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How Low Can NATO Go?

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The following is an excerpt from a forthcoming Institute for Defense and Disarmament Studies Working Paper, After Conventional Cuts: New Options for NATO Ground Defense. *The authors are research fellows and associates of the Ground Force Alternatives project at IDDS.*

The January 1990 NATO and US-initiated proposals at the negotiations on reducing conventional forces in Europe (CFE) create, for the first time, the prospect of substantial reductions on the Western side. Curiously, now as before, NATO leaders insist that the force levels they propose represent the bare minimum needed for a reliable defense of the central front.

Why, one might ask, does NATO have some minimum force level requirement when the WTO is disintegrating as a militarily effective alliance, and the Soviets seem willing to consider withdrawing all their forces behind their borders? The answer can be found in the concept of "force-to-space" requirements—the ratio of NATO's forces to the amount of territory they must defend.

MILITARY ANALYSIS

Inadequate force-to-space ratio has long been a major NATO military concern; and now, with the expectation of significant force reductions, it will rise to the forefront of the alliance's vexations. NATO defense planners have argued that once the West reduces to the minimum level dictated by force-to-space considerations, it will have little latitude for negotiating further cuts. Assessing the situation in 1989, NATO Supreme Allied Commander General John Galvin concluded, "Reductions... could not cut very deep before the considerations of terrain and force-to-space ratios would become a dominant factor."

Besides bolstering arguments for setting a relatively high floor for NATO troop reductions, force-to-space considerations may lead to military policies that both accentuate threatening structures and capabilities, and exacerbate crisis instability. Already some analysts are urging greater emphasis on long-range fire and rapid maneuver capability to fill expected gaps and weak points in a thinned-out defense line.

Analysts usually calculate force-to-space requirements by applying some rule of thumb regarding the capability of a modern armored division to defend a sector of specified width. After factoring in terrain and urbanization variations, some assumptions about close air support, and some desirable ratio of operational reserves to frontline troops, one can arrive at a number of divisions needed to defend the front in question.

However, most of these calculations overlook the role of doctrine and force structure in determining these needs. In fact, the alliance's present force-to-space quandary results from the interaction of two problems: NATO's relative lack of defensive depth and *its reliance on force structures, deployments, and operational concepts that do not make the most of available depth.*

Untangling the Force-to-Space Knot

To better understand the relationship between doctrine, structure, and force-to-space requirements, it is helpful to adopt the distinction, suggested by BH Liddell Hart, between the minimum *strategic* (meaning "theater-strategic" or "theater") force-to-space requirement, which would apply across the entire central front, and the minimum *tactical* (or battlefield) requirement. Estimates of the tactical force-to-space requirement, expressed in terms of the maximum amount of frontage a division can defend, vary widely. Further, planners usually express these estimates as a single value or number, rather than as a *range* of values, as might be expected given the many variables that go into calculating the tactical minimum requirement. The factors relevant to such calculations include:

- the amount of force an attacker can optimally concentrate against a given tactical sector;
- the nature of the terrain;
- the degree to which the defender has prepared the battlefield with, for instance, obstacles and minefields;
- the quality of the defender's reconnaissance, surveillance, and target acquisition systems;
- the range, quantity, and quality of the defender's firepower; and
- the mobility of the opposing forces, assessed relative to each other and to their individual missions.

Further, to determine the requirement for tactical reserves, it is

Continued on next page.

Inside

William Kaufmann's Defense Spending Plan 4
For the Record 5
Vienna Watch 6
Alternative Defense in Brief 8

necessary to calculate the advantages that accrue to a defender, which depend on how the defender chooses to deploy and fight. Finally, the tactical minimum depends heavily on the specific mission of the defending units. In all cases they will seek to detect an invading force; in most cases they will also engage it. But, beyond this, will they attempt to delay, contain, or defeat the invader? The answer will vary from sector to sector, depending on overall theater strategy. Clearly, the minimum tactical requirement should be presented as a range of values—a range that takes into account force deployments and operational concepts.

Most analyses focus, perhaps understandably, on determining the tactical minimum for those sectors especially susceptible to armored assault. But such analyses will not generate estimates applicable to *all* sectors. Further, since the end of World War II, estimates of the force-to-space minimum have not kept pace with improvements in surveillance, target acquisition, and firepower capabilities. (In 1979, the US Army estimated that its mechanized divisions in Europe had about five times the firepower of 1950 armored divisions, and predicted that improvements in the 1980s would further increase divisional capabilities.)

These various shortcomings in calculating the tactical minimum are likely to lead to underestimations of how much space a division can effectively defend. Turning to the theater level, a different sort of problem leads to a similar predicament: NATO's doctrine, force structure, and operational plans *may actually increase* its theater force-to-space requirement.

Force-to-Space Requirements on the Theater Level

The relationship between the tactical and theater minima has several determinants: the length and permeability of the border to be defended, the susceptibility of the defense to surprise attack, the available defensive depth, and the defender's mobility as compared to an aggressor's likely rate of advance. Also relevant is the number of main attack axes an aggressor can reasonably attempt, which in turn correlates directly with the overall size of the aggressor's forces and the attacker-defender force ratio.

