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strategy, tactics, and the importance of clear definitions

In military affairs and matters of national defense, it is useful, once in a while, to go back to the basics and define terms. The cost in time and effort is small, and the potential dangers in debating serious issues without a common vocabulary are considerable. At best, we talk past one another; at worst, we think we understand when we do not. To make our point, consider the following definitions extracted from Joint Chiefs of Staff Publication 1, **Department of Defense Dictionary of Military and Associated Terms**:

Strategy. The art and science of developing and using political, economic, psychological, and military forces as necessary during peace and war, to afford the maximum support to policies, in order to increase the probabilities and favorable consequences of victory and to lessen the chances of defeat.

Tactics. 1. The employment of units in combat. 2. The ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to utilize their full potentialities.

So what, you say, I already knew that. Or did you? Or—more to the point—do those outside the defense establishment who influence our policies and pay our bills know?

A case in point: How general in the United States is the misconception that “strategy” implies “intercontinental”? In fact, the distinction between strategy and tactics has nothing to do with range or distance. Some believe, our lead author among them, that our effectiveness in the strategic arms limitation talks negotiating process was compromised by our misunderstanding of this point.

Another case in point: How often have you seen the term **tactical combat** used to describe small unit actions? Indeed, all combat involves tactics, and the distinction between tactical and strategic has to do with the results, or intended results, of the action in question, not with its scale. Is the general tendency to look down on “mere tactics” as inferior to strategy in interest and importance a result of misunderstanding this point? Does this explain why practical military operators tend to be almost alone in their fascination with tactics?

Whatever the answers to the above questions, the general point stands: Our understanding would be clearer and our arguments more coherent if we defined our terms accurately. While we can hardly expect our friends outside the Department of Defense to memorize JCS Publication 1 (though in this instance JCS Pub. 1 is very close to the normal dictionary definitions), we can get our own act together. Who knows, it might be catching.

J.F.G.

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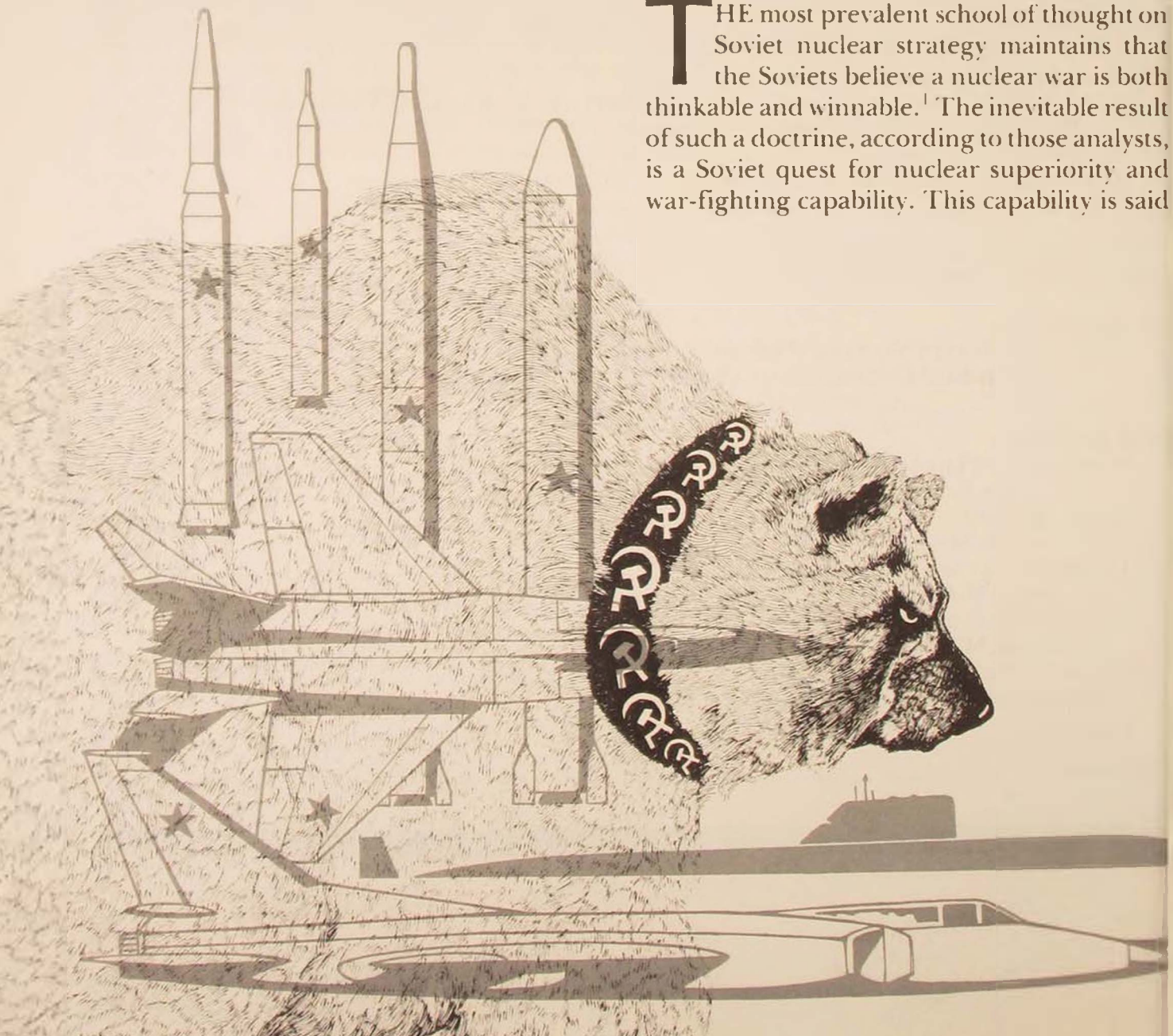
SOVIET DAMAGE-DENIAL	2
Col. William J. Barlow, USAF	
PROFESSIONAL AUTONOMY OF THE MILITARY IN THE UNITED STATES AND THE SOVIET UNION	21
Dr. David R. Segal	
Dr. Janet S. Schwartz	
EUROPEAN ARMS CONTROL NEGOTIATIONS	31
Maj. Kenneth W. Engle, USAF	
BETWEEN TWO STOOLS: VERY LONG-RANGE AIRCRAFT IN SEA CONTROL	40
Dr. Roger A. Beaumont	
IRA C. EAKER ESSAY COMPETITION WINNERS	54
TECHNOLOGICAL WAR	56
Lt. Col. Donald R. Baucom, USAF	
Military Affairs Abroad	
THE CHINESE COMMUNIST AIR FORCE IN THE "PUNITIVE" WAR AGAINST VIETNAM	67
Rear Admiral James B. Linder, USN (Ret)	
Dr. A. James Gregor	
THE CRISIS OF COMMUNISM IN EASTERN EUROPE (AGAIN?): AN EVALUATION	78
Dr. Ivan Volgyes	
"THEY SHOOT PEOPLE. DON'T THEY?"	83
Special Agent Lyman E. Holler, USAF	
Fire Counter Fire	
USA AND THEATER NUCLEAR WARFARE: A PROPOSAL	89
Lt. Col. Richard L. Hodgkinson, USAF	
A RESPONSE	93
Books and Ideas	
WORKING WITH THE SOVIETS: EXPECTATIONS AND WARNINGS	98
Ambassador Richard B. Parker	
NATO DILEMMAS	102
Dr. David R. Mets	
THE SOVIETS AT SEA	110
Dr. Donald D. Chipman	
FOCUS ON AFRICAN CONFLICT	112
Dr. Donald M. Snow	
FULLER ON "GENERALSHIP"	118
Wing Commander Nigel B. Baldwin, RAF	
Potpourri	119
Contributors	126

SOVIET DAMAGE-DENIAL

strategy, systems, SALT, and solution

COLONEL WILLIAM J. BARLOW

THE most prevalent school of thought on Soviet nuclear strategy maintains that the Soviets believe a nuclear war is both thinkable and winnable.¹ The inevitable result of such a doctrine, according to those analysts, is a Soviet quest for nuclear superiority and war-fighting capability. This capability is said



to fit Soviet global strategy, which is aggressive, expansionist, adventuresome—exploiting the political shadow cast by its nuclear dominance at every level of warfare. Not everyone agrees with this explanation, and the topic has provided much grist for argument and analysis.² My own reading of Soviet objectives and activities suggests a remarkably purposeful Soviet nuclear strategy, which dictates their force posture and guides their positions at the Strategic Arms Limitation Talks (SALT). The result is a Soviet nuclear stance that can be shown as seeking a damage-denial objective. This article proposes a detailed methodology to examine Soviet nuclear objectives and ferret out the principal historical elements of a Soviet war-fighting strategy. The relationship between U.S. offensive nuclear forces on the one hand and Soviet offensive and defensive forces as well as pertinent Soviet SALT positions on the other will be analyzed.

The simplest definition of strategy defines it as the coherent use of force toward a goal.

When the Soviet leadership determined the fundamental security goal of the U.S.S.R., that goal doubtlessly reflected political, military, traditional, and historic values. The fundamental goal, which includes the essence of all these factors, is survival; its corollary is defense. To the Soviet leadership, this does not mean working on an adversary's mind. It means defending against an adversary's weapons—those physical things that pose the actual threat to survival. My hypothesis is that Soviet marshals have adopted as their fundamental nuclear strategy objective the concept of "damage-denial." Most Western analysts would question the practicality of this approach and dismiss it as unachievable in a world of thousands of nuclear weapons and diverse delivery systems. Nonetheless, the West is not the Soviet Union so it is prudent to examine how such a concept would work as seen from the Soviet perspective and what force characteristics it would include over the years.

The U.S.S.R. envisions the current nuclear threat from the United States to consist of the following:

- Intercontinental ballistic missiles (ICBMs) from the continental United States
- Submarine-launched ballistic missiles (SLBMs) from the North Atlantic, Mediterranean, and Pacific Ocean
- Bombers/short-range attack missiles (SRAMs) from the continental United States



—Theater aircraft from NATO and Korea, including carrier-based aviation (forward-based systems—FBS).³

Looking at the foregoing quadrad of American nuclear threats, the Soviet defense planner would consider the means necessary to counter, deny, neutralize, or reduce such threats. He could produce a simple strategy matrix of the type shown in Figure 1. The matrix depicts a methodical approach to a defense in depth, using a combination of offensive, defensive, and arms control measures in an integrated strategy to limit damage to the U.S.S.R. to the lowest levels attainable, with the ultimate objective being damage-denial. Explicit Soviet programs would be designed under each column in an attempt to reduce significantly the specific U.S. threat listed. The net results column shows the percent reduction expressed in terms of the initial U.S. nuclear threat. The basis for these judgments will be explained in detail in subsequent paragraphs. At this stage, it is only necessary for the reader to understand that the Soviet planner desires that there be measures and programs to counter each U.S. nuclear threat and that the ultimate Soviet objective is sharply reduced damage. My included premise is that the Soviet strategy is based on possession of a combination of offensive forces which are most effective when employed in a broad coordinated attack against U.S. nuclear forces on a day-to-day (ungenerated) alert posture. Such an attack results in sharply lower U.S. force levels retaliating in ragged uncoordinated responses against an array of Soviet defense in-depth schemes, including air, missile, and civil defenses.

Most analysts argue that any large-scale nuclear exchange would be preceded by an extensive period of increased tension, hence providing strategic warning and "generated" U.S. alert postures.⁴ "Bolt out of the blue" attacks are properly viewed as noncredible scenarios. On the other hand, not all attacks against day-to-day alert posture are necessarily bolt out of the blue. A crafty and implacable enemy to whom we have ceded the first blow can always allow tensions to ease, time to pass, and generated forces to return to normal alert rates. Since the choice and timing of first attack is stipulated to be at Soviet initiative, there are only limited finite periods before nuclear-powered fleet ballistic missile submarines (SSBNs) must return to port and bombers to maintenance. The actual alert posture of U.S. forces in such situations could be far less than fully generated levels. The sections which follow will review the historical Soviet efforts to achieve damage-denial against the U.S. nuclear quadrad in a day-to-day alert posture.

The ICBM Case

In the early 1960s, the United States publicly committed itself to a force of 1000 Minuteman ICBMs. This force was controlled by 100 launch control centers (LCCs), each LCC handling 10 missiles. Originally, missiles could only be launched by an LCC, and the loss of an LCC in effect meant the loss of 10 missiles—making the LCCs a lucrative target. In the same time frame, the Soviets developed and began to deploy the SS-9 ICBM, a weapon whose combination of characteristics argued that its chief purpose had to be the attack of

Figure 1. Damage-denial measures

U.S. threat	Soviet offensive measures	Soviet defensive measures	Soviet SALT positions	Net results
ICBM SLBM Bombers FBS	Programs to limit damage by offensive means	Programs to limit damage by defensive means	Positions to support Soviet goal of damage-denial	Percent reduction in U.S. threat

Minuteman LCCs. The incredibly high yield (18-25 MT)⁵ of the SS-9 was required to offset its relative inaccuracy against the LCCs. A force of some 200 to 250 SS-9s would then be sufficient to destroy the 100 Minuteman launch control centers and hence neutralize all 1000 Minuteman ICBMs.⁶

Since the foregoing Soviet intent became painfully obvious to U.S. defense planners, the rather simple U.S. "fix" was twofold: interconnect LCCs so that many more than 10 silos could be controlled by each control center and, more important, initiate an airborne launch control capability that could launch the entire Minuteman force (albeit over a longer period) even if *no* LCCs survived. Thus, the original SS-9 with its huge yield was outflanked and denied its mission by the U.S. response.

By the mid-1960s, the Soviets recognized that LCC attack was out as a useful strategy. They set about to recoup their SS-9 investment, doing the best they could with what they had at the time. This turned out to be the Mod 4 SS-9, which used three warheads of about 5 megatons each in place of the single yield warhead.⁷ Called a multiple reentry vehicle (MRV) system, it was a crude forerunner to later multiple independently targetable reentry vehicles (MIRVs) technology. Still, the best guess at the time was the attitude control and release mechanisms of the Mod 4 were designed to attack Minuteman silos. So, as a stopgap measure, the Soviets hoped to put as many prompt counterforce reentry vehicles (RVs) as possible on our ICBMs—a force of up to 300 SS-9s carrying some 900 warheads against 1000 U.S. silos of modest hardness. This was clearly a "make-do" stopgap program, whose effectiveness against Minuteman would be far lower than their original LCC attack scheme.

Again, the Soviet intent was clear to U.S. defense planners. This time the U.S. "fix" was more ambitious. All silos would be hardened to a far greater stress level (e.g., 2000 pounds per square inch)⁸ and defended with Safeguard, a two-layered antiballistic missile (ABM) sys-

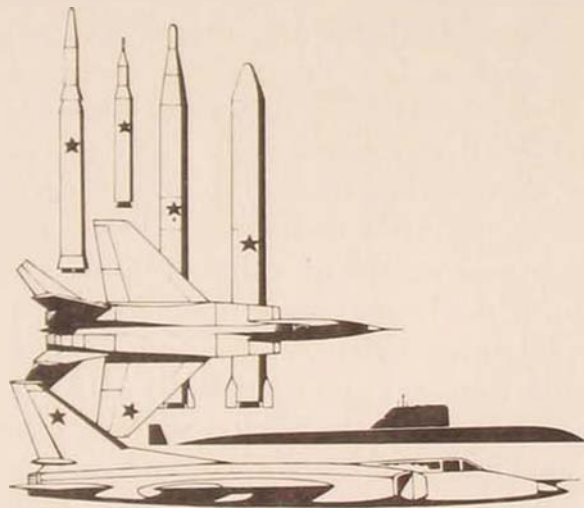
tem collocated in Minuteman fields. Additionally, by this time the SALT dialogue had started, and a fundamental U.S. objective would be strict limits on "heavy missiles" (i.e., SS-9s) to reduce the threat to Minuteman.⁹ Hopeful arms controllers spoke of ensuring stability through tight controls on those weapons that provided incentive to strike first in a crisis situation. The example they had in mind was the "heavy missile," which carried multiple warheads of a large nuclear yield and whose only utility could be first use against an opponent's ICBMs.

The Soviet anti-Minuteman effort is an exemplary model of dedication to single-minded purpose. During SALT I (1969-72) the Soviets resisted every effort to apply meaningful limits on "heavy missiles" and artfully dodged the many earnest U.S. devices (e.g., definitions, no increase in missile dimensions, unilateral statements) to control SS-9s.¹⁰ At the same time, they worked hard to cut missile defense levels in the ABM treaty to low levels. It was clear to many at the time that the Soviets were resisting the heavy missile limitations because they intended to deploy follow-on "heavies" in greater numbers and doubtlessly MIRVed; it was also clear that the United States was painting itself into a vulnerability corner by accepting an ABM treaty which did not permit deployment of an effective Minuteman defense system (already approved for four Minuteman locations.)¹¹ The unfortunate end result of this chain of events at SALT I was an undefended Minuteman force and an unfettered Soviet heavy missile force.

The intense ten-year Soviet effort to neutralize Minuteman was beginning to pay off. United States defense planners, hamstrung in their missile defense plans and unsuccessful in arms control approaches, had to create an entirely new approach to ICBMs—the MX—which definitionally would be survivable. The anticipated Soviet deployments did appear. The SS-18 with its 8 to 10 MIRVed RVs began to replace the SS-9. As the 1970s came to a

close, the Soviet offensive anti-Minuteman threat came to be recognized as some 300 SS-18s with up to 10 RVs each with estimated warhead yields of 1 to 2 megatons and designed to provide greatly improved accuracies.¹²

While the Soviet forces for damage-limiting efforts against ICBMs were clearly centered on their heavy missile efforts, a number of defensive efforts also apply. The modest ABM deployment of 64 Galosh interceptors to defend the National Command Authorities at Moscow is only effective against accidental or unauthorized missile attacks and attacks by third nations (e.g., France, China). But it would also be effective against a surviving Minuteman



ICBM force anticipated to be on the order of 10 to 50 missiles.¹³ The existing and expanding ABM radar infrastructure of Dog House, Cat House, and Hen House argue that additional interceptors are planned or that unconventional missile defenses are contemplated (more on this under the SLBM case).¹⁴ Soviet ICBM forces and command and control centers are "superhardened" by U.S. standards, perhaps exceeding 2500 psi overpressures.¹⁵ Only Minuteman (and the few Titan IIs) has the accuracy and yield combinations needed to threaten such targets seriously. Coupled with intense civil defense measures (evacuation, industrial hardening, fall-out shelters), Soviet damage-

limiting efforts against the ICBM start to look quite plausible and practical. The paucity of surviving U.S. ICBMs and the existing defenses of the U.S.S.R. argue for the unhappy result that the Soviets indeed do have a "damage-denial" capability against U.S. ICBMs.

Accordingly, we can conclude that Soviet offensive and defensive measures as well as Soviet SALT negotiating positions are entirely consistent with a desired Soviet end-state of damage-denial. As a result of all these interactions, the Soviet leadership should have high confidence of being able to reduce the Minuteman threat in the early 1980s time frame by 97 to 100 percent of its original potential.

The SLBM Case

Soviet defense experts, trying to make a damage-denial case against U.S. SLBMs, would at first glance be given little chance of success against the "invulnerable leg" of the triad. On second glance, however, a determined and defense-oriented adversary can be shown to be capable of markedly reducing the quadrad's sea leg. To begin with, on a day-to-day alert basis, some 50 percent of our invulnerable SLBM force is in port and hence subject to quick destruction by either Soviet ICBMs or SLBMs just like any other fixed target.¹⁶ Even if a U.S.-generated alert is possible, a significant number of SLBMs are lost in port. Of the total current number of 41 U.S. SSBNs, 10 are the older Polaris type (all in the Pacific), and the remaining 31 are the Poseidon type (all in the Atlantic/Mediterranean). The Polaris submarines are being phased out over the next few years and will be replaced in the future by a smaller number of new Trident submarines.¹⁷

Soviet ASW operations—the straightforward way

Current Soviet open-sea antisubmarine warfare (ASW) capability is largely discounted by U.S. defense planners. While the Soviets have deployed ASW forces like the carriers *Moskva*,

Kiev, and *Minsk* and have some 250 ASW helicopters (Hound, Hormone, Haze) with associated sonobuoys and over 140 ASW patrol aircraft (Mail, May),¹⁸ the most effective ASW weapon at sea is still the nuclear-powered attack submarine (SSN). Many view this technique as simple application of the adage "set a thief to catch a thief." While low-frequency passive sonars on Soviet SSNs are probably able to detect moving U.S. ballistic missile submarines at distances up to perhaps 20 or 30 kilometers, the chances of maintaining such a track in the presence of changing sea conditions, sea noises, and an evasive quarry would be slim.¹⁹

However, since the Soviet tracker has no need to remain covert, he would not need to rely on passive sonar but could employ an active sonar. Active sonar tracking is a different story. Active trailing from short range (one kilometer or less) with sonars operating at a frequency of 100 to 1000 kilohertz would provide excellent target resolution, permitting the Soviet submarine to sail in trail without concern for collision, as well as be unperturbed by the target's evasive movements and indifferent to decoy attempts.²⁰

The United States Navy, more than any other group, realizes the dangers of this situation and presumably works to avoid it by creating detection barriers and "delousing" techniques to deceive and "peel off" the trailing submarine. In the past, these techniques probably promised and delivered much success; but the advent of the new Soviet Alfa class attack submarine poses some sticky problems. The Alfa has a titanium hull (incredibly expensive) which permits it to cruise at depths "off limits" to U.S. submarines. It is reported to be faster than U.S. submarines and quieter than previous Soviet attack boats.²¹

In effect, the Soviets have developed a "look-up, shoot-up" capability in ASW to correspond to the "look-down, shoot-down" air defense techniques used against bombers. This is an unsettling and dangerous development because all U.S. SSBNs start their patrols from

a small number of known home ports. Once an Alfa submarine is on the trail, the SSBNs are not only at known locations ("localized") but can also be killed on command. The tracking Alfas can communicate freely with their Soviet homeland since they do not try to hide—no element of surprise is necessary, only the relentless pursuit and being in position when the attack order comes. Over 40 Soviet nuclear attack submarines of all classes are now available for deployment including 6 Alfas.²² They know where American SSBNs start, and they have the potential to place a trail on every one; and with the Alfa submarine, that trail could prove to be the Soviet Pinkerton to the U.S. Butch Cassidy.

The single most important effectiveness parameter in an antisubmarine warfare program to destroy SSBNs is time. Measures that require several days to search, localize, and destroy may be acceptable in some scenarios, but in general they cannot be relied on as a principal method of damage-limiting. Soviet admirals must seek measures that take minutes rather than hours or days. For this reason, the "instant" response and "kill on command" afforded by trailing attack submarines is clearly the preferred approach. However, in some areas, such a technique may not be possible. For example, prudence (and the U.S. Navy) and geography would argue for the Soviets to concentrate their surface and air ASW capability in the Mediterranean. It is in a Mediterranean war zone that the greatest possibility exists of the Soviets' establishing local air and other surface superiority via the mechanism of intense cruise missile attack on U.S. carrier groups. Attacks would come from both Soviet cruise missile submarines and naval long-range bombers, including the highly capable Backfire. ASW operations then begin to look more plausible, given the confined nature of the Mediterranean.²³ Soviet attack submarines could also be used in the Mediterranean, but they would be better employed in the Norwegian Sea and Bay of Biscay in the SSBN

trail mode described earlier, until greater numbers of Alfas are available. This would then allow conventional Soviet ASW forces in the Mediterranean to attack all detected submarines without worrying about sinking a friendly. The drawback to the Soviets of such conventional ASW tactics is the loss of surprise and the relatively extended period of time required. There could not be high assurance that the few U.S. SSBNs in the Mediterranean would not fire their missiles before being found and destroyed. Actual results would be very much dependent on the scenario chosen.

The degree of success of the Soviet attack against SSBNs in port and at sea will determine the numbers of the U.S. SLBM RV force arriving at Soviet targets. From the earlier section, it was noted that on a day-to-day basis some 50 percent of SSBNs can be destroyed in port, leaving about 15 surviving Poseidon boats. Losses to Soviet ASW and trailing nuclear submarines could range from a few to almost all of the Poseidon submarines, depending on optimistic or pessimistic assumptions. If the intense Soviet ASW effort is only moderately successful, we could anticipate the loss of one SSBN in the Mediterranean and most of those in the Atlantic which are unfortunate enough to have an Alfa on their trail. If the 6 Alfas can destroy 4 SSBNs, some 10 Poseidon SSBNs would remain. (More Alfas would mean more SSBN kills.) The 10 Poseidons would have a potential force of some 1600 warheads (10 boats times 16 missiles times a nominal 10 RVs per missile).²⁴ A missile launch reliability factor of 90 percent would result in 1440 warheads arriving at Soviet defenses. These warheads have a relatively smaller yield (50 KT) than their ICBM counterparts, and since reentry velocity usually is a function of missile range, SLBM reentry speeds will be lower than those for ICBMs.²⁵

Soviet defensive efforts—the unorthodox approach

Little attention has been focused publicly on Soviet antiballistic missile (ABM) efforts since

the ABM Treaty of 1972. The Soviets were quite willing (some say eager) to sign a treaty severely limiting ABM systems; and hence in the minds of many, the Soviets “accepted” the impossibility of defending against ballistic missiles and the inevitability of catastrophic destruction. Under the ICBM case discussed earlier, it is clear that a solution other than ABM was developed by the Soviets to deny damage from ICBMs. However, for defense against SLBM warheads, ABM defenses are both necessary and plausible: necessary because of the ASW uncertainties previously discussed and plausible because of the technical characteristics of SLBM trajectories and warheads in the context of Soviet defensive missile deployments. The negotiating record at SALT I set forth a strong continuing U.S. concern for “SAM upgrade”—that is, the attainment by surface-to-air missile systems of the capability to intercept missile warheads in flight.²⁶ This U.S. concern was based on years of uncertainty as to the full capabilities and intended role of the so-called “Tallinn System,” later designated the SA-5 by Western agencies.²⁷ The uncertainty was based on several factors.

First, the SA-5 system was tested and developed at the officially declared ABM test range, Sary-Shagan.²⁸ Second, medium- and intermediate-range missiles were fired to impact areas located at Sary-Shagan. Senators John “Jake” Garn and Gordon J. Humphrey have charged that many of these missiles could have served as the targets for ABM intercept programs.²⁹ If so, the target most closely approximated in terms of range, radar cross section, and trajectory would be SLBMs. Third, if such a system as the SA-5 were to act as a terminal atmospheric defense weapon, it would require all-azimuth radar data for warning, acquisition, and pointing inputs to the SA-5 intercept radar. The Hen House long-range radar deployment was coincident in time with initiation of the SA-5 deployment.³⁰ Hen House radars are deployed (in accordance with the ABM treaty) on the periphery of the U.S.S.R.,

scanning outward over U.S. SLBM launch areas.³¹ As a linear array radar, Hen House can handle multiple targets limited only by internal computer configurations that can never be physically seen or assessed directly by U.S. intelligence.³² Acknowledged ABM radars such as the Dog House and Cat House also possess the capability to be used by the SA-5 in an ABM role as does a new class of large ABM capable phased-array radars publicly announced by Senator Garn.³³ Fourth, and most important, the assessed technical characteristics of the SA-5 system itself indicated a clear capability to perform as a terminal ABM system to destroy ballistic missile targets of the SLBM variety given adequate radar acquisition data.³⁴

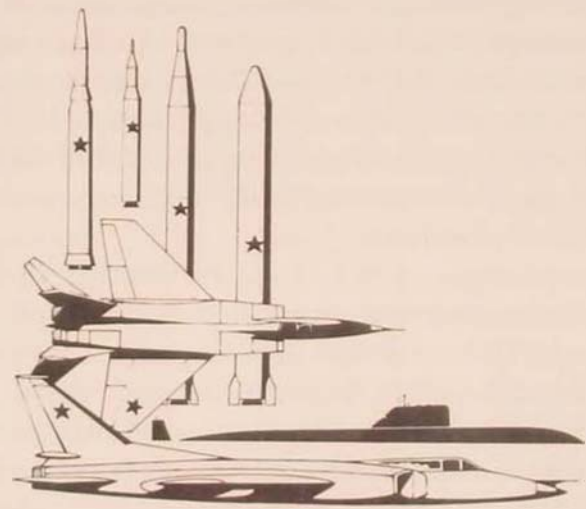
Because of this relative wealth of uncertainty, the final ABM treaty included an explicit obligation in Article VI not to test SAMs "in an ABM mode." Since the ABM testing of the SA-5 could have been completed for some years prior to 1972, the treaty's impact on an SA-5 ABM capability would be slight. Even at that, the reported repeated violations of the treaty after 1972 by the use of the SA-5 radar in tracking ballistic missiles resulted in Soviet tests against missiles similar in range to a normal SLBM trajectory.³⁵ The Soviets claimed (and the administration accepted) that the SA-5 radar was not being tested in an ABM mode, but rather was being used in a "legitimate range instrumentation role."³⁶ Whether it is designated as a "range instrumentation radar" does not alter the fact that it has been used in a missile-tracking role. Its ability to track missile warheads on the range is therefore prima facie evidence of its ABM capability. Former Secretary of Defense Melvin R. Laird claims that thousands of SA-5 interceptors have been deployed in hundreds of sites around some 110 Soviet urban areas, principally in the European U.S.S.R.³⁷ Such a deployment could play havoc with the surviving 1440 SLBM RVs.

The SA-5 anti-SLBM defenses are unorthodox and even "sneaky" in that they exist in the context of an ABM treaty under which the

United States officially assumes they do not exist and takes no actions or precautions to counteract the capability. And an SA-5 ABM capability only makes sense in an overall damage-denial scheme which negates ICBMs some other way and reduces the number of SLBM RVs by ASW efforts to levels which can be countered by active SA-5 defenses, civil defense, and hardening of key targets.³⁸

Soviet defensive effort—the "breakout" approach

The use of the SA-5 in an ABM role, like the earlier use of the SS-9 MRV against Minuteman, would only be a stopgap device in the Soviet quest for damage-denial. The Soviet ABM-X-3 missile defense system with its small, transportable phased-array radars and high



acceleration missile has been under development for a decade and provides the basis for a potential "breakout" threat. As Senator Jake Garn points out, "The ABM-X-3 radar is at least a semi-mobile system. It can be clandestinely deployed and, for all we know, this could be going on right now." He goes on to point out that, "Individually, it is possible to rationalize the specific actions of the Soviet Union in the ABM area but they form a clear pattern of activity which seems aimed at a major Soviet operational ABM capability in the early to

mid-1980s."³⁹ Whether "breakout" deployment would follow or precede abrogation of the ABM treaty is a moot point. So long as the treaty is in force, the United States is effectively years away from a matching ABM deployment while full Soviet deployment could be months away. Conversely, a straightforward abrogation would seem logical if the Soviets thought they had finally achieved an anti-SLBM system of unquestioned capability and the U.S. response to the abrogation would be limited to modest rhetorical and diplomatic efforts.

In any event, as shown above, the most logical purpose for and target of either an unorthodox or breakout ABM program is the U.S. SLBM force.

To date there have been no serious proposals reported by either side to limit antisubmarine warfare forces by arms control agreements. If my hypothesis is accurate, the Soviets will not accept any SALT measures to limit or degrade their ASW capabilities, or to restrict the continued widespread deployment of large ABM-capable phased-array radars, or to reduce the scope and capability of their surface-to-air missile deployments.⁴⁰

Accordingly, it would appear that there is ample reason to question whether the 50 percent of SSBNs not destroyed in port are invulnerable at sea. The ultimate size and employment of the Soviet Alfa submarine program could have catastrophic effects on the deployed U.S. SSBN force. The SLBMs in surviving SSBNs, with their relatively low yield and inaccuracy, pose little threat to Soviet hardened targets—ICBMs, command and control centers, and the very hardened relocation shelters for the political elite. Moreover, it is likely that the U.S. retaliatory attack with SLBMs would be ragged, uncoordinated, and spread out over time. It would consist largely of individual RVs arriving at individual targets (airfields, military depots, industrial facilities) on predictable azimuths and trajectories and with no penetration aids.⁴¹ The SA-5 batteries in the target area could reduce the attack significantly. Tied

in with the civil defense program already mentioned in the ICBM case, the "invulnerable leg" of the triad would have sharply reduced retaliatory capability even under optimistic assumptions. The potential of the SLBM force to inflict sufficient damage to carry the burden of deterrence under these circumstances is not encouraging. We can take some solace in the fact that these potential SLBM vulnerabilities to the Soviet SA-5 system were recognized in the mid-1960s and resulted in the replacement of the Polaris 3-warhead A-3 missile with the multiwarhead Poseidon missiles.⁴² Otherwise, the SA-5 system would have had a far greater impact against the far fewer Polaris RVs that would be arriving at Soviet anti-SLBM defenses.

The Bomber Case

There is a historic basis for the Western view that a Soviet "defense mentality" exists. And that historical basis is founded chiefly on Soviet air defense efforts over the past 30 years. No other nation in history has poured such huge amounts of national resources into a quest for protection against air attack. The results are well known and widely reported. A dense and redundant combination of air and ground defense systems exists under the central control of one command, *PVO-Strany* (Air Defense of the Homeland), which itself has as many assigned personnel as the entire United States Air Force.⁴³ But *PVO-Strany* is only half the story—bombers must survive a first strike by Soviet offensive missiles.

Soviet offensive measures against bombers

Currently the United States maintains some 30 percent of its strategic bomber force on day-to-day alert.⁴⁴ The other 70 percent is subject to quick destruction by either Soviet SLBMs or ICBMs—with SLBMs normally cited as the most likely threat. This is due to the shorter warning time between SLBM launch detection

and arrival at target. Some analysts postulate "depressed trajectories" for Soviet SLBMs, which cut missile flight times down to the 5-to-8 minute category and severely jeopardize even the alert bombers.¹⁵ There has been no evidence of Soviet testing of depressed trajectories, and the trend in Soviet SLBM systems (i.e., Delta and Typhoon) has actually been toward much longer range missiles and greater stand-off distances for the missile submarines. The result of such developments should be greater assurances that bombers on alert will have enough time to launch successfully. At the current active strategic inventory of about 316 B-52s and 60 FB-111s, some 110 would thus be expected to survive the Soviet SLBM/ICBM attack and proceed toward their targets.¹⁶

Soviet bomber defenses

The alert force bombers arriving at *PVO-Strany's* defenses face a geographically distributed Soviet force of about 10,000 surface-to-air missile launchers, 2500 dedicated interceptor aircraft, and a network of 7000 ground radars.¹⁷ Whether the bombers can penetrate to their targets has been and is the subject of much detailed simulation and analysis. Results will vary widely and be dependent on the assumptions made about the success of low-level flight, the destruction of Soviet defenses by bomber-carried SRAMs or surviving U.S. ICBM/SLBMs, the efficacy of Soviet internetting of their air defense resources and the "frictions" of war. Of all the U.S. nuclear attack systems, however, the Soviets must feel most secure about defense against the bomber. The degree to which they expend funds, material, and manpower into a massive air defense system attests to their confidence that it is an effective investment in damage-denial. The "good news" is that the comparison between 110 U.S. bombers and thousands upon thousands of Soviet defensive weapons is misleading. After all, each bomber will encounter only those weapons that are located en route to and at its target area.

This number is not insignificant but is an order of magnitude less than a simple allocation of total defense weapons to a quantity of bombers. Moreover, thousands of Soviet SAM systems are deployed in "barrier" defenses; like the great Wall of China or the Maginot Line, it is necessary only to breach the barrier at one or two spots and the remaining part of the barrier never sees a target or fires a shot.¹⁸ Still, the final determination of how many bombers actually destroy their primary targets (not just "defense suppression" targets) could be discouragingly low.

the SALT approach

The Soviet effort to reduce potential damage from U.S. bombers was also reflected in their SALT positions. "Bomber armaments" were a principal theme of Soviet negotiators, a theme resolutely followed to restrict and constrain both the stand-off and penetration capability of bombers. Attempts to prohibit or sharply limit SRAMs, ballistic missiles, and cruise missiles were all undertaken in one fashion or another.¹⁹ The United States fended most of these off successfully but did accept a quantitative limit of ALCMs per heavy bomber and the constraint of including such heavy bomber/ALCM combination in the MIRV sublimit. Thus, the Soviets were able to build fairly sharp "boundary conditions" on the size and nature of the future U.S. bomber threat. At the same time, they have consistently resisted any attempt to limit air defenses in any fashion. In this way, SALT is used by the Soviets to support their overall objectives in a selective, clever way. To explain, the Soviets insist that limits on air defense are not acceptable, but limits on missile defenses are; they maintain that limits on heavy missiles are not acceptable, but limits on heavy bombers are. The resulting mix of forces is, of course, heavily slanted toward Soviet advantage, since they use their heavy missiles in effect as an ABM to destroy Minuteman and freely deploy massive air defenses to coun-

ter our constrained bomber force.

The air defense density of the U.S.S.R., the age, size, and relatively small numbers of U.S. bombers, and the basic unknowable nature of possible Soviet deployments of mobile tactical SAMs and antiaircraft guns all portend potential drastic reductions in U.S. penetrators. After a potential loss of up to 70 percent of the bomber force on day-to-day alert to missile attack, we would have to press the attack with some 110 surviving aircraft. Under optimistic assumptions and today's forces, if half of these 110 reached their targets, it might be considered a remarkable achievement. As in the SLBM case discussed earlier, there is also a real chance the number is much lower. The net result, then, is a reduction by the Soviets of the day-to-day strength of the bomber leg of the triad by 85 percent under optimistic conditions and by even more under pessimistic assumptions.⁵⁰

The Forward-Based Systems (FBS) Case*

American planners tend to think of nuclear war with the Soviets in terms of the "triad" of so-called "strategic forces" discussed in the preceding sections. This is due in some part to institutional biases ingrained by the budget, program, and planning system in use within the Department of Defense, and also to organizational arrangements of American combat forces. In the former instance, it is "clear" that a nuclear weapon system is "strategic" if it is in Program I and "tactical" if it is in Program II. It is also "clear" that weapons assigned to the Strategic Air Command (SAC) are strategic, while weapons in the regional unified commands (PACOM, EUCOM, LANTCOM) may or may not be. Soviet defense planners have no such biases and see American nuclear forces

as a "quadrad." Soviet preparations for war and for negotiating at SALT reflect their view that what they term "FBS" can be every bit as "strategic" as an ICBM.⁵¹

Soviet offensive measures against land-based FBS

Since the early 1950s, the Soviets have maintained a potent offensive posture comprised of long-range theater nuclear forces (LRTNF). Made up chiefly of medium-range and intermediate-range ballistic missiles (MRBMs/IRBMs) and medium bombers, this Soviet force provided the capability to obliterate within a few minutes the entire fixed NATO nuclear infrastructure. Likely targets include airfields, fixed defense and missile sites, nuclear storage depots, and all nonmobile support facilities. The United States has never attempted to match the Soviet effort in LRTNF, preferring historically to rely on central nuclear systems, especially the U.S. SLBM force which reportedly has a proportion of its targeting dictated by NATO requirements.⁵² However, U.S. land-based systems in Europe (chiefly aircraft like F-4s, F-111s) have both the nuclear weapons and the theoretical range capability to attack the U.S.S.R.⁵³ Whether U.S. FBS have or do not have such a role in U.S. nuclear attack plans would not make any difference to the Soviet planner. He must base his defense preparations on the assumption that U.S. FBS do have such a role and respond accordingly. Based on this sort of logic, it is easy to understand why the Soviets have for over two decades maintained very large numbers of LRTNF systems—some 500 S-4 MRBMs, 100 SS-5 IRBMs, and several hundred medium bombers.⁵⁴ Flight times of Soviet MRBMs and IRBMs from their silos to NATO airfields are about 10 minutes so even tactical warning of Soviet missile launch would not greatly increase the survivability of U.S. nuclear-equipped tactical aircraft. We could anticipate that most such aircraft would be destroyed on ground.

*While the Soviets invariably have used the concept of U.S. "forward-based systems" and the term "FBS" to argue the issue, the United States has sought to replace the term with "Allied Regional Offensive System" or "AROS." The intent of both sides is thus self-evident just from the labels chosen.

Soviet measures against sea-based FBS

The Soviets also refer to U.S. naval aircraft carriers as "FBS" in that such ships normally forward-deployed in the Mediterranean Sea and Sea of Japan could theoretically attack Soviet homeland targets. The Soviet response to naval aircraft carriers is large scale and well documented. Deployments of both attack submarines and cruise missile submarines by the Soviets are pointed primarily at the carriers. Additionally, a large fleet of naval bombers (including Backfires) equipped with air-to-surface missiles (ASMs) has the primary mission of sinking carriers.⁵⁵ For these and other reasons, the overall consensus has long been that in a nuclear conflict the forward-deployed aircraft carriers have a short life expectancy.

Soviet FBS defenses

Those few U.S. FBS, both land- and sea-based, which survived the initial Soviet offensive nuclear attack still have a formidable task. As they wind their way to Soviet targets, the aircraft face the same air-defense density described previously. That is, the same network of 10,000 SAM launchers, 2500 interceptor aircraft, and 7000 ground radars is available to reduce the attack by FBS even further.

U.S. ballistic missile systems in Europe

Some may question why U.S. nuclear-equipped ballistic missile systems were not included in the FBS discussion above. On some occasions, the Soviets have indicated that the United States Army's Pershing I missiles qualify in their accounts as FBS. But even the Soviets have waffled on this point, since it raises a "balance" question with SS-4s/5s and SS-20s. More important, of course, is the fact that Pershing I has a range capability of only some 390 nm.⁵⁶ This means that, even from forward-deployed positions in the German Federal Republic, it is not possible for Pershing I in its normal configura-

tion to attack the Soviet homeland. That is why the December 1979 NATO Ministers' decision approving deployment of the longer range (1000 NM)⁵⁷ Pershing II missiles as well as ground-launched cruise missiles (GLCMs) marks a fundamental shift in NATO's strategy toward the U.S.S.R.

the SALT approach

Soviet positions on FBS at SALT have historically demanded U.S. recognition of the "quadrad" argument and sought "compensation" for such U.S. "unilateral advantage." Indeed, the FBS issue was the chief obstacle to an agreement on offensive systems in SALT I.⁵⁸ That is why the simple "freeze formula" was the modest (and unpopular) outcome of SALT I. The "breakthrough" at Vladivostok was the Soviets' apparent dropping of their previously very strong stand on including FBS as part of each nation's permitted aggregate ceilings of nuclear systems. The eventual SALT II treaty basically incorporated the Vladivostok formula. This Soviet switch on FBS can be attributed in some measure to the facts previously noted—especially the very small threat actually posed by existing types of U.S. FBS given the clear Soviet dominance in LRTNF. However, enter the U.S. GLCM and Pershing II and an entirely new set of considerations applies to drive the Soviet negotiating objectives. Now from the Soviet viewpoint, the entire FBS issue must be reintroduced and examined anew. The NATO decision on LRTNF modernization was clearly the correct one to stimulate Soviet acceptance of the inclusion of SS-4s/SS-5s/SS-20s into the negotiating arena. In the meantime, however, the Soviets continue to claim U.S. "circumvention" of the SALT II treaty through planned deployments of GLCM and Pershing II.⁵⁹

Limiting our analysis of the Soviet FBS issue to past deployment and capabilities, we can see that the Soviets have always possessed a clear damage-denial posture against long-range U.S. FBS forces in a nuclear scenario. Only the

actual future deployment of weapons such as Pershing IIs and GLCMs in a survivable basing arrangement can alter the gloomy result.

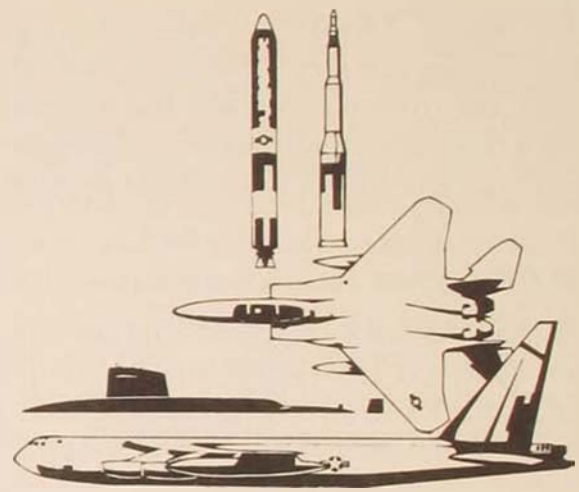
Implications for Force Modernization

For the U.S. day-to-day alert posture case, all four legs of our current "quadrad" are reduced to a degree, even under favorable assumptions, that one must seriously question their deterrent value, not to mention their relative inability to contribute to "war-fighting" strategy and escalation control. The Soviet force posture, both past and present, indicates that a major objective is an ultimate damage-denial capability against the "quadrad" of U.S. nuclear systems. Soviet efforts have been based on relentless and remarkably purposeful strategy, using the entire spectrum of U.S.S.R.'s offensive and defensive weaponry. The strategy also requires the development of supporting Soviet positions in SALT. No matter what label is appended to the Soviet strategy (e.g., "war-fighting"), the resulting Soviet capability has clear implications for U.S. force modernization and SALT efforts. To deny the Soviet strategy of denial, the measures listed below are proposed.

outflank SS-18s

The MX approach depends on a great proliferation of target aim points to respond to current and SALT II-constrained Soviet force levels. This is a straightforward, brute-force scheme. If SALT fails and Soviet warhead levels rise still higher, the Air Force has said that this basing scheme could be coupled with preferential hard-site ABM defense system to reduce sharply Soviet success in a first-strike with their SS-18s and SS-19s.⁶⁰ Should MX in a deceptive basing mode be ruled out for political, cost, or environmental reasons, it will be necessary to consider other ideas to outflank Soviet SS-18 attacks on our ICBMs. A less-desired option

but one that could be necessitated by political rejection of MX multiple aim point schema is to put some MX missiles in Minuteman silos in a "launch under confirmed attack" (LUCA) mode.⁶¹ The MX missile has been sized to fit Minuteman silos, and 200 MX missiles fitted with 10 warheads can provide 2000 highly accurate warheads capable of destroying Soviet ICBM silos.⁶² With a declaratory U.S. LUCA policy and a predetermined target list limited



to Soviet nuclear, military, and command infrastructure targets, any first-strike attack by the U.S.S.R. on our ICBMs would serve no rational military purpose. It is in theory the "perfect deterrent" since it removes the principal incentive for a preemptive attack.⁶³ Other parallel steps could be to: (1) deploy a modest number, on the order of 100, of truly mobile canister-loaded small ICBMs (Minuteman II or smaller) spread throughout western federal lands; and (2) deploy a sizable force (several hundred) of ICBMs in a deep, underground, burrow-out mode. This force would be used as an enduring force for long-term war fighting and escalation control purposes. Removing the requirement for "instant" retaliation should make it feasible to base some ICBMs in hardened configurations impervious to Soviet attacks (e.g., deep underground, tunnels in mountains).

more SSBNs

The current trend of larger and fewer U.S. ballistic missile submarines (SSBNs) falls into a Soviet strategy of trail and kill with their new Alfa attack submarines. The United States will need more SSBNs and much higher percentages of its SSBN force at sea to deny such a Soviet strategy. The Navy must also develop anti-Alfa defense systems that overcome the Alfa's superior characteristics of speed and depth performance. Since the Soviet trailing submarine always has the advantage of shooting first (premise is the U.S.S.R. gives attack code worldwide simultaneously to their first-strike forces), the anti-Alfa defenses cannot rest on weapon systems in which it is assumed the United States fires first. Thus, the most important devices needed are those systems that can help the SSBN "break trail" through either deception or coercion.

