, with or without such agreement, the conclusion reached above remains valid: there is no good security or stability rationale for individual nations to delay in their implementation of defensive structures -- but there are several good reasons to proceed, unilaterally if need be.

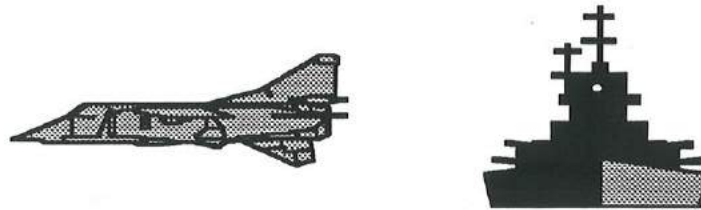
CBD: Unilateral and Multilateral Modes of Implementation

- + **Multilateral transarmament offers the greatest gains in stability**
- + **However, due to its complexity, a comprehensive restructuring is difficult to negotiate**
- + **Defensive restructuring should not and need not await multilateral agreements, for several reasons:**
 - **CBD is wise security policy: it saves precious resources and, *regardless of the postures of one's neighbors*, reduces the options for aggression**
 - **Although CBD cannot close extreme security gaps, it can narrow them and thus strengthen deterrence – even if unilaterally adopted**
 - **CBD contributes to trust among nations and thus creates conditions for multilateral negotiated arms reductions**
 - **Short of formal negotiated steps, unilateral transarmament can set in motion a process of informal reciprocal initiatives**

Figure 51

Confidence-Building Defense:

Principles for Air and Naval Forces



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Air power is today widely recognized as the pre-eminent long-range offensive and surprise attack tool. Although air power can serve in some cases to compensate for destabilizing ground force asymmetries, the peaceful control and reduction of offensive air power is a vital stability objective. The goals of a confidence-building air force would be to neutralize the long-range offensive threat of air power and facilitate defensive ground operations. Characteristically, a CBD posture would pursue these goals in ways consistent with its essential attributes: the minimization of offensive capabilities, structural robustness, and cost-effective specialization for defense.

A Defensively-oriented Air Force

With regard to air forces, minimization of offensive capabilities means discarding weapon systems specialized for penetrating defended airspace. In this context, high priority should be given to the elimination of long-distance assets, such as medium and heavy fighter-bombers and missiles with more than just tactical range. Such measures would greatly reduce the danger of disarming, pre-emptive "bolts out of the blue."

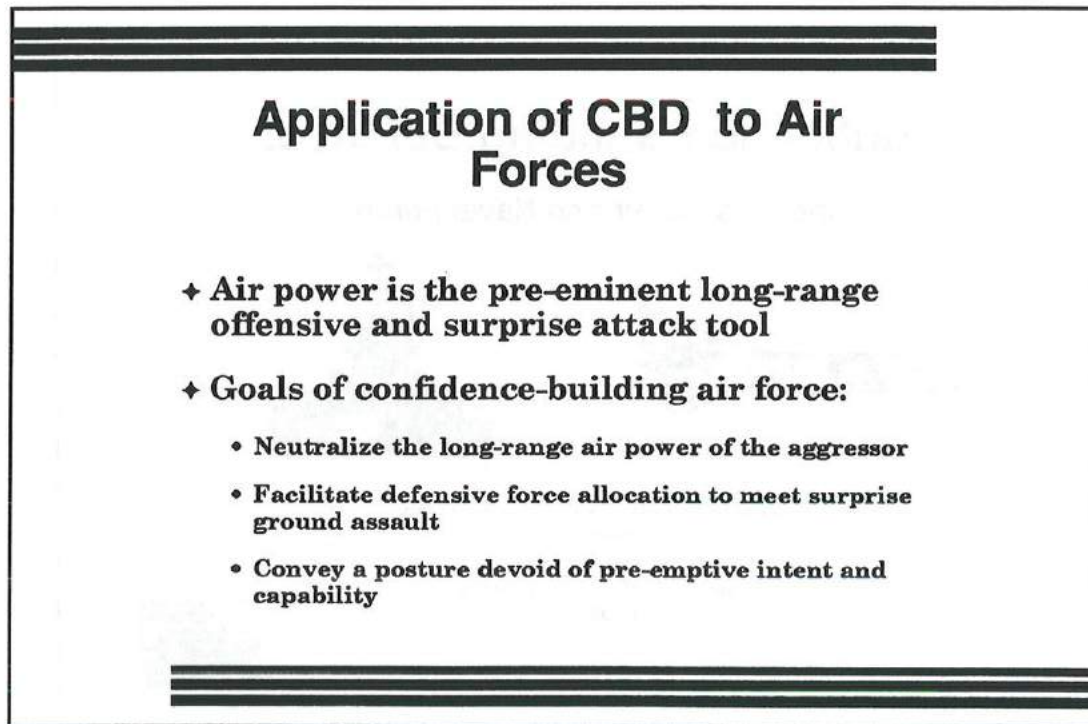


Figure 53

The nonoffensive spirit of a nation's air force is best expressed through a clear emphasis on short-range, light-weight interceptors closely interacting (spider-and-web style) with a network of sensor and SAM positions on home territory. If, however, this ground-based network is made fully mobile and coupled with attack-capable ground forces, the whole air defense system could move forward. As a consequence, the interceptors would lose their unambiguously defensive connotation.

Aircraft designed for close-air support (CAS) and battlefield air interdiction (BAI) are not necessarily destabilizing assets -- provided, of course, that they lack deep-penetration capabilities. If a nation's ground force posture is too weak, such planes can facilitate quick and flexible fire allocation in defensive support of a zone under acute threat. However, if CAS and BAI assets are operating in conjunction with strong attack-capable ground forces, they gain a considerable offensive significance. As suggested above with regard to interceptors, the offense/defense value of air power depends essentially on the nature of associated ground forces.

Generally speaking, air defense (interceptor) capabilities raise fewer problems from a CBD perspective than do ground attack capabilities, even including the CAS/BAI variety. However, recognizing the potential importance of CAS/BAI-capable aircraft for defensive ground support (especially in cases where the defense must meet a surprise attack), a

nation could establish an air power mix that includes CAS/BAI capability but clearly favors air defense capabilities. This balance could find expression either in the numbers of each type of aircraft a nation holds or in the equipping of some light, short-range air superiority fighters with limited ground attack capabilities.

Robustness

Key to defense robustness is the general dispersal of military assets in order to avoid presenting inviting targets to potential opponents. This calls for a relatively large number of air bases (including preparations to use club airfields and highways as secondary landing strips). A form of dispersal is relevant for air defense radars as well: the separation of receivers and transmitters, which could remain linked through a fiber-optic network.

Redundancy in defensive sensors and means of communication is another vital measure of protection against surprise and large-scale attack. Functional redundancy, whereby specific defensive ends are achieved through a variety of means, is as important as material redundancy, if not more so, because it complicates an aggressor's calculus. Such redundancy can be achieved by adding novel-type optronic sensors to an existing radar network or using glass-fiber communication nets in conjunction with traditional radio.

Short-range mobility for purposes of self-protection is also key to robustness, especially with regard to SAM systems. As noted above, however, a mobile air defense system raises the prospect of offensive use. This problem need not be serious as long as the *integrated system-as-a-whole* is not mobile. Linking a system of mobile SAMs and separated radar transmitters and receivers (some radar elements mobile, some static but redundant) through a fiber-optic net could ensure robustness in a way consistent with a defensive orientation.

Cost-effectiveness

Advanced multi-role combat aircraft are not a cost-effective choice -- except if deep penetration of defended air space is one's essential objective. Dedicated interceptors or air superiority fighters for use over friendly ground (and equipped with sensors and weapons appropriate to this mission) offer the highest degree of cost-effectiveness. (As suggested above, however, designing for a special purpose does not entirely rule out secondary missions.)



Figure 54

A fleet of dedicated air defense fighters can greatly benefit from support given by a high-performance network of sensors and communication links. The synergetic relationship between these elements can contribute significantly to the overall cost-effectiveness of the system. Another type of cost-saving synergism lies in the cooperation of air defense fighters with a solid SAM organization. The objective need not be a high-reaching and all-embracing missile shield, but rather "clustered" defenses around vital objects and regions, using short- to medium-range missiles. Clustering can generate a lethal density of fire, while the air defense fighters operate in those spaces and at those altitudes where they are most effective. (Clustering should not, however, take the form of densely-populated "SAM parks," because this would violate the robustness provisos noted earlier; the point is to create a density of fire, not a density of targets.)

Application of CBD Principles to Maritime Forces

So far we have examined the application of CBD principles to land and air forces, although air forces were treated in light of their essential relationship to land warfare. An application to maritime forces involves some unique problems which derive from the relationship of human societies to the sea, which is quite different than their relationship to land. It is easiest to begin by treating naval warfare in its *immediate* relationship to land. Setting aside for now the issue of protecting distant maritime

interests, CBD principles dictate an emphasis on coastal protection. In familiar fashion, the spider-and-web design applies – the web serving to support the spiders and impede incursions, the spiders serving to protect the web and defeat or drive off intruders, the whole system providing cost-effective, robust, and reliable defense without provocative effect.

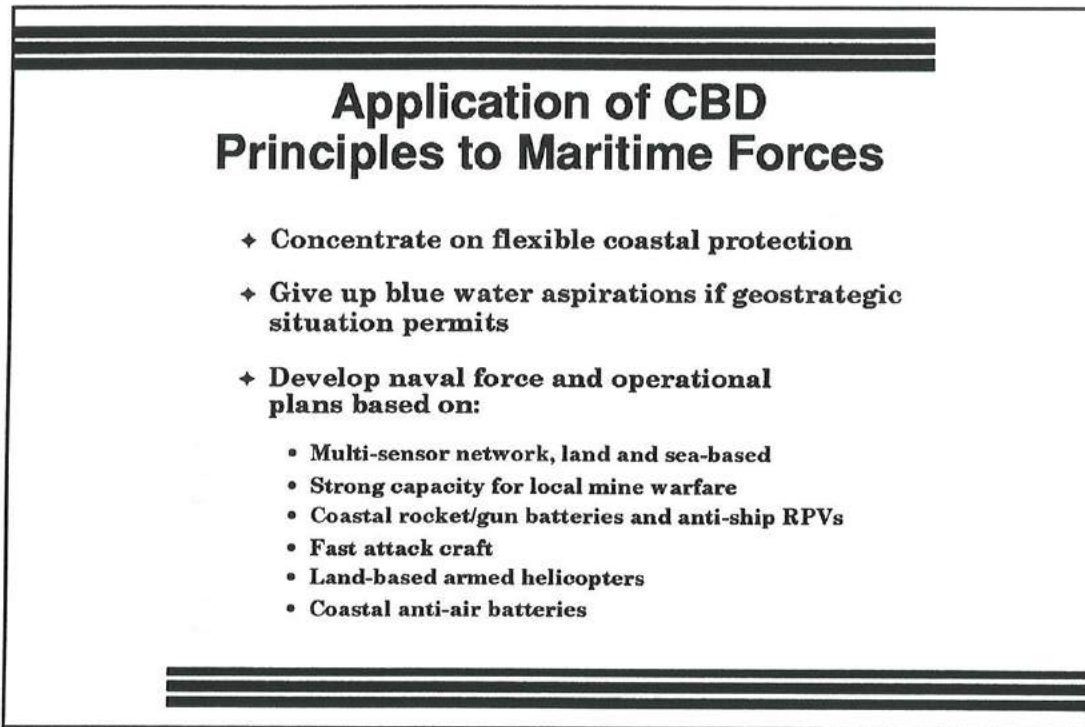


Figure 55

In this case, the web (or area-control element) comprises a multi-sensor network (land- and sea-based), a strong mine-laying component (seaborne and heliborne), a system of coastal rocket/gun batteries and anti-ship RPVs, and an air defense system (principally SAMs, secondarily land-based fighters). Spiders would comprise fast attack craft and land-based helicopters. (A very small component of naval infantry may also exist to assist defensive land operations of land forces or to help protect local offshore possessions.)

Blue Water Capabilities

A CBD Navy would exclude capabilities to attack the naval bastions of other nations. Also excluded would be the capability to offensively control large sea areas (by seeking out and destroying an adversary's fleet at sea). But what about the protection of Sea Lines of Communication (SLOCs) and convoys? If these are vital to a nation's commerce, a legitimate interest in their protection exists. However, unlike the interest in

protecting one's own home territory, the paramount interest in protecting SLOCs is not exclusive. If national navies pursue this interest individually, they run the risk of inadvertent clashes, even if they are defensively-oriented. If any single nation or small group of nations hopes to ensure, even by defensive means, a comprehensive protection of global SLOCs, they will certainly need considerable offensive capability. Hence, the most stabilizing (and efficient) approach would be a broad-based cooperative one, preferably under the auspices of a supranational agency.

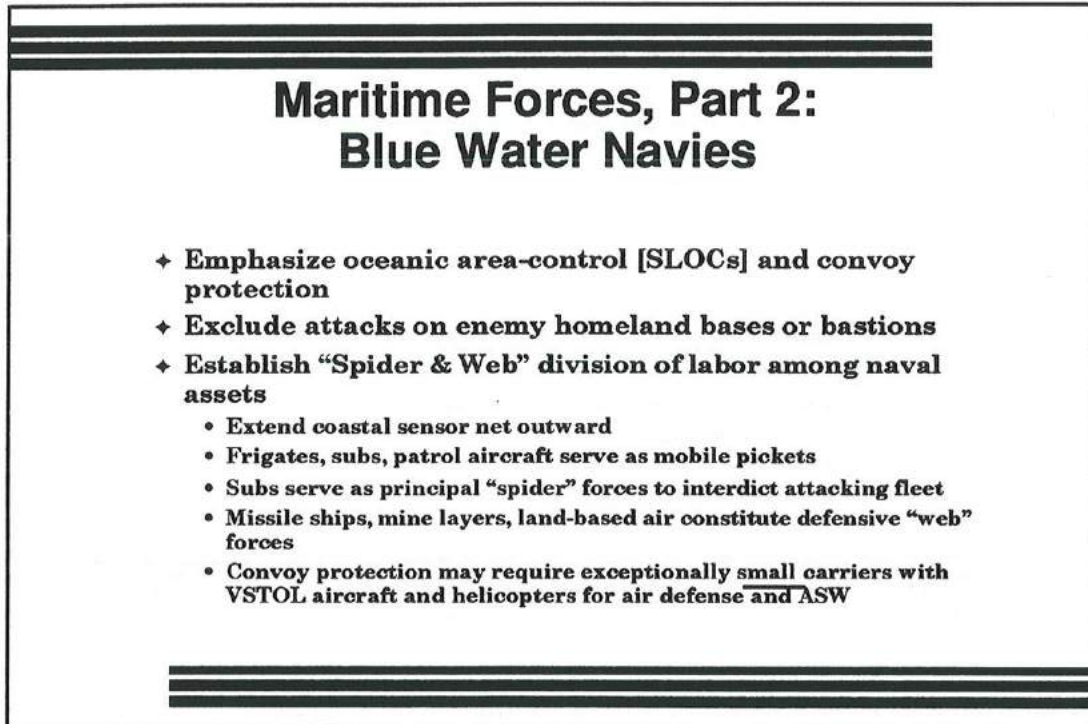
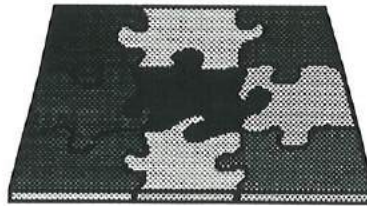


Figure 56

Assuming that a cooperative regime is not in place, and a nation has vital and far-ranging maritime interests, its bluewater efforts should emphasize defensive oceanic area-control (focusing on SLOCs) and convoy protection. Once again, the spider-and-web design should be used to extend protection outward from the national coast and to provide convoys with a defensive envelope. The coastal sensor net should be extended. Frigates, submarines, and patrol aircraft could serve as mobile pickets. Missile ships, mine layers, and land-based aircraft would provide defensive area control (the "web"), while submarines would serve as "spider" forces to interdict an attacking fleet. Convoy protection may also require *small* carriers for VSTOL aircraft and helicopters that would undertake reconnaissance, air defense, and anti-submarine missions. A division of labor would evolve *de facto* among major trading partners as each seeks to protect approaches to its homeland.