Prior to World War I, the theater minimum was understood to be a small fraction of the sum of tactical minima for all sectors of the front. Long stretches of it could be safely left lightly defended or undefended because unexpected enemy incursions could be handled by redeployment. The relatively small size and slow pace of armies meant that the defense had more room and time for countermeasures.

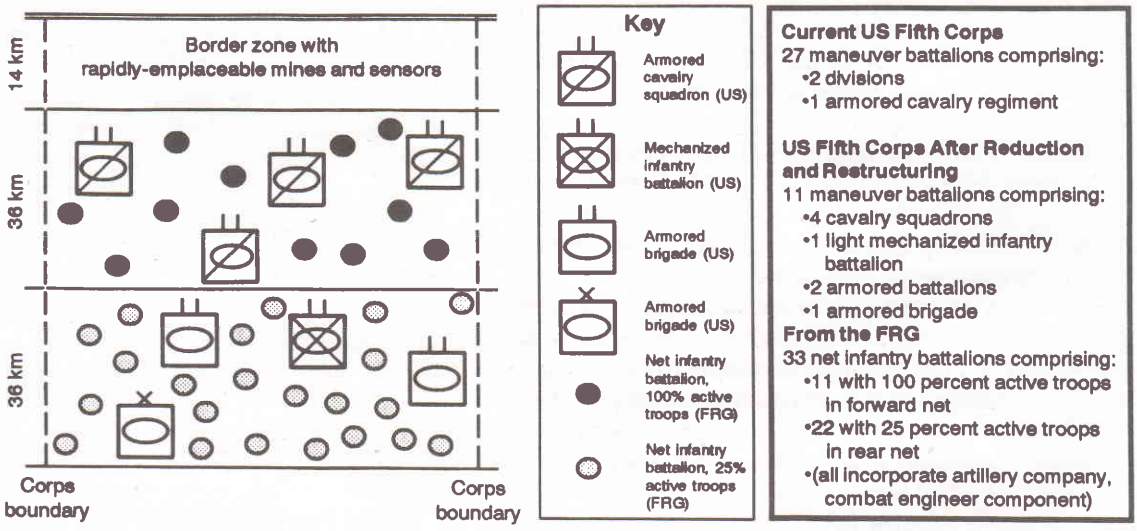
During World War I, however, several developments combined to swell estimates of the theater minimum. The size of armies and their strategic mobility had greatly increased, while their operational and tactical mobility at the front remained low, making it difficult for units to redeploy once they left their railheads. This led both sides to attempt to provide the front with enough forces to meet *simultaneously* the tactical minimum in every sector. After the war, defense planners continued to regard the minimum theater requirement as equivalent to, or even greater than, the sum of the tactical minima for each sector. In Liddell Hart's assessment, this view amounted to "visualizing the extreme case, extremely improbable, of having to meet a heavy attack on all sectors simultaneously and demanding forces strong enough to defend everywhere."

When Is Enough Not Enough?

Along the current central front, the lack of defensive depth is regarded as having an effect similar to that of low tactical and operational mobility in World War I. Some analysts insist that because NATO lacks sufficient depth (partly for political reasons), it cannot confidently trade space for time or easily wield operational reserves to quickly block a WTO penetration. For many years, the approach to this problem (Active Defense) was to develop a capability to defend far forward along *all potential avenues of advance* until reinforcements could arrive. In a sense, as Liddell Hart suggested, this approach required NATO to deploy "redundant" standing forces in the theater. Lacking these, it faced a theater force-to-space problem.

The current AirLand Battle plan, by contrast, prescribes deploying larger operational reserves for counteroffensives. To compensate for a thinner forward line, the doctrine prescribes early offensive action where possible. This would tie down WTO units in secondary sectors and threaten any penetration with a flank attack. But because this approach requires surrendering in good part the advantages of fighting on the defensive and requires leaving gaps in the forward defense line, it means wagering heavily on the early success of counteroffensive action. One way of hedging this bet is to set a high quota for operational reserves—a quota that NATO cannot or will not meet.

Hypothetical Spider-and-Web Defense Using the US Fifth Corps



After the number of maneuver battalions is reduced by 60 percent, the relatively static infantry battalions perform many of the less demanding functions of a covering force, and also provide the maneuver battalions with intelligence and logistics support.

Viewed from this perspective, the prospects for arms reduction appear quite limited. Because NATO's need for redundant forces arises in part from its lack of defensive depth, the requirement will not decrease proportionally with Eastern arms reductions. Although such reductions might reduce the number of possible simultaneous WTO attack axes, these could still fall anywhere. So, as before, NATO will have to prepare to defend everywhere. Facing fewer attack axes, NATO might enjoy greater freedom to redeploy reserves, but the WTO could prevent NATO from making optimal use of reserves by keeping the axes of attack widely separated. Moreover, lower force *density* in the theater after CFE might mean higher force *mobility* in the event of war. Such an outcome should benefit the defender as much as the attacker in the long run—if there is a long run. Initially, however, the attacker will choose the time, place, and pace of battle.