For SSBNs that survive, a much needed feature is SLBMs with warheads that have higher yields, greater accuracy, and assured penetrability. This is necessary in order that SLBMs not be viewed principally as "city-busters" or useful only against "soft" targets. The threat posed to SLBM reentry vehicles by SA-5 and ABM breakout schemes argues for penetration-aid devices (e.g., decoys, chaff, maneuver, saturation) to overcome the inherent shortcomings of SLBM trajectories (high reentry angles, large radar cross-sections, and slow velocities) that make them easier targets than ICBMs.

bombers

The Soviet SLBM threat to bombers has a straightforward but prohibitively expensive solution. Increasing the alert rate (both airborne and on-strip) greatly enhances bomber survivability but also compounds the "wear-out" of a scarce resource. Inland basing and dispersal are also well-known options that cost a lot (both politically and in dollars) for small improvements in theoretical survivability. Well-studied ideas of utilizing portions of western

interstate highways and civilian airports offer possible options in a real emergency, but a new bomber with built-in features that permit high airborne alert rates at reduced costs is the ultimate objective.

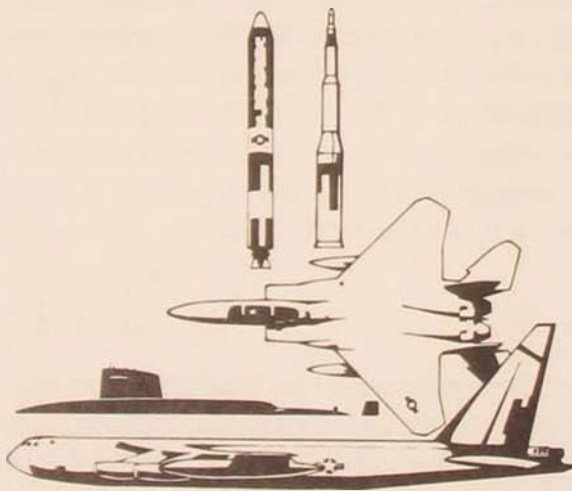
Despite massive Soviet investment in air defense systems, bomber penetration continues to look quite plausible. The short-range attack missile (SRAM) carried by B-52s to penetrate Soviet-fixed defenses is a highly effective defense suppression weapon. Coupled with long-range stand-off air-launched cruise missiles (ALCMs), the combination presents a formidable task to Soviet defenders. The most serious threat to future bomber penetration would probably be an airborne warning and control system (AWACS) possessing low-altitude tracking capability (a "look-down" feature) tied to an interceptor aircraft also equipped with "look-down" radars and "shoot-down" air-to-air missiles. This implies that the United States should seek ways both to hide and defend the bomber. To "hide" includes ideas of concealment, deception, and decoying which among other things means finding ways to cut down on the bomber's observable radar and infrared "signatures." For defense, ongoing airborne-laser test programs suggest a promising approach for future bombers.

other options

Over the long-term, the United States should recognize as inevitable a Soviet "grand design" to deploy active defense systems against ICBMs and SLBMs. Whether the system eventuates in the form of large phased-array radars and long-range ABMs, or in the form of a proliferated "breakout" of smaller weapons (e.g., ABM-X-3 system), or in the form of clandestine "SAM upgrade" (e.g., based on SA-5 system tests at Sary-Shagan against MRBMs),⁶¹ the historical Soviet drive for complete defense will be the dominant element. This understandable Soviet objective implies that the United States must have on hand, preferably already

deployed, a maneuvering reentry vehicle (MaRV) for use with both ICBMs and SLBMs. In addition to MaRV, the already established penetration-aids programs which provide chaff, decoys and jammers are also necessary.

The Soviets have a good idea with regard to what they refer to as U.S. forward-based systems. They maintain that FBS are an integral part of a U.S. "quadrad" of nuclear forces. Rather than argue with the Soviets that FBS are separate and distinct forces, the United States might be more prudent to agree with the U.S.S.R. and then actually integrate FBS forces into a wartime strategy that used the totality of U.S. nuclear forces as a coherent whole. Such an integrated approach would replace the disconnected planning done now by widely separated commands that have completely different outlooks on the type of war being fought. Before FBS could be considered a useful military force, however, dras-



tic actions are required to correct their near-zero survival chances against attacks by Soviet SS-20s/SS-4s/SS-5s. This implies tactical warning systems (e.g., over-the-horizon radars, line-of-sight radars, infrared launch detection systems in space), increased alert rates, and mobile basing for ground missiles. The proliferation of weapons, both numerically and geographically, is required. Clearly, the first steps toward

this end were inherent in the December 1979 NATO alliance decision to approve GLCM and Pershing II deployment.⁶⁵

Very hardened command facilities exist in the U.S.S.R. to assure the survival of the Soviet leadership. If an objective of U.S. attack plans were to "decapitate" the communist leadership from the civilian population, then the United States should develop and deploy large yield "neutron" weapons for use on a portion of our "enduring ICBM" and SLBM forces. Such weapons used against command facilities would kill the leadership and make internal government operations questionable. If one believed Soviet civil defense really works, and if a U.S. objective is also to kill the Russian population (to my mind, an objective which has no rational validity), neutron weapons are an implied course of action.⁶⁶

arms control implications

As we examined each leg of the "quadrad," it was clear that the Soviets maintained a consistent approach by adopting arms control positions that supported their damage-denial strategy. The lesson for U.S. negotiating objectives and strategy would thus appear to be to negate the Soviet strategy by a combination of unilateral action and mutual agreements. Central to our strategy is the provision of necessary incentives to change the historic Soviet quest for nuclear advantage at all levels of warfare. Much of this translates into "keep on doing what you've been doing, but use more sticks" to get his attention. Specifically:

On ICBMs. Seek reductions and eventual phase-out of "heavy ICBMs" to enhance "crisis stability" and reduce incentives to strike first. Establish equality in payload and number of RVs as the limited parameter. MX is the essential quid pro quo for the United States to achieve constraints on Soviet ICBMs. Long-term goals include improved ICBM survivability for both sides at lower ICBM force levels.

On MIRVs. Seek lower and lower limits on

ICBM MIRVs as part of a reductions scenario. Two hundred MXs would confront Soviet defense planners with a real incentive to agree to lower ICBM and MIRV levels. Since a much larger portion of Soviet nuclear forces is on ICBMs, this acts to increase Soviet vulnerability to MX attack. At the same time, lower MIRV limits would decrease the Soviet threat to MX and Minuteman.

On SSBN survivability. Seek agreements prohibiting peacetime trailing of SSBNs by attack submarines. Trail Soviet SSBNs with U.S. SSNs to demonstrate the threat.

On bomber survivability. Establish "keep-out" zones for SSBNs to assure longer flight-times for SLBMs and hence improve bomber survivability. Ban the testing of depressed-trajectory SLBMs for the same reason.

On reductions. Seek reductions in systems in which Soviets have force multiplier advantage (e.g., "heavy" ICBMs with 10 MIRVs) and increases in systems in which the United States has force multiplier advantage (e.g., bombers with 28 ALCMs and SLBMs with 14 MIRVs). Some have also argued that the United States should change its historic "nuclear umbrella" policy toward NATO by seeking deep reductions in "central systems" and corresponding increases in numbers of Eurostrategic systems. While this idea would result in lower damage levels to the United States, it would also act to

decouple U.S. and NATO forces and be readily transparent and unacceptable to the Soviets (e.g., "circumvention" of the intent of the SALT treaty).

On FBS. Seek equal ceilings on Eurostrategic weapons, starting with missiles and later including cruise missile submarines and medium bombers. Deployment of GLCM and Pershing II and increases in F-111 theater basing is essential to stimulate Soviet participation. Two opposing objectives are possible: (1) draw down Eurostrategic systems to very low (or zero) levels or, (2) adopt the opposite approach and seek larger levels thereby shifting the burden of nuclear war to NATO.

On ABM. Approach the 1982 review of the ABM treaty with the position that the ICBM vulnerability problem is of paramount concern and must be accommodated by either a reduction in Soviet "heavy missiles" or by a verifiable ICBM MIRV drawdown, or by an all-encompassing ABM defense of ICBMs.

On Soviet defenses. Seek constraints on air defenses and civilian defenses, the thrust of which would be unilateral in application, since the United States has meager resources in each. While Soviet acceptance of such measures is unlikely, there could be negotiating leverage and usefulness to the United States in pursuing such constraints.

Air War College

Notes

1. Leading spokesmen for the "war-fighting" school of thought include Richard Pipes, "Why the Soviet Union Thinks It Could Fight and Win a Nuclear War," *Air Force*, September 1977, pp. 54-66; Colin S. Gray, "Nuclear Strategy: The Case for a Theory of Victory," *International Security*, Summer 1979, pp. 54-87; and Paul H. Nitze, "Deterring Our Deterrent," *Foreign Policy*, Winter 1976-77, pp. 195-210.

2. Views countering the Pipes/Gray/Nitze arguments can be found in Fred M. Kaplan, *Dubious Specter: A Skeptical Look at the Soviet Nuclear Threat* (Washington: Institute for Policy Studies, 1980); Raymond L. Garthoff, "Mutual Deterrence and Strategic Arms Limitation in Soviet Policy," *International Security*, Summer 1978, pp. 112-47; and Fritz W. Ermarth, "Contrasts in American

and Soviet Strategic Thought," *International Security*, Fall 1978, pp. 138-55.

3. Soviet positions on FBS are well known from Soviet arguments in SALT. A good resumé is found in Lawrence Freedman, "The Dilemma of Theatre Nuclear Arms Control," *Survival*, January/February 1981, p. 3.

Also see John Newhouse, *Cold Dawn* (New York: Holt, Rinehart and Winston, 1973), pp. 174-76, 205, 222, 267, 271, and 194-96.

Our chief negotiator in SALT I, Gerard Smith, has also provided the details for history in his *Doubletalk: The Story of the First Strategic Arms Limitation Talks* (New York, 1980), pp. 90-93.

4. Strategic warning is normally anticipated from Soviet actions to increase their modest level of day-to-day SSBN deployments, movement of long-range bombers, and civil defense preparations.

Foregoing all or any of these actions is again at Soviet discretion. Soviet capabilities to attack U.S. nuclear forces as postulated herein are not dependent on other than day-to-day levels of Soviet SLBMs and bombers, since the chief burden of such an attack would fall on Soviet ICBMs, IRBMs, and MRBMs.

5. Harold Brown, speech to the United States Naval Academy, reported by Richard Burt, "Brown Says Soviets Long Sought Way to Knock Out US Missiles," *New York Times*, May 31, 1979, p. 4; the estimated yield of the SS-9 is reported in *The Military Balance, 1980-1981*. London, International Institute for Strategic Studies, p. 89.

6. *Missile Effectiveness Calculator* distributed by Heavy Military Electronic Systems, General Electric, Syracuse, New York. This "too handy" device can quickly provide single shot probability of kill (SSPK) using inputs of warhead yield, accuracy, and target hardness. Cumulative kill probability (PK) is then related to SSPK by $PK = 1 - (1 - SSPK)^n$ where n is the number of warheads arriving at the target.

7. John R. Taylor, "Gallery of Soviet Aerospace Weapons," *Air Force*, March 1978, pp. 106-7; yield estimates are from *Military Balance*, p. 89.

8. As reported by Edgar Ulsamer, "The Accelerating Momentum of Soviet Military Might," *Air Force*, March 1978, p. 39. Also see Congressman Les Aspin, "Judge Not by Numbers Alone," *Bulletin of the Atlantic Scientists*, June 1980, pp. 28-33. Congressman Aspin claims that "... a silo upgrade program ... reduced vulnerability of the entire Minuteman force ... [and] ... strengthened the blast resistance of Minuteman silos from 300 to 2,000 pounds per square inch (psi) of transient atmospheric overpressure."

9. Smith, pp. 28, 122-25, 130, 206-7, 249, 325, 333, 389-90.

10. *Ibid.* Also see Newhouse, pp. 20-24, 128, 149, 155-56, 168, 200-205, 223-24, 251.

11. A good overview of the entire ABM issue is *US Arms Control Objectives and the Implications for Ballistic Missile Defense*. Proceedings of a Symposium at the Center for Science and International Affairs, Harvard University, November 1-2, 1979; the paper by Albert Carnesale, "Ballistic Missile Defense: Updating the Debate," is particularly germane.

12. *Military Balance*, p. 89; also see Colin S. Gray, "Soviet Rocket Forces: Military Capability, Political Utility," *Air Force*, March 1978, p. 52.

13. Using the Missile Effectiveness Calculator described in footnote 6, and assuming that in the SALT-declared force of 308 SS-18s that at least 220 are the Mod 4 (10 RV) variety with a presumed yield of 1 megaton each, a circular error probable of .1 nm, a Minuteman silo hardness of 2000 psi, and an SS-18 system reliability of 90 percent, some 970 Minuteman silos would be destroyed by a Soviet two-on-one attack. If backup SS-18s were used to replace known booster failures, Minuteman silos destroyed would increase to 987. SS-19s could be used too if required.

14. This radar infrastructure is explicitly described in Mark B. Schneider, "Russia and the ABM," *Ordnance*, March-April 1972, pp. 372-74.

See also testimony to the Senate Armed Services R&D Subcommittee as reported in "Russian ABM Work Boosts US Penetration Effort," *Aerospace Daily*, July 27, 1977, pp. 139-40.

It is reported that "DIA's James Miller outlined the current Soviet ABM system," including descriptions of an early warning radar net of Hen House radars, two battle management radars—the Dog House 40 miles from Moscow and a similar radar at Check-hov—and other engagement radars of the Moscow ABM system.

The Cat House radar is reported in *Military Balance*, p. 10.

Senator John "Jake" Garn discusses the construction of additional large phased-array radars outside the Moscow area in his "The Suppression of Information Concerning Soviet SALT Violations by the US Government," *Policy Review*, Summer 1979, p. 24.

15. The 2500 psi estimate appears in George J. Keegan, "New

Assessment Put on Soviet Threat," address, *Aviation Week and Space Technology*, March 28, 1977, p. 42.

16. General George S. Brown, "The Strategic Nuclear Balance," *Commander's Digest*, March 9, 1978, p. 7. General Brown, as Chairman of the Joint Chiefs of Staff, was discussing the difference between Soviet and U.S. ballistic missile submarine forces and stated that "about 15 percent of the Soviet first line nuclear fleet, as compared to over 50 percent for the United States, operates away from port at any given time."

17. Harold Brown, *Department of Defense Annual Report Fiscal Year 1981* (Washington: Government Printing Office, January 29, 1980), p. 71. This report says "all 10 Polaris submarines will be retired by the end of FY 1981," and the remaining total of "544 US SLBMs will be deployed on 33 submarines," evidently meaning 31 Poseidon SSBNs and 2 new Trident class SSBNs (which are known to be behind schedule).

18. *Military Balance*, pp. 11-12.

19. Richard Garwin, "Anti-submarine Warfare and National Security," in *Arms Control: Readings from Scientific American* (San Francisco: W. H. Freeman and Company, 1973), pp. 25-31.

20. *Ibid.*, pp. 252-54.

21. Former Under Secretary of Defense William Perry was quoted in *Defense Daily*, July 16, 1980, p. 76, as describing the Alfa as "a hot rod, a very high performance submarine" and the "world's fastest and deepest diving submarine."

Newsweek, February 9, 1981, p. 58, reported that "Studying the 'Alpha' [sic] more closely, the [U.S.] Navy discovered it could dive more than 3,000 feet—three times as deep as any American submarine" and also "recorded an unprecedented event: a submarine tracking underwater at almost 50 miles per hour. The Navy was stunned."

Also see Harold Brown, p. 103, which states that "we are not yet clear about the mission it is intended to perform but it is clearly superior to current Soviet SSNs . . ."

22. Sources differ on current Alfa deployment availability. *Military Balance* says two; Clarence A. Robinson, "Soviets Push Advanced Naval Weapons," *Aviation Week and Space Technology*, September 24, 1979, p. 139, says "several" are at sea; William T. Lee, "The Soviet Defense Establishment," *Air Force*, March 1980, p. 106, says six.

23. The complexities of sound propagation in oceans is discussed in Garwin's "Anti-submarine Warfare and National Security." He points out the effects of temperature, pressure, salinity, depth, position, season, convergence zones, and sound channels.

24. *Military Balance*, p. 88, says 10 RVs at 50 kilotons each for the Poseidon C³.

25. *Ibid.* for yield estimate. For relationships between range, launch angle, reentry angle, burn-out, and reentry angles for ballistic missiles, see C.W. Besserer, *Missile Engineering Handbook* (Princeton, New Jersey, 1958), pp. 324-25.

26. See Newhouse, pp. 11-12, 73-75, 122; and Smith, pp. 32, 95, 107, 131-33, 172-73, 193, 303-7.

27. *Ibid.*

28. Department of State, "SALT ONE: Compliance, SALT TWO: Verification," *Selected Documents No. 7*, February 1976, pp. 2-4. It notes that the Soviets have acknowledged that Kamchatka and Sarv-Shagan are the only ABM test ranges in the U.S.S.R. In 1973 and 1974, the United States observed Soviet tests of ballistic missiles in conjunction with tracking by the SA-5 radar, thereby again raising the question of an ABM role for the SA-5 system.

Also see Herbert Scoville, Jr., "Verification of Soviet Strategic Missile Tests" in *Verification and SALT* (Boulder, Colorado, 1980), pp. 164-66. Scoville includes a useful map (p. 165) showing the relationship between the Kapustin Yar launch center for the medium range ballistic missiles that act as targets for the Sarv-Shagan ABM test center—some 1200 miles away. This distance and flight trajectory approximate the characteristics of the Polaris SLBM.

29. Senator Jake Garn, pp. 26-28; Senator Gordon J. Humphrey,

"Analysis and Compliance Enforcement in SALT Verification," *International Security Review*, Spring 1980, p. 14.

30. Schneider, p. 374. Also see Newhouse, p. 73; and Smith, p. 305, who points out that the Soviets in 1970 had "five very large warning radars in operation and under construction . . . called HEN HOUSES . . . [whose] locations and performance characteristics gave some of them a potential for acquisition and early tracking of incoming reentry vehicles. They were phased-array radars with a power-aperture product well above our proposed threshold for presumed ABM capability. Two of these units were located on the northern perimeter of the Soviet Union . . . and a third uncompleted one near the Black Sea was under flight paths of missiles which might be launched from submarines in the Mediterranean Sea. We believed that these three units as well as HEN HOUSE constructed in the future might perform significant ABM function if the Soviets later decided to deploy a regional or nationwide ABM defense."

31. U.S. Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements, 1980 Edition* (Washington: Government Printing Office, 1980), p. 141. (This is Article VI of the ABM Treaty.)

32. Smith, pp. 303-4; and Garn, p. 27.

33. Garn, pp. 24-25, 29. Senator Garn points out "The new Soviet radars are an acute embarrassment to the [Carter] administration because a 1972 US unilateral statement put the Soviets on notice that even the far more primitive HEN HOUSE radars were regarded as having a significant ABM potential."

34. Senator Garn, p. 26, says the SA-5 can intercept targets up to 150,000 feet at ranges over 100 nm. Also see General Bruce Holloway, CINCSAC, in testimony to Congress, House Armed Services Committee, Hearings (Washington: Government Printing Office, 1971), p. 2909. General Holloway pointed out that "with predicted intercept data from remote ABM radars, it [the SA-5] could defend large areas of the Soviet Union against missile attack."

35. Clarence Robinson in *SALT 1-2*, a special 1976 publication of *Aviation Week and Space Technology*, claimed on page 60 that the SA-5 Gammon missile could intercept targets at altitudes of about 100,000 feet and that SA-5 radar "had been tested more than 60 times against reentry vehicles flying trajectories to simulate US ICBMs and submarine-launched ballistic missiles."

36. State Department, *Selected Documents No. 7*, p. 3.

37. Former Secretary of Defense Melvin R. Laird, "Arms Control: The Russians Are Cheating!" *Reader's Digest*, December 1977, p. 99.

38. Many authors have speculated that the SA-5 was a Soviet reaction to the U.S. B-70, a high-altitude, high-speed bomber, canceled by McNamara in 1961, and have disparaged its ABM potential. (See George Rathgens, "The Dynamics of the Arms Race," *Scientific American*, April 1969; and Newhouse, p. 12.) That line of reasoning is logical only if the SA-5 had self-defense capability against the other half of the B-70 package—the medium range airborne ballistic missile, Skybolt, which was to be carried for stand-off defense suppression. The only U.S. weapons currently approximating Skybolt's trajectory characteristics are SLBMs. The absurdity of deploying a new defensive system capable of coping with only half the threat facing it is self-evident.

39. All the material on ABM-X-3 is drawn from Garn, pp. 24-29.

40. Early in SALT I, the Soviets did suggest some ASW measures that could act to degrade U.S. advantages. See Smith, p. 99. In Strobe Talbott, *Endgame: The Inside Story of SALT II* (New York, 1979), p. 208, the Soviets reportedly "floated the idea of ASW-free zones . . ."

41. Garn, p. 27. Senator Garn claims "There are no US penetration aids on Poseidon. Any Poseidon RV that can be tracked by a SA-5 radar can be destroyed by a SA-5 interceptor. All U.S. penetration aids, chaff packages, are on Minuteman ICBMs which

the Soviets will be able to eliminate in the early 1980s . . ."

42. *Military Balance*, p. 88.

43. "Organization of Soviet Armed Forces" in *Air Force*, March 1980, p. 112, lists *PVO-Strany* strength as "some 550,000." Active duty USAF strength for FY80 was 557,000.

44. Harold Brown, *Annual Report, FY 81*, p. 72.

45. Talbott, pp. 206-8. Ex-Congressmen Bob Carr and Thomas Downey are given credit for raising the "depressed trajectory" issue in SALT.

46. Aircraft figures from Harold Brown, *Annual Report, FY 81*, p. 72. As noted in the introduction and footnote 4, the premise is that the Soviet's attack is and can almost always be timed to correspond to the U.S. day-to-day alert posture; therefore, if 30 percent of the force survives, about 110 bomber aircraft are available.

47. Harold Brown, p. 77.

48. *Ibid.*, p. 132. The Secretary of Defense points out the United States "plans to penetrate Soviet defenses at low altitudes, avoiding known and suspected ground-controlled intercept (GCI) radars and surface-to-air (SAM) sites, using electronic countermeasures (ECM) to confuse radar, and attacking heavily defended targets from outside their defenses by using short-range attack missiles (SRAM)." With projected Soviet defensive improvements, however, the "probability of our bombers reaching their targets when these [future Soviet] systems are fully deployed will decrease significantly unless we take action now to counter these Soviet programs."

49. Both Smith and Talbott have extensive references on this subject. Another interesting source is the Kissinger background briefing of November 25, 1974, reported in Roger P. Labrie, editor, *SALT Handbook: Key Documents and Issues 1972-1979* (Washington: American Enterprise Institute, 1979), p. 288.

50. Estimates of SSBN losses at sea and bomber losses during penetration must remain by their nature basically unsubstantiated. If I were a study consultant, I could claim the bomber estimates are heuristically derived based on the fact that B-52s were not intended to fly at low altitudes and are in many instances older than the pilots that fly them.

51. Smith, pp. 90-93; also see footnote 3.

52. *Military Balance*, p. 119; also see Lawrence J. Korb, "The Question of Deploying US Theater Nuclear Weapons in Europe," *Naval War College Review*, May/June 1980, p. 99, who says SACÉUR has "400 Poseidon warheads assigned . . . for use against Warsaw Pact military installations."

53. Korb, p. 99; and Freedman, p. 4; and *Military Balance*, pp. 90 and 119.

54. *Military Balance*, p. 118, says current inventories are 380 SS-4, 60 SS-5, 160 SS-20, and 518 medium bombers (Backfire, Badger, Blinder). This is a decrease from previous years' estimates of the number of SS-4 and SS-5 systems.

55. Harold Brown, *Annual Report, FY 81*, p. 104 (includes map of Backfire's antishipping mission profile and radius of action); and Lee, p. 106. Also see John R. Taylor, "Gallery of Soviet Aerospace Weapons," *Air Force*, March 1980, pp. 120-21.

56. *Military Balance*, p. 118.

57. Korb, p. 100; and Karl Lautenschläger, "Theater Nuclear Forces and Grey Area Weapons," *Naval War College Review*, September/October 1980, p. 15.

58. See footnotes 3 and 51.

59. John Morrison, "Soviet Defense Minister Warns U.S. against Placing New Missiles in Europe," *Washington Post*, October 26, 1979, p. 18.

60. General Richard H. Ellis, "Launch-Under-Attack and MX Survivability," *Air Force Policy Letter for Commanders*, October 1, 1980, p. 2. In Talbott, p. 170, General Lew Allen, Air Force Chief of Staff, is quoted as having said that MX in a Multiple Aim Point System would constitute "a great sponge to absorb" all the Soviet land-based MIRVs.

61. References to LUCA, the technology and systems required

to implement it, and the pros and cons of said strategy are credited to Edwin J. Philbin's analysis, "Launch under Confirmed Attack: A Strategic Response Viewed," Airpower Research Institute, Maxwell Air Force Base, Alabama, unpublished.

62. Harold Brown, *Annual Report, FY 81*, pp. 88-89, 130. In Department of State, *Selected Documents No. 12 B, SALT II Agreement*, June 18, 1979, p. 27, Secretary of State Vance's analysis points out that Article IV, paragraph 11, limits the number of

"reentry vehicles" (warheads) on new ICBMs to ten.

63. Rationale for this judgment is similar to the logic chain set forth in Nitze.

64. See footnotes 26, 28, 29, 30, 33, 34.

65. Korb, p. 101.

66. Technical details of relevant weapon effects can be found in S.T. Cohen, "Enhanced Radiation Warheads: Setting the Record Straight," *Strategic Review*, Winter 1978, pp. 9-17.

Those who argue for the reduction of defence expenditure in the countries of the West not only seem to live in a land of total make-believe, but they refuse to give the Marxist-Leninists who govern the USSR any credit either for meaning what they say (and have been saying for a long time) or for knowing what they are doing. What they have been saying, and have not ceased to say, is that the capitalist countries of the West are doomed to go down before the inexorable advance of communism, with the Red Army playing a major part in their overthrow. What they have been doing is building up huge armed forces, far greater than what would be necessary, in any conceivable situation, for their own defence, at a cost gravely detrimental to domestic development in the USSR and in a mode essentially *offensive*.

General Sir John Winthrop Hackett
The Third World War—August 1985 (1979)



PROFESSIONAL AUTONOMY OF THE MILITARY



IN THE UNITED STATES AND THE SOVIET UNION

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CONTROVERSIES regarding civil-military relations in both the United States and the Soviet Union focus largely on the issue of professional autonomy: the degree to which the professional nuclei of the armed forces in these nations are constrained by political and organizational forces external to the

military. In the United States, this theme is central to the debate between Samuel Huntington and Morris Janowitz regarding the sufficiency of professional ethical neutrality on the part of the military for the maintenance of civilian control over the armed forces. The same theme appears in the Soviet Union, according to the dialogue between William Odom and Roman Kolkowicz regarding the degree to which the relationship between the military and the Party is adversarial or complementary.

Our general view is that the nature of professionalism in both military establishments is changing in ways that reflect more general patterns of change in modern society. The underlying dimension is increased rationalization, which alters the ways in which work is organized in the military as well as in most other institutional spheres. Critical components of this alteration are greater sophistication and complexity in equipment technology and in social coordination technology, greater specialization in work roles and in technology at the subunit level, a greater need for coordination of specialized subunits at higher organizational levels, and increasingly abstract and impersonal planning of such coordination to achieve a more disciplined and methodical organization of subunits both in relation to each other and to the environment. In the military these general societal trends are compounded by the increased potential of new military technologies for devastation.

General recognition of the power of modern weaponry has shifted the role of the military in the United States and the Soviet Union from one of making war to one of deterrence, at least insofar as the relationship between these two nations is concerned. This transformation in the role of the military institution has both broadened the function of the armed forces into the realm of politics even in periods of peace and necessitated more extensive civilian political control of the military, or at least more extensive articulation of military and gov-

ernmental structures. These trends may be seen by some as constraints on professional autonomy that are unique to the military. We see them as manifestations of more general concerns with social control of those occupational groups that have historically been endowed with the status of professions. While there is no doubt that the consequences of social control of the profession are different for the military than, say, for the bar or the clergy, the social processes involved are essentially the same.¹

the nature of professions

An agreed-on set of characteristics of professions and professionals is summarized by Richard Hall, the distinction being made between structural and attitudinal characteristics.² Structural characteristics of a profession are the (1) creation of a full-time occupation; (2) establishment of a training school; (3) formation of a professional association; and (4) formulation of a code of ethics. Attitudinal characteristics of professionals, to the extent they are imbued with professional values are: (1) professional organization reference groups; (2) belief in service to the public; (3) belief in self-regulation; (4) a sense of calling to the field, and (5) a feeling of autonomy. Numerous articulations have been made of the military's claim that it has these characteristics, it is indeed a profession, and at least at the officer level its members are professionals. We do not dispute these claims, but we do question placing greater emphasis on "increasing professionalism" to improve military performance.

the emergence of a military profession

The development of an officer corps as a professional occupational category has been limited historically by technological, political, and ideological constraints. In order to justify occupational specialization and differentiation, there

had to be a military threat of some continuity. And in order for specialized military roles to be filled on the basis of expertise, stratification and ideological systems required that people be assigned positions on the basis of merit rather than birth, and accept a modicum of elitism in society. Officers who served because of their parentage rather than expertise were not military professionals. It was not until the American and French revolutions that officership was achieved rather than ascribed.³ Even then, officers were not necessarily regarded as professionals. Early Americans were not eager to accord professional status even to the traditional European professions: law, medicine, and the clergy.⁴ Similarly, traditional professions were afforded privileged status in Russia prior to the revolution; subsequent decline in the status of these occupations is notable.

While the mystique associated with science did establish the legitimacy of those occupations that were scientific in nineteenth-century America, the Civil War was fought by an officer corps that was not regarded as professional. Although the autonomy of the emerging military had been limited by the framers of the Constitution who specified, in Article I, that the President was to be Commander in Chief and only the Congress could declare war and appropriate funds for the armed forces, these limitations were not seen as constraints on a profession but on a potential political force and economic liability that had to be held in check. Interestingly, it is the constraints of Article I that Huntington emphasizes in his theory of civil-military relations.⁵

military professionalism in the United States

Between the Civil War and World War I, the professionalism of the American officer corps was increasingly asserted and institutionalized. The United States Army followed the British model of a nonprofessional officer corps during the Civil War. A professional military cadre

developed in France and Prussia, and the United States Military Academy taught European ideals of officership; but until the Civil War, the U.S. Army was not led by West Point graduates.⁶

Military education was expanded in the late nineteenth century with the establishment of midcareer training at the Navy and Army War Colleges and at the Infantry and Cavalry School. New officer associations were formed and began to publish professional journals, and military officers played an expanded role in military policy planning without posing a challenge to civilian control. The War Department General Staff was established in 1903. World War I became the first opportunity for a professional cadre to lead American forces in combat, and it did so without violating the prerogatives of the major agents of the Commander in Chief, the Secretaries of War and the Navy. The division of labor between military professionals and civilians established at that time has persisted largely unchallenged through the contemporary period, although its organizational manifestations have been changed somewhat with the establishment of the Department of Defense and subordinate service secretariats on the civilian side, and the establishment of the Joint Chiefs of Staff on the military side.

The fundamental thesis of *The Soldier and the State* is Huntington's assertion that "The modern officer corps is a professional body and the modern military officer a professional man." According to Huntington, a profession is an occupation with highly specialized characteristics: expertise, responsibility, and corporateness. The military officer shares these characteristics with the physician and lawyer.

- Expertise refers to specialized knowledge and skill, embedded in an occupational tradition based on a combination of basic liberal education and extensive specialized training.
- Responsibility refers to a service ethic in which the client of the service provided is society, and remuneration is based on professional

custom rather than the simple operation of market principles.

- Corporateness refers to the cohesion of the professional community derived from the common training experience, bond of work, and shared social responsibility of the occupational group.

These three characteristics justify both a degree of deference or social honor and a degree of autonomy in the execution of professional activities.

In *The Professional Soldier*, Morris Janowitz basically accepts Huntington's definition of a profession.⁷ He describes professions in terms of special skill acquired through intensive training, standards of ethics and performance, and a sense of group identity and system of internal administration, analogous to Huntington's criteria of expertise, responsibility, and corporateness. Like Huntington, Janowitz views the military's sharing of these characteristics with the traditional professions: law and medicine; and, like Huntington, Janowitz seeks to apply the category of professional not to the entire range of military occupations and grades but only to the officer corps.

While Huntington and Janowitz agree in the abstract on the characteristics of a profession, they differ in some respects in the application of these criteria to the American military. The major difference is manifested in their treatment of professional autonomy, with respect to the issues of mission definition and civilian control of the military. Huntington argues that the effectiveness of the military can best be guaranteed through professional autonomy and that the violation of that autonomy through the imposition of the liberal values of the civilian state compromises military effectiveness. The expertise of the military professional is in fighting wars, which would be compromised through the imposition of civilian values on the military.

Janowitz, by contrast, sees the military not in terms of a dichotomous choice of activity

between peace and war but rather as an instrument of international relations in a world in which the distinctions between peace and war and between political and military activity have become increasingly difficult to draw. As the military becomes increasingly integrated into the policy repertoire of the civilian government on an ongoing basis, the military expertise of the professional soldier must increasingly be supplemented with political sensitivity, and this changed definition of mission serves as a constraint on the war-fighting expertise of the military. This, coupled with the increasing bureaucratization of military organization, in turn constrains the professional autonomy of the military.⁸

Janowitz described the beginning of a process that has continued to evolve as a critical aspect of the modern military and has altered its traditional professional image. This change has been a two-edged sword, in some respects contributing directly to the greater professionalization of the military and in some respects threatening that professionalization. It is a change that is inherently linked to vastly increased potential power of the military through sophisticated weapon systems, economic influence, and possession of skills and apparatus capable of performing almost all the administrative and technical tasks required by civilian society. This potential has generated a subsequent need by society to contain military autonomy under detailed civilian control.

The broadening of the military function to include peace, political and social stability issues, as well as effective waging of war, the differentiation of tasks performed within the military to include administrative, clerical, logistical, communication, and research support roles to a much higher degree than combat roles, and the integration of military decision-making under a civilian structure has not destroyed the professional status of the military but enhanced it. As Bengt Abrahamsson explains, it is precisely these kinds of changes occurring in close asso-

ciation with the advancing industrialization of the larger society that have "transformed the officer corps from a group of part-time employed ascriptively recruited soldiers to a well-educated, technically . . . trained corps of experts recruited on the basis of achievement and skill."⁹ From Abrahamsson's point of view, the concern is that the size, economic impact, capacity for total warfare and nuclear devastation, and infiltration by military people into industrial and political circles raise concerns about insufficient control by the civilian sector of military power and autonomy.

Others are more likely to be concerned that the extension of military functions leading to the interpenetration of military strategy and political strategy, the overlapping of military and civilian roles, and the general integration of military and civilian sectors has led to the reverse problem: excessive loss of a singularly military sense of purpose, military autonomy, and of internal control. Military frustration over these concerns is quite common and should be addressed. However, these pressures stem essentially from the increased professional stature, breadth, and importance of today's military, and similar frustrations are articulated by today's medical and legal professions also.

These frustrations also reflect real pressures and confusions and challenge us to develop adaptations in military organization, public image, and personnel motivation appropriate to the reality of modern armed forces.

Military Professionalism in the Soviet Union

Russia had been influenced early by French and Prussian notions of military professionalism, and a professional cadre had been established under the czarist regime. The issue of professional autonomy of the military since the Revolution has hinged on the relationship between the Party and the armed forces in general and the role of the commissar, or political officer, in particular.

As in the United States, modern conceptualizations of government, or more appropriately Party, relations with the military in the Soviet Union are an issue of some scholarly debate. Roman Kolkowicz sees the military operating as an interest group with a professional ethic of autonomy, which rather than acting simply as an executor of policy, modifies policies that it does not wholly approve through a variety of organizational tactics.¹⁰ The Party must make resources available to the military in pursuit of national goals, but must be concerned about those resources' ultimately being used against the regime.

William Odom has a more benign view of Party-military relations and feels that the adversary nature of the relationship has been overstated.¹¹ Drawing heavily on Huntington's notion of military professionalism, he sees the military and the Party having common rather than divergent interests on a range of central issues, with the military serving as an "administrative arm of the Party," rather than a competing entity.

The prevalent view in the West (with the exception of Colton)¹² of the military in the U.S.S.R. might be summarized as follows: "If the Party is to continue to exist, it must control the military. The MPA (Main Political Administration) is the primary agency through which this control exercised."¹³ Given the nature of the Soviet system, the degree of control exercised by the MPA over the military seemed to require little elaboration and received little attention.

The Soviet Military and the Communist Party by Kolkowicz was an attempt to provide a more thorough analysis of the role of the political cadre within the military. Kolkowicz envisioned the political officer as a controlling agent and quotes a Soviet source:

A well established information system enables the political organs always to be on top of things and to react at the right time to deficiencies in the activities of the officer personnel and in the Party and Komsomol organizations.¹⁴

The implications of this quotation fail to acknowledge that for the political officer to react to deficiencies means among other things to ensure that an atmosphere in the unit does not develop which might lead to a questioning of commander's orders.

Such statements are common in the Soviet military literature. They provide support to the notion of the political officer as a control agent and suggest that he is superordinate to the military officer who has a right to either interfere with the orders of the officer or to issue commanding orders. This implication is incorrect. Much of the literature places a special emphasis on the fact that the order of the officer is law. In other words it is part of the role of the political officer to ensure that an order is indeed a law for subordinates. As the Soviets, whether military or political, so frequently emphasize, *edinonachalie* or one-man command is the primary law of the military organization; and the political officer is to explain and educate the subordinates of its importance.

The role of the political officer might be more easily understood if seen in the context of the overall development of the military organization in the U.S.S.R. The importance of the military professional trained in the science and technology of the military art and possessing unique expertise was acknowledged in 1918, when former czarist officers were called into service during the civil war. Former officers were utilized in all the services and served as instructors in the newly established military schools. According to Fediukin "invaluable help was rendered by the old military specialists in the organization of military schools and the preparation of red commanders."¹⁵ Between 1918 and 1920 forty thousand officers were trained in the newly established military schools and in courses provided for new officers.¹⁶

The inclusion of former officers led to the institution of the commissar system and raised the issue of professional autonomy still debated today. The commissar system was to ensure

that the czarist officers—who were not exactly supportive of the usurpers of power—did not betray the revolution. The role then was indeed one of control. But it would be erroneous to assume that this was the only function of the commissars. The commissar was to show a special vigilance toward the military specialist, as the former officers were called, but he was also charged with the reeducation of this officer and with helping him understand the historical significance of the revolution.¹⁷ The educational role of the commissar was not only directed toward the military specialist but to the troops. He was charged with ensuring discipline and obedience of the troops to the orders of the military specialist. The signature of the commissar on all orders of the specialist served as an assurance to the soldiers that the order given was not a betrayal. From its inception the domain of the commissar role was not merely control but included socialization and education of the masses to the authority of the specialist. He was to be aware of the importance of good morale as well as carrying the ideology of Marx and Lenin to the troops and to the military specialist.

The operational realm was the domain of the specialist not to be interfered with by the commissar. His was the deciding voice to be supported by the commissar even if he disagreed with the decision. Leadership in the military sphere belonged not to the commissar but to the specialist. The responsibility for military operations falls exclusively on the military leadership.¹⁸

While the institution of the commissar role was no doubt a novel one, the importance of the military specialist was in essence a recognition of the role of the professional, as imperative to the success of the revolution.

While the relationship between the commissar and the military specialist during the Civil War may have approximated the rules only rarely and most likely produced conflict, the interdependence between the political and military officer was likely to lead to a process

whereby control was not the most important part of the relationship. Regardless of the degree of conflict between these two role incumbents, the importance attributed to the freedom of the military specialist to make decisions of a military nature and to the educational role of the commissar provides a clear indication that the political leadership recognized the role of the military professional as necessary, not only for the immediate period but for the future as well. And the insistence that the role of the commissar was more than a policeman established the base for the future role obligation. Indeed, throughout the stormy history of the Soviet military, the role of the commissar or political worker always included an educational and morale-building component.

Changes in the system during the first decade of the Soviet state brought changes in the military as well. By 1928, when Stalin inaugurated the first Five Year Plan, the roles of the commissar and military specialist were merged. The establishment of the *Zampolit* or The Deputy Commander for Political Affairs was, until the great purge in 1937, a role subordinate to the military officer, generally defined as a helping role for the effective education of the personnel supportive of combat readiness, discipline of subordinate personnel, and facilitation of resource procurement.

On the eve of the purge, the commissar role with its control component was reintroduced, and the signature of the commissar was required on all commanding orders. In 1940 the control aspect of the role was eliminated only to be introduced again in July 1941 and finally eliminated in October 1942. The political officer was once more designated subordinate to the military officer, primarily an "educator," supporter of the officer in ensuring discipline and obedience to orders, morale builder as well as overseer of the so-called well-being of the troops.¹⁹

Edinonachalie or one-man command has remained (since 1942) the organizational mode of the military, and, similarly, the role of the

political officer has remained subordinate.

Professionalism as the mark of the military officer has been supported throughout the history of the Soviet state. Considerable resources for the development of a professional military cadre were allocated for educational institutions, the establishment of officers' clubs, and development of a military literature; also included were high material rewards, i.e., salaries, as well as symbolic rewards, such as the institution of military ranks.²⁰

Autonomy, or freedom from controls by external agents, has traditionally been regarded as the *sine qua non* of a profession. This component of the professional role has long been debated with respect to the U.S.S.R., not only as it pertains to the military but other professionals, also. The establishment of the MPA was not the primary threat to the autonomy of the officer. In fact the purges of 1937-38, which devastated the leadership cadre of the military, were no less devastating to the political cadre, the purported controllers. Stalin was determined to silence any real or imagined opposition, and the holocaust created by the purges did not single out the military as managers of violence as more of a threat than the Party leadership. There is relatively little evidence to suggest that the political officer constituted a threat to the autonomy of the professional officer or that the officer feared interference by the political officer.

The death of Stalin followed by the emergence of the Khrushchev leadership has been portrayed as a period of conflict between the Party and the military. But it is important to note that this conflict was at a level of policy which had little bearing on the professional activities of the officer. Rather, it involved questions and decisions that are the domain of the civilian authorities in other societies as well. The fact that high level officers were questioning Khrushchev's views on troop reduction or commitment of resources to the civilian sector is indicative of a changed atmosphere rather than greater control of the military. If initia-

tive and independence constitute a component of professionalism and professional autonomy, the available Soviet literature suggests a much stronger emphasis on these characteristics. In large measure these components are a function of changing warfare and technological developments, which lead to similar structural arrangements regardless of the political system. In the 1960s as well as in the 1970s, Soviet military literature devoted considerable attention to the notion that the revolution in military technology places a special responsibility on the professional military cadre, to train and prepare the new officer cadre.²¹ It also emphasized that education and training are not only more important today but, given the increased level of educational achievements of young people, requires a different approach, what might be called a more professional approach.²²

The focus on professionalism is not compromised by an organizational structure that provides room for a political officer. The latter's focus on morale and on the education of troops in fact enables the officer to focus on the professional domain. It is not at all dysfunctional to the military organization for the political officer to help implement decisions that were made by the commanding cadre.

Professional Expertise and Professional Autonomy

The definition of professionalism that underlies the views of Huntington and Kolkowicz is a functionalist one, in which an occupational group having a particular expertise is given certain privileges, including autonomy; in exchange for the maintenance of an ethic of public service and self-regulation.²³ In the case of the military, expertise in the management of weapon systems capable of ever-increasing devastation threatens the autonomy of the profession. However, current pressures on the military profession stem not only from these developments within the military but from broader social currents as well.

Views of the professions were extremely favorable in the 1950s and 1960s, when professional autonomy was justified in terms of perceived positive consequences for society. This atmosphere of trust in professional autonomy has passed in the United States, however, as civilian professionals have been shown to have translated autonomy and professional status into personal gain and convenience quite independent of the level of service provided to the public. Civilian professionals such as doctors and lawyers feel themselves put on the defensive, in part because their activities as individuals are coming under increasing ethical scrutiny and in part because they envision themselves as eventually more likely to work in large corporate contexts rather than as independent practitioners, finding that constraints of bureaucratic organization frequently are incompatible with those of professional practice.

