



AIR
UNIVERSITY
review

MARCH-APRIL 1982

- Laser Weapons in Space
- National Security and Purpose
- Soviet Military Thought
- V/STOLs—Myth or Promise



toward a theory of tactics . . . with an assist from Clausewitz

No matter how much time, effort, and energy we put into strategy, the cutting edge is tactical effectiveness. A military organization incapable of tactical success is strategically irrelevant. Clausewitz put it well: "So much for the ends to be pursued in war; let us . . . turn to the means. There is only one: combat."†

If combat is the *what*, then tactics is the *how*. Yet compared to strategy, tactics has received remarkably little attention from the theorists—in part because of condescending attitudes among all too many analysts toward the messy details of "mere tactics."

The need for a clearer understanding of tactics—for a theory of tactics in Clausewitzian terms—is increasingly apparent as the tactical capabilities of our weaponry move farther and farther from the realm of practical combat experience. A simmering debate in Navy circles over the distinction between tactics and procedures points to the relevance of the issues involved.

How can we approach a theory of tactics? Clausewitz's concept of "theory" as an analytical framework within which to organize data and generate questions suggests a structure. Defining tactics as methods for the employment of military force or forces and attempting to cover all possibilities with the smallest number of mutually exclusive terms yields Twelve Basic Tactics:

Reconnaissance—the use of military force or forces to obtain information.

Obfuscation—distortion or denial of information to the enemy.

Seizure—acquisition of a place or thing by force.

Defense—forceable denial of a place or thing to the enemy.

Assault—engaging enemy forces to gain advantage from the suddenness and violence of the onslaught.

Envelopment—posing a threat by changing position, aspect, or both relative to the enemy.

Penetration—passing into or through an enemy force or area.

Decapitation—disrupting internal enemy communications, command relationships, or both.

Attrition—inflicting loss without regard to location, relative position, or aspect.

Starvation—denial of resources to the enemy.

Preservation—maintaining or changing location or aspect to reduce vulnerability, avoid wastage, minimize logistic consumption, or any combination thereof.

Retreat—moving away from or breaking contact with the enemy to gain tactical advantage.

What use is such a categorization? Consider, in the terms which it suggests, the historical pattern of tactical exploitation of a new medium, the air, between the beginning of World War I and World War II. Initially, aircraft were used almost exclusively for reconnaissance, and for sound technological reasons. Attempts to deny aerial reconnaissance—obfuscation—combined with attempts to "seize" or "deny" airspace, came next. These things stagnated until long after the initial early technological limitations had been relaxed and aircraft were capable of doing much more. This was partly because reconnaissance was vitally useful, but it was also due to the lack of a tactical theory capable of suggesting other alternatives. The idea of a repetitive pattern of tactical application arises from the theory. A similar repetitiveness can be observed in the impact of novel weaponry on land tactics during the mid-nineteenth century, during World War I, and again in World War II.

In the United States, the intellectual logjam in air tactics was broken only by the force of General "Billy" Mitchell's personality and the sacrifice of his career. Consider now the historical pattern of our military exploitation of space. Then read our lead article.

†*On War*, Paret and Howard tr., p. 95.

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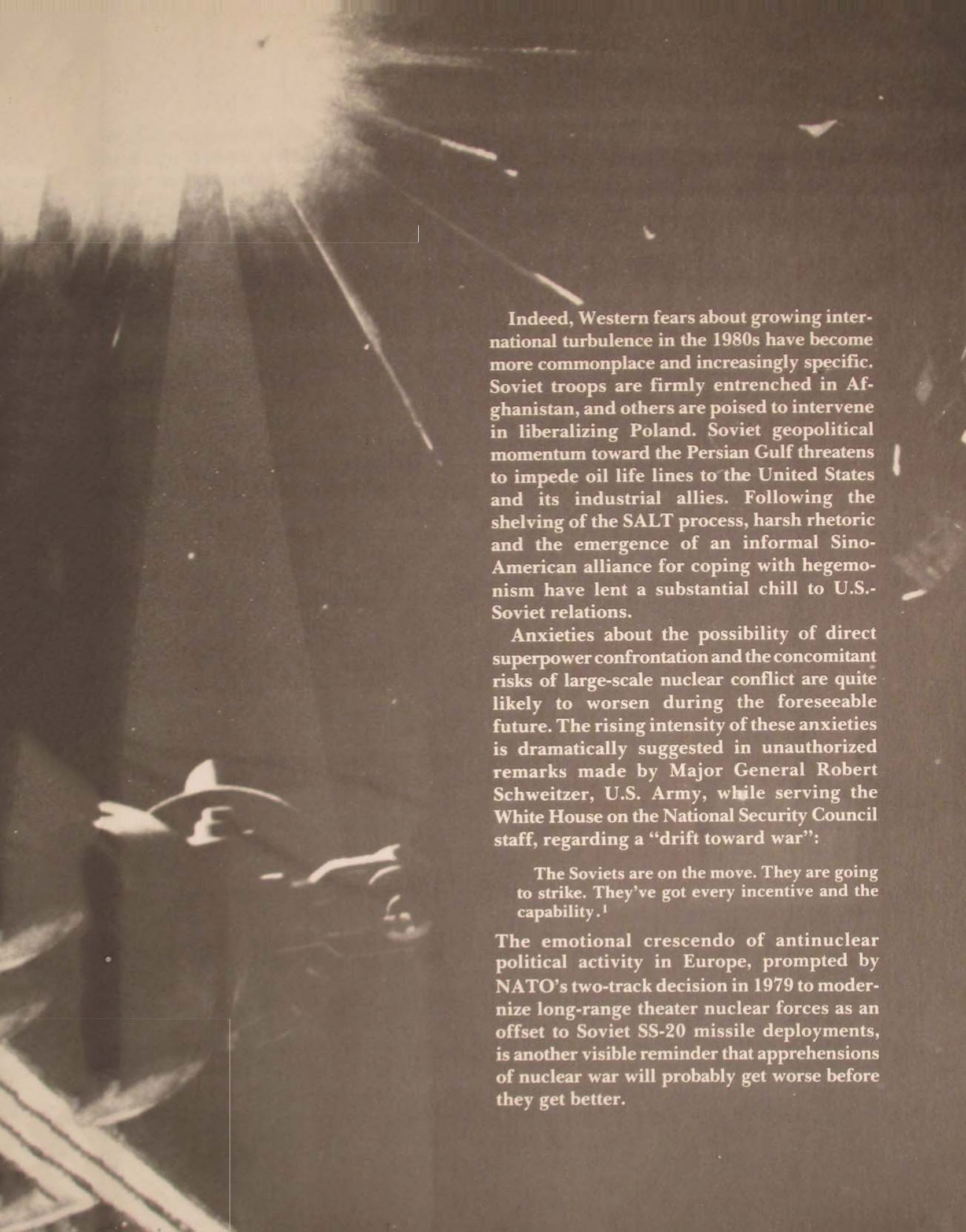
THE STRATEGIC VALUE OF SPACE-BASED LASER WEAPONS



DR. BARRY J. SMERNOFF

FOUR years after World War I, Paul Valéry made a perceptive comment about human hopes and fears:

We fear the future, not without reason. We hope vaguely, we dread precisely. Our fears are infinitely more precise than our hopes.



Indeed, Western fears about growing international turbulence in the 1980s have become more commonplace and increasingly specific. Soviet troops are firmly entrenched in Afghanistan, and others are poised to intervene in liberalizing Poland. Soviet geopolitical momentum toward the Persian Gulf threatens to impede oil life lines to the United States and its industrial allies. Following the shelving of the SALT process, harsh rhetoric and the emergence of an informal Sino-American alliance for coping with hegemonism have lent a substantial chill to U.S.-Soviet relations.

Anxieties about the possibility of direct superpower confrontation and the concomitant risks of large-scale nuclear conflict are quite likely to worsen during the foreseeable future. The rising intensity of these anxieties is dramatically suggested in unauthorized remarks made by Major General Robert Schweitzer, U.S. Army, while serving the White House on the National Security Council staff, regarding a "drift toward war":

The Soviets are on the move. They are going to strike. They've got every incentive and the capability.¹

The emotional crescendo of antinuclear political activity in Europe, prompted by NATO's two-track decision in 1979 to modernize long-range theater nuclear forces as an offset to Soviet SS-20 missile deployments, is another visible reminder that apprehensions of nuclear war will probably get worse before they get better.

If Americans (among others) could hope more precisely for a desirable politico-military future, such hopes might encompass a world in which nuclear weapons of mass destruction played a much less prominent role. The contemporary dominance of offensive nuclear weapons means that serious failures of diplomacy and strategic deterrence could unleash such widespread devastation that the survivors would envy their dead neighbors for many years.² In his news conference of 13 August 1981, President Ronald Reagan spoke for many by expressing a strong interest in "legitimate arms reductions to remove this nightmare that hangs over the world today of the strategic (nuclear) weapons." More recently, in response to a question from newspaper editors about the risk of strategic escalation in hypothetical European nuclear war, President Reagan stated:

I don't honestly know. I think, again, until someplace—all over the world . . . research (is) going on, to try and find the defensive weapon. There never has been a weapon that someone hasn't come up with a defense.³

Two weeks prior to this statement, President Reagan announced his decision to modernize the strategic triad of nuclear forces and command, control, and communication systems, and to end the "long neglect" of strategic defenses.⁴

There is clear agreement in the United States that the most vital U.S. interest is the physical security of American citizens, territory, and institutions. The first duty of government is to ensure that this most vital of U.S. national interests is protected adequately. Unfortunately, the credibility of nuclear deterrence for shielding the American homeland has eroded, perhaps severely, as the sustained growth of Soviet military power brought parity (if not incipient U.S. inferiority) to the strategic balance of power. The political credibility of extended deterrence, by which the United States provides a nuclear umbrella for its allies, has declined even more precipitously, creating agonizing doubts about American resolve for protecting vital U.S. interests abroad.

An emerging military technology under active development in the United States may begin to alter the pessimistic business-as-usual projections associated with these strategic considerations. In traditional Western usage, "strategic" connotes nuclear, global, crucial to national survival, or long-term in significance.⁵ The strategic value of space-based laser (SBL) weapons refers to all of these connotations, with the obvious exception of "nuclear," and is the subject of this article.

The Concept and Potential of the SBL

Laser weapons, based in space and capable of the global projection of power to attack a wide range of targets—satellites, aircraft, and missiles—have attracted an increasing level of attention during the past several years. Some enthusiastic proponents argue that such weapons can be quickly developed for defending the United States against all manner of military threats, especially modern Soviet ballistic missiles (ICBMs and SLBMs) carrying nuclear warheads that are targeted on American urban and industrial areas.⁶ Equally vocal critics contend that whereas SBLs are probably feasible, given intensive and expensive research and development efforts, they are either so costly to convert into practical ballistic missile defense systems or so susceptible to simple and cheap countermeasures that the required efforts are not worth the investment—at least at this embryonic state of the art.⁷ The burgeoning debate among "experts" about the perceived need to build first-generation SBL weapons is rapidly spilling over from the U.S. defense community into the public domain, but it has a long way to go before informed and sustainable decisions can be made.⁸

As with every qualitatively new type of weapon, the general family of directed-energy weapons—in which powerful beams of coherent electromagnetic radiation (in lasers) or relativistic elementary particles (in particle-beam concepts) act as the destructive mechanism—will attract

a broad range of expert and lay opinion concerning the central questions of technical and economic feasibility and overall politico-military desirability. When established types of weapons such as tanks or fighter aircraft are under consideration for modernization, the possibilities of severe cost escalation, unacceptable technical risks, and simple, cheap countermeasures are usually not effective constraints on official decisions that move the process of modernization forward. However, when the development of an entirely *new* class of weapon is under consideration, these kinds of burdens can seriously encumber initial decisions to get the weapon acquisition process started, for both good and bad reasons. External influences are often needed to push the decision process forward against the opposing inertia of bureaucratic and organizational forces, especially during times of fiscal austerity when balancing the federal budget has exceptionally high priority. For example, during the early 1950s American development of the ICBM was encumbered in this manner until new personnel in the Eisenhower administration advocated and then initiated a serious ICBM development program in 1953-54, nearly four years prior to the shock of *Sputnik I*.

The advent of space laser weapons during this decade might make a military and geopolitical virtue out of technological necessity. Powerful forces in the Department of Defense and the U.S. academic community argue that this new type of strategic weapon, even if it could become eminently feasible in the engineering sense, would prove to be too costly, easily countered, and destabilizing to justify the serious development needed to demonstrate its feasibility. On the other hand, increasingly potent forces in the U.S. Congress and industry have engaged the issue due to the decisive strategic significance that SBL weapons appear to have for improving America's adverse military and geopolitical position and their apparent ripeness for accelerated development.

This article makes the case that space laser

weapons could have disproportionately high leverage in coping effectively with many kinds of important military and geopolitical threats to American security lurking in the 1990s and beyond. Moreover, this new class of weapons can facilitate a gradual transition from the contemporary world of nuclear offense toward a more hopeful future in which the most vital of American interests—national physical survival as a democratic society—is protected by testable hardware instead of by reliance on the tenuous psychological “software” of nuclear deterrence (backed by triad hardware untested in realistic operational contexts).⁹

The strategic potential of space laser weapons is discussed in this article by exploring three related lines of thinking. First, the general characteristics of SBL technology are covered to establish a real-world baseline. Then an examination is made of the urgent need for new kinds of strategic power which can be converted into useful political and/or military leverage to offset the recently acquired global reach of the U.S.S.R. Finally, the positive image of a strategic future in which nuclear weapons play an increasingly minor role—a future in which there is an exit from the large-scale vulnerability of American society, held hostage in the nuclear age—is articulated and explored. The principal conclusion drawn from this analysis is that the *unique utility of SBL weapons* for devising and building new kinds of strategic military power needed to achieve U.S. foreign policy objectives and for facilitating movement toward a “postnuclear” future is *compelling*. The high strategic value of SBL justifies the need for clear national commitment to a bold, farsighted, high-priority space laser weapon program in the United States, a need which may remain unfulfilled until the proper mix of technical, political, and moral forces emerges.¹⁰

The Emerging Technology of High-Energy Lasers

Operating at a level of approximately \$200 million per year, the U.S. high-energy laser

(HEL) program has been the single largest technology base program sponsored by the Department of Defense (DOD) during the past five years. This fact signals both its relative importance within the broad portfolio of military research and development programs and the favorable expectations associated with it. By the end of 1981, DOD had expended nearly \$2 billion in an integrated effort involving the three military departments and the Defense Advanced Research Projects Agency (DARPA) to demonstrate the technical feasibility and military potential of high-energy lasers as practical weapons. The Department of Defense has begun to undertake lethality demonstrations to persuade itself and others (particularly the U.S. Congress, which authorizes its annual expenditures) that the "weaponization" of lasers is both feasible and worthy of additional larger investments. For instance, in March 1978 the Navy completed a significant milestone in its HEL testing program through the shoot-down of operational TOW (tube-launched, optically-tracked, wire-guided) antitank missiles, and in 1981 the Air Force began field testing of the Airborne Laser Laboratory (ALL).

The Soviet Union is credited with a high-energy laser program that is estimated to be three to five times larger than the American one, suggesting that interest in exploiting this rapidly emerging military technology is even stronger in the U.S.S.R. Senior American defense officials have stated that the Soviets may be beginning the development of "specific laser weapon systems" but cautioned that they may be moving prematurely to the engineering phase before adequate technology is available to support such decisions. Soviet deployment of moderate-power laser weapons capable of antipersonnel and tactical air defense applications may be far enough along for such systems to be fielded by the mid-1980s, according to DOD. In the latter half of this decade, it is possible that the Soviets may demonstrate laser weapons in a wide variety of ground, ship, and aerospace applications. The very large Saturn-

like space booster under development in the Soviet Union reportedly "will have the capability to launch very heavy payloads into orbit, including even larger and more capable laser weapons."¹¹

Given the large resources and high priority that the Soviet Union apparently has decided to invest in HEL research and development, Soviet leaders—not content to rest on the laurels of catching up by achieving strategic parity (or better) with the United States—clearly intend to play a major role in reshaping the military competition on terms consistent with their goals. Under the reasonable assumption that laser weapons will not prove to be a technological mirage, they are moving forward with vigor to develop and weaponize this new military technology at a point in time when Soviet-American relations are dangerously strained and the United States is gripped with anxiety about its declining status and inability to influence events in the world. The challenge posed by heavy Soviet investment in HEL weapon development is particularly formidable when viewed against the real possibility that as Principal Deputy Under Secretary of Defense for Research and Engineering James Wade testified to the Congress in March 1981: "Development of an effective and survivable space-based laser force could have a decisive impact on the character of warfare and on the strategic balance of power."¹²

Immediately after the laser principle of "light amplification through the stimulated emission of radiation" was demonstrated in 1960, speculation grew that technological advances would push the well-known death ray rapidly out from its historical realm of science fiction into engineering reality. Until the development of the gas dynamic laser in the late 1960s, however, technical prospects for weaponizing the laser were rather bleak. The gas dynamic laser, in which a high-speed gas flow removes large amounts of waste energy produced during lasing action, was the first device that could be scaled to very high energies and opened the techno-

logical door for serious consideration of practical laser weapons. Subsequently, electric discharge and chemical lasers have been developed which provide much higher efficiencies and shorter wavelengths, implying better coupling of the beam to targets as well as smaller and lighter mirrors. New types of short-wavelength HEL devices, such as excimers* and free-electron lasers, seem even more promising and are under active development in large programs sponsored by both the Departments of Defense and Energy, the latter having laser-driven fusion and isotope separation in mind.

Among the chief components of a laser weapon system are the laser device, which generates the intense coherent radiation, and the beam control subsystem, consisting of an optical train of mirrors that aims and focuses the laser beam on a vulnerable spot of the target. Laser weapons are unique because they use *mirrors* (but not blue smoke) to direct their firepower. This characteristic, which has been misunderstood by otherwise competent observers and technical publications, permits multi-shot and rapid retargeting capabilities.¹³ As in other weapon systems, a fire control subsystem would acquire and designate targets as well as play a major role in determining whether they have been destroyed. If used inside the atmosphere, a laser weapon will be measurably less effective due to beam absorption and/or defocusing; moreover, the presence of clouds or aerosols (such as smoke) will limit the effective range of such "endoatmospheric" weapons.

Contingent on the success of a series of feasibility demonstrations, the Department of Defense plans to decide in the mid-1980s whether to build one or more laser weapon prototype systems. The test-bed for the Air Force program, the largest element of the national HEL program until DARPA's SBL

program expanded recently, is the Airborne Laser Laboratory. ALL is a highly instrumented NKC-135 aircraft that demonstrates the integration and operation of an HEL system in a dynamic airborne environment and the propagation of laser beams to airborne targets. Not surprisingly, the initial results from ALL tests in 1981 have been mixed.

The highest level of public and congressional interest in emerging HEL technology has been associated with the intriguing concept of space-based laser weapons designed to intercept strategic ballistic missiles in their boost phase, as well as to attack satellites, bombers, and other strategic aerospace vehicles.¹⁴ Responding to a formal request from the Senate Armed Services Committee, DOD prepared a classified report analyzing options for accelerating the development of SBL weapons.¹⁵ Given the sharp increase during the past several years in DARPA's budget (to over \$100 million in FY 1982) for developing the subsystem technologies needed to build laser weapons for space applications, and the creation of an SBL project office at Air Force Space Division (with \$20 million budgeted for FY 1982), the stage has been set for an acceleration of the American space laser program that could have extremely significant implications for the strategic balance and for the long-term future of arms control and U.S.-Soviet relations.

From the global vantage point of space, laser weapons could reach out to attack a broad spectrum of distant time-urgent targets with great precision and agility. "Exoatmospheric" propagation of laser beams in space is unhindered by the absorption and defocusing problems associated with the atmosphere or under the oceans. Given the development of appropriate sensors and precision pointing systems—we know that operational U.S. satellite-based infrared sensors and large-aperture cameras can provide early warning of ballistic missile attacks and high-resolution imagery from space—advanced long-range laser weapons could attack large constellations of soft satellites

*An "excimer" is a relatively new class of laser device; most blue-green lasers under development for submarine communications are excimers. See *Laser Focus*, January 1982, pp. 57-58.

and hundreds of large and relatively soft aircraft and missile boosters with relative ease. Consequently, laser weapons in space provide an exceptionally attractive conceptual option for meeting the multimission requirements of anti-satellite (ASAT) operations, strategic and fleet air defense, and ballistic missile defense (BMD) with a *nonnuclear* system that is reasonably responsive to the initiatives of adversaries and that can defend itself.¹⁶

Senior officials in the U.S. Air Force and Army responsible for the ASAT and BMD missions have stated that while there are major technological challenges confronting the development of highly capable directed-energy weapons, such as space lasers, the long-term system potential is clear, and the lure is strong to develop and deploy such directed-energy weapons.¹⁷ It is not surprising that George Keyworth, President Reagan's science adviser, stated in his confirmation hearings before the Congress that lasers "may represent the only credible antiballistic missile technology in the future."¹⁸ More generally, the unique potential of space laser weapons for rapid and global projection of firepower against various types of time-urgent targets suggests the high-leverage nature of emerging SBL technology in the context of the intensifying U.S.-Soviet military competition.

The Technological Context

The history of military technology clearly illustrates that new types of weapons displace old ones. Compared with its slow and sporadic evolution from antiquity to the late nineteenth century, the postwar pace and scope of military innovation are unprecedented.¹⁹ It is human nature to pursue the art of the technically possible, especially when military systems that bear on urgent life-and-death issues are involved. Yet there is clear evidence that the U.S. defense community tends to resist and even suppress new and possible "superior" technology if it threatens existing roles and

missions. For example, Deborah Shapley writes that

the only "new" strategic weapon, the cruise missile, was developed as such after Congressional leaders intervened in the normal Air Force development process to force the weapon to be developed in an innovative, instead of an add-on, mode.²⁰

Some students of the bureaucratic politics of American ICBM development argue that there was a long pattern of disbelief, neglect, and delay until external influences intervened to accelerate the ICBM program in 1953-54.²¹ A self-fulfilling prophecy operated during 1947-53 in which the U.S. Air Force claimed that the ICBM could not be developed because of technical impossibility and then refused to provide developmental funds. In circular fashion, the ICBM was not developed during this period, and the judgment of technical infeasibility appeared valid.

In many important ways, the evolution of space laser weapons in the United States during the 1980s may prove to be quite similar to the development of the ICBM during the 1950s. The awesome military and psychological power of the primitive V-2 rocket prompted General Dwight Eisenhower to make his memorable pre-ICBM statement in 1948 about the possibility that Operation Overlord might have been written off had the Germans succeeded in using V-2s much longer. Similarly, the unique and decisive military potential of space laser weapons is generally recognized within the Air Force today—well before practical laser weapon systems based in space have been developed and demonstrated. But the signs of what might be called "repression" of vigorous space laser development are unmistakable, especially in high-level collective judgments that in-space integrated SBL demonstrations are premature,²² making the analogy between ICBM and space laser weapon development highly relevant to the issues under discussion.

In this connection, it is becoming clear that the United States no longer can take for granted that its historical preeminence in military science



In 1981 the Air Force began field testing of the Airborne Laser Laboratory (ALL), shown above in flight. This highly modified NKC-135 aircraft is the test bed for the Air Force Weapons Laboratory's laser tests in an airborne environment. . . . The fuel farm (upper right, below) has storage tanks for laser fuels. The ALL is connected to the laser fuels servicing station, which is forward of the right wing and connected to the fuselage over it.



and technology will continue and that future Sputnik-like shocks—if there are any—can be compensated for by an effective and timely catch-up process. The doctrine of using advanced American technology to offset Soviet numerical edges is becoming bankrupt as the Soviet quest for technological superiority produces major results. World leadership in key areas of industrial innovation has become a perishable commodity for the United States as Japanese innovation makes deep inroads in areas once dominated by Americans (such as advanced microelectronics). Similarly, large sustained Soviet investment in military R&D has closed many important leads once held by the United States and has also severely eroded American faith in technology as a substitute or surrogate for overall military capabilities.²³

The United States does hold one clear lead in modern military technology, in addition to its well-known (but perhaps decreasing) edge in computers and microelectronic materials/manufacture: U.S. space technology is at least 8-10 years ahead of its Soviet counterpart, and this unambiguous lead is probably widening. Although Russian cosmonauts have spent more time in space than American astronauts, the Soviets never completed their development of a large Saturn-class launch vehicle (reported to have failed catastrophically in tests beginning in the late 1960s) and never landed men on the lunar surface. The U.S.S.R. is far from demonstrating the heavy-lift launch capability that the reusable U.S. space shuttle possesses with such impressive operational flexibility. Furthermore, while the large Soviet space booster under development "will have the capability to launch . . . even larger and more capable laser weapons" into orbit, its arrival had been anticipated in the late 1960s, and it is literally one dozen years overdue. Annual expenditures in FY 1982 for U.S. military activities in space will exceed those allocated to NASA's civilian programs for the first time since 1960. Hence, it seems likely that the U.S. lead in military space technology will widen in the foreseeable future.

Perhaps of more importance for the long-term future of the U.S.-Soviet military competition in space is the fact that Soviet development of early-warning satellites is far behind the long-standing operational U.S. program, implying the existence of a clear U.S. lead in SBL weapon development.²⁴ Hence, journalistic estimates concerning the possible testing of first-generation Soviet space-based laser weapons—as early as the mid-1980s²⁵—have no direct and meaningful implications for the kind of *advanced long-range* capabilities that would be needed for credible laser defense with global coverage against ballistic-missile or bomber attacks. The increasingly rapid growth of an advanced technology base for U.S. space laser weapons creates the opportunity for converting

the existing clear American lead in military space support systems into a new form of advantage: active space weapons capable of (literally) projecting military power into conflicts if diplomacy and deterrence fail.

Contemporary Requirements of Strategic Power

The traditional concept of strategic power requires reassessment and reformulation due to major changes in the perceptions of vital U.S. national interests and to the thrust of emerging new technologies. Whereas the goal of protecting the citizens, territory, and institutions of the United States remains the unchallenged priority of national security and the first duty of the U.S. government, defense of strategic sources of oil imported by the West and sea lines of communication connecting oil consumers and (Persian Gulf) suppliers has become an important priority.²⁶ Also, the gradual emergence of a "strategic" relationship between the United States and the People's Republic of China is motivated, at least in American terms, as a calculated political response to contain the burgeoning geopolitical momentum of the Soviet Union. Traditional forms of strategic capabilities embodied in the American triad of ICBMs, SLBMs, and long-range bombers constitute not much more than an equalizer of similar Soviet capabilities. With the exception of bombers capable of carrying conventional ordnance, triad nuclear forces have little operational relevance for deterring (or fighting) nonnuclear wars over Persian Gulf oil or political hegemony in Europe, Asia, and the Middle East.

Requirements for new forms of strategic power that are more relevant to the new kinds of threats posed by apparent Soviet aspirations and military capabilities are under investigation. For example, the concept of a rapid deployment force (RDF) was formulated in the late 1970s and has evolved into a response for coping with interference of the normal opera-

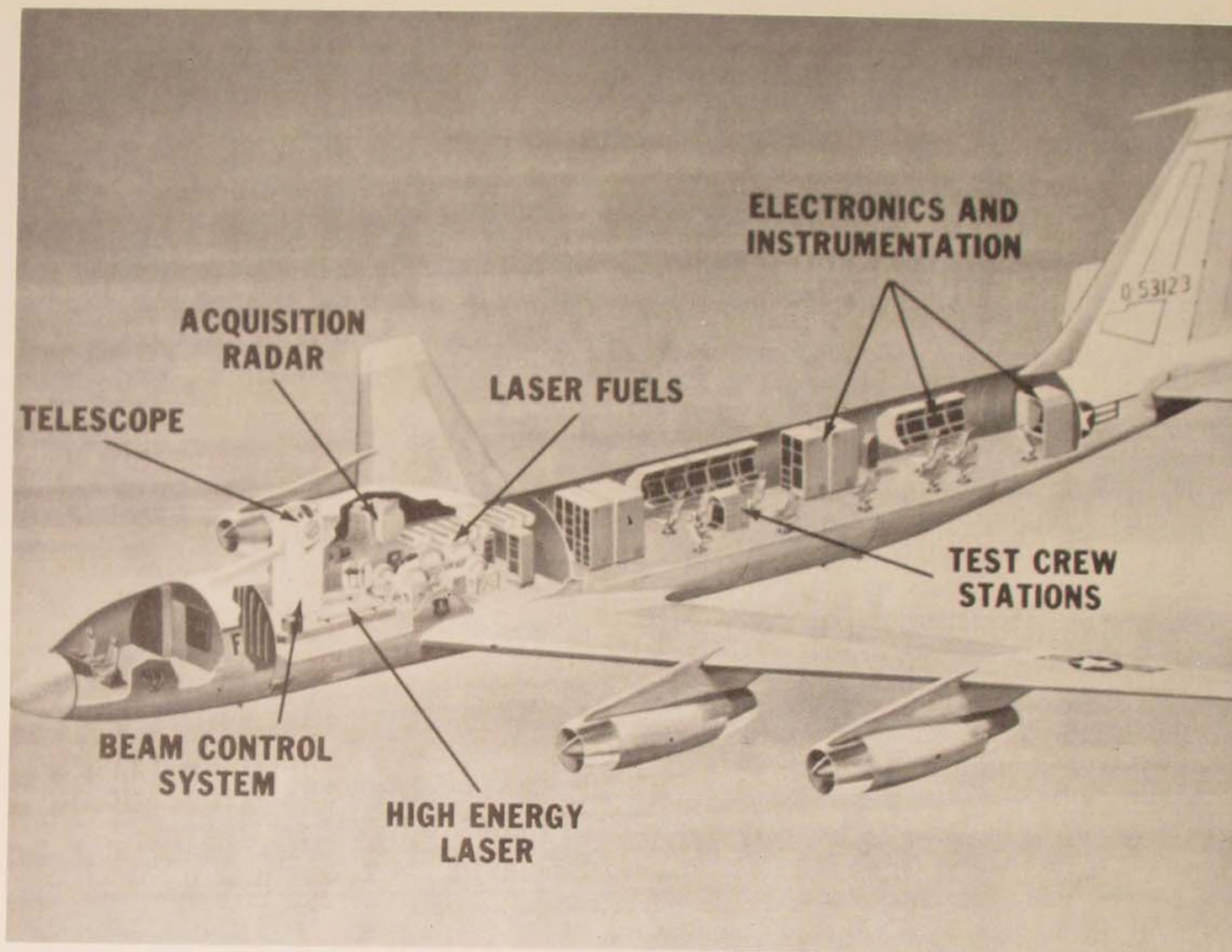
tion of large oil fields supplying the bulk of Western imports. Much criticism has been directed at the prospect that the RDF would not be sufficiently rapid, deployable, or forceful to deter hostile Soviet actions in the Persian Gulf, so close to the U.S.S.R. More generally, even though U.S. defense spending will rise rapidly during the foreseeable future, knowledgeable observers are dubious about the ultimate success of American efforts to cope with the new global reach of the Soviet Union unless bold attempts are made to exploit advanced technology. This approach remains America's strongest comparative advantage, although the Soviet quest for technological supremacy is increasingly evident.²⁷

New programs more appropriate to the changing realities of the global balance of power (termed the "correlation of forces" by Soviet analysts) are urgently required to provide the United States with effective and credible capabilities for the rapid and global projection of military (and political) power. These new types of strategic capabilities could give the United States the leverage it needs to deter and, if necessary, fight nonnuclear wars with the Soviet Union involving vital U.S. national interests without risking American involvement in a manpower-intensive, Vietnam-like quagmire for which popular support might be totally lacking. In this regard, the Reagan administration has decided that a significantly larger navy is needed to cope with the global nature of modern Soviet threats and to defend the United States as an "island nation" by controlling the balance of forces on the high seas. Similarly, space is becoming an essential medium for the United States to operate in, much as the oceans have, and weapons will be deployed *in space* if they are judged to be feasible and militarily useful.

If developed vigorously, at a pace comparable to the program for the radar-stealthy Advanced Technology Bomber, by the 1990s refuelable SBL weapons could provide much of the time-urgent global projection of firepower needed

to deter (or fight) wars over strategic resources or political hegemony provoked by the impulse of Soviet expansion. A moderately sized constellation of 10-20 space platforms carrying first-generation laser weapons could place a wide range of Soviet satellites, aircraft (e.g., Backfires armed with air-to-surface antiship missiles, airlifters, and airborne warning and control systems), and missiles (e.g., SS-20s targeted on Europe and limited numbers of SLBMs and ICBMs) in global jeopardy and sustain an adequate level of self-defense against plausible ASAT threats. In the traditional measure-countermeasure interaction, Soviet designers would attempt to harden their aerospace vehicles to laser radiation and develop techniques for neutralizing sensors onboard laser-bearing satellites. But this is *not* a persuasive argument against the case for building first-generation SBL weapon systems. Rather, it implies that SBL weaponeers must carefully account for likely hardening and ASAT threats in their plans, without driving technical specifications for space-based laser weapons beyond the point of "prudent" risk or affordability.

In addition to its potentially decisive military utility, there are two important reasons for developing and building a first-generation space laser force in the United States: national prestige and technological learning. Since the startling launch of Sputnik in 1957, the so-called "space race" between the global superpowers has been loaded with political symbolism; this situation is unlikely to change in the future.²⁸ Whereas the U.S.S.R. could accrue the early political and psychological benefits of a Sputnik-like event if its first SBL prototypes are launched during the 1985-90 period, the depth and breadth of the U.S. SBL technology base are such that subsequent developments in American weaponization will probably make major contributions to U.S. prestige in the world and have much more staying power than Soviet SBL efforts, in a manner analogous to the ICBM development race during the late 1950s.²⁹ Furthermore, timely conversion of the clear



The initial results of ALL tests in 1981 have been mixed. This cut-away view of the airborne laboratory suggests its major components.

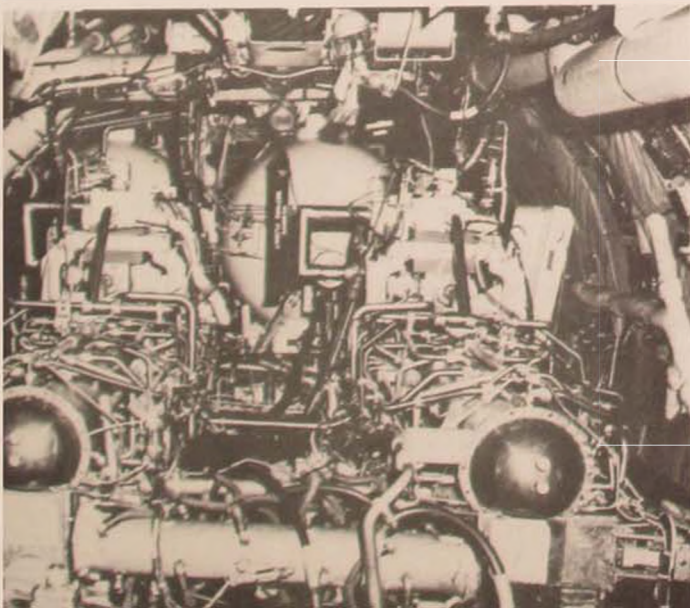
U.S. SBL technological lead into first-generation military equipment would move the United States rapidly up the SBL learning curve toward those advanced capabilities that will be needed for such stressing missions as large-scale BMD.