Confidence-Building Defense:

Multinational Linkages



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Toward Cooperative Pan-European Security Structures

As noted in the introduction, the CBD approach takes international cooperation as both a first principle and a primary goal. Although defensive restructuring on a national basis can address some critical and immediate security needs, it cannot solve all problems. In the case of extreme asymmetry between two states, the weaker one could improve its security position by defensive restructuring, but still fall short of achieving assured defense. Of course, raising the cost of aggression and delaying or limiting its success is a worthwhile goal; Finland did this in its "Winter War" with the Soviet Union, almost prompting British intervention on its behalf. Nonetheless, it should not be surprising if states find this lesser goal (and the eventual outcome of the Winter War) to be less than reassuring.

A small or medium-sized state could also seek firmer security guarantees from a much larger friend or friendly alliance. The aim would be to "balance the scales" between the larger state and the smaller. Unfortunately, such initiatives are just as likely to "turn the tables" on the larger state or, at least, to raise the prospect of doing so, thus contributing to local tensions.

The problem of gross asymmetry is not entirely resolved even if both the large and the small state adopt CBD structures. The stronger state will still retain some residual offensive capability *vis a vis* the smaller simply because its mobile elements, although defensively oriented, are relatively much larger. Mutual or reciprocal defensive restructuring will have moved the two states *toward* a stable condition of mutual defensive superiority. How close they come to realizing this ideal, however, depends in part on where they started. The larger state could decide, in deference to the smaller, to further reduce its mobile forces to levels that are suboptimal from a spider-in-its-web perspective. However, this assumes that the larger state has no larger security concerns of its own.

For these reasons it is both wise and necessary to complement defensive restructuring on a national basis with progress toward more positive and inclusive forms of interstate security cooperation. (In addition to reducing security concerns, interstate cooperation also promises greater efficiency in achieving security goals). Of course, part of the rationale for CBD as a transitional security policy is to create the political and strategic conditions in which trust and cooperation can flourish and mature. This is not meant to imply strict developmental stages -- first, defensive restructuring leading to trust, then cooperative security. The process is better conceived as a *continuous spiral* passing through successive phases of defensive restructuring and cooperative endeavor, and lifting its participants upward from a condition of interstate competition toward one of comprehensive common security (and demilitarization).

For small- and medium-sized states, the establishment of sub-regional cooperative arrangements is a pragmatic interim step that can help minimize, *although not necessarily remove*, the power differentials that worry them. A combination of Poland, the Czech Republic, Slovakia, and Hungary could go a long way toward boosting the confidence of these states *vis a vis* the CIS -- even more so when the latter is disintegrating. (In the case of the Baltic Republics, however, closer defense cooperation among the three would not suffice.)

Another potential shortcoming of exclusive subregional arrangements is that their formation, even while redressing some imbalances, can introduce new ones into the region or, at least, pique the concern of excluded states. This problem can be partially mitigated by basing any new subregional form on CBD principles. *Still, a comprehensive solution to the problems of asymmetry and exclusion requires the development of an inclusive regional security body possessing some regional intervention capability.* Ideally, the intervention element (in combination with local defense) would serve to countervail any aggressive action by one state

against another, and do so *without embodying a standing alignment* of some states against others.

Such a pan-European institution does not yet exist, but the CSCE and elements of NATO could provide a framework and "building material" for its creation. However, the majority of European states would be unlikely to actively participate in such a scheme *unless* there were some guarantees making the use of force truly a last resort and preventing a single power or group of powers from dominating military interventions. Moreover, from the perspective of confidence-building defence, such interventions should not be used for punishment, since this tends to "pre-programme" future conflicts. Instead military means are to be employed only for the following:

- peacekeeping missions in the new UN definition -- that is, humanitarian missions as well as both Chapter VI and Chapter VII interventions;
- the support of economic sanctions; and
- the defensive protection of borders under acute threat.

This set of mission types requires rapidly deployable air, and in some contingencies, naval forces for surveillance and defensive area control. Concerning land forces there should be a clear emphasis on reconnaissance and light patrol capabilities, backed up by mobile protected infantry with an element of indirect fire and strong engineer components for countermobility purposes.

Preferably the intervention elements would give defensive support to an already existant protective structure, plugging into local arrangements. A ground intervention force modeled on (or actually comprising) the Independent Rapid Reinforcement Brigades proposed for national structures would meet these requirements, since the IRRBs are structured for defensive operations and derive much of their strength from synergetic interaction with a local area-control system.

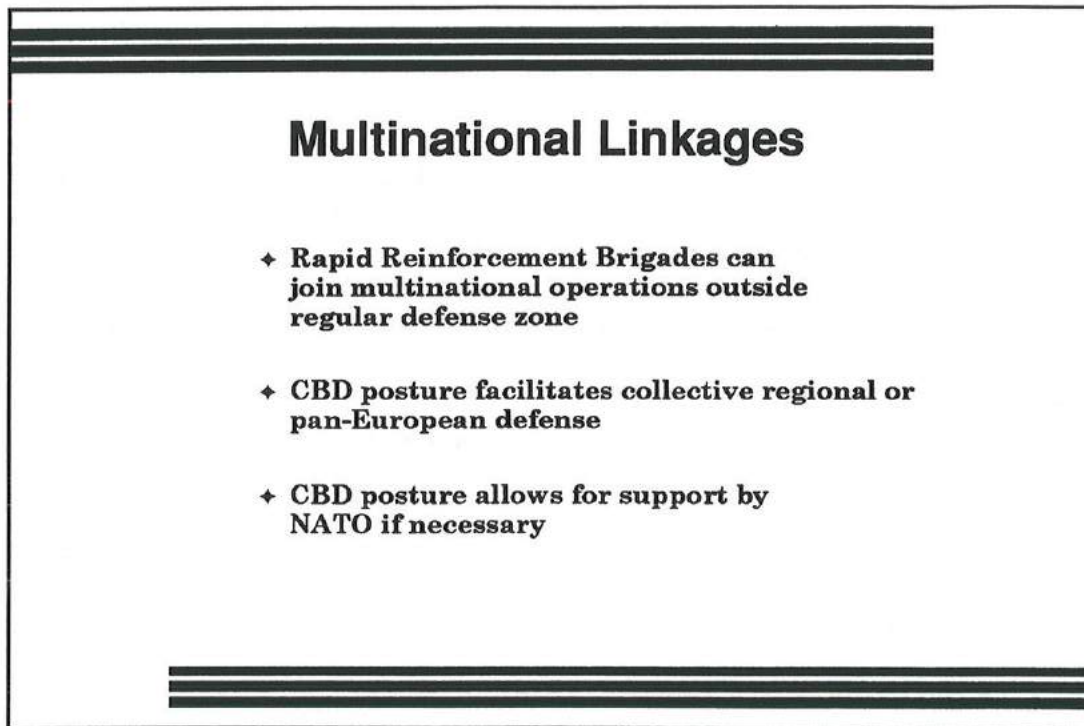


Figure 58

Confidence Building Defense: Multinational Linkages

The CBD structures set out in earlier sections of this briefing book were designed with a view toward implementation by individual nation states. However, they also reflect the inclination of CBD toward cooperative security endeavors. CBD structures are not only consistent with interstate cooperation and conducive to it, they can also constitute its initial elements.

As noted above, the Independent Rapid Reinforcement Brigades (IRRBs) that are central to national structures can "peel off" to serve multinational ends. The IRRB packet as a whole -- or just its rocket artillery, anti-air, and reconnaissance elements -- could contribute substantially to the stabilization of another nation's defenses. The reconnaissance elements alone are well-suited for wide-area patrolling, which is vital to peacekeeping missions, and for the securing of convoys, which is often necessary to humanitarian missions.

For purposes of collective defense (either on a subregional or all-European basis), nations sharing a CBD posture could pool their IRRBs. This could occur as needed on an entirely *ad hoc* basis or as mandated by formal agreements. Indeed, a supranational institution could maintain its own force of IRRBs. In any case, as noted above, these operate optimally within



Figure 59

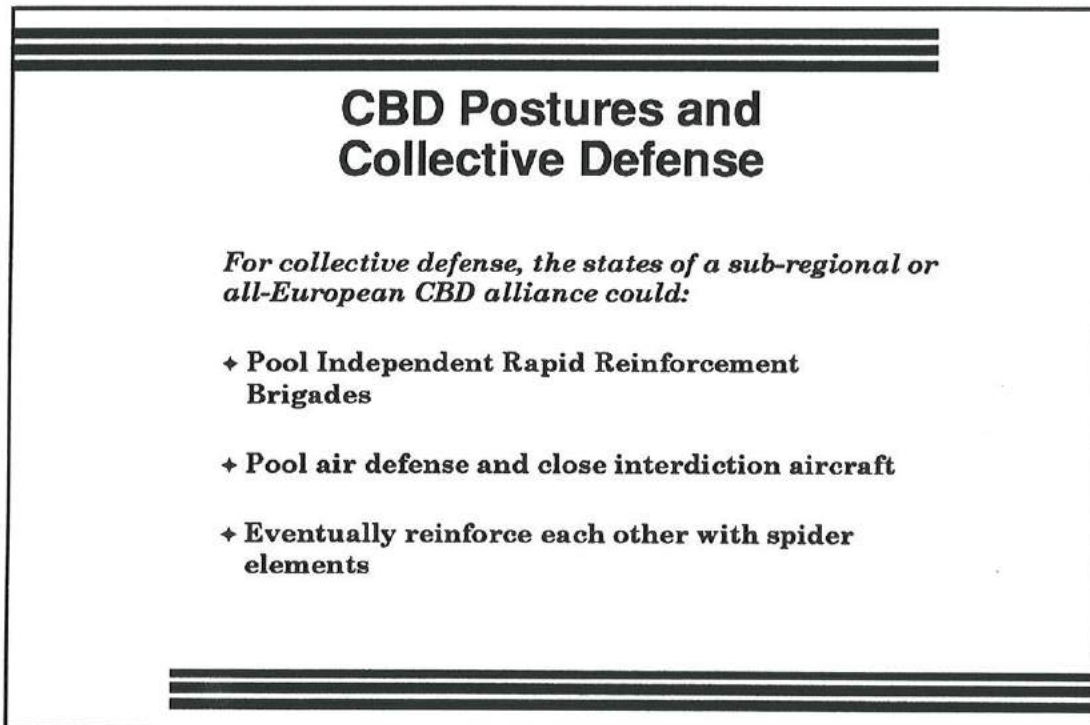


Figure 60

the context of a defensive area-covering system. Hence, concerns about their coercive potential should be minimized. Air defense and close interdiction aircraft could be pooled in a similar fashion. Finally, nations could reinforce each other's ground defenses with spider elements -- armored brigades and battalions -- although these could not deploy over long distances nearly as quickly as the IRRBs.

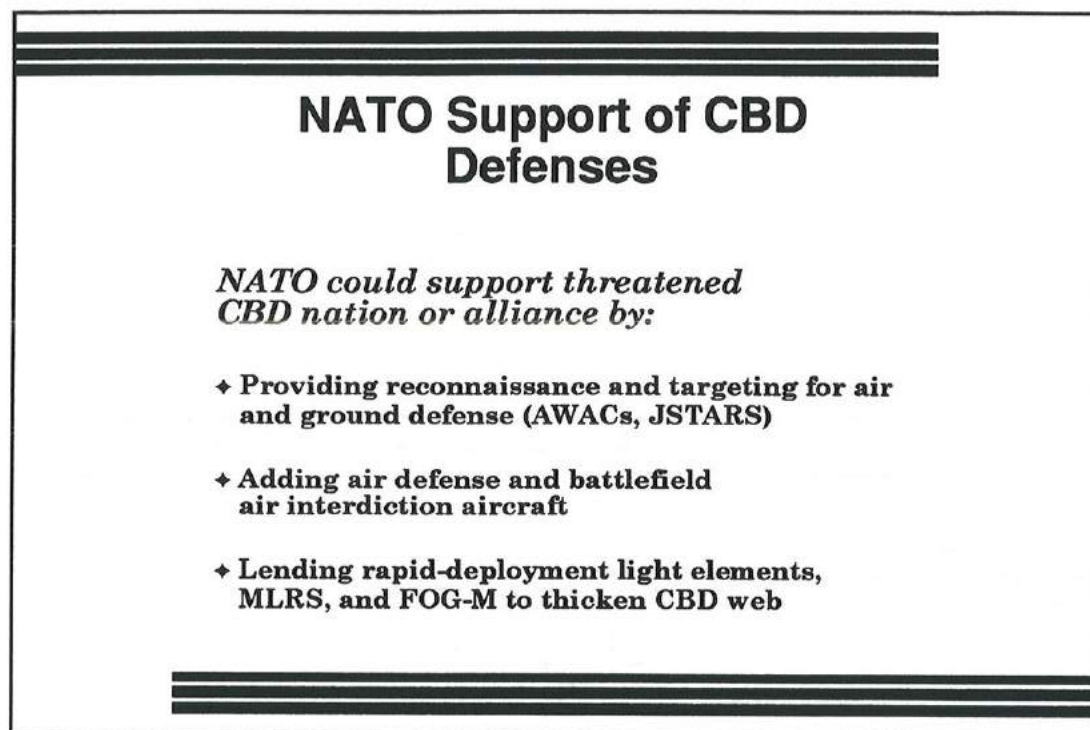


Figure 61

The near-term prospects of East-Central European nations for broader security arrangements focus on cooperation with NATO. The national implementation of CBD structures establishes a basis for cooperation that would orient it in a nonprovocative direction. NATO could support a threatened nation or alliance that depends on CBD structures by providing reconnaissance and target acquisition for air and ground defense, by adding air defense and close interdiction aircraft to a defense effort, or by thickening the CBD web with fast-deploying light units, MLRS units, and FOG-M missiles. And, as noted earlier, the level and type of support required by a CBD posture would address NATO concerns about assuming too much responsibility for stability in the East. Indeed, the very character of CBD as a *nonprovocative posture* should reassure NATO.

Confidence-Building Defense:

Review of Selected Technologies



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Governing the CBD perspective on defense technology is the recognition that stability is a complex whole that cannot be ensured by a special reliance on any single input. There is no simple "fix," technological or otherwise. Nor is there room for an "anti-high technology" attitude in the design of defense structures. Instead, CBD seeks to establish a technology mix appropriate to its strategic goals and adapted to the circumstances at hand. At minimum an appropriate technology mix is consistent with a defensive orientation and with the goal of "low risk" defense; it is realistic in light of resource constraints; and it is well-suited to the available labor pool. The use of high-technology should serve a cost-effective synergy among all elements of the defense.

As a result of the 1990-1991 Gulf War, some Western armed forces are hoping to refurbish all of their defense assets in the image of the most advanced systems. But this impulse involves a misreading of a war in which relatively small numbers of very advanced and expensive systems were used to enable, facilitate, or augment the action of a much larger number of less advanced, less expensive systems. Force designers must keep in mind that it is the capability of the defense *as a whole*, and not its individual parts, that decides the contest with an aggressor's offensive array, also performing as a whole system. Consequently, CBD emphasizes



Figure 63

the interaction of complementary force elements. It is not necessary, for instance, that every specialized antiarmor weapon be capable of defeating main battle tanks, because tanks do not and cannot fight alone. With regard to requirements in the area of target acquisition and precision delivery of weapons, CBD places emphasis on the intelligence of the defensive system as a whole, resulting in less demand on the intelligence of individual weapons.