This latter issue has been less critical to the military because it originally developed as a profession practiced within a bureaucratic context. However, the increasing complexity of military technology, greater levels of organizational specialization that this complexity requires, and increasing recognition of the political consequences of military autonomy have altered the nature of the bureaucratic constraints placed on the military professional. Moreover, decision-making is done by teams rather than by individuals, and, increasingly, these teams include civilian experts as well as military personnel. These factors change the nature of military practice, as increasingly sophisticated expertise leads to lesser levels of autonomy both in terms of the individual practitioner and the occupational group.

During the 1970s we saw a rise of distrust and criticism in the treatment of professions by social scientists. It is both a reflection of a demand for accountability and a serious reaction to the naively one-sided view of professions held during the 1950s and 1960s. The conflict or power perspective on professions that appears so strongly in the social science of

the 1970s views the distinctive characteristic of professional occupations to be their monopolistic domination of the markets in which they operate and their efforts to control, through certification procedures and other autonomy-related measures, as much of the environment related to their activity as possible.²¹ Autonomy is still considered to be a critical factor and indicator of professional status but is discussed in terms of the conflict and dominance relations between professions and the government, professions and the public, and professions and each other. It is also discussed more in terms of professional self-interest than in terms of service. While there is no all-out condemnation of professional principles as such, there is emphasis on the extent to which professionalism is a self-serving ideology. Efforts at increasing autonomy in the name of service have been countered with descriptions of the self-serving dynamics in the application of those principles by professions today and with calls for accountability through outside evaluation and control.

Thus professionals today operate in an atmosphere of considerable distrust, and they feel themselves put on the defensive. We even find the American Medical Association investing in general good-will advertising about itself in a manner very similar to that used by Texaco, Standard Oil, and other giant corporations. The relevance of this to the military is that it is important for people concerned about threats to military status and autonomy to understand that many of these threats are directed at professional elite groups generally, not just at the military. Also, accommodations which take place in the face of these threats are being made and will continue to be made by other professional groups. Such accommodations do not necessarily mean a loss of professional stature relative to other professions but loss of certain privileges; in addition, certain inconveniences may come from providing justifications and information required by accountability-seeking government or private agencies.

THE emergence of the military as a profession in the United States and the Soviet Union was a phenomenon of the twentieth century. The idea of a professional military was rejected in the United States at the time of our Civil War but had been accepted in the Soviet Union by the time of their civil war, a half century later.

Unlike the traditional professions, the military calling emerged in a bureaucratic organizational environment in which the question of individual autonomy was never an issue to the degree that it affected other professionals, who increasingly found themselves practicing in bureaucratic rather than individual contexts. The question of the autonomy of the occupational group has emerged as an issue in civil-military relations in both the United States and the Soviet Union. Three points are worth emphasizing with regard to this issue.

First, in both nations, military professionals have been granted a high degree of autonomy in terms of operational matters and tactics. It is primarily with regard to more general issues of international relations that civilian policy becomes preeminent. While it may appear that civilians are increasingly encroaching on military policy, we regard this as largely a reflection of the increased ambiguity between what is military and what is civilian. What we are seeing is not so much the imposition of politics on the military as it is the increased relevance of the military for peacetime politics. To the degree that the military is constrained, the constraints are largely in areas that are not within the traditional domain of the military but pertain to expanded roles of the military rooted in new development in weapons technology.

Second, in both nations, the role of professionals as a privileged class has been questioned. The concept of a profession implies elite status, and the basic ideologies of both nations are antielitist. For a period in the midtwentieth century, social scientists evaluated profession-

alism positively and uncritically. More recently, however, critical social science theory has questioned the privileged status of professions.

Third, the Soviet Union, unlike the United States, invented a role to represent the interests of the government within the armed forces, thus building what might appear to be a dual authority structure. The roles of political officer and commander have become increasingly cooperative. The political officer has become more responsible for educational and morale issues, leaving the commander free to attend

to military issues. The United States has discontinued the civic education activities that were once a part of military socialization but has been adopting strategies from civilian work organizations for the improvement of morale and job satisfaction. These functions are the responsibility of specialized organizational effectiveness officers whose role is coming to resemble the evolving responsibilities of the Soviet political officer.²⁵

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Notes

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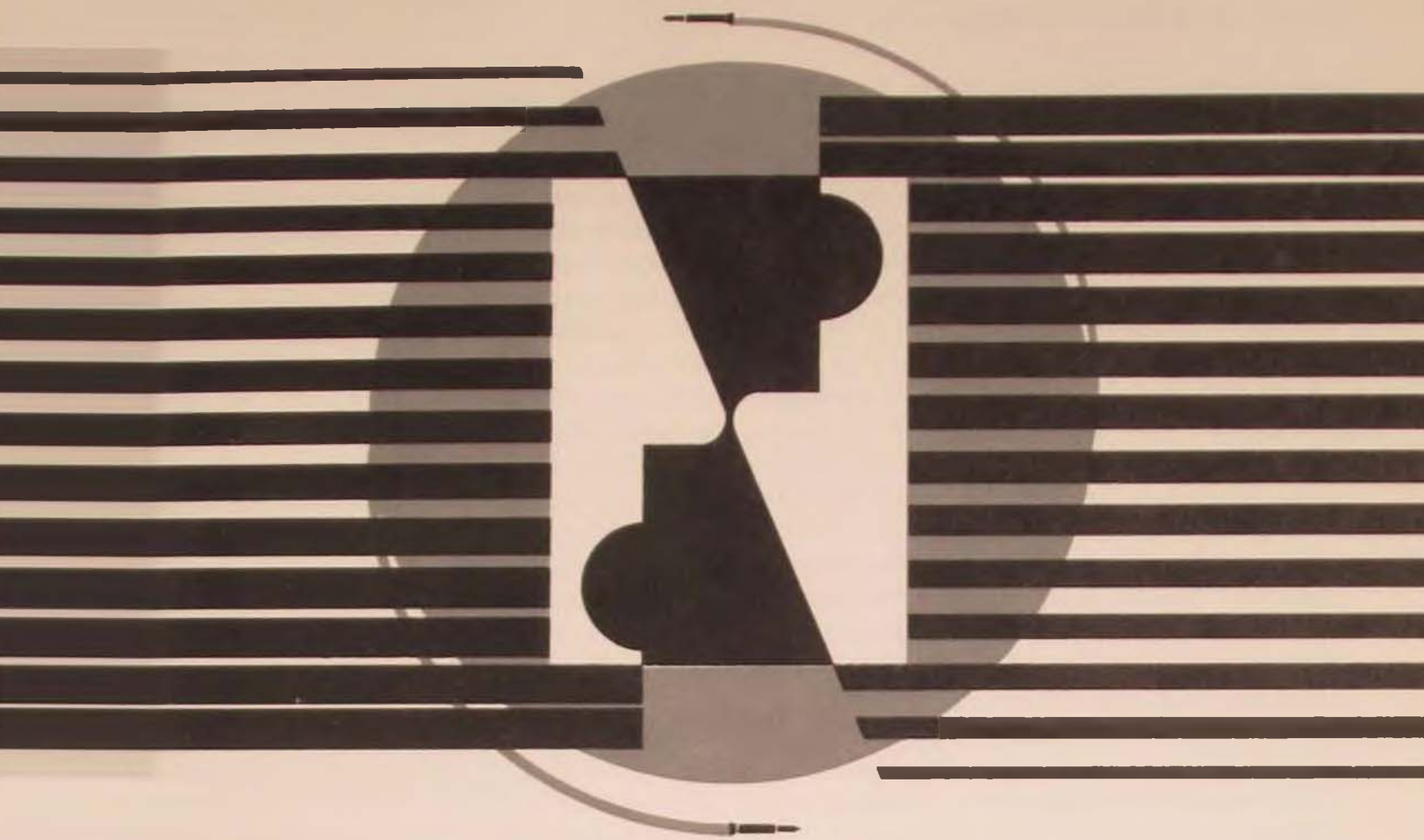
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EUROPEAN ARMS CONTROL NEGOTIATIONS

prospects for a "window" in the 1980s

MAJOR KENNETH W. ENGLE

FORMER assistant director of the U.S. Arms Control and Disarmament Agency, Admiral John M. Lee, notes that the concept of "windows," familiar to space planners, can be profitably applied to arms control negotiations.¹ Window conditions exist when mul-

multiple factors are in phase. In arms control, factors such as the state of technology, force structure, weapons inventories and procurement programs, verification capabilities, and political and economic incentives occasionally merge into a favorable configuration for a limited

period of time. If so, they will interact to overcome inertia and suspicions and open a window through which the negotiating parties can feasibly interact in a search for agreement.

The history of arms control attempts in Europe is as perplexing as the problems are complex. The myriad factors that need to be brought in phase to reach an agreement have eluded control. Unlike the Anti-Ballistic Missile (ABM) Treaty of 1972, where an open window was perceived, seized, and nurtured, the scenario in Europe is a sequence of rebuffed initiatives followed by a seemingly endless round of negotiations leading nowhere.

These Mutual and Balanced Force Reduction (MBFR) negotiations* have served various interests of the United States, the Soviet Union, and their allies to a point. However, there are developments in the current political-military context in Europe that tend to make the MBFR negotiations appear inappropriate and a search for an appropriate forum imperative.

The North Atlantic Treaty Organization (NATO) program for long-range theater nuclear forces (LRTNF) modernization is carefully complemented with a concurrent program of arms control initiatives. This modernization is having a significant impact on the Soviet Union. NATO hopes the program will be a stimulus to serious negotiations for arms control rather than a continuing arms race.²

MBFR does not seem to be the proper forum to deal with theater nuclear weapons and other new challenges of the 1980s. An entirely new or extensively modified forum is needed. Several approaches have been suggested, and perhaps a window can be opened in the 1980s.

Lloyd Jensen in a 1963 study proposed that when two nations are highly confident about their deterrent capabilities, the incentives for serious consideration of disarmament and

willingness to compromise are negligible.³ In light of MBFR this proposition seems to hold true through 1979, but I suggest a follow-on proposition that could emerge from the LRTNF modernization: If the perception of a significant positive change in an opponent's capabilities disrupts a nation's confidence in its deterrent capabilities, that nation is likely to press for serious negotiations that will relieve the threat.

I see indications that the Soviets would rather relieve the perceived threat by eventual negotiations, if their propaganda maneuvers fail, rather than an arms buildup. Perhaps there will be mutual recognition that the reinstatement of deterrent capabilities at today's high force levels is becoming increasingly less feasible, and the Reagan administration may be able to open a window.

Pre-MBFR Initiatives

We have been through two principal phases of maneuvers—the initiatives taken prior to MBFR and the 1970s or MBFR decade. We are now on the verge of major changes. However, the phase we are about to enter cannot escape the legacy of past attempts.

From the Soviet viewpoint, extremely serious and dangerous developments were taking place in Europe by the mid-1950s. NATO had been created in 1949. Subsequently Greece and Turkey joined in 1952, and West Germany was rearmed through the London and Paris Treaties of 1954, which admitted West Germany through amendment of the Brussels Treaty. West Germany was authorized an army of 500,000 men. The Soviets retained their concern over German militarism and feared the idea of rearmament and possible reunification.

The Soviet response took two forms: A military alliance, the Warsaw Treaty Organization (WTO), commonly referred to as the Warsaw Pact, was formed to offset NATO, and at the same time the Soviets proposed a series of arrangements for disarmament and European

*MBFR is the Western acronym for these negotiations. It will be used in place of the longer official title: Mutual Reduction of Forces and Armaments and Associated Measures in Central Europe.

settlements. These proposals, designed to better the Eastern position in Europe, typically included "the elimination of foreign bases, the withdrawal of occupying forces from Germany, a non-aggression pact between NATO and WTO countries, and the permanent denuclearization of Germany."⁴

Thus most proposals were calculated to put positive and negative pressure on West Germany. In 1954 at the Berlin Conference, the Soviet Union proposed a European collective security pact, which would have involved a unified but neutralized Germany with removal of foreign troops and bases.

In the late 1950s Polish Foreign Minister Adam Rapacki presented the first in a series of proposals for European arms control measures.⁵ He called for denuclearization of East and West Germany, Poland, and Czechoslovakia. He also suggested a nonaggression pact between NATO and WTO countries. His suggestions were rejected by the West with the claim that the plan tended to perpetuate the division of Germany and was too limited in scope. The United States was afraid it would create a serious military imbalance by eliminating nuclear weapons in West Germany.

The Rapacki Plan appears to have been a window the Soviets were really trying to open. The West at the time tended to view anything coming from the East as being bad for the West even if it looked good. This led to the United States reneging on its own initiatives, e.g., London 1957, when they were accepted. In 1958 a revised version of the Rapacki Plan was turned down, even though the revision responded to many Western criticisms.

In 1963 Poland's Wladyslaw Gomulka proposed a freeze on nuclear weapons in Central Europe. In 1964 the Soviets pressed for reduction and eventual withdrawal of all foreign forces in Europe. The West feared that the Soviet Union's geographical proximity would allow for a short notice return. There were also fears among European leaders, especially West Germans, that special limitation areas

could lead to discrimination among European nations along with demilitarization and neutralization.

Another barrier was the West's preference for security through alliance rather than by seeking agreements with the East. There was also a tendency to link reunification of Germany with arms control. Konrad Adenauer, Chancellor of West Germany from 1949 to 1963, continually pushed his political goal of unification. He and U.S. Secretary of State John Foster Dulles made unification prerequisite to considering arms control.

By the mid-1960s the West began to take an interest in force limitations, but this time the East responded negatively. The Soviets stressed the need for a prerequisite political solution. They wanted a European security conference.

In responding to the June 1968 NATO proposal for reciprocal force reductions balanced in scope and timing, the Warsaw Pact renewed proposals for a conference and assailed the U.S. move as calculated "to distract attention, lull the vigilance of the socialist countries, and create a political climate favoring subversion activity by imperialist agents, the fanning of nationalistic feelings, and the penetration of hostile ideology."⁶ The Soviet invasion of Czechoslovakia demonstrated that Soviet forces were not in Eastern Europe solely for military defense but also for internal control.

In December 1969 the NATO ministers made a security conference in Europe contingent on progress in other East-West talks, such as the scheduled negotiations on Berlin. NATO then resumed the force reduction proposals in May 1970.⁷

Up to this point, the initiatives taken were not well received. The timing was not right, and other considerations—both domestic and systemic—were too powerful. The window remained closed.

Perhaps the most important change that made arms control negotiations possible in the early 1970s was West German Chancellor Willy Brandt's *Ostpolitik*. His policy reflected a new

realism. He was willing to abandon past territorial claims east of the Oder-Neisse line and pressures for formal unity of the two Germanys. He brought a flexibility of diplomatic maneuver that was lacking during the Cold War period. The bilateral treaties entered into with East Germany, Poland, and the Soviet Union set the stage for the eventual Conference on Security and Cooperation in Europe (CSCE), which served the primary interests of the Soviet Union and parallel MBFR negotiations, the price demanded by the West.

Decision to Negotiate—CSCE and MBFR

In the Soviet Union, the decision-making process is generally hidden from view. Individual operational codes, the interplay of bureaucratic politics, and the effects of personality can be inferred only on the basis of very brief glimpses. Outside of these minor revelations, indicators of motivation must be extrapolated from actions.

Brezhnev, in a Tbilisi speech of May 1971, indicated an inclination to consider force reductions. This lead was followed later in the year by a Declaration of Warsaw Treaty States affirming that reductions of both foreign and indigenous forces in Europe would lead to increased security. Prior to this declaration, the Warsaw Treaty Organization had made no mention of national forces.

Brezhnev's action came just in time to reverse the U.S. Senate's action on the Mansfield Amendment, which would have led to unilateral reductions. He probably calculated unilateral withdrawal to be a greater risk than arms control negotiations. Preparatory talks for a security conference and discussions on force reductions moved forward.

The CSCE contributed to Soviet security by legitimizing the European order and status of Germany. The MBFR negotiations also have made positive contributions to Soviet security. There were two openly declared motives for

Soviet acceptance of MBFR negotiations: "the belief that East-West relations in Europe might be improved by the reduction of troops, particularly foreign troops; and the belief that this could cut down defense costs."⁸ While plausible, they are not sufficient to explain why Brezhnev did not let the Mansfield Amendment proceed on course. Other motives must be inferred.

Perhaps the Soviets' first concern was to prevent any weakening of their political-military position in Central Europe, one possible result from a rapid and destabilizing U.S. force reduction. They wanted to discourage Western Europe from developing a strong and independent defense structure with military integration. Such unity could be a product of the shock of U.S. unilateral reductions.

Between 1973 and 1979 little significant progress toward an agreement was made. MBFR proposals and counterproposals were tabled, but the Soviets had little incentive to do anything but keep the forum going. The Soviets apparently were satisfied with the negotiating status quo and the progress they were making in unilateral improvements to their forces. As in the pre-MBFR initiatives noted earlier, NATO and WTO desires for progress did not coincide. Some WTO interests were satisfied by the CSCE; some are satisfied by the continuation of the MBFR talks. There has been little reason in Soviet eyes to compromise.

Lloyd Jensen's proposition noted earlier has been supported by MBFR developments. With the United States and Soviet Union highly confident about their deterrent capabilities in Central Europe, the incentives for serious consideration of an arms control agreement have been negligible. Soviet interests have been and were being served by the status quo up to 1979.

However, Soviet confidence has recently been threatened by NATO's response to Soviet arms improvements through the NATO LRTNF modernization plans. The WTO is likely to press for serious negotiations that will relieve

the threat posed by these modernized theater nuclear weapons planned for deployment. The threat is real. Soviet reactions, as in the neutron bomb proposal a few years ago, have been vehement.

Threat and Hope

There is now a different force structure than the one which opened the window for negotiations in the early 1970s. There has been a substantial buildup of WTO forces, including deployment of the SS-20 and the Backfire bomber. These weapons have undercut NATO's theater nuclear advantage. Numerous steps are under way in NATO to redress the imbalance. Primary among these and most threatening to the Soviets is the LRTNF modernization program.

NATO threat and Soviet counteractions

From a Soviet perspective, NATO initiatives are threatening to reverse the favorable balance of power the Soviets have been building. Although not yet accomplished, the NATO program calling for a 3 percent real annual increase in defense spending was worrisome. However, the major threat, as might be concluded from the vast effort expended to counteract it, was the NATO conditional decision in December 1979 to proceed with plans and programs for deployment of Pershing II and ground-launched cruise missiles (GLCMs). The NATO approval carried the temporary caveat wherein the Netherlands and Belgium declined, at this time, to permit 48 missiles each on their soil. This proviso will be periodically reviewed.⁹

The total plan "calls for deployment of 108 . . . Pershing II missiles with a range of about 1000 miles as opposed to the 400 mile range of the present Pershing [Is] in West Germany. Then 464 more land-based, low-flying cruise missiles with [an approximate] range of 1500 miles would be built and deployed in Britain, Belgium, the Netherlands and probably Italy."¹⁰

The Soviets' costly buildup of regional forces that paralleled their drive for parity (at least) with the United States in strategic weapons might have produced, in their expectations, a compliant Western Europe. Instead, the Soviets are faced with the possibility of effective countermeasures from NATO.

A massive Soviet propaganda campaign has been mounted. As with the campaign against the neutron bomb, threats and warnings of retribution have been intermingled with inducements. Soviet perceptions of the high stakes involved are evident in the breadth of participation and the intensity of the rhetoric unleashed in an effort to avert the deployment of these weapons.

The major initiative came on 6 October 1979 in a speech by Brezhnev in East Berlin. In a general warning he stated that ". . . the Socialist countries would not, of course, watch indifferently the efforts of the NATO militarists. We would have in such a case to take the necessary steps to strengthen our security." In a direct warning, he asserted that the Federal Republic of Germany (FRG) was facing a very dangerous choice: "to help strengthen peace in Europe and develop peaceful, mutually beneficial cooperation. . . . It is not hard to see what consequences the F.R.G. would have in store for itself if these new weapons were to be put to use by their owners one day."¹¹ He then said this warning applies to other European countries as well, if they allow such weapons to be deployed on their soil.

Accompanying the warnings was an offer to take measures to reduce tension and arms. Brezhnev "confirmed solemnly" that "the Soviet Union will never use nuclear arms against those states that renounce the production and acquisition of such arms and do not have them on their territory." He announced a decision to reduce unilaterally the number of Soviet troops in Central Europe within 12 months. As many as 20,000 troops and 1000 tanks would be withdrawn from the German Democratic Republic. He also called for expansion of notifi-

cation about large-scale exercises provided for in the CSCE Final Act. He proposed to reduce the level requiring notification from 25,000 to 20,000 men and suggested that exercises involving more than 40,000 to 50,000 men not be held at all.

This "carrot and stick" approach played masterfully on European fears of being abandoned by the United States if the Pershing II missiles are not deployed or of being decoupled from the U.S. strategic umbrella if the missiles are deployed. West Germany was being told to choose between *Ostpolitik* and Pershing IIs.

The propaganda element in the Soviet counteraction has not been effective. The West is proceeding with modernization but at the same time is emphasizing the necessity for arms control as a parallel initiative.

Since the modernization program is proceeding as planned, Soviet interests would seem to require that the MBFR negotiations be absorbed into an expanded forum or that a new forum be initiated that can redress the imbalance they perceive for the future.

As Brezhnev stated,

We continue to regard a European conference held on the political level as the most suitable place for discussing a broad complex of measures of military détente in Europe. It is very pressing and, it can be said, a ripe task to prepare and convene such a conference.¹²

In a November 1979 interview in *Pravda*, Brezhnev indicated that current Soviet aims are to make

. . . headway in solving the entire complex of problems of military détente and arms limitations on the European continent. . . . As far as a practical resolution of the question of these weapons [LRTNFs] is concerned, there is only one path here—to begin talks. The Soviet Union believes that talks must be started without delay.¹³

In early July 1980, following West German Chancellor Helmut Schmidt's visit to Moscow, Brezhnev dropped the demands that NATO rescind its decision to deploy the new missiles and that the SALT II treaty be ratified prior to

beginning negotiations on medium-range nuclear missiles. However, he insisted that U.S. forward-based systems be included. In mid-October 1980 in Geneva, preliminary U.S.-U.S.S.R. low-key talks on theater nuclear weapons began, with the purpose of defining the scope of negotiations within a SALT III framework.

Thus, the immediate problem for the 1980s will be to establish an acceptable forum and approach.

seeking a realistic forum for the 1980s

From a Soviet perspective, any effective forum for European arms control will have to integrate actions on all levels of weaponry. Although short-term and narrow approaches might work, they will have to be part of an overall pattern. As a Soviet spokesman declared nearly a decade ago, "The ratio of conventional forces cannot be divorced from the ratio of tactical and strategic nuclear forces, and the regional balance in Central Europe cannot be divorced from the all-European and global balances."¹⁴ MBFR, as modified by one of the recent proposals, could provide the model for progress in the 1980s.

The long years of MBFR negotiations have not brought substantive agreements, but some of the by-products are very useful. Extended communications and creation of a common vocabulary should make future interaction easier as might the experience of the negotiators. The experience of allied interaction and East-West negotiations should expedite the future processes for creating agreed-on positions. The experience of dealing with the complications of asymmetrical weapon and force structures will provide an uncommon factor in the SALT negotiations experiences.

The basic problem with the MBFR forum is that it is too narrow in membership, scope, and approach. It has been overtaken by events such as other arms control negotiations and changes in military technology.

The gray-area or Eurostrategic weapons problem in particular makes it necessary to go beyond conventional weapons and force reductions. As noted above, the Soviets are not willing to separate issues.

The Soviet perceptions of threat that need to be addressed along with the interests of the West require a forum that can deal with Eurostrategic weapons as well as conventional force reductions. Intercontinental weapon negotiations might be confined to a U.S.-U.S.S.R. forum, but even that should be integrated in some manner.

Numerous proposals have been made. The French would replace MBFR with a new European arms control conference to cover the area from the Atlantic to the Urals. They propose to restructure negotiations to bring them into alignment with the current technological, military, and political environment. However, they would not include theater nuclear or naval forces. In early 1980, when still president, Valéry Giscard d'Estaing was quoted as stating,

France has every reason not to participate in SALT III . . . the likelihood of success for such a negotiation on the Gray Area is extremely low . . . in every case, France's deterrent is a central system.¹⁵

Two proposals involve a tiered approach. Robin Ranger believes negotiations should be functionally distinguished according to states and weapons involved.¹⁶ He wishes to get away from the traditional American approach which, he believes, treats arms control as a primarily technical problem. He thinks that MBFR must be placed in a broader arms control context through a four-tiered approach, ranging from superpowers through NATO-WTO, flank powers, and "other European powers" forums to address relevant issues at each level.

Another tiered approach offered by Christopher J. Makins would be defined by the forces covered rather than by any geographical areas.¹⁷ Makins's proposed Conference on Negotiated Security in Europe (CONSET) would supplant MBFR and preclude theater nuclear discus-

sions in SALT III. The 35 countries involved in CSCE would participate in an effort to conclude "all kinds of agreements which could enhance stability and reduce uncertainty in the European theater balance and also increase the confidence of all countries of Europe."¹⁸ Like the French proposal, the idea is to establish a stronger political framework for negotiated security arrangements.

Leslie H. Gelb and Richard Burt believe that arms control has essentially failed in the way it has been approached in the past.¹⁹ Gelb's approach is not necessarily in conflict with the forums proposed above, but he looks on agreements to be pursued as being most effective when dealing with confidence and stability-building exercises tailored to fit in with current political relationships. In MBFR, troop reductions could just as easily lead to instability as to stability. The aim should be at balancing asymmetries. Gelb believes that MBFR is blocking needed efforts to pursue realistic arms control in Europe, which should deal with confidence-building measures (CBM).

Burt is against codifying an existing balance. He believes it would be best to eliminate sources of military instability. He is against option three in MBFR (recently dropped) and believes it is unlikely to stabilize the conventional balance. He finds MBFR irrelevant and counterproductive for the defense of Central Europe. NATO countries can be targeted by weapons outside the MBFR negotiating boundaries. He also sees CBMs as the answer if MBFR is to be pursued.

The Soviets have given some indication that the CBM route might be fruitful. In the past, they have been vehemently opposed to on-site verification or any other negotiated presence of foreign observers within the Soviet Union. There is no hint of modification in that position, but the possibility of a presence in relation to CBMs might not be as strongly opposed for Eastern Europe.

In the spring of 1979, Lev Semeiko of the Institute of U.S. and Canadian Studies, Acad-

emy of Sciences of the U.S.S.R., wrote that,

The Soviet Union is by no means against confidence building measures. . . . the Soviet Union deems it necessary to extend confidence building measures. At the Belgrade meeting (follow-on to CSCE), it proposed that major military maneuvers with the participation of 50,000-60,000 troops should not be held so as to exclude the possibility of using a massed deployment of troops as a demonstration of strength.²⁰

The latest NATO MBFR proposal tests Soviet willingness to consider expanded CBMs. The proposal, in addition to calling for a symbolic U.S.-Soviet reduction in line with Soviet proposals, calls for agreement:

—To detect and report troop movements into or out of Central Europe, observers would be placed at exits and entry points such as ports and major rail and road junctions around the so-called Reduction Area (in the West, the territory of West Germany, The Netherlands, Belgium and Luxembourg, and in the East, the territory of East Germany, Poland and Czechoslovakia);

—To help ensure compliance with the agreement, up to 18 reciprocal air and ground inspection trips would be permitted each year;

—To reduce tensions resulting from large unexpected troop exercises and movements, the two sides would notify each other in advance of all movements of 10,000 men or more;

—To attempt to build mutual confidence, the two sides would permanently exchange data on their military forces in the Reduction Area. The data could then be checked against independent intelligence estimates;

—To provide a forum for dialogue concerning compliance with this and future agreements, a follow-on East-West consultative body would be established.²¹

Acceptance of the principle of negotiating CBMs, but in a forum encompassing other levels of concern, could mean the demise of MBFR but the opening of a window for realistic and comprehensive arms control negotiation in Europe.

MOSCOW has traditionally used

arms control as one instrument in its general political offensive. To the Soviets, it is a long-term zero-sum struggle between East and West. So long as the Soviets were confident of their capabilities, they were reluctant to negotiate other than to propose measures extremely beneficial to themselves. They had no incentive to compromise. With the NATO LRTNF modernization program, their perception of strength and advantage has been called into question. Their interests might now be served from negotiations of proposals more likely to be acceptable to NATO and the rest of Europe.

Will the scenario of European arms control now follow a positive path similar to the ABM negotiations? Most of the public pronouncements by Soviet leaders seem to contain a positive tone and careful avoidance of closing windows even in their most powerful propaganda barrages. I believe the NATO LRTNF modernization program, if diligently pursued along with arms control overtures, will produce a perception of threat on the part of the Soviets that will be positive (from our standpoint) in leading to negotiations.

While the current world situation, with the stalled and probably "dead" SALT II treaty and the Afghanistan situation, elicits short-term pessimism, I am optimistic for the long-term possibilities. President Reagan stated during his campaign,

As president, I will immediately open negotiations on a SALT III treaty. . . . My goal is to begin arms reduction. My energies will be directed at reducing destructive nuclear weaponry in the world—and doing it in such a way as to protect fully the critical security requirements of our nation.²²

An expanded negotiating forum could be arranged. Emphasis on CBMs could bring some initial results in reducing tensions. A window can be opened. It remains for both sides to cooperate in the "launch."

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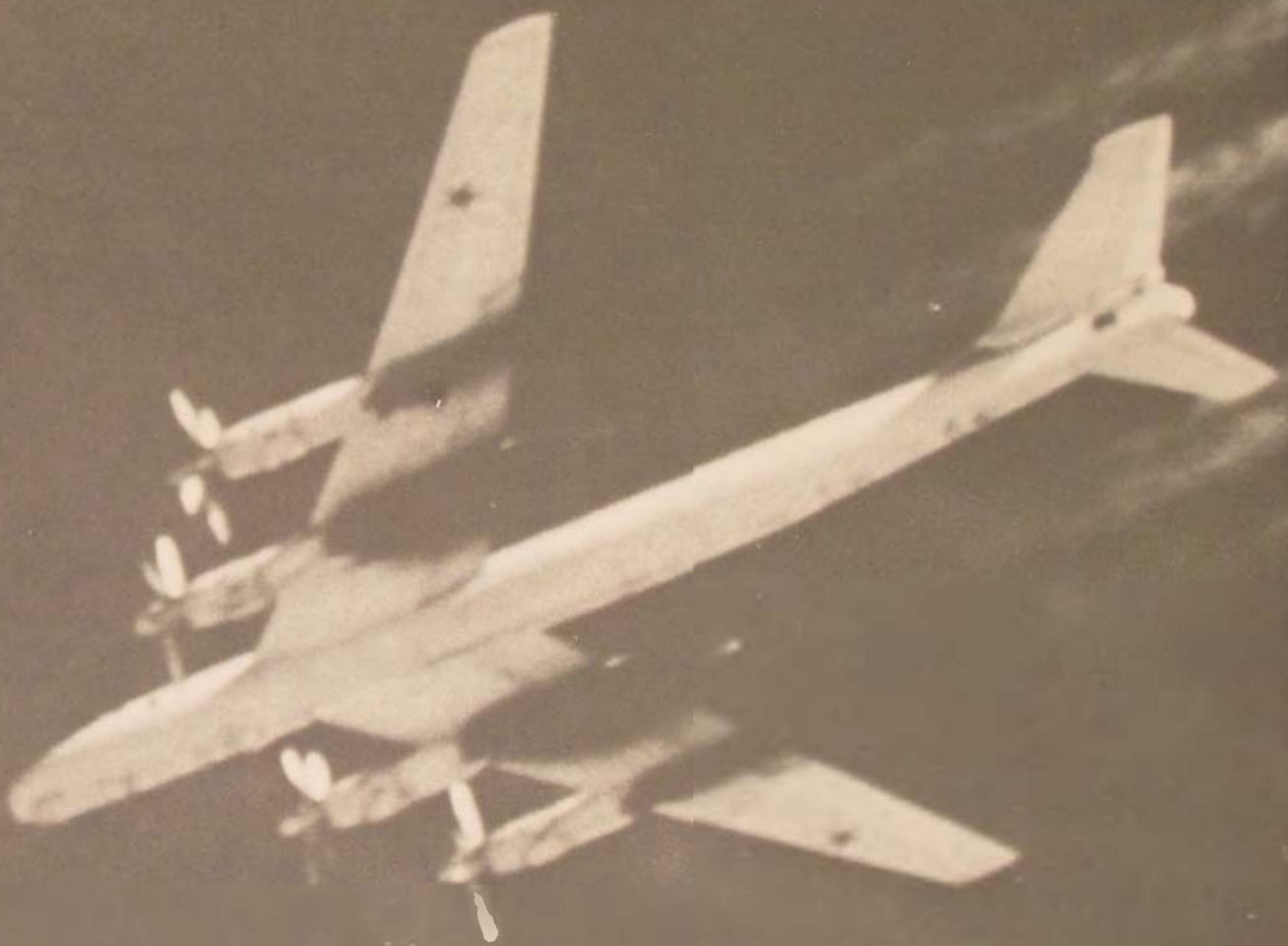
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coming . . .


in our November-
December issue:

- China's Defense Modernization
- Strategic Equivalence
- Surprise
- Discipline and Justice
- Utility of Military Force
- The B-58: Part Two
- Junior Officer of the '80s



BETWEEN TWO STOOLS:
VERY LONG-RANGE AIRCRAFT
IN SEA CONTROL

DR. ROGER A. BEAUMONT



AS THE First World War began, the problems of long-range aircraft were analyzed by Frederick W. Lanchester, now best remembered for his "square law" of combat dynamics.¹ However valid his law, Lanchester failed to anticipate the dramatic changes in aircraft that were imminent. During the Great War, several nations had built aircraft able to fly previously unimagined distances and carry bomb loads not exceeded until well into World War II. The use of such aircraft in coastal defense was the mainstay of the arguments of air power proponents Billy Mitchell and Giulio Douhet. For the next generation the United States Army and Navy hotly contended for the mission of reconnaissance and coast defense, from Mitchell's dramatic Hampton Roads bombing tests in 1921 through several boards and commissions down to the MacArthur-Pratt Agreement of 1931, which gave the U.S. Army responsibility for defense within 200 miles of the American coastline.

Although the oceanic role of long-range aircraft was a major element in air power policy, few now remember that the B-17 Flying Fortress was originally the product of an Army Air Corps "design competition for an offshore anti-shipping bomber."²

The rise of the Nazi Luftwaffe in the 1930s, congressional and army staff opposition to an intercontinental bomber, and the 1939-41 air war in Europe all forced U.S. air power policy and structure to focus on strategic bombing on land. By 1942-43, as America went to war, the role of very long-range aircraft (VLRs) in oceanic war had been subordinated to other priorities and thus became very much a product of strategy as defined by von Moltke the Elder: a series of ad hoc expedients.

Also forgotten, except as a curiosity reflected in occasional press and television features on Howard Hughes's "Spruce Goose," is the sense of desperation that assailed American planners in 1942 as they looked across at the great

spatial barrier of the Pacific and the lack of long-range aircraft that could match dirigibles in reaching MacArthur's beleaguered command. A number of giant flying boats, the Martin "Mars" and "Mariner," partly filled the VLR gap in reconnaissance and transport roles, and PBVs did yeoman service in the United States and Royal Navies in the Atlantic and Pacific. The Hughes giant flying boat was the product of that period of shortfall in 1942-43, known as "too little and too late," an experience which has rapidly drained from the American collective memory. It was, however, in the Battle of the Atlantic that VLRs played a crucial role. The statistics tell part of the story:³

Allied	
merchant ships: —gross tons sunk	23,351,000
—numbers sunk	2,775
—sunk in convoy	28%
—sunk by U-boats	62.4%
German	
submarines*: —committed to action.....	1,175
—lost to enemy action.....	781
—sunk by U.S. forces.....	191
—sunk by surface escorts.....	245
—sunk by land-based aircraft alone.....	225
—sunk by hunter-killer groups.....	202

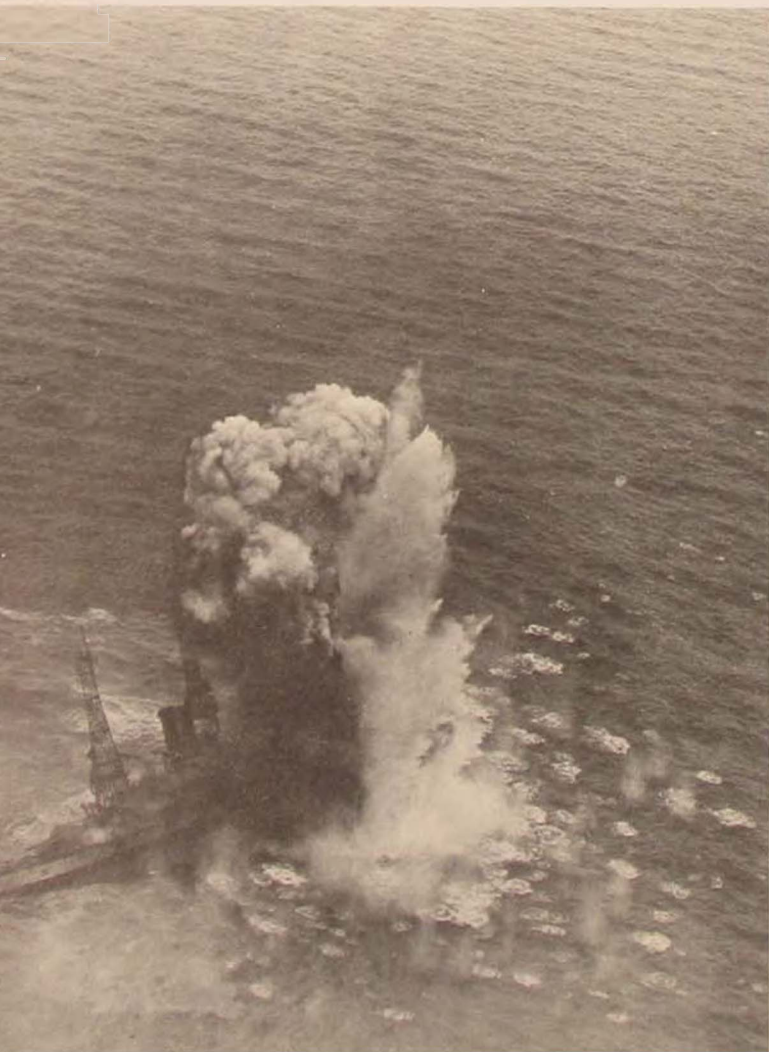
*includes shaved-kill crediting

The figures do not conform to popular nor even to many military and naval impressions of the Atlantic war. Indeed, VLRs are now seen as a vague, distant adjunct to the Battle of the Atlantic, only glimpsed in popular treatments of the U-boat war like *The Enemy Below* and *The Cruel Sea*. Nevertheless, in 1941-42, there was a "black pit," a deadly zone in the mid-Atlantic region that Allied land-based air could not reach but German VLRs and submarines could. From late 1940 until 1943, the Germans, in spite of their shortsightedness regarding VLR value before and during the war, did bloody execution through a somewhat haphazard synthesis of two systems.

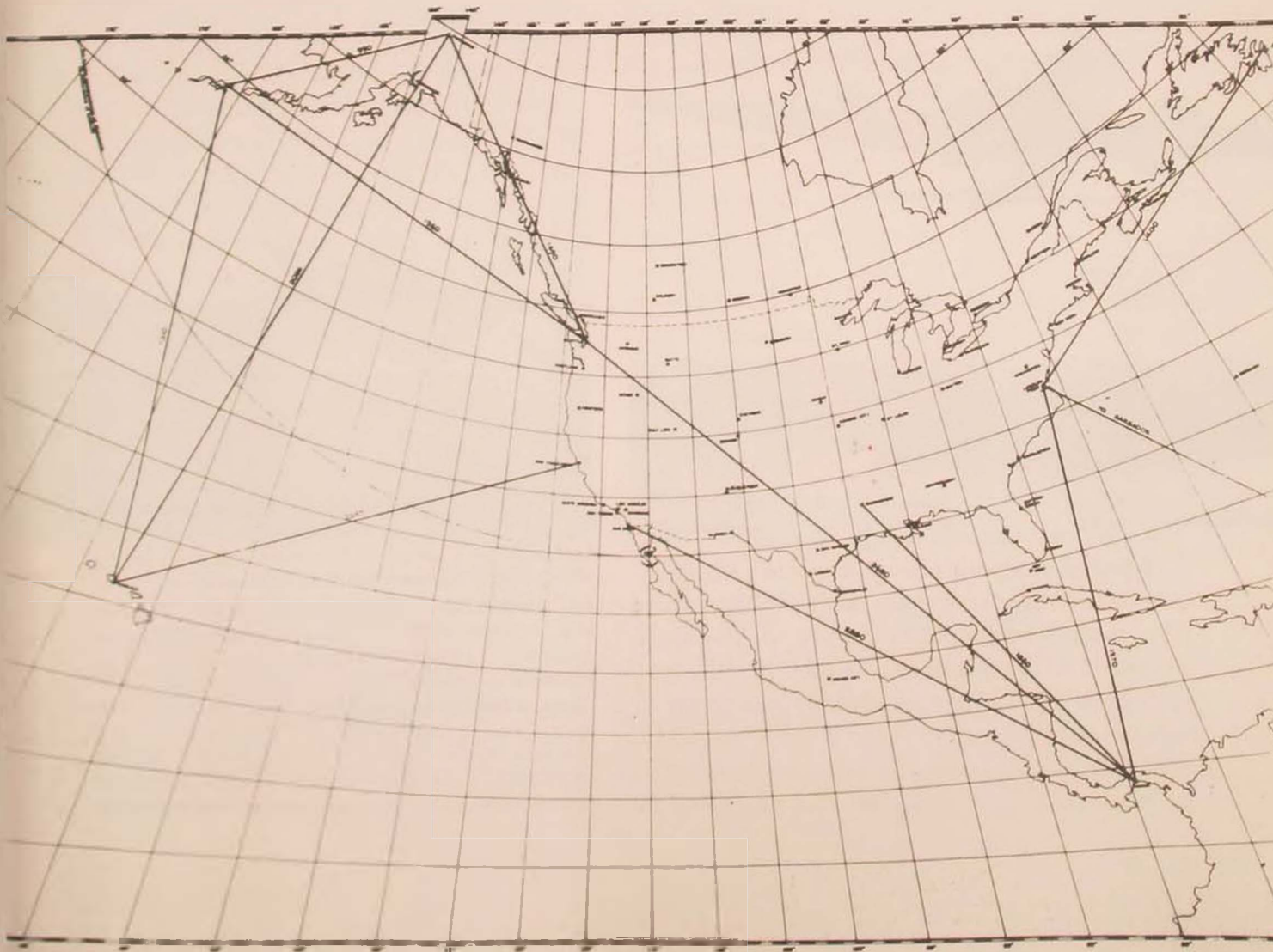
The mainstay of the Luftwaffe's Atlantic force during that period was the Focke-Wulf Fw 200 Condor,⁴ a four-motor transport with a range of approximately 2000 and eventually 3000 miles. Lightly armed, the Fw 200 was originally a 22-passenger civilian airliner: resultant structural weaknesses revealed in combat were sometimes fatal. Produced in eight versions, the later models of the Condor carried Hs 293 glide bombs. Considering their value to the Germans in the Atlantic, some Allied veterans of Atlantic convoy duty later found it hard to believe that fewer than three hundred were built.

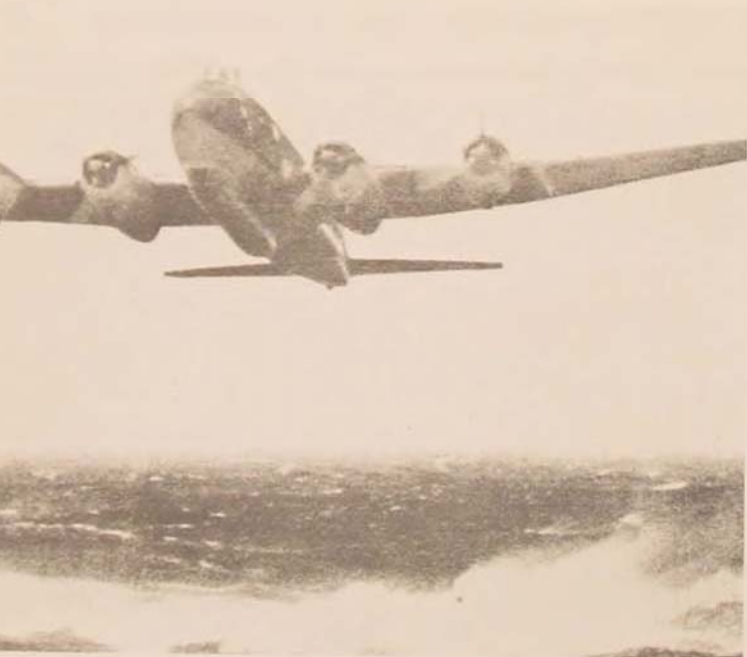
When Condors became operational in October 1940, three squadrons of I/Kampfgruppe 40 averaged about two sorties a day, flying from bases in Norway and in France, near Bordeaux. Bureaucratic infighting between the Luftwaffe and the Kriegsmarine over opera-

The potential effect of long-range aviation on naval operations was demonstrated graphically by General "Billy" Mitchell in the early 1920s. Here, two 1100-pound bombs hit the U.S.S. Alabama.



Following Mitchell's campaign in the 1920s for public recognition of air power's potential, Air Corps heavy bombers, exemplified by the YB-17 shown here in 1937, were billed as a means of defending America's coasts against hostile fleets. . . . a potentiality illustrated by the Air Corps map, below, showing B-17 ferry ranges.