In essence, the midterm strategic significance of first-generation space laser forces corresponds to their potential as politically useful instruments for achieving critical objectives of American foreign policy, the foremost of which is the credible deterrence of hostile Soviet actions *below* the nuclear threshold. Unlike the strategic

nuclear forces, which have quite limited utility except in last-resort circumstances and thus have marginal political credibility, SBL weapons could constitute credible and powerful war-fighting tools if diplomacy and deterrence failed. American SBL weapons could thereby greatly enhance deterrence by virtue of their *strategic* character as powerful multimission weapons having global time-urgent coverage and their *nonnuclear* nature as usable and testable weapons that do not carry the apocalyptic implications or moral taboos associated with nuclear weapons.



Among the components of the Airborne Laser Laboratory aircraft are the laser pointing telescope (above) before installation and the laser device compartment (below). A look toward the back of the aircraft shows the laser device installed and the laser fuel tanks.



Strategic Transition from Nuclear Offense toward Laser Defense

Once first-generation strategic laser weapons are deployed in space—and such deployment is much more a question of when (and whom) rather than whether, given the compelling air of inevitability associated with their emergence—the possibility of reducing the historical dominance of nuclear weapons may become a real option. Strategic military power may begin to bifurcate into the traditional offensive and unuseful form wielded by superpower nuclear triads and an unconventional defensive form vested in the new spaceborne laser weapons. First-generation SBL weapons will have only limited BMD capabilities, although high-altitude aircraft may prove to be relatively easy targets due to their intrinsic laser vulnerability and long transit times. Advanced SBL weapons, however, could have impressive capabilities against even large numbers of hardened ballistic missiles and may offer the prospect of building credible layered BMD systems, using SBL as the boost-phase layer, which are not foolproof (nothing ever is) but do have low leakage rates in realistic scenarios.

Given this new technological possibility, strategic images of the long-term future range through three alternatives:

- the technically pessimistic extrapolation of “no exit” to the mutual hostage relationship of nuclear-armed nations, absent general nuclear disarmament;
- the politically hopeful—no serious nuclear wars will be fought because nuclear deterrence will never fail (even when diplomacy does) since rationality will prevail;
- the technologically and politically creative—an emerging “postnuclear” strategic world increasingly dominated by defensive nonnuclear weapons (initially space lasers) in which arms-race pressures are managed through cooperative mechanisms, such as deep negotiated reductions of offensive force levels.

The negative fatalism of the first strategic

image (“no exit” to the stark vulnerability of society because there is no perfect defense against nuclear weapons) and the politically naïve assumptions of the second (eternal efficacy of nuclear deterrence based on rational decisions, even during intense crises or wars) have conspired to support the traditional modes of thinking about nuclear war and nuclear weapons.³⁰ As in every field of public endeavor, images of the future shared by those who shape public opinion or make key choices tend to exercise great influence over the details of official decisions. Consequently, it is important to understand that the emergence of SBL technology creates a new alternative for coping with the seemingly inscrutable problems and ethical dilemmas of nuclear war and nuclear weapons and the open-ended nature of the strategic arms competition.

Just as the technical and political dynamics of the international energy situation are moving it beyond wholesale dependence on OPEC petroleum into what might be termed a post-petroleum future, a similar phenomenon may be unfolding in the realm of strategic affairs. The technical and political dynamics of strategic weapon development may be moving the world beyond overweening dependence on nuclear weapons into the threshold of a postnuclear future where strategic military power would still exist, but in an increasingly tame form as its basic nature shifts—with the assistance of meaningful and durable arms control agreements—from nuclear to nonnuclear, offensive to defensive.³¹ Many Americans (and Russians) would undoubtedly prefer a defense-dominated world to the present one of stark nuclear vulnerability, if dangerous transition instabilities can be eliminated (or at least minimized) on the way from here to there.³²

The long-term strategic value of space-based laser weapons is that they constitute *the single most obvious and credible technological innovation* that could facilitate the initial stages of a gradual transition away from a world in which the recognized currency of strategic power is the

nuclear weapon, having very limited (if any) meaningful political utility and quite negative moral implications. Moving toward defensive emphasis from the nuclear present without creating such unsettling transition difficulties that intermediate outcomes contain several large nuclear wars may be quite difficult. Any strategic transition which comes close to “blowing up the planet” could never be considered successful, even if the ultimate endpoint was viewed as being eminently desirable and practical.

Conventional strategic wisdom based on the doctrine of nuclear deterrence and so-called mutual assured destruction (MAD, in its inevitable acronym) holds that BMD systems are inherently destabilizing if they protect urban/industrial areas. Such a BMD capability might raise incentives during an intense crisis for preemptive nuclear strikes if the BMD system could limit damage from retaliatory strikes (crisis instability). Moreover, BMD systems tend to stimulate offense-defense arms racing since adversaries are motivated to build bigger and better offensive forces to assure penetration of the defenses (arms-race instability).

On the other hand, the current strategic balance is far from being perfectly stable, since any failure of deterrence could be catastrophic unless escalation was strictly controlled up to war termination; most analysts believe that escalation past the threshold of first nuclear use may be semiautomatic and rapid. In a political world where rationality has become an increasingly rare commodity, Winston Churchill’s famous “balance of terror” speech in 1955 captures the essential issue:

The deterrent does not cover the case of lunatics or dictators in the mood of Hitler when he found himself in his final dugout. This is a blank.

In this connection, Fred Ikle’s statement rings true:

While luck has been with us so far, strategic thinking must and can find a new path into the twenty-first century.³³

The advent of SBL weapons implies a novel type of tradeoff between short-term instability,

measured from the traditional frame of reference associated with MAD-based deterrence (which provides at best a metastable strategic balance), and the long-term and more meaningful type of stability connected with a defense-dominated balance. In the latter case, an offensive arms race might be triggered by the ascendancy of BMD-capable SBL weapons in the absence of effective measures to place firm ceilings (or phased reductions) on offensive force levels. The *negotiability* of offensive ceilings or phased reductions as advanced defensive technologies mature is perhaps the key open question in the subject of a possible strategic transition from nuclear offense to nonnuclear defense.

Fortunately, historical precedent for answering the question of negotiability in the affirmative can be found in the SALT I negotiations undertaken during the early 1970s. The U.S. demand for simultaneity in treating offensive and defensive weapons was accepted by the Soviet Union in the agreement of May 1971 which "moved SALT onto negotiable ground."³⁴ This concept of linking strategic offense and defense in the SALT framework is formally embodied in the unilateral statement by the United States (9 May 1972) entitled "Withdrawal from the ABM Treaty":

If an agreement providing for more complete strategic offensive arms limitations were not achieved within five years, U.S. supreme interests could be jeopardized. Should that occur, it would constitute a basis for withdrawal from the ABM Treaty.³⁵

If an American lead in ABM technology persuaded the U.S.S.R. to agree on the ABM Treaty in 1972, it is conceivable that a significant U.S. lead in SBL technology, with its unique and decisive military potential, could convince Soviet leaders to agree on sharp phased reductions of strategic offensive forces in the 1980s.

The difference now is that the United States badly needs the unique military capabilities that SBL weapon technology can bring to bear in the midterm against a wide range of non-nuclear Soviet threats, well before the long-

term BMD potential of SBLs can be exploited. Consequently, the U.S. cannot afford to place its emerging SBL program on the bargaining table at START (formerly SALT),³⁶ even to achieve Soviet agreement about deep cuts in offensive forces. The United States must use its SBL-related negotiating leverage, which will grow larger as the SBL program accelerates and matures, with great care and deliberation to encourage U.S.-Soviet competition in the development of strategic *defensive* forces (where the U.S.S.R. places much more emphasis now than the U.S.). This approach would improve the prospects for achieving a successful and moderately stable strategic transition toward defensive emphasis over the long haul. As the sole remaining product of the SALT process, the ABM Treaty of 1972 will require radical revision (perhaps during the treaty reviews of 1987 and 1992—not in 1982) to permit any significant shift toward defensive emphasis. The arms-control burden of maintaining strategic stability would move to a yet-to-be negotiated offensive agreement on deep cuts, which will be under discussion in the START forum during coming years.

THE strategic value of space-based laser weapons has two horizons. During the midterm (roughly 1985-95), first-generation SBL weapon systems will be developed in the U.S. (and elsewhere, with an unpredictable lag), which have formidable multimission capabilities against a broad spectrum of targets, *not* including large numbers of ICBMs in coordinated launches. While these first-generation SBL systems may have impressive military capabilities, they will by no means constitute the ultimate BMD system. Analysts who believe that first-generation SBLs could be so provocative that adversaries may be sorely tempted to preemptively attack a partial constellation during its deployment in space (before adequate levels of self-defense are possible) grossly misunderstand the serious limitations

and operational uncertainties of early SBLs in the stressing BMD application.³⁷ Early SBL systems will not constitute such total defenses as to threaten block obsolescence of the opposing strategic triad and a revolutionary shift in the strategic balance and arms competition.

On the other hand, first-generation SBLs certainly will be technological precursors to later vintages in this new class of directed-energy weapons that could have exceptionally robust BMD capabilities. Advanced SBLs might be highly effective and credible against ICBM salvos, as well as affordable, as long as they are not a stand-alone BMD system but are backed up by several other layers covering the midcourse and terminal phases of ballistic missile flight trajectories. Thus the long-term strategic value of SBL weapons that may be developed and built in the decades following 1995 would pit them against all manner of delivery vehicles carrying nuclear weapons.

Nuclear deterrence based on mutual assured destruction is

a scheme that would have been rejected as abhorrent in the Dark Ages by kings and the common people alike . . . It is a tragic paradox of our age that the highly humane objective of preventing nuclear war is served by a military doctrine and engines of destruction whose very purpose is to inflict genocide.³⁸

Whether the barely tolerable tension between the fundamental American ideal of the sanctity of life and the modern American institution of nuclear-based MAD³⁹ can be reduced will depend on the combined success of the U.S.-Soviet arms control negotiations called START, spurred by the emerging, broadly based anti-nuclear movement in the United States, and the timely development of SBL and other weapons to facilitate a transition toward defensive emphasis.

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Notes

1. Michael Getler, "NSC Aide Sees a Drift Toward War," *Washington Post*, October 20, 1981, pp. A1 and A9; and David Shribman, "Security Adviser Ousted for Talk Hinting at War," *New York Times*, October 21, 1981, p. A1.
2. The acute scarcity of surviving physicians and medical facilities to treat the survivors of large-scale nuclear warfare is discussed in *The Final Epidemic: Physicians and Scientists on Nuclear War* (Chicago: Educational Foundation for Nuclear Science, Inc., 1981), distributed by the University of Chicago Press.
3. "Brezhnev and Reagan on Atom War," *New York Times*, October 21, 1981, p. A5.
4. "Background Statement from the White House on MX Missile and B-1 Bomber," *New York Times*, October 3, 1981, p. 12.
5. Michael Pillsbury, "Strategic Acupuncture," *Foreign Policy*, Winter 1980-81, p. 50.
6. Senator Malcolm Wallop, "Opportunities and Imperatives of Ballistic Missile Defense," *Strategic Review*, Fall 1979.
7. For example, see M. Callahan and K. Tsipis, "High Energy Laser Weapons—A Technical Assessment," Department of Physics, Massachusetts Institute of Technology, November 1980, and Richard L. Garwin, "Are We on the Verge of an Arms Race in Space?" *The Bulletin of the Atomic Scientists*, May 1981. Ballistic missile defense (BMD) is used interchangeably with ABM.
8. See Monte Davis, "Is There a Laser Gap?" *Discover*, March 1981; "'Star Wars' Weapons May Come True," *U.S. News & World Report*, July 27, 1981; John Quirt, "Washington's New Push for Anti-Missiles," *Fortune*, October 19, 1981; Jim Schefter, "Beam Weapons," *Popular Science*, November 1981; and "Lasers Light Up the Battlefield," *High Technology*, November/December 1981.

9. Absolute reliance on deterrence presents serious problems in a world where rationality is highly imperfect. Perceptions of an adversary's limited rationality can motivate preemptive attacks on nuclear-related facilities, such as the 1981 Israeli raid on Iraq's reactor in Baghdad.

10. In this connection, a recent report to the Congress by the General Accounting Office recommends that the Secretary of Defense endorse an SBL program plan containing specific objectives, commit the necessary funds to provide stability for this program, and establish an appropriate management structure to accomplish the program objectives.

11. *Soviet Military Power*, released by the DOD in October 1981, pp. 76-79.

12. *Department of Defense Authorization for Appropriations for Fiscal Year 1982*, Hearings before the Committee on Armed Services, U.S. Senate, 97th Congress, 1st session, Part 7, Strategic and Theater Nuclear Forces, p. 4113 (Washington: U.S. Government Printing Office, 1981). See also Richard Burt, "Experts Feel 80's Could Be Dawn of Laser Weapons," *New York Times*, February 10, 1980, p. 1. Burt is currently director of the Bureau of Politico-Military Affairs in the U.S. Department of State.

13. A striking example of this misunderstanding appeared in Gerald Steinberg's article, "The Ultimate Battleground: Weapons in Space," in the October 1981 issue of *Technology Review*, published at MIT. His discussion of space-based laser antisatellite systems contains the following inaccurate statement: "The entire system weighing many tons would have to be rapidly rotated into a series of precise positions. This problem alone may make the entire program infeasible." (p. 61)

14. For an extensive technical survey of the HEL field emphasizing

space laser weapons, see the collection of nine articles in *Aviation Week & Space Technology*, May 25, 1981, entitled "Beam Weapons Technology Expanding."

15. *Department of Defense Report to the Congress on Space Laser Weapons* (U), Office of the Under Secretary of Defense for Research and Engineering, OUSDRE No. 81-0306, 15 May 1981. This report focuses on technical considerations and discusses key policy issues and military requirements in a cursory fashion.

16. SBL weapons could provide strong support for (layered) fleet air defense against Backfire bombers armed with long-range air-to-surface cruise missiles that pose a severe threat to large aircraft carriers and for theater defense against tactical ballistic missiles such as the SS-20.

17. Eugene H. Kopf, Principal Deputy Assistant Secretary of the Air Force for Research, Development and Logistics, "Space Activities of the Future," and Major General Grayson D. Tate, Jr., Ballistic Missile Defense Program Manager, "Strategic Missiles and Technology—Defense," lectures at the annual conference of the American Institute of Aeronautics and Astronautics, Baltimore, May 1980.

18. *Science*, July 31, 1981, p. 519. In October 1981, Keyworth reportedly told aerospace executives that he is spending most of his time trying to resist congressional pressures to build and operate SBL platforms for the BMD mission; see *Aviation Week & Space Technology*, October 26, 1981, p. 15.

19. See Bernard and Fawn Brodie, *From Crossbow to H-Bomb* (Bloomington: Indiana University Press, 1973); and Trevor N. Dupuy, *The Evolution of Weapons and Warfare* (Indianapolis: The Bobbs-Merrill Company, 1980).

20. Deborah Shapley, "Arms Control as a Regulator of Military Technology," *Daedalus*, Winter 1980.

21. Edmund Beard, *Developing the ICBM: A Study in Bureaucratic Politics* (New York: Columbia University Press, 1976).

22. A Defense Science Board panel was reported to have concluded in 1981 that "it is too soon to attempt to accelerate space-based laser development toward integrated space demonstration for any mission, particularly for ballistic missile defense." See Edgar Ulsamer, "The Long Leap toward Space Laser Weapons," *Air Force*, August 1981, p. 62.

23. Harvey Brooks, "Notes on Some Issues on Technology and National Defense," *Daedalus*, Winter 1981; Barry J. Smernoff, "Science, Technology, and the U.S.-Soviet Competition," in *Rethinking U.S. Security Policy for the 1980s*, proceedings of the Seventh Annual National Security Affairs Conference, 21-23 July 1980 (Washington: National Defense University Press, 1980); and James P. Wade, "Analyzing the Cost of Warfare," *Aeronautics & Astronautics*, February 1981.

24. Existence of a clear U.S. lead in space-based laser weapon technology is strongly suggested by the fact that the Soviet Union has deployed no effective early-warning satellite system. Hence the U.S.S.R. may have a great deal of difficulty in developing the necessary acquisition, precision pointing, and tracking subsystems for long-range SBL weapon systems, even though it outspends the United States by three to five times in HEL R&D. See *The FY 1982 Department of Defense Program for Research, Development, and Acquisition*, statement by the Honorable William J. Perry, Under Secretary of Defense for Research and Engineering, to the 97th Congress, 1st session, 20 January 1981, pp. II-10.

25. Walter Mossberg, "Soviet Could Build Laser Weapon to Kill Satellites in 5 Years, Pentagon Aide Says," *Wall Street Journal*, February 11, 1981. This article reports an interview with Lt. General Kelly Burke, Deputy Chief of Staff for Research, Development and Acquisition, Hq U.S. Air Force.

26. The critical significance given by President Reagan to the

security of Western oil supplies and maintenance of stability in the Persian Gulf was clearly indicated by his intense lobbying to win the issue of selling AWACS to Saudi Arabia in late 1981.

27. The case for a new strategy emphasizing technological boldness in space is made by Lt. General Daniel O. Graham, USA (Ret), "Toward a New U.S. Strategy: Bold Strokes Rather Than Increments," *Strategic Review*, Spring 1981. Vigorous development of the radar-stealthy Advanced Technology Bomber indicates that the United States is still willing and able to muster its technological resources when necessary.

28. Richard Hutton's *The Cosmic Chase* (New York: New American Library, 1981) is an excellent political history of the U.S.-Soviet competition in space.

29. Instead of the "missile gap" so widely discussed in the 1960 presidential campaign, by the early 1960s the U.S.S.R. had deployed only tens of primitive SS-6 ICBMs compared to the hundreds of American ICBMs. The staying power of the U.S. technology base is generally much greater than that of its Soviet counterpart.

30. For a recent exposition of this alternative, which amounts to the conventional wisdom, see Spurgeon M. Keeny, Jr., and Wolfgang K. H. Panofsky, "MAD versus NUTS: Can Doctrine or Weaponry Remedy the Mutual Hostage Relationship of the Superpowers?" *Foreign Affairs*, Winter 1981-82, pp. 287-304.

31. Freeman Dyson has used the Rush-Bagot agreement of 1817 between Britain and the U.S. (limiting naval armaments on the Great Lakes) as an example of durability in arms control; see his *Disturbing the Universe* (New York: Harper & Row, 1979), pp. 152-54.

32. Steven E. Miller, "Ballistic Missile Defense: Issues and Prospects," *U.S. Arms Control Objectives and the Implications for Ballistic Missile Defense*, proceedings of a symposium held at the Center for Science and International Affairs, Harvard University, June 30, 1980. For perspective on the nature of a "denuclearized" world, see John H. Barton, "The Proscription of Nuclear Weapons: A Third Nuclear Regime," in *Nuclear Weapons and World Politics*, David C. Gompert et al. (New York: McGraw-Hill, for the Council on Foreign Relations/1980s Project, 1977).

33. Fred Charles Ikle, "Can Nuclear Deterrence Last Out the Century?" *Foreign Affairs*, January 1973, p. 285. Ikle, a former director of the U.S. Arms Control and Disarmament Agency, is presently the Under Secretary of Defense for Policy.

34. John Newhouse, *Cold Dawn: The Story of SALT* (New York: Holt, Rinehart, and Winston, 1973), p. 194.

35. *Arms Control and Disarmament Agreements: Texts and Histories of Negotiations*, U.S. Arms Control and Disarmament Agency, August 1980, p. 146.

36. START is the acronym with which President Reagan replaced SALT and means: Strategic Arms Reduction Talks.

37. A recent illustration of this type of misunderstanding is provided by Kosta Tsipis, "Laser Weapons," *Scientific American*, December 1981. In the spirit of the anecdotal engineer who proved that bumblebees cannot fly, Tsipis selected the most difficult mission of damage-denial BMD for laser weapons and then proceeded to unwind his numbers game to demonstrate that SBLs would make no sense for the BMD (or any other) mission.

38. Fred Charles Ikle, *Every War Must End* (New York and London: Columbia University Press, 1971), p. 130.

39. For an intriguing discussion of the persistent and radical gap between the promise of American ideals and the performance of American (political) institutions, see Samuel P. Huntington, *American Politics: The Promise of Disharmony* (Cambridge, Massachusetts, and London: The Belknap Press of Harvard University Press, 1981).

NATIONAL SECURITY AND NATIONAL PURPOSE

the West, the Soviet Union, and China

DR. GEORGE H. QUESTER

CAN the sociological trends in the major powers and around the world have an important impact on the political practices and trends of the major powers?

We are used to the fact that command decisions reached in Washington and the Politburo could grievously change the ordinary life of millions of people, a part of the causal and predictive sequence we must never under-

rate. Yet what about the impact on these command decisions of the sum of all the small changes and choices made by the masses involved? My intent here is to juxtapose the trends of international politics for the remainder of this century with some trends in domestic society, in the hope that the interaction of the two might reduce our uncertainties about the possibilities of war and peace.



The Premises of Détente



What precisely might have been the presumptions and premises that caused so many people, a decade ago, to look ahead to détente, in Richard Nixon's phrase, to an "era of peace"?

First of all it was assumed that these would be years of greater economic, social, and ecological interdependence, a time of increasing "transnational politics," as the common problems facing all the countries of the globe would confuse and overwhelm the issues that had pitted West against East. Pollution and energy shortages, urbanization and international trade, and the management of monetary matters would cut across the Cold War tensions. Just as domestic unrest had brought the powers together after Napoleon's defeat in the years of the Holy Alliance, similar problems on the domestic side might leave Moscow and Washington less free to wage a Cold War.

The coming détente was also thus presumed to depend heavily on a resurgence of the old balance-of-power mechanism, whereby states did not form permanent alliances in advance. Rather, they switched sides often, typically intervening late in power struggles to help keep the weaker side from being overwhelmed and absorbed by the stronger.

The elbowroom for such a return to a balance-of-power system, reinforcing and somewhat replacing the nuclear "balance of terror," would come from an enhanced strength of the defense. Defense is preponderant when the military, political, social, and economic situation favor the forces already in an area, against any force trying to fight its way in. Conversely, we would have to say that the

offense was preponderant when this situation instead favored whoever was coming in, over the forces already in place. The years immediately after 1945 had seemed to show a great weakness of local regimes in Europe and Asia, such that they all had to look to Washington or Moscow for protection. The years after 1960 had presumably turned this around, letting states forgo adhering to one alliance or the other. China and Romania would be free now to show independence of the Soviet Union, while France and Japan could show their independence of the United States. The maintenance of international peace was thus presumed to depend less on the nuclear threats directed by Washington at Moscow, or vice versa, and more on local defensive strengths, on the likelihood that third, fourth, and fifth powers would continually intervene to prevent significant victories for either the alliances of Moscow or Washington.

In the political science jargon, what was expected was, therefore, a multipolar rather than a bipolar international system, with a number of actors becoming quite unpredictable from issue to issue with Moscow and Washington occasionally even having to get together in a common front, when other states had engineered some sort of "diplomatic revolution" coalition against them.

On the domestic front, such movement toward détente was then expected to be echoed and reinforced by greater anarchy and disrespect for authority. Just as Romania and France no longer saw the need for taking orders from their alliance leaders because the opposing alliance had become less disciplined and orderly, so the ordinary citizens of the various powers would become less willing to volunteer (or be drafted) for military service, and less willing to expend funds on preparations for possible wars, again because an attack from the other camp had come to seem so much less likely.

At the extreme, this anarchical disrespect for authority would move beyond opposition to military service and taxation, to alcoholism

or drug-taking, or a general dropping out from society, and then still further to terrorism, with violent attacks on society and the state. Confronted by an array of terrorist activity ranging from the left to the right to the uncatalogable, Moscow and Washington and Bonn and East Berlin might then find themselves sometimes again making common cause against such attacks for fear that the anarchic tendencies and example might otherwise spread too quickly and too far.

Accompanying this was an expectation in the mid-1960s that Moscow and Washington would have to fear, and would have to unite against, the prospect of a spread of nuclear weapons to many more countries. This has a fair amount to do with the mass sentiment stressed in this article, since one important explanation of such proliferation will simply be the world's demand for energy and electric power. The nuclear reactors that produce electricity will also in the process produce plutonium, a material all too easy to convert into nuclear weapons. Yet many states that had no interest in such weapons would still be reluctant to deny their publics the economic returns expected from such developments of dual-purpose nuclear physics.

Thus, Soviet-American cooperation has been close on preventing the horizontal proliferation of nuclear weapons, just as it had become close at the conferences on the Laws of the Seas, or the United Nations Conference on Trade and Development (UNCTAD) conferences, or in responding to the threats of terrorism. Such nuclear proliferation would not in and of itself be necessary for détente or the emergence of a multipolar system. Nations that possessed only conventional arsenals could indeed already behave independently, counting on the two superpowers to deter and check each other in any use or brandishment of nuclear weapons. But the Soviet-American cooperation against further proliferation, which indeed reached a very high degree in the joint authorship and presentation of the nuclear Nonproliferation

Treaty (NPT), was nonetheless symptomatic of détente.

Finally, as the ultimate nightmare for the future, the anarchy and alienation previously discussed might then go beyond ordinary terrorism, moving into nuclear terrorism, as antigovernmental factions in the West or the East were suddenly able to threaten cities with nuclear destruction if they did not get their way. It is far easier to see how one would deter American or Soviet nuclear forces, or even Pakistani nuclear forces, than how one would deter a Baader-Meinhof nuclear force. This is surely something that Moscow and Washington might want to cooperate in heading off.

Nature had thus willy-nilly generated a set of common problems for the two superpowers, rooted in economics and technology and sociology and politics, problems nicely perhaps reinforcing the tendencies toward détente.

Doubts about Détente



Much of the optimism Americans displayed about the prospects for détente has faded. We should therefore proceed to list the contrary explanations and premises for what some would refer to as a new Cold War, what in any event can no longer be so unquestionably seen as détente.

Western observers distrusting the trends of the 1970s would now challenge whether the international system was ever loaded toward the defense enough to discourage attacks all around the system or bring back the stabilizing balance-of-power system in place of bipolar alliance arrays. China, Romania, and North

Korea no longer march in step with Moscow, but Cuba certainly does. In many corners of the world, the level of Chinese effort may not suffice to make any difference for military or political outcomes. Communist strength is not really divided against itself in places like Somalia or Angola, but has appeared again as a cohesive whole.

It would be consistent with this view to conclude that the Soviets have remained aggressive in the 1970s and 1980s, so that any appearance of *détente* was simply the result of a loss of United States self-confidence emerging from the Vietnam War, reinforced all the more by the very societal trends just noted toward challenges to authority. One could comfortably call it *détente* when fewer opportunities appeared for either side to try to advance. But one would hesitate to use the *détente* label where one side continues to advance, while the other has ceased to resist.

Regardless of Soviet intentions, nature may have hurt the chances for *détente* simply by what it now has made possible in the military field. Rather than reinforcing defenses in a stabilizing way at the strategic level, the enhanced accuracies of the ballistic missiles or the cruise missiles on both sides have made a first-strike counterforce attack more thinkable and left second-strike retaliatory capacities less assured. At the tactical level, the growth in troop carrier capacity on both sides increases the possibility of interventions such as that by the Cuban force in Angola.

The Soviets have certainly surprised all outside observers by how much they have invested in missiles, tanks, troop carriers, and naval vessels. New technological opportunities, plus the Soviet response to opportunity, thus combine to weaken many of the reassuring premises for *détente*.

This view thus saw trouble for the non-Communist world in terms of societal trends, which expected the domestic disarray of the West to be far greater than that of the Soviet bloc, as Moscow would not have to contend

with a drug traffic or with waves of draft resistance. Countries cannot fight wars without weapons and soldiers. Moscow has the discipline to maintain, however artificially, a self-confidence in an expansionist ideology, while the West had lost its former ideological consensus backing free press and free elections and the free world.

How are we to judge whether the West's willingness to engage in military defense had eroded significantly more than that of the East? One special factor has affected the international military strategic balance ever since 1945, through periods of Cold War, *détente*, and the new Cold War. Because nuclear weapons are so destructive, the logic of mutual restraint and limited war has very much gripped the world since Nagasaki, so that nuclear weapons have not been used in combat and even the ordinary use of conventional forces has been somewhat restrained. We have not seen World War III nor anything like a repeat of World War II, for the threat of nuclear retaliation deters such a repeat just as it has deterred a total nuclear war.

When one considers how much damage nuclear weapons could do to life on earth, one would never regard them as a blessing. Yet, paradoxically, we have, perhaps because of this prospect, seen less investment of human life and economic resources in combat since 1945 than most observers could have predicted. Because of the A-bomb and the H-bomb, the years since World War II have not been particularly warlike by comparison with other periods of history but may have been unusually much the opposite.

One important concomitant of this absence of large-scale warfare is that all sides must now labor under some uncertainty as to how fit they truly are for combat, or on how far the processes of urbanization and socialism and alienation have worked to erode their people's ability to fight effectively as soldiers. It was suggested that Soviet officers were envious of the U.S. Army during the Vietnam War because

of the combat experience which they themselves were unable to acquire. The disillusionments of the U.S. Army in that war suggest that the Soviet officers would not envy the result, even if they envied the test. (One suspects that Soviet officers, by the same reasoning, are now clamoring to be assigned to Afghanistan, rather than seeking to avoid service there, because such service would provide a test of one's competence and mettle under genuine combat conditions.)

Yet neither Vietnam nor Afghanistan can provide meaningful tests of how an armed force would fare in a conventional tank battle in Europe, in an airborne operation around the Persian Gulf, a tactical nuclear war, or a World War III. Armies are thus left in a position of wondering whether they would do as well in combat as their fathers and grandfathers, with a general suspicion emerging that they might do worse.

This test that the West's military must apply to itself is of course not quite a fair one. The rules of the nuclear balance eliminate not only full-scale wars comparable in magnitude to World War II but also any quick campaigns with total and gratifying victories. Prolonged wars, amid prolonged periods of economic sacrifice in preparation for war, put great strains on patience and result in boredom, alienation, and questioning of the motives behind it all.

The same rules of the game thus make it harder to test individuals' willingness to serve their country militarily and also work to erode that willingness, to compound (at least in the West) a loss of respect for authority and loss of consensus about goals in foreign policy. Americans were surely more united about the purposes and approaches of American foreign policy in 1961 than they are in 1981. The Vietnam War caused a great number of Americans to question whether we were supporting the right causes in the world and caused others to wish that we would not support any causes at all.

The trauma of America's commitment to the Vietnam War and failure to win that war

has shown up in many forms. The spectacle of U.S. Army officers' fearing to order their troops into patrol was matched, at the national level, by Americans' generally expressing great distrust of their government and of the capitalist nature of their society. Students and many others openly wished victory for the forces of Ho Chi Minh in Vietnam and for other forces in Asia, Africa, and Latin America that the United States had been resisting since World War II.

A similar loss of confidence in Western society shows up in the other NATO countries, as faculty and students express cynicism about the advantages of Western political democracy; the bulk of the population shows a less resolute opposition to communism than in the days of the Cold War.

Such a political disinterest in military resistance against possible Communist aggression is then conjoined with the effects of the birth dearth of eighteen years ago. Since the numbers of military-age males eligible for armed service will be much smaller, we must deal with simple and inevitable demographic trends that reinforce but otherwise have absolutely nothing to do with the political changes just noted.

Political disenchantment has combined with the generally greater civilian affluence to increase opposition to compulsory military service, and to force shifts throughout NATO toward volunteer military service. While such a shift has some advantages, not the least forcing military and defense planners to take the true cost of labor inputs into account, the worry remains, especially because of the demographic trends just noted: not enough volunteers can be persuaded to come forward, especially in the above-average intelligence categories required by the higher technology of modern warfare.

As illustrated with the draft for ordinary servicemen, and most graphically for military physicians, there is a real risk that we will encounter a backward-bending supply curve, for no increase can be achieved in the number

of total volunteers, whether one raises or lowers the pay offered.

The normal supply curve for any commodity or service is shown in Graph A. As the price offered increases, the supply made available increases, while the demand is curtailed, with the result that equilibrium is achieved at some price. We are familiar with this in everyday life: if we want our house painted and cannot get anyone to do it at a certain price, we simply raise the price offered and soon find the necessary volunteers.

But military service, for infantrymen or physicians, is not so pleasant a form of work. It is possible that increases in wages would have to be so great that incentive was lost for staying in the service after the first tour of duty. Infantrymen or physicians with large amounts of money in the bank would move back into civilian life to enjoy or reinvest the fruits of their labor. The result would be a supply curve as shown, very possibly with supply and demand never meeting at any price. (See Graph B.)

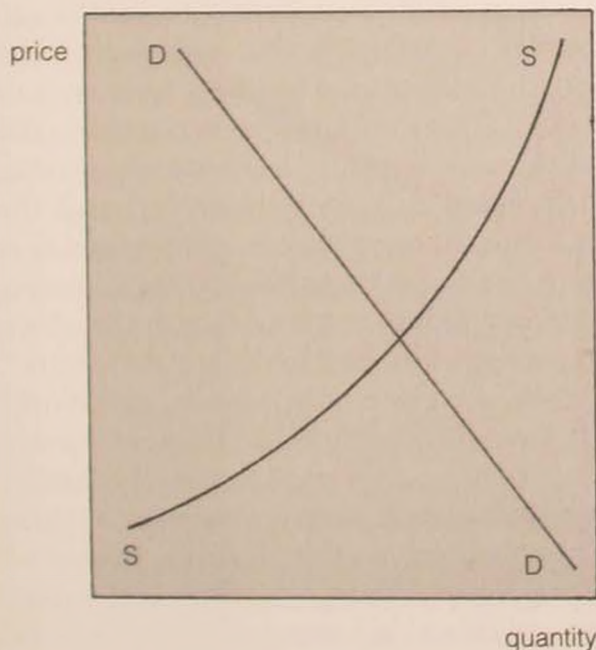
It should be noted that the same kind of argument applies for another situation now distressing Americans, the possibly limited

availability of oil from OPEC and other oil-rich states. Again, it is possible that the curve would be backward bending, as a lowering of the world price would not encourage more production. But an increase in price past a point would also not increase production, for producers would be accumulating so many dollars as to make them uninterested in more dollars, preferring rather to keep their oil in the ground.

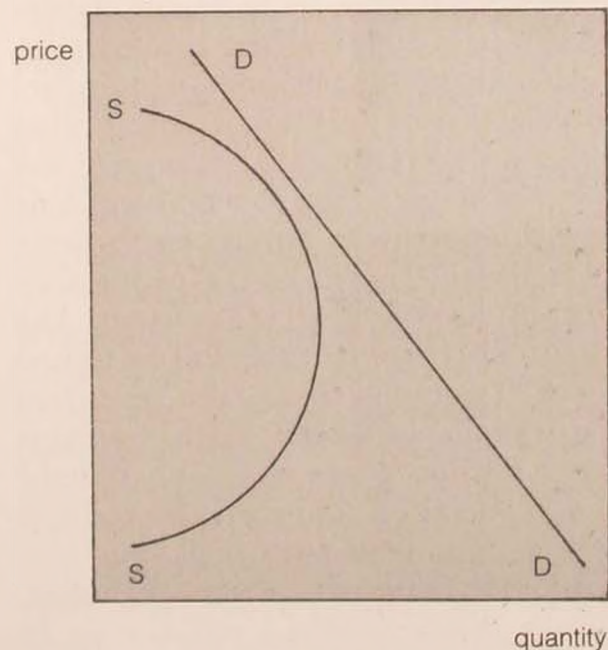
One rational and inevitable response to the shortage of military manpower has, of course, been a long overdue shift toward more capital-intensive ways of preparing for war. Relying more on machinery and automated weaponry may lead to technological advantage in weapons design. Another response, also probably overdue and rational, has been the opportunity, particularly in the United States, for more military jobs for women.