For reasons of robustness and cost-effectiveness, CBD makes selective use of advanced technology. In this context the distinction between "high technology" and "new" or "emerging technology" is relevant. Defense analyst Steven Canby uses this distinction in a comparative assessment of the TRIGAT LR (a tri-national group attempt to develop an extended-range "fire and forget" antitank missile) and the FOG-M, a fiber-optically guided non-line-of-site missile. The TRIGAT LR's high complexity has made it extremely expensive, while not rendering it immune to countermeasures. By contrast, FOG-M inventively combines proven, relatively-inexpensive technology (IR TV camera, fiber-optics, and joystick control) and human guidance to guarantee accuracy, lethality, range, and tactical robustness. In its sober choice of high-tech inputs, CBD emphasizes the special synergy achieved through the combination of human intelligence and mature technology. This section reviews selected technologies especially relevant to the development of a CBD posture.

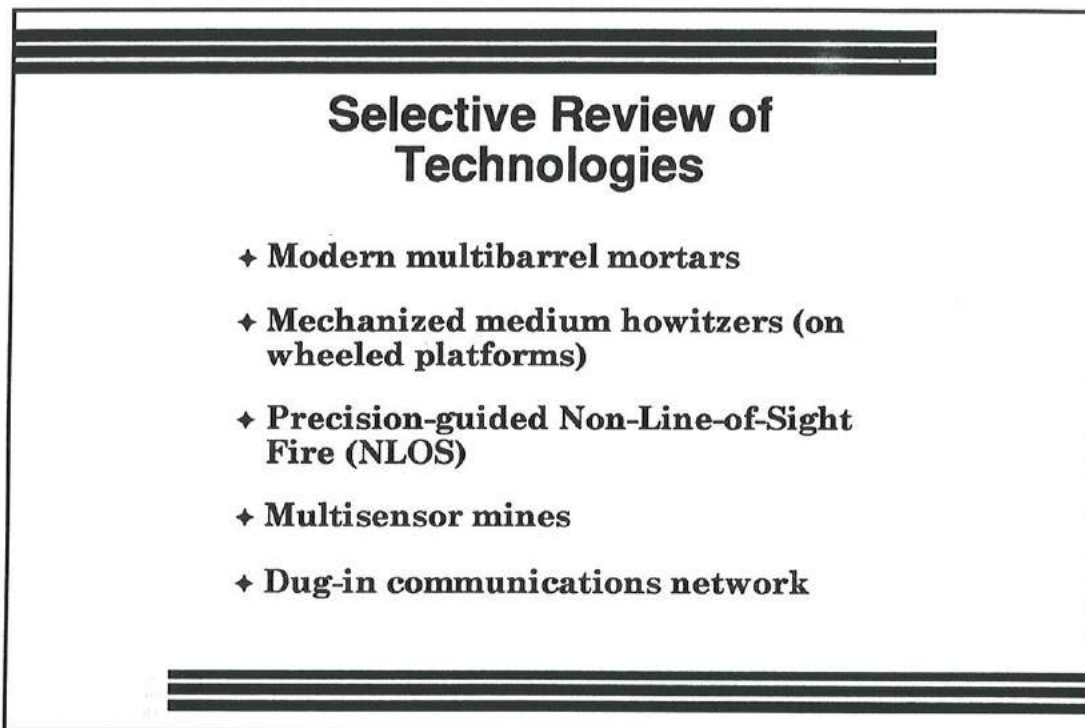


Figure 64

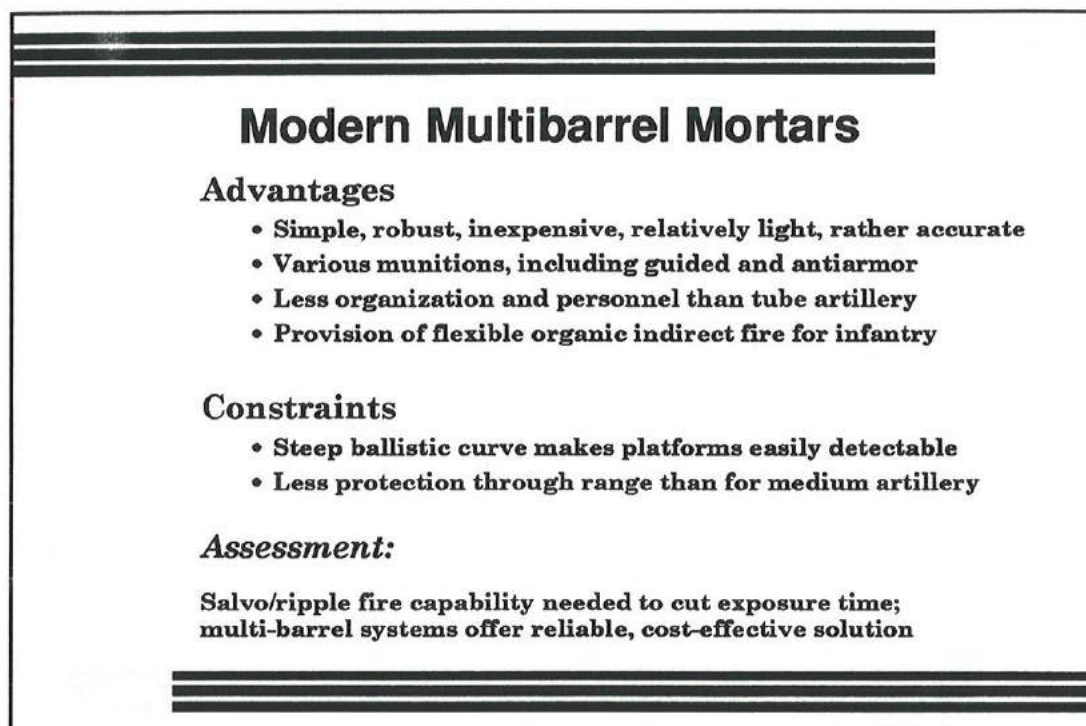


Figure 65

Modern Multibarrel Mortars

Argumentation: In recent years there has been a renaissance of the mortar for obvious reasons: mortars are relatively light, simple, robust, inexpensive, rather accurate, and provide infantry with powerful organic indirect fire support (requiring much less organization and personnel than tube artillery). They can use a considerable variety of munitions, including intelligent rounds.

However, since mortar bombs fly steep ballistic curves, firing platforms are easily detectable. And there is not as much protection for mortar platforms through range as in the case of modern medium artillery. In order to reduce vulnerability, exposure time must be cut short. One way to do this without sacrificing weight of fire is to make mortars "burst capable," either through automation of loading or the development of multi-barrel systems which can fire salvos. The first solution is complicated and not cost-effective; the second solution is simple and convincing.

State of the Art and Market Situation: There is an Austrian patent for a 4-barreled 120-mm mortar; license production is being considered in Sweden. Some East European countries have developed 82-mm automated mortars.

Mechanized Medium Howitzers (on Wheeled Platforms)

- ✦ 152/155-mm howitzers with base-bleed munitions are needed for control of wide areas
- ✦ Range flexibility is key to optimal fire allocation
- ✦ Allocation improved if artillery has operational mobility; wheeled platforms ideal but limits armor protection
- ✦ Howitzers are reasonably accurate without smart munitions if target information is valid and quickly available
- ✦ Wheeled artillery is nonprovocative due to limits on armor weight and if dependent on home-based intelligence

Figure 66

Mechanized Medium Howitzers (on Wheeled Platforms)

Argumentation: 152/155-mm howitzers with long barrels (up to L52) using base-bleed (ERFB) ammunition are essential to the control of wide areas (radius = 40 km+). Their fire can be reasonably accurate without expensive smart munitions if target information is good and available in near real time. This is more easily achieved on home territory than beyond, which is reassuring to one's neighbors. If necessary, terminal accuracy can be greatly improved by employing laser-guided shells, although these are far more expensive than conventional munitions. Lethality and anti-armor capability can also be improved by employing improved (but not intelligent) area munitions.

Range flexibility is key to the optimal allocation of fire. This allocation can be further enhanced, however, if the artillery has operational mobility. Wheeled platforms are ideal to provide this quality. For cross-country performance they must be relatively light, which limits their armor protection: Movement outside one's own defensive array would be unwise -- once again, a plus for reassuring one's neighbors.

State of the Art and Market Situation: Upgrading existing artillery to L45 or L52 is affordable; so is the procurement of base-bleed ammunition. (In

quite a few cases indigenous production facilities can be used.) Wheeled mechanized howitzers can be purchased in South Africa (RHINO) and in the Slovakian Republic (SUZANA). The latter is standardized with an APC and an MRL. A fall-back solution would be field artillery towed by a wheeled APC.

Comparative Advantages of Wheeled (W) and Tracked (T) Armor		
Advantages of Wheeled	Advantages of Tracked	Comparable Capability
<ul style="list-style-type: none"> • Strategic transportability • Operational range and speed • Amphibious potential • Responsive running gear • Stealthy running gear • Ease of handling • Prestabilization • Minimal crew fatigue • Low mechanical failure rate • Moderate life cycle costs 	<ul style="list-style-type: none"> • 140mm MBT firepower • Leo 2 protection and above • Potential for extreme compactness 	<ul style="list-style-type: none"> • Low silhouette* • Turning on the spot* • Soft-terrain capability* • Climbing and ditch crossing* <p><i>* wheeled vehicle requires special design effort in these categories</i></p>

Figure 67

Precision Guided Non-Line-of-Sight Fire Systems (NLOS)

- ✦ **Combines artillery ranges (20-40 km) with:**
 - Non-ballistic (undetectable) flight path, and
 - Lethal precision attack against armor, helicopters, and hard points
- ✦ **Human guidance via fiber-optic cable & TV-camera (night vision optional); guidance link impervious to ECM**
- ✦ **Cost-effective alternative to fire-and-forget antitank missiles**

Figure 68

Precision Guided Non-Line-of-Sight (NLOS) Fire Systems

Argumentation: A quantum leap in the quality of defensive area coverage would come with the introduction of fiber-optically guided missiles. These weapons combine artillery ranges (20-40 km) with a non-ballistic (undetectable) flight path and a capacity for lethal precision attack against armor, other vehicles (including helicopters), and hard points. Steering is by a remote, human actor connected by glass-fiber cable to a TV-camera in the missile's nose. Night vision capability is optional. The fiber-optic guidance mode is impervious to electronic countermeasures.

Such a weapon can profitably complement or even partially substitute for traditional artillery. More important, it may also render obsolete current programs to develop (over-) sophisticated antitank guided missiles of the "fire-and-forget" type. These latter are not yet a mature technology, and are remarkably expensive.

State of the Art and Market Situation: In the United States (FOG-M) and in France/Germany (Polyphem), NLOS weapons have reached the planning stage. In both cases an unnecessarily long R&D phase will result in relatively high costs. US Army experts have demonstrated, however, that cheap, improvised solutions are also feasible.

Multisensor Mines for a Multitude of Missions

- ✦ **Indispensable to terrain-oriented home defense, especially if force-to-space ratio is low**
- ✦ **Inexpensive, multisensor mines detect noise, magnetic fields, seismic vibrations, thermal radiation**
- ✦ **Modern mines attack the whole width of a vehicle (not just the tracks or wheels)**
- ✦ **Some distinguish friend from foe; some are remotely controlled; some "shoot" from a distance at ground vehicles, helicopters**

Figure 69

Multisensor Mines for a Multitude of Missions

Argumentation: Mines form an indispensable contribution to the stability of a terrain-oriented home defense. Especially if one's force-to-space ratio is insufficient, minefields (scattered by ground units or delivered by air) can block secondary sectors, thereby freeing scarce mobile forces for key defensive efforts.

Modern mines have high-performance sensors which can detect a variety of signatures such as noise, magnetic fields, seismic vibrations, and thermal radiation. Although such sensors qualify as high-tech assets, they are relatively inexpensive because they work in a static mode and in a "known" environment. Multisensor mines attack the whole width of a vehicle (not just the tracks or wheels); some types can tell friend from foe; some can be (de-) activated by remote control; others can "shoot" from a distance at moving ground vehicles or even helicopters. Mines are progressively becoming "active" weapons (rather than passive devices).

State of the Art and Market Situation: Many countries are capable of producing at least some basic types of modern mines. Also, upgrades to existing mines are effective. Particularly advanced although cost-conscious technical solutions can be found in Austria and Sweden.

Radio Links versus Fiber-optic Net

♦ Dug-in, protected, fiber-optic net

- Carries heavy volume of digital messages
- Jam proof, impervious to EMP and high-power microwaves
- Can bypass "rips" – messages travel via multiple routes
- Ties defense to home territory, thus reassures neighbors

♦ Radio, by comparison

- Has limited capacity, easily jammed, reveals location
- Nonetheless, tactical movement and artillery require radio

♦ Assessment

- Stability, security, and efficiency dictate fiber-optic net for higher-levels of organization
- Radio nets will predominate at tactical level

Figure 70

Dug-in, Fiber-optic Communications Network

Argumentation: Tactical movement and the micro-management of indirect fire certainly require mobile networks in the form of radio links. This does not apply to higher levels of organization, however. Overall communications can be made most efficient and secure if its backbone is a stationary, dug-in network.

A fiber-optic cable network can carry a heavy volume of digital messages. Although nodes must be protected against direct attack by hardening and the creation of dummies, the clarity and volume of message traffic makes this a cost-effective option of medium- and macro-level communication. By weaving sensor fields into the system, first-rate intelligence can be made readily available to subscribers.

By comparison, radio has a very limited transmission capacity and can be relatively easily jammed. Moreover, radio nodes do not work while on the move; when working, they constitute detectable targets. A fiber-optic net is impervious to jamming even by electro-magnetic pulse and high-powered microwave generators. Jamming is possible only by establishing a hostile link from somewhere within the net's area. However, this involves momentary disruption of the message flow, which can be

detected. Sectors of the net that have been compromised in this fashion can be shut down at the nearest node; messages would then re-route around the compromised sector. The net is, in a sense, self-sealing.

Of course, sectors of the net can also be compromised by direct, physical destruction, achieved, for instance, through the application of a large volume of artillery fire across a wide area. But not only would this be a costly and inefficient method of interdiction, its effect would be local only. Messages can promulgate from any point in the net to any other point passing through a number of alternate nodes. Hence, if any portion of the mesh is physically destroyed, messages can complete their transit via other pathways. In other words, the net provides something more than a series of linear communications links; it provides a protected multi-dimensional medium for communication.

The final advantage of a fiber-optic communication system has to do with stability. The use of mobile radio-based nets for medium- and macro-scale communication is consistent with a large-scale cross-border attack capability. Conversely, dug-in networks tie forces to their own territory -- even more so if "sensor fields" which generate intelligence for artillery, etc., are integrated with the system.

State of the Art and Market Situation: Digital communication based on glass fiber networks is a fully developed and well-proven concept. Its utilization for defense purposes may depend on civilian telecommunications initiatives.

Confidence-Building Defense:

Defense Budget Planning - Lessons from the German Example



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Reconciling Military Structure with Budget Planning

In the West as well as the East, there is a growing gap between overall state fiscal planning and military force planning. This is somewhat surprising because, ostensibly, the post-Cold War reduction in military requirements should make it easier to reconcile military spending and fiscal austerity (or, if conditions permit, increased investment in non-military areas). However, several factors impede a happy restoration of balance between ends and means:

- The reduction, restructuring, and redeployment of armed forces entail transition costs that are substantial, even if transitory.
- Increased investment in high-mobility, high-readiness, and long-range intervention forces can absorb much of the savings achieved through reductions in force size.
- Greater emphasis on high-technology inputs (in part due to the putative lessons of the Gulf War) will increase

modernization costs per unit of structure. Of course, improved quality should permit reductions in quantity. However, in the past the tendency in many states was to replace platforms on a one-for-one basis, regardless of increases in capability. In the future, one platform may replace two but cost three times as much.