Luftwaffe use of air power in maritime operation during World War II was very much an improvised affair. The Ju 88 bomber (above right, a captured Junkers Ju 88D in U.S. markings) lacked the range for patrols deep into the Atlantic. . . . Though the Focke-Wulf Fw 200 Condor, a converted commercial transport (above left), had ample range, it had a limited bomb load and was structurally weak. . . . The large Junkers Ju 290, also a converted transport (top, on a captured airfield in 1945; note the antishipping radar antenna on the nose), had a modest bomb capacity and was available only in small numbers.



tional control ensued, and ultimately the Luftwaffe retained control of KG 40 under a *Fliegerführer Atlantik*. Requests for substantial production increases, however, met little response. The Luftwaffe commander cooperated closely with the Navy and also developed a special technique for attacking transports, adding further power to the Condor's talons. By late February 1941, with missions peaking at half-a-dozen a day, Condors alone had sunk more than a quarter-million tons of Allied shipping, and over half of that from January through February. Groping for countersystems, the Royal Navy first employed "throwaway" Hurricane fighters, which catapulted from freighters and ditched near escorts, and then the escort carrier, which significantly reduced direct Condor attacks.

The ultimate menace of the long sweeps of those lumbering planes was in their spotting of convoys and reporting to U-boat Chief Admiral Karl Doenitz's headquarters in northwest France, who then concentrated U-boats to

U.S. and British World War II long-range maritime aircraft were notably more successful than their Luftwaffe opposites. The B-24 (above), with excellent range and bomb capacity, was particularly successful.

assault the convoys en masse at night, the so-called *Rudeltaktik*—wolf-pack tactics. As an incremental Allied buildup of VLRs pushed U-boats westward, it blunted this system, as did decoding efforts by the first generation of large-scale ELINT-SIGINT.⁵ Nevertheless, it was Condors that first spotted PQ 17, the most badly savaged of all the Murmansk convoys.⁶

Condors also grappled with their Allied VLR counterparts in the biggest single convoy battle of war, in March 1943, when Convoy HX 229, with 50 ships, was beset by 40 U-boats.⁷ Twenty-one merchant ships and only one U-boat were sunk, but a super wolf pack, guided in by Condors, was denied its prey when Allied VLRs—B-24 Liberators flying on the edge of

no-return fuel limits from Northern Ireland—forced them to dive and dive again.⁸

During the period of deadliest effect, the Condor's bases were hit by Bomber Command raids. These attacks, as well as low production, relatively limited range (which put them out of reach of the wolf packs being driven west), and various Allied technical countermeasures, reduced the Condor's role steadily. Since they were less heavily armed than U.S.-built B-24s, they lost many dogfights. Attempts to put more guns on Condors and successor types—the He 177 with a 3400-mile range, the Ju 290 with a 3800-mile range, and a special version of the Ju 88—failed to regain control of the Black Pit. At each point, such reactive incrementalism offset Allied ploys slightly but did not affect the overall Nazi performance in the air war during World War II. German estimates put the value of the Condors at 30,000 tons of Allied shipping sunk by their efforts per plane lost.⁹

The VLR contest also extended into the diplomatic arena. The vital necessity of extending aircraft range, dramatized in the key role of Northern Irish bases in the Battle of HX 229, pushed American and British diplomats into confrontations with neutral Eire and Portugal as they sought vital bases on the Atlantic littoral. The De Valera government in Eire, holding out for unification, denied the British access to the Treaty Ports evacuated in 1938. Portugal's Salazar allowed access to the Azores under

the cover of an ancient mutual-assistance pact with Britain. U.S. aircrews in the islands assumed the guise of U.S. volunteers in British service. The mixture of threat, ploy, inducement, and frustration vis-à-vis the Treaty Ports embittered many, especially those who underwent hazard as diplomatic minuets were danced, as Nicholas Monsarrat noted in *The Cruel Sea*.¹⁰

Luckily for the Allies, their heavier production and more solid aircraft types prevailed, albeit with little more forethought or strategic analysis than their German adversaries. The Allies were also fortunate that the German follow-on to the Condor, the Heinkel He 177, proved an engineering monstrosity; 50 crews were lost during development alone, a pattern that affected operations in addition to escort carriers and mounting Allied power.¹¹

By late 1944, German VLRs were out of the Battle of the Atlantic. KG 40 suffered heavily on D-day. Loss of airfields and U-boat bases on the Atlantic other than Norway ended the fusion of submarine and VLR aircraft judged as vital by both sides in postwar analyses of the Atlantic war.¹² In view of the crucial value of VLRs, interservice and inter-Allied wrangling over B-24 allocations seems especially bizarre

A possible successor to the long-range U.S. Navy flying boats of World War II, the sleek, futuristic looking Martin P6M-1 Seamaster failed to weather budgetary storms of the late fifties and early sixties.



but perhaps instructive. Only an appeal from Churchill to Roosevelt brought about the assignment of B-24 Liberators (2840-mile range) to the Battle of the Atlantic in the darkest hours. At this time, B-24s had met little enthusiasm in the Army Air Forces and were parceled out in various secondary roles, including service as VIP transports.¹³

As the Atlantic Battle mounted in 1942, Royal Air Force Coastal Command underwent revitalization under a new commander, Air Vice Marshal John (later Air Chief Marshal Sir John) Slessor. Meanwhile, a furious battle of statistics ranged between the Admiralty and the Chief of RAF Bomber Command, Air Marshal Arthur Harris. When naval operational researchers estimated that bombers on anti-submarine duty were far more effective than when used to attack German cities, Harris saw any diversion from the bomber offensive as an obstacle to his plan to win the war in Europe.¹⁴ Finally, in the summer of 1943, U.S. Army Chief of Staff George Marshall cut through the Gordian knot and ordered transfer of the B-24s on Atlantic service from the Army Air Forces to the Navy. While less congenial melding of function than that worked out by the Royal Air Force's Coastal Command, it shunted VLR sea warfare role and doctrine into the shadows, which may explain subsequent differences between U.S.-NATO and Soviet structure philosophy in this area.

Long-range aviation in oceanic warfare was a greater source of interservice conflict in the Allied forces than it was for the Germans. Samuel Eliot Morison, with some acidity, later attributed those squabbles in the U.S. services mainly to "conflicting personalities and service ambition. . . ."¹⁵ While such a judgment may overlook the role of structure in bureaucratic infighting, in any event land-based oceanic power since 1945 in the Western nations has produced a fragmented spectrum. The value of role multiplicity has been lost in the shadow of other programs and concepts.

In contrast to such splintering evident in the

VLR doctrine of the Atlantic alliance, the Soviet Strategic Air Command is called Long-Range Aviation (LRA), a fact that one analyst of Soviet military systems deemed significant as far back as the 1950s¹⁶ but which others viewed as merely a product of Russian literalism. Looking back at the experiences of World War II, Giuseppe Fioravanzo argued that:

Upon the sea, it is not possible to fight effectively with all one's resources unless they are placed organizationally, disciplinarily, technically, and operationally within a single entity, which . . . can be called "naval-air forces."¹⁷

So it has been in the Soviet system, where both the LRA and Soviet Naval Aviation branches have sizable VLR components without clear exclusivity of function.

Some rough statistics on force array will help to suggest the potential. (See accompanying table.)

In the United States, however, as in the Second World War, the role of VLRs in seapower is still not coherent in terms of doctrine or force design. Some, looking at cost and apparent potential (true effectiveness being testable only in operations), have questioned the U.S. Navy's dependency on the carrier task group as the main instrument of oceanic air power. One analyst argues that "modern technology offers the opportunity to dominate the oceans without necessarily building vast fleets of surface ships."¹⁸

On the other hand, Soviet VLR doctrine has conformed since the late 1950s to the argument of U.S. Admiral Richard Connolly, who early in the Cold War suggested that "it is not militarily practical to limit the employment of any one weapon to the fulfillment of any one function."¹⁹ While the Soviet's VTOL carrier force is expanding, it is still true that: "US naval air power is mainly afloat. Soviet strength is almost all ashore."²⁰

A particularly haunting problem for U.S. negotiators and analysts in the SALT discussions and in strategic analysis in general has been what to make of the broad-gauge poten-

Table 1. U.S.-U.S.S.R. VLR capabilities at the end of the 1970s

Soviet Aircraft Types	Numbers	Range
Aeroflot transports		
I1-62 Classic		4000 nm
Tu-154 Careless		4000 nm
military transports		
I1-76 Candid	50	5000 km full 7200 empty
An-12 Cub	560	3800 km full 6000 km empty
An-22 Cock	50	5000 km full 12,500 km empty
long-range military aircraft (bombers and reconnaissance)		
I1-38 May	60	4500
M-4 Bison	74	7000 loaded
Tu-16 Badger	410	3975 loaded
Tu-95 Bear	113	7800 loaded
Tu-126 Moss		
(AWACS counterpart)	12	5000-6000
Tu-22M Backfire	?	3240
U.S. VLRs		
civilian transports		
Various types in reserve available from civil fleet in major crisis or war 462, including 124 long-range cargo planes.		
transports—military		
C-5A Galaxy	76	3450 w/70 T load
C-130 Hercules	c 600	2100 w/7.5 T load
KC-135	515	9200 empty
C-135	11	4265 w/27 T load
C-141 StarLifter	271	4750
bombers and reconnaissance aircraft		
B-52	349	7500 loaded
FB 111A	66	4100 loaded
SR 71	10	?

Also in indeterminate numbers, various models of C-130 and 135, long-range weather reconnaissance

Sources: Data drawn from *Air Force* (Soviet Aerospace Almanac), March 1980, including William Schneider, Jr., "Soviet Military Airlift: Key to Rapid Power Projection", from Robin Higham and Jacob W Kipp, editors, *Soviet Aviation and Air Power: A Historical View* (London: Brassey's, 1978), p. 311, and *The Military Balance, 1979-80* (London: International Institute for Strategic Studies, 1980)

tial of the Soviet array of long-range aircraft. The Soviets, for example, have sometimes displayed intent to engage not only in nuclear war fighting but also in "broken-back war," i.e., fighting on after a major nuclear exchange had taken place.

The role that VLRs would play in a war is obviously "scenario dependent." The surviving aircraft, base facilities, C³, crews, and service capacity would obviously determine utility. If nuclear weapons severely damaged C³ systems, if satellite reconnaissance were reduced or eliminated, and if electromagnetic pulse (EMP) reduced or eliminated communications, then direct-view, long-range reconnaissance would be at a premium, either for defense or war-ending reconnaissance. Whether such purposes are foremost or secondary in Soviet planning and force structure is problematical.

After analyzing the pattern of long-range aircraft use in OKEAN 75, Peter Rasmussen predicted that:

... the relevance of the SNAF [Soviet Naval Air Force] is likely to grow in the coming decade. The technological changes which have occurred already, the possibilities which they may open, coupled with the political trends, will have the likely effect of making the SNAF more ubiquitous and more effective in the years to come.²¹

Another key question, to return to specific numbers and types, is the potential of the Soviet Backfire bomber, of which about 250 have been assigned to Soviet Naval Aviation,²² a weapon that veteran naval analyst Norman Polmar has called "the major Soviet threat to the US surface fleet."²³

The posture of the Soviet VLR array, the heavy cross-equipment and intersystem linkage, military and civilian,* was of major concern to U.S. SALT negotiators.²⁴ These negotiators, recognizing the possibility of shifting modes without apparent change or warning, developed the concept of functionally related observable

*The Soviet airline Aeroflot maintains the Soviet military air transport service aircraft.

differences (FROD). The signatories of SALT II promised to build obvious features into strategic weapons that could be used in peaceful tactical or strategic modes. (Whether FROD = fraud remains a matter of concern to some SALT critics and intelligence analysts.)

Soviet transports have on-board power sources, cargo-handling equipment, and landing gear designed to absorb rough landings on primitive airstrips. Such capacity is congruent with power projection. While it may also be a reflection of the crudity of Soviet aviation infrastructure, it also conforms to the logic of "broken-back" war fighting. When the Soviets export military aircraft, they exclude not only the latest types and special equipment but also principal long-range aircraft like the An-22 Cock and the various versions of the Tupolev Bear.²⁵

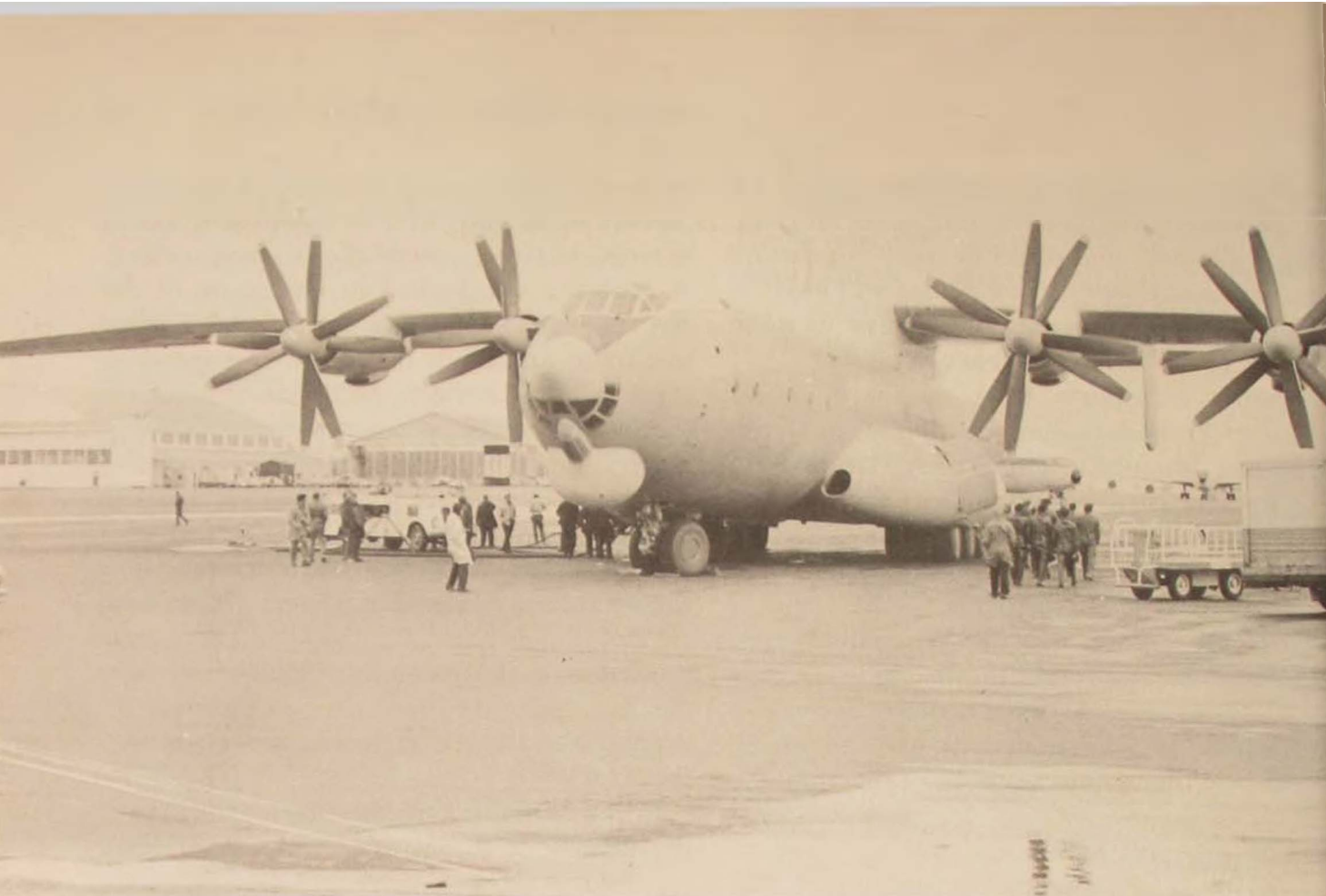
The prospect of nuclear war or "broken-back" war is far more remote and improbable than a major clash at sea in a conventional war, especially as the structure of détente shudders and wobbles. About 40 percent of the U.S. Navy's investment is aimed at strengthening carrier battle groups. It is recognized that the result of a clash between Soviet standoffs missile mounting VLRs and a carrier group would be, as Wellington said of Waterloo, a "damned close-run thing."²⁶ Even some who see the carrier group as the main U.S. instrument of force projection for the next quarter-century have suggested the need for strengthening the United States VLR capability.

There is an unnerving disparity in scenarios of a confrontation between U.S. carrier task forces and Soviet LRA in its various modes. In suggesting that a Soviet air-supported excursion might be countered by "one or more" being shot down by U.S. carrier-based aircraft, a defense analyst has stated that: "Sea based aircraft would have an advantage over land-based aircraft in that they may be carried safely on board Navy vessels in the area when not in use. . . ." ²⁷ The use of the word *safely* would lead to at least one more order of analysis. What a

deliberate, direct attack by either of the super-powers upon each other's equipment would mean in the larger context of cold war is another. A problem, overlooked in discussion of the NATO-Soviet VLR dichotomy, is that the radius of carrier aircraft is limited by the speed of their floating airfield, and that reliance on carrier task forces as the main means of bringing aviation to bear leaves a far greater part of the globe uncovered than does reliance on long-range aviation, and at a higher vulnerability potential. While one can understand how the aircraft carrier is still a powerful emotional symbol to many and a political and economic touchstone in the dynamics of interservice politics, the resultant either/or approach has led to organizational and doctrinal fragmentation for the VLR.

Beyond that, it is in the finer traditions of the history of the VLR in sea war and sea control that the U.S. Navy and Air Force have not yet capitalized on a common need for what Dov Zakheim called a land-based multipurpose naval aircraft (LMNA)²⁸ and what Lieutenant Colonel Edd Wheeler has more recently proposed: a land-based multipurpose aircraft (LMA) cheaper and slower than the B-1, noting that "few, if any, foresaw that the B-17, designed originally for coastal defense, [would become] a high-altitude strategic bomber. . . ." ²⁹ Those who remember the original logic of Dr. Barnes Wallis (of geodesic airframe construction and "dam buster" fame) regarding the swing-wing aircraft may regret how that useful concept has been tainted by the TFX/F-111 experience. Increasing fossil fuel costs, the need for endurance, and interim high performance point to a need for hybridization in design, and, in the case of the LMNA-LMA, a synthesis of service needs.

The great conceptual porridge of Soviet propaganda, history, "disinformation," and the uncertainty of what constitutes genuine doctrine has turned Sovietology into an elaborate form of augury. As Churchill observed at the beginning of World War II, the Soviet Union



Characteristically designed with military applications in mind, the huge An-225 Cocks of Aeroflot, the Soviet airline (above and right), have considerable potential as long-range maritime aircraft. . . . Originally a long-range strategic bomber progressively modified for maritime attack and reconnaissance roles, the Tu-95 Bear-D (facing page, top, with refueling probe and antishipping radar) is a powerful threat to the Free World's naval forces and international shipping.





“is a riddle, wrapped in a mystery inside an enigma” The key may still be “Russian national interest,” but what is *that*? It may be useful to consider the nature of the Soviet military system as perceived by the Germans, especially Admiral Friedrich Ruge, who commented on a notable lack of initiative, an exaggeration of achievement, and a system in which everyone strove for “good marks.”³⁰

While that may come close to a universal description of bureaucratic behavior, the networking of Soviet command and control and of the array of VLRs suggests a model of strong central control. The operational fusion of VLRs from Long-Range Aviation, Naval Aviation, Aeroflot, and their military transport force, working closely with their ocean-going submarine force, could present a deadly synergy to a foe who depended on too narrow a range of attack and defense modes. In this respect, John Erickson has observed that:

It may well be that we pay too much heed through the eccentricities of the Western press to the armadas which the Soviet Navy might or might not assemble against us. Meanwhile the skies darken with real armadas . . . thrusting out from the Soviet perimeter, all *usable* militarily if only for the purposes of intimidation or displaying a Soviet form of global *droit du seigneur*. That “balance” which so preoccupies us is, in fact, a balance of available air power. . . . Our only response is to furnish ourselves with more aircraft—and that quickly: mass should work both ways and numbers count both in the short and long run. For our safety it should be a long run.³¹

In his ruminations on naval history and sea power, Admiral Sergey G. Gorshkov discussed the important synthesis of elements and, notably, the endurance of ships and aircraft.³² In his analysis of World War II, Gorshkov emphasized the vast numbers of Allied men and equipment pinned down by the relatively small German submarine and maritime air forces, and concluded that: “one of the main reasons

for [the German U-boat failure] was that the submarines did not receive support from other forces. . . ."³³

DURING World War II, the VLR in oceanic warfare, as a system and as a subsystem of a nexus of weapon systems, was an orphan of sorts. Yet it delivered results far out of proportion to numbers, plans, or expectations. The continuing failure to view the VLR as the hub of a major subsystem can be traced to many things, including the preeminent images of the strategic bomber, the fighter, and aircraft carrier; difficulties in conceptualizing the spatial complexity and fluidity of oceanic war; and the deterrent and passive role of VLRs, their flights and low levels of engagement with the enemy, and low glamour profile among

aviators.* The VLRs of World War II attracted no celebratory novelist such as Herman Wouk or Nicholas Monsarrat, and they inadvertently generated friction between the services. Inter-service rivalry in the postwar years and the conceptual vortex set up by nuclear weapons further eclipsed the issue in the West, where VLR capacity lives on in parcels, highly specialized, and without the evidence of the potential synergy or articulation implicit in Soviet VLR organizations. One hopes that the falling between two stools which has typified doctrine, command arrangements, and force design in this area will not ultimately offer a footnote to Heinrich Heine's cynical observation that: "The only thing we learn from history is that we don't learn from history."

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*VLR crews face tedium and airsickness in larger doses than most other mission profiles.

Notes

1. See "The Question of Radius of Action," F. W. Lanchester, *Aircraft in Warfare: The Dawn of the Fourth Arm* (New York, 1916), pp. 195-96.
2. Kenneth Munson, *Bombers, 1939-45: Patrol and Transport Aircraft* (London, 1969); for another perspective, see Harold B. Hinton, *Air Victory: The Men and the Machines* (New York, 1948), p. 71 ff., which suggests the B-17 served as a "thin edge of the wedge" for a series of ever longer-range bombers.
3. These statistics (which include shared-kill crediting) are from Elmer B. Potter and C.V. Nimitz, *Sea Power: A Naval Power* (Englewood Cliffs, New Jersey, 1960), pp. 551-57; Sir John Slessor, *The Central Blue* (New York, 1957), pp. 467-70.
4. See Kenneth A. Poolman, *Focke-Wulf Condor: Scourge of the Atlantic* (London, 1978); J. Rohwer and G. Hummelchen, *Chronicle of the War at Sea*, translated by Derek Martin, volumes 1 and 2 (New York, 1972, 1974).
5. F. H. Hinsley et al., *British Intelligence in the Second World War* (New York, 1979), p. 329.
6. Cajus Bekker, *Luftwaffe War Diaries*, translated and edited by Frank Ziegler (Garden City, 1968), pp. 256-58.
7. John Costello and Terry Hughes, *The Battle of the Atlantic* (London, 1977), p. 271.
8. Friedrich Ruge, *Der Seekrieg: The German Navy's Story, 1939-45* (Annapolis, 1965), p. 305.
9. Asher Lee, *The German Air Force* (New York, 1946), p. 205; Bekker, p. 258.
10. See Sir Llewellyn Woodward, *British Foreign Policy in the Second World War*, vol. 1 (London, 1970), pp. 387-92; Joseph T. Carroll, *Ireland in the War Years* (Newton Abbot, 1975), especially pp. 24-38; and *Foreign Relations of the United States*, series 1940-45.

11. Richard Suchenwirth, *Historical Turning Points in German Air Force's War Effort* (New York: USAF Historical Division, 1968), pp. 38-39.
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13. See Document 186 Churchill to Roosevelt, November 20, 1942, in Francis L. Loewenheim, Harold D. Langley, and Manfred Jonas, *Roosevelt and Churchill: Their Secret Wartime Correspondence* (New York, 1975).
14. E.g., Public Record Office, AIR 20-2470, First Sea Lord Memorandum of 1 March 1942, Annex to Chiefs of Staff Doc. (42) 71 (0); Arthur Harris, *Bomber Offensive* (New York, 1947).
15. Samuel Eliot Morison, *History of United States Naval Operations in World War II*, vol. 1 (Boston, 1947), p. 247.
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17. Giuseppe Fioravanzo, *A History of Naval Tactical Thought* (Annapolis, 1979), p. 143.
18. Seymour J. Deitchman, *New Technologies and Military Power: General Purpose Forces for the 1980s and Beyond* (Boulder, Colorado, 1979), p. 125.
19. Quoted in Alfred Hurley and Robert C. Ehrhart, *Air Power and Warfare* (Washington: Government Printing Office, 1979), p. 262.
20. John M. Collins, *American and Soviet Military Trends since the Cuban Missile Crisis* (Washington: Center for Strategic and International Studies, 1978), p. 213.
21. Peter Hertel Rasmussen, *The Soviet Naval Air Force since 1945: Development, Organization Capabilities* (Copenhagen, 1977), p. 31.
22. For a lengthy analysis see William D. O'Neil, "Backfire:

Long Shadow on the Sea-Lanes." U.S. Naval Institute *Proceedings*, March 1977, pp. 26-35.

23. Norman Polmar, "Soviet Naval Aviation," *Air Force*, March 1978, p. 70. In June 1980, a Labour Member of Parliament suggested that Soviet land-based aircraft were a greater threat than submarines, pointing out that "Soviet Naval Aviation (had) received the new Backfire bomber before the Soviet air force." See "Navy Improvements to Counter Soviet Threat," *The Times*, June 20, 1980, p. 6.

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30. Friedrich Ruge, *The Soviets as Naval Opponents, 1941-45* (Annapolis, 1978), pp. 193-95.

31. John Erickson, *The Expansion of Soviet Air Power* (University of Edinburgh Defense Studies, 1979), p. 30.

32. See S. G. Gorshkov, "Navies in War and Peace," U.S. Naval Institute *Proceedings*, November 1974, pp. 62-64.

33. *Ibid.*, September 1974, p. 61.

The author also wishes to acknowledge the aid of Professor John Erickson, Director of Strategic Studies at the University of Edinburgh, who provided several documents used in this analysis.

Whereas the old rationale for success used to be performing well in a wide variety of jobs, it now appears to be avoiding failure in a series of so called "career enhancing" assignments.

MAJOR GENERAL R. C. SCHULZE
"Challenges to Integrity: Fitness Report Inflation & Careerism,"
Marine Corps Gazette, August 1981, p. 36



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Air Command and Staff College, Maxwell AFB, Alabama

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The Ira C. Eaker Competition

The objectives of the Ira C. Eaker Essay Competition are to encourage the development and open discussion of innovative air power ideas and concepts in a dynamic and interactive forum, much as General Eaker and his colleagues approached the challenges in developing air power in the '30s and '40s. *Air University Review* is proud to have been a part of this very significant competition honoring the continuing achievement of General Ira C. Eaker and to memorialize the indomitable martial spirit of General Eaker and his colleagues.

Of the 98 essays received, 80 percent were submitted by officers, 20 percent by NCOs and airmen, and one by a JROTC cadet. Just over half, 56 percent, of the officers competing were majors and lieutenant colonels; of our enlisted competitors, staff and master sergeants submitted the most entries. The subject that garnered the most attention was the overlapping area of leadership and professionalism, clearly an indication of a widely shared perception of the most pressing concern of the U.S. Air Force's most valuable resource—its people.

We gratefully acknowledge the generosity of the Arthur G. B. Metcalf Foundation for funding this essay competition by a permanent grant through the United States Strategic Institute of Washington, D.C., and look forward to next year's contest with great enthusiasm.

TECHNOLOGICAL WAR

reality and the American myth

LIEUTENANT COLONEL DONALD R. BAUCOM

It may be said that warfare has acquired a new phase—technological war. In the past, research and development were only preparation for the final and decisive testing of new systems in battle. Today the kind and quality of systems which a nation develops can decide the battle in advance and make the final conflict a mere formality—or can bypass conflict altogether.

LIEUTENANT GENERAL BERNARD A. SCHRIEVER¹





AS A result of our military experience and our strong national faith in technical solutions to problems, Americans have concluded that technology offers a particularly cheap, humane method of waging war. Under the influence of this conclusion, our nation has developed an unbalanced attitude toward war in which we attach exaggerated significance to technology² at the expense of military skills and human sacrifice, which traditionally have played prominent roles in warfare.³

This approach to war is what I refer to as “the American myth of technological war.” The term *myth* is used to mean an image of reality that an individual or nation embraces. Such an image guides the actions of people and nations, regardless of how well the myth correlates with reality.

What each man does is based not on direct and certain knowledge, but on pictures made by himself or given to him. If his atlas tells him that the world is flat he will not sail near what he believes to be the edge of our planet for fear of falling off. . . . The way in which the world is imagined determines at any particular moment what men will do.⁴

My focus here is on the rise of the American myth of technological war and the impact of technology on modern warfare. America’s experience with military casualties combined with our attitude toward technology has led us to conclude that technology is *the* key to success in modern warfare.

Technology and Modern Warfare

It is a truism that the lethality of weapons has increased greatly over the past two hundred years, and the rate of increase seems to be accelerating. One study completed in 1964 computed a lethality index for various weapons based on such factors as the weapon’s range, its mobility on the battlefield, and its rate of fire. A sampling of the weapons studied and their indices follows:

Weapon	Lethality Index
Javelin	18
Longbow	34
Eighteenth-century flintlock musket (smoothbore)	47
Mid-nineteenth-century rifle w/conoidal bullet	154
Nineteenth-century breechloading rifle	229
World War I machine gun	12,730
World War II medium tank	2,203,000
World War II fighter bomber	3,037,900
20 KT nuclear airburst	48,550,000 ⁵

The relationship between casualties and the increasing lethality of weapons is not as obvious as one might suspect. While certain aspects of technological change such as greater range and rate of fire for small arms have contributed to greater lethality on the modern battlefield, other technological changes such as the development of armored vehicles and improved medical services have tended to neutralize gains in lethality. Furthermore, one can argue that when a new weapon is mated with an appropriate doctrine, the weapon becomes so effective that it brings speedy victory without a long, bloody conflict (e.g., Nazi invasion of France in 1940).⁶

In spite of offsetting developments, technology in general has made warfare much more costly in both human and material terms. For one thing, the Industrial Revolution and the mechanization of agriculture have made it possible to field and sustain the massive military forces typical of both World War I and World War II. These armies are well equipped with highly lethal weapons that facilitate the destruction of opposing mass armies. The lavishness and destructiveness of modern warfare are well illustrated by the extensive bombardments of World War I. In one nineteen-day barrage at Passchendaele in 1917, the British fired 321 trainloads of artillery rounds, one year's production for 50,000 industrial workers.⁷

In providing the means to sustain the mass army, the Industrial Revolution led to the expansion of the battlefield far beyond the fields where armies clash. The modern nation in arms, supported by an industrialized society, can produce arms and armies in a seem-

ingly endless profusion, making it impossible to achieve the modern equivalent of Austerlitz, a classic example of the battle that wins a war. Victory in modern total war comes as much from destroying a nation's industrial base as from defeating enemy armies in the field.

In short, the war-making capacity of the modern, industrialized nation-state ensures that modern warfare will involve heavy material destruction and produce extensive human casualties, especially when such states clash over vital national interests. Casualties in individual battles may be relatively light,⁸ and some geographically small nations may be overrun in lightning campaigns, but single battles and campaigns will rarely ensure victory over a modern nation in arms.

Basis of the Myth—Casualties

While technology has greatly increased the size of the battlefield and the cost of modern warfare, the United States has experienced deceptively small casualties and virtually no physical damage in the two great wars of this century. Indeed, not since the Civil War has this nation suffered the heavy losses and destruction that are typical of warfare between modern industrialized states.

During the War between the States, a total of 2.75 million men wore the blue and gray of the opposing forces. Of these, 623,026 died and 471,427 were wounded, for a casualty total of 1,094,453. The population of the nation at this time was 31.5 million, which means our casualties were 3.5 percent of the total population.⁹

Some fifty years after the Civil War, the United States entered World War I, a war that involved more than 65 million men in uniform and produced almost 30 million casualties, including 8.5 million dead. Compared to these casualties and even those of our own Civil War, United States losses were small: 126,000 dead and 234,300 wounded. The significance of these figures is further illuminated by com-

paring them to the U.S. population, about 92 million by the time of World War I. This comparison gives a .4 percent ratio between casualties and population.¹⁰

By the time of World War II, when more than sixteen million served in the U.S. Armed Forces, our population had reached 131 million. Of the millions in uniform, 292,131 died in battle, 115,187 died from other causes, and 671,801 were wounded. These figures give a total of 1,079,119, slightly lower than the total of casualties suffered during the Civil War. But our casualties as a percentage of the total population were .8 percent compared to 3.5 percent in the Civil War.¹¹

While the United States suffered casualties totaling less than 1 percent of its population in each of the two great wars of the twentieth century, other nations experienced the full human cost of modern warfare. During World War I, 1.77 million Germans, 1.7 million Russians, 1.36 million French, and .9 million English were killed or died.¹²

German and Soviet human losses during World War II were even more staggering. Germany suffered 3.5 million battle deaths, while battle deaths in the U.S.S.R. totaled 7.5 million. A total of 20 million Soviets died out of 170 million, about 12 percent of the population. The physical destruction of the war was appalling; for example, 1700 Soviet cities and towns and some 70,000 villages were laid waste.¹³

Especially indicative of the high material and manpower costs of modern warfare are the losses sustained by the Soviets as a result of Operation Barbarossa, the German invasion of the Soviet Union that began in June 1941. J. F. C. Fuller tells us that in four massive envelopments of Soviet military forces between 22 June and 20 October 1941, the Germans captured 1.8 million Soviet troops, 6741 tanks, and 12,497 pieces of artillery. Also, more than 2000 Soviet aircraft were destroyed, and more than 3500 other motor vehicles were captured by the Germans.¹⁴

Thus, from the standpoint of casualties and

physical damage, America's experience in modern warfare has been atypical. We entered World War I, a war that started in August 1914, during the spring of 1917, when scarcely a year and a half remained in a conflict between exhausted belligerents. In World War II, while we carried the major burden of the war in the Pacific, the equivalent burden in Europe was carried by the Soviet Union. As a result, the United States suffered relatively light casualties in the two world wars, and both wars involved extensive use of the products of advanced technology.

Could there be a relationship in the American mind between relatively low U.S. casualties and the application technology in warfare? Let us answer this question by examining some American attitudes toward military technology.

Basis of the Myth: American Attitudes toward Technology

It is indicative of trends in modern warfare that the bloodiest war in the annals of American history is known as the first modern war. During the American Civil War, the first widespread use of an effective rifle occurred, even if it was a minié ball-firing muzzle loader. The repeating rifle also appeared in limited numbers. Machine guns were available for military use for the first time. Other innovations included the use of trenches and barbed wire, extensive use of the telegraph, and widespread use of railroad transportation for logistics; not to mention the use of observation balloons and the first battle between ironclad vessels.¹⁵

Extensive use of the fruits of technology in the Civil War is just what one would expect of a society in which technology has been a major shaping influence. Since the landing of our Puritan ancestors on the rugged New England coast in the early part of the seventeenth century, Americans have faced the problem of having more work to perform than limited labor resources could accomplish. These conditions "placed a high valuation on getting

things done, preferably in the shortest possible time and with the minimum of human labor."¹⁶ By the end of the nineteenth century, historian Thomas Parke Hughes tells us, Americans had come to believe that "technology could bring order out of chaos, provide boundless energy, support business enterprise, and win wars."¹⁷

A closer examination of American attitudes toward the application of technology to warfare between 1860 and 1940 indicates that Hughes may have overstated his point. While it is possible to cite examples of progressive thinking with regard to military application of technology during this period of American history, numerous examples of a bias against technology can also be found.

To begin with, Civil War soldiers were not prepared to deal with the technological breakthroughs that took place during that war. For example, Colonel J.W. Ripley, Chief of Ordnance for the Union Army, opposed procuring the machine gun because it would use too much ammunition. For the same reason, the Ordnance Department also opposed repeating rifles.¹⁸ There was likewise a slowness to respond to battlefield conditions, which changed drastically as a result of the first widespread use of the rifle in war. The accuracy and range of the new rifle and its relatively rapid rate of fire meant that defensive infantry could deliver several rounds of highly accurate, lethal fire before an attacking enemy could close sufficiently to breach a defensive position. Although this situation spelled the end of linear tactics that had dominated Western battlefields in one form or another since the early eighteenth century, such tactics were officially sanctioned until the end of the war. Deviations from regulations, when they occurred, resulted from initiatives of individual commanders and soldiers.¹⁹

Negative reaction to military technology continued between the Civil War and World War I. General Custer failed to take four available Gatling guns with him on the campaign that ended at the battle of the Little Big Horn.

Custer apparently believed these weapons could not be transported easily over the terrain he would be crossing; but the guns were specially designed to be disassembled and transported by pack mule.²⁰ And while the United States fleet was destroying the inferior ships of the Spanish Navy during the Spanish-American War, soldiers of the National Guard were using black-powder Springfields which produced a heavy pall of smoke that quickly betrayed the guard's position. Satisfactory smokeless powder had been developed approximately 15 years before that war began.²¹

The American military profession still showed signs of a conservative attitude toward technology when the United States entered World War I in 1917. For example, in a 24 July 1917 letter, George Patton, then a captain on General Pershing's staff, wrote: "Any one who thinks that cavalry is a thing of the past is mistaken." This same Patton, who organized the first U.S. tank unit in history and later led the Third Army in its sweep across Western Europe in World War II, was unimpressed with the tank when he was first shown one by a French tank enthusiast in July 1917. He later wrote of this episode that the "Frenchman was crazy and the Tank not worth a damn." Patton's subsequent application for assignment to tanks was the result of unhappiness with his duties on Pershing's staff: he saw the tank as his only hope for advancement.²²

The love of horses and distrust of the tank did not end with World War I. Even after this war, "the cavalry continued to charge across the plains of Kansas firing .45 automatics—weapons inaccurate even when not fired from the very unstable platform of a horse."²³ And in the 1930s, while the cavalry was maneuvering against the infantry,²⁴ American tank development languished. "From 1920 to 1935, only thirty-five tanks were built in the United States. Most were hand-tooled test models." A standard American tank design would not appear until 1938.²⁵

Fiscal constraints and American isolationism

account in large measure for this situation, but conservative attitudes on the part of military leaders also bore some responsibility for the military's technological backwardness. This conservativeness is illustrated in a 1919 statement by General Peyton C. March, Army Chief of Staff: "Nothing in this war [World War I] has changed the fact that it is now, as always heretofore, the Infantry with rifle and bayonet that, in the final analysis, must bear the brunt of the assault and carry it on to victory."²⁶

World War II produced a radical departure from these earlier conservative views on military applications of technology, for the weaponry that wartime research and development placed at the disposal of opposing armed forces made it impossible for any rational person to deny that technology had become *one* of the key factors in modern warfare. Military leaders were singing paeans to technology even before the war ended. In December 1944, General Patton wrote to General Levin Campbell, Chief of Army Ordnance, about the effects of shells fuzed with the new proximity fuze:

The new shell with the funny fuze is devastating. The other night we caught a German battalion, which was trying to get across the Sauer River, with a battalion concentration and killed by actual count 702. I think that when all armies get this shell we will have to devise some new method of warfare. I am glad that you all thought of it first.²⁷

After the war, General Eisenhower noted that the Normandy invasion might not have been possible had the Germans perfected the "V" weapons six months earlier than they did and "made the Portsmouth-Southampton area one of [their] principal targets."²⁸

Army Air Forces (AAF) leader General H. H. "Hap" Arnold was also much impressed with technology. In September 1944, Arnold charged his old friend Theodor von Kármán with preparing a study that would point the way for future Air Force research and development (R&D) policies. The result was the 33-volume study *Toward New Horizons*, which

von Kármán and a group of scientists finished in December 1945. Von Kármán's own volume, *Science: The Key to Air Supremacy*, played an important role in the efforts of AAF leaders to establish their own R&D program after World War II.²⁹ Additionally, as the war in Europe was drawing to a close, Arnold noted that

the first essential of the airpower necessary for our national security is preeminence in research. The imagination and inventive genius of our people—in industry, in the universities, in the armed services, and throughout the nation—must have free play, incentive and every encouragement. American air superiority in this war has resulted in large measure from the mobilization and constant application of our scientific resources.³⁰

Technology had become increasingly important in warfare while the American casualty rate had declined dramatically since the Civil War, but were these two trends related? They were in the minds of at least some. Historian Allan Nevins related a story about World War II that ties technology and the saving of American lives together nicely. In explaining why Americans who stayed home during the war did not feel guilty, Nevins wrote:

But the greatest reason for elation in the production totals was clear enough for all. They meant not only speedier victory, but victory purchased with fewer lives. An officer who was smothering a hill in Tunis with artillery fire spoke to a war correspondent. "I'm letting the American taxpayer take this hill," he said. That was obviously the way an American war would be fought; industry and the taxpayer doing as much of it as they could.³¹

Francis Walton expressed similar views in *Miracle of World War II: How American Industry Made Victory Possible*. He noted that "military experts" generally agreed that our victory in World War II was the result of "massed materiel rather than the highest military skill." Furthermore, "miraculous tools of war" that were "Made in the USA" were responsible for reduced casualties. In short, "an abundance of machines not only reduces the ever present 'calculated

risk,' but permits the humane leader of democratic armies to enjoy compassion for his men and victory in battle."³²

Sentiments identical to those of Walton and Nevins are found in a memorandum from General Arnold to von Kármán. "It is a fundamental principle of American democracy that personnel casualties are distasteful. We will continue to fight mechanical rather than manpower wars."³³ It would seem to be but a short step from "mechanical wars" to General Schriever's "technological war," in which combat between people armed with the products of technology is replaced by a competition, a conflict, between the technologies of the belligerents.

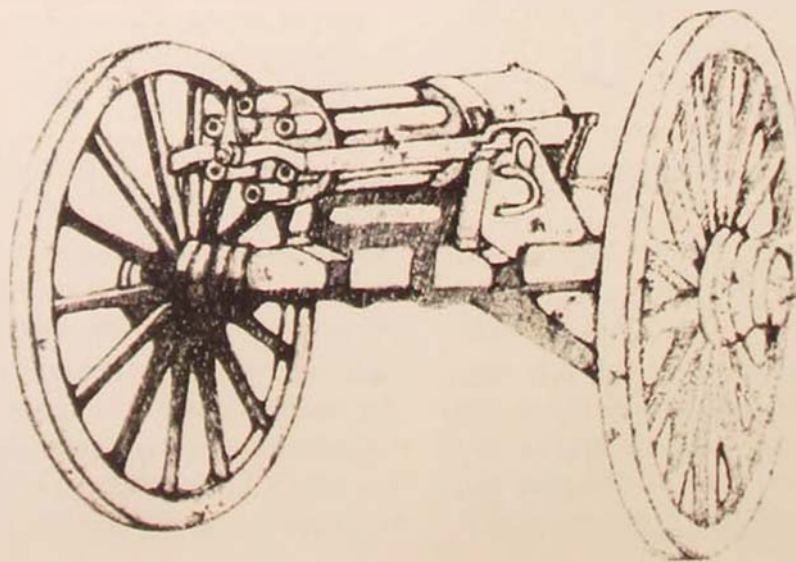
More recent indications of the existence of the myth of technological war can be seen in current appraisals of the potential of man-portable antitank and antiaircraft precision-guided munitions (PGMs) to restore the balance between NATO and Warsaw Pact conventional forces. One author has argued that PGMs are so lethal and easy to operate that even "weekend warriors" can use them to blunt an armor-tipped Soviet blitzkrieg aimed at overrunning Europe.³⁴ In another article two members of the Boston Study Group, an organiza-

tion of scientists, advocate a 40 percent reduction of the U.S. defense budget, based at least in part on the high kill probabilities and low cost of PGMs.³⁵

That the myth of technological warfare affects at least some in high places today is apparent. In the July 1979 *Air Force*, one Defense Department member wrote: "Two essential sources of military strength are manpower and science and technology. Their relative importance appears to be shifting, with science and technology seeming to be the more important now."³⁶ We also find a congresswoman who believes that our major manpower needs in the next war will be for computer technicians and other high technologists in spite of current pilot retention problems in the Air Force and the difficulty the Army is having in recruiting into the combat arms.³⁷

Technological War: Fiction or Fact?

Technological war is naturally agreeable to the modern American character. We are a nation that takes great pride in technological achievement, and we have been and are influenced strongly by our Western heritage. One



strain of this heritage is an antimilitary sentiment that has its roots in, among other things, an English distaste for standing armies such as the New Model Army of Oliver Cromwell. Because of this aspect of our heritage, Americans tend to be highly sympathetic to the myth of technological war; for technology, the "force multiplier," makes it possible to keep the standing military force relatively small, thereby limiting the impact of the military on a nation that has never been comfortable with her legions. For example, a reduction of the uniformed armed forces from 2.1 million to 1.425 million is one of the economies the Boston Study Group would achieve.³⁸ Furthermore, technology is compatible with the strong influence on our society of Western humanism, with its emphasis on the value of human life. Technology tends to sanitize war. While placing greater destructive power in the hands of the warrior, it also tends to remove him from the scene of death, giving the illusion that the weapon, not the soldier, has done the killing. And what could be more appealing to American humanism than saving American lives, another benefit of technological war?

Saying that a particular myth of war is compatible with our national character³⁹ is not a comment on the correlation of that view with the realities of war. There are disturbing indications in various treatments of war that the American concept of technological war diverges dangerously from the realities of the modern battlefield.