Good things and bad are thus presumed to combine to produce a general trend against military preparation. Greater literacy (always to be welcomed) and greater urbanization (also perhaps necessary and desirable) blend with greater access to drugs and alcohol and a greater jadedness with life and concepts of duty. As

Graph A



Graph B



life has generally become easier, it has made people softer; as menial labor constitutes a much smaller fraction of the work that needs to be done, youth come into any military less prepared to be infantrymen. The simple change in land tenure patterns has eliminated some major sources of career soldiers. The second sons of wealthy European landowners were once the natural candidates to become officers of the army, while the second sons of smaller landowners became career noncommissioned officers.

Physical fitness is down, while the craving for creature comforts is up. Modern amenities and modern medicine have made for longer and pleasanter lives, but these are not necessarily lives for which the young feel greater gratitude to their countries or any closeness to their political regimes. Yet another form of "the revolution of rising expectations" is in effect as affluent younger people resent any suggestions that gratitude is in order or that service to one's country should be considered a duty.

What national purposes would this view then envisage for the United States and its partners in the 1980s and the 1990s? Will we be mostly holding our own, hoping that not too many corners of the world fall under the single-party rule we used to detest? The pessimistic view would see the masses in Britain, Japan, the United States, and West Germany too much scrambling for a continued prosperity, in face of continual threats to Middle East and other oil supplies, so that the ability to present any cohesive resistance to the Russians will fade and with it the ability to support such worthy causes as the workers in Poland or the anti-Communist resistance in Afghanistan. The discontent of workers in Britain and the United States would ironically disable the West from helping or exploiting the discontent of workers in Eastern Europe. There is no doubt that the West's dependence on oil imports has produced an uncertainty and insecurity unlike anything we have known in the past. This might indeed produce a simple material self-interest in

Western Europe, Japan, and the United States that would blot out concerns about much of anything else and could cause these powers to conspire with the Russians or any other dictatorially inclined power, i.e., anyone who could keep the oil flowing.

Lest this be put forward as too clear a projection of current trends, one must remember hearing cries of "wolf" in earlier times when it similarly seemed that young men would no longer be willing to serve their countries in any reliable way. Portions of the British Navy mutinied during the Napoleonic Wars, threatening to leave Britain unprotected by the one wall it had so much counted on. The British fleet thereafter had to rely on impressment and brutal physical punishment well into the nineteenth century, i.e., for much of the period of its domination of the seas; while Britain relished the freedom and autonomy that the English Channel and British naval power provided them, perhaps not enough British seamen would enlist voluntarily to assure the maintenance of this naval power.

Mutinies occurred in the French Army during the worst slaughter in the trenches during World War I, placing France in dire peril had the Germans elected to take the offensive at the right moment. Mutinies among personnel of the German High Seas fleet, who had yet to experience hardship in that war, forced the Kaiser to abdicate in 1918 and Germany to surrender. The mutinies that occurred in the British Army in the early 1920s were viewed as a leftist signal that the military around the world would not so easily let prime ministers and generals deploy them into combat anymore. The Oxford Union resolved that its members would not fight anymore "for King and Country."

And yet, the globe then experienced World War II, a conflict distinguished by great bravery and competence in the German, Japanese, British, Russian, and American military services, and horrendous cost in human lives and economic destruction.

Two measures of output will thus now be

continually in doubt: the simple effectiveness of military performance and the loyalty of military people to the purposes of their nation.

More should be said about military effectiveness to put the matter in perspective. Whatever the feelings of the current situation, amid indulgence in drugs and alienation from society, it is probable that contemporary armies are more effective than their World War II counterparts. If nothing else, this would be because their equipment and firepower are far superior to that in the past. A Bundeswehr division could beat a division of the Wehrmacht, and a division of the British Army on the Rhine could beat one of Field Marshal Montgomery's.

If some of this is simply because of automation and modern equipment that makes the soldier look less manly, it is nonetheless part of what any rational systems analyst or economist would have prescribed as the necessary exploitation of the opportunities, the appropriate adjustment to the returns to labor and capital. Carpentry is also today much more tool dependent than it was in the "good old days," but the true cost-effectiveness of the carpenter has probably gone up.

The world has not yet seen any true "disarmament by sociology" in terms of simply battlefield competence. The doubts about the ability of the West to fight wars stems rather from blending in the additional consideration of loyalty. Are soldiers, however recruited, of whatever sex or educational level, now to be a more uncertain commodity on whether they will fight, perhaps refusing to go into combat as some of their World War I brothers did, perhaps switching sides halfway through the war as also occurred in World War I?

Hope for Détente

The crucial question for relating what we have just discussed to the likelihood of détente is whether this erosion of military capabilities is showing up on both sides of the Iron Curtain or on only one. Is the evident Western disin-

clination to participate in military service indeed well founded? Do we have less need to fear a Communist military menace, perhaps because some of such disinclination has emerged in the Soviet bloc also? Or is this "dropping out," on what used to be viewed as a military duty to country, very one-sided, encouraging the Communist powers, especially the Soviet Union, to move forward to fill out a vacuum?

We are especially concerned with the Soviet Union and its more loyal satellites, since we are not sure whether to think of China and Romania as enemies or allies. If a mass alienation from society—coupled with the changes noted in demography, economics, and culture in general—were to be achieved, we might heave a sigh of relief that the premises of détente were indeed true. If Moscow, East Berlin, Havana, and Hanoi turn out to be relatively immune to these tendencies, we then have a global case of unilateral disarmament rather than mutual disarmament, which any student of international politics would recognize as being much more dangerous.

Some of the signs of symmetry are indeed missing. There has not been any kind of taxpayer's revolt or legislator's revolt in the Soviet Union to hold back spending on defense. There is no "hemorrhaging of expenditures" on welfare and the rest of the domestic sector, making it impossible for the U.S.S.R. to fund armed forces fully comparable, and more, to those of the United States.

The internal divisions of the Communist world, as noted, have also not been as comprehensive as expected by the premises of détente. The Cubans have remained loyal to the U.S.S.R. even while the Chinese ceased to be so. The Soviet Union holds a monopoly within the Communist world on the means for moving troops long distances from their home base. There have been no riots in the streets of Havana or Moscow to protest the deployment of troops to Afghanistan, Angola, or Ethiopia. While some soldiers defect, the number of desertions has been very small compared with

the U.S. Army rate during the Vietnam War, testifying to the tough and closed nature of Soviet society but suggesting also that any substantial alienation of Communist military masses from their political leaderships cannot be proved.

A related hope of *détente* was that local forces would display strength in resisting incursions from the outside. The Afghan mountain people have indeed shown their traditional prowess at guerrilla warfare, but this may not impose an intolerable burden on the Russians, who have come in equipped with helicopter gunships (again the application of a capital-intensive technology versus the labor intensive). As a military factor, Black Africa has appeared to be as much a vacuum as ever. Small forces of Cuban or other Communist troops are able to make a great difference, but small French, South African, or other "anti-Communist" forces also make a great difference.

In the categories spelled out of societal contributions to disarmament and *détente* on the Western side, where are we to find any equivalent in the Communist world?

There is at least a bit of good news for the West and for *détente* that might be uncovered here. Demographic impact is one sure thing that we can always turn to. The birthrates of eighteen years ago also fell in the Soviet Union and Eastern Europe, as compared with a less affluent and less urbanized earlier time. The U.S.S.R. indeed seems headed for major internal ethnic tensions, in that its Asian citizens continue to produce larger numbers of children while its Great Russian and other European citizens have substantially reduced their birthrates. The prospect looms that the Great Russians in particular will very soon be a minority in the Soviet Union, while Europeans in general may be a minority by the end of the twentieth century.

Probably every military recruiter in the world wishes that he could continue to get the kinds of recruit that he used to get. Soviet military journals run articles lamenting the "poor quality" of recruits, which in part may be a racist

reference to the decreasing numbers of Great Russians in the total; other points may refer to lower morale and less inclination to military service among young men being drafted.

The ideal from the Russian recruiter's point of view would probably be a farm boy of Great Russian stock, fully equipped in the language of command, totally loyal to Mother Russia, uncorrupted by the creature comforts of the city and the example of the *stilyagi* hoodlums, and not so jaded as to resent authority or be bored by military life. It is inevitable that the Soviet Armed Forces will no longer have so many of this type of recruit, the legendary soldier capable of marching for days on a diet of black bread and borscht.

Pessimists about the West's ability to stand up to the Soviets sometimes bitterly suggest that quality control is allowed to slip on everything else within the U.S.S.R., yet the cream of good metal, good computers, and good people is somehow skimmed off to ensure the Russians of a first-rate military force.

But it is difficult to tell how assured this is or to predict how long such a double standard can be maintained. Much of the standard practice in the U.S.S.R. is indeed sloppier than ever, and overlaps between civilian and military life cannot be avoided. For example, our fears of a Soviet missile threat would increase if civil defense arrangements were really capable of shielding a large fraction of the Soviet population against our retaliatory attack. Yet, all evidence suggests that the U.S.S.R. civil defense exists more on paper than in practice. The average Soviet citizen is quite cynical and skeptical about the drills and preparations he supposedly is so well versed in.

Apart from basic demographics, are there other trends or signs that would give the West more reason to relax? Cuban military successes may show that Africa is a power vacuum, but the premises of *détente* would be underscored if it turned out that other regions of the world were less so, governed more (as we had all hoped) by local defensive capacities and local

balancing divisions. The Russians have not been totally frustrated in Afghanistan, but they have also not been able to slice through this country as easily as the Cubans did in Angola. The fraction of effective, deployable Soviet strength tied up in the Afghanistan operation is not trivial.

Chinese Communist armed forces did not find it easy to push into Vietnam, illustrating the neglect of Chinese military preparations through the years of the Great Cultural Revolution but also showing that the Vietnamese are adept at defending the territory they began with. Conversely, the same Vietnamese have not found it very easy to subdue Cambodia, even though the Pol Pot regime they ousted was probably as vicious and unrepresentative as any on the globe. The simple traditional hatred Cambodians have for Vietnamese has been a stock in trade for their resistance. This kind of ethnic antagonism is counted on as an underpinning for multipolarity and détente, analogous of course to the projected ethnic rivalries within the Soviet Union.

Even the success of the Cuban offensive in Angola has been only partial, achieving nominal control over the entire country, but ensnaring the Cubans and the regime they are defending in the unrewarding task of a counterinsurgency campaign; as they try to run trains through the jungle, the forces of Unita and the Angolan National Liberation Front (FNLA) employ the tactics of guerrilla ambush.

Regarding soldier loyalty, there is little reason to hope that the average Russian soldier would not be loyal to Moscow if a war were to break out, or that he would begin to desert in large numbers or murder his officers whenever a combat patrol had been ordered. A very different answer emerges, however, for the East European satellite forces, which are the nominal allies of the Soviet Army in the Warsaw Pact. As such countries are invaded by Soviet forces heading off liberalizations of one kind or another, whether these satellite-nation troops would remain loyal depends heavily on the

scenario for the start of any future war.

Things would be easiest for Moscow if the Bundeswehr were to invade Eastern Europe trying to recreate the Third Reich. If war breaks out under circumstances less to be blamed on the West, many of the officers and soldiers of these armies may swing to effective neutrality or to outright opposition to Moscow. Many nationalities, including the Poles, East Germans, Hungarians, and Romanians, have historical traditions of animosity toward the Russians and toward each other. Although the Bulgarians and Czechs have had a tradition of friendship for Russia, the Czech tradition is marred by memories of 1948 and 1968.

Doubts and uncertainties about the loyalty of the East European armies (and regimes and peoples) are an old story. The trend is probably that such doubts are increasing, simply in that the hold of the Soviet secret police and its affiliates cannot be as strong as it was. The surprising inability of the Communist Party leadership to keep the lid on events in Poland suggests that Eastern Europe is not becoming a place more stably in line with Moscow.

Alarmed Westerners see Soviet power everywhere on the rise. The contrary view (whether it is the view as seen from Moscow is regrettably impossible to tell) is that the Soviets may well be on the defensive. Was the move into Afghanistan aggression, or was it a move to preempt one more domino of the "Islamic revival"? Is the new surge of Islamic feeling that turned Iran so virulently anti-American, but also anti-Soviet, a surge that might one day affect the Asian republics of the Soviet Union?

Would a Soviet invasion of Poland similarly be an aggression or an attempt to restore a Soviet position that was taken for granted in the 1960s and has since become badly eroded? Soviet influence has grown in some corners of Africa and the Middle East and declined in others. Where Soviet aircraft once flew from bases in Egypt, American aircraft now fly from the same bases, with Egypt and Israel having signed a peace treaty. Ethiopia has fallen into

the Soviet camp, but Somalia has transferred out of it and offered its bases instead to the United States. The death of Mao and the apparent renunciation of his principles has not resulted in renunciation of his hostility to the Soviet Union. This surprisingly enough is the only legacy of the Maoist years that the Chinese seem intent on retaining.

It is altogether correct to point out how much the Soviet leadership has chosen to invest in tanks, missiles, troop-carrier aircraft, and naval vessels, rather than the consumer goods we might have hoped would be produced in the U.S.S.R. Yet, the projection of almost every student of Soviet economics suggests that a moment of truth is imminent, when the Soviet economic system will no longer be able to stand the strain. Soviet consumption has indeed been neglected in the 1970s, but so has Soviet investment in the capital goods required to sustain any continued economic growth.

The simple economic austerity into which the energy crisis is plunging the entire world may very likely produce alienation and uncertainty in Eastern Europe just as it does in the West. Workers everywhere are now less attached to their regimes because economic growth rates cannot remain as high as before and some living standards and real incomes may actually have to decline. The continual disagreement and lack of compromise on the distribution of economic shares that has become known as the "English disease" may not just spread to Western Europe but also to the East (this is indeed what the Polish labor crisis may largely be about) and perhaps even into the Soviet Union itself. Communist regimes that were able to keep their workers quiet and their soldiers loyal, under the old prices of fuel, may no longer be able to do so. At the very least, a greater cynicism and distrust will have set in, the kind of distrust that makes sending any army into battle a more uncertain prospect.

Not all of the prospects for disarray within the Soviet camp are so attractive, of course. Polish antagonism toward the Russians may

delay the time when the Warsaw Pact rolls westward toward Paris. But such antagonism may cause Soviet tanks to roll instead into Warsaw, in a manner that would very much damage Poland and also threaten world peace. The outside world aspires to a liberalization of arrangements in Eastern Europe for their own sake and for the reassurance this offers for the security of Western Europe. It realizes that this could be accomplished only in a manner which did not threaten the very security of the U.S.S.R., and such a splitting of differences must necessarily come slowly rather than abruptly.

The societal trends of Eastern Europe are clearly supplying a push in this direction, but the task of all who care about peace and human freedom will be to moderate the speed of the push and direct it into channels that have some prospect of success.

What we might very well be aspiring to is a "Finlandization" of Eastern Europe, given that outsiders worry a great deal about such a process affecting Western Europe. Finland is a far nicer place to live than Bulgaria or East Germany, though politically (because its foreign policy is periodically intimidated into cooperation with the Soviet Union) it is not quite as nice a place to live as Denmark or West Germany. We dread seeing Denmark become more like Finland. Would it not be a much larger plus to see Poland or Bulgaria become like Finland?

China: The Third Major Power?



The expectations of the 1960s were that China would be exporting revolution all around

the globe, maintaining an almost total hostility to the United States, somehow holding back what otherwise might have developed earlier as East-West détente. By the 1970s, it was obvious that such predictions were quite wrong, however, as China under Mao instead swung into total hostility to the Soviet Union, thereby contributing to optimism about détente. The end of the 1970s saw China almost becoming an ally of the United States, Japan, and the NATO countries.

Yet how does one explain such Chinese behavior and use it to predict the future? Beijing's failure to pursue guerrilla war to the hilt in the 1960s struck many observers as a surprise and an anomaly. The paradox in the end was explained by assuming that the Chinese were serious in all their talk about the importance of indigenous roots for rebellions. Everyone who has ever stimulated a rebellion by sending in outside agitators or "focos" in the past has claimed that the rebellion was a spontaneous act of the people already legitimately within the region, but there has always been reason to discount and suspect this as propaganda. After a while, however, it looked like the Chinese Communists were more sincere about this line. Having narrowly escaped becoming a Soviet satellite itself, perhaps China was averse to acquiring satellites of its own.

Yet such ideological sincerity and depth come much into question again with the tremendous upheaval in Chinese domestic practice since Mao's death. Russian observers, and some others, were predicting that China would give up its hostility to Moscow once Mao had passed away. This was viewed as the Chairman's personal ideological fetish which had been accepted by the rest of the Chinese. Yet the bizarre sequence is that the Chinese, since 1976, seem to be disowning almost everything else that Mao stood for, while persisting doggedly in their vehement hostility toward the Soviet Union. The ideological model by which Beijing was simply concerned for the purity of Marxism, and thus found Moscow to be a dangerous

form of social imperialism and heretical backsliding, might plausibly explain the shifts of the earlier 1970s, but not Chinese policies in the 1980s.

Can the ins and outs instead be explained more easily by a Chinese interest in international power? The totality of the shift toward the United States in the 1970s and the general failure to carry through with the 1960s espousals of guerrilla insurgency make power pursuit also difficult as an explanation of Chinese foreign policy. China would certainly improve its bargaining position if (as many had expected after Mao's death) it would warm up somewhat to the Russians, leaving the United States more in fear of a fuller Sino-Soviet détente, leading Washington to enter the bidding with greater offers and concessions, and then seeing what counterconcessions the Russians were prepared to come in with, etc.

TWO somewhat more elaborate explanations for Chinese foreign policy will have to be introduced here, tied to their implications for our original questions on the more general shape of international relations.

The first, which might be very quickly endorsed by those who perceive a burgeoning Soviet power and a clear end to détente, would be that Beijing's continuing hostility to Moscow, even after the death of Mao, comes simply in response to a real threat of a Soviet military invasion or intimidation of China. Chinese commentaries never tire of pointing to the numbers of Soviet troops, tanks, and missiles arrayed in Siberia along the Soviet side of the border and in Mongolia, Moscow's satellite. What happened to Afghanistan, Czechoslovakia, and Cambodia is thus what Beijing is quite genuinely assumed to fear, to the extent that the Chinese have had no choice except to enlist as fullfledged allies of the United States and NATO.

China's defection from Moscow in the 1970s was viewed as a reinforcement for détente, making the world multipolar rather than bi-

polar, easing tensions all around. But the Soviet bloc, in this view, is so strong, even after the defection of China, that the world will have to remain bipolar. Beijing's shift into the Western camp might barely suffice to spare China or the West from Soviet military attack. Just as Chinese strength did not amount to any real counterweight to the Soviet-Cuban expeditionary potential in Africa, it might not have enough weight on its own to play such a role for Asia. When Hanoi's forces, with Soviet material backing, invaded Cambodia, the Chinese retaliatory invasion of North Vietnam showed Beijing to be relatively weak, rather than an importantly strong counterweight.

Yet there is at least one remaining question begged by this picture of Beijing's foreign policy being shaped so much by Soviet strength and non-Soviet (here Chinese) weakness. Why did China become so weak? Does this weakness not reflect more than raw power potential, but rather another variant of the undercurrents of mass feeling and ideological disarray that we have been describing for the other major powers as well? The Great Cultural Revolution was assuredly imposed from the top of the Chinese power structure by Chairman Mao and his associates. It also obviously took on a life of its own with the masses in China. The stress on being "red rather than expert" then looks very much like a functional equivalent of our Western tendencies toward rejecting national military competence, toward stressing what is pure in life over what reinforces national power, and toward being skeptical about the priority of foreign threats. The Chinese People's Liberation Army obviously had to pay the price, the second large army within a decade to be unsuccessful within Vietnam because of attitudes and trends back in its own cities and countryside.

If mass feeling and ideology have a certain life of their own in China, shaping international politics as well as being shaped by it, what does this suggest about the future of China as a factor in détente? The simplest model of viewing Chinese foreign policy as a function of ideology

had to be discarded with the passing of Mao, but a more complicated ideological model may still be required (a model which, by the way, would not leave it safe for the West to count forever on continuing Chinese hostility toward Moscow). Just as this ideology has upset détente somewhat by leaving China surprisingly weak (weaker than any power-minded state ought to be), it may yet surprise us with some new turnings of zeal.

While the hostility to Moscow and friendship toward Washington have survived all of its recent shifts, can this international alignment really last indefinitely? If the Chinese can be counted on to care about considerations other than their own power position in places like Angola, Poland, Latin America, and Southeast Asia, will such considerations paradoxically make Beijing a less aggressive and less active state, thereby not playing the requisite role for stabilizing the international system and making this system multipolar?

WE are required now to attempt some sort of assessment of how national purposes and societal trends will interact as we move through the 1980s and 1990s. Mass opinion and societal trends based on it have always had some potential for becoming self-confirming. "Suppose they gave a war, and nobody came." Yet the material realities of international power struggle impose a little more determinacy than this on the entire picture. The fears of an uneven and one-sided move away from military preparedness are, therefore, not so readily erased. "Suppose they gave a war, and only one side came."

Will this be a time of greater and greater confusion on all sides, occasionally reducing the likelihood of peace but at many points increasing it? Or will it rather be a time of confusion in the Western world, without a matching societal disarray in the Soviet camp, making for the prospect of unchecked aggressions, and great threats to liberty as we know it?

The U.S. Army did not look as cohesive in Vietnam as it did during World War II. The Dutch armed forces today look more unionized than military. The People's Liberation Army invasion of Vietnam looked less like the Asian hordes we remember from the Korean War and the Indian-Chinese border war, and more like a force weakened by years of Chinese Cultural Revolution and failure to modernize equipment. It is too early to tell whether the Afghanistan experience will make the Soviet Army look more professional or less so. The expedition in Africa certainly enhanced the world's view of Cuban military prowess, but the armed forces of Eastern Europe typically look ready to shoot at a Russian or another Communist neighbor just as much as at the soldiers of NATO. And does anyone expect Russian soldiers to be as resolute in the service of the motherland in 1982 as they were in 1942?

As we relate mass tendencies to national purposes, we inevitably move into what has long been a subject of debate in general international relations theory. For China, the Soviet Union, or the United States, we will have to consider whether such states are acting mainly out of material and selfish motives, i.e., mainly pursuing power, or whether there is instead also a substantial concern for ideology—concern for what such ideology prescribes as the correct approach to human happiness.

The skeptical "power politics" analyst would assume that Moscow, Washington, and every other regime will always be interested only in power and the ingredients of that power. Thus the oil and the military bases of the Middle East would always outweigh any concerns about the social, economic, and political life people enjoy there. A radical analyst of international relations would tend to see the Marxist forces of the world operating with more genuine concern for the welfare of man, with the West seeking power and markets. The defender of American foreign policy would see his side pursuing more altruistic goals, while Soviets seek power positions and material advantage.

A fourth possibility to consider is that all sides are engrossed with less narrow and more altruistic ends. But if we assume a greater seriousness for ideology in these states, so that it is supplying reasons for action rather than excuses for action, so that it amounts to genuine motivation rather than simply window dressing, in which direction does such ideology drive the states involved; and what is the net contribution to *détente* or its opposite, to peace or war?

For both the United States and the Soviet Union, it could be contended that the general drift of ideology in the 1940s through the 1950s and early 1960s was to pull these powers outward, supplying an additional reason for challenging each other around the globe. The United States was a self-satisfied state, seeing its own model as one that all other countries in the world could adopt so as to increase their happiness. The Soviet Union was similarly sold on its own model, convinced that it would conduce to happiness abroad.

This is to contradict any suggestion that altruistic and principled motives were somehow more likely to guide the Moscow regime or the United States government into more agreeable and peaceful policies. A desire to bring the good life to a foreign region might indeed sometimes lead to greater military activism and more trouble for the world than the simple selfish material concerns that the theorists of power politics typically advocate. A concern for the happiness of others (i.e., a serious acceptance of one's own ideology, rather than simply using it as window dressing) is no more inherently peaceful than it is inherently warlike. It is simply substantially different from the ordinary power-politics concerns of a state not guided by such considerations, such that predictions based on assumptions of power interest will often turn out to be wrong.

Two major differences, however, emerge between the United States and the U.S.S.R. Ideology in the Soviet Union has been a catechism imposed by the regime downward on the rest of the country, while in the United

States it is generated from below. Second, self-confidence in the American model faded badly in the 1960s, perhaps thereby generating the very phenomenon of *détente*, as ideological considerations now pulled the United States inward. Such a fading of self-confidence in the Soviet model has not yet become obvious in the Politburo. Will the tribulations and travails imminent for the Soviet Union at last upset the Kremlin's ideological self-confidence, or at least generate enough worries to distract all the Russians from ideology, and, thereby, perhaps round out the balance appropriate to *détente*? Possibly they will.

The Chinese case is again different, for here an ideology imposed from the top has had much the same impact as the post-1967 American spontaneous ideological trends. Because China is ideologically motivated (rather than simply concerned with power as the *realpolitik* analysts would have it), it is *less* of a factor on the world scene, the opposite of the impact ideology has had on the Soviet Union, and the opposite of the impact of such considerations in the United States before 1967.

If China were more selfish, more inclined to act like a traditional power-seeking state, it might play more of a role in the world and might bizarrely be more stabilizing now. China's ideological intensity has tended to make the People's Republic less of a power counterweight to the Russians around the globe.

The premises of *détente* were widely endorsed and accepted at the beginning of the seventies, but they were widely doubted at the end of that decade, with this playing an important role in the election of Ronald Reagan as President. Yet we can surely not all agree that *détente* is an illusion. The United States and the world have not really swung back into the rigid hostilities of the Cold War.

The debate about the relative prospects of *détente*, the likely shape of international politics, the comparative strength of East and West, and the probability of armed conflict continues in the United States. It will continue in a

relatively explicit form among academics, but it will affect the American public as a whole. In the process, it leaves American foreign policy looking far less predictable and organized than in the past. Soviet foreign policy debates will *look* more organized and resolute by comparison, but the important issue (indeed the center of the entire discussion) is whether it will be so.

Will the Kremlin in fact now be working from strength or from weakness? The social, economic, and political undercurrents of Soviet life suggest that the Communist leadership will also feel more beleaguered in the future. We have indeed been painting a picture in this article of global weakness and global erosion of capacities for armed conflict. If the U.S.S.R. seems expansionist for the moment, this may be less because of strength and cohesion in the Soviet camp and more because of the disarray and weakness in the rest of the world.

The Kremlin must look forward to many problems comparable to those confronting the West. How does a dictatorial regime react to the prospects of once again falling behind the West in industrial potential and concomitant military capability, to the prospects of economic distress and unrest in the Soviet satellites, to the prospects noted of demographic disarray and ethnic unrest within the U.S.S.R.?

In the past such regimes have sometimes lashed outwards when they felt that time was running against them, but at other times they have bowed to the inevitable and moderated their behavior. Obviously, our task in the West is to keep the U.S.S.R. continuously deterred from any rash and adventurous act, lest it feel that "now is the time to strike," when compared to a less promising future. At the same moment, our task is to avoid confronting the Soviet leadership with too great a prospect of defeat, lest the Soviet leadership become panicked at some point in the belief that it has nothing left to lose. Finally, the West's task is to judge Soviet military threats correctly, not overrate them.

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IRA C. EAKER ESSAY COMPETITION SECOND- PRIZE WINNER

WAR, POLITICS, AND HOSTILE WILL

LIEUTENANT COLONEL DENNIS M. DREW



THOUGHTFUL American military professionals look back on the Air Corps Tactical School of the 1930s with justifiable awe. It was there that a group of relatively junior officers, battling an entrenched military bureaucracy, logically constructed the justification and doctrine for the aerial warfare that would play such a decisive role in subsequent conflicts. Of particular importance was their justification for strategic bombing, a mission independent of other military operations and the cornerstone of a separate and independent Air Force.

Lost in the admiration for the faculty's accomplishments is an appreciation of their basic assumptions about the purposes of war itself, assumptions that continue unchallenged to the present time and provide the philosophical foundation for the way we think about war. The advent of nuclear weapons and the reappearance of limited war give us cause to consider

whether those unchallenged basic assumptions remain valid. In the aftermath of Vietnam and in the face of a future beset by dangers from every quarter, it is particularly appropriate to challenge our assumptions about the object of war and the role of the military.

The assumptions of the Air Corps Tactical School were essentially Clausewitzian. Like the Prussian master, the pioneer air-power theorists considered war a political act of violence undertaken to achieve policy objectives. They considered war to be the ultimate sanction, engaged in only after all normal means had failed to achieve the objectives of policy. Thus the object of war was to overcome an enemy's hostile will toward our policies. Of course, the Tactical School faculty also noted that air power provided a new and better way to wage war. Air power could overcome the enemy's hostile will directly by striking at the heart of the enemy nation. As a result, the enemy's deployed

armies and navies, the vestiges of hostile will, could be bypassed.¹

The question of air power's superiority relative to other military means is not at issue here but does offer a perspective that will be important later in this article. Several things, however, are at issue. The first is an unspoken assumption about the objective of war. The second is a definitional problem concerning hostile will. Finally, the last and most important issue centers on the obvious assumption that hostile will can be overcome by military means.

The Unspoken Assumption

If war is undertaken as a last resort to achieve policy objectives, then the unspoken assumption is that a successful war will result in a better state of peace. It is difficult to deny that this unspoken assumption existed. Logic dictates that fruition of our policies will result in a more favorable situation, from our point of view, or we would pursue different policies. Logic also dictates that we favor peace over war, for if we did not, war would not be a last resort. Thus the ultimate purpose of war is to achieve a more favorable situation in the peace that follows.

One might argue that if we are the victim of

aggression, our ultimate purpose could be to end the war and return the situation to status quo ante. However, this argument flies in the face of logic. A return to status quo ante means a return to the situation that precipitated the aggression. Surely if we prefer peace to war, we would not seek a situation that threatens us with aggression.

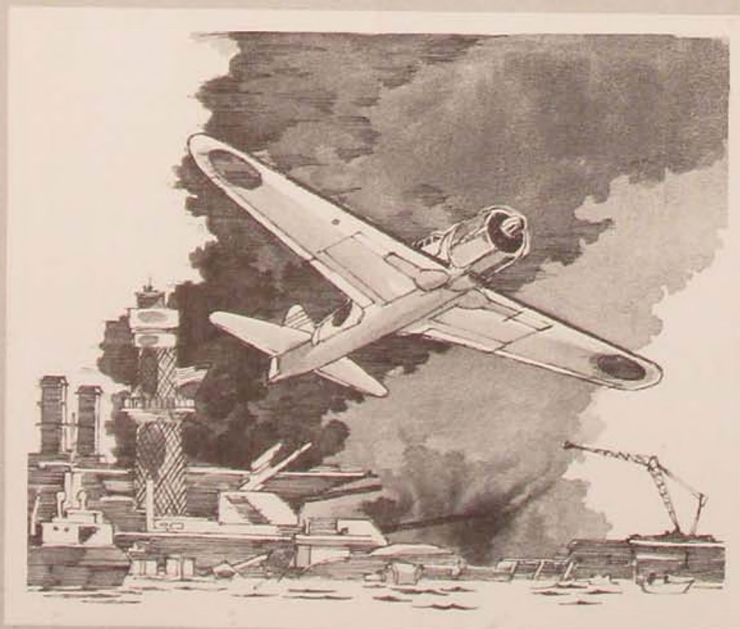
Although discussion of the unspoken assumption may appear trivial at this point, the concept of a better state of peace will assume more importance in relation to the second issue, hostile will.

Hostile Will

The most common definition of *will* refers to a desire or inclination to do something. In the context of war and its purposes, that hostile something is the enemy's inclination or desire to resist our policies. It is important to note that defining the enemy's hostile will as the inclination to resist our policies does not indicate the form of the resistance. The events of recent decades have repeatedly demonstrated the effectiveness of many different forms of resistance. It is also important to note that the inclination to resist contrasts sharply with the ability to resist in any specific manner. The enemy can manifest hostile will in a form commensurate with his capabilities, whatever they may be.

Knowing what hostile will is solves only part of the problem. To complete the picture, we must know where that hostile will is harbored. Referring to the enemy's hostile will treats the enemy state as if it were a single organism rather than a societal organization. To the contrary, it would seem we face at least two types of hostile will. First, there are a vast number of individual hostile wills among the enemy population. Second, there is the hostile will harbored by the enemy's leadership elite. Both centers of hostility would seem to be interrelated to some degree.

The formation of hostile will and the rela-



tionships between the various centers of hostile will are subjects far beyond the scope of this discussion. Despite this limitation, it is appropriate to express the notion that a better state of peace requires that both types of hostile will must be overcome. Eliminating the hostile will of the leadership elite may have the immediate impact of temporarily ending organized resistance to our policies. Over the long term, however, continuing hostile will among the enemy's general population may give rise to new leaders and resumption of organized resistance.

The Military Role

Can military means be used to attack an enemy's hostile will effectively? The Air Corps Tactical School faculty thought so. They viewed overcoming hostile will in terms of compelling the enemy to do our bidding. But does compelling policy compliance necessarily produce a better state of peace in the long term? The evidence of relatively recent history indicates that military actions which compel policy compliance cannot by themselves effectively attack an enemy's hostile will. Such a contrary statement requires substantiating evidence.

First, in the American Civil War, the Confederacy surrendered at Appomattox after four years of gallant, sometimes brilliant resistance against overwhelming odds. The South had been starved, burned-out, and pillaged. Her once-powerful armies had finally crumbled under ceaseless Union blows, and the South lay militarily and economically prostrate. Yet, the hostile will—resistance to Union policies—remained for many years. Some would even contend that vestiges of this resistance remained until very recent times. Consider, for instance, the revolt of the Dixiecrats in the 1948 Presidential election or the Governor of Alabama “standing in the school house door” in defiance of federal court orders. The hostile will of the Confederacy was not overcome by crushing military defeat. Only time and changing cir-

cumstances could heal the wounds.

Also consider Germany at the conclusion of World War I. Here was another nation starved and its field armies in full retreat, facing total disaster if the war continued. Hostile will, however, remained. One sees the turn to passive resistance, as demonstrated by the Germans in opposing French occupation of the Ruhr. Economic resistance, the willful inflation of German currency, was also used to resist the French. One must remember that despite the horrors of World War I, all that was required to set the stage for the second great war was residual hostile will, a scapegoat, economic problems, and a skillful demagogue willing to exploit the situation.

Finally, recall the French experience during the Second World War, when the French Army suffered a stunning total defeat and major portions of the country were occupied by the Nazi conquerors. Yet French hostile will remained, best exemplified by expatriate forces and the internal resistance movement. The Nazi war machine had crushed the French military but had not overcome French hostile will.