- Perhaps most disturbing, there is a studied refusal to fully appreciate the built-in cost dynamics of military provisioning (other than general economy-wide inflation). Similarly, there is a refusal to fully appreciate the inter-relation of different areas of military investment -- procurement, research and development, personnel, and operations and maintenance -- and how choices in one area affect the range of choices in the others. This is less worrisome during periods of reliable economic expansion, growing state revenues, and low debt. In periods of austerity, however, it can bankrupt the state and/or introduce debilitating imbalances among military investment areas.

Resolving the mismatch between force planning and budget planning requires attention to built-in cost dynamics and to the relationship among the various areas of military investment. Using the German case as an example we can illustrate the implications of several different force options given different levels of spending. The period of projection is 1995-2000.

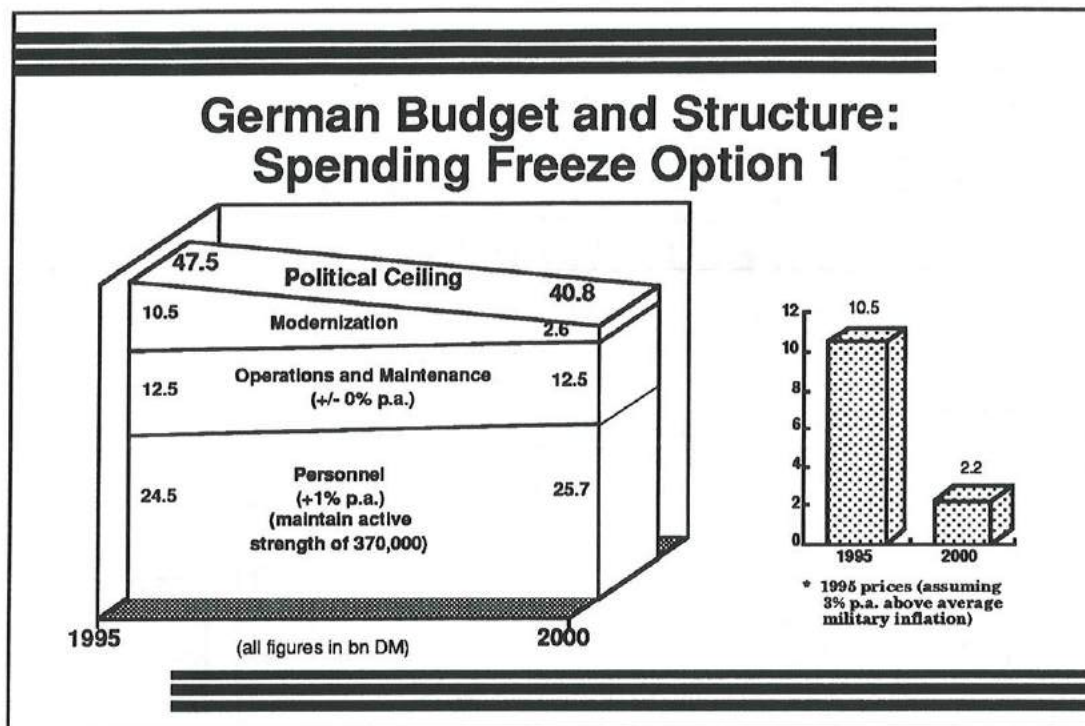


Figure 72

Two Options Assuming a Spending Freeze

Figures 72 and 73 assume a defense budget freeze at DM 47.5 billion. Given a GNP deflator of 3 percent annum, this means that the equivalent of DM 40.8 billion (1995 DM) will be available in 2000.

Figure 72, *Spending Freeze Option 1*, also assumes:

- Maintenance of the 1995 Bundeswehr active strength (370,000) and personnel structure, which is 45 percent conscript and 55 percent volunteer,
- Continued emphasis on high-technology and high-mobility forces,
- Preparation of 30 percent of force structure to intervention missions,
- An additional deflator of 1 percent annum applied to the personnel account, which reflects personnel costs rising slightly faster than general inflation rates, and
- An additional deflator of 3 percent annum applied to modernization and to research and development accounts, which reflects the historical tendency of modernization costs to rise much faster than general inflation rates.

Result: If active strength remains constant, investment in modernization must drop by 80 percent in real terms.

Conclusion: The condition of general austerity cannot be reconciled with a relatively large, intervention-oriented, high-tech force.

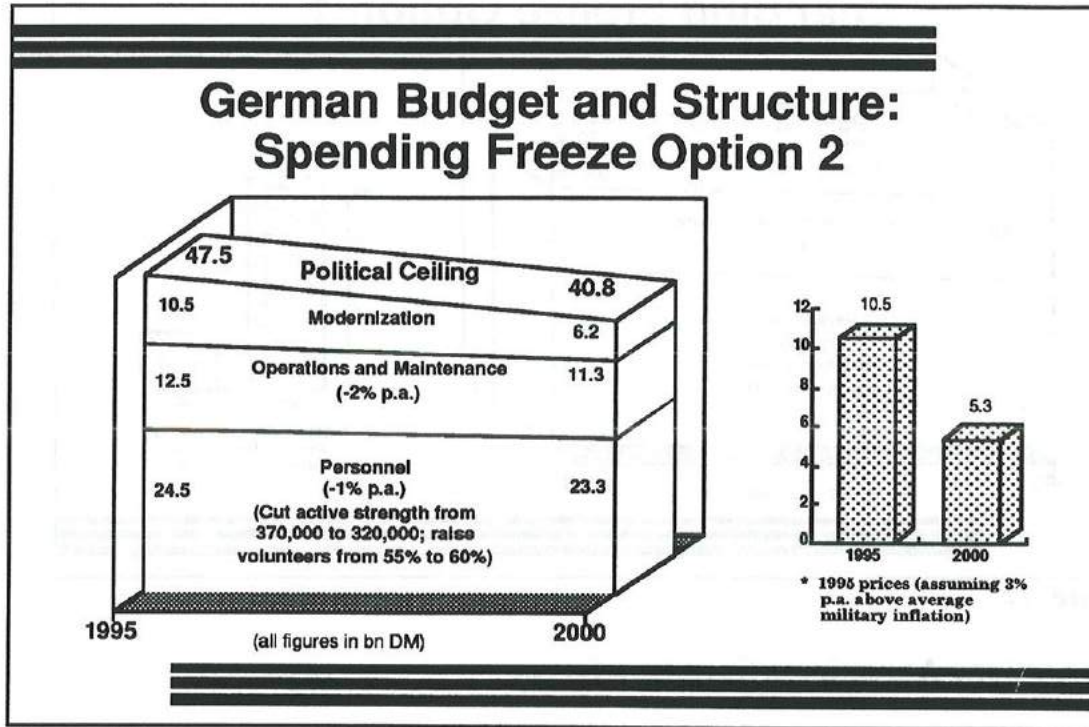


Figure 73

Figure 73, *Spending Freeze Option 2*, shows the implications of slightly different assumptions:

- Active troop strength reduced modestly (13.5 percent) to 320,000,
- Greater emphasis on preparing for intervention missions: 45 percent of force earmarked for intervention,
- More emphasis on volunteers resulting in personnel mix of 40 percent conscript and 60 percent volunteer, and
- High-mobility, high-technology orientation, thus modernization costs rise 3 percent faster than inflation.

Results: Higher percentage of volunteers absorbs most of the savings from reduction in force size. Modernization account is once again short-changed: a 50 percent reduction from 1995 levels is necessary to meet other force planning goals.

Conclusion: Under conditions of austerity, cautious force reductions fail to meet the demands of a high-tech intervention-oriented structure.

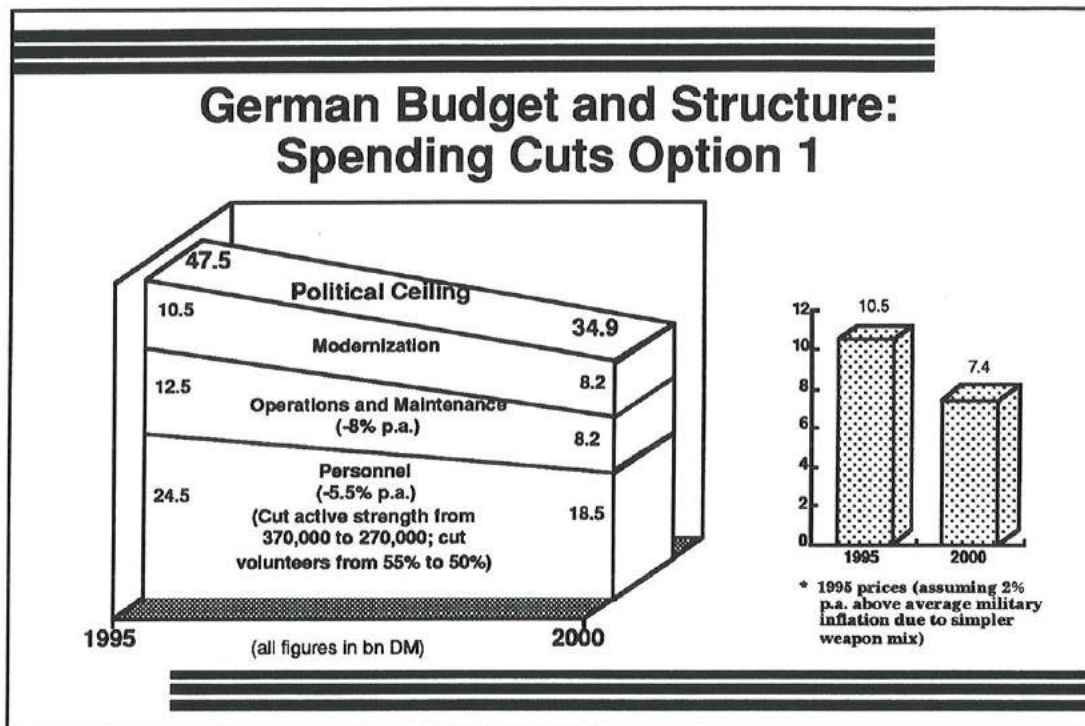


Figure 74

Two Options Assuming a Reduction in Defense Spending

Figures 74 and 75 assume a 3 percent annual cut in the defense budget in addition to the effect of inflation (3 percent annum GNP deflator). Hence, in 2000 only DM 34.9 billion (1995 DM) is available.

Figure 74, *Spending Cuts Option 1*, also assumes:

- Sizeable reduction (27 percent) in active strength, from 370,000 to 270,000,
- Higher proportion of conscripts resulting in personnel mix of 50 percent each conscripts and volunteers,
- Transition to defensive area-control posture,
- Less emphasis on high-technology, high-mobility forces (which is consistent with defensive orientation), thus modernization costs rise only 2 percent faster than inflation,
- Only 15 percent of the force earmarked for intervention (also consistent with defensive orientation).

Results: Combination of smaller active force, fewer volunteers, less intervention forces, and simpler structure overall permits a sharp drop in personnel and operations and maintenance accounts. Moreover, the

switch to defensive area control allows a simpler weapon mix. This, in turn, eases the additional inflation rate affecting the modernization account. As a result, the reduction in the modernization account (29 percent) closely approximates the reduction in force size (27 percent).

Conclusion: Home defense with only modest intervention capabilities permits reconciliation of budgetary and structural planning. The force remains modern.

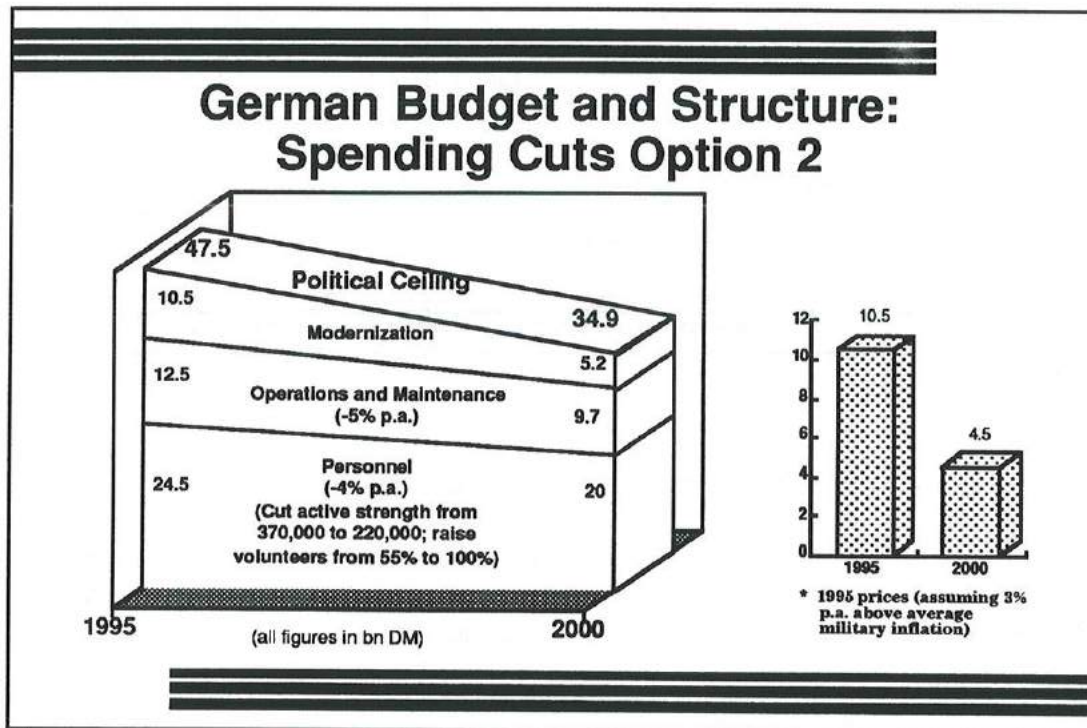


Figure 75

In addition to budget reduction, Figure 75, *Spending Cuts Option 2*, assumes:

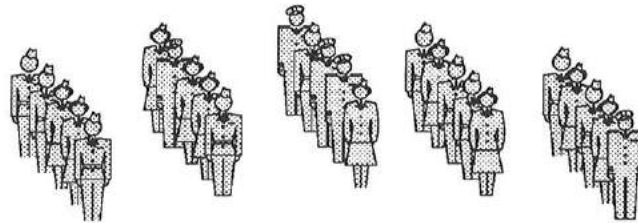
- Transition to a much smaller, *all volunteer* force (personnel cut equals 40 percent),
- Strong emphasis on high-technology and high-mobility -- additional inflation rate of 3 percent per annum applies to modernization account, and
- Preparation of 60 percent for intervention purposes.

Results: Although the force cut is quite substantial, the switch to all volunteer military and the increased emphasis on intervention capability prevent a commensurate drop in personnel and operational and

maintenance accounts. As a result of this and the ambitious high-technology goals, a gap opens up between modernization needs and available funds. To meet other force planning objectives, the modernization account must be cut by 57 percent in real terms from 1995 levels. However, active troop strength falls by only 40 percent. Thus, despite the desire for a high-technology force, the amount spent on modernization per soldier actually declines!

Conclusion: Even drastic personnel cuts cannot reconcile austerity and the goal of a high-technology, all-volunteer, intervention-oriented military.

Confidence-Building Defense: Personnel Issues



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Factors Affecting Personnel Mix

The optimal mix of active and reserve, professional and conscript, and regular and militia personnel in a military varies from nation to nation and with changes in strategic conditions. However, in all cases, there are several key factors that determine the best mix.

- An assessment of **cost-effectiveness** is key to reconciling personnel plans with plans in other areas of military and nonmilitary state investment. Cost-effectiveness reflects the cost of a particular personnel mix relative to the capacity of that mix to achieve mission requirements. Cost should include all recruitment, payroll, benefit, and training expenses involved in bringing a particular personnel mix up to the level of combat skill, morale, unit cohesion, and readiness that is required by the mission.
- The character of a nation's **military posture** has a very significant and often under-appreciated role in determining optimal personnel mix. A general distinction can be drawn between defensively-oriented and offensively-oriented postures, and between those that emphasize action relatively close to home and those that emphasize long-range power projection. These distinctions translate into

differences in mission sets, technology mix, skill requirements, readiness levels, troop rotation schedules, and other factors that help determine optimal personnel mix.