Lieutenant General Sir John Winthrop Hackett, soldier and scholar and one of this century's most perceptive observers of the military profession, discusses one American attitude toward war that is an aspect of the myth of technological war. In *The Profession of Arms*, Hackett noted that during World War II some Americans considered war as just another big engineering project and ignored what Hackett refers to as the unlimited liability clause in the soldier's contract, the fact that the soldier may be called on at any time to die in the service of

his country. Hackett warned that one ignores this aspect of military life only at peril, for "when men are unprepared for this, and it is invoked, the results can be disturbing. The nature of his contract sets the man-at-arms apart."⁴⁰

In *The Face of Battle*, John Keegan, after examining three classic battles and making a few observations about more recent warfare, concluded:

The tank, though it has transformed the pace and appearance of modern campaigning, has not changed the nature of battle. The focus of fighting may be shifted twenty miles in a single day by an armoured thrust, but wherever it comes to rest there must take place exactly the same sort of struggle between man and man which battlefields have seen since armies came into being.⁴¹

More recent indications of the continuing and basic importance of warriors and commanders in modern war can be found in information about the 1973 Yom Kippur War. *Military Review* recently published an interview with Major General Mohamed Abdel Halim Abou Ghazala, who commanded the artillery forces of the Egyptian Second Army during the October War. After describing the bravery of Egyptian soldiers armed with Sagger missiles, he stated: "A good, well-trained soldier equipped with an ATGM like the *Sagger* or the *Dragon* can easily destroy one or two tanks before he could be killed." During the course of the interview, the general was asked about the success of an Egyptian air defense effort. "To what factors would you ascribe this success? Was it technological superiority? Deployment? Massing? Or all three elements together?" The general's answer included as one factor "the high level of training and the morale of the man behind the weapon."⁴²

A similar picture of the human factor in battle comes from an interview with Brigadier General Avigdor Kahalani of the Israeli Defense Forces, who commanded the 7th Brigade in defense of the Golan Heights against Syrian armored thrusts during the 1973 war. General

Kahalani noted that it is important to be candid with one's soldiers in training so that they will not be surprised by the cruelty of war. "In combat, people are going to be killed and wounded. If you discuss these subjects and have realistic training, it will not be a big surprise for your soldiers when they are first initiated into combat." A statement by Kahalani about the importance of the human factor in war is also revealing. In explaining the key to success in battle, he stated:

You must understand it is not the armor, it is not the gun, it is not the airplane, it is not the howitzer; it is the man behind the gun in the tank that makes the difference.⁴³

From the 1973 war also comes an illustration of the nature of warfare that seems to raise questions about the combat effectiveness of PGMs. General Chaim Herzog gave the following account of the situation the Egyptians created in forcing a crossing of the Suez Canal:

At H hour 240 Egyptian planes crossed the Canal. Their mission was to strike three airfields in Sinai, to hit the Israeli Hawk surface-to-air missile batteries, to bomb three Israeli command posts, radar stations, medium artillery positions, the administration centres and the the Israeli strongpoint known as Budapest on the sand bank east of Port Fuad. Simultaneously 2,000 guns opened up along the entire front: field artillery, medium and heavy artillery and medium and heavy mortars. A brigade of FROG surface-to-surface missiles launched its weapons. Tanks moved up to the ramps prepared on the sand ramparts, depressed their guns and fired point-blank at the Israeli strongpoints. Over 3,000 concentrated tons of destruction were launched against a handful of Israeli fortifications in a barrage that turned the entire east bank of the Suez Canal into an inferno for fifty-three minutes.⁴⁴

Under these circumstances, statistics on PGM kill probabilities, which often derive from test firings on proving ranges,⁴⁵ become at best academic and perhaps even meaningless. As one weapon analyst has written: "The assumption that PGMs in general and ATGMs in particular have an unusually high kill value under battle conditions is wrong. . . . No weapon has the same battlefield value as that

advertised by the manufacturer or even as demonstrated on the test range."⁴⁶

THE technical factor in war is real; it is reflected in our force structure and in our national psyche. However, our national penchant for technological solutions and our atypical experience with warfare in the twentieth century have combined to create an imbalance in the American approach to war. We over-emphasize technology as *the* key to military success at the expense of other elements that have traditionally played a major role in military victory, such as superior combat leaders, skilled and dedicated fighting men, willingness to sacrifice, and sound strategy. This situation has significance for national security in two respects.

First, our overdependence on military technology raises serious questions with regard to our use of military force as an effective instrument of national policy. The Vietnam War illustrates the difficulties well. With the most sophisticated analysis techniques and the world's most advanced technology, we did not defeat the Vietcong and the North Vietnamese. We lavished treasure and technology on the conflict but found 55,000 lives an intolerable human price for a decade-long war.

The results of Vietnam raise serious questions about our performance in possible future wars. For example, could a nation deeply disturbed by the loss of 55,000 lives in a ten-year war continue to fight after sustaining massive casualties in losing the first battle in a NATO-Warsaw Pact war?⁴⁷ This prospect becomes even more sobering when we realize that our likely opponent lost the equivalent of nearly the entire American defense establishment in the first six months of World War II yet fought on to victory four years later. With the skyrocketing cost of today's weapons, could a nation committed to technological war be driven literally into fiscal bankruptcy in some future war with another North Vietnam that is willing to pay the human price for victory?

Second, in addition to leading to false expectations with regard to war and its impact on societies, the myth of technological war also undermines the soldier's traditionally tenuous position in American society. In peacetime, management and bureaucratic skills are always more prized than the courage, ability to reason and make decisions under extreme pressure, and the capability to *drive* as well as to lead men that are usually found in successful combat commanders. The myth of technological war permits Americans to believe that the scientists, technicians, and managers who develop, procure, and maintain today's miracle weapons are more important than the warriors who will wield the weapons and the officers who will command them. In the view of many Americans, we won World War II because of superior numbers of highly reliable M-4 tanks, not because of the bravery of the men who drove them against Panthers and Tiger IIs and not because of the generalship of men like Patton. We were victorious in the air war, some think, because of overwhelming numbers of superb B-17s, B-24s, P-47s, and P-51s, not because of the courage and skill of pilots like Bong and Boyington and the leadership of men such as Doolittle, Spaatz, Eaker, and LeMay. This line of thinking helps one understand how a national leader can hold that tech-

nicians are the key to victory in war, how a high-ranking Air Force officer can equate the work of radio intercept operators to being on the front lines,⁴⁸ and how an editorial writer can prefer officers who make "sure the ship's mess has enough ice cream, that remote outposts get new movies" to soldiers like LeMay and Patton.⁴⁹ Soldiers are held to be outmoded, even dangerous.⁵⁰

The United States is a peace-loving, antimilitary nation, deeply imbued with Western humanism and business commercialism. The social institutions of such a nation do not mass produce warriors and warrior-leaders; they actively inhibit their development. If current trends which seriously undermine the position accorded the soldier in the social structure of the American military profession continue, can it be long before our armed forces have no heroic combat leaders to follow into the next war? The United States produces legions of managers, engineers, technicians, and bureaucrats. In time of war, we could draft ample numbers of people in all of these specialties; we could mobilize whole transportation companies and data-processing firms. But where will our soldiers come from if not from the armed forces?

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Notes

1. "The Operational Urgency of R&D," *Air University Quarterly Review*, Winter and Spring 1960-61, p. 230.

2. For simplicity, I use the term *technology* without distinguishing between science and technology. Technology is man's effort to cope with his environment and includes everything from the creation of simple tools and the methods of making them to the most complex implements of modern society and the processes for producing such devices. *Science* is theoretical knowledge of natural phenomena and the activity of developing such knowledge. Although technology has affected warfare since primitive man first used a club against his fellowman, only in the twentieth century has science begun to have significant effects on warfare; e.g., radar is based on the electromagnetic theories of scientists such as James Clerk Maxwell. Even now, however, science affects warfare only through technology, which uses theoretical knowledge to develop actual hardware.

3. Of several discussions of the American attitude toward war,

which I call the myth of technological war, one of the best is James Fallows, "Muscle-Bound Superpower," *Atlantic Monthly*, October 1979. Fallows discussed how the United States has become overreliant on military technology to the detriment of "real defense."

4. Walter Lippmann, *Public Opinion* (New York, 1954), p. 25.

5. Historical Evaluation and Research Organization (HERO), *Comparative Analysis of Historical Studies*, Annex III, *Historical Trends Related to Weapon Lethality* (Washington, 1964), pp. H-6 through H-19.

6. HERO, *Historical Trends*, pp. 29-33, 37-40, 43-44; *Basic Historical Studies*, Annex Volume I, *Historical Trends*, pp. 91-96; HERO, *Comparative Analysis*, pp. B-1 through B-8.

7. Bernard Brodie and Fawn Brodie, *From Crossbow to H-Bomb: The Evolution of the Weapons and Tactics of Warfare* (Bloomington, Indiana, and London, 1973), p. 192.

8. T. N. Dupuy, "Perceptions of the Next War: Historical Perspective on Adjustment of Doctrine and Tactics to Weapons,"

Armed Forces Journal International, May 1980, p. 54, argues that casualties per battle day have generally declined over the course of history.

9. Shelby Foote, *Red River to Appomattox*, Vol. III, *The Civil War: A Narrative* (New York, 1974), p. 1040; Bernard Bailyn et al., *The Great Republic: A History of the American People* (Boston and Toronto, 1977), p. xviii, gives U.S. population figures at various points in the nation's history.

10. Vincent J. Esposito, editor, *A Concise History of World War I* (New York, 1964), p. 372; Bailyn, p. xviii.

11. Vincent J. Esposito, editor, *A Concise History of World War II* (New York, 1964), p. 399; Bailyn, p. xviii. Even if we were to halve the Civil War casualties in recognition of the unique nature of such a war, the casualty rate would be 1.75 percent or better than twice the rate experienced during World War II.

12. Esposito, *World War I*, p. 372.

13. Esposito, *World War II*, p. 400; Richard Pipes, "Why the Soviet Union Thinks It Could Fight and Win a Nuclear War," *Air Force*, September 1977, p. 65; Gordon Wright, *The Ordeal of Total War: 1939-1945*, Rise of Modern Europe, edited by William L. Langer (New York, 1968), p. 264.

14. J. F. C. Fuller, *From the Seven Days Battle, 1862, to the Battle of Leyte Gulf, 1944*, Vol. III of *A Military History of the Western World* (n. p.: Minervia Press, 1956), pp. 428-29, 432-34, 440. See p. 446 for a general discussion of German and Soviet casualties in the opening months of World War II on the eastern front.

15. See Brodie and Brodie, pp. 124-71, for a discussion of some of these innovations.

16. John B. Rae, "The 'Know-How' Tradition: Technology in American History," *Technology and Culture*, Spring 1960, pp. 141-42.

17. Thomas Parke Hughes, editor, *Changing Attitudes toward American Technology* (New York, 1975), pp. 8-9.

18. John Ellis, *The Social History of the Machine Gun* (New York, 1975), p. 25; George M. Chinn, *The Machine Gun: History, Evolution, and Development of Manual, Automatic, and Airborne Repeating Weapons*, Vol. I (Washington, 1951), p. 39; Russell F. Weiglev, *History of the United States Army, The Wars of the United States*, edited by Louis Morton (New York, 1967), pp. 238-39.

19. HERO, *Basic Historical Studies*, pp. 68-70. See also Tom Wintringham and J. N. Blashford-Snell, *Weapons and Tactics* (Baltimore, 1973), pp. 143-45. I recognize that the *odre mixte* used by Napoleon already constituted a break with traditional linear tactics, but it must be recalled that Pickett's charge at Gettysburg was made by soldiers in formal, dressed formations. For an excellent description of Pickett's charge see Shelby Foote, *Fredericksburg to Meridian*, Vol. II of *The Civil War: A Narrative* (New York, 1963), pp. 552-58.

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22. Martin Blumenson, *The Patton Papers: 1885-1940*, Vol. I, Part 1 (Boston, 1972), pp. 436-37, 442, 460-62, 501-02.

23. Edward L. Katzenbach, Jr., "The Mechanization of War, 1880-1919," in *Technology in the Twentieth Century*, Vol. II of Melvin Kranzberg and Carroll W. Pursell, Jr., editors, *Technology in Western Civilization* (New York, 1967), p. 560.

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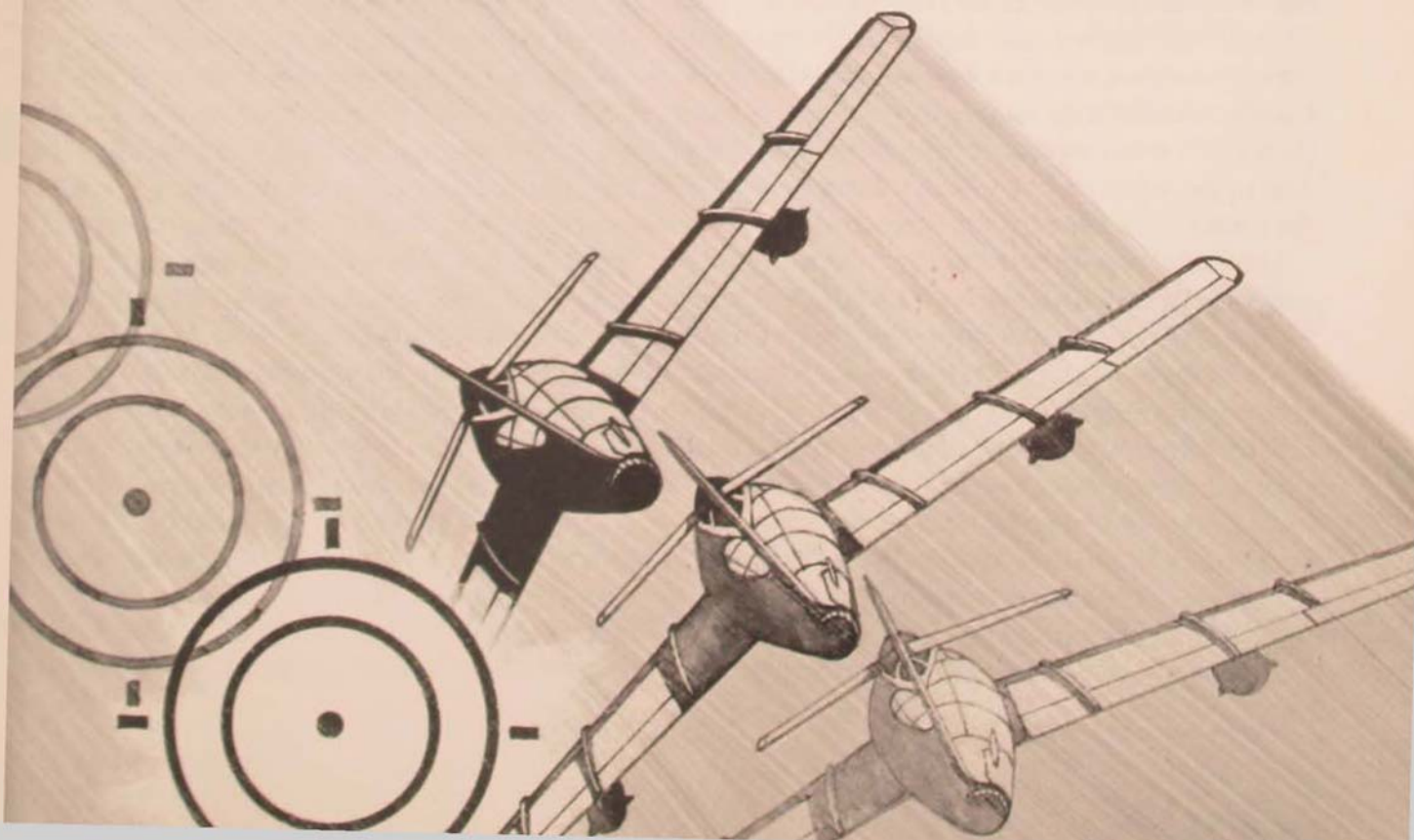
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R military affairs abroad

THE CHINESE COMMUNIST AIR FORCE IN THE "PUNITIVE" WAR AGAINST VIETNAM

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EVER since the mid-'50s the Chinese People's Liberation Army Air Force (PLAAF) has been the object of professional interest and concern.¹ By the end of that decade, the PLAAF was considered a substantial asset in the defense forces of Mainland China. At that time it was the third largest air force in the world, numerically inferior only to those of the United States and the Soviet Union. Nonetheless, during the Korean War the MiG-15s (identified in Chinese Communist nomenclature as Shenyang F-2s) and the "volunteer" pilots of the PLAAF proved no match for their United Nations' opponents. The F-86 Sabre pilots of the United States Air Force achieved a 10:1 kill ratio over their



PLAAF adversaries.² The inexperience and lack of rigorous combat training of Chinese Communist airmen, as well as technical deficiencies of their aircraft (primarily the absence of an effective radar gunsight that had by that time become a basic component of American air units), cost the PLAAF serious personnel and aircraft losses.³

As the 1950s drew to a close, the PLAAF—by that time equipped with MiG-17s (F-4s)—engaged the aircraft of the Nationalist Chinese air force over the Taiwan Strait in a contest for control of the airspace over the offshore islands of Kinmen and Ma-tsu. In the course of that conflict, between July and October 1958, thirty-one aircraft of the PLAAF fell before the guns of the Nationalist Chinese pilots. The Air Command of the Republic of China (ROCAC) on Taiwan reported the loss of two fighter planes during the same engagements.⁴ Suffering a loss-ratio of 15.5:1 to the Nationalist Chinese, the PLAAF broke off these engagements. Once again it was the superior training of their opponents' crews as well as the advanced aircraft systems of the Nationalist air force that proved so costly to the PLAAF.

Since that time the PLAAF has had little occasion to be tested in combat. Although PLAAF air units from Hainan afforded air cover for the Chinese Communist assault on the Paracel Islands in January 1974, the lack of South Vietnamese air opposition precluded any opportunity for combat testing of either the men or machines of the Mainland air force.

During the past two decades, considerable evidence has been amassed which suggest there have been attempts to improve the technical capabilities of PLAAF aircraft, but it is equally clear that by the mid-'60s the military leadership of the People's Republic of China (PRC) had decided on an air defense strategy that involved investment in a large force of relatively cheap and technologically unsophisticated aircraft. Given the financial and technology constraints confronting the aircraft industry of Mainland China, aircraft production was concentrated

on the MiG-17 (F-4 and F-5) and the MiG-19 (F-6). It is estimated that by the late '70s, the inventory of the PLAAF included about four thousand of these fighter-interceptors.⁵

Numerically, the MiG-19s (in at least three variants) constitute the most important components of the contemporary Mainland air service. The aircraft design and technology of these craft date from the '50s; yet, the MiG-19 is still an efficient gun platform packing three NR-30 30 mm cannon, which are superior to their British and French counterparts. However, the performance of its Soviet-designed Izumrud radar leaves the aircraft with only limited all-weather capabilities and impairs its effectiveness.

Genuine air-to-air attack radar systems have been standard on fighters in the Soviet and United States air forces for a quarter of a century, and their absence from fighters that serve as the mainstay of the Communist Chinese fighter command constitutes a major combat impairment. During the late '60s, an apparent attempt was made to improve their combat readiness by making major modifications to the MiG-19 and produce a variant known as the F-9 (actually the F-6bis). The F-6bis aircraft has a new forward fuselage section that adds approximately two feet to overall aircraft length, displacing the standard nose inlet of the MiG-19 to two fixed geometry plain air inlets at the wing roots. This long conical nose was apparently designed to house a radar system that would afford effective air-to-surface and air-to-air attack capabilities. However, the clearest most recent photographs of this aircraft do not reveal a corresponding radar installation, though there is evidence that some combat craft are equipped with hardpoints for mounting paired Russian design Atoll air-to-air missiles.

It is not certain how many of these aircraft are presently in service with the PLAAF nor how effective they may be in a specific combat role, but some are clearly configured for surface attack and ground support roles and designated the A-5 by the Chinese. Probably no

more than three hundred are currently in service, and it has been widely reported that production of this aircraft has ceased for a variety of reasons—among the most important being the fact that the longer frontal fuselage and extra weight have critically penalized performance in comparison with the basic MiG-19. It is obvious that a short production run would indicate serious manufacturing difficulties.⁶

The only aircraft presently on line with the PLAAF that could qualify as modern is the Chinese version of the Russian-designed MiG-21F (identified as the Shenyang F-7 and F-8). These aircraft have suffered numerous design problems, and production may have ceased with about 80 aircraft in current service. Given the probable design deficiencies, their combat effectiveness is also questionable.

By the time Beijing decided to undertake its "self-defense counterattack" into the territory of the Socialist Republic of Vietnam (SRV) on 17 February 1979, there were increasing doubts about the combat readiness and effectiveness of the People's Liberation Army Air Force. Because of the presence of MiG-21s in the air force of the SRV (in addition to the Northrop F-5Es in service with the smaller air forces of the Southeast Asian region), much interest was generated about the roles and missions of the air combat units of the People's Liberation Army (PLA) and how effective they might be against modern aircraft in any engagements in that area.

For a number of tactical and strategic reasons⁷ the Communist Chinese scheduled their "punitive" war against the SRV for mid-February. The plan was to embark on a short campaign, administer punishment quickly, and withdraw by the beginning of April, when the commencement of the rainy season in the region would make operations extremely difficult for a military system already beset with special logistical problems.

Having negotiated normalization with the United States in December 1978, the Chinese Communists apparently felt themselves armed

with tacit American approval for their adventure in Southeast Asia. Troop deployments in strength began in January 1979. At the same time the Chinese Communist air command deployed 444 aircraft along the Vietnamese border skirting a perimeter around a 250-mile radius from Hanoi. Most of the aircraft deployed were MiG-19s, followed by a significantly smaller number of the older MiG-17s, a scattering of Il-28s (Chinese Communist designation B-5s), a few ground attack variants of the F-6bis (A-5), and 28 MiG-21s (F-7s).

The Il-28 (B-5) is a light bomber patterned on a Soviet model of the late '50s and fabricated in the PRC. It is a twin, jet-powered tactical bomber provided to the Chinese Communists by the Soviets to replace the piston-driven Tupolev Tu-2 that had been in service with the PLAAF until that time. The Il-28 now constitutes the main tactical strike force available to the Chinese Communist air force. It is capable of carrying a 6000-pound bomb load and has some all-weather properties, but it can undertake precision strikes only in fair weather, given its primitive avionics suite. Its size and configuration preclude low-level maneuvering and leave it exposed to medium- and low-range surface-to-air missiles (SAMs) as well as radar-sighted-and-directed anti-aircraft batteries.

The effectiveness of the ground attack and troop support aircraft of the PLAAF—the modified MiG-19 (the F-6bis and A-5) and the Il-28—left much to be desired. Among the 948 aircraft deployed along the Sino-Vietnamese border at the height of the campaign, 94 were Il-28s and 120 were F-6bis and A-5s. There were 27 Il-28s stationed at Haikou on Hainan Island, 30 in Guilin, 12 near Suixi, and 13 more in Luichou—all in Kwangsi Province. Twelve more were stationed near Mengtzu in Yunnan Province, bringing the total number of tactical bombers available as ground support and strike aircraft to 94, with 12 modified for reconnaissance roles.⁸ The F-6bis aircraft were stationed northeast of Mengzi and at Wuxu in Kwangsi. The remaining air units on station

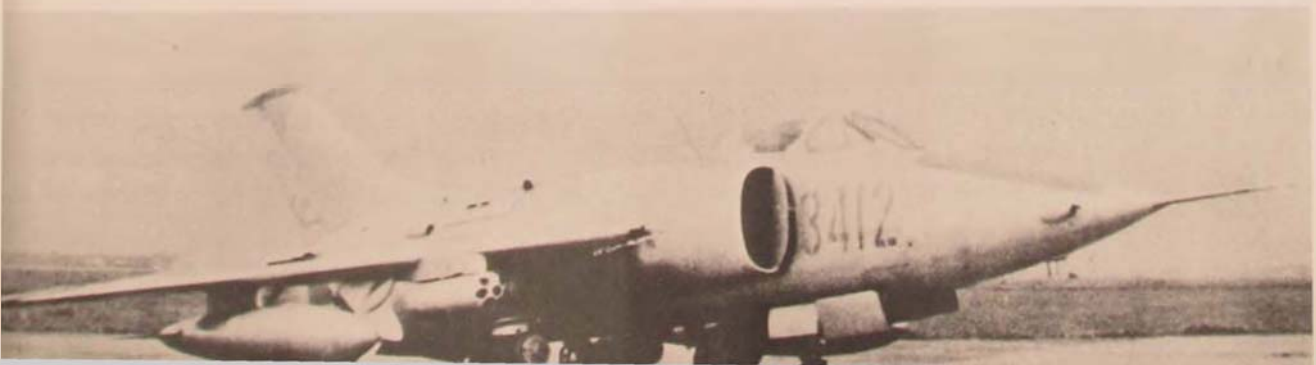
The Chinese People's Liberation Army Air Force

One of the world's largest air forces at the time of the "punitive" war was the Chinese People's Liberation Army Air Force (PLAAF). However, its outdated equipment, derived from Soviet models of the late forties and early fifties, made it less effective than the more modern and battle-hardened Vietnamese Air Force. In 1979, the PLAAF consisted of 4000 F-2, F-4, F-6, and F-7 defensive fighters. Tactical strike capability rested with 500 F-2s, 100 Tupolev Tu-2 twin-engined light bombers, about 300 B-5s, and 100 A-5s.

Derived from the Soviet MiG-19, which first flew in 1953, the F-6 (below) is still the mainstay of the PLAAF fighter force. . . . The Chinese built several versions of this aircraft, including the TF-6 trainer (bottom) and an all-weather model with a radome in the air intake. The F-6 carries both 30 mm guns and air-to-air missiles.



The A-51/F-6bis twin-engined fighter-bomber (below and bottom), derived from the F-6, first flew in 1969. This light attack/close air support fighter can carry 2000 pounds, including 500-pound and 250-pound bombs or four pods of air-to-ground rockets. In the air superiority role, it carries two drop tanks and two Atoll missiles.



included 580 MiG-19s, 98 MiG-17s, 28 MiG-21 fighter-interceptor aircraft, and 24 medium-range Tu-16 bombers stationed at Guilin.

The mechanical properties of all the aircraft available to the military planners of the PLA are reasonably well known. Both the Il-28 and F-6bis have severely restricted troop support and ground attack capabilities in any reasonably sophisticated anti-aircraft environment. Yet, the conflict in Vietnam took place in just such an environment. The Vietnamese enjoyed effective battlefield air defense systems of Soviet derivation, including the SA-3 Goa, SA-6 Gainful, and SA-7 Grail SAMs supplemented by ZU-33, ZSU-23-4, and ZSU-57-2 anti-aircraft weapons. A similar battlefield air defense system exacted terrific toll among the Israeli air support and tactical attack aircraft during the Yom Kippur War in the Middle East.⁹ Under these circumstances the Chinese Communist air command had every reason *not* to want to commit its aircraft to battle during this conflict. However, the decision to restrict the role of the PLAAF in the "punitive" war against Vietnam may have also been influenced by political considerations, in addition to the known equipment deficiencies which were to decide the issue. It is reasonably certain that pilots and crews of the PLAAF were not sufficiently well trained to carry out the complex procedures associated with tactical air support.¹⁰

During the American involvement in the Vietnam War, our own highly sophisticated air units of the United States Air Force suffered appreciable losses in men and materiel to the anti-aircraft defenses of North Vietnam. The Chinese Communist air command could have anticipated even heavier losses because of a dependency on obsolescent aircraft with questionable combat capabilities operating in a heavy threat environment.

According to military intelligence reports from non-Communist sources, no Il-28 was committed to overflights of Vietnamese territory during the entire campaign against the SRV. However, a few stationed at Suixi flew

over the Gulf of Tonkin along the Kwangsi coast, and some ventured into Vietnamese airspace. Similarly, some Il-28 flights were made from Haikou on Hainan over the Gulf, but none penetrated as far as the territorial waters outside Haiphong. Thus the light bomber forces of the PLAAF remained well out of reach of SRV defense systems, and aircraft interceptors provided virtually no support for either ground or naval forces involved in operations against the enemy.

Some A-5 ground support aircraft did penetrate SRV airspace near Lang Son. Based in Wuxu, these aircraft appeared over the battlefield but undertook no actions against the enemy. Only during the heavy fighting which characterized the last days of the conflict between 27 February and 5 March 1979 did the F-6bis and A-5 aircraft make a brief appearance near Lang Son, but none fired a shot in anger.

Most of the Chinese Communist aircraft that penetrated SRV airspace were MiG-17s (F-5s) and MiG-19s (F-6s). During the conflict there were approximately 5500 aircraft sorties with 660 penetrations of the northern Vietnam border to provide at least the semblance of air cover at major combat sites.

Most of the sorties that found Chinese Communist aircraft over SRV territory were localized in two principal areas. The first centered around Lao Cai, where eight infantry divisions (the 42d, 14th, 31st, 32d, 11th, 37th, 39th, and 13th) of the PLA engaged the ground forces of the SRV; the other major locale of PLAAF activity centered around Lang Son and south and east of Caobang. MiGs from Tianyang and Wuxu followed the border on regular overflights above eleven infantry divisions (the 55th, 164th, 43rd, 28th, 127th, 126th, 42d, 125th, 54th, 121st, and 41st) of the PLA that were engaging enemy ground forces with conventional artillery, tank, and infantry attacks.

None of these MiG flights afforded any real air support to the ground forces or incurred any air opposition. Instead, the defense against SRV air attack was provided by a screen of

SA-2 Guideline SAMs of early Soviet design. The PLA apparently depended on this system of ground-to-air missiles rather than the interceptor air units to protect its ground forces against air attack. The PLA used the only operational missile air defense system available to afford protection that could not be provided by the aircraft units of the PLAAF. The slant range of the SA-2 is about 50 kilometers, and it is notable that Chinese Communist ground forces were instructed to advance not more than 50 kilometers into SRV territory.¹¹

In effect, the activities of the PLAAF in the Chinese Communist "punitive" war against the SRV were largely cosmetic. They provided the Chinese Communist military authorities the opportunity to photograph the Chinese-built MiG-21 in flight and release photographs of the air-to-air Atoll missile apparently featured on some aircraft in the war zone.

Such propaganda opportunities may have been purchased by significant manpower losses on the part of the ground troops of the PLA. Without effective air support the troops of the PLA suffered heavy casualties, estimated to be from 20,000 to 40,000 men. At one time during the campaign there may have been as many as 250,000 PLA troops (about 21 infantry divisions from 8 army corps—the 41st, 54th, 42d, 43rd, and 55th of the Kwangsi Command, as well as the 11th, 14th, and 13th of the Yunnan Command) engaged in the fighting. Without air support to suppress enemy fire and neutralize strongpoints, the ground forces of the PLA were compelled to absorb the full impact of the enemy's firepower. Chinese Communist ground control apparently ordered the air units of the PLAAF not to engage any enemy aircraft (generally the technologically sophisticated MiG-21s and possibly the MiG-23 of the air force of the SRV) or attack ground positions which were defended by tough SAM defense systems supporting the Vietnamese army.¹² There is more than a suggestion that the Chinese Communist command had little confidence in the effectiveness of the air-to-air

ordnance available to PLAAF combat pilots, so rather than lose expensive major military equipment and trained pilots (in very short supply from the lapse in pilot training that occurred during the Great Proletarian Cultural Revolution) the aircraft of the Chinese Communist air force were just not committed to combat.

The decision not to commit Chinese Communist air units to air combat or troop support was a consequence of something other than a disposition to confine the conflict. That decision was the consequence of a clear recognition of the inferiority of PLAAF air combat and ground support equipment in addition to the political constraints and general strategic concerns of the PRC. The MiG-17s/19s/21s of the PLAAF would have been at critical risk in any engagements with the air units of the SRV. The bombing and attack aircraft of the PLAAF, the Il-28s and the F-6bis, would have been at similar risk in the air defense environment created by the SAMs and interceptor capabilities of the SRV. Any significant losses in major air combat and ground support craft which might have resulted would have revealed major weaknesses within the PLAAF, so the Chinese Communist military command apparently opted not to disclose these deficiencies.

All this has implications for any future role the Chinese Communist military might be expected to play while undertaking or contemplating forceful actions along its southern and eastern periphery. While the defensive capabilities of the numerically large PLAAF are generally recognized, it is equally evident that relatively small air forces in the region, when supported by reasonably sophisticated air defense systems, are not at the present time threatened by the air force of the PRC. So, given its present capabilities, the PLAAF cannot be expected to influence any military operations in Southeast Asia to a significant degree. For example, should the PRC choose to oppose a military attack by the SRV on Thailand, only the intervention of the ground forces of the



The Harbin B-5, seen here at an unnamed base, is the backbone of the Chinese bomber force. Derived from the Soviet 11-28, which first flew in 1948, the B-5 is still being produced in China. The PLAAF probably has about 400 B-5s in service. Maximum bomb load is about 6000 pounds.

PRC could be expected to make a telling impact. It is likely that assistance to Thailand in the event of determined SRV attack could only come in the form of major troop involvement rather than supplying military hardware (already in short supply in the PRC) or providing tactical air support. PRC air units alone would probably be singularly ineffective. Given its present inventory, the Chinese Communist air force is likely to be at grave risk in any attack role in a sophisticated air defense environment, whether Western- or Soviet-equipped. Against the nations of Southeast Asia or the Pacific littoral, the PLAAF can perform satisfactory *defense* functions but could hardly be an effective instrument for any *offensive* actions. It is evident that against the small nations of the Southeast Asian region, as well as the Republic of China (ROC) on Taiwan and Japan, the Chinese Communist air force at the moment

can make little pretense of effective offensive capability.¹³

Against the modern aircraft of the SRV, the air units of the PLAAF are thought to be largely ineffective. Even against the few advanced Mach 2 fighters of the Self-Defense Forces of Japan, the Chinese Communist air units would have to suffer serious attrition before they could prevail. Similarly, against the F-5Es on Taiwan, PLAAF units would suffer grievous losses before the depletion of ordnance, and aircraft attrition would eventually neutralize the air command of the ROC.

The PLAAF can hardly serve even in a defensive capacity on its northern and western borders. Its aircraft are hopelessly outclassed by the more than 2000 advanced machines of the Soviet Air Command deployed along the Sino-Soviet border. Given its current capabilities, it is quite unlikely that the PLAAF will constitute anything more than a modest obstruction to any major military moves by the Soviet Union. Moreover, for the foreseeable future, it would hardly be possible to modernize the air arm of the PLA sufficiently to make it an effective anti-Soviet fighting force. The shortage of foreign exchange precludes large-scale purchase of up-to-date aircraft and equipment by the PRC. No nation is prepared to allow the PRC

the billions in grants or credits required to upgrade its air force to the level of an effective anti-Soviet instrument. The absence of effective research and development similarly precludes the real possibility of indigenous design and construction of modern interceptor and bombing aircraft for the foreseeable future. The Chinese Communist aircraft industry has the capability of design and production of relatively simple machines (such as the Yun-11 utility aircraft) that do not involve advanced avionics or high-thrust engines.¹⁴ Any of the advanced military aircraft so necessary to upgrade the PLAAF would have to be purchased from the Soviet Union or the industrialized Western nations, or coproduced under license. It is unlikely that Communist China will be in a position to do either in sufficient measure in time, quantity, or quality to offset its present air power deficiencies. In its competition for limited resources, the PLAAF will probably enjoy limited expansion and technological upgrading with the addition of some substantial numbers of a Chinese Communist variant of the MiG-23 Flogger (designated the Shenyang F-12 in Chinese Communist nomenclature),¹⁵ but it is most unlikely that such enhancements will not markedly improve the defensive capabilities of its air arm.

In Chinese Central Asia the arid, open terrain will continue to afford the Soviet Air Force maximum advantage for the foreseeable future.¹⁶ To alter the force levels of the PLAAF sufficiently to offset this advantage—other than to provide dense anti-aircraft cover—would require funds, the availability of large numbers of trained personnel, and logistic capabilities far beyond the current purchasing, production, and training capacity displayed by the PRC.

Any marginal upgrading of force levels of the air arm of the PLA on the other hand would succeed in altering the regional balance of forces in the Taiwan Strait and Southeast Asia—circumstances clearly not in the interests of the United States. Any military adven-

tures by the PRC in those regions could destabilize the strategic circumstances in much of the Pacific basin. The United States has conveyed its concern with respect to regional stability in the area in a number of ways but most unequivocally with respect to the peace and security of the Taiwan Strait. The government of the United States has embodied its commitment to the stability of the Taiwan Strait region and the peace and security of the Republic of China in Public Law 96-8, the Taiwan Relations Act.¹⁷ Section 2 of the act asserts that “any effort to determine the future of Taiwan by other than peaceful means” would be considered “a threat to the peace and security of the Western Pacific area and of grave concern to the United States. . . .” To protect its interests and offset any disposition that the PRC might entertain to resolve its differences with the ROC by military force, the United States has committed itself to the provision of “defensive arms” to Taiwan that would provide for its “sufficient self-defense capability.”¹⁸

Given these commitments and the present force levels available to the PRC and the ROC respectively, what might constitute “sufficient self-defense capability for the Taiwanese military” would be a function of the capabilities available to the mainland Chinese. Any attack on the island of Taiwan by the armed forces of the PRC would necessarily involve the PLAAF. As long as the air force of the Communist Chinese is incapable of launching a successful air attack against the island of Taiwan in support of a combined amphibious assault or in providing effective air cover for a surface or submarine investment of the Republic of China, the United States can meet its moral and strategic commitments in the region by maintaining the present force levels of the ROC air command.¹⁹ The small air force of the ROC (approximately 315 combat aircraft) presently enjoys some measure of qualitative superiority over the PLAAF in terms of effective air-to-air ordnance and superior firing platforms in the shape of the F-5E Tiger, which

is at least marginally superior to the MiG-19s that constitute the bulk of the fighter forces of the Chinese Communist air force.

The indisposition of the PRC to commit air units to combat in the "punitive" war against Vietnam suggests that there would be a similar indisposition at present to commit any similar major military equipment to an attack on Taiwan. The fighter aircraft (however few) available to the ROC are as sophisticated as those deployed by the SRV. The air defenses on the island of Taiwan are equally sophisticated. In fact, the Hughes Air Defense Ground Environment system has been operational on Taiwan for several years. Similar to the air defense system employed by NATO forces in Europe, it would exact considerable toll from aggressor units of the PRC. Given the current force levels available on both sides of the Taiwan Strait, unless the PRC were prepared to involve much of its air force and absorb oppressive losses, it is unlikely that Mainland China would attempt a military solution of the Taiwan question at the present time.

It is in the interests of the United States that these circumstances not be altered. Any enhancement of the force levels of the PLAAF could only destabilize the military balance along the eastern and southeastern borders of the PRC without significantly affecting Communist China's ability to resist any determined moves by the Soviet Union—given Russia's overwhelming air superiority. It may be in the strategic interests of the United States to upgrade defensive ground force and anti-aircraft capabilities of the PRC as a counterweight to the Soviet Union—thereby tying down major Soviet ground and air units—but it is not in those interests, nor has the United States the resources,

to enhance significantly the capabilities of the Communist Chinese air arm. Any upgrading of the force capabilities of the PLAAF would make the nations of Southeast Asia and the littoral states more vulnerable to pressures from the PRC and introduce a dangerous level of regional instability in the entire Pacific basin.²⁰ In fact, as the Communist Chinese enhance their air capabilities, it would be in the interests of the United States to ensure similar upgrading of the air forces of the smaller nations that border the PRC. The Taiwan Relations Act commits the United States to the provision of an adequate self-defense capability for the Republic of China in Taiwan. Since tactical air superiority over the Taiwan Strait is essential to the integrity and defense of the ROC, the implications are evident. Should the PLAAF deploy an air superiority fighter with the capabilities of the MiG-23, the United States is obliged to provide a similar aircraft to the defense forces of Taiwan and, by entailment, the defense forces of the non-Communist states of Northeast and Southeast Asia.

At the moment, the United States seems prepared to meet such an obligation. The Department of State has approved the sale of air superiority fighters to the Republic of Korea and Japan and has begun negotiations with the Republic of China on Taiwan in order to supply it with a similar air defense asset. Calculated self-interest in the regional stability of the entire theater recommends such a course, and the lessons of the Communist Chinese attack on the Socialist Republic of Vietnam support it.

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Notes

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14. See "China Develops Yun-11 Utility Aircraft," *Aviation Week and Space Technology*, December 17, 1979, pp. 75-77.

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18. *Taiwan Relations Act*, Section 3 (a).

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THE CRISIS OF COMMUNISM IN EASTERN EUROPE (AGAIN?): AN EVALUATION

DR. IVAN VOLGYES

JUST as had happened in 1956 and 1970, crippling strikes have caused the replacement of the First Secretary of the Communist Party in Poland. As a result production came to near standstill in the industries of the state. Communist rule was experiencing one of its periodic crises. The cause of the crisis again this time was the inability of the system to provide even basic necessities for the normal operation of a system: food in the stores and enough money to live on in the pockets of the working people whom the regime ruled. It was precisely these workers, who had had enough, and the party, for the time being at least, had to give in.

To Western students of the operation of Communist states of Europe, the events in Poland have not been as much of a shock as they were to the leadership in Warsaw and Moscow. Not that most observers here are doomsayers, or "told-you-so" Monday morning quarterbacks; rather, viewed as dispassionately as possible from the outside, it has been clear that the crisis in Poland was inevitable.¹ The modernization of Polish society—of all the societies in Eastern Europe—has been the most problematical, the most half-hearted. On the one hand, the Polish government was forced and was willing to accept a privately owned and operated small-scale agriculture that has been unable to supply the Polish population with basic foodstuff. On the other hand, the Polish leadership has opted for a large-scale state-operated centralized industrial economy that has been unable—even with the help of more than \$20 billion borrowed from abroad—to put the economy on a competitive basis vis-à-vis the world economy. Politically, it has been the most "liberal" Eastern European

regime, but it has failed to depoliticize public life and thereby threatened its own rule. Socially, the Polish government has succeeded in modernizing a backward social structure during two decades of Communist rule, but it has been forced to do everything to become status quo-oriented and stifle every attempt to induce further change into the social structure of the system during the last decade and a half.²

What has happened in Poland, needless to say, has not been unique, but other polities have decided to deal with the phenomena of modernization and development very differently. The Stalinist model, or centralized decision-making model, has been followed very closely in East Germany, Bulgaria, Romania, and Czechoslovakia since 1968; in fact, there the Slovak fascist model of earlier times has been pulled over the Communist body with remarkable alacrity. Only in Poland and Hungary—and, of course, outside the bloc in Communist Yugoslavia—have we witnessed a "liberal" systemic development.³

It seems to me, therefore, that it would be wrong merely to counterpose decay with development when examining the operation of the Polish or liberal systems; in reality our attempts to seek an explanation for the events in Poland would be best served if we recognized that these phenomena are integral parts of the daily operation of these systems.⁴ More specifically, it seems to me that the development of these systems has created or caused the decay or crises the region has been subject to. Contrary to the expectations and prophecies of Communist theoreticians—and indeed some of our Western European and American specialists—as developments do take place, as

the modernization and evolution of the region occur, these processes lead inevitably to decay, and crises soon thereafter may be noted.⁵

In regard to Poland, the political science literature devoted to the subject states explicitly that modernization is accompanied by increased interest group aggregation and articulation in the modernizing polity. Clearly, this phenomenon is observable in the Polish experience. As the working class, a new proletariat, appears, it begins to articulate its demands. If the system is unable to satisfy these demands, workers resort to means available to them and force the regime to come to terms.⁶ The success of the Polish state in modernizing and hence creating that working class has led to increasing demands being placed on the regime by the workers. In short, nothing fails like success!

But here, in the area of crisis management, the application of modern theories offers little explanation of why some states have been more successful in handling such demands than others. Why has greater success been noted in Hungary than in Poland? After all, both regimes have been rather liberal, national traditions remarkably similar, and external constraints much the same. Why, then, have the riots occurred in Poland and not in Hungary?

Two types of explanations can be advanced here: the first concentrates on the uniqueness in a country's development, showing differences in response and leadership; the second is a theoretical approach to fundamental questions. The specific and unique explanations are somewhat simpler to identify.

The existence of the Kadar leadership in Hungary, starting in the mid-1960s, resulted from Soviet military intervention that left more than 10,000 people dead on the streets of Budapest and literally decimated a generation. The "never-again-so-many-dead" mentality created cognition of the limits of change on the part of the population and gave an intellectual tool to the leadership that was able to *wink* at the people and point to the possibility of intervention by the U.S.S.R. or a return to

Stalinism in outlining the limits of change as perceived by the elite. In turn, this fear has led to real reforms within clearly implied parameters. The political and economic liberalization in Hungary, unlike in Poland, has proceeded from the desire to depoliticize and privatize* an entire polity.⁷ On the one hand, the "Greyhound effect" (the leave-the-driving-to-us mentality) enabled the party to initiate major changes without jeopardizing its leadership or allowing the articulation of independent interests while maintaining complete control over the political processes. Privatization, on the other hand, allowed the people to make as much money as they could and enabled the leadership to transfer blame for economic hardships and failures to the individuals themselves, to middle-level managers, and to external constraints without jeopardizing their leadership.⁸ Coupled with these processes, the *lumpen-proletarianization*** of the working class and co-option of the intellectuals assured that there would be no coalescence between the proletariat and the intelligentsia, and the stable party leadership was able to keep the demands of the workers from becoming political demands; they also kept the demands of the intelligentsia—especially the miniscule "rebellious" intelligentsia—from acquiring a major economic base located with a developed proletariat.⁹

WHILE the localized explanation provides us with an understanding of the success of the Kadar regime and contrasts favorably with the failures of the Gierek regime in Poland, perhaps a theoretical explanation is more appropriate to advance our understanding of the phenomena of crisis development and crisis management in liberal socialist poli-

*To alter the status of (as a business or industry) from public to private control or ownership." *Webster's Third New International Dictionary*.

**The creation of a non-class-conscious proletariat whose basic interests are only their own (ends) and who are not willing to sacrifice their personal goals for those of the state.

ties. In my opinion no framework is better suited to examine these problems than the one provided some time ago by David Easton in his *Systems Analysis of Political Life*.¹⁰ Even though today many political scientists would claim that Easton's framework is outmoded, this framework, when applied dynamically, is well suited to explain the existence of conflicts within Communist states and provides an explanation for the success and failure of Communist regimes.

According to Easton's model, the political system consists of three areas, functions, or processes: output, input, and feedback. Communist polities are characterized by a near total control over these processes by a determined Communist party. Hence all decisions are made and carried out by the party or its representatives. The decisions are made on the bases of opinions and ideas advanced by the party or through party-controlled channels, and the population hysterically and happily supports all these decisions. As one heads away from totalitarian models, the party grudgingly allows a tiny bit of input from groups other than the party but still jealously guards its prerogatives in all three areas.