The parallels in these three examples are obvious. Yet there is one parallel that may be less than obvious: the harsh extra-military policies of the victors toward the vanquished. After the American Civil War, the difficult Reconstruction period with its carpetbaggers and scalawags was long and bitterly remembered by Southerners. After World War I, the peace settlements imposing not only guilt but also severe economic penalties did little to win the hearts and minds of the German people. Finally, the outrages of Nazi occupation in France are still too fresh a memory. Evidence also exists that military means can, in certain circumstances, be counterproductive in terms of overcoming hostile will. The classic example is the Japanese attack on Pearl Harbor. Although a military stroke of tactical genius, it was an act of incredible strategic stupidity. Previously ambivalent American attitudes toward Japanese expansion in Asia and the Western Pacific were solidified by

perceived Japanese perfidy and deceit. The attack on Pearl Harbor virtually guaranteed that the United States would not be satisfied until the Japanese had been totally defeated.

We can find in recent history, however, examples of total military defeat accompanied by the collapse of enemy hostile will. At the conclusion of World War II, both the German and Japanese military forces had been badly beaten while their civilian populations had been bombed, burned, starved, and, in two instances, vaporized in atomic blasts. Yet both the Germans and Japanese quickly became important American allies. Disregarding minor quarrels among friends, this supportive relationship has lasted for three and one-half decades. Clearly, German and Japanese hostile will was overcome. How does one account for this development, which is so startling when compared with previous examples?

There were many differences, of course, between the Civil War, World War I, and French examples compared with the aftermath of World War II. However, it would seem that the most significant and pervading difference was in the character of the policies of the Western victors toward the vanquished Axis powers. After World War II, immediate humanitarian efforts to relieve suffering were quickly evident. Punishment was carefully reserved for war leaders rather than for entire populations. Perhaps most important, economic policies were obviously aimed at restoring the self-sufficiency of the German and Japanese economies rather than aimed at extracting plunder. These enlightened policies can be contrasted with those of the Soviets in their area of European occupation. Harsh Soviet actions led many Germans to "resist with their feet" by fleeing to the West. The East Berlin riots of 17 June 1953 and the need to build an escape-resistant wall are further evidence of the continuing German will to resist Soviet policies.

One may argue that the presence of a supernumerary Soviet threat played a decisive role in the attitudes of the vanquished Axis

powers. The existence of such a threat on their eastern border may help explain the attitude of the West Germans, but it does not adequately explain the postwar Japanese experience.

WHAT useful conclusions can be drawn from this discussion? If experience gives any indication—and it is the only indicator available—one can reasonably conclude that military action, by itself, does not overcome hostile will and thus lead to a better state of peace. Military action can destroy the capability of an enemy to offer some forms of resistance or it can suppress some forms of resistance and thus compel policy compliance. But these are interim measures. A better state of peace requires policy acceptance, unless we are willing to follow the example of Scipio the Younger at Carthage and literally destroy the enemy, or unless we are willing to pay the price of continuous compulsion.

Framed in such a manner, we can begin to appreciate the true significance of overcoming hostile will. The task is to change an enemy's attitude or mind-set so that our policies are accepted. With reference to experience for guidance, it appears that the key to this task is the character of the policies used in conjunction with military actions. Although the object of war is to overcome hostile will, the practical military objective in war is limited to the elimination of the enemy's ability to resist militarily. Based on the experience of Pearl Harbor, it may also be concluded that the form of military action can at times be as important as its substance in terms of hostile will.

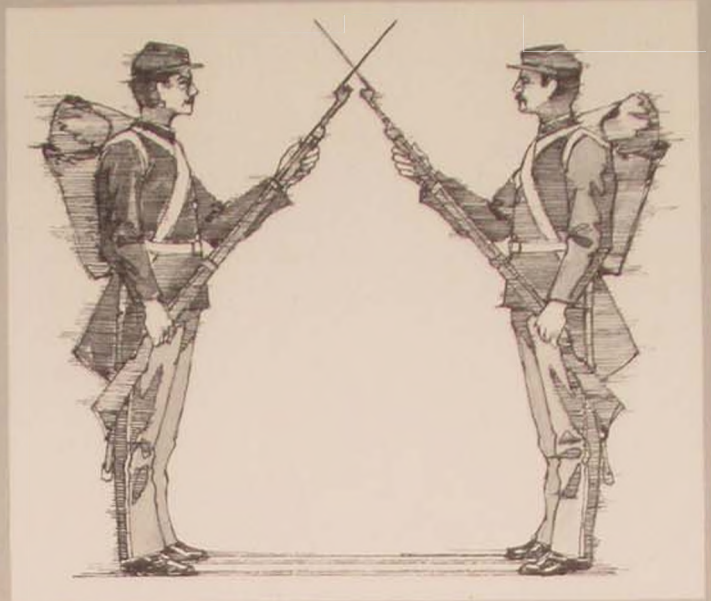
Recognition that military action by itself cannot overcome hostile will in no way denigrates the importance of successful military operations in war. If war is a last resort, what reason is there for the enemy nation (either the power elite or the citizenry as a whole) to even consider accepting our policies without successful military actions on our part? In war, military success often sets the preconditions

required for policy acceptance. For example, in a struggle with a totalitarian nation, military removal of the power elite and its controlling infrastructure may be required if the enemy's general population is to accept our policies. Although military actions are only part of war, they are the dominant part that differentiates war from any other political activity.

Before leaving this point, one caveat is in order concerning military success. Military success does not always mean traditional military victory. Fabius illustrated this point as he led Hannibal on a frustrating chase through Italy. In our own time, military success for the North Vietnamese fighting Americans meant merely inflicting casualties and avoiding total defeat. Our frustrations and casualty roles combined with skillful North Vietnamese propaganda slowly eroded our national will. Thus military success takes many forms.

If these are the conclusions, what significance do they hold? Clearly the conclusions demonstrate the unitary nature of war and politics. War is a continuation of political activity with the addition of military combat operations. The significance of this concept is that it is the antithesis of traditional American attitudes concerning war and normal political activity. Perhaps in rebellion against the dynastic wars of their European forefathers, Americans have, for the most part, regarded the military as a necessary evil.² Americans considered war an aberration not to be confused with normal political activity. Military action has been reserved for occasional crusades against some clearly defined malevolence. With such a stark view of the enemy and a crusader's disposition, the traditional American objective in war became the total overthrow of the enemy, a strategy of annihilation.³ Americans seemed to assume that the total overthrow of the enemy would automatically result in a better state of peace. Thus, separated from normal political activity, the object of war became, in a sense, the war itself rather than the peace that followed.

But as the examples indicate, the total



overthrow of the enemy does not necessarily overcome hostile will and does not necessarily result in a better state of peace. The American tendency to separate war from politics and treat war as a purely military crusade can be counterproductive in terms of both military operations and war's aftermath. The demand for unconditional surrender of the Axis powers in World War II is a case in point. As General Eisenhower said, "If you are given two choices—one to mount the scaffold and the other to charge twenty bayonets, you might as well charge twenty bayonets."⁴ More reasonable terms, from the German viewpoint, might still have resulted in the Nazi downfall but at a much earlier date with far fewer casualties. Equally important, an earlier end to the war would have meant less time for the Nazi death camps to pursue their grisly work. Finally, an early negotiated settlement might have prevented an ideologically hostile Soviet Union from standing astride Eastern Europe at the war's end.

The notions that war and politics are one and the same and that military power is a political instrument used for political purposes are particularly important in an era of limited wars for limited objectives. By definition, annihilation cannot be the objective in these situations. Military actions must be coupled with enlightened nonmilitary policies if we are

to achieve satisfactory and lasting settlements of the issues in dispute.

Meaning to the Military

Our final concern must be the meaning of the foregoing to the military professional. Much of the material in the preceding paragraphs is foreign to the American military, cutting across the grain of the American military tradition that "there is no substitute for victory." Although there is no substitute, I have attempted to point out that military victory is not enough. Certainly the nearly unbroken series of military victories in Vietnam followed by an ignominious conclusion to our efforts there illustrates the point vividly.

The unity of war and politics holds great significance for the military professional. If the military is only one instrument of power used in war, then the various instruments of power must be made to work in concert. If military victory does not necessarily overcome hostile will, then the military can no longer pay only lip service to the "other war," i.e., the battle for men's minds. If the instruments of power are to work in concert, they must have a common objective. This brings us back to the absolute and unparalleled importance of the objective ends desired. As we have seen, however, Americans have often confused means with ends in war.

Description is always easier than prescription. If one is to offer prescriptive advice to the military, it would seem the place to begin is with the objective. Thus any military leader should ask: What is the objective? It does not seem flippant to add that, having received an answer, the second question should be: What is really the objective? It is difficult to overstress the importance of a clear understanding of the objective. If we are to be successful in war, everything should flow from the objective.

One can also offer prescriptive advice concerning professional horizons. If we are to be able to meld military expediency with

postwar objectives, the professional horizons of the military must not be limited to the narrow confines of the battlefield. Only by expanding our horizons can the military fully appreciate how nonmilitary instruments of power can contribute to winning both the war and the peace. Perhaps equally important, expanded horizons can aid us in recognizing how the different instruments of power can work at cross-purposes and thwart our pursuit of the objective. In sum, the military must broaden its professional horizons if it is to understand that winning the war is far different from winning the peace that follows.

Broader professional horizons saddle the professional military with a special burden in both an individual and institutional sense. From the individual's viewpoint, the military leader's capabilities and expertise are already heavily taxed by the scale, speed, destructiveness, and complexity of modern warfare. Broadening professional horizons to include political, economic, and technological considerations (among others) imposes an even heavier burden, requiring serious study and deep reflection. Institutionally, the need for broad horizons and complex traditional skills places a heavy burden on the military education and training system. The curricula offered by these institutions must, on one hand, provide a broad-based but integrated education concerning war and its many ramifications and, on the other, provide training for the peculiar technical skills required to prosecute combat operations. These are difficult tasks to which the military must devote considerable resources.

FINALLY, returning to the challenge of the Air Corps Tactical School assumptions at the beginning of this article: Did the School faculty accurately define the purposes of war? The answer is affirmative but with qualifications. If the ultimate purpose of war is to achieve a better state of peace, then these pioneer air-power theorists were correct when they pro-

claimed that the objective of war is to overcome the enemy's hostile will. The faculty's error was in equating compulsion with overcoming hostile will; they followed the American tradition of assuming that winning the war equated to winning the peace. To them, the fundamental issue concerned the relative abilities of land power, sea power, and air power to win the war. Not even this brilliant group fully understood that the fundamental issue concerned the use of all political power instruments,

military and nonmilitary alike, to truly overcome hostile will and win a better state of peace.

For many of the professional military, this most fundamental issue is not yet clear. If we do not, at long last, gain an understanding of the relationship between war, politics, and hostile will, we will condemn American fighting men to die in vain as we win each war while losing the peace that follows.

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Notes

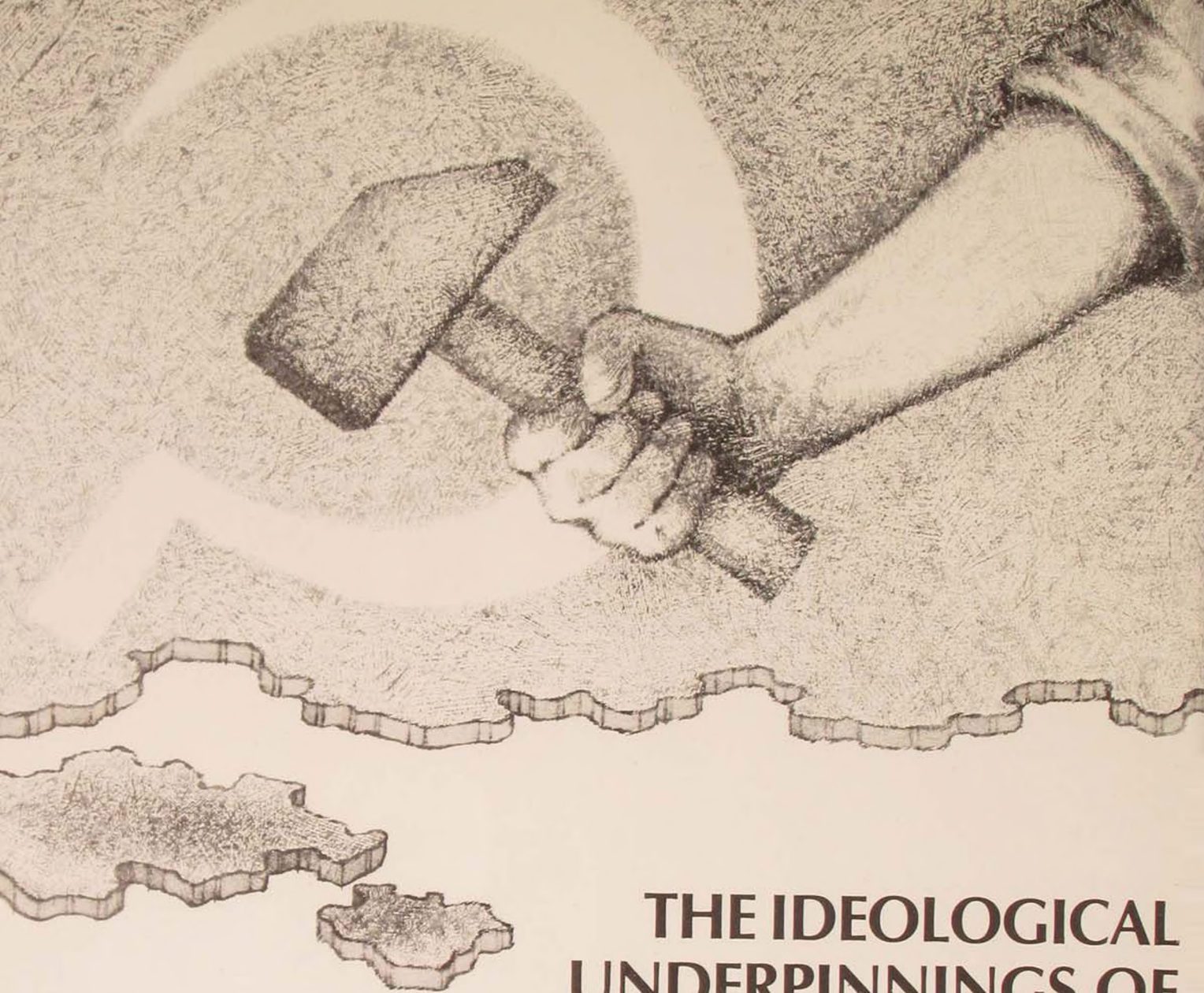
1. Perhaps the best firsthand account of the Air Corps Tactical School philosophy is found in Haywood S. Hansell, Jr., *The Air Plan That Defeated Hitler* (Maxwell AFB, Alabama: Air University, 1973). See in particular Hansell's quotation from a lecture by Lieutenant Colonel (later Lieutenant General) Harold L. George, pp. 32-34.

2. There are many sources for this conclusion. For a discussion

related specifically to U.S. foreign policy, see John W. Spanier, *American Foreign Policy since World War II* (New York, 1971), pp. 3-20.

3. This was Russell F. Weigley's main theme in *The American Way of War* (New York, 1973).

4. Quoted in R. E. Dupuy, *Men of West Point* (New York, 1951), p. 324.



THE IDEOLOGICAL UNDERPINNINGS OF SOVIET MILITARY THOUGHT

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THE basis of military thought of a great power is inevitably sustained by the prevailing political philosophy of the time. Traditionally, the fundamental objective of armed forces has been to safeguard the national security, but that objective cannot exist exclusive of other national objectives. It is no accident, then, that nations with imperialistic ambitions have developed armed forces far greater than required for self-protection; and, at the other extreme, we may observe how in these unstable times certain nations have given up their fundamental objectives that they have given their self-security over to the force of reason rather than to the reason of force.

To a greater or lesser degree, military power is one of the favorite instruments of political action available to national leaders, but this utility is not necessarily a function

of power. Military power in the hands of a statesman does not always translate into control; on the other hand, it is not unusual for a medium-sized power to achieve conquests out of proportion to its size. The possible variations depend on the interplay of strategic decisions and actions between the national leaders and the armed forces, as in the inner workings of a running engine.

The United States came out of World War II with an imposing military machine and a weapon then deemed by many as ultimate. But this favorable military position was not fully exploited by American political leaders. History thus shows us the paradox of a superpower that was politically defeated although the greatest military power in the world. Between 1946 and 1949, the "free" world inexplicably lost all the nations of Eastern Europe, and the Soviet Union buffered itself at the expense of Poland, East Germany, Hungary, Romania, Czechoslovakia, and Bulgaria. In more recent times Vietnam, supported politically and logistically by the U.S.S.R. and China, afforded yet another political and military lesson that shook the internal stability of the United States.

As a consequence of those realities, the world today attends a drama that may prove tragic to human freedom. Its plot boils down to a total confrontation between two large blocks of nations, but with one antagonist lacking inner strength because of, among other reasons, a plurality of interests and a divided world vision. The absence of intellectual unity in nonsocialist nations determines their major weakness in the eyes of those that do adhere absolutely to one philosophical belief. Those nations incorrectly called "western and Christian" have until now offered no alternative that could replace a united world vision.

It would be difficult to undertake a study of Soviet military thought without first examining the philosophical roots that feed the state's political doctrine, for military power to the Marxist-Leninist establishment is but an instru-

ment of politics, and that notion is inextricably twined with its concept of peace, war, and politics.

Let us recall that Marxist philosophy, premised on an erroneous concept of elemental matter, posits a permanent and global confrontation which, by analogy, applies to the social environment, thereby defining problems that, though basically spurious, are foisted as realities into the daily life of the common man. So, notwithstanding its fundamental fallacies, Marxism is above all a social-political reality of undeniable consequence.

Marxist ideologists enunciate their postulates by framing them within the ideas formulated by Marx, Engels, and Lenin, and that orientation is also observed in the foundations of Soviet military thought. To prove this point and dispel all doubts, I shall advert to the statements of Boris N. Ponomarev, acting member of the Politburo of the Central Committee of the Soviet Union (CPSU) and head of the International Department of the Secretariat of CPSU. These positions keep Ponomarev in direct contact with all the Communist parties outside the U.S.S.R. Ponomarev, though having an obscure public image, is, with Mikhail Suslov, possibly one of the Party's most important ideologists. Ponomarev, therefore, is actively involved in all matters concerning the strategies and tactics of "fraternal" Communist parties, the orchestration of the so-called "proletarian internationalism," and the coordination of activities of subordinate parties. Of the more significant acts of Ponomarev in recent times, two predominate: the planning of the takeover of Portugal, a failure for the present, and the virtual political destruction of "Eurocommunism," decreed in Paris in April 1980. Thus Ponomarev would seem to be a reliable spokesman of Soviet political thought and, by extension, a source for understanding the infrastructural basis of Soviet military thought.

It would be simplistic to study Soviet military thought apart from Marxist philosophy, its natural foundation. Unlike in any other

ideology, military power is to Marxism-Leninism a means of political action aimed at putting violent pressure on those sectors that defend themselves against the assault of the Red wave.

By formulating irreconcilable differences, Marxist thought engenders the kind of violence it preaches. The peace it proposes is achieved only by subjugating nations to the principles of communism. Getting right to the point, Ponomarev asseverated that "the easing of tensions signifies the spread and intensification of the ideological struggle, which in *no way can include the peaceful coexistence of conflicting ideologies.*" These declarations attest to the political arrogance characteristic of Marxist-Leninist ideas, and it behooves one to bear them in mind when considering any policy inclined to accept a coexistence with the Soviet sector.

Lenin breathed vitality and professionalism into the Marxist-Engelian philosophy and fortified it with a chain of ideas that accentuated its intrinsic aggressiveness. Notwithstanding his accord with Karl von Clausewitz's *On War*, Lenin did not hesitate to twist the original concept of the Prussian general. Clausewitz defined war as "the continuation of politics by other means," while Lenin held that "war is the core of politics, its violent continuation by other means." Moreover, Clausewitz regarded war as a matter of external political affairs, whereas Lenin tended to see it as a matter of internal politics. From this perspective Lenin did a lot of original research and, within the framework of orthodox Marxist thought, drew many coherent conclusions, much to the danger of security in the non-Communist world. It would be pointless, therefore, to look for distinctions between political and military thought in the Marxist-Leninist ideology.

However, Lenin was not the only one to issue criteria and guidelines for Soviet military thought. Toward the end of the 1920s, Boris Shaposhnikov expressed in his book *The Mind of the Army* another idea that undoubtedly served to launch the anesthetic campaign for peaceful coexistence. Shaposhnikov reasoned

that "if war is the continuation of politics by other means, then it is also true that peace, that is politics, is the continuation of war by other means." Thus the traditional distinction between war and peace was dissolved and replaced by a new conflict, continuous and without solution, in accordance with the Marxist Law of Dialectic. Shaposhnikov thereby attempted to eliminate a conventional idea that had prevailed prior to the triumph of bolshevism. The old distinction between war and peace was deliberately erased, and the two concepts were fused into the single idea of uninterrupted struggle. According to this new version of war and peace, the distinction was determined by the instrument at the center of all human activity, politics.

There are in Marxist philosophy certain political principles that provide the key for interpreting the military attitude of its adherents, in the U.S.S.R., as well as in other parts of the Communist world. Class struggle is to the Communists a socioeconomic reality that translates into a continuous battle between the bourgeoisie and the proletariat, between capitalists and workers.

Regarding that ongoing battle, the main spoils of which are the means of production, Marx expressed, unequivocally, that "Communists invariably oppose violence as an end in itself, and the degree to which it is applied *depends on the behavior of the class enemies.*" This idea-principle constitutes the actual tactical version of the revolutionary war better known as peaceful coexistence, one of the better lures devised by international communism to trap the ingenuous. Lenin summed up his mentor's doctrine by pointing out that "there is only one way to pose the question: either the bourgeois ideology, or the socialist ideology; in this there is *no compromise.*" Marshal Andrei A. Grechko, former Defense Minister of the U.S.S.R., cast some light into that Leninist dialectic by stating that "no compromise is possible between the Communist and the bourgeois ideologies, and the *conflict between the two is inevitable.*" As

far as international communism is concerned, any kind of peaceful coexistence with non-Communist states is impossible, and therefore its global strategy aims to "annihilate capitalism," a catchall term for all philosophical concepts not in accord with leftist extremism. Today the U.S.S.R. is cultivating an international image of peace and compromise on all points, but daily events belie their sincerity; and their armed forces, the chief instrument of the Soviet's political scheme, betray that great public farce. Under the guise of peaceful coexistence, the Soviets have advanced throughout the world at a minimal cost in comparison to the gains they have secured. Ethiopia, Angola, South Yemen, and Southeast Asia (Vietnam, Laos, and Cambodia) are the fruits of a military-political action coherently carried out and advisedly adjusted to Marxist-Leninist ideo-doctrinal principles.

As the military threat was intelligently intensified with the cooperation of a well-trained diplomatic corps, a climate of relaxing tensions and disarmament was claimed to deceive the leading nations of the non-Communist world. In a coordinated multifaceted operation, while SALT I and II entertained the Western powers, the Soviets strengthened their huge military machine, ensnared more countries in the network of proletarian internationalism, performed gestures of peace, and praised the coexistence of pluralistic ideologies.

But no one seemed to remember Marxist-Leninist convictions regarding war, politics, peace, and the coexistence of pluralistic ideologies; nor were the statements of officials like Ponomarev heeded. As he put it: "the struggle for peace and general disarmament is foreign to the national liberation movement," bearing in mind the evidence of a "growing influence of Communist parties in the national liberation movements [of non-Communist states]." At the same time, Ponomarev stresses that "peaceful coexistence favors all forms of liberation struggles," since the aid given by Communists throughout the world to those "who fight with arms against all manners of colonialists" does not conflict

with the global tactic of "peaceful coexistence, but, rather, reinforces it."

According to Ponomarev, the peaceful coexistence of nations of diverse social systems "increases the possibilities of taking over power through a peaceful struggle," but it "does not in any way exclude the use of nonpeaceful methods if the situation requires it and the conditions are favorable." But more categorical still is his assertion that "under conditions of peaceful coexistence world Communism assumes a continuous offensive against the positions of capitalism." In that great global struggle, the participation of the U.S.S.R. will come to the fore as it "brings to bear on the revolutionary process an influence of increasing progression."

Those somber warnings may be construed as ideo-political swaggering by those unfamiliar with the resolve of communism, but they constitute a tragic reality suffered by the one-third of the world under the yoke of the manifold versions of local Communist forces; and, as Ponomarev explains, while CPSU "pays constant attention to national liberation movements, it lends them its omnidirectional assistance." And those who still believe that communism's internal split between pro-Soviets and pro-Chinese has altered its fundamental political objectives ought to give careful thought to some of Ponomarev's statements: "the unity of the international Communist movement presupposes as a matter of fact a unanimity in all things basic and fundamental, in the disposition for *unity of action, despite the discrepancies that may exist* between this or that theoretical or political matter."

Moreover, the CPSU ideologist formulates a disturbing if superficial balance of the results of that global tactic, and at the same time he reveals its true essence: "regarding peaceful coexistence as a form of class struggle on the world stage, the Communist movement has been able to intensify the action of the masses in the struggle against the thrall of capitalism," ever since, according to official political thought, there was perceived "an insoluble tie between

the struggle for peaceful coexistence and the battle against imperialism.”

In studying the infrastructural basis of military thought in the U.S.S.R., one cannot skip lightly over the version of peace professed by Marxist-Leninists, for such an oversight has caused many naïve political figures and others unfamiliar with Communist ideology to make serious errors. It boggles the mind to note how the U.S.S.R., notwithstanding her superaggressive political and military doctrines, can proclaim herself as the fervent defender of world peace and call herself a peaceful nation, as she tries to figure in every organized effort for world peace. Where is the ideological honesty in these displays? Where the political honesty?

AS paradoxically as it may seem, the Soviets are sincere in their quest for peace; however, this sincerity is not as simple as it seems. One would have to interject a few clarifications in order to discern the true infrastructural basis of Soviet military thought.

The definition of Soviet peace is a matter of interpretation. According to Ponomarev, “the assurance of peace has contributed to the consolidation of revolutionary victories and *has propitiated them. An international peace is one which best allows the realization of the goals of Communism.*” Lest any doubts remain as regards this definition of political doctrine bearing directly on military thought, that same ideologist remarked that “*internationalism is the ideology and the practice of peace and friendship among nations.*”

The idea of peace held by Communists does not coincide with that of non-Communists, and therein lies the confusion, a confusion that the Soviets ably exploit through the kind of sociological manipulations that have become their trademark. In effect, the Soviets, as well as other Marxists, love “peace,” but a distorted peace based on individual and social subjugation, voluntary or otherwise, and one in which revolutionary power makes possible the trans-

formation of society along the lines of materialistic principles.

In that concept of peace there is a total absence of equanimity, of civilized coexistence, of mutual respect. Individual freedom is subordinated to collective interests as determined by an autocratic and repressive government, and man becomes a mere social object. It is necessary to make a clear interpretation of Communist peace, for every means of its revolutionary power is brought to bear toward its success in all areas. One of these means is the military, and, therefore, its doctrinal basis partakes of the Communist version of peace. The “Communist peace” presumes the elimination of “world wars from society, allowing nations and humanity as a whole *to defeat capitalism with a minimum of social and material losses.*” For Ponomarev the attainment of that strategic vision of international communism would assure a society free of global conflicts.

Thus it is revealed that Marxist ideology is not loath to a bloody war carried to extreme, and, in that sense, the Communist conscience comforts itself by considering that “the responsibility for the victims does not fall on the revolutionary classes.” In Marxist terms, the genocide the Red forces practiced and continue to practice in Laos, Vietnam, Angola, Ethiopia, and Central America is the undesirable consequence of the opposition of those who fight against Communist expansion.

The problem lies in the refusal of free societies to surrender to revolutionary pretensions. Were it not for that rebellion against the loss of freedom, the inalienable right of all human beings, an idyllic peace would prevail. As we can see, the problem boils down to a slight discrepancy between the world visions of each sector. According to Ponomarev, “the greatest and most monstrous crime committed by imperialism against humanity is the *battle it wages against socialism.*” Yet it is interesting to note that the Polish people, under a socialist regime for more than three decades, have recently abnegated the system.

The rooting of Soviet military thought in political philosophy is absolute, unlike any other case in history. That opportunistic concept of sociopolitical justice is extended to the notion of war and serves to determine, from a unilateral point of view, the legitimacy or illegitimacy of each individual conflict. The patterns of Communist classification reflect Leninist ideas to the effect that wars are judged "just or progressive" when they have a "liberating" intent, that is, if the war aims to liquidate a regime that happens to differ with socialism. On the other hand, wars are "unjust or reactionary" when waged by the armed forces of non-Communist governments to stem the tide of a tyrannical power.

The opinions of Marshal Grechko evince the inflexible position of Marxism-Leninism, which maintains that its dogmatic "truths" are not to be subjected to any clarifying dialogue with advocates of other doctrines. The "scientificism" they attach to all their premises crumbles when we note they are mere assertions that cannot resist a rigorous test. Communist thinkers isolate themselves in their shells and scorn all open debate.

Thus Grechko brazenly affirmed that "any war waged by the imperialists on the U.S.S.R. or other socialist states will always be unjust and reactionary; but waged by the U.S.S.R. or other socialist states against the imperialists, any war would be just and progressive, for it would be the continuation of revolutionary policy."

Ponomarev accentuates a threat existing in every corner of the world where a revolutionary struggle is seething. This threat is clear and hangs over all non-Communists who choose to defend their political self-determination and individual free will. "The Communists have supported and will always support just wars [Marxist definition]: wars in defense of social progress, of national liberation, and the insurrection of people against imperialistic oppression." This Soviet vow must not be ignored.

Without examining every angle of Soviet

political thought in depth, we can draw valid conclusions about the basis of the infrastructure of Soviet military thought. Ponomarev warns the non-Marxist world that until now Communists have no major reason to consider themselves fully satisfied with their accomplishments, and he observes that the mobilization of their foreign policy is an excellent way to spur the development of socialism.

The political aims of communism are clear and definitive, and its leaders have avouched that they will spare no intellectual or material means to make those aims a reality. And of all these means, Soviet military thought stands out as one of the most frightening instruments created by the Communists to perpetrate their onslaught on the rest of the world.

Soviet Military Thought

The U.S.S.R. is the leading Communist nation, despite the declaration of their officials to the contrary. Yet Boris Ponomarev himself, at the 24th CPSU Congress of 1971, indicated that all domestic and global revolutionary victories have had as their main collaborator the Communist Party of the Soviet Union. French Communist leader Georges Marchais corroborated the role played by CPSU, stating that "all freedom movements, all struggles for social emancipation, national independence, and peace rely on the support and aid of world socialism and, *most of all*, on the U.S.S.R. This high rank among Communist states accords CPSU a significant political-military representation. The U.S.S.R. cannot deny her leadership despite her efforts to veil it.

Since Soviet military thought sets the example for Communist nations, an analysis of its structure would be useful in proposing ways to deal with the military factor in Marxist-Leninist ideology. In any non-Communist society, the armed forces are justified by virtue of the necessity to protect the national interest, regardless of the government in power. Such an interest has a permanence and transcendence beyond

current problems, the government in power being merely a transitory element.

The Soviet Armed Forces, on the other hand, were created to serve as an "*instrument of defense for revolutionary conquests*," as was expressed by Marshal Andrei Antonovich Grechko (1903-76), who was not only a military man but also a distinguished politician who enjoyed the confidence of the Kremlin. From Grechko's statements we see that the purposes of the Red armed forces differ considerably from those of non-Marxist countries. In the Soviet Union, the armed forces serve the Marxist-Leninist revolution and work to defend its existence and continuity, above any other social or national objective. As the Communists see it, no other function is more important, and, therefore, their military thought assumes a profoundly political tone.

It is important to understand why Communists say that their regime creates "a new army on account of its principles," an army whose task is "to defend the revolutionary victories of the workers." If the function of the Soviet Armed Forces is political, then it is easy to understand the influence of CPSU in the ideological and professional life of military organizations; since having asserted itself as the vanguard of the state and society, it becomes, as a matter of fact, the directing center. This principle explains the control imposed at the political level on the military establishment.

Such are the differences between Soviet military thought and that of non-Communist nations, that Marshal Grechko accused the armed forces of these nations of being reactionary and imperialistic, because they "*attempt to impede the practical realization of peaceful coexistence among nations of different social systems*." This idea of Grechko's betrays an absence of professional priorities and attributes to the armed forces a partisan political role inconsistent with military tradition.

A knowledge of this break of the politicized Soviet Armed Forces with military tradition will enable us to assess the extent of the danger

descending on the free world. To the degree that it correctly understands the mission of the military forces serving Marxism-Leninism, the free world will discern with greater clarity the impossibility of any kind of negotiations or overtures aimed at a theoretical easing of tensions.

SALT I and II sufficiently illustrate the point: behind the mask of those documents the "new army" has grown in alarming measure, in open contradiction of the diplomatic intentions professed by the Soviets. "The Soviet state is the most peaceful of nations; it is a stranger to goals of conquest or to unjust wars," declared Grechko. His words bear a sincerity deadly to the future of the free world.

Perhaps the non-Communist world forgets that the Soviet version of peace, democracy, war, coexistence, and mutual respect departs from traditional meaning. Perhaps they also forget that Marxism-Leninism not only pretends to be a revolutionary ideology but that in fact it is one; and that its aims render it a real threat to all conflicting thought. This poor memory with respect to the essence of communism has put the free world in a very serious state of defenselessness.

The control of the armed forces by the CPSU constitutes their main organizational aspect, which evinces the absolute subordination of the military sector to the political. That explains why the screening process for service in the armed forces is based on political loyalty to official dogma and to the CPSU. Another principle that warns us about the infrastructure of Soviet military thought is compulsory adherence to proletarian internationalism, which promotes the material and intellectual expansion of communism as part of the political-military formations called "local."

According to norm, Soviet military forces have to be constantly prepared to repel any type of aggression, without distinguishing between aggression originating within the country or from outside its borders. This principle merely restates the role that the CPSU assigns

the armed forces: to serve as bodyguards of the "Communist vanguard," the implication being that the Party is the main justification for the existence of the armed forces.

Proletarian internationalism creates permanent commitments that frequently prove risky because of the need for direct involvement. Grechko used to emphasize the need to reinforce the indoctrination of military organizations to prepare them for their increasingly active international role. Today, the Soviets employ countless "advisers"—military and civilian—to instruct the armed forces of other socialist governments, to assist the governments themselves, and to collaborate in the repression of a frequently active opposition.

Gradually, the armed forces of the Soviet Union have become influential in foreign policy, passively as well as actively: in the first instance by dissuasion or by veiled threats; in the second instance, through a variety support to "fraternal" socialist forces and to outlaw groups (guerrillas) engaged in wars of national liberation.

Grechko correctly observed that the international role of the Soviet Armed Forces had increased substantially and that this resulted from the expansion of territories controlled by Marxists. "As world socialism formed," he said, "the role of *defense took on a broader international character.*" For communism, the armed forces is one of the main instruments of peace, but, of course, the peace meant here is *Pax Sovietica*.