- Among other things, **demographic factors** affect the availability of personnel in different age cohorts. **Budgetary limits** affect choices in both obvious and indirect ways. An improvement in personnel quality that seems cost-efficient from a "small unit" perspective may be ruled out on the national level by the combination of minimum numerical troop requirements and limited fiscal resources. This is because quality of personnel cannot always substitute for quantity. Also, overall budget limits can force tradeoffs among optimal choices in the different areas of military investment -- modernization, personnel, operations and maintenance.
- General **socio-economic conditions** also affect personnel choices. The condition of the labor market has a direct impact on the cost-effectiveness of various options. The status of the military in society and attitudes about national service are also influential.
- Finally, concerns about the **democratic integration** of the armed forces -- about links between military and society -- and about **social instability** within the military can affect the choice of personnel mix.

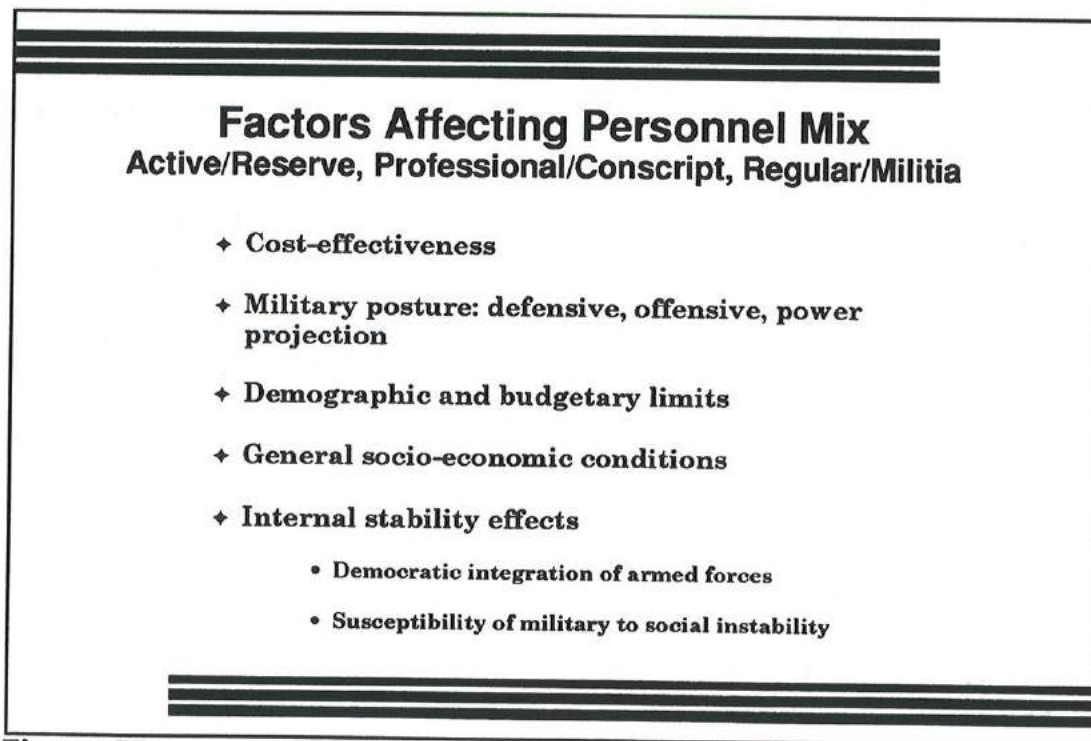


Figure 77

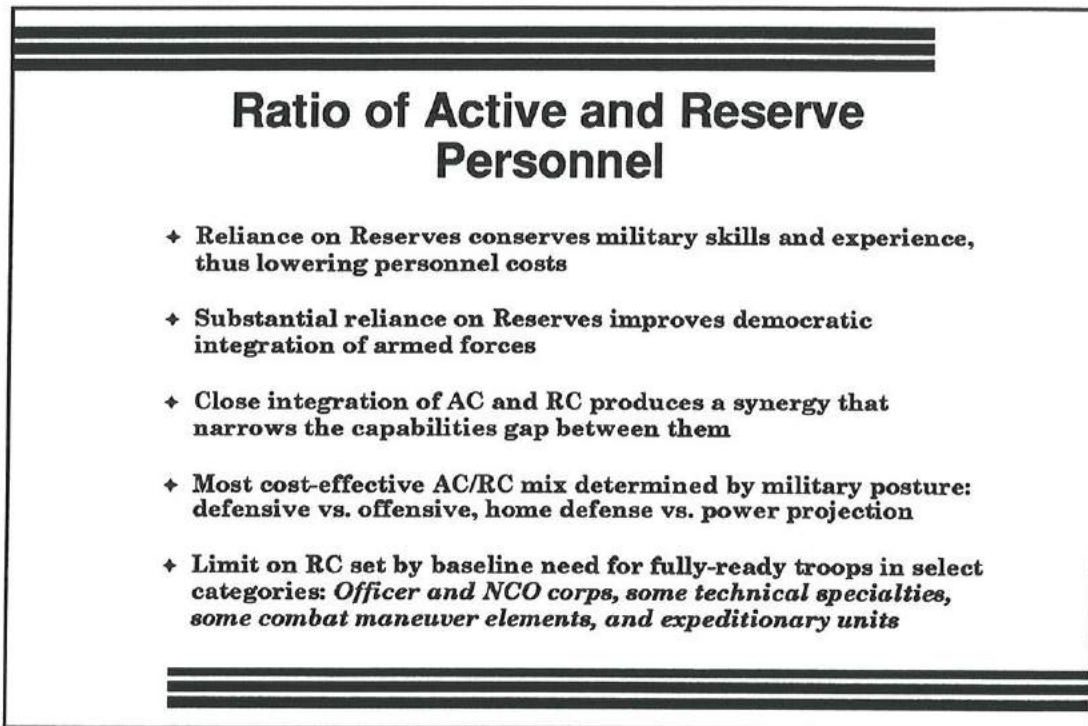


Figure 78

Two factors favor reliance on Reserves: they are relatively inexpensive, although they may have had considerable military experience, and they improve the integration of the armed forces with civil society. A drawback in some situations is their level of readiness. However, care in the assignment of missions to the Reserves and their close integration with the Active component can mitigate readiness problems. The recent experience of the United States also suggests that in some mission/skill areas (for instance, artillery) the difference between Active and Reserve personnel is not very great; indeed, in some cases reservists can actually match or outperform Active troops. (This depends both on the mission requirement and the civilian occupation of the Reservist.)

Military posture has a direct effect on the cost-effectiveness of different Active-Reserve mixes. Heavy mechanized warfare and highly-mobile combined arms operations impose highly-specialized and demanding skill and command requirements. Power projection missions share some of these requirements and add higher-readiness requirements. Also, reservists would resist the prospect of long or repeated tours "out of area."

One key factor determining the cost-effectiveness of different active-reserve ratios is the baseline or minimum need for fully-ready troops in some personnel categories: the Officer and Non-commissioned Officer

corps, specialists in some areas of military technology, and, personnel assigned to heavy combat maneuver and expeditionary units.

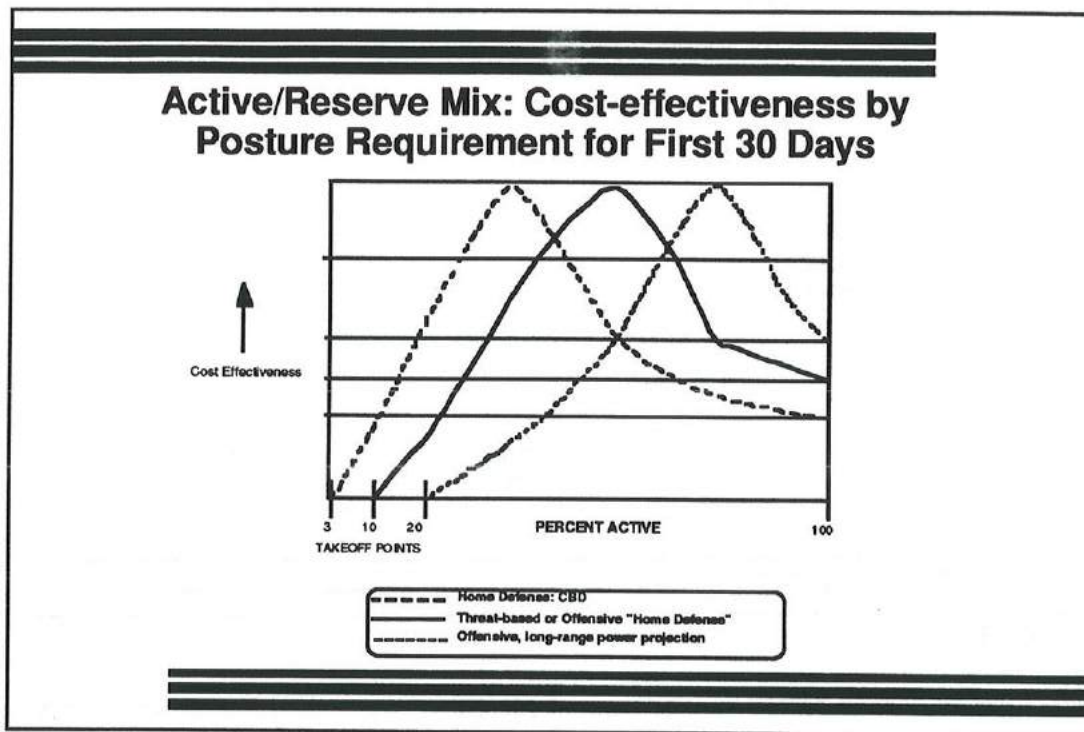


Figure 79

Figure 79 describes the general relationship between cost-effectiveness and active-reserve mix given three different defense postures: CBD, threat-based or offensive "home defense," and offensive, long-range power projection. The values assigned to the vertical and horizontal axis are illustrative, not exact.

The chart suggests that in a CBD posture the most cost effective personnel mix is one with a relatively high-proportion of reservists. Beyond a low threshold of active troops, adding more to the mix does not add enough usable capability to make the expense worthwhile. This is because CBD emphasizes objectives, missions, and technologies that reservists can more easily employ.

Note also that the CBD cost-effectiveness curve "takes off" sooner (at a lower percentage of active troops) than does the curve for the offensive-defense and power projection postures. This is because the CBD posture has a lower minimum requirement for active-duty troops -- a result of the lower priority it affords to highly-mobile heavy mechanized warfare and to power projection.

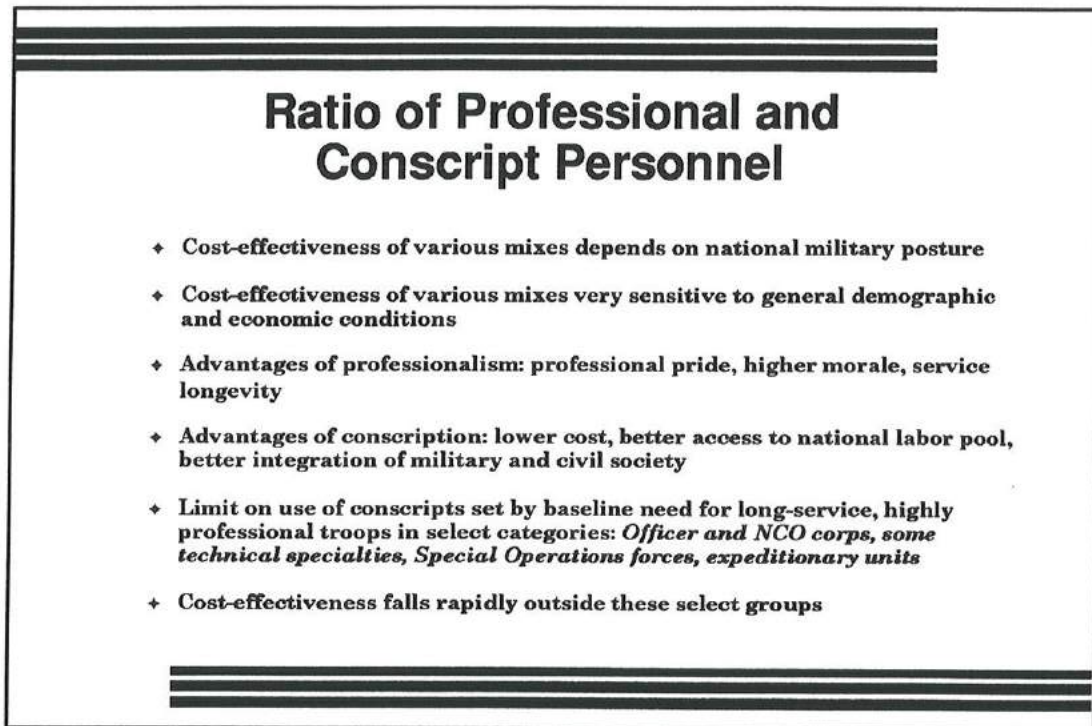


Figure 80

As in the case of the active-reserve mix, the comparative cost-effectiveness of different mixes of professional and conscript personnel is sensitive to military posture. It is especially sensitive to general demographic and economic conditions because these factors significantly affect the cost difference between volunteer and conscript personnel.

Among the advantages of higher proportions of professional personnel is unit morale and service longevity. However, conscription is generally less expensive, permits greater selectivity in choosing personnel, and better integrates the military and civil society.

As in the case of the active-reserve mix, the cost-effectiveness of different professional-conscript mixes is partly determined by baseline requirements in select categories of personnel -- specifically, those categories in which morale, experience, and dedication make the greatest difference: the Officer and NCO corps, some areas of technical specialties, Special Operations forces, and expeditionary units. Outside of these categories the cost-effectiveness of increased reliance on professional troops is limited unless the difference in cost between the two is quite small.

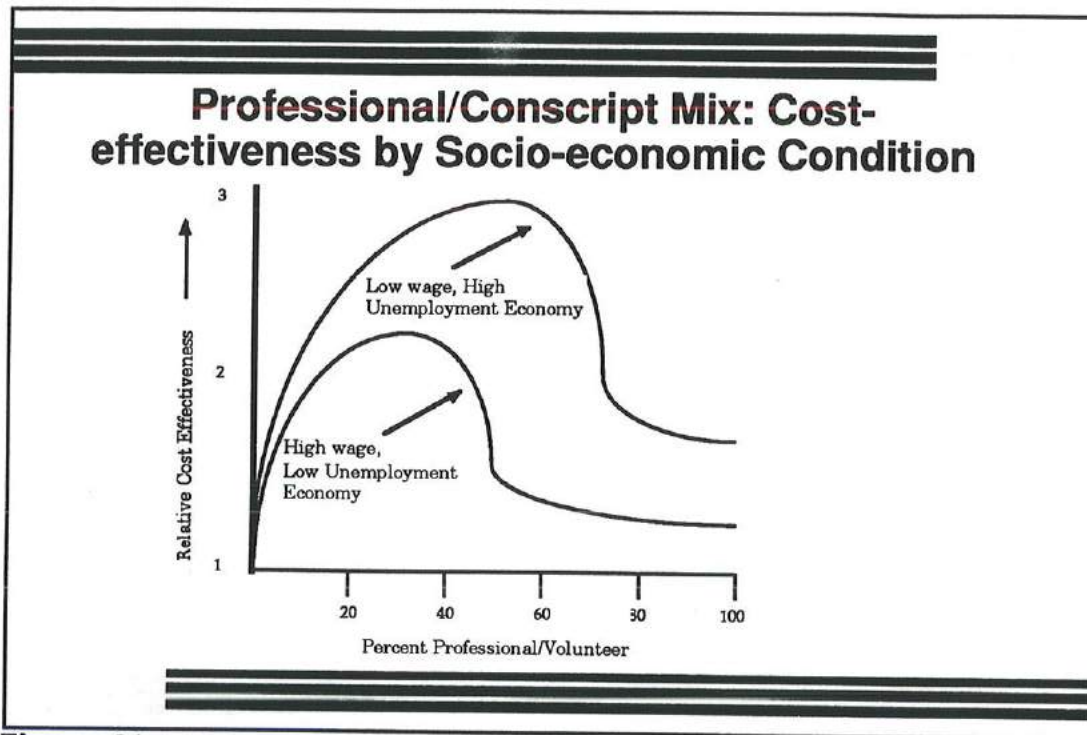


Figure 81

The chart in *Figure 81* shows the sensitivity to general economic conditions of the cost-effectiveness curve for professional-conscript mix. Poor economic conditions make it cost-effective to have a higher ratio of professional to conscript personnel. Better economic conditions not only shift the peak of cost-effectiveness toward a lower proportion of professional soldiers, it also focuses attention on those limited categories of personnel where the differences between professionals and conscripts are the greatest. The placement of the curves with regard to percentages of professional and conscript personnel is approximate and the levels of relative cost-effectiveness are suggestive of an "average" across postures. Adoption of a CBD posture would move both curves to the left because the CBD structures are less dependent on professional soldiers. An offensive power projection posture by contrast would move both curves to the right.