Rethinking NATO's Force-to-Space Needs

Resolving NATO's force-to-space quandary begins with the recognition that its theater force-to-space requirement hinges as much on overall force structure, deployment, and operational plans as on the features of the European theater. This is implicitly recognized in occasional mainstream proposals to increase NATO's reliance on rapidly-emplaceable mines and obstacles that could impede an invader's mobility. Increasing NATO's emphasis on the use of such systems would not affect the *amount* of force in a given area as much as the *character* of that force. Yet, such a change would effectively increase the time and depth at NATO's disposal, and in this way reduce its theater force-to-space requirement.

To better appreciate the importance of force structure and doctrine in establishing force-to-space requirements, consider a more comprehensive alternative to current alliance policy: the "spider-in-its-web" defense proposed by Lutz Unterseher and the International Study Group on Alternative Security Policy (SAS). This defense comprises a static net of light infantry battalions (the "web") and a smaller mobile element of mechanized battalions (the "spider") that operate within the net. The light infantry units would perform some of the tasks currently assigned to heavier maneuver units, such as forward surveillance and reconnaissance, deployment of mines and obstacles, and small-scale attack to delay an aggressor's advance units. By performing these less demanding functions of a covering force, the web battalions would lower the overall requirement for heavy maneuver units. They would also provide the mobile spider units with intelligence and logistical support, and thus allow a reduction in the size of mobile units. Finally, because the SAS web units would draw about 50 percent of their strength from the Federal Republic of Germany's large pool of reservists, adopting the model would also result in a reduction in the number of active-duty troops deployed in peacetime.

In addition to reducing the requirement for active-duty troops and heavy maneuver units, a switch to a spider-and-web-type defense would guarantee more consistent coverage of the central front. (The current practice of assigning even the most basic area-covering functions to armored maneuver units is inherently inefficient.) Better area coverage, together with thorough preparation of the battlefield and substantial countermobility efforts, would mitigate NATO's depth problem, thereby lowering its theater force-to-space requirements. Finally, by dividing area-coverage tasks between web and spider forces, this approach would give the West the option of negotiating deep *bilateral* cuts in European *maneuver forces* without risking a comparable reduction in its ability to cover the forward area.

When Is Lighter *Not* More Stable?

US Army thinking is already moving in the general direction of "lightening" the force mix in Europe, but not along the lines suggested by Unterseher. Citing the work of retired FRG General Franz Uhle-Wettler, General Galvin suggests that light forces deployed in towns and forests could constitute large defensive strongholds around which heavy maneuver units could pivot. These strongholds would limit an aggressor's freedom of movement while screening the movement of friendly units. This responds to the concern that lower force density in Europe after a CFE accord might, in the case of war, mean a more fluid battle with greater opportunities for deep enemy penetrations. Gen Edward C. Meyer (retired), former US Army chief of staff, takes a slightly different tack, suggesting that mobile light forces employing new defensive nonarmor technologies might play a bigger role in border defense in the post-CFE environment. Currently, the US Army's new "Heavy-Light Assessment" is examining such ideas, along with proposals for increasing the mobility and firepower of light units.

None of the changes in force mix under open discussion within the NATO command, however, stray very far from the prevailing orthodoxy. Alliance planners view options for lighter forces only in the context of continuing and upgrading operational maneuver and deep-fire capabilities. In general, they have made no attempt to address the problems of *crisis* stability associated with possessing the capability for operational-level counteroffensive maneuver and deep fire. Indeed, given a dramatic reduction in the tanks deployed in the region and significant Soviet withdrawals from Eastern Europe, highly-mobile, high-firepower "light" forces might prove more destabilizing than current ones. And because WTO leaders would probably want to include such forces in the arms control process, greater reliance on them would not help resolve the tension between meeting force-to-space requirements and continuing the process of force reductions.

Toward Greater Stability and Security

Only a defense combining relatively static light infantry in an area-covering role and a smaller contingent of maneuver forces, like the spider-and-web approach, could adequately ensure crisis stability at low force levels. Because the net battalions are relatively static, mobilizing them in times of crisis would entail little or no provocation. As for the mobile forces, their counteroffensive strength derives from their interaction with the net; outside of it their offensive potential quickly diminishes. A bilateral shift to this type of defense would be uniquely stabilizing, as argued by Andreas von Bülow before the Armed Services Committee of the US House of Representatives in 1988. Such a restructuring of the Bundeswehr and National Volksarmie, in particular, would lessen concerns about a reunified Germany. Indeed, as Europe moves toward a future without military blocs, a central region with only spider-and-web-type defenses would help keep uncertainty and insecurity at bay—a necessary condition for peaceful political, social, and economic development.

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