The current programs of the CPSU also dispel all doubts regarding the interventionist policy of the Soviet Armed Forces and those of other Communist nations, particularly with respect to their readiness to quell uprisings in any socialist state. This program affirms that "the USSR considers it her *international duty* to guarantee, jointly with all other socialist nations, the security and defense of the *entire socialist camp.*" This concept was used by Leonid Brezhnev this past decade to premise his theory of limited sovereignty for Communist states.

The pretext of "limited sovereignty" has been more than sufficient to pose the threat of Soviet intervention in any socialist nation; and from a military perspective, in accord with this basically imperialistic concept, Grechko held that "to observe national sovereignty does not imply setting the interests of one socialist nation against those of another. The sovereignty of a socialist nation consists not only of its right to independence but *also of its responsibility to the future of socialism*, as part of the community of sister nations, the Communist movement, and the international proletariat."

This latent threat to the independence of socialist nations is crystal clear, and it makes no allowances for departures from the Communist line. Should a socialist nation attempt to achieve full independence, it would incur the wrath and subsequent intervention of the Communist fraternity. The freedoms accorded to individuals and nations in the Marxist camp can be exercised only within the narrow guidelines fixed by doctrine, and the Soviet Armed Forces stand ready to enforce this principle. Grechko stated that "we have never concealed nor do we conceal now the basic principles of our military policy. These principles can be *clearly seen in the policies of the Communist party and of the Soviet government*, as well as in the armed forces."

This spirit of political determination led Grechko to justify the necessity of continually increasing Soviet military training and promoting the international activities of the armed forces. The Communist territorial expansion brought about a corresponding expansion of responsibilities on the part of the Soviet Union to control other nations, as the Hungarians, East Germans, Poles, and Czechs well know. But as new territorial acquisitions became geographically more remote, fresh problems arose.

The Soviet Communists solved those complex operational problems by being practical. Cuba (in Latin America and Africa) and Vietnam (in Asia) were recruited as Soviet enforcers;

thus, the Soviets spared themselves the trouble of participating directly in international police actions or intervening in the increasingly frequent wars of "liberation." The Cuban involvement in Africa, Latin America, and the Middle East has obligated Castro to commit some 20,000 members of his armed forces in addition to an undetermined number of technicians, advisers, and other personnel specialized in subjugation and indoctrination. In Asia, particularly in the southeast, the Vietnamese have been obligated to employ about 180,000 men in the neighboring nations of Laos and Cambodia to extend the new pro-Soviet bamboo curtain.

ONE of the more noticeable flaws in the defense of non-Communist nations is a lack of political understanding of the military reasoning of Soviet leaders. This lack of understanding has existed throughout their history of relations with Communist nations. They have failed to realize that in the U.S.S.R. there is no military thought independent of official ideology, nor are the armed forces there, as in non-Communist countries, dedicated primarily to the security and protection of purely national interests. The Soviet Armed Forces, according to official dogma, are comprised of men characterized by their socialistic conscience and their Marxist-Leninist vision of the world. This ideological makeup renders them professional guardians of the imaginary socialist castle, and, consequently, their chief role can be no other than the preservation of ideological progress and the destruction of all enemies of Marxism-Leninism, internal as well as external.

The Red armed forces constitute an instrument of submission operated by an exclusive and elitist corps: the CPSU. They are not at the service of the community, nor do they attend primarily to the traditional requirements of national security. This awesome political-military machine is geared to maintaining the

ascendancy of a sole political party, according to the will of the elitist Politburo. Therein lies the substantive difference between the Soviet Armed Forces and those of non-Communist nations.

Soviet military thought ties in with Marxist-Leninist thought and is nothing more than the practical side of an arbitrary doctrine. This explains the aid extended by the Red armed forces to all revolutionary forces of the extreme left. The internationalist commitment they assume as an armed branch of the CPSU paves their way for intervention, directly or indirectly, no matter in what part of the world, their presence usually revealing itself through their ubiquitous advisers and through their contribution of weapons to equip regular as well as outlaw forces.

Their version of international responsibility makes the Soviet Armed Forces a threat to the rest of the world. Without their ideological vestment, Soviet officers and soldiers are no different from those of other countries; but invested with Marxism-Leninism, they vitalize a most infernal war machine.

No matter how sincere, overtures by non-Communist countries will have no effect on the efforts of the Soviet Armed Forces to carry out their ideological-political mandate. It is impossible to change the designs of communism through dialogue. The Communists see only one invariable solution: the subjugation of the whole world under communism and the eradication of capitalism or any other enemy ideology.

Marxism-Leninism has subverted traditional military thought, and, for that reason, it is impossible to put faith in such solutions as SALT I and II. Any political document that attempts to curb the Communist doctrine of military threat is doomed beforehand to total failure. The CPSU is not about to deviate from its ulterior motives, or to postpone them, unless they are checked by superior force. And that force need not be purely physical, that is, military. It could consist of a willingness to act if

circumstances require it. The Cuban missile crisis is a memorable and effective example of that kind of willingness, and it enables us to confirm that Marxist progress is not fueled so much by real power as by weak opposition on the part of the non-Marxist world.

Soviet military thought is the military reflection of Marxist-Leninist thought; the two are indivisible. In the U.S.S.R. there is no pure military professionalism, nor is such a purity conceivable in Communist terms. Article 31 of the 1977 Constitution of the U.S.S.R. clearly frames the defense of the "socialist Fatherland"—not the Fatherland alone—and establishes that "with the purpose of *protecting socialist triumphs*, the peaceful works of the Soviet people, the sovereignty and territorial integrity of the State, the Soviet Armed Forces have been created." Let there be no doubt, then, as to the first and foremost goal of the Soviet Armed Forces: the unwavering defense of the *socialist Fatherland*.

THE foregoing observations on Soviet military thought invariably lead us to a most pessimistic conclusion regarding the true meaning of

world peace. The Third World War was tacitly declared years before the Second World War. When the first Communist Party took power in a real country—czarist Russia—communism matured from theory to practice. Revolutionary struggle ceased being an idea and became a reality that few men were able to see in time to check it, and Soviet military thought took wing attendant to the most sensational ideological adventure of all time. The true leaders—the Politburo of the CPSU—of the Soviet military establishment are waging an offensive strategy of such subtlety that the physical presence of the Red armed forces is hardly needed.

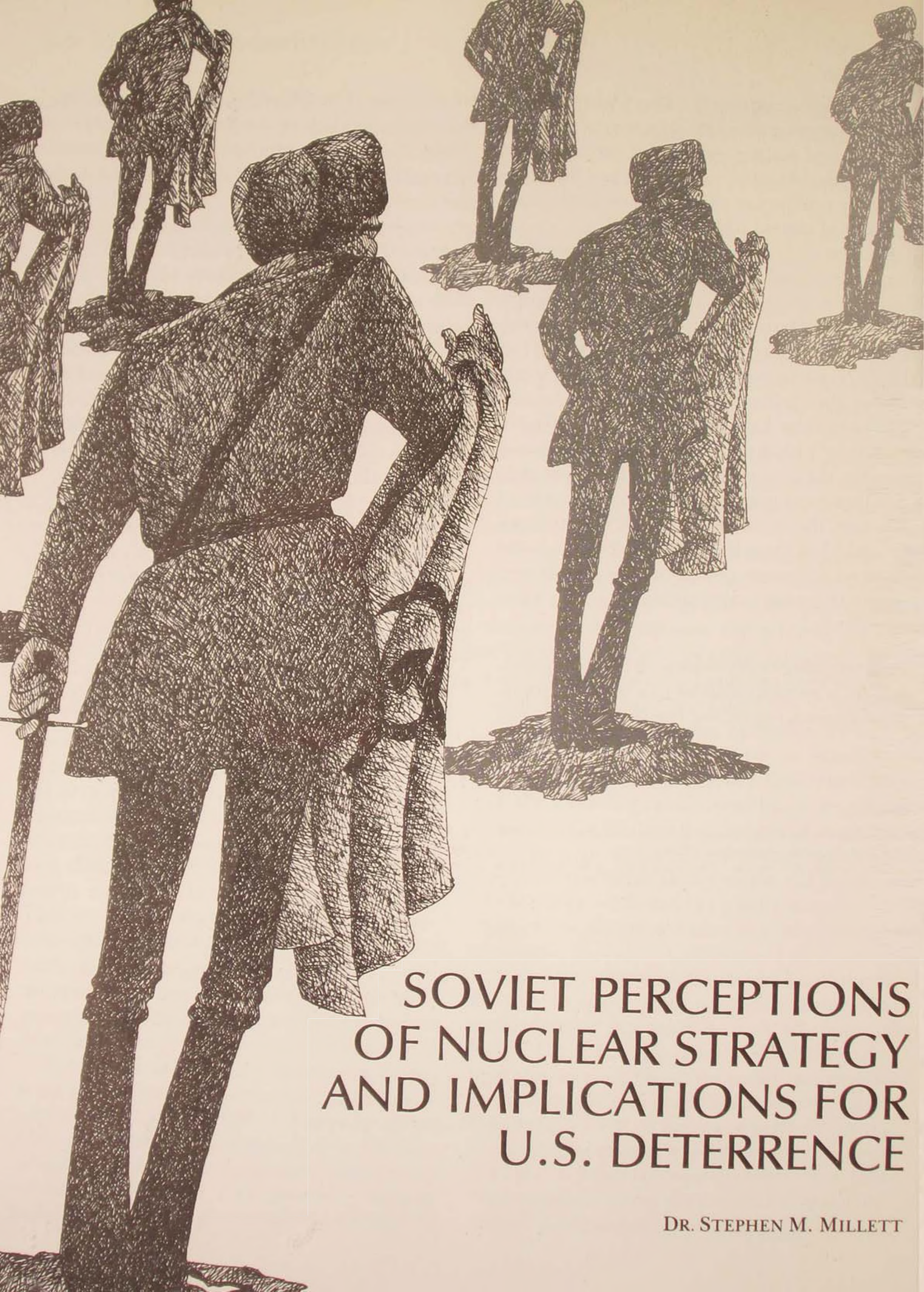
The armed forces of non-Marxist countries, especially those at the front line of defense, must wake up to reality and abandon their usual defensive strategy. As any military manual teaches, to give the enemy the initiative is tantamount to defeat. To retreat before political blackmail is a concession to an illusory and impossible peace which signifies the turning over of our destiny to an enemy that has sworn to hang us with the very rope we sell him.

Buenos Aires, Argentina

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SOVIET PERCEPTIONS
OF NUCLEAR STRATEGY
AND IMPLICATIONS FOR
U.S. DETERRENCE

DR. STEPHEN M. MILLETT



ALIVELY debate has been waged in the West in recent years over Soviet military doctrine and nuclear strategy, particularly as they relate to Soviet intentions and objectives. The main points of disagreement center on whether the Soviets accept the concept of deterrence merely as a temporary means to another goal (military domination over the West) or as an end in itself (long-term avoidance of war). In regard to this question, do the Soviets view nuclear war as an acceptable tool of policy, or have they renounced war for other, peaceful instruments of policy? The implications of these inquiries are that, on the one hand, the United States must always be vigilant to respond to Soviet military provocation and coercion (even if an unrestrained arms race is the only guarantee of Western security), or, on the other hand, the U.S. can strive for long-term, nonconfrontational relations with the Soviet Union as symbolized in the Strategic Arms Limitation Talks (SALT).¹

The Western schools of thought on Soviet

military doctrine share the same disadvantages on sources of information. If there is an official Soviet military doctrine—a dogmatic plan of military actions according to preconceived scenarios of crises—then that doctrine is highly secret. Unlike the West, the Soviet Union views strategy and doctrine as closely held state secrets in addition to conventional classified information. Thus Soviet open literature on military matters is typically oblique and cryptic for the Russian reader as well as the Western. The challenge to Western scholars is to collect large amounts of Soviet military writings, learn to decrypt conceptual allusions, and infer what the true Soviet military dogma is that stands in the shadows of Soviet polemics.

The schools of thought differ widely, however, in their biases of interpretation of Soviet open literature. Some Western analysts believe that the Russians can never be trusted to restrain themselves, so they must be deterred by superior American strategic forces. Others assert that the Soviets will never show restraint until

the U.S. curtails its own weapon programs. Between these two poles of thought, there are several shades of opinion that the U.S. and U.S.S.R. can compete in nonlethal ways as long as both share at least fundamental understandings of deterrence, arms control, and nuclear self-restraint.

One major flaw in Western analysis of Soviet military writings is the assumption of a universal military science of deterrence. Too often American writers have asserted an absolute theory of nuclear strategy regardless of who had the weapons and what they wanted to do with them. American theorists have assumed that because a Soviet hydrogen bomb would propagate the same nuclear effects over New York as a similar American bomb would over Leningrad, then Soviet doctrine of nuclear war must be governed by the same logic as American. That this assumption is not always true has perhaps been the most significant finding of the Western debate over Soviet strategic doctrine.

This article would offer one more contribution to the already extensive literature in this field. It takes the approach of examining Soviet perceptions of nuclear strategy as they emerge from Soviet public writings on the subject. In the psychological model of perceptions in international relations, how the leadership of a country views the rest of the world is determined by the quantity and quality of data at its disposal and by its conceptualization of that data as the input to decision-making. Often the judgments of leaders reveal more about their own thought processes than they do objective insights into foreign lands. In the study of Soviet perceptions, the paradigms, or the frames of reference, that determine Soviet judgments about the U.S. and its NATO allies are its ideology. In this context, I will review briefly official Soviet political dogma that underlies its military logic, especially the concept of the "correlation of forces," review recent Soviet perceptions of nuclear strategy that emerged from its intensive propaganda campaign against new

Western strategic systems, and survey some implications of Soviet perceptions of nuclear strategy for U.S. deterrence.

Soviet Ideological Foundations

The philosophical foundation of Soviet military doctrine is Marxist-Leninist ideology, which reduces all social relationships, economics, and political affairs to the essence of class conflict between the world's bourgeoisie and proletariat classes. According to the principles of dialectical materialism, human history has been the story of class conflict for material well-being, a struggle between the "haves" and the "have-nots." In the nineteenth century, this class conflict became the struggle between industrial capitalists and the exploited laboring class. Karl Marx asserted that the triumph of the proletariat was historically inevitable and that communism, the perfect social order, would be the final goal of mankind.

In international relations, the Soviet Union plays the role of the vanguard of the socialist states against imperialism (an advanced state of capitalism) much as the Communist Party acts as the vanguard of the proletariat class, according to the writings of V. I. Lenin. The Soviets view the interests of the Soviet state as identical to the interests of the world proletariat—that which advances the economic progress and security of the Soviet Union also advances the working class of the world toward the eventual triumph of communism. In this context, the role of the Soviet Armed Forces is to defend the "gains of socialism" (the material wealth of the Soviet Union as a model for socialist economic development for the rest of the world) and to serve the state interests of the U.S.S.R., and thereby the interests of the proletariat against the predatory imperialists.²

The Soviets think of their relations with the rest of the world in terms of the "correlation of forces." This correlation is more than the Western political concept of "balance of power" in the narrower sense of equilibrium of mili-

tary forces. The Soviet correlation is a qualitative estimate of the ratio between the capitalist bloc and the socialist camp. It includes military power, but it also encompasses economic factors, domestic as well as international politics between the adversary classes, and ideological fervor.³

The Soviets maintain that the correlation of forces between capitalists and proletariat has shifted dramatically in favor of socialism since 1917, when the Bolsheviks founded the first workers' state. First, the infant socialist state survived its early traumatic years, despite the efforts of capitalist counterrevolutionaries and imperialist interventions. Then the U.S.S.R. launched a vigorous program for economic development that resulted in "mature socialism" (a major precondition for communism) by the early 1970s. The Soviets endured another great hardship in World War II when they defeated (virtually single-handedly, according to Soviet accounts) reactionary fascist forces. Then the defeat of Nazi Germany stimulated the socialist revolutions of Eastern Europe, another major shift in the correlation of forces for socialism. Anticolonial revolutions in the Third World since 1945 further advanced the correlation against the capitalist-imperialist bloc. Most recently, the strategic military buildup of Soviet nuclear forces that now neutralizes the previous nuclear advantage of the West constitutes another significant shift in the correlation.⁴

Theoretically, the Soviets assert that the correlation of forces will continue to favor socialism in the years to come. They deem that the triumph of communism is inevitable, yet they fear that the transition to it may be difficult and violent. According to Marxism-Leninism, the capitalists are not expected to release their wealth and power peacefully but, rather, will resort to military means to try to reverse the shift in the correlation. As capitalism deteriorates, the bourgeoisie will grow ever more bellicose. In addition, as the so-called "internal contradictions" of capitalism continue to grow more severe, the capitalists will war among

themselves, such as Lenin explained the class nature of World War I. In this perspective, the paramount purpose of Soviet and socialist national armed forces is to repel imperialist forces that threaten to attack socialism and retard the evolution of the world order toward communism.⁵

General Secretary Leonid I. Brezhnev succinctly summarized the current Soviet view of world relations in his address to the 26th Congress of the Communist Party of the Soviet Union on 23 February 1981:

The sphere of imperialist domination has narrowed. The internal contradictions in capitalist countries and the rivalry between them have grown sharper. The aggressiveness of imperialist policy, notably that of U.S. imperialism, has increased greatly.⁶

Since Nikita S. Khrushchev's reinterpretation of dogma over 20 years ago, the Soviet leadership has rejected the idea that nuclear war between the Soviet Union and the West is either inevitable or desirable. The policy of détente in the 1970s was possible because the shift in the "correlation of forces" favored the Soviet Union. The strategic nuclear buildup of the Soviet Union provided such a great potential retaliation to a Western attack that the West would not dare to resort to war to change the correlation. Meanwhile, in the historic period of peaceful coexistence between different social systems, socialism will continue to grow stronger and capitalism weaker. In this period, the Soviets assert that they will benefit most from peace and that only the capitalists might see an advantage in war.⁷

Soviet Strategic Nuclear Doctrine

In the ideological context of the correlation of forces, Soviet strategic nuclear doctrine has embraced deterrence as its primary objective. Since the philosophical foundation of Soviet defense policy is different from the American, the concept of deterrence has different implications for Moscow than it has for Washington.

The Soviets interpret deterrence to mean the prevention of imperialist attack on the socialist camp in a desperate attempt to reverse the continuous shift in the "correlation of forces" in favor of socialism. Yet the Soviets can never be sure that the imperialists will not launch a nuclear attack no matter how insane that might be. Therefore, the Soviets must be prepared to wage nuclear war with the West. They believe that their capability to wage war effectively and successfully (destroying Western military might aimed at the Soviet Union and eliminating the enemy industrial rear) is the prime essence of deterrence as well as the best assurance for survival if the irrational imperialists cannot be deterred.

The basic tenets of Soviet nuclear strategy have remained largely consistent since the Khrushchevian doctrinal reforms of 1960. These assumptions include the following points:⁸

- Nuclear war is not in the best interest of the Soviet state or the proletarian class. In any probable scenario, the West can inflict great damage to the socialist camp and cause great harm to the now "developed socialism" of the Soviet Union. The U.S.S.R. can ill afford another experience like World War II. The Soviet Union can and will respond to any Western nuclear attack, but in doing so it will inevitably destroy the highly developed industrial base of the West (which is needed for the material base for the future international communist order) and kill millions of workers now living under capitalism. The only justification for the Soviet use of nuclear weapons would be in a war to defend the socialist fatherland, a war that the Soviets view as one provoked by the West.

- The capitalist-imperialist bloc continues to challenge the progress of the socialist camp in its efforts to achieve perfect communism. Since the Soviets believe that their social-political-economic system is superior to capitalism, the socialist camp will inevitably triumph over the West if allowed to develop in peace. The only dire threat now to the success of

socialism is Western military intervention. Therefore, the prevention of Western military meddling in the course of history is the principal rationale for Soviet military power. This doctrine of deterrence of imperialism applies to Western nuclear threats and conventional military adventurism (like the colonial wars of the nineteenth century).

- A nuclear war, if it occurs, will be total. It will be the final violent convulsion in the class conflict between capitalists and proletarians, between capitalist-imperialist states and the socialist camp. The Soviets view World War II as a major stage in history, since it totally eliminated an extreme faction of the capitalist system (Nazis, fascists, and Japanese militarists). The next world war will mean the immediate elimination of the rest of capitalism.

- The Soviet Union provides the nuclear forces that can both deter a major war, which is not inevitable, and wage a world war successfully if war comes to pass. Soviet ideology cannot accept the theoretical possibility of losing such a war to the West. The Soviets came very close to losing the war against Nazi Germany and its European allies in 1941, so they are resolved not to be taken by surprise again or to endure such vast destruction. Therefore, the Soviets heavily emphasize perpetual vigilance against surprise nuclear attack from the United States and its European allies, and they stress the importance of their military might at the beginning of a war as a prerequisite for winning.

- Probably the most effective strategy to prevent the potentially disastrous consequences of a surprise nuclear attack on the Soviet Union is to strike first when war seems imminent. Soviet leaders have repeatedly insisted that the Soviet Union will not be the first to launch an attack. Yet they will have a compelling incentive to initiate a nuclear attack on the West if they perceive that the West is on the verge of attacking the Soviet Union. In this situation, who attacks first and who commits aggression become largely semantic. In Soviet logic, such

a nuclear attack would be preemptive in the sense of active defense rather than offensive aggression. Soviet ideology dictates that only the imperialists can commit aggression because of their odious economic and political system. Soviet open military literature does not directly discuss the logic of the Soviet preemptive attack, yet it often implies such, particularly in the historical analyses of World War II.

RECENTLY, a Soviet émigré scholar has argued that the Soviet strategic force posture of today developed over 20 years in accordance with the mission requirements of Soviet military doctrine formulated in the late 1950s. He further asserted that Soviet doctrine has evolved since then with less emphasis on preemption and more on cautious war prevention.⁹ This may be true, but the changes, such as they may be, have probably been in details of application and not in basic tenets. The Soviet force posture today still requires a theoretical need for the preemption mission. The Soviets have not and in practice cannot yet accept the risks of the second-strike deterrence advocated by the then U.S. Secretary of Defense Robert S. McNamara in the 1960s. The Soviets know from their experience in World War II that to wait for a full-scale attack and to respond only after absorbing the full brunt of a surprise attack might well mean disastrous defeat, as almost happened in 1941.

Soviet nuclear deployment today strongly suggests a doctrine that still embraces a preemptive role. An American study of nuclear forces in 1977 calculated that the Soviets have 68 percent of their warheads and bombs deployed in land-based, fixed-site intercontinental ballistic missiles (ICBMs), while the United States has only 23 percent in similar ICBMs. Of total deliverable megatonnage, the Soviets have 75 percent deployed on ICBMs, while the United States has only 37 percent on their ICBMs.¹⁰ A study by the Stockholm International Peace Research Institute in 1978 cal-

culated that Soviet ICBMs comprise 66 percent of all Soviet strategic delivery vehicles, 69 percent of all their warheads, and about 92 percent of total deliverable megatonnage. In contrast, the United States had only 52 percent of all its strategic delivery vehicles, 18.5 percent of total warheads, and 24 percent of all deliverable megatonnage in ICBMs.¹¹

The Soviets have placed a heavy emphasis on their ICBMs as the backbone of their nuclear deterrence. They have placed much less importance and confidence in their submarine-launched ballistic missiles (SLBMs) and intercontinental bombers than the United States has. This large ICBM force (larger in numbers, throw-weight, and megatonnage of warheads and quickly approaching similar accuracy in comparison with U.S. ICBMs) affords the Soviets certain advantages and imposes some liabilities in relation to the more evenly distributed triad of American nuclear forces. The Soviet ICBMs have great potential counterforce capabilities. These ICBMs pose a great threat to the United States if they are launched before our missiles. However, the Soviet ICBMs are terribly vulnerable to elimination from American missiles if the U.S. attacks first and catches many if not all Soviet ICBMs still in their silos. Therefore, the Soviets cannot afford to wait out an American first-strike if the Soviets think they must wage nuclear war against the United States and come out comparatively better. The strategic incentive for the Soviets lays with the preemptive strike, with all the advantages of preparation and surprise, not with the second-strike strategy of mutual assured destruction deterrence.

In the last two years the Soviets have shown a particularly great apprehension that the Americans were trying to move away from strategic arms control and closer to a first-strike posture. Three occasions have prompted a flood of Soviet propaganda against American defense policies. These were the decisions by the NATO ministers in December 1979 to deploy new U.S. long-range theater nuclear

forces (LRTNFs) in Europe, President Carter's decision in January 1980 to suspend Senate consideration of the SALT II Treaty, and Presidential Directive 59 on U.S. nuclear weapon targeting policy that was leaked to the press in August 1980.

The Soviets conducted an intensive, although unsuccessful, propaganda campaign in the autumn of 1979 to preclude NATO from committing itself to the new generation of LRTNFs, specifically 464 ground-launched cruise missiles (GLCMs) and 108 Pershing II medium-range ballistic missiles. The Soviets asserted that the U.S. LRTNFs will circumvent the strategic ceilings of the SALT II Treaty because these weapons are strategic, according to Soviet definition, since they will be able to hit targets deep inside the U.S.S.R. The Soviets have insisted since SALT began in 1969 that all U.S. nuclear weapons which can hit targets in the Soviet Union, regardless of range or where they come from, should be considered strategic. In this view, the Soviets accused the U.S. of violating the principle of equal security, the foundation of strategic arms control, and of seeking unilateral military advantage.

Furthermore, the Soviets claimed that the United States was attempting to shift the nuclear battlefield from North America to Europe. They feared that the U.S. would use its LRTNFs to launch a preemptive attack against Soviet ICBM silos and other military targets that might compromise the Soviet capability to retaliate in kind against U.S. nuclear forces in North America. In particular, the Soviets objected to the mobility, accuracy, and speed of these new LRTNFs. For example, the Soviets claimed that the Pershing IIs could hit Soviet ICBM silos in five to ten minutes after firing from West Germany. They further accused the United States of preparing for a preemptive strike from Europe that would make Europe the target for Soviet retaliation.¹²

The Soviets were also very disappointed with the agonizing slowness of the Senate hearings on the SALT II Treaty in 1979 and insulted

when Carter asked the Senate to suspend further deliberations on it in reaction to the Soviet military intervention in Afghanistan. In the autumn of 1979, the Soviets blamed certain circles in the U.S. for trying to destroy the treaty by having the Senate append reservations to it. As Minister of Defense D. F. Ustinov declared in September, ". . . imperialist and other reactionary circles, which are not interested in détente, are striving to prevent the placing of the treaty into force; with various demands they are posing stipulations on its ratification by the American congress, the essence of which is an attempt to achieve military-technical superiority for the U.S.A."¹³ Then after January 1980, the Soviets portrayed the White House as the villain for supporting the SALT II Treaty as part of a grand plan to fuel the arms race and achieve military superiority over the Soviet Union.

The Soviet media then vigorously attacked Carter's implementation of Presidential Directive 59 (PD 59) just before the Democratic National Convention. This directive was reported by the American press as a shift in emphasis for U.S. nuclear forces against military targets in the U.S.S.R. Soviet commentators depicted this policy as an attempt to achieve a first-strike counterforce capability. According to Henry Trofimenko, a department head at the Institute of the United States of America and Canada, this Presidential Directive exactly reflected fundamental differences in Soviet and American deterrence. He claimed that the purpose of U.S. nuclear forces was to "ensure world hegemonist aspirations," to support spheres of influence, and to fight the forces of socialism. The purpose of Soviet nuclear forces, he continued, was "to ensure tranquil and peaceful conditions for building communism . . ." and to prevent nuclear war by assuring an annihilating counterstrike if the Soviet Union were attacked. Trofimenko further contended in a statement that may well be the essence of Soviet deterrence that "There is no army [military establishment] that prepares only for

defense and not for the annihilation of the enemy. Such an attitude would be capitulation under the conditions of modern warfare."¹⁴

From the perspective of American theories of deterrence, the apparent Soviet obsessive fear of a first strike from the U.S. is potentially destabilizing. In times of great tension, war can be averted only if each side is willing to defer military action while all other avenues of accommodation are explored. Deterrence is stable only as long as both sides have enough confidence in their deterring forces to wait out a first strike and retaliate in kind in a second strike. If the Soviets reject the concept of the second strike, either out of military doctrine or force posture, then the U.S. must face the great hazard of a Soviet preemptive strike calculated to beat the Americans to the punch.

Implications for U.S. Defense Policy

What can the United States do in the 1980s to improve the stability of deterrence and discourage the Soviets from resorting to a preemptive strategy in moments of crisis? In general terms, the United States must provide strong incentives for the Soviets to sit tight and wait rather than plunge into a first-strike attack whether or not the U.S. intends to strike. The safest policy for the U.S. is to strengthen its second-strike capabilities and minimize its first-strike threat to the U.S.S.R. If the United States truly wants deterrence in the absolute sense of preventing any general nuclear war, whether initiated by the United States or the Soviet Union, then it must strengthen its own nuclear forces in such a way as not to increase Soviet perceptions of its own vulnerability to the point where the Soviets feel that they have to attack first in order to preclude disaster for themselves.

While the Soviets apparently have not yet embraced the doctrine of second-strike deterrence, it appears that for the United States the concept institutionalized by McNamara 20 years

ago still has some validity to counteract Soviet nuclear strategy. The paradox is that the present American dilemma—great nuclear power that offers little relative security—stems from the twin contradictory goals of McNamara's policy: the second-strike deterrent, which is basically defensive, and damage limitation, which at least in the eyes of the Soviets amounts to a first-strike strategy. The former produced ICBMs in hardened silos and sea-launched missiles in nuclear submarines. The latter produced excessive numbers of launchers and warheads, especially multiple independently targetable reentry vehicles (MIRVs). It is now time to reaffirm the second-strike deterrent strategy and forsake provocative first-strike systems, which add much to American power but little to our security.

What can the United States do in the next 20 years to improve its second-strike deterrent posture and thus continue its security by avoiding nuclear war into the twenty-first century? A credible second-strike nuclear arsenal requires three major characteristics:

- It demands adequate warning so as not to fall victim to a comprehensive disarming Soviet first-strike.
- It requires survivability of attack. Quick-reaction timing and mobility will enhance the ability to retaliate with great destructive power even after a full-scale Soviet attack.
- A second-strike force demands high-operational reliability, so that systems will perform as expected when necessary.

One possible way for the United States to improve its second-strike capability is to resort to more mobile nuclear weapon systems. With ever-increasing improvements in warhead accuracy due to sophisticated electronics, the fixed-site, land-based ICBM will become ever more vulnerable to a first-strike attack. Perhaps within the next ten years, the entire American ICBM force as it is now could become highly vulnerable to a Soviet first strike, and that occurrence will further, not diminish, the incentive for a Soviet preemptive attack. To correct this dan-

gerous trend, the United States has several options, each of which has its own advantages and disadvantages. The current policy dilemma is choosing one that will offer more long-term benefits than liabilities. One option is the MX missile system as proposed by the Carter administration. Another is a mobile system using U.S. highways or special railroads. Still another is to phase out land-based ICBMs altogether and deploy more missiles at sea, either in deep-water nuclear submarines or shallow-water coastal submarines. Although numerous studies have been conducted on variations of these options, none has emerged so attractive as to command an expert consensus.

One option that has theoretical possibilities is the eventual development of intercontinental cruise missiles. Perhaps future technology will provide for the miniaturization of ICBMs that will combine the range, accuracy, payload, and operational reliability of the ICBM with the smaller size, mobility, and ease of handling of cruise missiles. Such a development would make the transportation of intercontinental missiles much easier across land and would allow deployment on airborne carriers, like a large bomber or transport aircraft.

Cruise missiles appear very attractive now as a second-strike nuclear weapon. They are highly mobile and can be launched from ground vehicles, submarines, surface ships, and airplanes. They have the potential for great accuracy and operational reliability. And they are relatively quick to launch but slow in flight. Such slowness in reaching the target is a desired quality in a second-strike deterrent because it does not pose an imminent, short-fuse threat to Soviet deterrent forces. This slowness combined with high penetration probability, achieved by low altitude flight and terrain contour navigation, does not pose a first-strike threat to the Soviets, since they will have adequate warning that the cruise missiles are coming at them, but it does confront the Soviets with a high probability of assured destruction to them in a second-strike retaliatory scenario.¹⁵

In a similar vein, intercontinental bombers may provide excellent second-strike capabilities without posing a high-risk, first-strike threat to the Soviet Union. Bombers from the U.S. will require several hours to reach targets in the U.S.S.R. They also can carry both small and large megaton bombs or cruise missiles. The two critical criteria for bombers in a second-strike scenario are survivability and assurance of penetration of defenses in order to deliver their payloads successfully on target. The United States will require a new generation manned bomber in the 1990s to preserve its deterrent posture, especially if American ICBMs become highly vulnerable. This new bomber must have the technical capability of quick takeoff from airfields on alert. If bombers can be quickly knocked out on the ground from Soviet weapons, then they have no second-strike capability. The new bombers will have to fly at very high altitudes, and they may have to release their payloads from such elevations. An additional advantage may be that lasers or charged-particle beam weapons on the bomber will be able to destroy any Soviet aircraft or missile at high altitudes that might reach and destroy the bomber before it achieves its mission.

The sea-based deterrent still appears attractive, as long as the Soviets do not achieve startling breakthroughs in antisubmarine warfare. It is theoretically possible that submarines may face the same eventual vulnerability problem that the ICBMs are approaching now. With the new Trident fleet deployed, the United States will have a very credible second-strike deterrent. It is not necessarily desirable, however, to overdevelop this sea force with such numbers of missiles and warheads, with such payloads, ranges, and accuracies as to pose a dire first-strike capability against the U.S.S.R. The United States should construct, deploy, and use its sea-based nuclear forces to guarantee second-strike deterrence; and perhaps limit the range of its sea-launched missiles to a maximum of 5000 nautical miles and then deploy

the submarines relatively close to the United States, so that they cannot launch a quick attack on the U.S.S.R. For a second-strike strategy, the submarine nuclear forces should be deliberate in response to alert, highly reliable in operational performance, and highly invulnerable to Soviet attack.

The United States should be very cautious in further developing nuclear warhead accuracies and very fast-to-target vehicles. The faster the vehicle and the more accurate the warhead, the more fearful the Soviets will become of an American first-strike and the more they will be motivated to launch a preemptive attack. American defense research and development in the 1980s should emphasize weapon system reliability (especially C³—command, control, and communications) and survivability. American research should concentrate on what will make its nuclear forces more likely to survive a Soviet preemptive attack and to respond with assured destruction of the U.S.S.R., rather than concentrate on improving U.S. first-strike capabilities against the Soviets. Either the United States should pursue with all vigor such a first-strike capability and use it against the Soviets, or it should further its second-strike deterrence in the faith that nuclear war can be prevented even in moments of great crisis. To threaten a first-strike against the Soviet Union and then not carry it out when the opportune moment arrives is a strategy that begs for Soviet nuclear preemption and general nuclear war. In this approach, there is no dichotomy between the concepts of "deterrence" and "war winning" or "war waging." American nuclear forces must pursue deterrence by pursuing military operational soundness but in accordance with the second-strike deterrence that emphasizes counterattack rather than aggression.