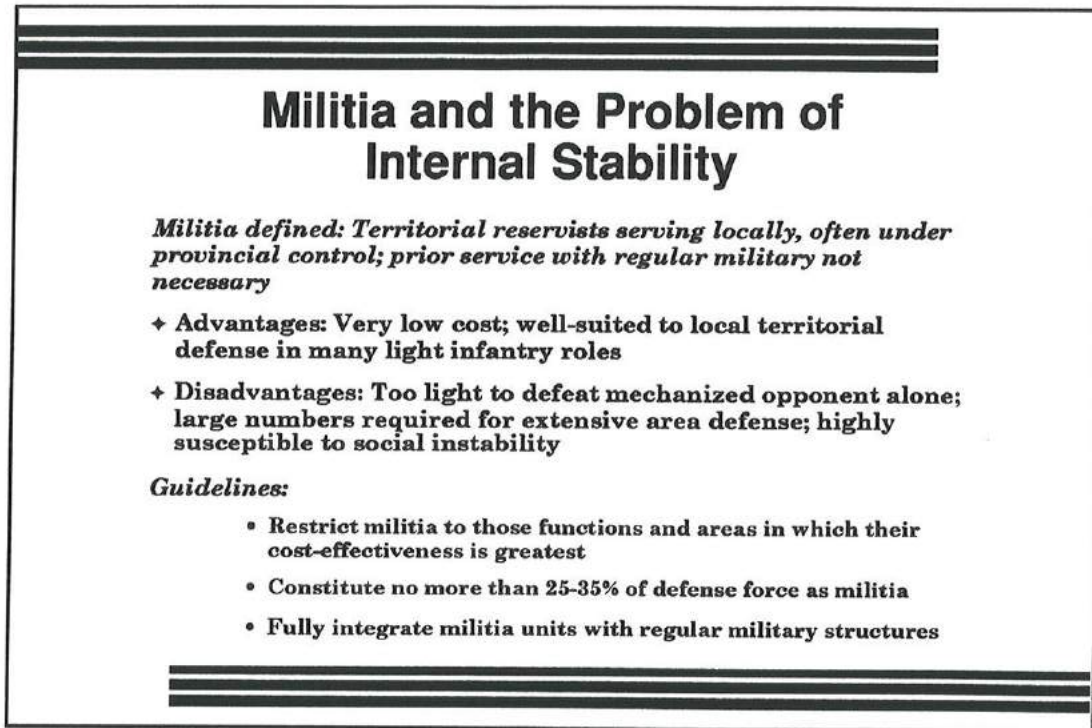
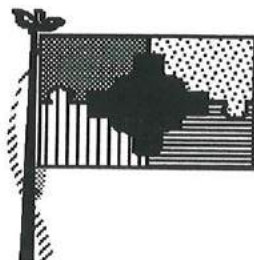


Figure 82

Militia or home guard troops have distinct advantages and disadvantages. These troops are territorial reservists serving under provincial control and often lacking substantial prior service with the regular military. Their very low cost makes them attractive for local point and rear area defense. However, they are typically too light to defeat mechanized opponents alone and their lack of mobility means that very large numbers are required for extensive area coverage. Finally, their low levels of professionalism and sometimes tenuous command links make them highly susceptible to social instability. For these reasons, the resort to militia should be limited, and they should be restricted to those functions in which their cost-effectiveness is greatest. Finally, efforts should be made to integrate militia units with regular military structures.

Confidence-Building Defense:

Issues of Internal Stability and Democracy



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This section addresses two distinct phenomena involving the democratic prospect in the East and the role of the military in society: (1) the militarization of ethnic conflict and (2) the evolution of a democratic security policy development process. Each in its own way raises questions about the nature of democratic practice, about the benefits of democracy, and about its "practicality."

Military Structure and Ethnic Conflict

The problem of ethnic conflict cannot be resolved primarily from within the realm of military policy. Clearly, the control of inter-ethnic violence through peace-keeping or peace enforcement requires special military structures and concepts -- especially if military action is not to add fuel to the fire. The general topic of this section, however, is the *prevention* of ethnic war and, specifically, how national military posture relates to the *genesis* of such wars. From a CBD perspective it is important to ensure that national military structures do not contribute an *independent impetus* to conflict. As the case of Yugoslavia attests, this is not an idle concern. The structure of the Yugoslav military and its personnel policy virtually guaranteed that any serious ethnic confrontation would quickly

assume a military character. Of special concern to the CBD approach is the fact that the former Yugoslavian posture has often been described as one of territorial defence.

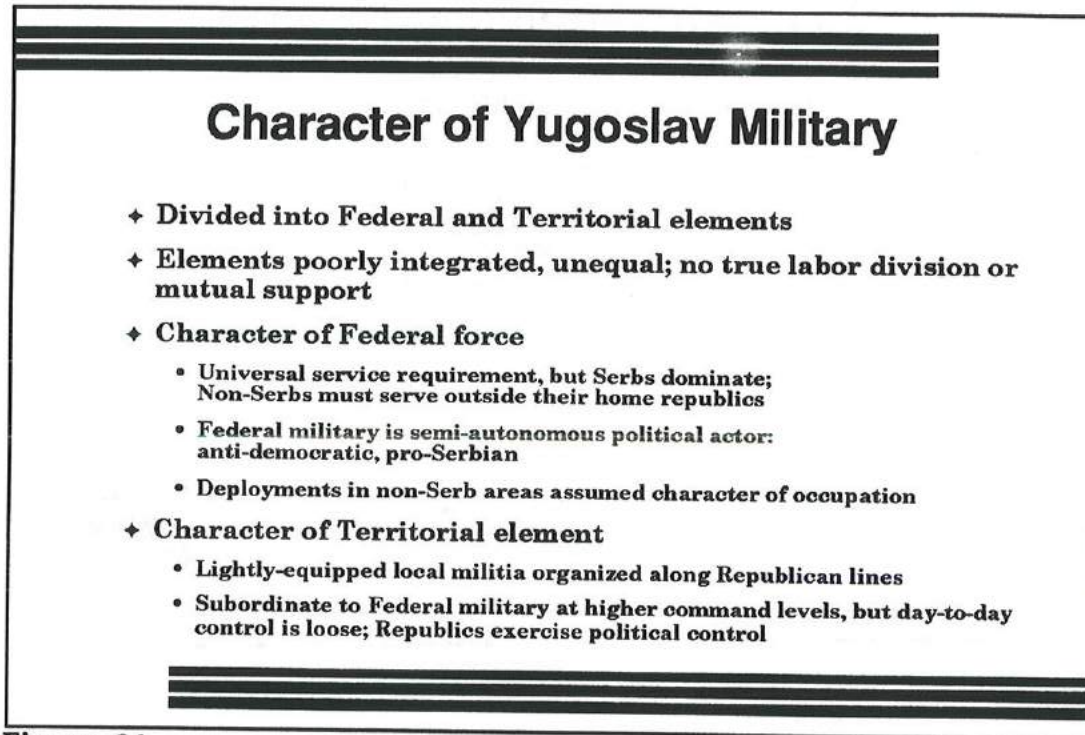


Figure 84

The principal feature of the former Yugoslav military was its division into Federal and Territorial elements. These were poorly integrated and enjoyed little real division of labor. The Territorial elements consisted of lightly-equipped militia and were organized along republican lines. Although the Territorial armies came increasingly under the political control of the republics, they remained dependent for equipment, resources, and training on the Federal army. The Federal army also exerted some formal control at the higher command levels of the Territorial formations, but its principal means of control was to deny needed resources to the Territorials. Thus, quite apart from ethnic tension *per se*, the bureaucratic relations between the Federal and Territorial units (theoretically in mutual support), came to reflect and reinforce tensions between the Federal center and the Republics.

The requirement for service in the Federal force was supposedly universal, although Serbs were represented disproportionately -- especially in the officer corps. Generally speaking, soldiers were to serve outside their Republic of origin. The central government established this policy of "extra-territorial posting" with the ostensible aim of building national

identity. Unfortunately, the fact of Serb domination in the Federal force probably had a much greater impact on attitude formation among non-Serbs.

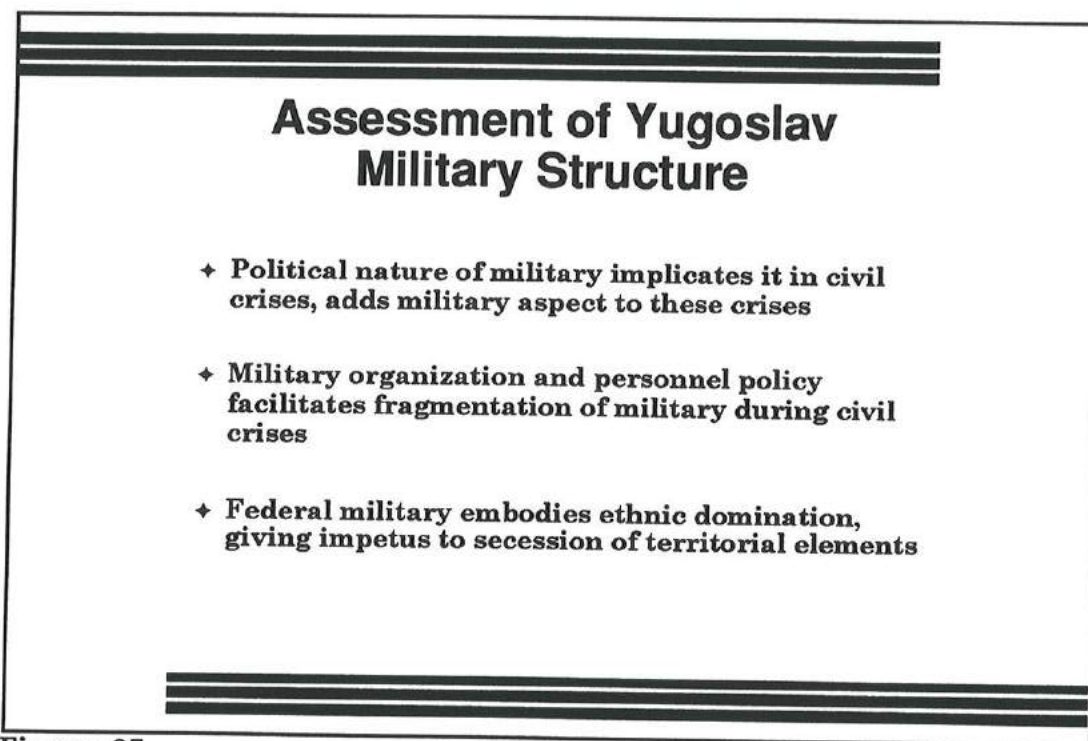


Figure 85

Extra-territorial posting also ensured that the Federal army units deployed in the republics took on the complexion of Serb-dominated armies of occupation. This contributed to local ethnic tensions and also gave an ethnic quality to local tension between Federal and Territorial units. (The relatively high proportion of Serbs in the military, especially in the officer corps, ensured that the Federal units in Serbian areas were not at odds with their hosts.)

The over-representation of the dominant group in the Federal military is reproduced and amplified in the officer and NCO corps. The ethnic alienation of the Federal and Territorial elements in all but one province is clear, especially if we pay attention to the composition of the Federal officer and NCO Corps. Organizationally, Federal and Territorial elements stand almost like distinct armies. In the case of Yugoslavia these even had different primary languages of command in some areas.

A final relevant feature of the former-Yugoslavian Federal military was its semi-autonomous political nature. Among Yugoslavian government and political bodies the army uniquely combined effective national reach,

relatively reliable central control, and an institutional identity that was more than the mere reflection of a failed ideology. It was, nonetheless, clearly pro-Communist, which put it at odds with the Republican/democratic movements, and also pro-Serbian. As an independent actor it leant backbone to the Federal cause when the national government and party were already in a state of disintegration. When the Federal cause seemed lost, it leant both backbone and teeth to the Serbian expansionists, helping to diminish the prospects of the Serbian peace and democracy movements.

Military Structure and Ethnic Strife: Stability Guidelines

Objectives

- Demilitarize internal and ethnic disputes
- Give no impetus to either centrifugal or centripetal tendencies

Guidelines

- Depoliticize military functions and offices
- Demilitarize all police functions
- Federal states adopt unified military, not fragmented structures
 - Composition should reflect ethnic balance
 - Active troops should serve nationally, but with no strict principle of "extra-territorial" posting
 - Most reserve personnel serve locally, but few pure militia units
 - Thoroughly integrate active and reserve components; make locally-based and "national" units operationally inter-dependent
- Confederations base defense structure on "cooperative security alliance" model

Figure 86

The Yugoslavian (negative) example suggests several guidelines for reducing the likelihood that ethnic and civil conflicts will quickly take a military form. A minimum level of military detachment from political crises is attained by depoliticizing military functions and offices. The goal with regard to military structures is to ensure they do not reflect or reinforce ethnic division or domination. Also, these structures should give no impetus to either centrifugal or centripetal tendencies in federations and confederations -- although, clearly, the good functioning of a Federal military will enhance the status of the Federal government.

Figure 87 presents a schematic representation of a hypothetical multi-ethnic military derived from the Yugoslavian case. The "centrifugal" character of this hypothetical military is exaggerated for clarity. The pie charts on the left of the figure show the distribution of ethnic groups in both the national population and the military. To the right is a schematic of the relationship among the Federal and Territorial elements, and their distribution among the nation's three territories.