In Hungary a genuine and deliberate process had been instituted by the party in the mid-1960s to depoliticize public life: any issue discussed could be regarded as nonpolitical in nature, and hence even such issues as economic reforms, the growing trade with the West, or cultural-social developments could be argued publicly and differing solutions advanced in a nonpolitical context.¹¹ The process of depoliticization thus allowed the party to open up the input process and the feedback loop to the widest strata of society; only the sociologist opponents who attempted to repoliticize the system were crushed by the regime and made to "abide" by the new ground rules. The party retained its absolute control over the output, the decision-making process; therefore, it could never be said that the Hungarian Communists violated the cardinal tenet of Leninism: democratic centralism, unquestioned party rule.¹²

The same cannot be said of Poland. There no depoliticization has occurred. In fact, since the 1960s there has been a heightened sense that every issue is regarded as a political issue.¹³ Although there had been and remains to date a great deal of liberalization of public life and the input and feedback processes had been opened up to selected and broader groups, the party expected to retain control over the output processes throughout the last two decades. In a politicized polity, however, that could not have remained intact; indeed, as the events of the last decade—1970, 1976, 1980-1981—conclusively proved, the party had to back down. When faced with workers' demands—and these demands, as expected, have grown from decisions relating to prices to the establishment of free trade unions and the right to strike—the regime could not enforce its decisions. One may argue, of course, that in 1980, as well, the government could have used the secret police or well-armed militia to crack down on the workers; the regime's unwillingness to use them, however, was well justified in recognition that the Polish army would oppose and possibly fight such involvement.¹⁴ In the end, whether it *had* to or was *willing* to—and let us be charitable and accept the idea that Edward Gierak and Stanislaw Kania refused to use force out of humanitarian considerations—give in to the workers' demands. The party, at least partially, had to surrender the central core of Leninism: the control over the output function, especially insofar as the workers' demands were concerned.

The consequences of these actions are expected to be far-reaching. It is most unusual for the party to surrender to such an extent its role; when that has happened in the past, the "fraternal assistance" provided by the U.S.S.R. and its allies has always been near, available, and well utilized, to prevent such surrenders of the party's leading position from happening.

In Poland, however, such assistance cannot be employed with the same ease or assurance

as in Czechoslovakia. The Polish army is well armed, and it is willing and able to fight. In fact, it is the best armed army in Eastern Europe today, with top-flight training, and against any invasion from the U.S.S.R., Czechoslovakia, or East Germany, at least its lower-rank officers (NCOs) and its conscripts would defend the nation even against orders given by the Polish government.¹⁵ In such a conflict, of course, Romania is not likely to participate, and top Warsaw Pact planners should plan on about 15 to 20 percent probable desertion rate from the Hungarian army. (Not that the latter matters greatly compared to East Germany's and Czechoslovakia's traditional willingness to partition Poland). Nonetheless, the U.S.S.R. realizes that it would be a protracted and bloody fight to subdue Poland. This recognition, in my view, is largely responsible for the Soviets' anxiousness in not being drawn into the conflict and explains their hope that the Polish leadership can and will settle the crisis alone.

TWO additional areas of concern remain: the question of the decay of socialism and the question of options available to the leaders of the East European states. Decay, of course, is a value-loaded term implying a regression, a turning away from something pure and "good," certainly a regression. While there is indeed evidence that economic, social, and moral decay exists in each of these states, the caveat must be entered here that the polities under our examination, certainly have not been models of purity in the status quo ante; rather, in their "uncorruptible" ideal type, these regimes exhibited a number of characteristics that were as abominable and atrocious as can be found today. What has happened, clearly, is that a previously relatively Western cultural area had been taken over by a Communist culture, or rather the worst aspects of a Communist culture that largely stemmed from its Balkan nature. Bearing in mind Nestroy's comment that "The Balkans begin at Schwechat," the

Balkans, the bakshish economy, the second economy, official and semiofficial, sanctioned or merely accepted practices of corruption, indeed, have penetrated the systems of rule that exist in the Communist states complementing the economic devolution or status quo of the area. Like terror, corruption no longer exists outside the system: in all instances it has been nationalized.¹⁶

But here my analysis begins to diverge from those of my colleagues. I do not view the phenomenon of corruption as unwelcome; indeed, its existence in a weird way humanizes a theoretically uncorruptible system. Things do not work according to plan; therefore, corruption is utilized to make things work. What really has happened is that the ingenuity of the people of the region managed to privatize a system based on societal rule. They humanized it where possible to serve their own ends and have been relatively successful in tearing down the mindless nightmare that passes for a "planned" society.

What options are available, then, to the leaders of Eastern Europe? In a sense, it could be argued that the crisis in Poland was indirectly initiated by the West. It was the bankers and lenders of the West who insisted on austerity and economic tightening, abolition of price supports, and greater work efficiency, thereby triggering those measures the Polish leaders wanted to implement and those measures that triggered the strikes in Poland. The leaders of these regimes must tread a very narrow path between economic reform and constant crisis management; spiraling energy costs, spiraling debt service, and economies that in most areas cannot compete with the West offer very little room for the leaders to maneuver. In looking at the problem of the region, one must do more than posit one's preference, such as Gierak or Kania versus Olszowski or Barcikowski. Rather, the problem must be approached from a systemic perspective; given the external and internal constraints, is there really a workable alternative?¹⁷

The sad reality, it seems to me, is that these questions are not asked in most of the states where leaders attempt to muddle through, passing insoluble problems on to leaders who will come after them, clinging to the power with an *après moi le déluge* attitude. After more than three decades in power, the leadership seems

to have run out of ideas of political and social renewal, economic management and dynamic change. And hence we are, indeed, going to witness both the phenomenon of development and the phenomenon of decay in the crises of a system that promised paradise but got stuck on the way out of purgatory.

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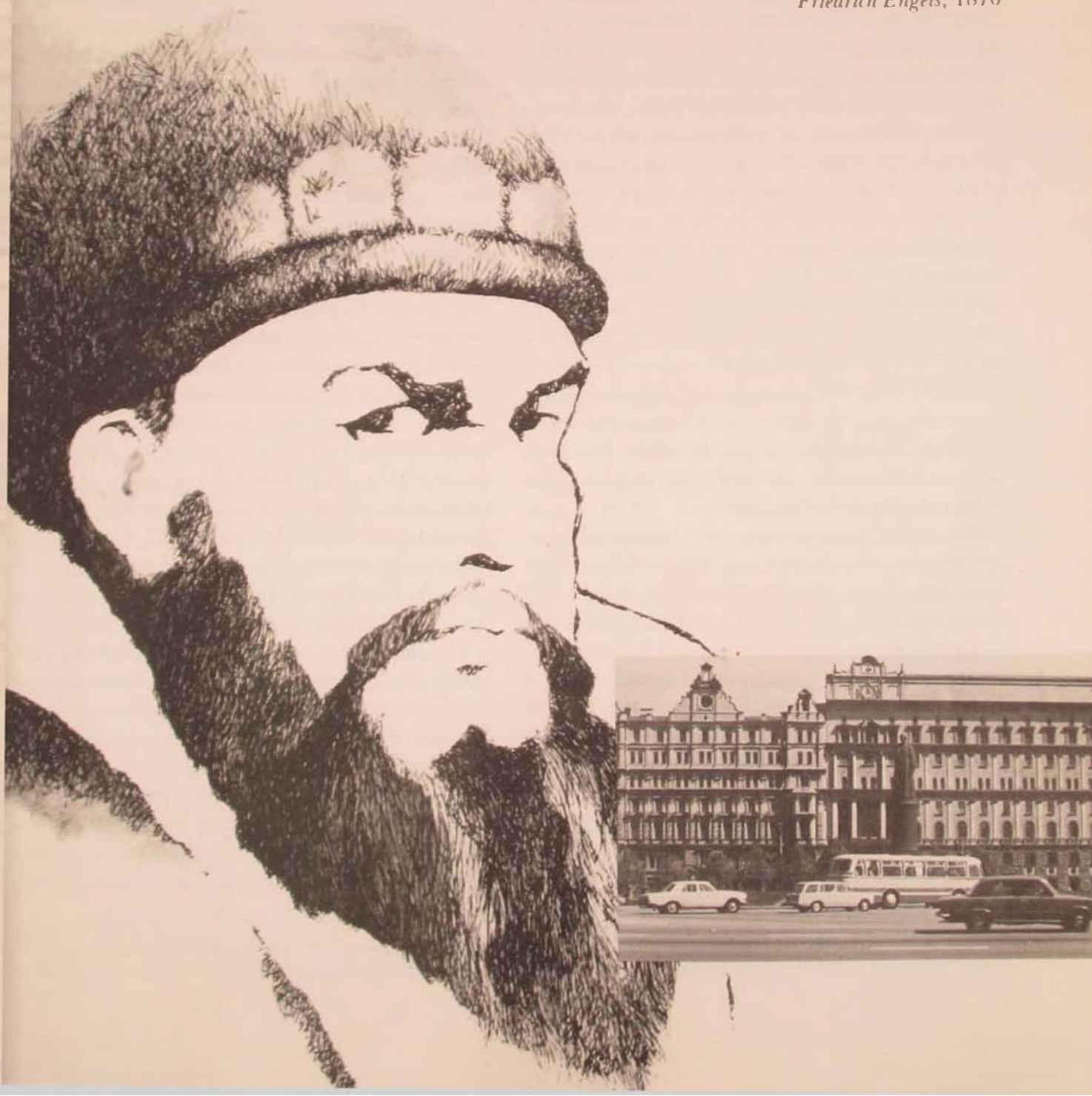
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"THEY SHOOT PEOPLE, DON'T THEY?" *a look at Soviet terrorist mentality*

SPECIAL AGENT LYMAN E. HOLLER, USAF

*Terror consists mostly of useless cruelties perpetrated by
frightened people in order to reassure themselves.*

Friedrich Engels, 1870



NEWS reports alleging executions by Soviet forces invading Afghanistan and the elimination of local political opposition by their Afghan surrogates came as no surprise to those familiar with Russian history. Soviet leaders are well versed in the use of political terror. Not terror in the Palestine Liberation Organization (PLO) vein, but terror of a wholly homegrown variety; not terror to cause anarchy, but terror to prevent it; not terror to topple a government, but terror to preserve their own. The political elite of the Soviet Union view terror as a flexible tool that can be used to control the population, stifle dissent, and perpetuate their power. They see in terror an effective instrument of political control.

Using terror as an instrument of political control is not solely a Communist phenomenon, however. Every technique of terror used by the Soviets was developed, practiced, and refined in prerevolutionary Russia. Soviet use of terror is simply the manifestation of a mentality traditional among Russian political elites. It is a mentality that considers social institutions with guarantees and norms sanctioned by law as unimportant and their manipulation for political reasons as quite permissible.¹ It is a mentality engendered by five centuries of domination by the state's technicians of terror, the secret police.

If U.S. Air Force leaders are to gain a better perspective of potential adversaries, they must understand this important aspect of the total Soviet experience. This understanding will not ensure firm prediction of how our Soviet counterparts will react in any given situation, but it will explain the Russian people's acceptance of numbing discipline and their relative domestic docility. It is the Russians who produce the majority of Soviet military officers.

If Air Force leaders are to understand this mentality, they must appreciate it as an integral part of a Soviet Russian's cultural subconsciousness. They must realize that it is the end product of a cultural lifetime of terror and come to understand its history.

This history extends back to the two-and-a-half-century Tatar rule of ancient Russia. For it was from the Tatars that the Russians learned the "cynical disregard for human life and a ruthless cruelty" that was to start them on their road to terror.² When Ivan III drove out the Tatars and reestablished the Rurik dynasty in the fading years of the fifteenth century, many of the formerly autonomous princes resisted his efforts to unify the country. Ivan III (The Great) saw that only by a ruthless insistence on unity could it be achieved.³ He took his lessons of cruelty from the Tatars seriously and observed that the necessary degree of ruthlessness could stem only from the control of one man. He gained this control by organizing a special body of men, responsible to him alone, to enforce his rules.⁴ The seed from which future Russian secret police organizations would grow had been planted.

This seed began to sprout when Ivan IV (The Terrible)* established the first formalized Russian political police. He called it *Oprichina*, meaning "special men."⁵

Perhaps more of the traditions and techniques of the Russian secret police were established under Ivan the Terrible than any other ruler. The practice of uprooting the whole areas of populations and transporting them by force to some distant region was well established by the end of his reign. This technique foreshadowed mass arrests and expulsions of Balts, Poles, Volga Germans, Crimean Tatars, and others by Stalin's police in the 1940s.⁶

In aiming at the mass terrorization of an entire population rather than at the selective investigation and punishment of individual political dissidents, the *oprichina* closely anticipated an organization generally accepted as the classic model of a twentieth-century political police, Stalin's NKVD. Stalin's admiration for the *oprichina* and their techniques was revealed when he once spoke of their "progressive role"

*Ivan IV was the first Russian ruler to call himself "Tsar" (Caesar).

and jested that Ivan IV's fault was not "ruthlessness, but insufficient ruthlessness." Stalin said that Ivan had wasted too much time praying when he might have been usefully killing still more of the opposition.⁷

Another precedent was set by Ivan the Terrible in the early 1570s when he turned on his chief *oprichniks* and had several executed, just as Stalin was to liquidate his NKVD commissars Yagoda and Yezhov nearly four centuries later.⁸ With the death of the leaders, the *oprichniks* were disbanded in 1572. The absence of a political police contributed to the anarchy that followed Ivan IV's death in 1584. Greatly weakened, Russia was finally invaded and occupied by Poland in 1610.⁹

Tsar Michael expelled the Poles and established the Romanov dynasty in 1613, but the process of restoring order from anarchy was a slow and painful one. It became clear to Michael that only strong central control could prevent a return to the pre-Ivan III conditions of separate, autonomous principalities.¹⁰ However, Tsar Michael died before establishing an organized political police force. This task he left to his son, Peter I, the Great.

In his youth Peter the Great witnessed the Streltsy* mutiny and march on the Kremlin to slaughter his relatives.¹¹ Thereafter, he felt the need for an organization to protect him. He established such an organization comprised of faithful young men headed by Prince Romodanovsky, committed to his protection. They practiced terrorism in the highest tradition of Ivan the Terrible's *oprichina* but were unable to fully subdue Peter's opposition. In 1697 Peter reestablished a secret police force, the Preobrazhensky office, to relieve Romodanovsky's men of some of their responsibility.¹²

Russian state terrorist tactics continued unimaginatively throughout the eighteenth century. It was not until Tsar Alexander I came to power in 1801 that some of the more impor-

tant precedents of state terrorism were set. Among other things, Alexander I instituted state censorship in Russia, a technique still used today.¹³

He also established a special body of field security police whose sole task was to spy on the army. And with good reason, for the members of the Decembrist revolt (December 1825) were military men. During the Napoleonic Wars they had come in contact with Western Europe, an experience that made them painfully aware of their own country's political, economic, and social backwardness. Arriving home with high hopes of domestic reform, they became bitterly disillusioned when they came up against the reactionary policies of Alexander I. The repression of the Decembrists was but a foretaste of the experiences that awaited the returning Red Army of 1945 at the hands of the NKVD.¹⁴

The Decembrist revolt became a crucial episode in the evolution of Russian political police because of its impact on Nicholas I. Crowned in 1826, he established a special Corps of Gendarmes. Responsible to no one but the tsar, their duty was to "fight the spirit of rebellion which has penetrated from the west."¹⁵

The number of terroristic precedents established by Nicholas I is exceeded by that of no one but Ivan the Terrible. It was Nicholas I who laid the foundations of the system that even today influences the espionage machine of modern Soviet Russia. Additionally, exile to Siberia, one of the most infamous of Russian state terrorist tactics, was first used by Nicholas I.¹⁶

Nicholas I's reign was remarkable for collisions between intellectuals and police. A classic example is the case of Alexander Pushkin, Russia's greatest poet, who was exiled for revolutionary writing. Nicholas I agreed to free him from exile if he would promise to stop publishing subversive material. When Pushkin complained of censorship, the tsar suggested that he personally act as Pushkin's censor. Pushkin acquiesced, thereby falling into Nicholas's carefully laid trap of placing him under the direct tutelage of the secret police.

*The Streltsy were the soldier-traders who garrisoned Moscow and who themselves functioned as a rudimentary civil police.

Nicholas Plevoy, a journalist during the reign of Nicholas I, wrote a hostile review of a crudely patriotic play, "The Hand of the Almighty Saved the Fatherland." When, to his horror, he learned of the tsar's enthusiastic admiration of the play, he tried unsuccessfully to stop publication. Called before the chief of the secret police, he was asked "How could you express an opinion so contrary to the opinion of everybody else?"¹⁷

A final example is that of Peter Chaadayev, a philosopher. In 1836 he published his first "Philosophical Letter," which contained a violent attack on the Russian Orthodox Church and on Russia herself as a nation too primitive even to be credited with having her own history. In all Russian states, orthodoxy (whether of church or party dogma), patriotism and autocracy (supremacy of the tsars and the commissars) have always formed the three main planks of official ideology. Nicholas I's reaction to Chaadayev's violation of all three was to issue a proclamation stating that the inhabitants of Moscow had at once realized that an article such as this could not have emanated from a compatriot in full possession of his mental faculties. He officially branded Chaadayev a lunatic and required that he be attended each morning by a doctor. Although the requirement was withdrawn after a year, this incident has been cited as the imperial precedent for the far more severe Soviet practice, common under Khrushchev and Brezhnev, of confining political dissidents in mental hospitals.¹⁸

Nicholas I was succeeded by Alexander II, "the Liberator," who made sweeping domestic changes. For a time, he even did away with the secret police.¹⁹ But his subjects' ungrateful attitude toward his benevolence made him see the wisdom of his predecessors, and he became reactionary, reestablishing the political police. The reign of Alexander II saw the addition of two important refinements to state terrorism in Russia. The first was the use of *agents provocateurs*, which became a common, accepted

practice under Alexander II's secret police.²⁰ The second, which was more far-reaching, occurred in 1871, when the tsar assigned to all gendarmerie officers the function of trial judges. Subsequently, they became prosecutor-judges.²¹ However, the terroristic potential of these prosecutor-judges was not fully realized until after "the Liberator's" assassination.

Alexander II's assassination so terrified the new tsar, Alexander III, that he doubled the personnel of all police organizations. More important, he created the Okhrana, the Administration for the Protection of State Institutions and Public Security, and gave it the power to go into any private house without a warrant, to arrest without warrant, to deport to Siberia without trial, to place any individual under surveillance, and even to carry out the death penalty in important cases.²² This precedent was profound, for 100 years later the situation remains essentially unchanged. The KGB, the present Soviet secret police, still exercises these same unchecked powers. Arkadiy Shevchenko, a Soviet United Nations diplomat who defected to the United States, said as much when he testified before a congressional committee in January 1980: "They [the KGB] can do everything," he said, "follow you, bug you, send you away, open your mail, detain and arrest you, send you to a mental institution—all without a warrant."²³

Many legal methods of terrorism had their foundation during the reign of Alexander III's Okhrana. General Strelnikov, a prosecutor active in the military courts of southern Russia during the 1880s, pioneered the concept of preemptive arrest of those thought likely to commit crimes of which they were actually innocent. Strelnikov "practiced mass searches and arrests . . . seizing persons entirely unconnected with revolutionary activity. . . . He felt it better to seize ten innocents than to let one guilty person escape."²⁴

Lieutenant Colonel Gregory Sudeykin, an officer of the Saint Petersburg Okhrana, was another pioneer of police techniques. He con-

vinced revolutionary terrorists to give names of accomplices and provide details of conspiracies by saying that the police and revolutionaries should work together to establish a new order. He used this technique to trick Degayev, a prominent leader of the People's Will terrorist organization, into collaboration. Eventually, the entire People's Will group was taken over by the political police, a situation which was to become almost normal in the later development of Russian police-revolutionary collaboration.²⁵

There were limits to the legal weapons of terror, however. For example, because of the way political trials had gotten out of hand under Alexander II (the state had actually suffered an acquittal at a rigged trial), no further use of the jury system was made in political trials under Alexander III.²⁶ This was but a preview of late twentieth-century Russia. In January 1980, Andrey Sakharov, a dissident Soviet human rights activist, was exiled to the provinces without benefit of trial²⁷—only one unusually prominent example of thousands of involuntary exiles.

Nicholas II became tsar in 1894, and shortly thereafter, in the early twentieth century, Russia appeared to stabilize. But this stability was an illusion. In reality, competition between the police and the revolutionaries intensified, with state terrorism becoming more sophisticated.²⁸

One of the more sophisticated innovations of the Okhrana in the early twentieth century was "police socialism": the organization of trade unions under Okhrana control. The Moscow Mechanical Production Worker's Mutual Aid Society, formed in 1901, was the first in a long line of such unions, which extended well into the Soviet period.²⁹ Another sophisticated technique introduced by Nicholas II's Okhrana was internal passport regulation. Although

abhorred by the communists, these regulations were nevertheless reintroduced not too many years after the Bolsheviks came to power.³⁰

But despite its sophisticated techniques, the Okhrana mainly relied on a system of mass observation to suppress opposition. This called for a colossal number of agents of all kinds, and an organization far larger than any similar one before. We can still see the Okhrana's influence on the Soviet security machine, for it too counts on a huge number of agents for success.³¹ The Okhrana under Nicholas II also relied heavily on *agents provocateurs*. The Political Investigating Committee established by the (Kerensky) provisional government in 1917 alleged that "even . . . Leon Trotsky had served the Okhrana as a special agent."³²

Even with its sophisticated techniques and vast number of agents, the Okhrana was unable to cope with the events for which it had been created. It went the way of Imperial Russia when the Bolsheviks murdered Nicholas II in 1918.

The murder of Nicholas II was more than the end of the Imperial Russia. It was the reaffirmation of a terrorist mentality by the Bolsheviks, who carried it over into Soviet Russia. This mentality continues to color Soviet perception of life, politics, and the world at large. It is exhibited in dissident trials, confinement in mental hospitals as punishment, internal exile, and imprisonment in a still-existing Gulag Archipelago.

It flourishes in the Soviet Union today. But it is not a new phenomenon.

We recognize neither freedom, nor equality, nor labour democracy if they are opposed to the interest of the emancipation of labour from the oppression of capital.

LENIN, 1919

Andrews AFB, Maryland

Notes

1. Boris Levytsky, *The Uses of Terror: The Soviet Secret Police 1917-1970*, translated by H. A. Piehler (New York, 1972), p. 318.

2. Ronald Seth, *The Executioners. The Story of Smerch* (New York, 1967), p. 4.

3. *Ibid.*, p. 3.

4. Ronald Hingley, *The Russian Secret Police, Muscovite, Imperial Russian and Soviet Political Security Operations* (New York, 1970), p. 1.
5. *Ibid.*
6. Hingley, pp. 2-3.
7. Robert Conquest, *The Great Terror: Stalin's Purge of the Thirties* (Toronto, 1968), pp. 74-75.
8. Hingley, p. 4.
9. *Ibid.*, pp. 4-6.
10. Seth, p. 3.
11. Hingley, p. 8.
12. Seth, p. 6.
13. *Ibid.*, p. 7.
14. Hingley, pp. 24-25.
15. Seth, p. 7.
16. Ronald Seth, *Unmasked! The Story of Soviet Espionage* (New York, 1965), pp. 12-13.
17. Hingley, p. 42.
18. *Ibid.*, pp. 41-42.
19. *Ibid.*, p. 50.
20. *Ibid.*, pp. 51-52.
21. Seth, *The Executioners*, p. 7.
22. *Ibid.*, p. 8.
23. *Washington Post*, January 26, 1980, p. A-1.
24. Hingley, p. 74.
25. *Ibid.*, p. 75.
26. Hingley, pp. 77-91.
27. *Washington Post*, January 23, 1980, p. A-1.
28. Hingley, pp. 77-91.
29. *Ibid.*
30. Conquest, p. 8.
31. Seth, *Unmasked!* p. 8.
32. Seth, *The Executioners*, p. 8.

The Department of History of the United States Air Force Academy has published Akira Iriye's *Western Perceptions and Asian Realities*. This pamphlet is the twenty-third in the Harmon Memorial Lecture Series on military history. The pamphlet, or any other lecture from the series, is available free of charge by writing: Executive Secretary, Harmon Memorial Lecture, Department of History, U.S. Air Force Academy, Colorado, 80840.



fire counter fire

USAF AND THEATER NUCLEAR WARFARE: A PROPOSAL

LIEUTENANT COLONEL RICHARD L. HODGKINSON

SINCE 1952, the United States Air Force (USAF) has had a straightforward and remarkably unchanged role in theater nuclear warfare: to contribute to deterrence by providing quick reaction alert (QRA) aircraft capable of striking deep, fixed targets with nuclear weapons. A strong argument can be made that the USAF merits a "well done" for this mission, particularly if one bases that evaluation on the ambiguous metric of deterred enemy attacks. However, a new set of theater nuclear weapons and concepts for employment of those weapons is emerging. Simultaneously, there are increasing arms control pressures on long-range theater nuclear assets. The combination of these factors will unquestionably have a profound impact on how the USAF conducts its theater nuclear force (TNF) business.

For various endemic reasons, the Air Force has not always responded positively to these new opportunities and has not developed a comprehensive and coherent TNF policy. This neglect has serious potential impact on a variety of national security and arms control issues, including USAF force structure.

This article, then, has a twofold purpose: first, to make the case that USAF does indeed have a pressing and vital need to initiate a major overhaul of its TNF policies, and, sec-

ond, to propose one way that goal might be accomplished.

Changing TNF Requirements

Why is it so important at this time for the United States Air Force to change what has been a successful TNF position? The answer is that new factors are creating new requirements. First, there is the programmed modernization of the long-range TNF; second is the emergence of new concepts for flexible use of TNF weapons; third, there continue to be very strong pressures from the U.S.S.R.—to some extent supported by our NATO allies—to limit or eliminate TNF, including nuclear capable aircraft.* The combined impact of these three factors means there will be growing demands on the Air Force to evolve a responsive new TNF posture and to justify a continuing nuclear role for dual-capable aircraft (DCA).

In December 1979 NATO defense ministers agreed to modernize with 464 ground-launched

*During talks initiated in the fall of 1980, the Soviets seemed particularly interested in reducing forward-based systems, those NATO aircraft that could strike the Soviet Union from Europe or nearby carriers, in return for reductions of Soviet SS-20 missiles and Backfire bombers. See, for example, Robert Kroon, "U.S., Soviets Delay Talks on Missile Limits Abroad," *Washington Star*, October 16, 1980, p. 2.

cruise missiles (GLCMs) and 108 Pershing II missiles starting in 1983. When these systems are deployed, nuclear tactical air power (Tacair) will no longer be the only TNF system capable of striking the U.S.S.R. Further, the missiles are very accurate, have a greater range than F-111s or F-16s, and enhance their prelaunch survivability through ground mobility. All of which raises the question: If these missiles are deployed as planned, is there a continuing need for the nuclear capability of DCA? Stated more positively, what are those things that aircraft can do better than missiles in the TNF arena? There is also the related question of how GLCM will complement other TNF assets. While these issues are vitally important to theater commanders, they are no less important to the USAF, which has responsibilities for force structure, training, doctrine, etc.

In parallel with this programmed modernization of long-range TNF, numerous new concepts for flexible employment of these forces are emerging. NATO forces have attempted to develop dynamic concepts for incisive use of theater nuclear weapons. In the United States, the Army has developed the "integrated battlefield" concept whereby nuclear, chemical and/or conventional weapons are used singly or in combination to achieve a military objective. The Army has asked the Air Force to support this capability, which will require careful USAF review and probable revision of coordination and planning procedures as well as training requirements. An underlying concern in the integrated battlefield concept—and other ideas being developed in the United States and Europe—is the capability of Tacair/GLCM to strike enemy mobile forces. From these concerns two questions emerge: Is nuclear strike against mobile forces a meaningful and desirable capability? If so—and I don't imply here that it is—what should USAF do to improve that capability? It does not appear that the factors motivating these questions (not least of which is the massive Soviet ground forces capability) will soon go away. The Air Force must

respond to new concepts as part of a comprehensive review of its TNF posture.

Modernization of TNF and the emergence of new concepts has focused particular attention on the viability of DCA. For example, the FY81 Military Posture Statement suggests that GLCM might replace the nuclear capability of DCA in order to affect a concomitant increase in the conventional air capabilities of NATO.

Meanwhile, there is a further complication; the Soviet Union continues to press for reduction of European-based DCA as part of the arms limitation talks. At a July 1980 meeting with West German Chancellor Helmut Schmidt, the Soviets offered to negotiate reductions in SS-20 missiles and Backfire bombers if NATO forward-based systems (i.e., DCA) are included in the discussions. It now seems the Soviets are insisting the DCA issue be considered in the bilateral talks under way in Geneva. While the results of these and other arms limitation talks are still very mushy, it does appear there will be a growing requirement for USAF to articulate a rational need for DCA or face their possible loss as a negotiation pawn.

The preceding discussion has focused on a few of the important factors that appear to be of sufficient gravity to drive USAF to a thorough reexamination of its TNF posture. Quite clearly, very current and major issues cry out for rational, priority attention.

The USAF Response

To date, the USAF has not responded enthusiastically to changing TNF requirements, and the reasons remain unclear. What is clear is that there simply are not many people primarily concerned with TNF related planning; those few who are involved work in disparate organizational elements. The Air Staff, for example, has at best only a handful of staff officers who work TNF, even on a part-time basis. One result of this inattention is that the USAF Mission Area Analysis—ostensibly the very core of USAF requirements process—has not yet been able to come to grips with tactical

nuclear issues. This, I believe, is symptomatic of the lack of consensus on the Air Staff regarding TNF and the low priority given to the subject. The situation at Tactical Air Command and the overseas using commands is no more promising.

On the positive side, there is a USAF/Defense Nuclear Agency cooperative effort that evaluates various TNF issues under the aegis of a joint steering group. This group has sponsored several significant studies, accomplished mostly by civilian contractors. Those efforts, however notable, have not yet served to stimulate Air Force action. The research efforts of the Defense Nuclear Agency and outside contractors can supplement—but cannot replace—a concerted, cogent USAF effort.

More troubling than the USAF TNF organizational shortfalls, and perhaps the root cause of those deficiencies, is an apparently lukewarm attitude on the part of the fighter community toward TNF in general and nuclear alert in particular. The TNF mission, represented so far by QRA, lacks the esoteric elegance of modern air-to-air or air-to-ground combat and suffers proportionately in status and priority. In 1976, Colonel (now brigadier general) David L. Nichols, in an *Air University Review* article, presented a farsighted evaluation of future requirements for nuclear Tacair.¹ Colonel Nichols believed, even then, that Tacair was being used ineffectively and challenged the Air Force to provide new and vigorous thinking on the subject. To date, for whatever reasons, that challenge has not been met.

In contrast to the USAF low-key approach to TNF, the U.S. Army has demonstrated notable vigor. For example, an entire organization, the U.S. Army Nuclear and Chemical Agency, is dedicated to thinking the unthinkable. That agency has a parent directorate within the Army Staff (DAMO-NC) headed by a general officer. In addition, the Army War College for years has offered an extensive course in TNF matters. By contrast, the Air War College has offered only a minimal course to date but is

scheduled to increase this year in apparent recognition of the importance of TNF to the USAF. This is not to suggest that the Air Force should follow the Army's example. However, it does serve to highlight the relative priority given the subject by the respective services and may well give an indication of how the Air Force can expect to fare in TNF matters compared to the Army.

On the other hand, the U.S. Navy steers the middle course. Although lacking a substantial organization or training committed to theater nuclear warfare, the Navy has recognized its deficiencies and established an organic working group to reevaluate and redirect the thrust of naval theater nuclear warfare programs. This group has been empowered to chart a bold new course, reporting directly to the Chief of Naval Operations Executive Panel to ensure the all-important visibility and stature for the group. Reports to date are favorable; it appears that the group's recommendations have the potential to impact significantly on Navy theater nuclear warfare posture. This success provides a thoughtful example for the Air Force.

A Proposal

If the preceding arguments are at all convincing, it should be clear that the USAF has a pressing need to reevaluate its TNF posture, but there are certain institutional constraints to doing this. How then is this obstacle to be overcome? I propose that a small dedicated group be formed—for a limited and specified duration—to take an intensive look at TNF issues impacting on USAF and recommend appropriate new initiatives.

The Air Force has, of course, participated in various joint TNF groups headed by the Office of the Secretary of Defense, the Joint Chiefs of Staff, etc. But those groups have been oriented toward specific issues (e.g., NATO rationalization, standardization, and interoperability, and long-term TNF modernization). However, this is not that sort of proposal at all. Rather, I

propose an internal Air Force group to develop a broad road map for TNF matters so that specific issues can be approached in a more purposeful, consistent manner.

The membership and sponsorship of this group would be of paramount importance. Primarily, the group must have sufficient clout within the Air Force to impact in a major way on policies, plans, and programs or the group's activities will degenerate into "just another study." This means that the group should be led by a general officer who has the ear of top management. His job will be to articulate the group's findings and recommendations to those in a position to make change. This general should be supported by a full-time working group of perhaps six officers representing Air Staff and the Tactical Air Forces. The important criterion is that the membership be dedicated full time. Part-time members stand an almost certain chance of being terminally distracted by the in-basket.

In addition to this core group, assistance could be solicited from organizations such as Rand and the Defense Nuclear Agency. Rand, for example, is quite familiar with the USAF issues and organization and well experienced in structuring and focusing study efforts through their "Project Air Force." Similarly, the Defense Nuclear Agency has worked previously with the Air Force on TNF matters and is perhaps the single best focal point for knowledge of nuclear technology within the Defense Department. Other assistance could come from a variety of sources, the USAF Scientific Advisory Board being one example. However, while outside agencies may provide valuable insights, direction and leadership must come from the core group of USAF officers. Only then will there be a chance for the required action to take place.

Before leaving the membership question, the concept of using the existing institutions rather than the proposed dedicated ad hoc group merits comment. For example, steering groups and/or working groups formed inter-

nal to the bureaucracy are most useful in many circumstances. They provide an opportunity to meet and establish interdirectorate positions periodically. However, that implies that there is a strong base of knowledge on the subject and each directorate involved has a well-thought-out entering position. In the case of TNF, I would argue there is neither.

There has also been serious suggestion that a permanent "TNF Division" be formed on the Air Staff. It may or may not be the case that reorganization of some sort is in order, but it seems to me that decision should come after there is some consensus on what role USAF will play in TNF. Therefore, the first order of business is to establish the temporary TNF initiatives group that will help formulate those policies.

The charter for the proposed group should ideally be open enough to allow a thorough evaluation of the current USAF TNF posture and exploration of new ideas. The time would also be ideally open-ended. Practically, though, a target date for completion must be established, perhaps six months from initiation. Objectives must be carefully focused to fit within this time frame. As a minimum, I suggest the following areas be explored:

- What are appropriate roles and missions for USAF assets in theater nuclear warfare (e.g., QRA, mobile target kill)?

- What types of new concepts and weapons are needed to ensure that the job described in the preceding question be done well?

- How can survivability (the sine qua non of any nuclear deterrent) be improved?

- How many people are realistically required to work TNF on a continuing basis? Where should they be placed organizationally?

OBVIOUSLY this is not an exhaustive listing. It is simply a crude attempt to illustrate that the problem can be limited enough to reasonably expect success. After all, the need is for a "road

map" for the USAF TNF posture, not for a detailed solution of all problems. The challenge is clear; continued inaction may lead to a small or even nonexistent role for USAF in theater nuclear warfare. That may be entirely appropriate, although I do not believe so. In any event, it seems clear that it is in the interest of the Air Force to ensure that the TNF posture

is a result of deliberate and careful planning rather than benign neglect.

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Note

1. Colonel David L. Nichols, "Who Needs Nuclear TACAIR?" *Air University Review*, March-April 1976, pp. 15-25.

A RESPONSE

LIEUTENANT COLONEL DONALD J. ALBERTS
LIEUTENANT COLONEL THOMAS CARDWELL

WHILE we agree with Lieutenant Colonel Richard L. Hodgkinson that a problem exists, we do not see the suggested solution as the only or preferred answer to the identified problem. Put simply, our view is that the malaise surrounding theater nuclear force (TNF) thinking is so widespread and of such a pervasive character that formation of a group in the Air Staff, even if headed by a general officer, will do little to correct the situation. That we have failed to articulate "new and vigorous thinking" is not the sole locus of our concern. One must ask some deeper questions of the TNF process and of USAF roles, missions, and organization.

First, we need to clarify some things. Deterrence, or threatened use of TNF to prevent enemy aggression, is not the same as actual use if that deterrence fails.¹ The requirements laid on weapon systems for deterrence and war fighting may be considerably different. Failure to separate the two concepts, particularly with regard to technical characteristics of systems intended primarily for one role or the other, has caused a great amount of confusion and will continue to do so until the implications of war fighting in a nuclear environment are clearly thought out. A weapon system may have good deterrence characteristics, but it

may have different, more important war-fighting characteristics within a given context. The converse is also true.

Second, the Air Force enters the TNF arena not by any bureaucratically mandated authority for nuclear affairs but rather under the purview of our nuclear tactical air power (TACAIR) missions and responsibilities as assigned by higher authority: primarily in the missions areas of counterair, interdiction, offensive air support, and reconnaissance.² No military service has been assigned a primary responsibility for conducting tactical nuclear warfare.

Third, tactical nuclear warfare is to be fought by combatant commanders, none of whom are directly under the command of the Department of the Air Force. All United States combat forces are assigned to unified or specified commanders under the command of the President and the Secretary of Defense through the Joint Chiefs of Staff, or through specific combined command arrangements deriving from international treaty obligations (i.e., NATO). In short, there is no such thing as "Air Force TNF." There is, however, a very definite requirement for the Air Force to provide the organizational precepts, doctrine, training, and equipment for forces to carry out primary functions of air war, to include the use of nuclear weapons in the performance of those functions.³

With these above caveats in mind, let us turn to some of Colonel Hodgkinson's points. In our view, one must separate the deterrent and war-fighting spheres in order to bring clarity

to thought. The problems of arms limitation, arms reductions, and TNF modernization are primarily ones of security policy in relation to a potential enemy who also possesses considerable tactical nuclear forces. These problems are thus primarily political problems. The symbology involved in putting a new system into Europe on behalf of NATO, to meet NATO goals and requirements, is a form of political symbology that communicates both to and among allies in the alliance and to our political and possible military adversary. The act of modernization is far more important than the technical details of the system or systems used to accomplish that modernization. In many ways, the early presence of a more modern system like Pershing II or ground-launched cruise missiles (GLCMs) is what is required, irrespective of who is to operate it, who will use it, or even what specific role that weapon will play should deterrence fail. Deployment signals an intent to meet a challenge and demonstrates the capability to enact the deterrent threat. It must be remembered that our own and NATO's security goal is a viable deterrent, thus never to be in a position where we must resort to the use of nuclear weapons, be that use on the battlefield or in a strategic exchange. If the Air Force has failed here, it is because we have not been sufficiently attuned to the political and intellectual symbology required and necessary to gain acceptance of Air Force preferred methods and systems.

The war fighting, or defense, side of the question is much more difficult. Here the questions of who employs a system, how and why, become vitally important to commanders. And here we put forth the suggestion that NATO forces have *not* developed dynamic new concepts for selective and incisive use of theater nuclear weapons nor has the U.S. Army solved the problems of the integrated battlefield. (We will assert that the Army is very desperately trying to do so, for reasons of traditional roles and assigned responsibilities as a service.) We say this for one very simple but overriding

reason: neither NATO nor the United States has thought through and agreed-on "how to fight" a tactical nuclear war; albeit we have written numerous concepts, we have not translated these concepts into operational doctrine. In short, the doctrine on which a war-fighting strategy to achieve political goals can be built does not exist and neither does a strategy. Do not misunderstand, war plans exist, but the answers of strategy, of use under what conditions and to achieve what political purpose, do not. Existing and past war plans are based on assumptions of war initiation, on generalized scenarios. The real-world adequacy of those plans to achieve desired outcomes of war, as strategy to be enacted, cannot be ascertained. We have a "disconnect" in thought.

The TNF problem from a war-fighting standpoint commences only after the political decision to use nuclear weapons has been made. The "good strategy" for use, and the battlefield problems that must be addressed in fulfilling that strategy, are greatly dependent on actual scenario of battlefield dynamics obtaining when that decision is made. This does not rule out planning, technical modernization, or generalization about what must be done to fight more efficiently with nuclear weapons, however. War and combat between two large sets of military forces do have characteristics that have proved to be timeless in their essence. We could afford to be sloppy in thought when our potential adversary had no capability to fight a tactical nuclear war. Now, that potential enemy has the capability, and supposedly a doctrine slanted to the winning of war by use of whatever weapons such victory requires, be those weapons conventional, nuclear, or chemical.⁴

Let us forgo comment on Colonel Hodgkinson's organizational fix for the moment and concentrate on the war-fighting areas he feels need emphasis. The areas calling for such emphasis are "survivability—both prelaunch and inflight; . . . a need to develop a nuclear capability against movable targets," and how best to fulfill the requirement for quick reac-

tion alert (QRA). We agreed most emphatically but would ask what makes the first two areas unique to *nuclear* war fighting.

To fulfill the traditional roles of air power in tactical combat under conditions of modern warfare, conventional or nuclear, we must increase the survivability of our weapon systems. To interdict the battlefield efficiently and effectively, we must provide a greater overall capability against movable targets. Both of these problems are far beyond the scope of tactical nuclear warfare and much less glamorous because they imply solutions that require the devotion of expensive resources into improved secure communication systems, command and control systems, weapon system sheltering, increased suppression of enemy air defenses, and better on-board sensor systems for both reconnaissance platforms and attack vehicles. In short, we must search for better ways to perform air superiority, interdiction, offensive air support, and reconnaissance without interfering with the performance of other combat forces in fulfilling their role. The capability to override these problems through quantity has been long gone from our national arsenal, perhaps never to return. The dilemma is one of air power and limited resources in the face of an enemy with a sizable margin of quantitative superiority in the weapons of war.⁵

If tactical aircraft are specialized, they are specialized by function—air-to-air combat against enemy aircraft, Wild Weasel against enemy surface-to-air missile systems, air-to-ground combat—not to deliver tactical nuclear weapons. (If anything, the weapons have been specialized in order to be delivered by aircraft.) If war were to have no conventional phase, if we were certain that aggression would be met with a nuclear response as in the late 1950s, then specialization of aircraft for nuclear delivery might make sense. But there is no need to specialize solely for the delivery of tactical nuclear weapons. After all, the warheads are contained in subsystems suitable for air delivery. It would be a waste of resources and money

to so specialize because the delivery mechanics of nuclear and conventional delivery are almost identical. Aircraft, by their very nature, are dual-capable and, more important, reusable.⁶

It is not solely a question of TNF being unglamorous for the fighter pilot or the tactical air community, as implied by Colonel Hodgkinson. From our viewpoint as fighter pilots,⁷ there is little essential difference in the use of tactical nuclear weapons or conventional weapons on the battlefield.⁸ Knowing the target, getting to the target, finding it, and delivering the ordnance are still the name of the game for the aircrew.⁹ The problems involved are common to most forms of tactical air power application.

The QRA problem is different and cannot be decided solely on considerations of battlefield utility. Why? Because QRA is a symbol of deterrence, readiness, and intent to enact the deterrent threat should aggression occur. Thus, QRA is primarily political. From a military, war-fighting standpoint, reserving dual-capable aircraft (DCA) for possible future use when the air commander is involved in a theater-wide fight for existence in a conventional war is probably a tremendous waste of assets. But the political purpose of deterring escalation to nuclear war by the enemy may be even more important. That determination, in turn, depends on the overall political-military strategy being pursued. Aircraft on alert are visible, the enemy knows where they are, and they are a constant symbol. The symbolic use for deterrence must be evaluated against the opportunity costs of not using them in their conventional capacity. This is not an easy question to answer but, nonetheless, one that must be weighed in the overall strategy for successful resolution of the conflict.¹⁰

While it is extremely cost effective for aircraft to be dual-capable, the same cannot be said about missile systems. The unit cost of missile systems, coupled with the fact that missiles are not reusable, indicates that they should be specialized to the nuclear role. Once built, they

are not particularly cost effective in comparison to aircraft for most conventional applications (although there are some exceptions to this). If there is an Air Force failing in this regard (and we feel there has been, or the Army would not be fielding a system that has a rational battlefield use in Air Force-assigned responsibilities such as interdiction and counterair attack), it is because we have not thought through how best to incorporate newer delivery vehicles into our battlefield responsibilities, or have not paid attention to our institutional history as regards roles and missions disputes, or, finally, that we have in fact made conscious decisions that a particular system just was not right for the Air Force. That such conscious decisions might have been made on grounds other than pure battlefield utility is freely admitted, but it must also be admitted that it is a bureaucratic and political world we live in, with budgets tight and demands on resources to fulfill multiple responsibilities quite high.

Which brings us back to Colonel Hodgkinson's organizational fix. We really do not believe that the creation of another cell in the Pentagon will solve the problem. There is already a "TNF mafia" in the Air Staff, but if the war-fighting problems of tactical nuclear war are not unique, as we maintain, institutionalizing that group will not solve the general problems of air power application. Additionally, tactical nuclear warfare will be waged, if ever, by the "warlords," the combatant commanders, not the Air Staff. While it is the Air Staff's job to organize, train, and equip the warlords, the latter bear the responsibility for articulating the requirements to best solve the problems of battlefield dynamics in their theater of operations against the enemy they will face. The Air Staff must, of course, ensure that the overall doctrine for this war-fighting capability exists, and hopefully, the Air Staff would also contribute to the creation and formulation of war-fighting strategies. To do less would be a dereliction of professional responsibility. If such

groups are to be formed, they should be formed at European Command and Pacific Command, not in Washington.

The responsibility for solving the larger political-military doctrinal problem is shared by everyone wearing a uniform and serving in a combat arm. One reason the Army and Navy may seem to be getting the jump on the Air Force in this regard is that they take their doctrine a little more seriously than the Air Force. The Army commander is looking for better ways to fight his battle under his own control to fulfill his responsibilities as a professional soldier.¹¹ Our professional responsibility is air power, and in tactical battle that responsibility translates into air superiority, interdiction, tactical air support of ground forces, reconnaissance, and the support of these functions. That is a collective responsibility of everyone wearing a blue suit. Unfortunately, shared responsibility is often unfulfilled.