WHAT would be the targets for the American second-strike force? With reduced in-flight times, it might seem that the only targets for American nuclear weapons would

be Soviet cities, since many Soviet weapons would have already been spent hitting American targets. The destruction of Soviet cities raises the moral dilemma of a countervalue strategy that would kill millions of innocent civilians. Yet, even if the United States waited for an all-out Soviet attack before retaliating, there would still be many potential Soviet military targets to be hit. The United States should still go after as many Soviet ICBM sites as possible, since probably some Soviet ICBMs may be quite slow to get off (even though others have long been fired) and other silos should be eliminated to prevent possible Soviet reloading with ICBMs in storage. Of course, many traditional military targets, like command centers and bases, should be hit in a retaliatory response. Finally, the United States cannot avoid hitting some major Soviet cities, especially Moscow and Leningrad, because they are very significant military and defense industrial sites as well as large metropolitan centers. Any moral dilemma of the countervalue strategy cannot be more distasteful to the American people than the more fundamental dilemma of choosing between national suicide and nuclear self-defense.

Any discussion of nuclear strategy must also take into account conventional forces. Soviet military doctrine is indeed comprehensive, for it includes extensive conventional force deployments, especially in Europe, to supplement nuclear arms. If the U.S. needs any preemptive military power, if it requires power projection as a tool of policy to reinforce nuclear deterrence, then conventional forces provide it rather than nuclear weapons. The United States and its NATO allies must have adequate land, sea, and air forces to counter any Soviet conventional power provocations that otherwise might lead to nuclear war because the West may be impotent to respond in any less destructive manner. The United States will not find security in an isolated nuclear fortress if the Soviets can neutralize it in world affairs by means of military intimidation and piece-

meal encroachments. Indeed, the second-strike deterrent strategy requires strong conventional forces to provide the full spectrum of defense to vital American interests around the world.

Certainly the United States should take unilateral steps now to improve further its nuclear forces to strengthen deterrence. It must also pursue a parallel strategy of nuclear arms control. Ceilings on strategic vehicles are important and can aid the force planning and strategy of both the U.S. and the U.S.S.R. The concepts of arms control that benefit the achievement of second-strike capabilities and inhibit both parties from achieving first-strike capabilities can improve deterrence and reduce the incentives for war. The key factors for the success of arms control are technical monitoring and political verification of compliance by the participants. Here, technology can contribute as much to arms control as it has to weapons development.

Perhaps the most innovative contribution to the concept of strategic arms control made by the Carter administration was its proposal to place limits on strategic weapon testing. It was believed that such restraints might inhibit further technological innovations in nuclear weaponry that would contribute to achieving a first-strike capability. Unfortunately, this proposal never got written into the SALT Treaty of 1979.¹⁶ Let us hope that this concept of qualitative controls to complement quantitative restraints will be pursued and achieved in the 1980s. Both sides have much to gain in relative security by inhibiting those technologies that contribute to first-strike characteristics and by pursuing second-strike technical achievements.

Also, the United States should pursue strategic arms control on the theater level in Europe.

Arms limitations on quick-reaction missile systems like the SS-20 and the Pershing II could add much to second-strike deterrence and improve the security of our allies. Furthermore, eventual British and French participation with strategic arms talks and agreements could improve the general climate of deterrence, especially from the perspective of lessening Soviet fears of a first strike upon the U.S.S.R. from the European theater, which is now very vulnerable to any Soviet preemptive attack.

It has been said in jest that the American nuclear deterrent posture developed since the early 1960s was well designed to prevent the kind of attacks that the United States was most likely to achieve. But is U.S. deterrence adequate to deter the Soviet Union? The purpose here has been to review Soviet military literature on nuclear strategy and to point out Soviet doctrines that indicate a degree of reliance on the preemptive nuclear strike. The Soviet military thinking on this matter is firmly based on Marxist-Leninist ideology, the Soviet military experience since 1917 (to say nothing about prior Russian history), and Soviet weapon characteristics. Both doctrine and force posture indicate Soviet reliance on the preemptive strategy if they perceive that they cannot further deter an attack on them by their enemies. The responsibility of the United States is to recognize Soviet threats to its security and respond to them in a way that encourages the avoidance of war and discourages the Soviets from ever employing their strategy. In the long run, American leaders must be true to their own ideology and continue to assert that time and peace will promote Western democratic ideals rather than destroy them.

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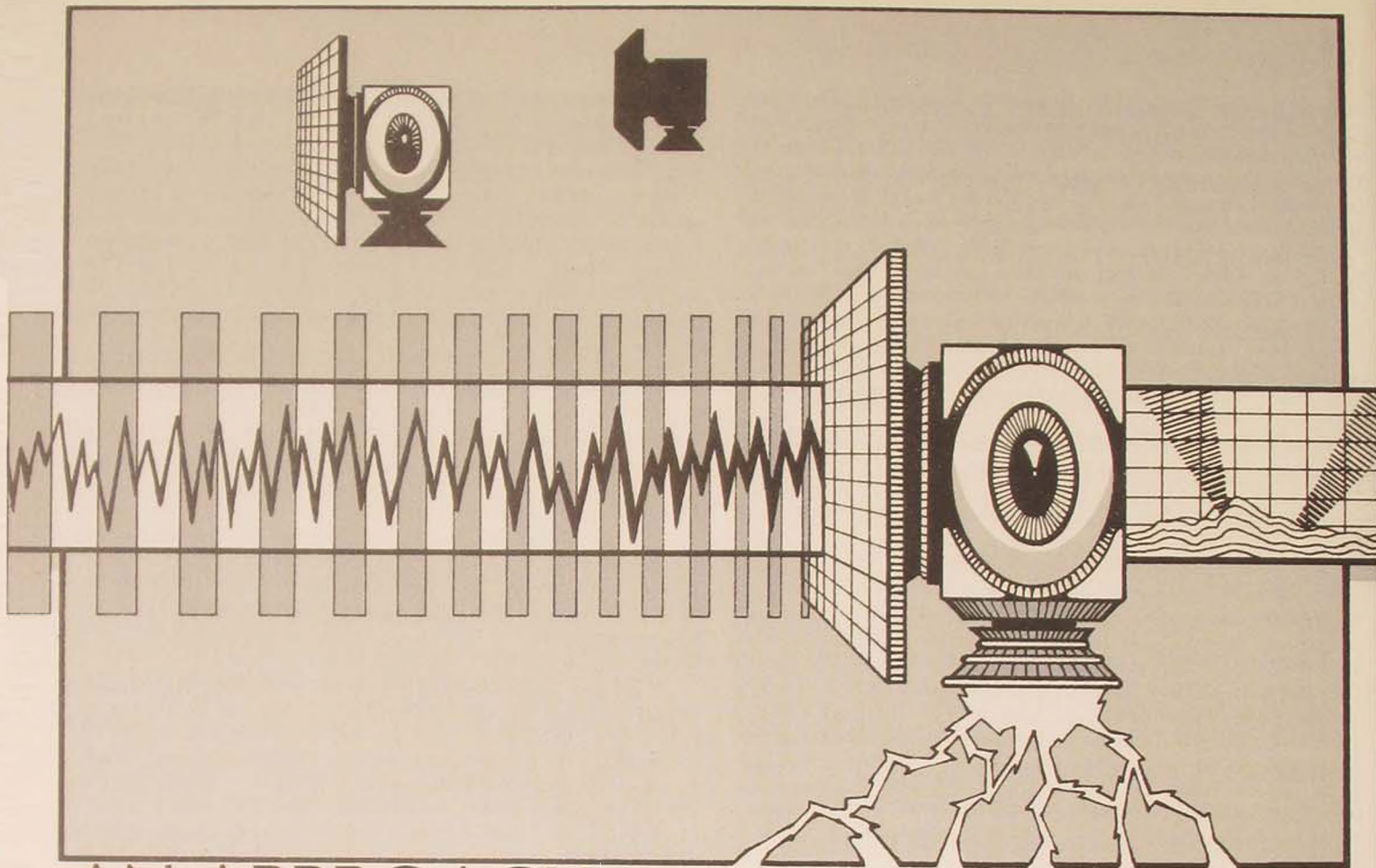
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AN APPROACH TO RECONNAISSANCE DOCTRINE

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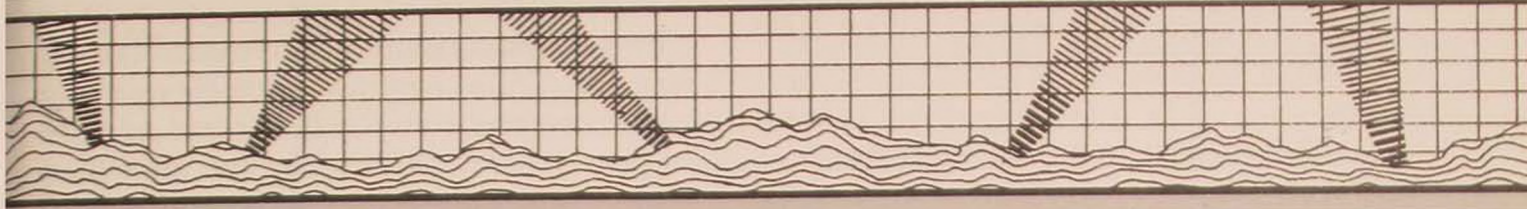
AIR FORCE Regulation 1-2 (22 November 1978) establishes the need for a USAF operational doctrine entitled *Reconnaissance* (AFM 2-11), thus emphasizing the lack of current reconnaissance doctrine. It may be indicative of the importance of doctrine in general or, more specifically, the degree of interest shown for the mission of reconnaissance that accounts for the lack of such information. Without an authoritative document to expand the principles established in basic doctrine and provide direction for the employment of aerospace resources, it is easy to see why numbers of reconnaissance assets have dwindled, control has vacillated, and the needs are difficult to define. Thus, because of this

obvious deficiency, a new approach to a reconnaissance operational doctrine seems vital.

Surveillance and Reconnaissance

Surveillance and reconnaissance constitute one of the nine basic operational missions of the Air Force established in AFM 1-1. It is especially important to recognize the operational nature of these missions and that the definition of both surveillance and reconnaissance be understood.* According to JCS Publication 1:

*All definitions throughout the article are taken from *The Dictionary of Military and Associated Terms*, JCS Publication 1, 3 September 1974, unless otherwise indicated.



Reconnaissance—A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy; or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.

Surveillance—The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things by visual, aural, electronic, photographic, or other means.

While surveillance and reconnaissance appear similar in purpose, the main difference is in specification and duration. AFM 1-1 states that surveillance systems collect information continuously while reconnaissance missions are directed toward localized or specific targets. Surveillance and reconnaissance systems are the eyes and ears of the political and military structure through which the necessary information is gained to support the decision-making process. The importance of this mission cannot be overlooked.

Basic doctrine is specific in defining strategic and tactical surveillance and reconnaissance operations and the relationship between them. The important factor to recognize in this relationship is that the function being supported determines if it is strategic or tactical, not the command that performs the mission or trains the crews. Neither is it the department nor agency that funds the platform. Thus the myth of national reconnaissance, strategic reconnaissance, and tactical reconnaissance operating

as separate and distinct entities with individual purposes may be dissolved.

AFM 1-1 provides basic guidance as to the nature of strategic and tactical surveillance and reconnaissance.

Strategic surveillance and reconnaissance operations support our needs for national and strategic intelligence. They also help fill the information requirements of the tactical commanders. Through these strategic operations, we can assess the total capability of a foreign nation to wage war, and can monitor the progress of a war. These operations provide information that is essential to:

- Identify targets for strategic and tactical attack.*
- Provide indications and warning of hostile intent and actions. . . .*
- Assess damage to enemy and friendly targets.*
- Determine force structure.*
- Determine our requirements for research and development of warfighting systems.*
- Help verify compliance with treaties and agreements.*

Tactical surveillance and reconnaissance operations support the theater and the tactical field commander. When these tactical systems are assigned targets, the resulting information may fill both national and strategic intelligence requirements. Tactical systems provide indications of hostile intent, plus information from which intelligence is derived. These surveillance and reconnaissance systems provide information on:

- The disposition, composition, and movement of enemy forces.*

The location of enemy lines of communication, installations, and electronic emissions.

Post-strike damage.

Conditions in surface battle areas.

Weather and terrain.

The use to which the information is put determines the strategic or tactical nature of the collection operation. The operational mission of collecting information is known as surveillance and reconnaissance.

Relationship to Intelligence

Surveillance and reconnaissance do not exist for their own purpose. Therefore, it is necessary to discuss the information product, the relationship to intelligence, and disciplines employed. The JCS Publication 1 definitions are important at this point:

Information (intelligence)—Unevaluated material of every description, including that derived from observations, reports, rumors, imagery, and other sources which, when processed, may produce intelligence.

Intelligence—The product resulting from the collection, evaluation, analysis, integration, and interpretation of all information concerning . . . foreign countries or areas. . . .

Strategic intelligence—Intelligence which is required for the formation of policy and military plans at national and international levels.

Tactical intelligence—Intelligence which is required for the planning and conduct of tactical operations. . . . tactical intelligence and strategic intelligence differ only in scope, point of view, and level of employment.

While the basic definitions may appear to quibble over semantics, it is important to realize that the basic product of the surveillance and reconnaissance operational missions is information and that it only becomes intelligence after it has been transformed through the processes defined above. This does not mean that information has no direct value. The conversion to intelligence is often time-consuming; therefore, information provided to satisfy the needs of combat commanders

directly is combat information. It has been defined as combat information.

Combat information—Unevaluated data, gathered by or provided directly to the tactical commander, which, due to its highly perishable nature or the critical timing of the situation, cannot be processed into tactical intelligence in time to satisfy the user tactical intelligence requirements.

The interrelationships of surveillance, reconnaissance, information, and intelligence have been extracted from JCS Pub. 1 and AFM 1-1 to provide clarification. The specific expansion of principles and procedures governing the processing, production, and dissemination of intelligence will be addressed in AFM 2-10, *Intelligence* (forthcoming).

Collection Disciplines

The methods used to conduct surveillance and reconnaissance are best described by the intelligence discipline supported. The general categories of imagery and signals intelligence (SIGINT) can be used to describe collection activities that cover the major portions of the electromagnetic spectrum. While each is a specialty unto itself, it is necessary to understand a description in general terms, some applications, and significant capabilities and limitations of each discipline.

imagery

Imagery, as defined in JCS Pub. 1, consists of "collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices or other media."

Photography is the oldest mechanical means of conducting surveillance and reconnaissance, dating back to the box camera and balloon. The cameras and films of today are highly sophisticated and provide what is generally considered by commanders as the ultimate intelligence product, a picture. While it may be

worth a thousand words and serve as hard evidence on the battlefield or at the conference table, it is not totally infallible. Dummy equipment, derelict vehicles, and camouflage are used to deceive the viewer. Optical photography requires sufficient light to expose the film, either daylight or with photoflash augmentation as well as direct viewing of the subject, unrestricted by weather phenomenon. Infrared film is often used to overcome camouflage; at night, because it records variations of relative temperatures, it is passive in nature and does not unnecessarily expose the position of the reconnaissance platform as does photoflash augmentation. The greatest limitation in film-based photography is the time required to deliver, process, and interpret the imagery after the target has been acquired. The greatest advantage is the detail so necessary when trying to locate, identify, and determine the size of the enemy force.

Radar imagery is produced by an active sensor that emits and records the reflected signal. Radar provides a standoff capability and is a day/night all-weather sensor. The product requires sophisticated processing and specialized interpretation skills, but because of its electronic nature it is possible to digitize and data link relay the image, thus making it a near-real-time sensor. Radar is a very good wide area surveillance sensor capable of providing target location; however, it is not capable of specific identification unless it is correlated with data collected simultaneously from other disciplines. Dispersal patterns, field formations, and knowledge of enemy tactics provide clues to identify general categories of equipment. Knowing the presence of tanks, artillery, or bridging operations may satisfy the combat information requirements of a commander while other sources and disciplines are employed to gain specifics such as type and caliber. It is possible to improve the identification capability of radar sensors within the constraints of time and fiscal practicability.

Nonimaging infrared sensors provide the

battle commander the ability to detect and track missiles and identify impact areas. They may also be used to track certain types of aircraft. The heat emissions of exhausts provide the necessary data, even though the vehicle itself may not be seen. Heat emissions from power generators or distribution lines may aid in locating unit headquarters or communication nodes even without transmission.

Another type of infrared system capable of cockpit display or data link relay is forward-looking infrared (FLIR). This sensor system functions on relative differential temperature measurement but records and displays electronically rather than on film, as in the case of photographic infrared. The system is totally passive and can produce scenes of the battlefield in detail that allow identification of equipment without regard to light level. There are restrictions caused by weather that may totally or partially attenuate the temperature measurement and thus restrict its use.

intelligence disciplines

Signals intelligence is "a category of intelligence information comprising all communications intelligence, electronics, intelligence, and telemetry intelligence."

As seen by this definition, there are specialties or disciplines within the broad general category of SIGINT, each of which provides a unique type of information. The definition of each specialty found in JCS Pub. 1 is fairly descriptive.

Communications intelligence (COMINT) is the "technical and intelligence information derived from foreign communications by other than the intended recipients." It is through COMINT that the battle commander is able to gain the most vital information, intent. If the directions being given to enemy forces can be accurately determined in sufficient time to allow the battle commander to take counteractions, the effect of the enemy intention may be negated. This is not without its difficulty or flaws, however.

The practice of communication security by the enemy is designed specifically to deny unauthorized persons information of value or to mislead their interpretation. Even though the enemy's intention may be overheard, its accuracy must be determined.

Electronics intelligence (ELINT) is the "technical and intelligence information derived from foreign, non-communications, electromagnetic radiations emanating from other than nuclear detonations or radioactive sources." Search and acquisition radars and tracking systems emit electronic signals that when collected may provide the battle commander the ability to locate and identify the enemy air defense systems. Many of the characteristics of electronic systems such as radars are unique and provide reliable identification when properly analyzed. Knowledge of the electronic order of battle (EOB) of the enemy is essential for planning offensive action against him in order that concentrations of firepower may be avoided or destroyed as required.

Closely related to ELINT but requiring uniquely different collection and analysis is a discipline known as *radiation intelligence* (RINT). RINT is the "intelligence derived from the collection and analysis of non-information bearing elements extracted from the electromagnetic energy unintentionally emanated by foreign devices, equipments, and systems, excluding those generated by the detonation of atomic/nuclear weapons."

The key words are "unintentionally emanated." For example, a radar acquisition system may be operating in a standby mode, while the intended target is being tracked optically. The electronics portion of the system may be operating under full power with the exception that the transmitter output has been routed by switch action to ground or to what is known as a dummy load rather than to the antenna. Some of this electronic power inevitably escapes and may be recorded, and even though the enemy is not transmitting, he may be emitting. A much simpler example of unintentional radiation is

that caused by the ignition system of the family car and heard in the radio unless an attenuation device is installed. The collection and analysis of these spurious signals provide information to the combat commander when the enemy has no intentions of displaying an active electronic presence.

Telemetry intelligence (TELINT) is the "technical and intelligence information derived from the intercept, processing, and analysis of foreign telemetry."

A study of the guidance and control signals being transmitted to a missile, for example, may reveal much information about the operating parameters of the missile. If such analysis could be done fast enough, it might even identify the location of the intended target.

The mentioned disciplines identify in a broad sense the collection capabilities required by the Air Force. Each is a unique field with specialties and subspecialties of its own. However it is through the application of these capabilities, either independently or in combination, that we are able to acquire the necessary information about the enemy to satisfy the decision-making process at all levels.

The Objective of Surveillance and Reconnaissance

In order for the surveillance and reconnaissance disciplines to be applied effectively, we must first establish objectives. This is more than identification of the enemy. It must first be determined if the information will be used for strategic intelligence, tactical intelligence, or combat information. Within these broad categories, we must then determine the nature of the specific missions being supported. This will assist in determining the accuracy, timeliness, and frequency of the collection. For example, if indications and warning information are required, the collection must be accurate, timely, and nearly continuous. On the other hand, if scientific and technical data are required to determine the status of a foreign nation's

research and development efforts, the collection must be accurate; timeliness and frequency of collection may be determined when a testing event takes place. Therefore, collection may be more periodic than continuous.

It is important to note at this point the nature and value of timeliness. For information or intelligence to be of any value, it must arrive at the decision-maker in the proper form and *in time* to impact the decision being made. Information or intelligence that does not or cannot arrive in time may in fact have a negative value. Information that is sent to the decision-maker unnecessarily or after the decision has been made may cause other vital information being transmitted also to be delayed beyond the time when it could have an impact on decisions. Persons working throughout the surveillance, reconnaissance, and intelligence communities must be keenly aware of both the value of information and its negative value.

Tactical Reconnaissance as a Primary Function

It is important to understand the sources of authority for the Air Force to conduct surveillance and reconnaissance and the fact that it is not done solely for the Air Force. Department of Defense Directive 5100.1 and *The Unified Action Armed Forces*, JCS Pub. 2, identify as a primary function of the Air Force to: "Furnish close combat and logistical air support to the Army to include tactical reconnaissance and aerial photography." And "provide adequate, timely and reliable intelligence."

Not only is it important that the Air Force be organized, trained, and equipped to collect information and produce intelligence but, more important, it is recognized that this function is vital to Army operations. The degree to which the Army depends on the Air Force for support is spelled out in great detail in Army Field Manual 100-5, *Operations*. It is not necessary to specify in the same detail in this document the types and methods of support. It is vitally impor-

tant, however, to recognize that surveillance and reconnaissance systems must provide different levels of support and meet different limitations of timeliness and accuracy, depending on the echelon of command being supported.

The Army has defined the battlefield by zones of responsibility and intelligence needs of the commanders responsible for each zone. The distances given are not exact but can be used for Army planning purposes.

The captain's zone at company level extends from the forward line of own troops (FLOT) to 4-5 kilometers (km). Combat information is needed to support direct fire operations, and this information is virtually impossible to provide by other than organic means, such as gun sights and night observation devices. Very little outside support is expected, but the Air Force should remain aware of this need by troops in contact with the enemy. Should technology provide a simple solution in the future, integration of support must be explored. Emphasis must remain on simple solutions; otherwise the captain will rapidly receive negative value combat information that could prove fatal.

The colonel's zone at battalion and brigade level extends from the FLOT to the fire support coordination line and includes the captain's zones of the companies under their command. Colonels need both intelligence and combat information in order to see the enemy. They worry about the the forward edge of the second echelon of enemy reinforcements, determine their movement, and control the friendly indirect fire weapons, counterfire, and direct tactical maneuver. Air Force surveillance and reconnaissance activities should be capable of providing support in this zone, which is not accomplished without difficulty, however. The problem of sorting out which battalion commander needs which bit of information may prove extremely difficult. Technology in data handling devices may offer some solutions when coupled with procedures such as

templating (also described in FM 100-5). The emphasis again must be on simplicity because the battalion operates under extremes of field conditions and cannot be burdened with oversophistication and negative value information.

In the U.S. Army view, the general's zone at division and corps level extends from the FLOT to 150 km and includes the zones of colonels. From this zone the enemy will provide tactical reinforcement and support. The Army looks to the Air Force to provide surveillance and reconnaissance in this area by either standoff or penetration tactics. While time constraints for reporting information from these areas is not as restrictive, it is important to remember that if the distance from the FEBA that enemy actions can be detected equals time to react, then time cannot be eroded due to poor communications or faulty procedures. The value of information becomes critical because of the volume to be handled from such a large area. It becomes essential that the most important elements necessary for decision-making be identified in advance and that efforts be undertaken to satisfy them as quickly and directly as possible.

While the Air Force is satisfying the surveillance and reconnaissance needs of the Army, it must also do the same for its own forces and possibly for the National Command Authorities and strategic planners. Some of the information will be of use to all organizations, but it is a mistake to believe there is a high degree of overlap. The fine detail required for targeting weapons is unnecessary for strategic planning. The technical information required to satisfy a research and development question may go far beyond the needs of a combat soldier or airman who only needs to know what is where, when, and how many.

A workable management system should be established to satisfy a wide variety of users; it must be able to integrate the needs of all users and match them with appropriate collection resources. Tactics must be developed in coordination with the organizations being supported to assure that the needs are understood and

the best system capability is applied to each task.

Tasking of Collection Resources

Within the Department of Defense, the procedures for tasking collection resources are governed in general by JCS Publication 2. The flow of intelligence requirements follows command channels with the Director, Defense Intelligence Agency (DIA), having validation authority. Requests are forwarded from component commands, through the unified and specified commands, to the Director, DIA, acting for the Joint Chiefs of Staff. Once requests have been validated, the tasking for collection is passed to the agency or command responsible for operation of the particular collection resource.

Assets operated by Strategic Air Command are tasked through the joint reconnaissance center in the Pentagon to the strategic reconnaissance center at SAC Headquarters, and hence to the operational unit. Some assets are tasked through specific procedures established by the intelligence community, and these vary by discipline. For specific details refer to AFM 2-10.

Collection resources assigned to a specific theater of operation must be managed through a centralized collection management office (CMO). The CMO is responsible for receiving requests, determining the most appropriate resource for collection, tasking the unit operating the resource (either directly or through applicable procedures), and maintaining a follow-up on request satisfaction through feedback. While it would be highly desirable to have a single CMO in each theater of operations, it is often not possible due to command arrangements or combined operations. In such cases the Air Force component should establish a CMO to coordinate the collection activities with other component commands to ensure maximum use of available resources and preclude unnecessary collection duplication.

System Requirements

The Air Force must pursue the surveillance and reconnaissance mission because it supports the intelligence needs of the NCA, DOD, and our allies. Without knowledge of what is happening in the world around us, we will be unable to identify our potential enemies, know the threat they pose to us, or be able to defeat them should the need arise.

To have a viable surveillance and reconnaissance capability, we must identify in detail the information needs of those we are tasked to support, determine the conditions under which the data must be collected, and assess the continuous or periodic nature of the collection. Technology must then be applied by discipline to determine the specific sensor required to accomplish the collection and under what operating parameters. Then and only then should we begin to evaluate the platform necessary to accomplish the mission. Technology must not be allowed to drive collection simply because it is possible. If there is no requirement, information collected under those conditions is of negative value.

Starting with a platform and trying to deter-

mine what surveillance or reconnaissance missions it could perform has been done successfully several times—in fact, it is our normal method. The fallacy is that we often spend valuable and scarce resources in an attempt to make sensors operate under less than optimum conditions or develop an operational profile that is unrealistic for the mission. Serious consideration must be given to the needs of those being supported. When quantified in even gross terms and coupled with templating procedures to streamline the transformation of information to intelligence, it will be possible to develop the rudiments of force structure.

The size of the surveillance and reconnaissance force must be determined by the importance placed on the need for information. Indeed, this need may be greater than bullets or bombs or the platforms that dispense them. The Air Force must vigorously pursue this important mission with creative and innovative ideas. Technology must not be chased but effectively applied to ensure that the information collected and delivered to the requester always retains its value.

*Air War College,
Maxwell AFB, Alabama*

coming . . .

in our May-
June issue

- Western Deterrence
- Theater Nuclear Arms Control
- Where Are the Mitchells?
- Beam Weapons in Space



V/STOLs

a myth or a promise

Colonel William D. Siuru, Jr.

The lure of vertical flight, the desire to hover like a hummingbird, exercised a powerful hold on man's imagination from earliest times. In 1483 Leonardo da Vinci sketched a whimsical human-powered "helicopter" with an overhead Archimedean screw to "bore" its pilot upward; in 1843 Sir George Cayley published drawings of an "aerial carriage" with four lifting rotors that would flatten out to become wings once cruising altitude was reached. But hovering flight did not become a practical reality until nearly four decades after the Wright brothers' flight at Kitty Hawk.

Most helicopter pioneers went astray by concentrating on lifting power to the exclusion of control. The results were brief hovering flights, generally followed by spectacular crashes. Spanish aerodynamicist Juan de la Cierva (d. 1936) attached the rotor blades flexibly to the rotor hub with skewed flapping hinges; these equalized the lift on the turning blades and made controlled forward flight possible. Though the rotors of the Cierva autogiro were not powered and thus incapable of hovering, their ability to store rotating inertia and convert it into lift permitted remarkably short takeoffs and landings. Cierva's autogiros were popular during the 1920s and '30s (an example with British civil markings appears on the facing page) and proved the practicality of rotary wing flight.



VERTICAL/short takeoff and landing (V/STOL) aircraft have interested the military for several decades. While the classical vertical takeoff and landing aircraft (VTOL), the helicopter, has already firmly established its role in all the services, there has also been great interest in aircraft that combine the best features of both the helicopter and the airplane. Helicopters are great for takeoffs, landings, and hovering but are severely limited in missions calling for high forward speeds, substantial range, or long-duration flight. Through the years many concepts have been proposed to overcome the limitations of the conventional helicopter. However, except for the U.S. Marine Corps's AV-8A Harrier, none have gone much farther than the prototype stage.

PAST V/STOL concepts have included aircraft with lift fans embedded in their wings, planes with ducted propellers that tilted, aircraft that took off and landed on their tails, and planes with rotors or propellers that could be tilted from horizontal to vertical position.

The tilt rotor, which tilts the lifting rotors to become propellers, was initially the most commonly tried approach.* For example, first-generation tilt rotor aircraft included the Vertol VZ-2, the Hiller X-18, the Bell XV-3, and the Curtiss-Wright X-100. All these flew with varying degrees of success, met overall goals of showing feasibility, and provided much information and experience for the more advanced

*TiltRotor is a Bell Helicopter trademark label. Tilt rotor is also an accurately descriptive term.





The biggest problem in the transition from autogiro to helicopter was torque. Power applied to turn a lifting rotor tries to rotate a helicopter's fuselage with equal force—torque—in the opposite direction. The brilliant Russian expatriate Igor Sikorsky turned to the most direct and, for the time, perhaps, best solution: counteracting the torque of a single lifting rotor with a small vertical tail rotor. His first controlled flight was in the fall of 1939. By 1944 the Sikorsky R-4 was in production and had been deployed to the Marianas (facing page, over a B-29) and in Burma (above); R-4s made the first helicopter combat rescues before the end of World War II. In Korea, Sikorsky H-5s (below) proved invaluable for battlefield casualty evacuation as well as combat aircrew recovery.



R-4B



H-5s

V/STOLs to come. The second generation, designed so they could carry more significant payloads and thus show the operational suitability of V/STOLs, included not only tilt rotors but tilt-wing aircraft in which the entire wing tilted, engines and all. These second-generation aircraft included the LTV XC-142A and the Canadair CL-84, as well as the tilt rotor Curtiss-Wright X-19A. These aircraft all flew, but none progressed beyond the exploratory development stage. However, this is the story of V/STOLs: lots of designs, prototype construction, and testing, but no operational hardware.

SEVERAL rotary-wing-based V/STOL aircraft are currently being developed by the Army, Navy, and National Aeronautics and Space Administration (NASA). Again, these developments are not specifically aimed at designs that would go directly into production. Their purpose is to prove new concepts and advance V/STOL technology.

- *XV-15, TiltRotor*. This aircraft, being developed by Bell Helicopter Textron, represents a third-generation tilt-rotor V/STOL. The 42-foot long, 13,000-pound

craft is powered by two 1500-horsepower turbine engines located in the wing tip nacelles that rotate with the rotors. The XV-15 program has been under way for a considerable period of time, the original NASA/Army contract dating back to 1973. One reason for the delay is the program's low-level of funding. Starting with hovering flights in 1977, the XV-15 has now been flown successfully throughout its entire flight envelope.

- *XH-59A, Advancing Blade Concept (ABC)*. One way to eliminate the problem of stalling and reverse rotor blade flow that limits the forward speed of a helicopter is to use two counterrotating rotors. This is the principle behind the XH-59A, built by Sikorsky Aircraft in a jointly funded Army, NASA, and now, Navy program. The XH-59A program started in 1971; by 1973, two XH-59As were ready for flight-testing. However, one aircraft was lost during a hard landing. Flight-testing of the XH-59A as a pure rotary-wing craft had been completed by 1977. The XH-59A's extreme agility and maneuverability were even more than had been expected. This maneuverability comes about because of the very stiff rotor blades used on the XH-59A, making the ABC an ideal candidate for a combat aircraft. The stiffer blades are also more rugged and thus more likely to survive encounters with tree limbs and hits from small arms fire. In 1978, the high-speed test program was started with the addition of two auxiliary 3000-pound thrust jet engines mounted on the fuselage.

- *X-Wing*. The U.S. Navy is quite interested in the X-wing concept as a way to combine the characteristics of the helicopter and the airplane. During takeoffs, landings, and slow-speed flight, the X-wing's four-bladed rotor operates like a conventional rotor. Once relatively high speeds (say 200-230 knots) are reached, the rotors would be locked into place and would function like normal wings. The X-wing could be operated at speeds up to those found in today's subsonic airliners. Yet there is more to the X-wing concept than just the rotor-wing idea. There is the circulation control rotor (CCR), for example. With the CCR, the lift of the rotor blade is controlled by blowing compressed air through the leading edge or also the trailing edge of the rotor blade. This principle greatly simplifies the flight-control system during the helicopter mode. So far a Navy SH-2 helicopter has been equipped with a CCR system by Kaman Aerospace, and flight-testing of this craft is nearing completion. To test the X-wing in both the helicopter and stopped rotor, fixed-wing mode, a single-seat demonstrator model is planned. This aircraft will be powered by two jet engines that will turn the rotor, provide the compressed air, and supply forward thrust.

THE V/STOL will probably never replace the helicopter or fixed-wing airplane where these aircraft have firmly established roles. However, V/STOLs can fill the gap between the two where speed and endurance must be combined with helipad or short-field deployment. For example, the Army is interested in V/STOLs since they could be stationed near the forward edge of the battle area (FEBA), ready to make high-speed penetration deep into enemy territory to strike enemy targets or gain reconnaissance information. The excellent nap-of-the-earth (NOE) flying characteristics of V/STOLs would allow on-the-deck flights to ensure penetration without detection. The Army is also considering V/STOL aircraft for special electronic missions. Potentially, the Navy could use V/STOLs for many missions now calling for aircraft launched from aircraft carriers, such as antisubmarine warfare, search and rescue, airborne early warning, and vertical on-board delivery.

Continued on page 83



XR-1
Platt LePage

Postwar
experimental
efforts

Sikorsky's solution was not the only one: the idea of laterally opposed lifting rotors whose torques would cancel out was attractive (above, a 1944 Platt LePage XR-1) but entailed extra structural weight, a problem not shared by the tandem-rotor configuration (below right, a 1946 McCulloch MC-4). Tandem rotors, however, interfered aerodynamically with each other, and yaw instability was a problem (note the added vertical stabilizers) . . . Yaw problems also plagued the cleverest solution of all (below left, a Marquardt M-14 Whirlajet), using tip-mounted ramjets for power, eliminating torque altogether; rotor downwash over the skewed rudder provided the only directional control at low speeds and in a hover, and in some flight regimes there was no yaw control at all.