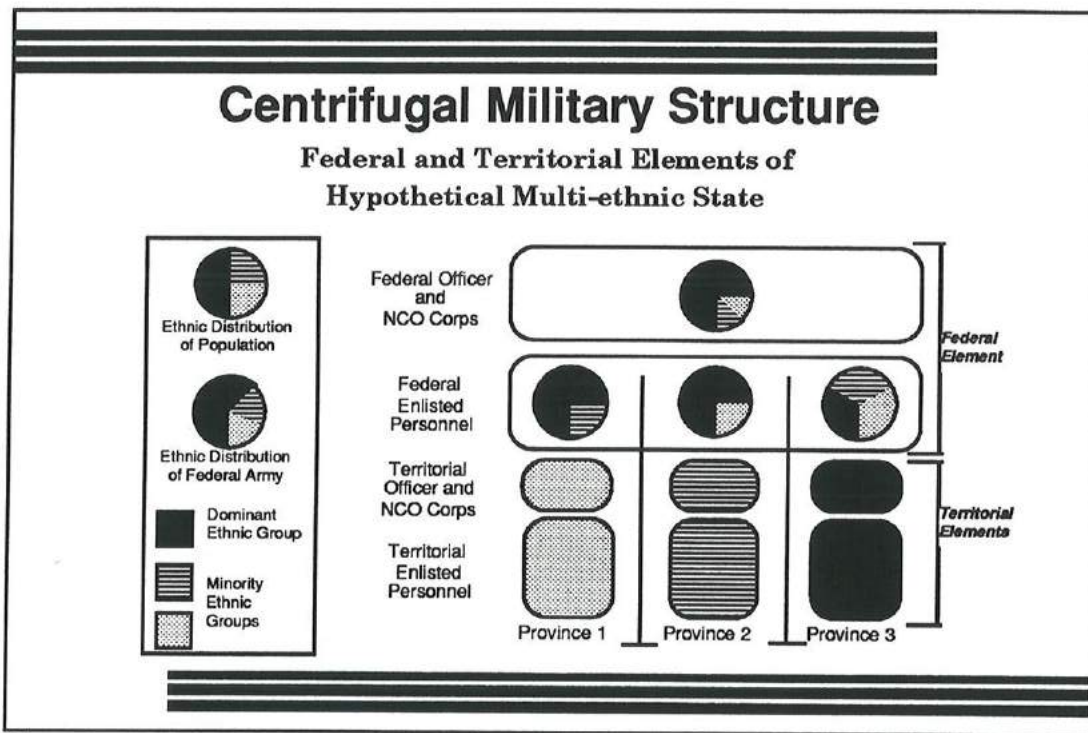


Figure 87

Federal states should adopt a unified military structure, not a fragmented one. At the same time, there could be a division of labor between more or less "central" elements on the one hand, and more or less "local" ones on the other. In the spider-in-its-web structure proposed earlier, the elements with the strongest local character are the area-covering "web" units -- by virtue both of their marriage to a specific locale and their higher percentage of reservists. As noted earlier, CBD web units, "spiders," and operational reserves (which are brigade size units with successively larger areas of influence) are profoundly inter-dependent. There is also a place in the CBD design for home guard or militia units, which may have greater local or provincial autonomy. However, the number of these units should be small and, like all units with a high proportion of personnel serving near home, they should be integrated functionally in the national structure. The structure of the CBD system and the functional

interdependence of its various elements preclude any one type of element from having a substantial offensive capability against any other.

A final guideline for building an internally stable military (for federal states) involves personnel recruitment and posting. Clearly, all the ranks should reflect the diversity and composition of society. This is easier said than done, as the Yugoslav state learned. (Its official policy *was* ethnic balance.) This does not mean that the goal is beyond reach; it only means that success may require more effort and resources than states are, at first, willing to invest. The pursuit of success in this area may seem to beggar other efforts that are more essential to national security. However, in light of the fate of Yugoslavia, this attitude shows up as a fool's realism. Regarding the question of posting: active troops should serve nationally, but this should not imply a strict principle of extra-territorial posting; drawing some active troops from their units' area of deployment helps build bridges between the units and the local citizenry.

An abstract model of a stable national military structure (for federal states) appears in *Figure 88*. On the right, pie charts illustrate a condition of ethnic balance in the Federal military. The "enclosure" of Territorial Elements (central part of the figure) by the Federal force is meant to reflect the interdependence of these elements, and the fact that local elements are not separate militaries, but functional parts of a larger national structure.

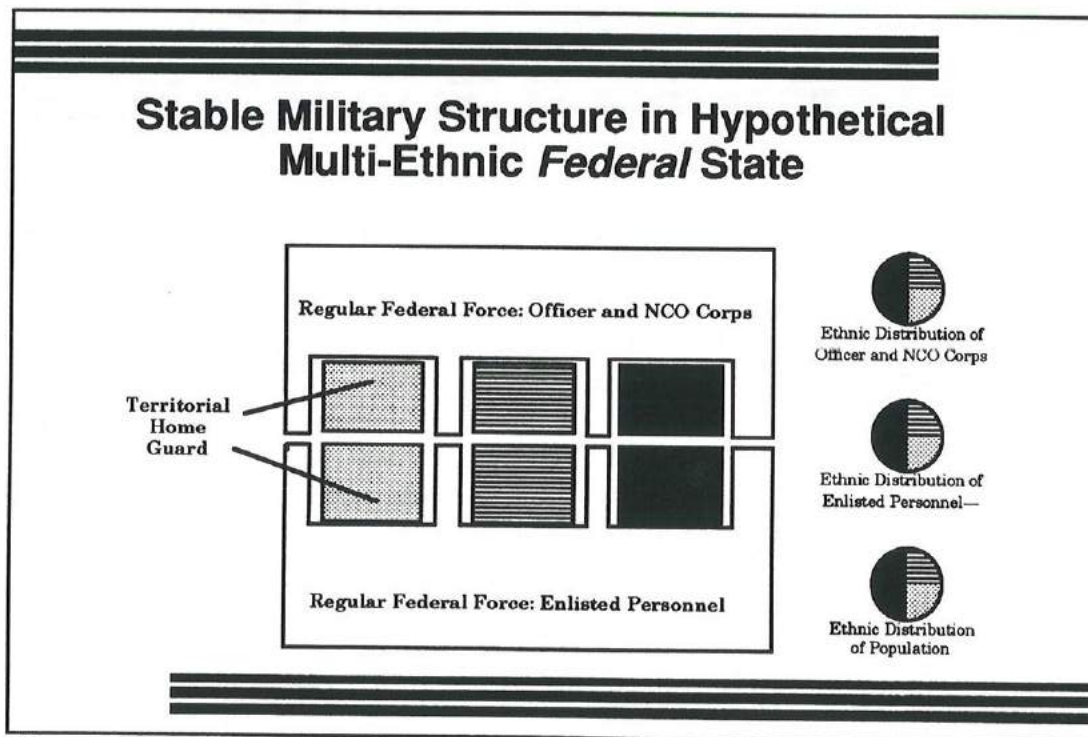


Figure 88

realistic prospect of the confederation dissolving would imply a sudden and serious defense crisis for the former partners. (The nonprovocative nature of the individual national postures would strictly limit the degree of threat states might pose to each other on dissolution of the Confederation, but threats might come from other directions while the individual armed forces were in the process of re-organization.) The key is that the degree of military unification should be appropriate to the degree of political unanimity.

In the case of confederations, the articulation of constituent national elements should reflect the political reality of a looser association. *Figure 89* sketches an appropriate relationship among the armed forces of three nations forming a confederation. The three "slices" represent the distinct national militaries; the inner circle represents the officer and NCO corps, the outer circle represents enlisted personnel. The inverted "Y" represents multinational formations, which may include not only combat elements, but also a joint staff, service schools, and shared support systems.

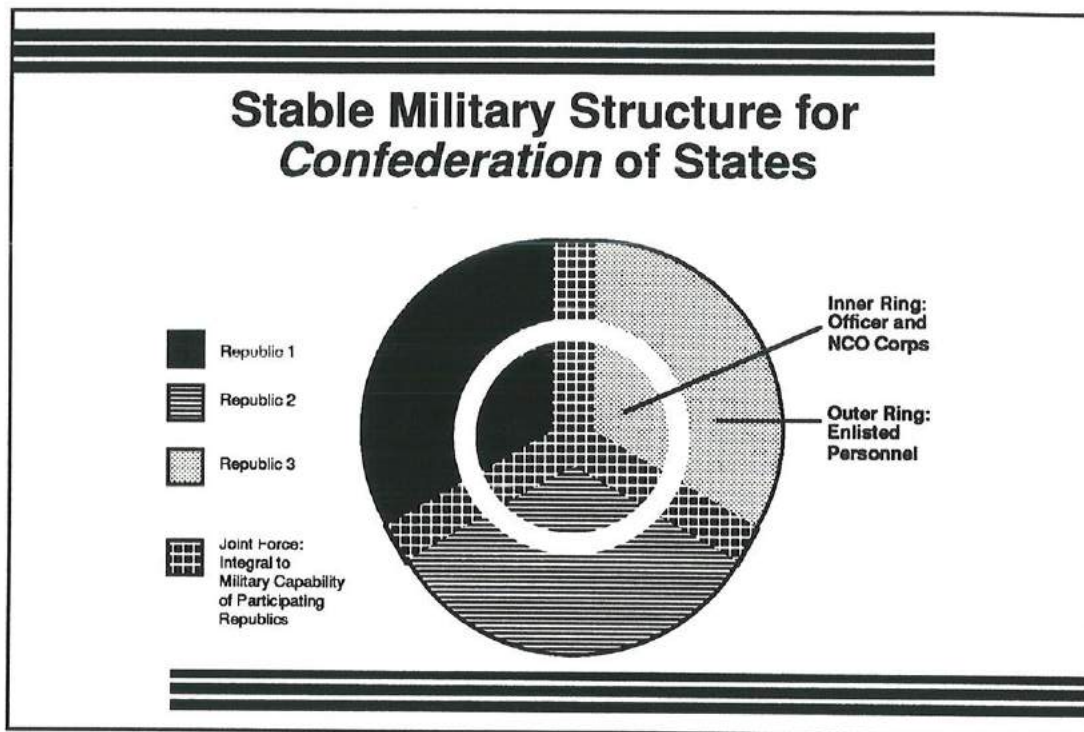


Figure 89

In a CBD design, each of the national slices might comprise fully developed Area Control Corps, including spider elements. Some ACCs, however, could be multi-national in character -- if this is sensible given the lay of the land. At any rate, the structure easily accommodates such arrangements. The individual republics would also retain some Independent Rapid Reaction Brigades, while pooling others. Tactical air forces also might be pooled or, at least, they might train, exercise, and plan together. Finally, the states might link or merge their military procurement and production establishments.

The defining feature of this particular application of CBD is that cooperation among the participating republican armed forces has a significant institutional and structural expression. At the same time, the national military structures should not be so interdependent that any

A Democratic Military Policy Process

A variety of factors pull at the coherence of military policy during the process of its development. Internal to military policy there is the need to reconcile its various aspects. At a minimum these "internal aspects" correspond to (1) the roles and missions of the individual armed forces and their subordinate branches, and (2) within each major mission area and overall, the conflicting requirements associated with force structure, doctrine and training, military technology, operational planning, readiness and mobilization, force sustainment, command and control, and communications and intelligence. Complicating the process of reconciliation is the necessary division of labor among different institutional actors within the military establishment, which introduces an element of bureaucratic politics.

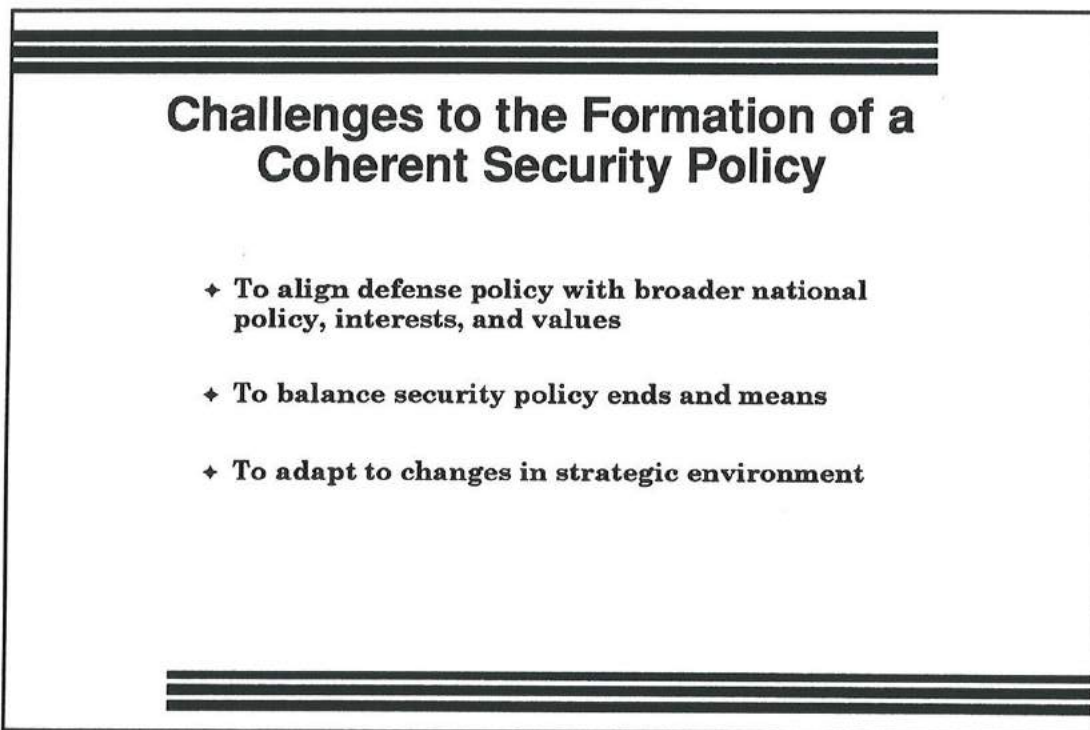


Figure 90

"External" factors also pull at the coherence of defense policy. First, there is the need to align the objectives of military policy with -- and indeed, subordinate it to -- broader national interests, values, and policy objectives. This involves not only the broader objectives of foreign and arms control policy, but also domestic priorities. Second, there is the need to reconcile resource requirements in the area of military policy and resource requirements in other areas of national policy. Finally, there is the need to constantly adapt military policy to changes in the strategic environment,

which include domestic economic conditions, and the need to revise policy in light of technological developments. Institutional actors (or bureaucracies) clearly associate with the first two of these "external factors" and even with the third, in some respects (eg. engineers may favor new "technologically sweet" solutions that are suboptimal from a military perspective.)

Viewed as a whole, the process of developing military policy *within* the context of broader national policy and *against* a background of unremitting change is like trying to solve a complex multi-variable equation in which some of the variables are unstable. Solutions can only be approximate and temporary; in this limited sense, the problem appears "insoluble." Bureaucratic politics further impede the accuracy of the process insofar as the "inputs" or "local solutions" flowing from individual institutional actors (eg. the scientific community, the Ministry of State, the individual services) will partially reflect institutional interests and prejudices.

The above analysis suggests that policy makers' expectations should focus on finding proximate solutions to the defense policy "equation" and on ensuring that the policy process *as a whole* meets a few fundamental criteria:

- First, the process must be sensitive to changes in the environment and the "lessons of experience."
- Second, it must be sufficiently flexible to permit policy adaptation, but also incorporate safeguards against over-compensation (ie frequent pendulum swings).
Third, it should maintain the integrity and clarity of individual inputs through a division of labor, but also incorporate some mechanisms to "filter out" institutional bias.
- Finally, it should structurally ensure that military policy is subordinate to overall national objectives and policy *without*, however, disrupting the coherence of military policy.

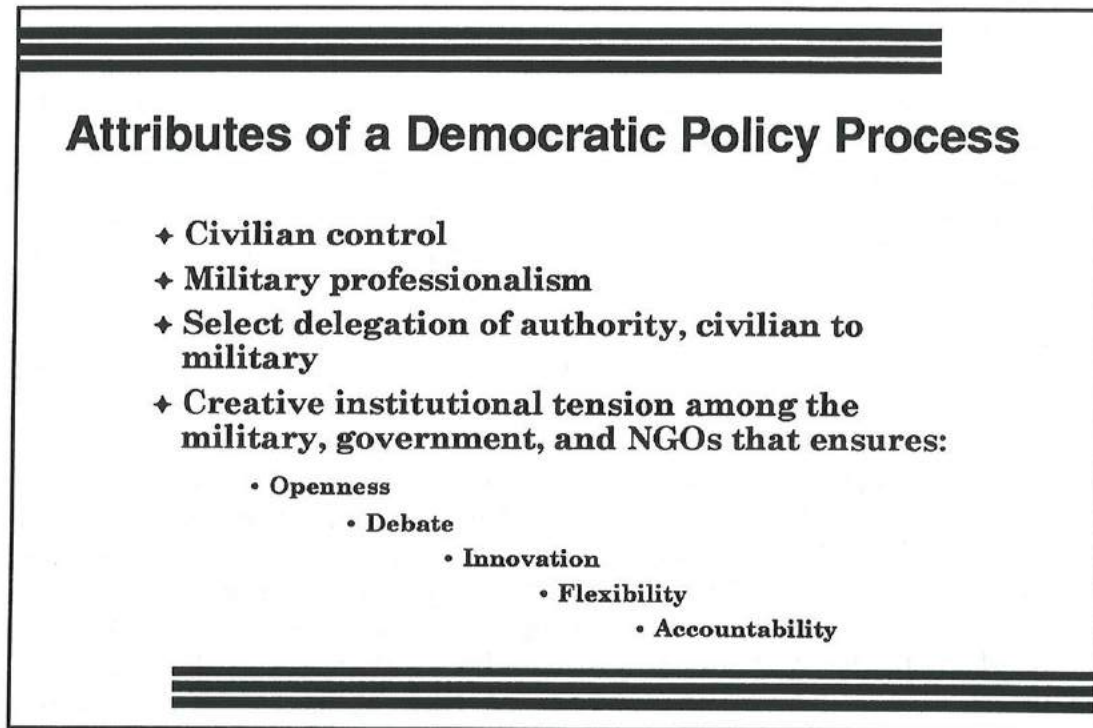


Figure 91

Viewed in the light of these criteria, a democratic policy development process has several distinguishing attributes and advantages.