We would suggest that such institutions within the Air Force as the newly formed Airpower Research Institute at Air University be tasked, as a priority item, to seek formulation of tactical war-fighting concepts involving nuclear weapons and/or that our Air Force research associates take on the task as their personal research projects (perhaps they should even be directed to do so as part of their activities). Further, we suggest that consideration of tactical nuclear problems be given even more emphasis in our professional schools, along with increased emphasis on the theory, practice, and doctrine of air power in general. And, last, each of us, individually and collectively, should investigate, learn, and use Air Force doctrine as it now exists. The intellectual tools are at hand; the will to focus attention may not be.¹²

Colonel Hodgkinson presents one view of how to untangle the apparent mess in which we find ourselves in the TNF arena. Although we agree with some of his observations, the tantamount concern we have is with the organizational method to accomplish a remedy.

We believe that the Air Staff, in concert with the other service staffs, the Joint Chiefs of Staff, and the Office of the Secretary of Defense must come to grips with the overall strategy of how to fight a nuclear war and achieve our national goals. A belief in deterrence and a belief in the ability to control escalation do not make deterrence and escalation control automatic. This war-fighting strategy must be based

on the operational concepts promulgated by the unified and specified commanders. In short, the Air Force must decide how it plans to fight the battle using tactical air assets, some of which are nuclear weapon systems. This can be accomplished, in our view, by educating our people on air power theory, doctrine, and past practice. The strategy will follow.

Washington, D.C.

Notes

1. The "classic" distinction is drawn by Glenn H. Snyder. See either his *Deterrence and Defense: Toward a Theory of National Security* (Princeton University Press, 1961) or his "Deterrence and Defense: A Theoretical Introduction," contained in Richard G. Head and Ervin J. Rokke, editors, *American Defense Policy* (Johns Hopkins University Press, 1973), pp. 99-112.

2. U.S. service functions are laid out in Department of Defense Directive 5100.1 and further elaborated in JCS Publication 2. The NATO terminology, as set forth in Allied Tactical Publication (ATP) 33A, *Tactical Air Doctrine*, is used here. For quick "translation" purposes, *counterair* is air superiority and includes both offensive and defensive counterair; *offensive air support* includes battlefield air interdiction (BAI), close air support (CAS), and that portion of tactical air reconnaissance devoted to support of the ground forces. The United States has ratified the ATP.

3. Note that *strategy* is omitted from the listing. The omission is intentional on the grounds that formulation of strategy is not solely a service function. Many analysts have pointed to a weakness in our collective abilities to formulate strategy. One of the larger stipulated causes of this weakness is the tendency for services not to think "joint." Rather, airmen think *air war*, army officers think *land war*, and navy officers think *naval war*. No one is officially charged to think *war*. See J. C. Wylie, USN (Ret), *Military Strategy: A General Theory of Power Control* (Rutgers University Press, 1967).

4. Soviet doctrine is considerably different from doctrine as formulated in the West. There appears to be little discussion of selective release or gradual escalation in Soviet writings. When and if used, "weapons of mass destruction" will be used heavily and probably in a preemptive mode. See Joseph D. Douglass, Jr., *The Soviet Theater Nuclear Offensive* (Washington: GPO, 1976), prepared under the auspices of the USAF for DOD DR&E and the Defense Nuclear Agency.

5. The dilemma is itself not unique to considerations of nuclear war fighting. We appear to have this dilemma across the board of military balance.

6. A reluctance to realize this statement as fact helped impose operational restrictions on some of our most potent delivery platforms during the early stages of the Vietnam War. Many of our "strategic" platforms were not dual-capable in fact, but the "fix" in terms of conventional bomb racks was relatively simple and inexpensive in comparison to the revision of thinking necessary to change mind-sets as to the suitability and risk involved in actually using—and thus possibly losing—a "strategic bomber."

7. This is the personal, not the editorial, use of the first person plural.

8. There are some differences in procedure and technique, as

well as technical differences, to be sure, but many of these differences are the result of safety considerations (both for peacetime and potential combat) deriving from the need to control the tremendous destructive potential and provide for aircrew/aircraft survivability due to weapon effects.

9. If the truth be known, at least one of the delivery techniques—the least technical of the bunch—is one of the easiest fighter pilot chores: Practice circular error actual (CEA) with practice devices is quite small.

10. The dynamic nature of deterrence of escalation in combat is one area not sufficiently addressed in the literature. Aircraft, perhaps unfortunately if one believes QRA should be given to other weapon systems to fulfill, can move long distances with their weapons. Less mobile launching systems can be overrun more easily by enemy ground forces.

11. This item contributes to our assertion that the Army's "integrated battlefield" may not be solving the problems of tactical nuclear war fighting. The Army views, as promulgated to date, look at the problem through the eyes of ground commanders and are based on assumptions not necessarily considered valid by air commanders. Again, this is a matter for joint doctrine and strategic thinking to solve.

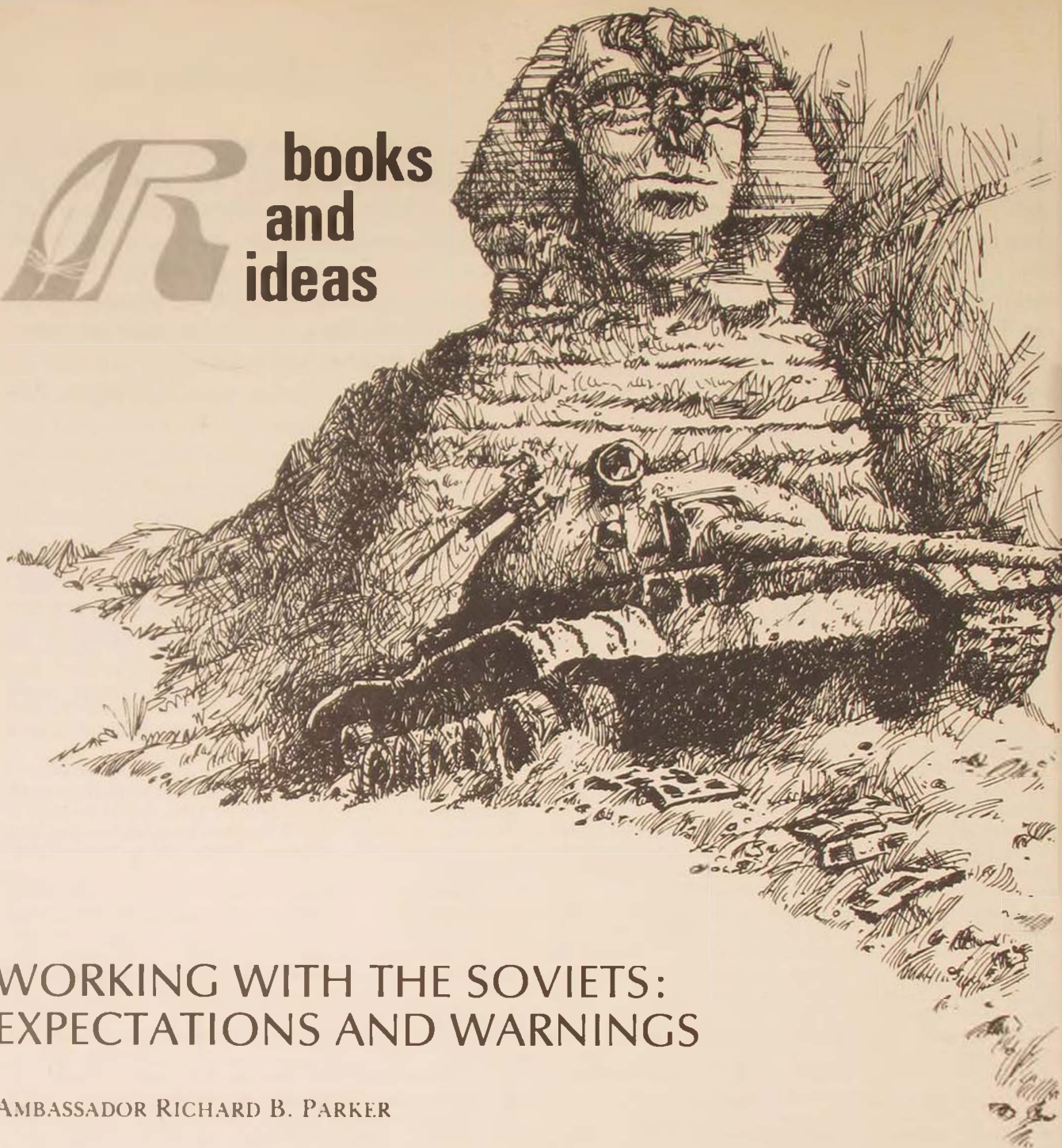
12. Are you aware that AFM 1-5, *Theater Nuclear Doctrine*, was published in 1979? And, if you are so aware, you might be interested in the fact that one of our major commands has been tasked to produce operational doctrine for tactical nuclear warfare but has so far been unable to come to grips with an overall concept. One reason we have not produced the concept is that such a concept must be, by its very nature, tied to the political symbology—and that task may be beyond the purview of the Air Force as a single service. We suspect that if one were to count warheads, one would find that on a quantity basis, the Air Force does not have operational control over the majority. Again, our potential use is tied to our roles and mission responsibilities.

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books
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ideas



WORKING WITH THE SOVIETS: EXPECTATIONS AND WARNINGS

AMBASSADOR RICHARD B. PARKER

ANYTHING written by Mohamed Heikal, long-time publisher of the influential Cairo daily *Al-Ahram*, confidant of Nasser, and enfant terrible of Egyptian politics, is required reading for students of the Middle East. This particular book† should also be required for students of the Soviet Union and the Third World

in general. It is an insider's account of how the Soviets came a cropper in Egypt. As such, it is of particular relevance today, when we are increasingly concerned about Soviet inroads in South Asia.

Like most of Heikal's works, *The Sphinx and the Commissar* has an essentially cynical ap-

†Mohamed Heikal, *The Sphinx and the Commissar, The Rise and Fall of Soviet Influence in the Arab World* (New York: Harper and Row, 1979, \$12.95), 304 pages.

proach to everyone's motives. It is full of illuminating anecdotes—the table talk and indiscretions of people such as Khrushchev and Brezhnev, about whose private lives we know very little. Heikal recounts Mikoyan's views on Stalin and Trotsky and Marshal Malinovsky being ordered to tell his joke about the stereotyped behavior of betrayed husbands. He also includes Khrushchev complaining that Shepilov had told the Politburo that while talking to the President of Finland he (Khrushchev) had been scratching his armpits as though they were invaded by fleas.

More important, the book traces the ups and downs of the Egyptian-Soviet relationship from 1919 to 1975, with particular emphasis on the period since 1955, which is treated in considerable detail. The concluding chapter starts with the statement that by 1975 the great Soviet offensive, which had begun in 1955, was a spent force. The year 1955 was when the first nonaligned conference at Bandung and the first Egyptian-Soviet arms deal took place. In those distant days it was thought necessary to camouflage them as Egyptian-Czech transactions.

Nasser's acceptance of Soviet aid and his apparent ability to maintain his independence in spite of the Soviet embrace made the Soviets acceptable and respectable in the Third World. Their entry into Egypt was also their entry into Africa, and it facilitated their entry into South Asia. The vector of their penetration of Egypt was the Palestine problem, and in the final analysis it was their inability to do anything about that problem, other than supplying arms to the combatants, which led to their downfall. While Soviet successes in the region illuminate the limits of American power and influence, Soviet failures are illuminating, too, and tell us something about how we should react to the Soviets.

Heikal ascribes the Soviets' eventual failure in Egypt to their inability to comprehend the dominating role of nationalism in the Arab world, the innate contradiction between being

both a revolutionary and a superpower, and the extreme inflexibility of Soviet institutions. Heikal comments that whatever the shortcomings of the American system, at least it provides variety. He makes the interesting observation that whereas Nasser dealt in turn with Truman, Eisenhower, Kennedy, Johnson, Nixon, and their teams and Sadat with Nixon, Kissinger, Ford, Carter, and Vance for 25 years, between the two of them they dealt in Moscow only with Khrushchev and Brezhnev, and with the same Gromyko coming back year after year to lecture them in the same manner and in almost the same words.

Heikal also notes that the Soviet leaders often appeared to be claiming a monopoly on the truth and expected the Arabs to approve their policies toward Yugoslavia, China, and Czechoslovakia. Because they regarded themselves as custodians of the only true interpretation of history, they always tended to see events elsewhere in terms of their own experience and failed to understand the realities of power elsewhere. He cites their failure to grasp the true nature of the Arab-Israeli conflict and their mishandling of Somalia as examples.

Heikal speaks of the lack of meaningful personal contact between the Soviets and the Arabs and cites an interesting set of statistics in this respect: of 200,000 Arabs who have been to the Soviet Union, fewer than 100 have married Russian girls; of the 15,000 Arabs who went to the United States in the late fifties and sixties, 7000 married American girls. (He does not cite the source of his figures. In particular, the figure of 7000 seems much too high. Nevertheless, the broad lines of this phenomenon are apparent to any resident of the area, where American wives of Arabs are common and Russian ones very rare.) He describes Soviet ineptness in the field of cultural exchanges—the export of films and books that are uninteresting and unlistened-to radio programs. He ascribes this to the Soviet perception of public opinion as something to be molded rather than cultivated.

Heikal notes that the Soviets' achievements at home have been impressive but have not always been exportable. They have furnished a truly staggering quantity of arms to the Arabs—25,000-30,000 tanks, 7000-8000 military aircraft, and 15,000-17,000 artillery pieces*—but most Arab governments are opposed to communism, and communist parties are illegal in most Arab countries.

Heikal predicts an inevitable explosion in the area because of tensions underlying the increasingly conservative surface and believes the Soviets will just as inevitably be sucked into it by the imperatives of the moment. Whether they will be more successful this time depends on whether they have learned the lessons of the past. He concludes that this time they may not miss. He was writing *before* the fall of the Shah of Iran.

So much for his conclusions. They are plausible, but Heikal is only one of a number of people with views on the subject. He is uniquely well qualified with respect to the discussion in Chapter 1, "Nasser's Advice." It briefly surveys the development of relations between the U.S.S.R. and Egypt under Nasser, focusing on Khrushchev's remarkable lack of tact in dealing with the Arabs, and then sets down Nasser's ideas (although I suspect much of this is pure Heikal) about the nature of Soviet relations with Third World countries. He includes a very instructive list of dos and don'ts for Third World leaders dealing with the Russians. He posits five stages of relations in chronological sequence: (1) mistrust (by the Soviets), (2) interregnum (a period of Soviet neutrality), (3) honeymoon (unlimited political and military backing leading to a Western conclusion that the Third World leader is a Communist), (4) quarrels (during which the next phase is decided), and (5) pigeonholing.

This last phase he describes as normalization, during which the Soviets, in their need to

place everything in a hierarchy, put the country into one of three categories as shown on the facing page.

Nasser's purported dos and don'ts are pragmatic. He counseled under dos:

(1) Ensure that you negotiate in a language both can understand—Russian interpreters in European languages are faultless, but those in languages like Burmese, Swahili, and Arabic are to be avoided.

(2) Go to Moscow with a good stock of anecdotes, jokes, proverbs, and folk sayings—these can help greatly in smoothing over difficult moments.

(3) Go well briefed on the history of World War II and the fundamental part played in it by the Soviet Union.

(4) You will need a strong digestion and a strong head to survive all the toasts.

(5) The leaders of your delegation must be in firm control of its members. The Soviets will be trying to discover who ranks where, and it is important that the whole delegation speak with one voice.

(6) What really matters is what you hear from the political leadership. Where major policy or planning decisions are involved, trust only what you are told by the First Secretary of the Party. He illustrates this by an anecdote about Marshal A. A. Grechko telling the Egyptian Minister of War in 1967 to stand up to the Israelis. "The moment they attack you, or if the Americans make any move, you will find our troops on your side." Yet the Soviets did not, of course, come to Egypt's aid when the Israelis attacked and when asked about his statement by the Egyptian Ambassador, Grechko said, "It was just one for the road." (This is the first public affirmation by a senior Egyptian of something we had long surmised. It is not yet clear to me how much credence we can give this particular account, but it certainly fits well with what we know.)

(7) Try to find out who your Soviet friends are and watch how they are being treated. If

*These figures are out of date as a result of more recent Soviet deliveries.



— The most favored nation status—a great deal of economic and political support but no longer automatic or unconditional, and favorable prices and credit terms—all transactions negotiated at the top level and visits from top-ranking stars of the Bolshoi Theater Ballet.

— Category B receives reasonable aid, but the terms are somewhat less favorable. Transactions are negotiated through midlevel joint commissions rather than at the top and one only gets two-thirds of what he requests.



— The government of a Category C country finds itself condemned to deal entirely with Moscow bureaucrats, whose decisions are irrevocable. In cultural relations this means getting the third-class ballet from Baku.



The Soviet hierarchy for a nation's status

they show signs of slipping, you may be slipping, too.

(8) The Soviets mistrust those educated in America or anyone having had anything to do with international institutions.

(9) If you want something specific in the way of aid from the Soviets, give them plenty of time. They do not like to be surprised by last-minute demands.

(10) Remember that agriculture is the Soviets' Achilles' heel. Unless you are in a real crisis, never ask them for wheat (as the Egyptians did in 1966).

(11) Remember that the Soviets assess any political problem with their eye on the United States.

(12) Remember that the Soviets think on a different time scale from yours. Your problems are probably urgent; they see things in terms of historical and revolutionary processes.

(13) Always remember that the Soviets look on the prospect of another war with horror . . . and will insist that only those who do not know what war means can contemplate with equanimity the thought of a nuclear confrontation.

(14) Soviet leadership is made up of Slavic peasants, easily moved to laughter and tears. They are fascinated by the attributes of power.

Under don'ts, Nasser advised:

(1) The Soviets will not permit any discussion of their errors or shortcomings, past or present.

(2) If you must quarrel with them, see that it does not last longer than a year or 18 months. If the quarrel persists and they come to the conclusion there is nothing to be looked for from the leader with whom they are dealing, they will eventually give the signal that he is to be regarded as an enemy.

(3) It is absolutely taboo to equate them with

the United States as a superpower.

(4) On no account try to defend China.

(5) Do not take offense at what may seem to be their interference in your internal affairs. They are free with advice and warnings.

(6) The Soviets are highly sensitive about the publication of any information concerning themselves. They are always shocked when reports of negotiations in which they have taken part come back to them via a third party. (They are not alone in this respect.)

(7) Do not underestimate Soviet leadership's

sensitivity to the status of local communist parties.

(8) Be careful in your choice of gifts. Never offer them jewels. Cultural objects—antiquities—are best. When Nasser gave Khrushchev a vase from the Sakkara excavations and told him it was 5100 years old, Khrushchev took it to a meeting of the Supreme Soviet and put it on the table in front of him.

A fascinating, readable book, well worth the money.

Charlottesville, Virginia

NATO DILEMMAS

DR. DAVID R. METS

AS A COALITION of fifteen nations, the North Atlantic Treaty Organization (NATO) is one of the largest organizations of its kind in the history of Europe. It is axiomatic that both size and time tend to wear down the cohesiveness of any alliance, yet this large, old arrangement persists. But what about the internal strains? The three books at hand deal directly or indirectly with some of these dilemmas.

The Western Alliance considers political strains. *The Other Western Europe* handles political, economic, and social tensions within and among the smaller powers of Western Europe. *Arms, Men and Military Budgets* attends to the military difficulties from the American perspective.

THE controlling idea of *The Western Alliance*[†] is that NATO is a dilemma for Europe. The nations on the eastern side of the

Atlantic are haunted by the fear that the American ally will not assert itself, but at the same time they are preoccupied with the fear that she will so assert herself.

Alfred Grosser is a multilingual scholar, a columnist, and TV commentator in France. He has an impressive list of publications to his credit, mostly concerned with economics and international politics. His interest in economics is especially evident in the present tome.

The dilemma for our European allies pervades most fields of human endeavor. They are convinced, to varying degrees, that U.S. participation in European affairs is vital to both the security of the continent and its economic prosperity. Yet, they all fear, again in varying ways, that the United States will come to dominate the strategy, politics, economy, and even the culture of European countries west of the Iron Curtain. Since the earliest

[†]Alfred Grosser, *The Western Alliance: European American Relations since 1945*, translated by Michael Shaw (New York: Continuum, 1980, \$19.50), 375 pages.

days of the alliance, the problem was to discover ways to eat the cake and have it too—to benefit from U.S. economic and military muscle without having her words creep into the French language and her jeans appear on French derrières. The Germans, partly because of their exposed position on the front lines, were most concerned with security. The French, further from the threat and with the humiliation of 1940 and the Liberation burned into their consciousness, were more concerned with independence.

The book is not the complete history of NATO. It is much more concerned with Franco-American relations than with European-American relations. It is long on economic explanations and short on security analysis—and shorter still on social and cultural matters. To the American reader the chief value of *The Western Alliance* is its insight into French obstructionism. Grosser often sides with the Americans and castigates his countrymen—in a benign way. Yet, he does pay lip service in a mystical and annoying way to French cultural superiority and the Gallic civilizing mission in the world that is supposed to set France apart from other nations. In my opinion, he never gets at the real root of the problem though he briefly alludes to the shock of 1940 in the last chapter. The French are, justifiably, a proud people. Their language is an admirable instrument. They were preeminent in art for a long time and still hold a commanding position there. Paris remains one of the most beautiful cities on the planet. Not a little of our own political system comes to us through the pen of Montesquieu (via Thomas Jefferson and others). Yet, since the day that Napoleon pitted the flower of French cavalry against the British squares at Waterloo, the collective French military ego has had to absorb one shock after another: the capture of Napoleon III in 1870, the Dreyfus Affair, the Army mutiny of 1917, the collapse of 1940, the agony of Dien Bien Phu, and the endless bleeding in Algeria. Even though the United States had little to do with any of that, it

seems that the bigger brother must always suffer the resentments of the siblings when the real sources of their frustrations are beyond their reach. Thus, when Grosser cites U.S. selfish manipulations in the currency market, when he points to U.S. high-handedness in NATO strategy-making, and when he complains about U.S. trade policies, he gives only partial explanation of the friction in Franco-American relations. Much lies buried in the accidents of history and the realm of psychology. Nevertheless, Grosser is fair-minded enough to give his own country a full measure of criticism.

There is little that is new in *The Western Alliance*, and what there is, is hard for an American to dig out. The editing and translation appear to be defective; many of the sentences seem to be almost straight literal translation, resulting in awkward English and heavy going. Some sentences are far too long. Often the subject comes after the verb and object. Long quotations are presented, and one discovers the identity of the speaker only at the end of the passage. Sometimes it is necessary to go to the footnotes at the end of the book to find who wrote the quoted passage. Statistical information is presented in narrative form when it would have been much clearer as tables or graphs. Finally, the organization of the work is weak. In his introduction, the author complains of the problems of addressing the topic through a chronological, geographical, or topical arrangement. In the end, though he presents the book in three chronological sections, he really has no particular organizational scheme. Within each section, within each chapter, and even within paragraphs he leaps back and forth in time and across borders and from subject to subject. The awkward sentence structure, ineffective arrangement of the quotes, and occasional poor word choice could have been avoided by good editing. However, the organizational problems are beyond redemption and make the cost of reading the book greater than the rewards to be gained from its insights.

THE perfect complement to Grosser's *The Western Alliance* is *The Other Western Europe*.[†] Whereas Grosser concentrates on the affairs of the Western European Big Three (United Kingdom, France, and West Germany), Earl Fry and Gregory Raymond cover most of the other, smaller powers of Western Europe. Their objective is merely to inform, and they achieve it in a direct way using a comparative-politics approach. Organized along geographical lines, *The Other Western Europe* is divided into five parts: the Iberian Peninsula, the Low Countries, the Alpine countries, Scandinavia, and a concluding section covering West Europe's international organizations. Each chapter is presented in identical format: the history of each country, its party and institutional structure, its internal cleavages, and its most important current problems. The text is supported by effective tables, footnotes where required, and a preliminary bibliography at the end of every chapter. The authors have a clear, economical writing style that adds to the value of their work and makes it far easier to digest than Grosser's book.

The Other Western Europe is intended as a college text and, consequently, is more descriptive than interpretative in nature. Though it really does not argue a thesis, one gathers that the authors fall within the mainstream of American international relations scholars. They would probably be happy were the postwar dream of a united Europe realized, were arms control to progress, and NATO to continue to keep its powder dry. They conclude, however, that though some worthwhile progress has been made in terms of cooperation among the European nations, a United States of Europe is still a long way off—perhaps it will never be real-

ized. Nationalism still reigns supreme in Europe and is quite likely to do so for many decades.

Many of us are not very knowledgeable about the affairs of the smaller democracies in Western Europe, and the book is a handy survey that can help bring the professional officer up to date in short order. It promises to cover Western Europe aside from the Big Three, but it leaves out Italy (a part of NATO and The Common Market) and Finland (a member of neither). Portugal is included (part of NATO, but not The Common Market) as is Austria (a part of neither). There is a disparity between the cover artwork and the text. For example, the cover includes Finland but omits Denmark as part of the subject; the text includes Denmark but omits Finland. This work would be better if it had included *all* the smaller nations or else limited discussion to those in NATO or The Common Market. Still, *The Other Western Europe* is well written and well edited. It is an informative and interesting work, and were it not for the inelegant binding and exorbitant price, I would recommend it for the personal libraries of professional officers.

A NICE complement to both *The Western Alliance* and *The Other Western Europe*, which concentrate on political problems but pay little attention to military dilemmas, is *Arms, Men and Military Budgets: Issues for Fiscal Year 1981*.^{††} Raymond and Fry introduce the reader to four of the main problems of the NATO alliance: burden-sharing, weapons standardization, control of nuclear weapons, and the difficulty in sustaining political unity. *Arms, Men and Military Budgets*, which explores NATO's dilemmas arising from these prob-

[†]Earl H. Fry and Gregory A. Raymond, *The Other Western Europe: A Political Analysis of the Smaller Democracies* (Santa Barbara, California: ABC-Clio, 1980, \$24.75), 251 pages.

^{††}Francis P. Hoerber et al., *Arms, Men and Military Budgets: Issues for Fiscal Year 1981* (New Brunswick, New Jersey, and London: Transaction Books, 1980, \$6.95 paper), 186 pages.

lems in a clear and interesting way, is the fourth book in a series published by the National Strategy Information Center.

Arms, Men and Military Budgets is not a book about NATO. Rather it surveys the entire security problem of the United States from the military point of view, which includes an examination of many of our problems connected with NATO. It does not give much attention to one of the problems covered by Fry and Raymond, the difficulty in sustaining the political unity of the Atlantic alliance.

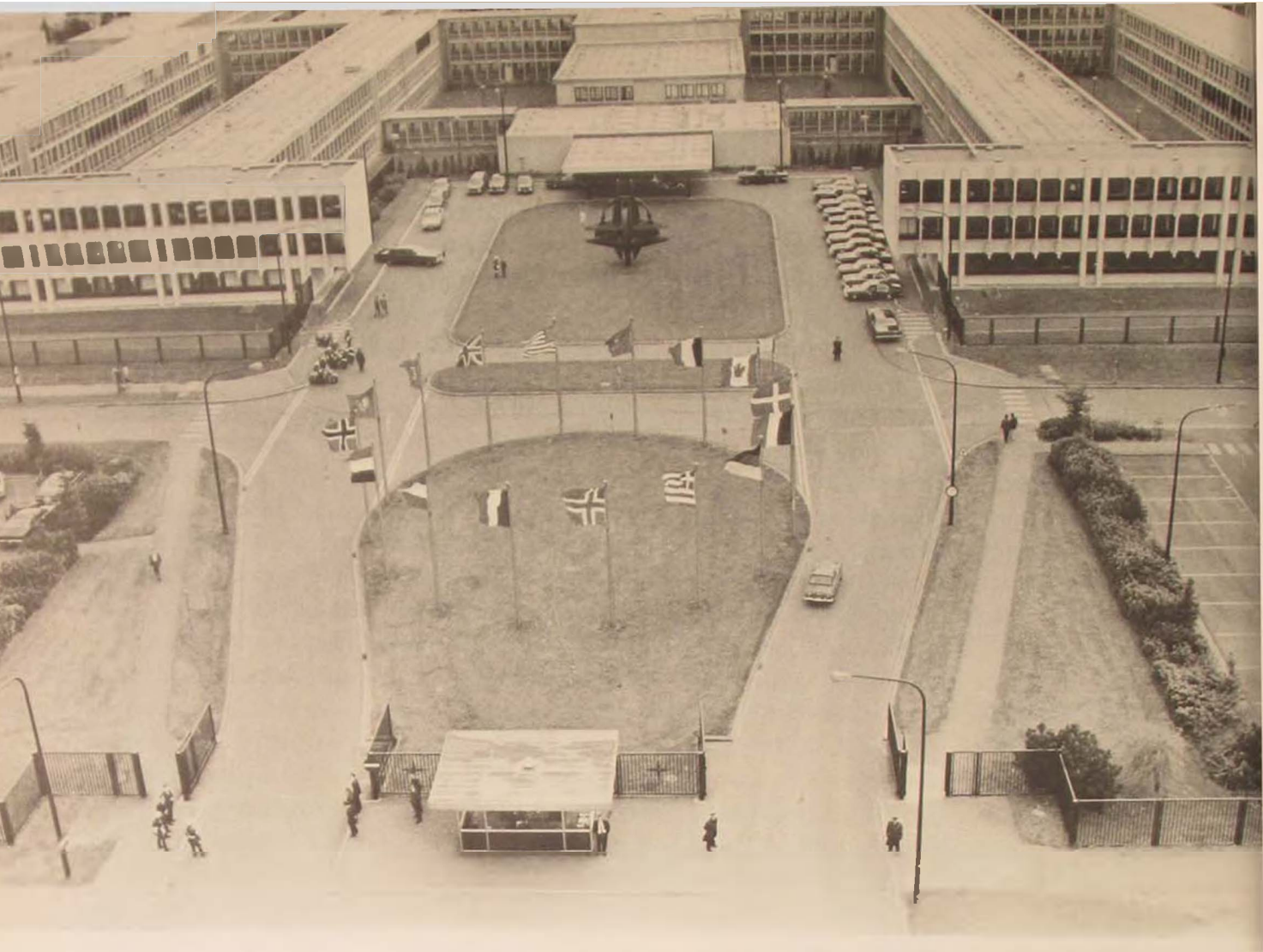
Nevertheless, *Arms, Men and Military Budgets* is organized in a crisp, no-nonsense way. It begins with a chapter of conclusions and then has three chapters treating the ideas of the first in greater detail. Hoerber handles the chapter on strategic forces with his usual competence, Norman Polmar and Ray Bessette cover the naval and marine portions of the general purpose forces with like facility, and William Schneider discusses army and air matters impressively.

The problem of burden-sharing for the West has been made more critical by the continuing Soviet buildup in numbers and quality. According to Schneider, there have been improvements in U.S.S.R. logistical systems and tactical aviation equipment and doctrine. Proven competence of the Soviet ground-based air defense has enabled release of air forces from their former defensive roles. These air resources have been transferred from the air-to-air role to the air-to-ground mission. The new generation of Soviet aircraft have longer range and greater payloads and nuclear capabilities—all of which spell trouble for NATO's rear area supporting forces. These problems have been recognized for a long time but the dilemma is in getting all the nations of an alliance of equals (each NATO power has a veto) to accept their share of the burden.

At the NATO Council meeting in the spring of 1977, all members agreed that each would increase its defense spending by 3 percent annually (in constant dollars) until 1983. For a time

both the military periodicals and general media fretted that European members might not live up to that commitment. The United States reversed the trend in her defense spending, which is continuing to rise, but *Arms, Men and Military Budgets* claims that the United States is beginning to fall short of the 3 percent commitment—which is far short of the annual Soviet growth in any case. (p. 12)

Weapons standardization is related to the problem of burden-sharing. As Fry and Raymond pointed out, nationalism is alive and well in the West, and that gives rise to the dilemma of standardization. Efficiency and effectiveness require that the weapons and supplies of NATO's armies be identical; the demands of national economies and national prides dictate that each country do its own thing in terms of research and development and supply. Standardization and interoperability have been a thorn since the beginning of the Atlantic alliance. In fact, the problem is worse now than it was in the beginning. In 1945, only the U.S. armaments industry was intact and only the U.S. treasury was capable of supplying arms. Thus the initial equipment of NATO was automatically standardized to U.S. designs, and the Europeans were pleased to get the material. The Marshall Plan helped to restore European industries, and as they improved, they began to press their own governments for arms contracts. Being democracies, the governments often yielded to local demands over the requirements of the alliance. Further, there was always the suspicion that the United States was interested in standardization not so much for the sake of combat effectiveness as for the health of her own arms industries. Even now, according to Schneider, NATO has still not been able to settle on a standardized main battle tank or even on the gun for it. The United States, Britain, and Germany have decided to use the 120 mm weapon, but all the others are equipped with 105s. Further, it is possible that the British will adopt a rifled 120 mm rather than the smooth-bore version used



NATO headquarters (above) in Brussels, Belgium, houses the fifteen national delegations to NATO as well as the international civil and military secretariats. . . . The NATO Military Committee (facing page) is the highest military authority in the alliance. It makes recommendations to the Council and Defence Planning Committee and also gives guidance to allied the commanders.

in the German and later models of American tanks. The logistical ramifications of that are immense: the October War suggests that the consumption of ammunition will be far greater in the future than in the past. If that were not bad enough, the United States is using a gas turbine in its tanks while the British and Germans are using diesels! The dilemma has received as much attention as any other in NATO's history, and though some progress

has been made (multiple use of the U.S. F-16 and the European Roland missile), the alliance remains far from a solution.

Fry and Raymond point to the control of nuclear weapons as another of the dilemmas of the Atlantic alliance. No part of NATO's business is more fraught with dilemmas and emotions than nuclear affairs. European members are afraid that Uncle Sam will not use his nukes to defend them, and they are also afraid that he will use them. They fear that if a Soviet onslaught comes, the U.S. will not risk nuclear attack on their own cities merely to defend Bonn and Paris. They also fear that the United States would indeed use them to blunt the Soviet offensive and at the same time devastate the West European countryside. Yet, when the United States began to speak of a flexible response strategy based on a viable conven-



(NATO photographs)

tional defense, the other NATO members worried that the building of a conventional capability would weaken deterrence because the Pentagon planners could hope for a war without nukes. Thus war would become more "thinkable," and that war would be fought on European soil. There were objections to defending with or without "nukes," and when the Mansfield Amendments seemed to suggest giving up the effort by bringing the American boys home from Europe, there were howls of protest from all over the alliance—even France wants them to stay there. Moreover, in America the law of the land, the Nonproliferation Treaty (NPT), and the inclination of the majority all dictate that nuclear secrets *not* be shared with our allies. To further complicate matters, France and Britain have developed their own nuclear forces, but the strongest of the European allies,

the Federal Republic of Germany (FRG), is prohibited from doing so by at least two treaties and by world opinion on both sides of the Iron Curtain.

The whole thing came to a head in the midsixties with the multilateral force (MLF) proposal. Europeans have considered themselves second-class citizens within the Atlantic alliance because only the United States (much later Britain and France) had her finger on the nuclear trigger. The MLF was to have been made up of a fleet of surface ships equipped with nuclear missiles and manned by a multinational force. Each of the nations was to have a voice in the decision to fire, but the United States would retain the last word, which prevented Europeans from getting any real satisfaction out of the idea. The proposal became an obstacle to the Nonproliferation Treaty.

Finally, President Johnson gave it up in order to get the NPT. Later, a NATO nuclear planning group was formed to give the allies a greater sense of participation in nuclear targeting policy, but that did not solve the problem.

More recently, nuclear problems have again come to the fore because of the Soviet buildup of theater nuclear forces in Europe. As *Arms, Men and Military Budgets* shows, the U.S.S.R. has recently deployed Backfire bombers and SS-20 missiles against Western Europe. Since 60 percent of U.S. nuclear warheads in the theater are tied to short-range artillery delivery and the others are old and relatively hard to hide, the Russian deployment creates an asymmetry that is serious. For example, the Soviets are quite capable of opening a war with a limited nuclear attack against a few great airports and seaports and against NATO nuclear facilities. This would make defense through the planned reinforcement from the United States out of the question. It would prevent any retaliation using a limited strike with the NATO nuclear weapons. The U.S. President would then be faced with a dilemma: acquiesce in the Soviet conquest of Western Europe or escalate to the worldwide nuclear holocaust. Of course, the problem has been recognized within NATO since the Soviet deployments began.

One of the proposed solutions was the ill-fated enhanced radiation (EHR) weapon or "neutron bomb." The Communist propaganda apparatus capitalized on that, indicating that a bomb aimed at the destruction of human life instead of equipment and buildings was barbaric. Actually, the choice of names (an American choice) was unfortunate. The EHR could just as well have been called the "reduced blast weapon." The notion driving the design was the need to reduce collateral damage to surrounding civilians and their homes while attacking invading Warsaw Pact formations. The idea was to reduce blast effects, hold down the area of destruction, and rely on the remaining radiation effects to halt the invaders.

But that was not the way it came across, for the Soviet propaganda succeeded in selling the notion that a less-damaging weapon was somehow more inhumane than the more damaging weapons mounted on their SS-20s. The EHR destroys with radiation; the SS-20s with blast and radiation. Whatever, it seems that President Carter had to bow to public opinion and postpone the decision to deploy EHR, and that solution to the growing nuclear asymmetry in Europe was denied. *Arms, Men and Military Budgets* argues that the EHR should be revived, but that does not seem likely in the near future.

In the aftermath of the EHR affair, another solution, that of nuclear-armed cruise missiles, has been implemented. That, too, was subjected to a Soviet propaganda barrage as being somehow escalatory rather than merely an answer to the Backfire and the SS-20. The notion that a subsonic, low-altitude system be deployed in the early eighties is somehow more fearsome than the supersonic, large Backfire deployed in company with thousands of ballistic, MIRVed SS-20s in the late seventies simply did not sell to West European leaders. The decision to deploy the cruise missile to the NATO area was taken in the waning days of 1979. William Schneider thinks that a good thing, but he does not see it as the complete solution. Other sources suggest that the Soviets may have acquired an F-14 with its Phoenix missiles and associated manuals from Iran. If so, then the Russians will have boosted their program to develop a look-down, shoot-down capability in a big way—and that capability will mark the beginning of the end for the cruise missile. Schneider sees greater potential in such things as the deployment of a standoff bomber with appropriate missiles, the upgrading of the Pershing II or some other longer-range theater missile, and even the development of a tactical version of the ABM as components of a permanent solution. In any case, he and his colleagues insist that the increase in military spending that we have seen in the last few years is not enough. They say that major invest-

ments still need to be made in the conventional forces both in Europe and elsewhere.

Another dilemma for NATO has been the "elsewhere." The treaty was explicit in defining the area of its application: it applied in Europe, North America, and in the Atlantic north of the Tropic of Cancer. The dilemma was that *all* of the interests of the European members were inside that area, but a great part of U.S. interests were outside the zone. Thus, it tended to become the duty of America to defend all the interests of her partners; but when she got in trouble in the Pacific or Latin America, there would be precious little help coming from them. In this regard, perhaps, there is a change in the wind.

Inasmuch as the United States is less dependent on Middle East petroleum than are her NATO partners, and inasmuch as only she among the NATO powers has any real power projection capability, perhaps there will soon be a greater interest in cooperative military efforts outside the area of the treaty limits.

According to *Arms, Men and Military Budgets* and many other sources, things have not been going well for the United States Navy and Marine Corps. The Soviet Navy is alleged to have changed from a coastal-defense to a power projection force of no mean capability. United States disillusionment with Vietnam, among other things, has led to a concentration on the NATO scenario and a neglect of the power projection capability. Meanwhile, arms of all sorts have been proliferating in the Third World, and the new technology seems to favor the defender more than the power projection force. This, according to the authors, has caused a

decline in the viability of the amphibious method of projection and, consequently, a need to restructure both the Navy and the Marine Corps to some extent. The rising costs of both personnel and equipment probably mean that there will have to be a smaller but more effective Navy and Marine Corps in the future. The savings, according to the authors, should be applied to buying more but smaller ships to increase flexibility. It seems that there will be no more large carriers, and though VSTOL is not a substitute for conventional planes on large ships, that capability will have to be built up—and it has more than just power projection potential, as with anti-submarine warfare (ASW). Even submarines have grown too big and costly, and Polmar and Bessette urge that we explore smaller alternatives to both the attack and missile boats being built today. As with the rest of *Arms, Men and Military Budgets*, the treatment of the Navy and Marine Corps part of the work is competent and balanced.

NONE of the three works under consideration suggest the imminent collapse of the West. Each argues that the Western Alliance has serious problems. All imply that the problems can be contained though some of the dilemmas are beyond human solution. Whatever the reasons for the Soviet buildup in arms, it is beyond question a reality. Therefore, I think all these authors would agree that it is necessary for NATO to keep its powder dry and continue seeking ways to counter the Warsaw Pact apparent threat without undermining either the prosperity or the liberty of the West.

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THE SOVIETS AT SEA

DR. DONALD D. CHIPMAN

REPORTS from the Middle East indicate that the Soviets have about twenty warships in the Indian Ocean, more than enough to threaten the vital commercial sea-lanes around the Cape of Good Hope. Yet in contrast to this, twenty years ago few Russian ships were sighted beyond their own territorial waters. In just fifteen years the Soviets have built their navy to a position where it now rivals the United States Navy. They have promoted a naval construction program second to none, building on the average of one new submarine per month and recently launching four aircraft carriers.¹ Near Leningrad, the Soviets launched a new heavy cruiser, the *Kirov*, a vessel that resembles a World War II battleship. With more than 1700 merchant ships and over 4000 fishing trawlers, there are few oceans the Soviets are incapable of traversing. Throughout the world's waterways, wherever one might look, there is a distinct possibility of seeing the Russian flag. In the Mediterranean, the Pacific, Atlantic, and Indian oceans, the Soviets are making their presence known. These are the obvious signs of a new, assertive Soviet Navy.

If there is a common denominator underlying these events, it is the leadership of one particular individual: Soviet Admiral of the Fleet S. G. Gorshkov. Called by some the twentieth-century Alfred Thayer Mahan, Gorshkov has managed to survive Stalin, Khrushchev, and Brezhnev to become one of the dominant figures in the Soviet military. Yet he is more than just a theorist; he is, in fact, the architect of this new, assertive navy. Thus, when the Naval Institute Press published Gorshkov's writings in two different books,

Red Star Rising at Sea and *The Seapower of the State*, a unique opportunity became available to read the thoughts of this remarkable admiral. For those who are involved in naval operations as well as those who are interested in the developments of Soviet military policy, these Gorshkov writings provide an unprecedented look into the inner concerns of a top Soviet strategist.

THE first book, *Red Star Rising at Sea*,[†] is a compilation of eleven Gorshkov articles that originally appeared in the Soviet naval journal *Morskoi Sbornik*. While the purpose of these articles is debatable, most experts believe Gorshkov was trying to influence the army-dominated Kremlin to begin thinking in terms of sea power. For the most part, Russians have considered themselves a land power in which the navy's primary role was that of supporting the army. As the time approached for negotiation on SALT I, Gorshkov set out to ensure that if there were to be cuts in the military, the navy would not suffer. Thus the *Morskoi Sbornik* articles detailed how sea power was needed to balance the total Soviet military posture.

A study of these articles reveals that Gorshkov used history as the background for his discussion of sea power. In each article the author shows how sea power, or the lack of it, played an important role in various Russian conflicts. Beginning with Peter the Great, Gorshkov details how this Russian czar used a powerful navy to defeat the Swedes in the Great Northern War. In other essays, the author traces various naval exploits during the Crimean War,

[†]S. G. Gorshkov, *Red Star Rising at Sea*, Herbert Preston, editor (Annapolis, Maryland: Naval Institute Press, 1974, \$15.00), 147 pages.

the Russo-Japanese War, World War I, and World War II. In each case, Gorshkov tries to show that sea power was an important element in the conflict.

In these essays, there is little doubt of Gorshkov's basic theme. Time and time again, he interjects the same rhetoric: "Historically Russia is a maritime nation destined for greatness." With one of the largest coastal shorelines in the world, noted Admiral Gorshkov, Russia has always been a nation with an intense concern for the sea. But, insisted Gorshkov, imperialist propaganda, which labeled the Russian Bear as strictly a land animal, has deterred this thrust. Consequently, this type of restrictive thinking has retarded naval building and kept Russia from becoming a major sea power. These *Morskoi Sbornik* articles were appeals to replace this type of thinking and concentrate on fulfilling Russia's true manifest destiny of assuming its rightful place among the world's great sea powers.

In conclusion, Gorshkov outlines how the Soviets should prepare for mastery of the world's oceans. He specifically calls on the Russian Navy to "create favorable conditions for the building of Socialism and Communism." (p. 134) Sooner or later, Gorshkov wrote, "the Soviet naval flag will fly over all of the oceans and United States will have to realize that it no longer can dominate the seas." (p. 141)

ABOUT six years after the appearance of the Gorshkov papers, his book *The Sea Power of the State* was published.† The U.S.-translated edition appeared in 1979. Considerably more detailed than any of the essays, the book covered a variety of Soviet naval subjects. Again, the dominant theme involved a rationalization for the development of Soviet sea power.

Gorshkov begins the book with various policy statements on the use of the oceans. In this section, he discusses the optimum development of the oceans in such areas as minerals, ship traffic, fishing rights, and international law. The point is developed that unlike the Soviets, who support freedom of the seas, the imperialist powers constantly use the oceans for their own military, political, and economic purposes.

In chapters two and three, Gorshkov again develops the historical perspective. These two chapters comprise about 60 percent of the total manuscript. Just as in his previous writings, Gorshkov details how various historical precedents establish a rationale for sustaining a powerful fleet. He uses World War II as an example and describes how Russia entered the battle without a sufficiently balanced fleet. In particular, Russia had only three battleships and very limited amphibious capability. Yet, throughout the Black Sea area, the Soviet Navy was called on several times to make amphibious landings in support of army engagements. As a World War II commander in the Black Sea, Gorshkov was acutely aware of the problems associated with a fleet that did not have a balanced mission capability. Time and time again, Gorshkov used these types of historical examples to reconcile the need to build a balanced fleet that would include the capabilities to deal with all types of missions.