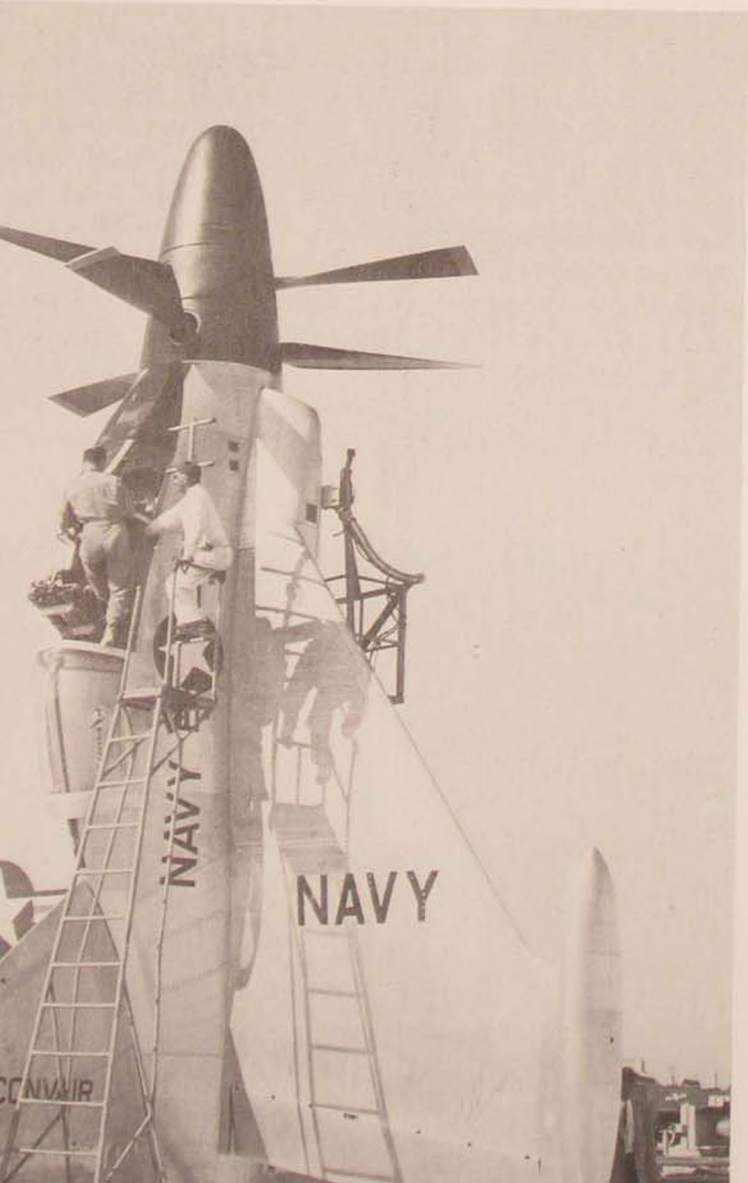
M-14
Marquardt



MC-4
McCulloch



Attempts to combine helicopter vertical takeoff and landing (VTOL) capabilities with fixed-wing cruise characteristics produced some remarkable aircraft during the '50s and '60s. The tail-sitting Ryan Vertijet (left) was a brute-force solution to a complex problem. The jet blast and high exhaust temperatures of its Rolls-Royce Avon turbojet ruled out ordinary landing gear, and the Vertijet landed by engaging a mooring platform with a hook under the nose; a high center of gravity, limited control effectiveness, slow throttle response, and awkward pilot position made hovering a sporty proposition. . . . The Navy's turboprop XFY-1 Pogo by Convair (left, below) had normal landing gear of a sort, but hover controllability was still a problem. . . . The first true convertiplane, the Bell XV-3 (below) was the first tilt rotor to accomplish a complete in-flight transition (below, bottom in a hover) to cruise (below, top) on 17 December 1958.



Other configurations tested in the '60s included the Bell X-22A's four tilting ducted fans (right), . . . the turboprop LTV XC-142's tilt-wing (below, top left), . . . the Curtiss-Wright X-19's four tilting rotor pods powered by two Lycoming turboshaft engines (below, top right), . . . and the Ryan XV-5A Hummingbird's two high-velocity lift fans embedded in the wings (below, bottom right) Of particular interest is the German EWR-Süd VJ 101C (below, bottom left, hovering), powered by no less than six Rolls-Royce RB-145 turbojets, four in tilting wingtip nacelles and two mounted vertically for lift in the forward fuselage; a second prototype was to have incorporated thrust engine afterburning for supersonic flight. For a variety of reasons—high downwash velocities, excessive mechanical complexity, unforeseen aerodynamic problems—none of these projects went beyond prototype stage.



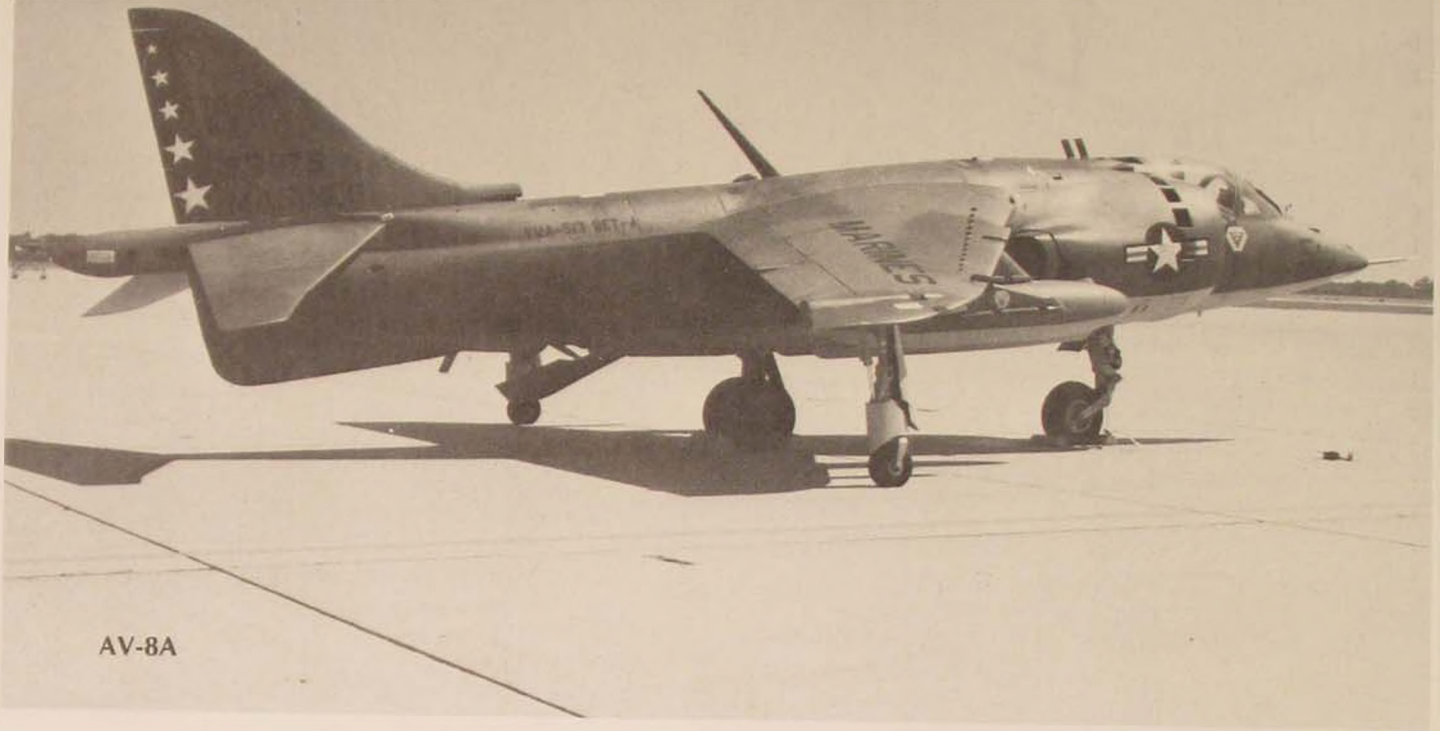


HH-3E

search and rescue,
Southeast Asia

The capabilities of the helicopter were stretched to the limit in the long-range combat aircrew recovery role during the Vietnam conflict. USAF Sikorsky HH-3Es and HH-53B/Cs received jettisonable auxiliary fuel tanks and were fitted for probe and drogue aerial refueling from HC-130P/K tankers to reach deep into North Vietnam and Laos. These two helicopters (an HH-53C, facing page, bottom, approaches the refueling drogue with its pneumatically activated probe extended; an HH-3E "hooked up" over the Gulf of Tonkin, above) were respectively, the longest ranging and the fastest and most powerful free-world helicopters through the late '70s. . . . The H-53 has the distinction of being one of the few overpowered helicopters ever built (facing page, top right; a head-on view of an HH-53C, showing the podded installation of the two General Electric T-64 turbine engines, suggests the machine's brute power). Also active in Vietnam was the Kaman HH-43B/F (facing page, top left, with a fire suppression kit in the local base rescue role). The HH-43's noncoaxial counterrotating rotors represented yet another solution to the torque problem.

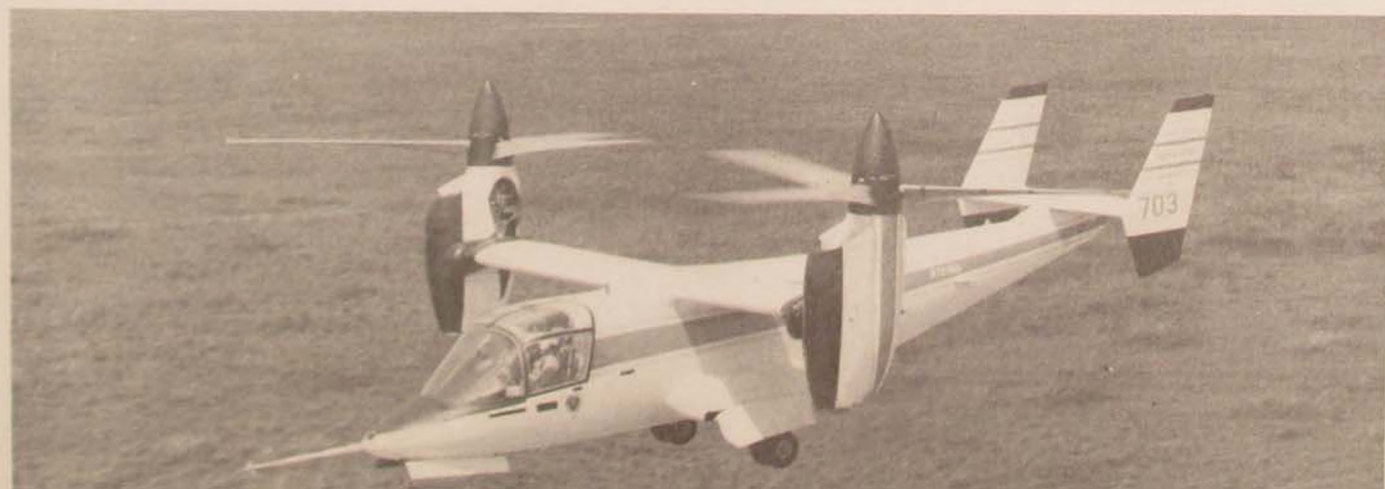
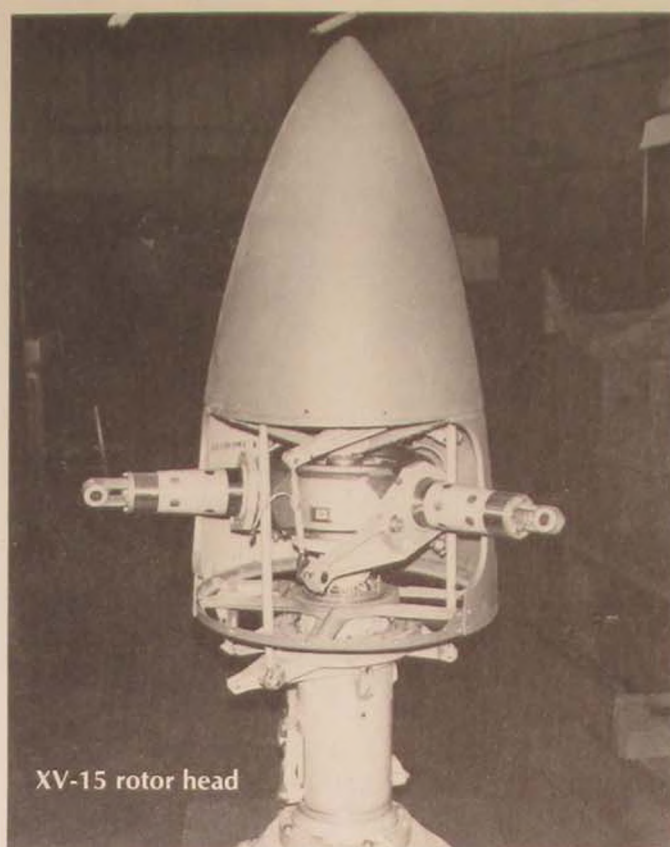




AV-8A



In Great Britain in the late '50s came the first production V/STOL fighter, the Hawker Harrier (facing page above, the U.S. Marine Corps production version, the AV-8A, now coproduced by British Aerospace and McDonnell Douglas). The Harrier's success is the product of an elegantly simple design concept and the remarkable performance of its Rolls-Royce Pegasus vectored-thrust turbofan engine. . . . Primary contenders to extend basic helicopter capabilities are Sikorsky's ABC or Advancing Blade Concept (facing page below, the Sikorsky XH-59 test vehicle) and Bell's TiltRotor approach (below, the Bell XV-15 in forward flight and, bottom, hovering). Though the full returns are not yet in, ABC appears to have the edge in hover efficiency; TiltRotor is significantly faster and more efficient in a cruise, having attained speeds of 350 knots. . . . Nearly thirty years of developmental effort show in the compact design of the XV-15's tilting nacelles and rotor head assemblies (right, rotor hub, swash plates, and control linkages); note the contrast with Bell's earlier XV-3. (p. 76)





Perhaps the most radical idea under active consideration for expanding the helicopter's performance envelope is the Circulation Control Rotor (CCR) concept (above, under test by Kaman aircraft on a Kaman SH-2 and, below, in closeup). The CCR is driven by hot gases forced through slotted ducts along the rotor blades; the blades are fixed rigidly in pitch, and control is achieved by cyclically varying the flow through each blade as it rotates. The Lockheed X-wing concept envisions locking the blades for cruise—a reversion to Cayley's 1843 convertiplane—using the CCR both for thrust and as a conventional wing with boundary layer control for lift.



Circulation Control Rotor

However, V/STOLs would allow operations from the decks of even much smaller ships. Likewise, V/STOL capability would enable the Marines to mount airborne assaults from smaller ships located farther from shore. Because of the agility and maneuverability of V/STOLs, they may even be used for air-to-air combat against Soviet helicopters like the Hind attack helicopter, which can outrun current U.S. choppers. The Air Force could use V/STOL aircraft for long-range and speedy rescue of downed aircrews, long duration forward air controller missions, and for operation from battle-damaged airfields.

WITH all these advantages, why are V/STOLs not operational in any sizable numbers with United States forces? There are many reasons that mainly consist of priorities and money. With so many things to do and so little to do it with, the "nice-to-do" cannot be done, and even many of the necessities are neglected. Since the V/STOL role lies between the operating regimes of two proven types of aircraft, it has been difficult to justify it in an austere environment. Thus, to meet mission requirements, rather than fully develop a new concept, the capabilities of the helicopter have been stretched, fixed-wing aircraft have been functioning at the lower end of their operating envelopes, and tactics have been changed to match available capabilities.

Another problem facing the V/STOL is that most projected missions are of the special-category type calling for at most about one-hundred aircraft of a given configuration, surely not enough to amortize the entire engineering and development costs for a V/STOL concept. Traditionally, such special requirements have been satisfied by modifying an existing airframe or commercial aircraft. Then why not find several of these special types of missions and build a common airframe that can be modified during assembly to meet different and unique requirements? In the past, multimission aircraft have met with limited success; they seem to do many things, but none exceptionally well.

The way for the V/STOL to get into an operational role is for it to compete with other concepts in satisfying "mainline" military missions. For example, the V/STOL could be a viable contender for the next-generation ground support attack platform to follow the USAF's A-10 or the Army's AH-64 Apache Attack Helicopter. V/STOLs would thus be a solution to military requirements rather than a solution looking for a mission, as has really been the situation to date. Meanwhile, V/STOL technology demonstration programs like the XV-15, XH-59A, and the X-wing should continue at full speed so that all the homework will be done; then, the V/STOL will be ready to compete with all the necessary experience and test results to support its advocacy. Particular areas of importance are the operational, maintenance, logistics, and tactics aspects of V/STOL deployment. The V/STOL will have to compete with the helicopter and fixed-wing aircraft, which are mature, seasoned weapon systems. Thus, V/STOL demonstrations must include vigorous field and operational tests to prove they can make it in a real-world combat environment.

V/STOLs have proved they can combine the advantages of both the helicopter and the fixed-wing airplane. Now they must prove that they are operationally sound. There is still time to do it if steady, adequately funded technology and demonstration programs are continued for the next few years.

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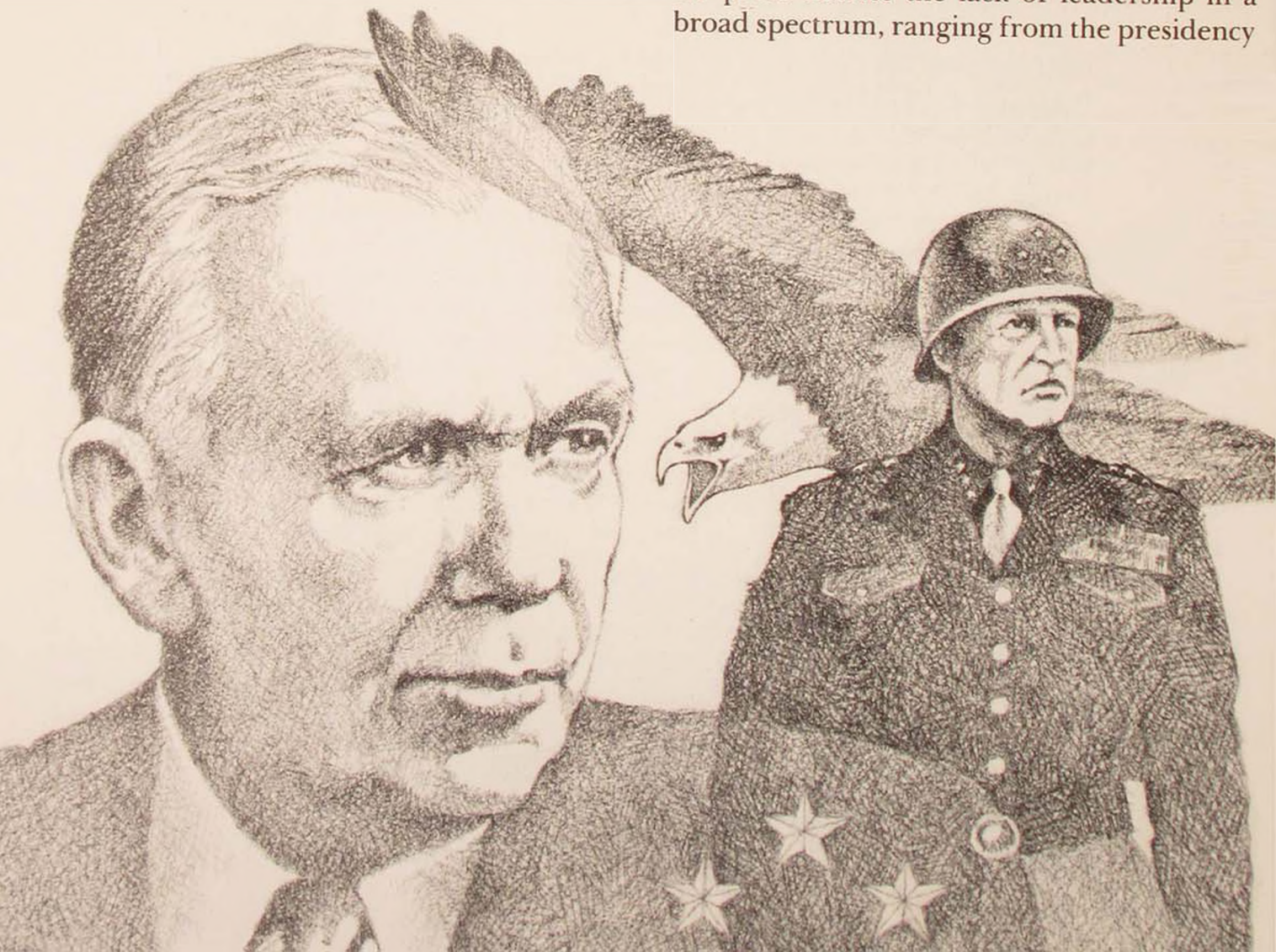


fire counter fire

PROMOTING LEADERSHIP IN THE AIR FORCE'S MANAGEMENT ENVIRONMENT

MAJOR JEFFREY C. BENTON

A WIDESPREAD and increasingly articulated belief is that American society lacks effective leadership and that *manager* and *leader* may not be synonymous concepts. The popular press decries the lack of leadership in a broad spectrum, ranging from the presidency



to the corporate business community. And official and semiofficial military sources have not neglected the issue. Nor has it been ignored in fiction: Anton Myrer's *Once an Eagle* vividly portrays the problem. Every officer knows many Courtney Massengales driven by careerism and too few Sam Damons selflessly performing their duty and inspiring their subordinates.

Fiction often comes closer than reality in conforming to academic concepts. There is some validity in labeling George C. Marshall, Dwight Eisenhower, Omar Bradley, and Henry "Hap" Arnold as managers and William Halsey, George Patton, Jimmy Doolittle and Curtis LeMay as leaders, but such distinctions are not clear-cut or definitive. One may question whether management and leadership differ and whether managers can be leaders, but there is little question that the U.S. Armed Forces, especially the combat arms, face critical requirements for traditional leadership. If there are too few Air Force leaders, it may be that impediments within the system prevent the emergence and development of leaders.

This article, then, addresses differences between leaders and managers and the need for leaders. In a more pragmatic vein, it suggests that the Air Force can foster leadership development through several positive changes in concepts of occupationalism, centralization, and careerism. A proper leadership climate in the military must be based on institutionalism, especially in the flying corps, and commanders must be given the necessary authority and time to develop leadership qualities in themselves and their subordinates.

Leaders and Managers

For a number of years, the Air Force has assumed, perhaps unwittingly, that leadership and management are different aspects of the same subject. People who subscribe to this view perceive that the Air Force has enhanced management skills at the expense of leadership abilities. The process began under General

George Marshall as a means of mobilizing the nation for World War II, and it was perfected under Secretary of Defense Robert McNamara in the early 1960s. Management involves planning, organizing, staffing, directing, and controlling, and it is job oriented to the extent that people are viewed merely as instruments to accomplish jobs. Managerial motivators are money, prestige, promotions, and other material rewards. On the other hand, leadership involves natural and learned abilities, personal skills, and characteristics that inspire responsible subordinate actions through interpersonal relationships. Sustained peacetime leadership requires the same job expertise, self-discipline, and sense of responsibility required by management, but it also requires self-respect and adherence to moral and ethical principles. The leadership role involves instinct, intelligence, knowledge, craft, example, persuasion, inspiration, compromise, and patience to develop consensus among followers. Leaders are motivated by service, psychic and ritualistic rewards, high codes of conduct, and strong moral values.¹

Another view is advanced by Abraham Zaleznik: "Leaders and managers are basically different types of people, [and] the conditions favorable to the growth of one may be inimical to the other."² Under this view, managerial traits are linked with the conservative tendencies of large bureaucratic organizations. Managers are problem solvers, but they avoid risks because they are survival motivated. They are persistent, tough-minded, hard working, intelligent, and analytical individuals whose inclinations allow them to tolerate mundane and practical work. However, Zaleznik maintains that their attitudes toward goals are impersonal, if not passive. Although they prefer to work with people, they lack empathy or the capacity to sense intuitively the thoughts and feelings of others; consequently, they relate to people according to their roles. Leaders, on the other hand, are creative and imaginative individuals who actively seek risks for opportunities and rewards. Since leaders identify

less with organizations, they are willing to entertain alternate approaches and solutions, and they shape rather than react to ideas and situations. They are often lonely people concerned with self-definition, but they genuinely care about other people. Their intuitive natures and communicative skills enhance their interpersonal relationships. This view implies that managers seek to balance jobs and people and that leaders attempt to coalesce jobs and people. Zaleznik may hold an extreme position, and he may be incorrect in proposing that leaders and managers are mutually exclusive. Nevertheless, his position provides a useful distinction between leadership and management, if not between leaders and managers.

If one assumes, in the interest of academic distinction, that leaders and managers are different, of what value are leaders to the Air Force? Leaders are more likely than managers to concern themselves with the Air Force's most pressing, solvable internal problem—how to ensure maximum individual efforts. Both views stress the superiority of leaders over managers in dealing with people. Therefore, to inspire young people whose culture places them at odds with authority and to influence junior officers in socializing and adopting institutional values, the Air Force must cultivate and retain supportive leaders. And it must cultivate all types of leaders because future leadership requirements are unknown.³ The military profession does not need leaders to the exclusion of managers: it needs both leaders and managers. But the need to inspire and motivate and the ability to meet unknown challenges are so vital to the Air Force mission that development of leadership must be given top priority.

Is it possible that the Air Force can teach leadership much the same as it has taught management? Certainly, it can teach basic skills and, perhaps, style to deal with differing situations, but style, personality, and situation need not necessarily coincide to ensure successful military leadership. In fact, style is not an essential ingredient of leadership because leaders

may rely on a variety of styles.⁴ If leadership development is essentially an internal or individual matter based on innate gifts, personality traits, introspection, and, perhaps, even years of diversified reading, then leadership cannot be taught; and, of course, strong character and charisma cannot be taught. But positive organizational changes can encourage the emergence of latent leaders. Otherwise, the officer corps faces two negative alternatives: leadership skills will atrophy through lack of exercise, or leaders will separate from the military in search of civilian opportunities to use their abilities. Experience may or may not play a significant role in leadership development, but leadership cannot even surface if the system tolerates only the philosophy and practice of management.

Institutionalism versus Occupationalism

Much has been written about a growing occupational orientation at the expense of institutional orientation. Experience has shown that leadership cannot thrive in an occupational climate; thus, the decline in leadership must be linked to the rise of occupationalism. The occupational orientation between employer and employee is essentially a contractual relationship bound to dominant national managerial values and reinforced by the government's approach to servicemen. It is exacerbated by working wives and an accompanying breakdown in the military life-style, more separation of place of work from family living areas, increased contacts with civilians, and, especially, weakening distinctions between military and civilian job skills. On the other hand, some institutional concepts that have traditionally isolated the military from civilian communities may no longer be valid, such as the view of the armed services as a calling similar to the ministry.

The orientation of officers and young enlisted personnel mirrors the values of the larger soci-

ety rather than institutional values. For example, an Army study reveals a disturbing alienation of its junior enlisted personnel, particularly their beliefs that people are not dependable, that there is no right or wrong way to make a living, and that they can expect no justice under the law. Nevertheless, they were susceptible to military socialization because they had adopted positive attitudes during basic training.⁵ And a survey sponsored by the Military Personnel Center in 1977-78 concludes that newly commissioned Air Force officers were amenable to socialization even though they were not motivated by patriotism, institutional values, collateral tasks, the Air Force way of life, or the idea of working for a common goal.⁶ They were neither traditionally nor occupationally motivated. Thus, if young enlisted personnel and officers are not occupationally oriented and are open to socialization, one questions whether the dominance of occupationalism has been overstated and whether the socialization of newly commissioned officers is appropriate.

Surveys conducted at Air War College (AWC) and Air Command and Staff College (ACSC) from 1977 to 1980 indicate that the students had both occupational and institutional characteristics.⁷ The orientation of the graduates of these schools is especially significant for the future because these officers will probably dominate the officer corps in the late 1980s and the 1990s. The War College survey reveals that the respondents felt at odds with senior Air Force officers, whom they viewed as security oriented. They indicated a high sense of duty and some sense of mission, but patriotism, loyalty, selflessness, corporateness, and calling were not strong motivators. These officers were motivated by working, playing the game, succeeding, winning, and serving as team leaders and members. The corporate environment of the Air Force bureaucratic hierarchy and the traditional virtues associated with the military image frustrated them. Although the respondents of the ACSC survey expressed a belief that service in the Air Force should not

be considered merely an occupation, 43 percent of the sample believed that other officers perceived it as an occupation, and one-fourth admitted that they personally acted as if it were an occupation. Yet a composite picture of all occupational and institutional factors reveals a slight institutional inclination. However, from the findings of these two surveys, one can conclude—because there seems to be no consensus on exactly what professionalism is and because institutional leanings are not more pronounced—that the Air Force socialization process is not strongly oriented toward the institutional, that if the process is institutionally oriented, it is ineffectual, or that it is diluted by strong occupational pressures.

Institutional values are inculcated in large part by institutional socialization, and the prevailing values of the larger society simply make socialization more or less difficult. Today's officers will determine the orientation and the leadership climate of the future Air Force. A disproportionately large number of the future Air Force elite will come from the intermediate and senior professional schools, and, based on the values expressed in the mentioned surveys, they will not show a strong institutional inclination. Therefore, in view of the identity crisis experienced by these officers, one questions whether the Air Force can retain officers with outstanding leadership potential if this statement by Morris Janowitz is correct: "In a private enterprise society, the military establishment could not hold its most creative talents without the binding force of service traditions, professional identification, and honor."⁸ An official study entitled "AF Impact 77" addressed these issues and offered proposals for improving service life and recapturing some traditional military values, but this study did not address the organizational practices responsible for the current problem.⁹ Several basic but very difficult organizational changes cannot only improve retention rates in the officer corps but also permit identification and development of potential leaders.

A Climate for Leadership

To facilitate the emergence of leaders, the Air Force must revive relevant aspects of the declining institutional value system. For example, it must promote integrity, specifically honesty, as the essence of an officer's character. Certainly, an officer must first establish his credibility and gain the trust of his subordinates if he expects to inspire and lead them. But unless the officer corps demands personal and professional integrity, emphasis on occupationalism will inevitably subvert organizational changes. Of course, all aspects of the institutional value system probably cannot be resurrected in the Air Force since specialization and technology have so civilianized specific jobs. But, just as integrity and the broader institutional values are critical factors for Army combat arms, they are also critical requirements for the flying corps and, possibly, the missile force.

integrity, a prerequisite for leadership

The lack of integrity reflects a conflict between a relatively high personal sense of ethics and the perceived compromise demanded by standard military practices. Army War College studies prepared in 1970 and 1977 on the state of military ethics reveal a damning list of problems:

... selfish, promotion-oriented behavior; inadequate communication between junior and senior; distorted or dishonest reporting of status, statistics, or officer efficiency; technical or managerial incompetence; disregard for principles but total respect for accomplishing even the most trivial mission with zero defects; disloyalty to subordinates; senior officers setting poor standards of ethical/professional behavior.¹⁰

Unrealistic standards based on the can-do attitude, zero defects, and acceptable readiness reports were applied to junior officers. The studies imply that the ability to differentiate between the ideal military ethic and military practices decreased as rank increased. Many young, idealistic officers became so frustrated

with such behavior that some of them resigned from the service and left officers who seem to condone unethical behavior.

These findings are not confined to the Army. A 1974 survey of Air War College and Air Command and Staff College students reveals the following perceptions: to become a general officer, one must spend more time with self-aggrandizement than with the mission, and a twenty-year career is sufficient because the system rewards lack of integrity. More recently, the respondents of an AWC survey expressed the belief that the hierarchical management system represses individual expression, does not permit the "freedom to fail," and punishes the bearers of bad news. An ACSC survey found that 88 percent of the survey group felt pressured to compromise their integrity, and 100 percent thought that their fellow officers compromised their integrity.¹¹

A problem as pervasive as the lack of integrity within the officer corps cannot be rectified quickly or easily, even after admitting existence of the problem. The Army report of 1977 made several recommendations, including the need at all levels for systematic formal instruction in ethics and acceptance of a formal code of military ethics. It also emphasized that reform must begin at the top and that top leaders must demand honesty and accept the truth even when it is not what they prefer to hear.¹² Of course, subordinates must also practice honesty. Top leadership must prove to the officer corps that it means to promote integrity rather than moralize about its absence.

One way to confirm sincerity and resolve to promote institutional values is to make drastic revisions in the inspection system. Although it is intended to function as a positive, constructive force, the inspection system is viewed negatively and even adversatively by many in the field. Consequently, the system inadvertently encourages cover-ups and dishonesty: the tendency is to hide the truth if it is considered damaging. Unit cohesion may be superficially improved, but improvement under negative

rather than positive motivation only jeopardizes the principles of cohesion. Inspections by higher headquarters should be abolished if they do not relate directly to organizational readiness, and organizational readiness inspections must be made as realistic as safety and funding will allow. And they should be limited exclusively to readiness evaluation. Assistance teams similar to teams from the Leadership and Management Development Center should be made available for use by unit commanders. Such teams must focus solely on improving mission effectiveness rather than become proxy inspections. Contrary to the present inspection system that is often counterproductive because it tends to direct emphasis away from mission-centered efforts, assistance teams could help to reinstitute a positive, mission-centered emphasis.

Integrity is an essential quality for effective leadership, but the prevailing inspection philosophy threatens the leadership climate. Superiors are the most influential, positive socializing factors for subordinates, but they reduce or even nullify their socializing effectiveness if they compromise their integrity with inspection gaming. And such a climate reinforces the alienation of their subordinates from their institution. A system does not enhance a superior's leadership potential when it frequently requires a choice between immediate self-interests and mission requirements. Although an officer can internalize or supply certain traditional values for his personal understanding of himself, the Air Force system must provide a climate that demands integrity. Some leaders, even great leaders, function effectively with flaws of character. But, in general, the absence of strong character relates directly to an absence of peacetime leaders, for their influence is based on their professional abilities and their personal and moral relationships with their followers. Strong character is a most powerful force for inspiration and motivation. Conversely, followers are rarely inspired by leaders perceived as lacking integrity.

corporate bonds and institutionalism

The need and potential for institutionalism and traditional leadership are great within the flying corps. Fliers should very closely approach the traditional model, for they are directly committed to combat and, consequently, are bound by the "unlimited contract." They also have the potential to develop strong corporate bonds. However, if Captain Frank Wood is correct in his provocative article, the flying corps has failed to maintain its esprit de corps.¹³ This failure is due to at least two phenomena: specialization and the rise of a new managerial elite within the armed forces and the larger society. Fliers are not unlike their contemporaries in this respect, but, since their specialization does not include management as a common denominator, they have little professional affinity with support officers. The absence of a common bond only frustrates corporateness when fliers find themselves isolated from other elements of the Air Force. They are unlikely to turn inward and reestablish traditional values, for such a perception is impossible without strong direction and encouragement from higher authority. The Air Force itself compounds the role-identity crisis involving fliers.

The capabilities of modern communications coupled with awesome increases in firepower have led to extreme centralization. Thus, flying officers have less autonomy than support officers. Centralization necessary for firepower control has been expanded to include areas that could be somewhat autonomous. This phenomenon is especially exasperating for a generation that places major importance on control of life-style and individuality. The latter is more difficult to establish in a large squadron of officers than in units with lower ratios of officers to men. And a widely held belief is that promotion and selection for professional schools are linked to management expertise that is difficult for fliers to acquire as junior officers. One-third of the officers join the Air Force to fly, but they quickly confront the dilemma of sharpening their flying skills or developing

managerial skills to compete with their nonrated contemporaries who are trained for full-time jobs as managers.