- It facilitates the subordination of military policy to national policy while protecting the integrity of both by embodying the principles of civilian control, military professionalism, and select delegation of authority, civilian to military.
- It meets the criteria of "sensitivity" (to experience, change, and bias) by ensuring a relatively open flow of information and by maintaining a tension among the military, other government institutions, and nongovernmental organizations. This creates a space for conflicting opinions and for a process of "accountability."
- The process gains flexibility as well as a guarantee against frequent pendulum swings as a consequence both of the institutional tension mentioned above and a general societal emphasis on "government by the expressed consent of the governed." These attributes force the process toward *consensus building*, which usually dampens sharp swings, but also forces policymakers to respond (at least minimally) to broad perceptions of policy failure.

None of these attributes can guarantee success in the choice of policy options. However, they do substantially increase the prospects for learning from failure and averting the types of disaster that have befallen the great non-democratic states of this century. At best, these attributes may help democratic practitioners, in the words of Reinhold Niebuhr, find "proximate solutions to insoluble problems." (Also relevant to the assessment of the democratic prospect is the fact that no nation has yet managed to fully embody the democratic ideal.)

Figure 92 depicts a hypothetical democratic policy process, summarizing the influence of various actors on the development of the different components of national defense posture. A blackened square indicates that the actor appearing at the head of the column is in a decision-making role with regard to the policy component that appears at the left margin of the row. Although not all of the actors identified as having a decision-making role with regard to a particular policy component actually exercise a "vote," their influence in defining policy is substantial. A white diamond identifies the locus of authority -- that is, the key decision-makers -- for each component of policy. The lightest shading indicates indirect influence. The medium tone indicates an advisory role.

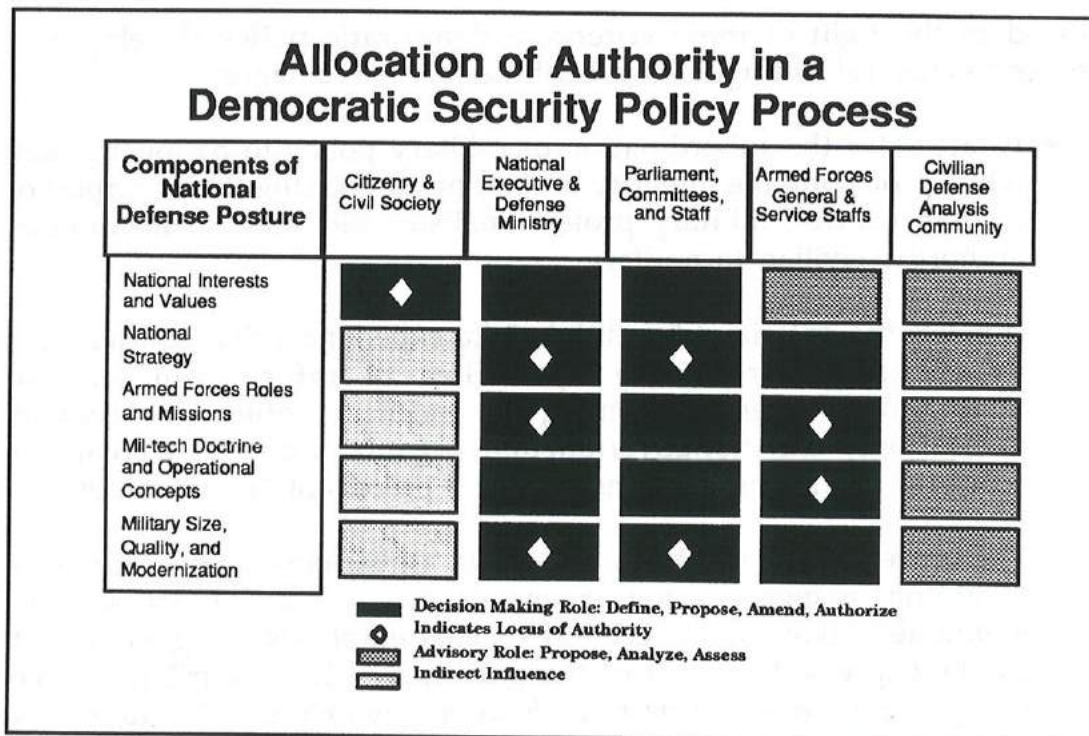


Figure 92

Although the role of the citizenry is depicted as indirect with regard to most elements of policy, the entire process should be anchored on the

definition of national interests and values -- a responsibility that falls to the citizenry as a whole. Moreover, citizens ideally exert their influence through the selection of governmental representatives and through the open expression of opinions, which are (again, ideally) amplified through various media.

Perhaps most contentious is the direct role this chart sets out for civilians in the formulation of military policy *per se* -- that is, those components of national defense posture below the level of national strategy. (Particularly contentious may be the roles of parliamentary committees and of those civilian defense analysts outside of government.) One implication of the substantial role afforded civilians is a greater limit on the role of the military than is common in some societies. In *Figure 92* the armed forces General and Service Staffs are the locus of authority only with regard to defining roles and missions and developing doctrine and operational concepts. In the first case, they share the locus with the National Executive and Defense Ministry, and even parliamentary committees are afforded a major role. Only in the case of doctrine and operational concepts does the military monopolize the locus of authority, although even here other government bodies reserve the right to propose, amend, or authorize at least some aspects of policy.

The role that this model affords civilian agencies, both governmental and nongovernmental, partly reflects the recognition that many aspects of military policy below the level of national strategy have strategic implications -- if not with regard to the political objectives of defense policy, then with regard to the broader objectives of foreign and arms control policy. Moreover, determinations of the size and quality of the military (including the pace and extent of modernization), for instance, clearly impact on non-military areas through competition for scarce resources.

Although single-party "ideological states" may narrow the role of some civilian agencies in military policy -- frequently appointing military officers to head Defense Ministries, for instance -- they actually seek to impose a firmer and more detailed form of control through the medium of the party-state. This control can reach down to the tactical level; indeed, it can even reach, on a day-to-day basis, to the small-unit level. The type of democratic policy process described in *Figure 91* and *Figure 92* limits this degree of political intervention through the principles of military professionalism and select delegation of authority.

Figure 92 does not include battlefield command in its purview. However, consistent with the principles set out earlier, civilian authority in this area would be restricted largely to (1) the authorization of operational plans, (2)

close oversight of those tactical initiatives that might have strategic significance, (3) and measures to ensure that all activities are in accord with national values and international law.

This discussion of the civilian role in formulating military policy has focused, up to this point, on the tension between civilian authority and military authority, and between the political sphere and the military sphere. Although helpful, this focus cannot fully convey the direct benefits that democracy offers to military practice. First, when it is functioning well, democracy helps a nation and its armed forces avoid ill-considered adventures. Second, democratic institutions can help mobilize resilient and genuine popular support for national endeavors that are consistent with national values and interests.

A third benefit derives specifically from the role of civilians in the defense policy development process -- although it is more accurate to say that the benefit derives from the existence and exercise of *military expertise outside the military establishment*. This expertise can reside with retired general officers, with military personnel on leave, or with individuals who have had little or no direct military experience. To be beneficial (in the special sense we have in mind), this expertise can operate in association with parts of the military establishment or entirely apart from it. It can maintain an association with particular political or social movements, or it can remain aloof from such involvements. What is important is to have a lively sphere of "alternative" military policy analysis and development that is not contained within the military establishment. This sphere can exist dispersed in university departments, private "think tanks," parliamentary committee staffs and research bodies, or in all of these places.

Military practice benefits in several ways (or for several reasons) from the existence of an independent policy analysis and development sphere. First, this sphere can echo and amplify new thinking in the military that otherwise might be lost or deferred due to the hierarchial and tightly-disciplined nature of military organizations. The relationship between a military establishment and an independent sphere of military expertise can circumscribe institutional bias and help sustain the useful tension between conservation and innovation (although military establishments certainly also support their own internal "think tanks" and innovators).

The value of maintaining a positive tension between the military establishment and an independent sphere of analysis is evident in a second way when we consider the question of "military doctrine."

Doctrine is not simply a body of theory that evolves freely in response to changes in the security and technological environment. It is also the glue

that holds a military organization together --not even the basic organizational structures of the military would make sense without it. However, doctrine cannot fulfill its multiple functions as a practical guide, as an organizing force, and as a theory of armed conflict without some difficulty. Again, the tension between military expertise inside and outside the military establishment can create a unique venue for creativity.

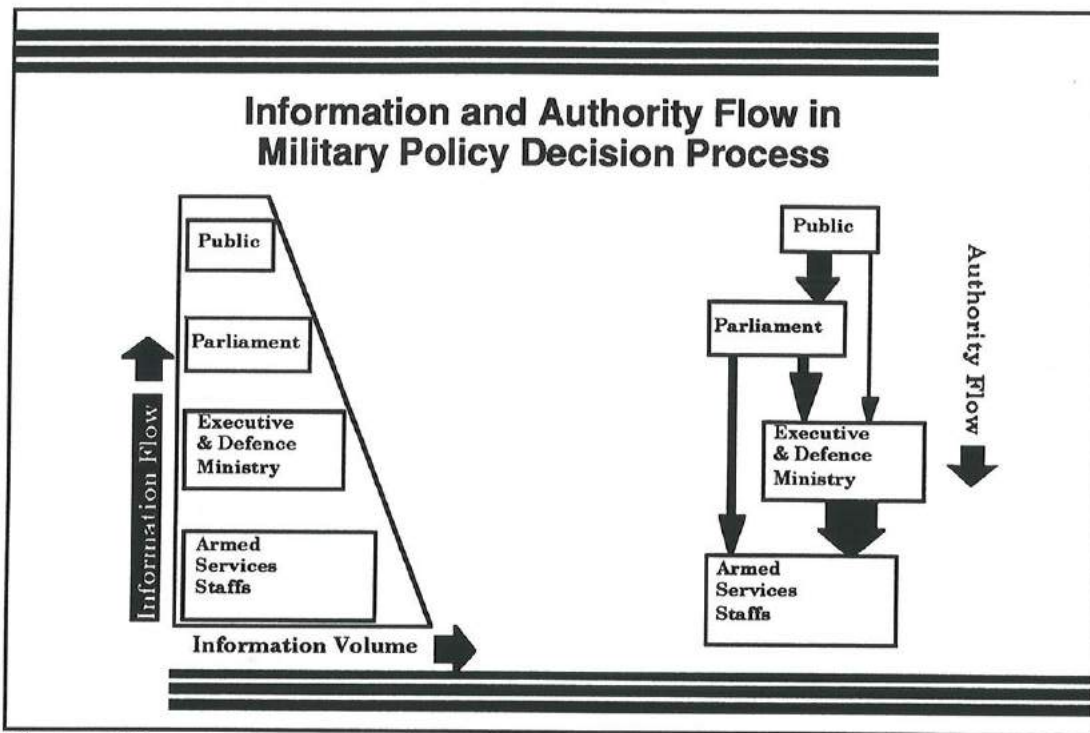


Figure 93

Figure 93 examines the information and authority flow in the military policy process, with the aim of clarifying the role of "military expertise existing outside the military establishment." To the left of each chart is a semi-pyramidal structure representing the flow of information from the armed services to the state executive bodies, legislatures, and public (which in this case includes the public media). The length of the base of this structure represents schematically the amount of available information. The flow of authority is depicted on the right side of each diagram. The thickness of the arrows represent the strength of each actor's influence over the others, which partly reflects each actor's access to information and partly reflects constitutional arrangements.

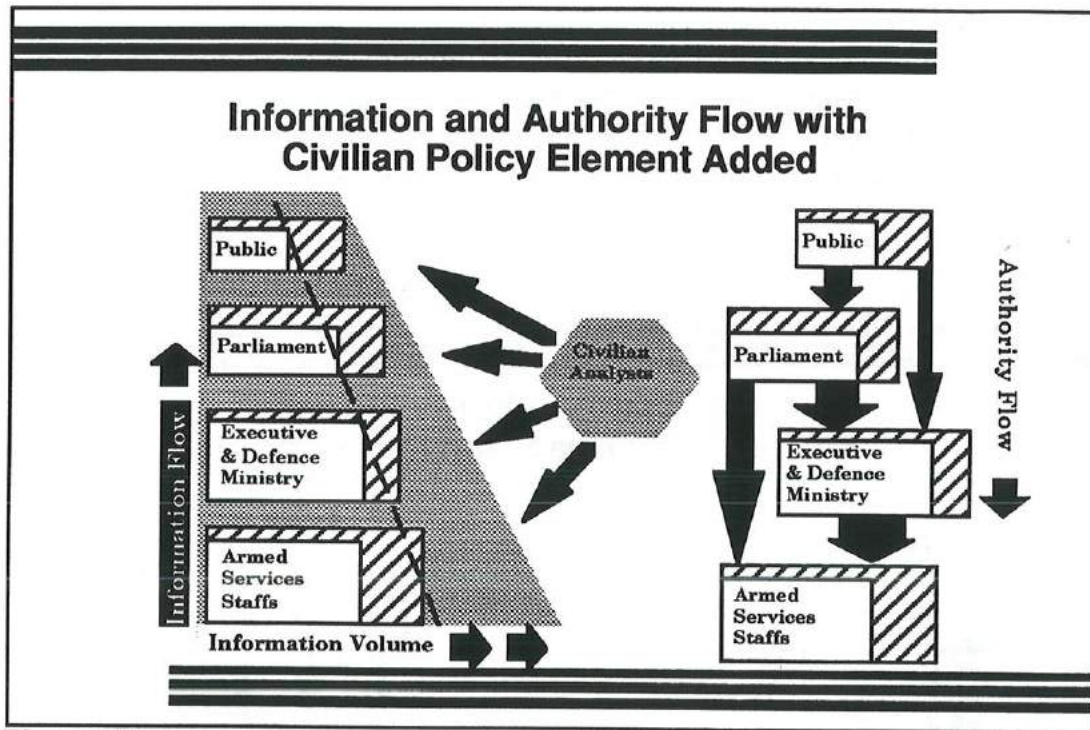


Figure 94

Figure 94 suggests the effect of a vibrant sphere of civilian analysis on information and authority flows. On the left side the growth in the total volume of information (including analysis) is evident. (The dashed line represents the previous volume of information, as depicted in Figure 93.) The size of each actor's box grows commensurate with the increase in their access to information. These changes carry over to the right side where a consequent change in authority flow is depicted. The civilian policy analysis community, having no political authority as such, does not interact directly with the authority flow. Two features of this hypothetical illustration stand out: First, the role of the public in the process expands substantially, hopefully resulting in a more resilient policy consensus. Second, there are no "losers" in this transformation; all benefit from the growth in information.