While much of the book repeats many of the earlier themes, in a section entitled "Fleet against Fleet and Fleet against Shore" Gorshkov discusses the contemporary changing art of naval warfare. Traditionally, fleets were used to fight one another, yet today, noted the admiral, this is no longer true. In the future, battles involving fleet against fleet will be of secondary concern while battles involving the fleet against the shore will assume greater importance. With the advent of carrier aviation and submarine

†S. G. Gorshkov, *The Sea Power of the State* (Annapolis, Maryland: Naval Institute Press, 1979, \$18.95), 285 pages.

ballistic missiles, the fleet will play significant roles in direct attacks against enemy home bases in a modern war. While the main effort of the fleet will concern the strategic role, a secondary mission will involve the disruptions of the enemy's naval strategic nuclear capability. Thus, commented Gorshkov, "the fight of the fleet against fleet of an enemy in the new conditions since nuclear weapons have appeared has become a secondary task as compared with the operations of a fleet against the shore." (p. 221) This, he also proposes, should govern all future naval plans.

Continuing this discussion of the art of naval warfare, Gorshkov addresses the role of the fleet in support of liberation movements. Here he presents one of the primary themes of the entire book: "In peacetime the Soviet Navy is an important instrument of state policy." (p. 281) Taking a lesson from the imperialist powers, Gorshkov pointed out that they use their navies consistently to suppress liberation movements. After citing Vietnam as an example, the admiral commented that ships can play a considerable role in influencing other governments. In fact, he noted, practically every recent major liberation movement has had to over-

come some type of imperialist naval presence. In essence, peacetime use of the Soviet Navy in support of liberation movements and other diplomatic concerns is constantly expanding. Thus, the fleet has a significant role to fulfill as an instrument of the state policy and diplomacy.

BOTH these books are quite readable and provide some unique insights into communist thinking. The stark reality of the situation makes the books even more significant. Never before in the history of peacetime has a nation built a navy so rapidly as the Soviets have. Under the leadership of Gorshkov, the Soviet Navy has extended its power far beyond its coastal waterways. Today, the Soviet Navy is one of the world's great sea powers, and an assessment of this threat must begin with an understanding of Gorshkov and his writings.

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Note

1. These ships are also classified as antisubmarine warfare (ASW) cruisers.

FOCUS ON AFRICAN CONFLICT

DR. DONALD M. SNOW

FOR several reasons, Africa south of the Sahara has never occupied a high priority in American consciousness nor among foreign and defense policymakers. This condition is historically understandable, in that independent African nation-states other than the Republic of South Africa and Liberia are a relatively recent phenomenon. The first of the recently independent black states, Ghana, came into

existence in 1957. Consequently, only in the past few decades has there been any particular reason to focus on the "dark continent." At the same time, until recently, Africa has largely been spared the vicissitudes of major East-West competition. Following a spate of both Soviet and Chinese attempts at involvement in the early 1960s, which produced only marginal positive results, both superpowers for a dec-

ade steered a course of minimal activity beyond maintaining a physical presence.

Events have forced a reexamination of this placid situation, and policymakers and analysts are being forced to rediscover Africa. These events have taken several forms. In the wake of the 1973 Organization of Petroleum Exporting Countries (OPEC) embargo and the consequent realization of the finity of many other strategic nonrenewable resources (largely mineral), there has been a rising awareness of Africa's importance as the repository of significant amounts of vital mineral reserves. Conflict and instability in the Horn of Africa and in former Portuguese Africa have provided exploitable opportunities for Soviet mischief, and an increasingly aggressive Soviet posture, abetted by Cuba, is seen on the continent. The nagging intractability of black-white relations in southern Africa remains a lit powder keg with an ever shorter fuse. All of these problems comingle to create a situation of growing urgency if outcomes unfavorable to American interests are to be avoided.

All of these things have not, of course, gone unnoticed, as evidenced by a spate of recent books on various aspects of the African political situation, which individually covers a variety of concerns and judgments about the range, depth, and directions of African affairs. They include a continental overview, the southern African (and especially South African) dilemma, communist activity and penetration, and the volatile Horn.

TAKEN collectively, these works provide considerable insight into what Ali A. Mazrui calls "the African condition," which is also the title of his most recent work.†

Mazrui's slender, highly readable volume is derived from scripts for the 1979 Reith lec-

tures on the British Broadcasting Corporation. He poses the African situation in terms of six paradoxes.

- The first, the "paradox of habitation," arises from the apparent incongruity in the fact that Africa was, by most anthropological accounts, man's first home; yet it remains the continent least hospitable to human sustenance.

- The "paradox of humiliation" refers to the unique oppression Africans have suffered and continue to suffer and has, according to Mazrui, three principal sources: "... the slave trade, European colonization of Africa, and continuing racial discrimination wherever black people live with white people." (p. 28)

Three of the paradoxes stem from Africa's interaction with the West and its underdevelopment by Western standards.

- The "paradox of acculturation" refers to the massive assault on African peoples by Western cultural and political forms, which had the effect of overwhelming traditional values and, as the physical colonial presence receded, left Africans with conflicting sets of identities.

- The "paradox of fragmentation" is at the root of African economic underdevelopment. It has, according to Mazrui, three sources:

Africa is one of the best endowed regions of the world, but it is still the least developed of the inhabited continents. . . . This is *the paradox of technical backwardness*. Of course, there are rich blacks as well as rich whites. . . . This is *the pathology of maldistribution*. . . . The paradox here is of a rich continent which contains many poverty-stricken societies. This is *the pathology of fragmented economy*. (Emphasis in original; pp. 70-71)

- This fragmentation creates the fifth paradox, "retardation." As a result, "in world affairs the continent does not act as a unit; on the contrary, it is subject to the weakness of its

†Ali A. Mazrui, *The African Condition: A Political Diagnosis* (London: Cambridge University Press, 1980, \$17.50 cloth, \$5.95 paper), 138 pages.

national, ethnic, ideological, and religious cleavages." (p.102)

• The heart of the African condition is brought together in the sixth paradox, "the paradox of Africa's location. Africa is the most centrally located of all continents, but politically it is perhaps the most marginal." (p. 116) In this final exposition, Mazrui lapses into prediction and prescription with mixed results. He predicts, for instance, that "the triumvirate of African diplomatic powers before the end of the century will consist of Nigeria, Zaire, and black-ruled South Africa," (p. 128) a not implausible scenario with important geopolitical implications. In a less compelling vein, he advocates African acquisition of nuclear weapons as a principal means to assert African self-importance in the international system.

Mazrui's prediction of black rule in the Republic of South Africa (Azania to many black nationalists), combined with his earlier observation that "there has so far been no precedent of any white settler community in Africa, effectively in control of the local situation, giving up power without violence" (p. 18) serves as a transition to the second area of African concern, southern Africa. Although there are difficult and important problems associated with the states on its borders, such as Angola, Mozambique, and Zimbabwe-Rhodesia, the most heated controversy is focused on the last white redoubt on the continent, the Republic of South Africa. The South African question has several facets, including continuing racial

discrimination symbolized by apartheid and the policy of separate development, as well as how the United States should deal with South African governments espousing racist policies.

FOUR recent books of varying levels of specialization have appeared that consider this complex set of questions. The most general in scope are Gwendolen Carter's *Which Way is South Africa Going?*[†] and Robert I. Rotberg's *Suffer the Future: Policy Choices in Southern Africa.*^{††} Carter has collaborated with Patrick O'Meara to coedit a series of essays, *Southern Africa: The Continuing Crisis,*^{†††} that treats South Africa and her neighboring states, and Desaix Myers et al. have compiled a guide to the business climate and prospects in *U.S. Business in South Africa: The Economic, Political, and Moral Issues.*^{††††}

The heart of the South African problem is simple enough to state, if not necessarily to solve. The problem is the determination of the Afrikaner-dominated white government in Pretoria to maintain control in a country where whites represent only about 16 percent of the population. The vehicle for control is the system of racially discriminatory laws and regulations that physically separate white from black from colored, collectively known as apartheid. The system has disenfranchised all but the white population and, South African rhetoric notwithstanding, is intended to perpetuate white minority rule. This position is enunciated in a

[†]Gwendolen M. Carter, *Which Way Is South Africa Going?* (Bloomington: Indiana University Press, 1980, \$10.95), 155 pages.

^{††}Robert I. Rotberg, *Suffer the Future: Policy Choices in Southern Africa* (Cambridge, Massachusetts: Harvard University Press, 1980, \$15.00), 295 pages.

^{†††}Gwendolen M. Carter and Patrick O'Meara, editors, *Southern Africa: The Continuing Crisis* (Bloomington: Indiana University Press, 1979, \$17.50 cloth, \$7.95 paper), 404 pages.

^{††††}Desaix Myers III with Kenneth Propp, David Hauck, and David M. Liff, *U.S. Business in South Africa: The Economic, Political, and Moral Issues* (Bloomington: Indiana University Press, 1980, \$17.50), 318 pages.

long-term strategy called "separate development," as implemented by the "homelands" policy. Under this scheme, Africans are to move into physically separate areas within South Africa where they eventually would become self-governing and presumably related to overall South African governance in some form of confederation wherein the major racial groups—white, black, colored, and Asian—would share power.

The major objection to this formulation is that it is only acceptable to the whites, and especially the Afrikaners. Blacks see separate development as an instrumentality to maintain segregation and white economic and political dominance. The homelands are inhospitable places, generally either barren, barely arable hinterlands or overcrowded urban slums, and most want nothing to do with them. Rather, they prefer a united South Africa organized along something like "one man-one vote" lines (which is unacceptable to the white minority). The result, as Gwendolen Carter sees it, is a moral question:

The moral dilemma of South African whites is clear. To provide the majority . . . with the rights they prize for themselves is to threaten the edifice they have so carefully and skillfully erected. (p. 16)

Although whites have managed to maintain control and, due to a very strong paramilitary and military organization, probably will continue to do so for some time (both Rotberg, p. 160, and Carter, p. 145, agree on this point), the long-term trends are working against the whites. The principal trends are demographic and economic, and they are related.

Demographically, two things are occurring. First, the black population growth rate considerably exceeds that of whites, magnifying black numerical dominance. Second, blacks are increasingly concentrated in urban homeland ghettos, where they form the core of the industrial work force. Black labor is absolutely necessary to the health of white-controlled industry, and population trends will increase

that dependence in the future. Rotberg describes the implications of this situation:

But the ticking of the demographic time bomb, and the location of that bomb—in terms of African numbers, in the cities—makes it unlikely that separate development can reduce the implications of the policy of industrial growth that made whites wealthy and transformed Africans from a rural people. (pp. 7-8)

The demographic trend thus has economic consequences. The affluence of white South Africa depends on black African labor, and inevitably some of those laborers have become more affluent. Just as inevitably, enhanced economic standing has led to demands for political rights. Myers and his associates summarize the problem:

Significant economic advances for blacks in the early 1970s went unmatched by a growth in political rights, and the contrast between the growing importance of blacks to the economy and the stagnant rights of blacks in the society became increasingly apparent. (p. 49)

How can these problems be solved? If the status quo cannot be maintained indefinitely, as all trends indicate, the options are peaceful negotiation or violence, and time is running short. As Rotberg maintains, "An orderly, leadership-influenced, evolutionary resolution of the issues between white and black South Africans may not be possible indefinitely. That is the inescapable message of today's South Africa." (p. 170)

What can or should the United States do to bring about desirable change? This is a viable question because of the importance of American (and other Western) private investment in South Africa's economy, which has the indirect effect of bolstering the apartheid system. The degree of American penetration is impressive, as Myers et al. catalogue:

More than half of *Fortune's* top 100 companies in the United States have South African subsidiaries. Approximately 350 American companies have subsidiaries or affiliates in that country and an additional 6,000 firms do business there on an agency basis. American companies employ nearly

100,000 workers, approximately two-thirds of whom are black. (p. xii)

If mobilized, this penetration could form a potent force for inducing change. The means to do so remains contentious.

Two strategies by which American companies can put pressure on the South African government are generally put forward: constructive engagement and total withdrawal (disengagement). Advocates of constructive engagement argue that incremental change can occur if U.S. companies in South Africa adopt nondiscriminatory employment and compensation policies that will improve the lot of blacks and create pressure for similar action elsewhere in the economy. The so-called "Sullivan code" of conduct (named after General Motors board member the Reverend Leon Sullivan) provides the model for such action. Thomas Karis, writing in the Carter and O'Meara volume, states the withdrawal position: "... the United States should move as rapidly and convincingly as possible to withdraw all semblance of governmental and business support for the South African regime, thus disengaging itself from the South African embrace." (p. 315) Black South Africans and Americans disagree about the appropriate strategy to follow.

SOVIET-Cuban action in Angola and Ethiopia and concern over continuing southern African instability have combined to raise questions about Soviet African intentions. Two recent books, David E. Albright's *Communism in Africa*[†] and Morris Rothenberg's *The USSR in Africa*^{††} explore this subject. The studies vary in tone and conclusion: the essays in the Albright volume are generally reflective and interpretive, concluding that the problem

is serious but not dire. Rothenberg uses Soviet public policy pronouncement as his analytical base and reaches more ominous conclusions.

Two questions stand out: Why are the Soviets there? and What is likely to be their future form of involvement? The first question amounts to asking if the Soviets are operating from a carefully conceived master plan or whether they are simply exploiting mischievous opportunities. The weight of analysis in the Albright volume (and made explicit by Albright himself, p. 50, and by Jiri Valenta, p. 116) is that no clear-cut design is evident and that the Soviets are mainly reacting to situations that present themselves. That conclusion, however, offers scant comfort when contemplating the future of Soviet activity. According to Rothenberg:

As in Angola and Ethiopia, endemic African problems are likely to provide virtually endless new opportunities for future Soviet-Cuban involvement on the continent. . . . The complicated cross-border ethnic mosaic which marks the African scene is replete with existing or potential irredentist movements in which one party or another might seek outside involvement. (p. 265)

If the Soviets continue to be active in Africa, an assessment of their past success is necessary as context for the future. A judgment can be made in both a general and specific manner. At the general level, the tally is mixed. Colin Legum, writing in *Communism in Africa*, concludes, "Judged in terms of overall Soviet strategic objectives, Africa has not afforded the USSR any conspicuous successes thus far." (p. 34) Much of the basis for this judgment is the fluid nature of African commitments and the instrumental way that Africans view major power associations. As Legum explains, "Those who characterize African governments or

[†]David E. Albright, editor, *Communism in Africa* (Bloomington: Indiana University Press, 1980, \$12.95), 236 pages.

^{††}Morris Rothenberg, *The USSR in Africa: New Dimensions of Soviet Global Power* (Washington: Advanced International Studies Institute, 1980, \$12.95 cloth, \$8.95 paper), 280 pages.

movements as pro-Western or pro-Soviet almost always do so out of a failure to understand why certain African leaders, governments, or movements find it useful to choose a particular ally at a particular point in time." (p. 15) As a result, he concludes that "the Soviet encounter with Africa is much more likely to continue to be marked for some time to come by shifts of alliance' rather than to provide a solid base of Soviet influence." (p. 24)

THIS transient and fluid situation can be shown specifically through Soviet activity in the Horn of Africa, as skillfully portrayed by Tom J. Farer in *War Clouds on the Horn of Africa: The Gathering Storm*.[†] Writing in a lucid and rapier-like manner, Farer explains the twisted events that have brought Ethiopia into war with Somalia and internally into bloody conflict with secessionists in Eritrea. The superpowers' involvement with both the Somalis and Ethiopians at different times is generally described as clumsy and callous. Of American early involvement with the Ethiopian Dergue (the ruling junta), for instance, Farer writes:

The fact remains . . . that the government of Ethiopia tried, with careful premeditation, to orchestrate the starvation of Eritrea's rural population. This did not deter then-Secretary of State Henry Kissinger from vetoing proposals to terminate military assistance to Ethiopia. (p. 44)

The Soviets are characterized as simple opportunists in Farer's account. In discussing their switch in support from Somalia to Ethiopia, he says,

The nub of the matter, then, is that the potential costs were not extravagant, and so one need not construe the change of partners as the sign of a master plan that magnified the value of a united Ethiopia under a secure left-wing regime intimately linked to the Soviet Union. (p. 134)

Rather, he contends it is folly to interpret Horn activities in a geopolitical way.

Strategic marginality characterizes all of the Horn. . . . The Horn is too peculiar, too poor, and its principal actors are too preoccupied with provincial conflicts and aspirations to give the place a very high rank on any rational list of geopolitical priorities. (p. 134)

IT has been possible only to suggest the tip of the iceberg of concerns and problems examined in this rich and varied set of volumes. The problems of sub-Saharan Africa are indeed many and complex. As the Western world finds itself increasingly turning toward the mineral riches of the African continent, their problems will become ours. Thus it is time that we begin to acquaint ourselves with these difficult realities. The eight books discussed here are an excellent starting point.

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[†]Tom J. Farer, *War Clouds on the Horn of Africa: The Gathering Storm*, second, revised edition (New York: Carnegie Endowment for International Peace, 1979, \$10.00 cloth, \$5.00 paper), 171 pages, bibliography.

FULLER ON "GENERALSHIP"

WING COMMANDER NIGEL B. BALDWIN, RAF

LIKE Sir Basil H. Liddell Hart, Major General J. F. C. Fuller was both articulate and intelligent, two qualities that did not endear him to the British military hierarchy between World War I and World War II. Indeed to one of the British Army chiefs of the period (with the unlikely name of General Sir Archibald Montgomery-Massingberd), Fuller's ideas represented a "lack of loyalty" which was a "far more important quality for a soldier to possess" than "brains."¹ In 1932, one year before he was placed on the retired list, Fuller published a book called *Generalship—Its Diseases and Their Cure*. In this book he drew on his knowledge of World War I to argue that, in that war for the first time in British military history, something went terribly wrong with the quality of leadership of the senior officers.

"Sometime before the outbreak of the World War," Fuller wrote, "the art of soldiership slipped into a groove and became materialized . . . the more management or command became methodized, the more dehumanized each grew." Before World War I, the ordinary soldier had seen generals in the thick of the action, but by 1914

he saw them no longer; now and again, perhaps, he heard of them far away, as managing directors sitting in dug-outs, in chateaux, and in offices. Frequently he did not know their names. To him they were no more than ghosts who could terrify but who seldom materialized; hence battles degenerated into subaltern (i.e., lieutenant) led conflicts just as manufacturing had degenerated into foreman controlled work . . . the man was left without a master—the general in flesh and blood.

Fuller concluded that "a sense of equality of sacrifice is an essential cement in a fighting force" and that the "most rapid way to shell-shock an army is to shell-proof its generals." He noted that only one British Army corps

was consistently led into action by its general: the British Tank Corps (at Cambrai in November 1917 and after). Fuller pointed out that this unusual corps was "commanded and staffed by young men, for on the HQ staff the oldest was under 40."

Emphasizing John Ruskin's words that "if war is bereft of the personal factor in command, it cannot but degenerate into a soulless conflict in which the worst and not the best in man will emerge," Fuller argued that the true general "is not a mere prompter in the wings of the stage of war but a participant in its mighty drama, the value of whose art cannot be tested 'unless there is a clear possibility of the struggle ending in death.'"² Fuller concluded that there are "three pillars of generalship: courage, creative intelligence, and physical fitness; the attributes of youth rather than of middle age."

Citing leadership examples from British history ("with us moral leadership was once a marked characteristic of our generalship") and the American Civil War ("the last of the great conflicts to be waged before impersonal command was reduced to a science"), Fuller insisted that World War I generals were not cowards; rather an "... amazing unconscious change . . . rose out of the Franco-Prussian War and obliterated true generalship, de-humanizing and de-spiritualizing the general until he was turned into an office soldier, a telephone operator, a dug-out dweller, a mechanical presser of buttons . . . as if armies were a . . . soulless machine."

Fuller then diagnosed the disease:

In war it is almost impossible to exaggerate the evil effects of age upon generalship, and through generalship, on the spirit of an army. . . . First, war is obviously a young man's occupation; secondly, the older a man grows the more cautious

he becomes, and thirdly, the more fixed his ideas . . . Youth, in every way, is not only more elastic than old age, but less cautious and far more energetic.

As a remedy, Fuller suggested that we should differentiate very firmly between peace and war conditions. We should have "a most carefully selected roster of officers between the ages of 35 and 45, officers who have shown high powers of command, and . . . irrespective of what their rank may be on the declaration of war, the whole of the combatant commanders be selected from it; the older men . . . to the reserve list." He continued "A man is intellectually at his best between the ages of 35 and 45"; after that "a man's opinions become set, imagination dwindles and ambition recedes."

Fuller concluded by saying, "In war, as in peace, individuality is far more important than uniformity; personality than congruity, and originality than conventionality. . . . The old are often suspicious of the young and do not welcome criticism, yet without criticism both destructive and constructive, there can be no progress."

Finally, in an appendix to his book, Fuller analyzed the ages of 100 generals from Xenophon in 401 B.C. to Moltke in 1866. The average age was 40, and 74 percent were 45 years old or younger. "The period of most efficient generalship lies between 30 and 49 and the peak is reached between 35 and 45." The British Army generals' average age was 59.9 between 1914 and 1932.

One recent commentary suggested that "Fuller's real talent was in making, not breaking, important enemies."³ As a result, perhaps, *Generalship—Its Diseases and Their Cure* has been out of print since 1936.⁴ The interested reader, however, will find that many of Fuller's ideas have stood the test of time.

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Notes

1. See Major Ray L. Bowers as quoted in "The Peril of Misplaced Loyalties," *Air University Review*, May-June 1966, p. 94.
2. Carl von Clausewitz, *On War*, vol. 1, 1908, p. 20.
3. John Keegan and Andrew Wheatcroft, *Who's Who in Military History*, 1976, p. 132.
4. Air University's Fairchild Library has a copy of Fuller's book.

POTPOURRI

Strategy and Ethnocentrism by Ken Booth. New York: Holmes & Meier Publishers, Inc., 1979, \$23.50.

Ken Booth, a lecturer on international politics at the University College of Wales in Aberystwyth, presents a significant study of the strategic thought underlying international relationships in *Strategy and Ethnocentrism*. His interest is in the extent to which those relationships have been unsatisfactory or even disastrous as a consequence of mutual misunderstandings—misperceptions resulting from one nation's interpreting the actions of another in

terms of its own mental processes when, in fact, the actions of the other nation mirrored entirely different perspectives and motives. While such misattributions have rarely constituted the sole or even the principal cause of a subsequent war, they have exacerbated international tensions and have often acted as contributory causes of ensuing military conflicts.

Booth supports his thesis with numerous examples drawn largely from the post-World War II international scene. For example, when the United States and the Soviet Union entered into a period of so-called détente, Americans understood the situation as one involving mutual *goodwill*, increasing securi-

ty, and lowering defense expenditures. The Soviets, by contrast, understood détente as involving *ill will*, a temporary military peace accompanied by an intensified struggle in the political, economic, and ideological arenas. Because Americans could not perceive hostile Soviet actions as being fully consistent with the Soviet interpretation of détente, they became disappointed with it, some of them finally regarding détente as a dangerous international illusion.

Similarly, American strategists have been basing their policy recommendations on the concept of mutual assured destruction (MAD), making a future nuclear war between the superpowers unthinkable. Therefore, they have assumed that Soviet strategists also accept the MAD doctrine. Such is not the case, however, for the Soviets have adopted the more realistic policy of accepting that the worst—a nuclear war—could come to pass. They have, therefore, been making preparations to fight and survive a nuclear war if one should erupt.

By no means does Booth limit himself to considering the Soviet-American relationship. He points out unfortunate misperceptions of national motives and actions between the Soviet Union and China, the United States and Great Britain, the United States and France, Israel and Egypt, and other nations. In many instances, the failure of nations to appreciate each other's perceptions of a given international situation contributed significantly to the outbreak of war between them.

The author concludes that it is important for the world to develop strategists with a clearer view of global affairs. Ethnocentrism is a pervasive feature of strategic theory and practice, and overcoming it will not eliminate war but can help nations look for positive, cooperative solutions to their differences. Ethnocentrism and incuriosity about other nations must be replaced by sophisticated realism and strategic relativism.

Strategy and Ethnocentrism is excellent reading for American strategic planners and other military and foreign-policy personnel. Booth's calm, intellectual examination of his subject is a fresh wind calculated to sweep away the stereotyped notions of other countries and cultures that tend to dominate military and foreign-policy planning—both American and Soviet.

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Victory at High Tide: The Inchon-Seoul Campaign

by Robert D. Heinl, Jr. Annapolis: The Nautical & Aviation Publishing Co. of America, 1979, 267

pages + bibliography, appendices, and index, \$16.95.

Eyewitness accounts of battles and campaigns proliferate and often lose broad perspective by concentrating solely on the author's experiences. *Victory at High Tide* is a most valuable and welcome exception to that rule. Certainly personal drama and insights abound, but the use of many recently declassified documents enable presentation of a complete picture from the President and the Chairman of the Joint Chiefs of Staff down to the field commanders. This illuminating study of the interservice rivalry and almost destructive competition of the times contains unusual and penetrating studies of the personalities of the policymakers.

Without losing perspective, the author writes about such things as the United States Marine Corps' having had 8748 M-1 rifles in the campaign, and about Truman's dislike for the Navy; Truman said of the White House: "When Roosevelt was here this place was like a damned wardroom. As long as I'm here, the admirals will never get in again." Heinl mentions General Omar Bradley's feelings that "large scale amphibious operations . . . will never occur again." He also presents personal glimpses of men and their acts on the battlefields.

These glimpses are more than a mere recounting of men's actions in battle. They include problems that any commander must face: contradictory orders from above, as during the MacArthur-Truman confrontation; logistics problems of providing the proper types and numbers of landing craft; coping with the inevitable plans that go awry; and the intricate coordination necessary for Marines, Army, Navy, and Air Force personnel and machines to work toward a common objective. Throughout this well-balanced narrative, the author never pulls any punches, providing in opinion as well as documented commentary the names and acts of both those who deserve credit, and those who should not have received it.

Victory at High Tide has it all—all the names, statistics, and tactics for the war historian or war gamer; the personal stories of men in combat in a classic battle; and humanizing characterizations of the men who made the events happen. The author considered this campaign to be the modern equivalent to Hannibal's battle at Cannae. In all respects, it was a classic battle for future generations of military leaders to study, and *Victory at High Tide* is an excellent foundation. It should be required reading for anyone in the military who develops policy for joint operations.

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The Seventh Enemy: The Human Factor in the Global Crisis by Ronald Higgins. New York: McGraw-Hill, 1978, 299 pages, \$12.50.

Ronald Higgins has written a valuable and disquieting book that belongs to a small but growing body of contemporary works which can best be described as doomsday literature. A former Oxford professor of sociology, foreign service officer, and staff aide to Conservative Prime Minister Edward Heath, Higgins experienced firsthand the European governmental policy mistakes that accompanied the 1956 Suez crisis and the negotiations to permit Britain's entry into the Common Market during the mid-1960s.

The argument of the book is that political and governmental behavior during the past two decades demonstrates that contemporary institutions are incapable of adequately meeting the explosive conditions that will dominate world politics in the last two decades of the twentieth century. Drawing on an array of influential social thinkers and writers such as Rachel Carson, Robert Heilbroner, E. F. Schumacher, Paul Ehrlich, Barry Commoner, and literary figures such as Henry James and W. B. Yeats, Higgins usefully summarizes what he describes as the six major threats to world peace: uncontrolled population growth; potential world famine; the growing shortages of raw materials compounded by wasteful consumption patterns and the increasing control over these resources by Third World nations; the continued despoliation of the environment threatening potential mass poisoning; the alarming potential for nuclear proliferation and accidents; and a sometimes mindless pursuit of technological and industrial production without adequate consideration of the consequences of that production. All of these threats, he argues, are already at a state of global crisis.

Higgins does not contribute any significant new solutions, but the value of his book, besides its lucidity in summarizing the issues, is in his insistence that modern man must begin developing what he describes as an "inclusive sensibility" and habit of thinking. What is needed is a new social, political, and economic behavior that is conscious of the complexity of human actions and which seeks solutions to world, rather than nationalistic, problems.

One long section of the book prophesies the possible consequences of an inability to deal with the "Global Crisis" by providing several frightening scenarios of nuclear sabotage, African race wars, and ecological holocaust. The reality of global conditions requires a recognition of the power shift taking place in Third World nations and the explosive

conditions already latent in a new bipolar world, one where confrontation will take place between North and South rather than East and West. In such a world both America and the Soviets will be perceived as imperialist forces to be defied.

Perhaps the most controversial aspect of *The Seventh Enemy* is the argument that hope for political reform is probably doomed unless a radical reformation of individual personality is accomplished across the face of the earth. Higgins seriously argues for a counter-cultural sensibility. His hope for a renewed religious sensibility and development of an ability to live with a creative "tension" between human reality and absolutist desires echoes other serious contemporary social thinkers like Daniel Bell. We must cultivate a vision, he says, of what Henry James a century ago called "the imagination of disaster" without being immobilized by it. Higgins also forcefully argues that we must discard the habit of blind optimism and quasimystical belief in scientific progress that he attributes to the philosophical legacy of the eighteenth century Enlightenment and nineteenth century philosophical positivism.

Nevertheless, the evidence of Iran, Afghanistan, and the energy crisis in the years since this book was published seem to indicate that however we might disagree with the idea of developing a new cultural sensibility as a viable solution to current world political problems, we ought to think seriously about Higgins's arguments for a new perspective on our world. He reminds us again that of all the subjects worthy of study, the one most central to human civilization and the most unpredictable is what he calls the seventh global enemy—man. Let us hope this experienced man of affairs will find a wider audience for his heretical ideas and perhaps eventually an audience of acceptance.

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Messerschmitt Me 262: Arrow to the Future by Walter J. Boyne. Washington: Smithsonian Institution Press, 1980, 188 pages, \$9.95 paper, \$19.95 cloth.

Much has been written about the Messerschmitt Me 262. As the first operational jet fighter and a thoroughly photogenic aircraft, Willy Messerschmitt's remarkable offspring has been an irresistible attraction to aviation writers. Unfortunately, photo captions of doubtful accuracy, cryptic entries in multi-aircraft reference books, anecdotal contemporary

accounts badly in need of verification, and specialized articles in hard-to-find journals have accounted for the bulk of this verbal outpouring—until now.

Walter Boyne, a former USAF colonel with more than 5000 hours of diversified flying experience, tells the true Me 262 story. *Messerschmitt Me 262: Arrow to the Future* is the book on the Me 262, and it can serve as the *only* book for all but the serious specialist and most dedicated of buffs. It was published to put the National Air and Space Museum (NASM) Me 262 restoration and display project in historical and technological perspective. Boyne describes and analyzes the technological developments on which the success of the German jets depend, developments elsewhere that affected the Me 262, and its ultimate impact on aircraft and engine design.

The scope and breadth of the author's research and analysis should serve as a model for others. A chapter is devoted to the development of the jet engine, another to other early jets, and one to technical description. The latter includes four pages of excellent five-view scale drawings and a beautiful two-page cutaway. Boyne's account of NASM's own Me 262, its history and restoration, is a fascinating story, leaving the reader with real respect for the skills of the NASM Silver Hill (Maryland) restoration facility.

Boyne knows the sources, flying, and his subject. The resultant text is smooth, readable, and highly credible to pilots, the technically oriented, and the general reader alike. Though not overburdened with footnotes, the book is definitive. Best of all, it is remarkably complete: seven appendixes nicely supplement the text, and a rich array of drawings and well-chosen, well-captioned photographs gives superb pictorial coverage. This handsome book is highly recommended.

J.F.G.

Meanness Mania: The Changed Mood by Gerald R. Gill. Washington: Howard University Press, 1980, 104 pages, \$6.95.

Meanness Mania is a study of attitudinal changes toward blacks, other minorities, and the poor that offers an excellent opportunity for Equal Employment Opportunity compliance officers, educators, and civil rights workers to reassess America's commitment to racial and class equality. Gerald Gill does not make any new statements on the observation that conservatism is spreading and neoconservatism is coming out of the closet with open hostility and selfish opposition to programs to aid blacks, other minorities, and the poor. Instead, Gill has

done an admirable job of bringing together an exhaustive compilation of the thoughts of notable economists, civil rights leaders, educators, and sociologists on the subject of spreading neoconservatism.

The book notes that the aura of legitimacy given to the neoconservative movement by respected academicians and journalists has removed it from the Archie Bunker era into a more persuasive arena. With supportive documentation, the myth that isolated incidents of economic gain for individual blacks is an indication of progress for the masses and a justification to reduce or to cut back programs designed for blacks. Gill provides an excellent explanation of how the faulty observation of the progress of what is termed the emergent *black elite* results in the erroneous conclusion that this progress is typical of all blacks.

Historically, *Meanness Mania* traces examples from conservative backlash years (the anti-Communist paranoia and religious fundamentalists movement of the 1920s and the resurgence of anti-Communist sentiments of the 1950s) and notes the remarkable parallelism between socioeconomic and political conditions then and now. Gill analyzes the merits of the arguments, asserting that the Great Society has become a dismal idealistic failure. Each of these arguments is presented and then disputed with documentation arguing the benefits of each antipoverty program on its merits. Also challenged is the theory that court-ordered busing for school desegregation causes white flight to the suburbs.

As a guide to further research the prospects for blacks and the poor under current conditions in America, the book is excellent with complete and easy-to-follow bibliographic notes and an appendix. The text, however, is poorly organized and difficult to follow with unpredictable jumps from one point to another. Gill displays a tendency to divert from objective and factual exploration into ego-biased commentary. The book's lack of cohesion and organization may cause the casual reader to read only a few pages, but the researcher of the eroding gains of the civil rights movement will find the book an invaluable resource.

Hattie Dixon Minter
Air University Review

Moscow and the Roots of Russian Culture by Arthur Joyce. Norman, Oklahoma: University of Oklahoma Press, 1980, 191 pages, \$3.95.

Russia from the Inside by Robert G. Kaiser. New York: E. P. Dutton, 1980, 186 pages, \$10.95.

Russia—The Land and People of the Soviet Union

by Dieter Blum. New York: Abrams, 1980, 188 pages, \$45.00.

These three books on the Soviet Union are in answer supposedly to post-Olympics heightened public interest in the great Marxist experiment. Two of them are picture books, while the third describes Moscow and the roots of Russian culture with superb scholarly finesse and is sure to get lay interest.

In *Moscow and the Roots of Russian Culture*, Arthur Voyce fills a need, as he promises, to investigate the development of Russian artistic and cultural traditions from 1147 to the eighteenth century. The violence in the streets, religious spectacles, opulent czarist entourage, and peasants' alcoholic stupor are all vividly described. Moscow is indeed a city with a vibrant history, a knowledge of which will give the Westerner a broader insight into the "enigma" that is the modern Soviet Union.

Russia from the Inside is an incisive picture book essay that adequately shows that Soviet effectiveness is often at the expense of efficiency. A third of rural Soviet citizens have no electricity, and almost 30 percent have no indoor plumbing. The photos used in this volume are black and white and in the Walker Evans style of depicting so much with a single photo. One puts this book down reluctantly to stop the tour of the real Soviet Union. For example, pictures of a World War II veteran with Stalin's likeness tattooed on his chest, a young lad facing trial for painting graffiti on a public men's room, a worker drunk on the job, a crowd on the Metro, and even a worker's fashion show are all beautifully complete. This volume is a gem—well worth the cost.

In *Russia—The Land and People of the Soviet Union*, we are treated to the giant coffee-table, full-color photo montage of modern U.S.S.R. Written by a Russian and photographed by a West German, this is more a tourist guide than the other two books. Each of the five sections is introduced by three or four pages of narrative and followed by 20 pages of sparkling photographs. It is indeed a beautiful travel guide.

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Iran: The Illusion of Power by Robert Graham.
New York: St. Martin's Press, 1979, 272 pages,
\$16.50 hardcover, \$6.95 paper.

Few Americans in 1981 could pick up *Iran: The Illusion of Power* without a host of prejudices born from the hostage crisis and the continuing Iraqi-Iranian war. One would even have to wonder whether

the timing for publication of this book is not meant to play on current frustrations of the American people. How easy it would be to transfer our hopelessness in remaining a world power, able to protect our interests everywhere, to a new view that ridicules our opponent as unworthy. Notwithstanding the enticing appeal of the title in light of current events, *Iran: The Illusion of Power* is an excellent book for novice political scientists interested in Persian affairs and the effects of ill-gotten gains. Also, it should raise doubts for those who blindly regard money as the solution to all inequalities.

Although not a recognized expert in Mideastern or Persian affairs, Robert Graham appears to be qualified to present one view of recent Iranian developments. As *Financial Times* Middle East correspondent based in Tehran from June 1975 to July 1977, he had excellent opportunities for an intimate look at the Iranian commercial scene. He relies quite heavily on business statistics and personal contacts within Iranian business hierarchy to support the general thesis. Graham makes up for his deficiencies in lack of depth by crediting Marvin Zonis's *The Political Elite of Iran* and Julian Bharier's *Economic Development in Iran, 1900-1970* for helping him form an appreciation of Iran.

Without straying too far from his limited experience, the author does supply convincing arguments to his thesis that the Iranian experiment in almost instantaneous birth as a world power was doomed to failure at the start. This thesis is not presented in the opening chapters, though. Rather, each chapter is laid carefully and innocuously one on the other until the reader is almost ready to voice the same conclusion as the author. As such, the book is extremely effective in not raising consciousness to a questioning level until it is too late for the reader to do anything but agree with the author.

Graham's superb journalistic style and composition are evident throughout the book. History and dreary economics are converted easily to enjoyable understanding and appreciation. Staying within the historical limits of the Pahlavi Dynasty, first the author introduces Iran to the reader. Then he examines the economic boom caused by the 1973 quadrupling in oil prices. Finally, just prior to the conclusion and thesis presentation, he analyzes the system of power within the Iranian government with a view of the problems introduced by excessive cash, burgeoning military might, and the resultant culture in turmoil. The last chapter, "Opposition and Revolution," an update from the original 1977 draft to include the Islamic Revolution, seems obviously out of place in the context of the previous eleven chapters wherein the late Shah Mohammed

Riza Pahlevi has such prominence. But the author seems to have no difficulty in taking this tumultuous period as further evidence to support his thesis.

Iran: The Illusion of Power is easy reading, offering what appears to be highly documented and incontestable proof of something all Americans would like to believe—that a small country which for over a year contemptuously spit in our faces will never rise above its impoverished world status and mental retardation no matter to what the price of oil. Can the American public continue to tolerate such self-delusion and narrowminded ethnic prejudices?

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Air in Danger: Ecological Perspectives of the Atmosphere by Georg Breuer, translated by Peter Fabian. London: Cambridge University Press, 1980, 189 pages, \$24.95 cloth, \$7.95 paper.

Suitable for aerospace biometeorologists, environmental activists, and all concerned *Homo sapiens*, this book is an honest effort to report on the status of Earth's atmosphere. This is an excellent review of the origin of our atmosphere, which is presented as a product of, rather than precondition for, life on this planet. Within the solar system, or perhaps even the universe as we presently know it, it is believed that Earth was uniquely formed from an interaction of variant states of water and a cluster of small planetoids and present-day meteorites.

As a mass sufficient to hold a primeval atmosphere, Earth's volcanic outgassing of water vapor, hydrogen sulfide ammonia, and methane, exposed to atmospheric electrical discharges, theoretically gave rise to a reactive primordial protein matrix that favored development of anaerobes. These anaerobes eventually by necessity "switched" to solar fuel for photosynthetic growth production. Prokaryote algae (primitive unicellular beings that do not process a cell-nucleus) used fermentation until antioxidant enzymes and chlorophyll enabled advanced forms to survive the higher levels of oxygen that slowly increased in the atmosphere. Through adaptation within a slowly increasing oxygen-rich atmosphere, these primitive unicellular creatures develop systems of respiration eventually characteristic of the higher life forms.

Oxygen also increased gradually through photolysis, defined by Georg Breuer as dissociation of water vapor through the solar ultraviolet effect and escape of free hydrogen into space. Man has affected the atmosphere most markedly as a result

of his population (possibly trebling by the year 2030) industrialization, clearing of land, and use of fertilizers.

While there is enough oxygen present to oxidize all of the Earth's fossil fuels (at a reasonable rate), the environmental threat arises from rapidly increasing carbon dioxide (CO₂) levels, nitrous oxide, and the potential for decreased ozone. CO₂ trebling in Earth's atmosphere by 2030 is forecast, assuming reasonable continuation of forest destruction, such as denuding of land, humus loss, increasing use of wood and coal, and possible decreasing ability of oceanic CO₂ buffering. Sluggish programs of forest augmentation, mass production of bulldozers and chain saws, and worldwide increased demands for food and fuel have led to a net loss of plant coverage as reported by worldwide satellite observation.

The book was motivated largely by the Dahlem Conference (Berlin, 1976), which attempted to refine the complexity of the human effect on interactive natural cycles. While its cover design suggests alarmist doomsaying, the content is objective and open to admitting incomplete data and the overall complexity of the problems. Uncertain areas include effects of neutrons from atmospheric hydrogen bomb tests, spray can halocarbons (effect on atmospheric ozone), supersonic aircraft, and plutonium breeders.

Essentially the "message" of this monograph is to slow down, buy time, and develop energy alternatives. Reducing atmospheric pollution is an important environmental problem; and high on the list of objective solutions is the development of safe nuclear power generation to reduce the use of fossil fuels and lower production of CO₂ released into the atmosphere. While change-overs in energy sources require decades, we should decrease exorbitant energy waste, develop methanol from coal, reduce cement, aluminum, and plastic use, and encourage forestation projects. Breuer briefly mentioned solar energy, hydrogen cold combustion systems, and futuristic photolytic dissociation of water using sunlight as potential *enviromical*¹ developments.

Perhaps the chapter he did not include would address the effect of sinking many large oil-laden oceanic tankers in the CO₂-absorbing sea or atmospheric pollution following a large nuclear exchange or accident. Are we today perhaps involved in a primordial intellectual genesis that will someday evolve into a cognizance of and appreciation for one planet more important to life than our petty *Homo sapiens* differences of subraces, ethics, religions, and politics?

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Note

1. *Enviromical* is my way of relating to a possible futuristic science of enviromics that addresses human motivation to conserve energy, save money, and preserve innovative free enterprise economics through alternative energy sources and inventions to maintain this planet's viable ecosphere and the optimal health of *Homo sapiens*.

The Soviet Union and SALT by Samuel B. Payne, Jr. Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1980, 155 pages, \$19.95.

Just when you think you have heard it all about something, somebody always comes along to show that most of the iceberg really is hidden from view. This book concerns that most analyzed and widely written about topic, SALT (Strategic Arms Limitation Talks), and the iceberg in question is the Soviet leadership's intentions for concluding the SALT agreements. Professor Samuel Payne proposes to evaluate those intentions "by examining the arguments employed by the Soviet leaders and their advisors to justify or attack strategic arms limitation." Since there is no access to politburo meetings (and there are no "leaks"), the author relied on the considerable body of open Soviet literature: newspaper, periodicals, and books. He acknowledges the faults of this approach (e.g., such writings convey support for and justify policy decisions, inhibit debate, and disseminate "useful" illusions) but feels it is still superior to any available alternative.

Given the basic unfathomable nature of the inner working and hidden mechanisms of Soviet policy-making, Payne does manage to fathom here and there. He posits that "Soviet policy toward strategic arms limitations evolves from the interaction of three elements, the arms controllers and the militarists offering alternative policies and the supreme leadership choosing between them." He suggests which groups, factions, and individuals are identified with which element and examines the differing "Militarist" and "Arms Controller" attitudes, strategy, and approaches to SALT. As with most works based on the analysis of Soviet statements, there is a tendency to tedium and occasional murkiness. Unlike most such works, however, which often rely on a very selective sample to "prove" or rationalize a preconceived notion, this book includes a wealth of competing viewpoints from Soviet publications.

No surprises emerge from the book, and the chapters on SALT I and SALT II are underwhelming

oversimplifications. But there is an expertly crafted penultimate chapter, "The Question of Power," which is a useful and insightful summary of the main themes, objectives, and contradictions of Soviet foreign policy.

In the last chapter, Payne offers some advice on the conduct of arms control negotiations with the Soviet Union. He states:

One lesson is that arms control should not be linked to the overall relationship between the United States and the Soviet Union. We should not make an arms control agreement contingent on the resolution of our conflicts with the Soviets in other areas, nor should we expect an arms control agreement to make Soviet policy in general less hostile and aggressive.

President Reagan is unlikely to agree with that, but he, like most of us who are interested in understanding our adversary, will find this book to be a worthwhile contribution to the arms control literature.

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Soviet Defense Expenditures in an Era of SALT by William T. Lee. Washington: United States Strategic Institute, 1979, 31 pages, \$4.00.

William T. Lee's newest study essentially applies and extends analytical perspectives developed in earlier works. Lee's basic point remains unchanged: the United States, and particularly the Central Intelligence Agency, has consistently underestimated Soviet defense spending and continues to do so. This analysis is applied to the 1975-80 period (covered by SALT I and informal adherence to its limits since treaty expiration) to show that SALT has not constrained Soviet expenditures on defense (which, he adds, are made easier by heavy imports of durable goods from the West). He extrapolates these trends to the period covered by SALT II and concludes that ratification or nonratification will not materially affect Soviet expenditures during the period. Lee's statistical compilations and explanations are comprehensive and understandable; they represent the primary value of this work. His verbal discussions beyond these statistics are not so impressive and are often undocumented or underdocumented.

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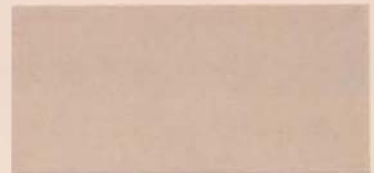
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The Air University Review Awards Committee has selected "An Alternative View of Air Interdiction" by Lieutenant Colonel Donald J. Alberts, USAF, as the outstanding article in the July-August 1981 issue of the *Review*.

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