Positive leadership and a return to institutionalism could help to solve most of the problems facing the flying corps. Prestige must be based on norms that differ from the occupational norms of the larger society. The Air Force hierarchy opposes the establishment of a separate flying corps or adoption of a pluralistic, compartmentalized service discussed by Charles Moskos.¹⁴ Thus, the means of promoting corporateness falls on flying unit commanders, who can achieve this objective to some degree by emphasizing the trappings of the military: uniforms, flags, and Air Force and unit history. "AF Impact 77" recommends this approach. A more difficult but more effective means would be to reestablish the traditional link between leaders and followers. This proposal does not imply that fliers should neglect development of their managerial skills, but it does suggest that the flying corps is not a microcosm of the Air Force. Viewed in this light, it has different leadership needs, and its efficacy may depend on traditional leadership.

decentralized decision-making

Modern communications have made centralization an all-pervasive feature of modern society. Although centralization may be essential for efficient control, it has proved detrimental to the development of leaders. Centralization and especially the management control system threaten to destroy the chain of command, the military commander, and the traditional unit structure. Esprit and personal commitment have been eroded because few people within units have personal stakes in decision-making. In numerous instances, centralized authority causes resentment and condemnation of the military and further reinforces alienation. According to General Theodore Milton, discontent is not confined to the lower and middle ranks, for "there is [even] discontent in the

senior ranks because getting there is too often proving to be a disappointment. Both responsibilities and privileges have been eroded away."¹⁵

General Lew Allen, Jr., recognizes the problems inherent in centralization and has attempted to resolve them through "Buck Stop," a campaign to decentralize decision-making authority.

Lowering the level of decision-making authority will give more responsibility to commanders and supervisors and help them develop into more effective leaders. Further, decentralization enriches the work environment and quality of life of all our people by making their jobs more challenging and rewarding. . . .¹⁶

Former Military Airlift Command Commander, General William G. Moore, Jr., has indicated that decentralization stands at the heart of his philosophy of command. He states that the man with the facts should have the authority to act, that men become leaders by leading and making mistakes, and, more important, that the mission depends on men who can think and act for themselves, especially during contingencies and war.¹⁷

Decentralization may actually be an oblique means of forcing leadership development. Three-quarters of the wing commanders responding to a 1977 survey by the Air Force Institute of Technology felt that they had sufficient authority to carry out their responsibilities. Flying commanders felt most restricted.¹⁸ This response may actually indicate that many commanders are managers, not leaders, because managerial norms encourage deferral of decisions to higher levels to avoid risk. Therefore, deliberate efforts to force decisions downward may compel managers to adopt leadership characteristics. Future leaders represented in a survey revealed that "55% complained of the lack of control over their own working environments," and they were concerned that they lacked the "freedom to fail."¹⁹ These statements reflect the old cliché that to lead one must be allowed to make decisions and learn from those

decisions. But the incipient danger of centralization is that it favors people who are inclined to conform, not question, and, perhaps, not even think outside the prescribed mold. It may drive potential leaders to separate from the Air Force because they see no opportunity to exercise their talents. In essence, excessive centralization establishes and rewards mediocrity rather than merit. Aggressive commitment to the spirit of "Buck Stop" could check the dangers of excessive centralization.

rotation of command

The most important way to find and develop leaders is to provide the flexibility that will allow commanders at all levels to become leaders and serve as leadership models for their subordinates. Increasing the time that wing and squadron commanders serve in their commands is one way to achieve this objective.²⁰ Currently, command positions are necessary steps for admission into the elite and definite prerequisites to general officer rank. A revised system would necessitate some promotions to the elite without command experience and demand a well-defined, rigorous selection process for commanders. Traditionally, short tours ensured maximum numbers with command experience, and they provided leadership pools that could be expanded into wartime cadres. But this is no longer a valid justification for short tours unless one anticipates large-scale mobilization. Short tours emphasize short-time, statistically quantifiable factors, encourage retention rather than delegation of authority, promote the can-do attitude that can compromise integrity, and support an authoritarian rather than a participatory style. The current command rotation system is, in effect, management- rather than leadership-oriented.

An extension of standard tours would reduce the number receiving command experience, but it would improve the quality of the experience and facilitate leadership development. After becoming efficient in performing their

managerial responsibilities, commanders would have time to develop the personal relationships necessary for effective leadership—time not currently available to them. The Army recently approved considerable extensions of its standard command tours, partially for the reasons cited in this article. If the Air Force were to follow suit, commanders could become acquainted with their subordinates as individuals and learn to trust them to the extent that they could be comfortable in delegating authority to them. This would improve the confidence of their subordinates, reduce their dependence on authority, develop their potential, and give them stakes in the success of their units. Furthermore, it would provide commanders with opportunities to lead by inspiration. They could identify and nurture truly talented subordinates through use of mentor systems. Historically, such systems have played vital roles in the development of leaders, but they require time for leaders to develop personal relationships necessary to cultivate the full potential of their subordinates.²¹

In addition to the rewards of getting to know their subordinates, commanders would have more time to study the mission and determine the most effective means of accomplishing it. They would hold one position long enough to see the results of their policies and decisions; therefore, long-term, nonquantifiable factors such as training would gain in importance. Freedom from excessive oversight, knowledge of subordinates and their jobs, and awareness of the personal impact of their decisions would encourage commanders to promote questions and discussions of issues affecting their subordinates. This approach would improve unit cohesion and esprit de corps because everyone would have a shared stake in the unit's mission. These are necessary qualities if the Air Force expects young servicemen to adopt institutional values.

THE leadership crisis in the Air Force cannot be blamed so much on the larger society as on

the service itself. The dominance of managerial norms has adversely affected the development of traditional leadership, as has the presence of strong occupational pressures in the absence of strong institutional ones. Unfortunately, the Air Force may have created this condition at the time it became a separate service. If this is true, the challenge of reorienting the system will be even more difficult because there is no other precedent. Never-

theless, both the value orientation and the success of the socialization process are the Air Force's responsibility. If the crisis is of the Air Force's making, it alone is responsible for the solution. Individual efforts are essential, but such efforts will be insignificant, perhaps futile, until changes in basic policy create a climate that encourages leadership development.

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Notes

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19. MacDonald, p. 46.
20. Time in command positions is not governed by written guidelines. It varies according to level, and it is somewhat longer overseas, but it appears to average 18 months and rarely exceeds 24.
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A RESPONSE

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WHAT is a leader's job anyway? To answer this crucial question, one must distinguish between the concept of leadership as an organizational function and leadership as a personal quality. The first concept is concerned with decision-making powers in an organization and the second with personal characteristics. This discussion focuses on both dimensions and provides a framework for examining the qualities, abilities, and situations that enhance the performance of leaders.

As suggested by Major Benton, management and leadership are often considered the same activities, but the two concepts differ in the sense that leaders focus on *people* and managers deal with *things*. Field Marshal Sir William Slim, a soldiers' general who commanded British forces in one of the epic campaigns of World War II, recognized this distinction when he stated that "managers are necessary; leaders are essential." In the judgment of this writer, managers are concerned primarily with affairs, but men and women are led, not managed. Viewed in this context, management and leadership embody entirely different traits, and both are essential to the Air Force mission.

Managers relate to people in the sense of controlling acquisition and use of human skills and associated experiences, and they develop and refine skills and experience through education, training, and job application. But they do not manage motivation, productivity, and personal aspirations, and they do not manage human values. Development and support of these qualities are clearly leadership responsibilities.

As a result of austere defense budgets and apparent public indifference in recent years toward the international threat, it seemed almost natural in some quarters to emphasize management rather than leadership. Proliferation

of management techniques in the business world and increasing demands for management expertise in the military profession led some Air Force members to view management as the sole function of Air Force leaders. This article recognizes the need for skilled managers in the military and suggests that the Air Force currently recognizes the need to focus more sharply on the qualities of effective leadership.

A familiar sign of the times is the outcry for compelling, creative military and civilian leadership. Most Air Force people understand the management concept, but some people experience problems in studying leadership because, conceptually, it is more difficult to develop and apply in everyday job relationships. In both a practical and theoretical sense, leadership is one of the most discussed and least understood subjects in the modern technological environment. Both military members and civilians tend to view leadership in much the same perspective as their health: they understand it best when they do not have it and feel a need for it.

General Lew Allen, Jr., Chief of Staff, has stated repeatedly that the most persistent concerns of Air Force leaders in the 1980s will be the recruitment, training, and retention of talented people needed to fulfill the Air Force mission. In other words, positive leadership is necessary for the Air Force to acquire and retain the kind of people needed in a modern fighting force. Thus, Major Benton quite appropriately states that leadership is vital for achieving the Air Force mission and that a cohesive, disciplined, and purposeful Air Force is impossible without effective leadership.

Benton suggests that most people have observed successful and unsuccessful leaders in action. But the critical elements that distinguish successful and unsuccessful leaders are matters of major importance to anyone who manages, develops, or conducts programs in leadership education. The professional military education (PME) curriculum pursued at

Air University generally recognizes leadership as the art of influencing and directing people in a manner that wins their obedience, confidence, respect, and enthusiastic cooperation in achieving a common objective. Thus, a leader is a person who applies principles and techniques that ensure motivation, discipline, productivity, esprit, and effectiveness.

Considered in the broadest context, people exercise leadership any time they attempt to change or modify the behavior of an individual or a group of individuals. In effect, leaders exercise interpersonal influence through their persuasive power and acceptance by followers in given situations. Thus, leaders must first understand the nature of power, for leadership is a special form of power exercised in relationships with people. To enhance these relationships, they must fuse organizational and personal needs in a way that permits people and organizations to reach peaks of mutual achievement and satisfaction. James MacGregor Burns states that "leadership is nothing if not linked to a collective purpose."

Although effective leaders are goal-oriented, they must have the necessary communication skills to express and interpret the mission clearly so that their followers can easily understand and accept it. The leader's primary task is to focus the attention of people on logical sequences of actions required to perform their jobs effectively and efficiently.

Some people believe that leadership can be taught, but others contend that an individual can be taught only *about* leadership. If one perceives education as a change in behavior through experience and effective leadership as a special kind of behavior applicable in given situations, then leadership can indeed be taught. Despite the complexity of the leadership role, people can develop and learn leadership skills just as lawyers, writers, test pilots, or engineers learn their skills, but leading and learning to lead require not only intensive study and application but superior inner strength, character, and personal commitment as well.

The all-volunteer force underscores the need for leadership skills that ensure creativity, efficiency, productivity, and vitality in a military environment constantly faced with the challenge of doing more with less. To meet this challenge, effective Air Force leaders must know their people, their problems, interests, and needs. And today's leader must understand that young recruits are better educated, more sophisticated, more politically aware, and more conscious of the limits of military discipline than their predecessors. As a rule, these young men and women are not motivated by intimidation; they must be led rather than driven. The obvious responsibility of the leader is to instill in these people a sense of purpose, duty, loyalty, and emotional linkage to the Air Force as an honored profession. General David C. Jones, Chairman of the Joint Chiefs of Staff, describes the responsibility in these words: "Lay the rules out clearly, insist on compliance, lead by example, and manage (lead) your people with dignity, respect, fairness and individual consideration you yourself would want to be shown."

Good leaders demand much of themselves and their subordinates. Their style is a careful blend of caring, dignity, discipline, and self-confidence rooted in unshakable dedication to their people, their organization, and the Air Force mission. The word *caring* has special meaning for effective leaders, for, with caring, they must comprehend and negotiate a special mixture of frustration and difficulty. All too often, people in leadership positions concern themselves with the quantity of work performed by subordinates rather than the quality of their products. True leaders recognize no substitutes for hard, productive work, intense concentration, and willingness to assume total responsibility, but they also recognize that they cannot achieve their goals alone. They must develop and recognize their subordinates if they expect to excel over an extended period, and they must require their people to make their own decisions.

Education in military leadership should reflect a historical perspective in the sense that it relates the lives and accomplishments of successful military leaders in the past—Washington, Lee, Eisenhower, Patton, Nimitz, and Bradley. Present and future leaders can link theory with practice by reflecting on the lives and accomplishments of these and other leaders, such as Carl Spaatz, Hoyt Vandenberg, Thomas Power, and Curtis LeMay. They were outstanding Air Force leaders whose contributions should be continuing sources of study.

Winston Churchill, Britain's World War II prime minister and one of the great leaders of all time, employed principles of strong and decisive leadership in guiding his people through the dark days of World War II. Although he was an able manager, his greatness stemmed from his ability to motivate and inspire people in a common cause. He had more to offer than mere planning, programming, and managing by objectives; he offered blood, toil, sweat, and tears and gave freely of himself in mobilizing his countrymen for war.

A key element of leadership is the decision-making process, and military educators can always improve their methods of analysis and decision-making. In this connection, educators should strive to improve techniques for interpreting and presenting information so that student officers can determine more readily what information is available to them and what they can do with it. This does not suggest that officers should be taught how to think; they should already possess that skill. But they need to improve their skills in making analytical assessments of huge amounts of information from numerous and varied sources.

Leadership classes and laboratories should also address the proven qualities of successful leaders: sense of responsibility, technical and professional competence, emotional stability, enthusiasm, listening, self-image, integrity, recognition, flexibility, sense of humor, risk-taking, communicative skills, vision, courage, energy, perseverance, and dedication. The message is

clear. Leaders are not given esteem with their rank or assignments; they earn it by studying and exercising the qualities of leadership. Admittedly, the development of quality leadership is not an easy task, but the sense of personal satisfaction and achievement gained from efficient mission performance is ample reward.

OF all the qualities that characterize effective military leaders, the most important is moral and ethical leadership. General of the Army Omar Bradley expressed the idea in these terms:

We have grasped the mystery of the atom and rejected the Sermon on the Mount. The world has achieved brilliance without wisdom, power without conscience. Ours is a world of nuclear giants and ethical infants.

If General Bradley's life and experiences are valid sources of guidance, leadership curricula should address, in no uncertain terms, the moral, uplifting, and transcending aspects of leadership. The objective should be a leadership of purpose, broad direction, and strong commitment aimed at better appreciation and understanding of enduring Air Force values. Students, faculties, and staffs should search together for answers to such questions as these: Who are the leaders? Who are the followers? What are the leaders' purposes? And what do they achieve?

Leadership is obviously a dynamic concern in today's military community. What, then, is the problem? Major Benton asserts that, basically, the problem is not the quality of leadership but the environment in which it must be practiced. He argues, with some merit, that emphasis on managerialism and strict compliance with rules that limit the exercise of personal judgment can retard the development of effective leaders. In his view, the system is the problem rather than the solution. Young officers need to serve in an environment that recognizes human fallibility. They cannot develop

innovative skills unless their seniors are willing to accept mistakes and show how to avoid them.

Stability of assignments is closely linked to the problem of leadership development. One can assume from Benton's article that longer tours of duty would help officers grow in their assigned responsibilities, learn from their mistakes, and use experiences gained to improve themselves. In short tours, every mistake is critical in a system that forces officers to function as atomic-powered supermen (on paper at least) if they expect to compete for their next promotion. The greater the stability of officers in assigned positions, the greater the likelihood they will develop a better understanding of their people, their jobs, and their organizations.

Major Benton's observation that a more positive environment will enhance leadership suggests modification of certain current practices. Cosmetic qualities, such as attractiveness, toughness, and decisiveness, are important, but leaders and managers should focus more on ability to perform and the capacity to share successes in getting things done. Thus, Benton's assessment implies an environment that emphasizes people and their importance.

Since human beings run Air Force organizations, leaders should become more skilled in motivating members of the team to reach back into their physical and mental resources and walk the extra mile. They need to function more as teachers in relating to their subordinates, but they often appear as taskmasters rather than mentors to junior officers. Military and civilian leaders alike go to great lengths to conceal their weaknesses and portray a know-it-all image, in part, perhaps, because they feel threatened by their juniors. A common complaint among junior officers is that senior officers refuse to listen to them.

Major Benton suggests that the Air Force should do a better job in emphasizing leadership, but how can it promote leadership in an environment that places a premium on management skills? A simple illustration can signal

the possibilities. It can demand more skills in planning and conducting meetings, especially in developing skills of listening and combining different points of view into acceptable conclusions and generalizations. When one considers that most officers and equivalent civilians spend approximately one-third to one-half of their duty time in meetings that tend to be less than productive, PME programs and other educational activities should provide more opportunities for developing skills in this area.

Most Air Force leaders have been successful in particular disciplines or functional elements, and they have been promoted to senior leadership positions on the basis of this success. However, once they gain these positions, they often fail to recognize that they no longer function in narrow areas of specialization. Their challenge is to build effective organizations that can continue to function without them. As leaders, they must play hard ball and insist on disciplined organizations, but they must also excel in satisfying human needs. Senior officers can invest more energy in relating to younger officers, training them carefully, and encouraging their commitment to the higher aims, purposes, and goals of the Air Force. This commitment should be undergirded by an ardent sense that the Air Force is a special place to work and that Air Force personnel serve America in a very special way.

To enlarge on Major Benton's fundamental premise, the writer suggests that leadership stems from the opportunity, ability, and willingness to exercise judgment. It is a person's image, but it also involves a discipline that can be and must be taught. As mentioned earlier, Air University plays a key role in this area of instruction. But it can extend its effort to encourage members of the profession to believe that service in the Air Force is not just another job and that officership is a repository of special trust and responsibility. Research and instruction should emphasize that Air Force service is categorically different from civilian occupations.

THE significance of Major Benton's article lies in its timing and content. The writer agrees with the premise that the Air Force should conduct significant new research into the need for more leadership in the current management environment. Major Benton's study provides a stimulus for new thought in clarifying perceptions of leadership versus managerialism. People who teach and practice leadership are often ill-equipped in the sense that they lack sufficient theory and supporting empirical evi-

dence to broaden their perceptions of leadership. Benton raises more questions than he answers, but he certainly encourages further research, instruction, and dialogue on the subject.

Maxwell AFB, Alabama

Dr. Richard I. Lester is Director, Educational Plans/Programs and Educational Advisor, Leadership and Management Development Center, Maxwell Air Force Base, Alabama.

IRA C. EAKER ESSAY COMPETITION

The deadline for the second annual Ira C. Eaker Essay Competition is 1 June 1982. First, Second, and Third Prize Medallions as well as \$2000, \$1000, and \$500 United States Savings Bonds will be awarded. Honorable Mention certificates will also be granted.

—Essays should address problems of strategy, doctrine, leadership, professionalism, or some combination thereof, within the overall context of military aerospace.

—Essays must be *original* and *specifically* written for the contest. Only one entry per person may be submitted.

—Entries must be a minimum of 1000 words and a maximum of 2000 words.

—Essays must be typewritten, double-spaced, and on standard-size paper.

—Competition is open to all active members of the regular Air Force, Air Force Reserve, Air National Guard, Air Force Academy and AFROTC cadets, and Civil Air Patrol.

—A separate cover sheet should include the essay title, author's name, rank, duty/home addresses and duty/home phone numbers. The author's name must not appear on the essay itself. The title should be repeated at the head of the first page of the essay.

—Essays are submitted with the understanding that first-publication rights belong to the *Air University Review*.

The Ira C. Eaker Essay Competition is funded by a permanent grant from the Arthur G. B. Metcalf Foundation through the United States Strategic Institute, Washington, D.C.

Send entries to the Editor, *Air University Review*, Building 1211, Maxwell AFB, Alabama 36112. For further details, call AUTOVON 875-2773, Commercial (205) 293-2773.



commentary

To encourage reflection and debate on articles appearing in the *Review*, the Editor welcomes replies offering timely, cogent comment to be presented in this department from time to time. Although content will tend to affect length and format of responses, they should be kept as brief as possible, ideally within a maximum 500 words. The *Review* reserves the prerogative to edit or reject all submissions and to extend to the author the opportunity to respond.

ON MILITARY PROFESSIONALS VERSUS CIVILIAN CAREERISTS

Lieutenant Colonel Albert N. Garland, USA (Ret)

I ENJOYED reading "Military Professionals and Civilian Careerists in the Department of Defense" by Dr. Ronald J. Stupak in the July-August 1981 issue of the *Review*.

However, I object to his implications that civilian executives in the Department of Defense are not on a par with military executives and that the latter adjust better to their executive roles and hold more sophisticated world views. Thus, I believe his thesis to be wrong.

In my experience, many high-ranking military officers who hold executive positions in DOD are no better qualified as executives than their civilian counterparts. Often, I think they are less qualified, either as executives or as managers. Many of those military people earned their stars in troop command positions either in combat, combat support, or combat service support units. They won the approval of their superiors by their leadership abilities, not because they were outstanding managers or executives. In fact, many of them made their marks because their civilian assistants carried the ball in all the daily mundane matters that had to be taken care of.

How many times in recent history, for

instance, has the Army Comptroller's position been filled by an individual who had absolutely no background for the job but who had been a good division or post commander and needed a third star before he retired? Many other military executive slots have been similarly filled.

Perhaps civilian executives in the Department of Defense do need additional training. But I am convinced that most civilian executives are as capable in their jobs as their military counterparts despite the latter's years of supposed high-level schooling.

Columbus, Georgia

Colonel Garland is Deputy Editor of *Infantry Magazine*, Fort Benning, Georgia.

A RESPONSE

Dr. Ronald J. Stupak

I AM pleased that Lieutenant Colonel Albert Garland read and commented on my article. I

still believe, though, that military executives are more systematically prepared than their civilian counterparts to become high-level executives in the Department of Defense. In fact, Garland supports that contention in his final paragraph: his use of *perhaps* suggests that he is not totally aware of the great disparity between military and civilian preparation; nor does he appear to be sensitive to the anger or frustration this engenders from civilian executives, who see themselves treated as second-class citizens in this developmental arena.

Garland's comments on my article can be dealt with on three fundamental levels.

- He does not seem to understand that there are major role differences and role expectations between a manager and an executive. My analysis states it is the executive role that creates major problems for civilians, not the middle managerial role or the project manager role.

- Executive positions require leadership abilities much more than nitty-gritty managerial techniques. Hence, Garland's agreeing that many military executives "... made their marks because their civilian assistants carried the ball in all the daily mundane matters that had to be taken care of" is exactly the point of my analysis. Executives must delegate, lead, coach, counsel, negotiate, and teach; they must not allow

themselves to work at levels below the requirements and demands of executive positions.

- Technical expertise is only one dimension of executive competence. In fact, many studies show that too much concern with technical expertise can cause an executive to want to work too much "at the bench level," ignoring development in other critical process areas such as rearranging priorities, changing sequences, and responding to the political ebb and flow of events. In essence, executive leadership is letting people do what they are good at while influencing and channeling them through the pace, timing, and ordering or problem-solving sequences; an effective leader gives subordinates little nudges in the right directions. Hence, one can lead without having brilliant technical skills.

Finally, there are effective and ineffective career executives in both the civilian and military services. But *I still believe* that civilians are short-changed in their developmental opportunities as they move toward the executive levels in DOD.

Federal Executive Institute

Dr. Stupak is Professor of Political Science and Contemporary Affairs and Senior Faculty Member at the Federal Executive Institute, Charlottesville, Virginia.



**books
and
ideas**

THE RACE FOR FIRST FLIGHT

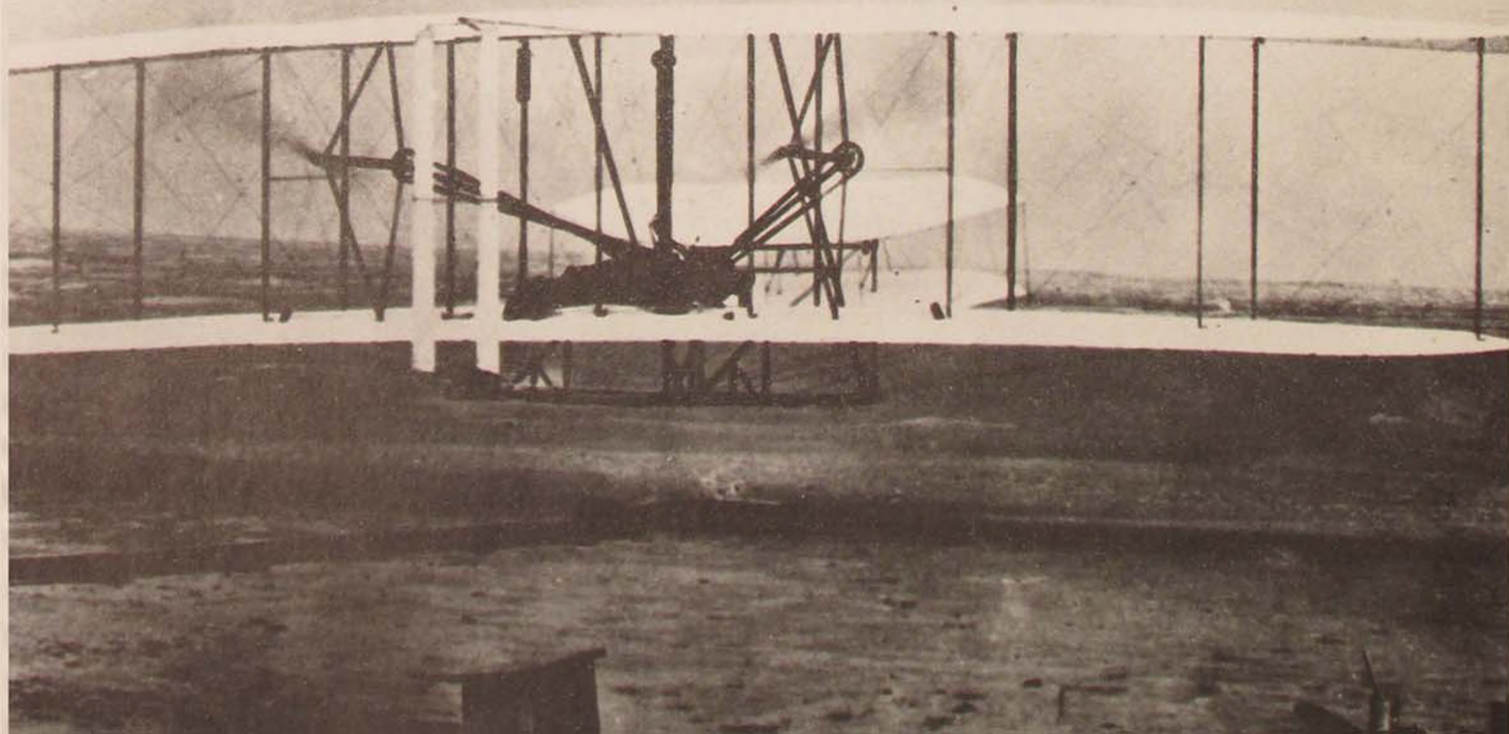
DR. I. B. HOLLEY, JR.

THE tribulations of the scientists, engineers, tinkerers, and enthusiasts during the generation leading up to the Wright brothers' successful powered flight in 1903 offer many insights, uniquely relevant to all who would understand the advent of space flight in our own generation. To be sure, the evolution of the airplane was more personal and less institutional than the successful development of

spacecraft. Nonetheless, as Tom Crouch brings out so well in *A Dream of Wings*, there are numerous parallels because so many of the hazards and frustrations that beset the path of research and development are the same whether one considers the lonely backyard inventor or massive, federally financed research organizations.†

To those who have seen man set foot on the

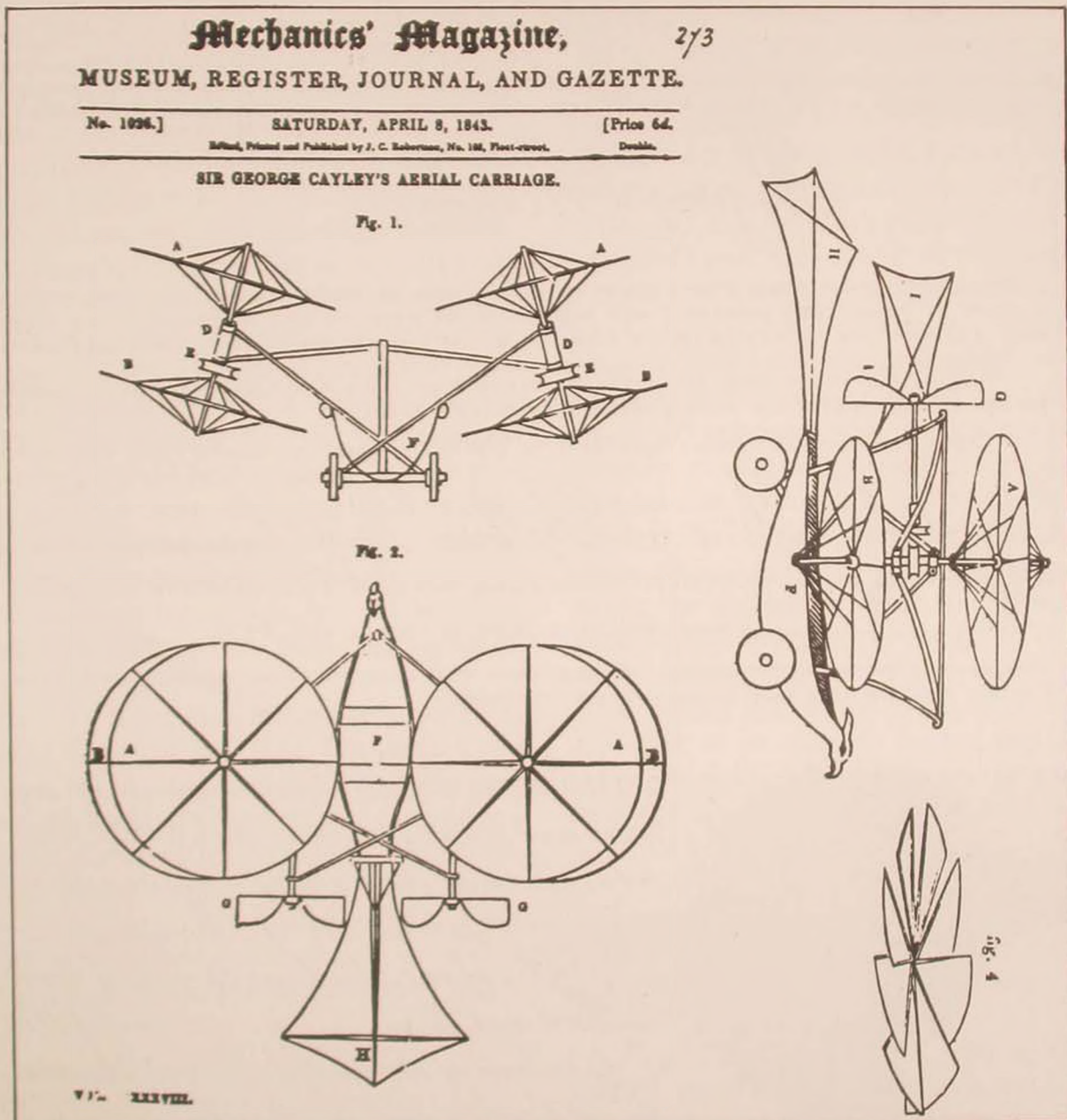
†Tom D. Crouch, *A Dream of Wings: Americans and the Airplane, 1875-1905* (New York: W. W. Norton & Company, 1981, \$15.95), 349 pages.



moon, it is difficult to realize how chilling was the prevailing belief that man was not intended to fly, an attitude typified by the seemingly authoritative assertion in 1901 of the Navy's chief engineer, Admiral George W. Melville, that a careful study of natural phenomena led to the conclusion that "confident prophecies" of successful flight were "wholly unwarranted, if not absurd." Probably the most important single individual in overcoming this negative mind-set in the United States was Octave

Chanute, a highly successful engineer whose experience with strength of materials and truss design in bridge-building was to prove invaluable when he turned to the construction of gliders. But more important than Chanute's technical contributions was the intellectual

Sir George Cayley's aerial carriage, in Mechanics' Magazine (London) for April 8, 1843, was an early vertical-takeoff-type aircraft whose principle derived from the Chinese top, as did Leonardo da Vinci's.





821,393.

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas *Orville Wright and Wilbur Wright,*
of Dayton, Ohio,

HAVE PRESENTED TO THE **Commissioner of Patents** A PETITION PRAYING FOR THE GRANT OF LETTERS PATENT FOR AN ALLEGED NEW AND USEFUL IMPROVEMENT IN

Flying-Machines,

A DESCRIPTION OF WHICH INVENTION IS CONTAINED IN THE SPECIFICATION OF WHICH A COPY IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND HAVE COMPLIED WITH THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED, AND

Whereas UPON DUE EXAMINATION MADE THE SAID CLAIMANT ~~UNADJUDGED~~ TO BE JUSTLY ENTITLED TO A PATENT UNDER THE LAW.

NOW THEREFORE THESE **Letters Patent** ARE TO GRANT UNTO THE SAID

Orville Wright and Wilbur Wright, their HEIRS OR ASSIGNS
FOR THE TERM OF SEVENTEEN YEARS FROM THE *twenty-second* DAY OF
May ONE THOUSAND NINE HUNDRED AND *six*

THE EXCLUSIVE RIGHT TO MAKE, USE AND VEND THE SAID INVENTION THROUGHOUT THE UNITED STATES AND THE TERRITORIES THEREOF.



In testimony whereof, I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington *the twenty-first day of May* A.D. 190*6* of our Lord one thousand nine hundred and *six* and of the Independence of the United States of America the one hundred and *thirtieth*.

W. H. Allen

stimulation he provided for the very conception of manned flight in the United States. His prestige as an engineer gave respectability to aeronautical investigation. Further, as a trained engineer, he understood the need for a systematic approach to the problem of manned flight: first, to define the basic problems and then to undertake a comprehensive survey of the available literature.

For those who claim pride of place for the first successful flight by the Wright brothers, it is well to remember how considerable was their debt to English and German experimenters of the nineteenth century. As early as 1804 Sir George Cayley defined the basic configuration of what we recognize as a conventional aircraft, and the wind tunnel developed in 1871 by Francis Herbert Wenham and John Browning provided the essential tool by which airfoils giving sufficient lift could be devised. Similarly, Otto Lillienthal's glider flights provided the powerful stimulus of a successful example. For this technology transfer Chanute was the effective conduit, but he served as more than just a clearinghouse. It was on his initiative that the American Association for the Advancement of Science (AAAS) held a scholarly session on flight. One of those attending that meeting was Samuel Pierpont Langley, soon to be named Secretary of the Smithsonian Institution. The AAAS session infected Langley with the virus of powered flight, which remained an obsession for the rest of his life.

Secretary Langley was ideally situated to advance the cause of flight. His stature as a scientist, based on his astronomical discoveries, lent prestige to aeronautical experimentation, although even he felt constrained to camouflage his early work as research in "pneumatics" for fear of invoking the ridicule that the media showered on all who were so foolish as to suggest man might fly. Moreover, at the

Smithsonian he had access to the funding so essential to carry out the long course of experiments needed to isolate the fundamentals of flight. As a scientist, Langley recognized that in the long run the identification of sound principles would be more helpful than a trial-and-error, cut-and-fit approach to powered flight. Unfortunately, his actual capacity as a scientist fell far short of his vision of the tasks to be done; for example, his formulation of "Langley's Law" on the relation of the power required to sustain speed in flight was abruptly discredited by Lord Kelvin with a brief but elegant mathematical calculation.

In retrospect, it is obvious that the unsolved problems underlying the construction of a manned, powered aircraft revolved around subsets of aerodynamics (lift, stability, and control) and propulsion (power plant and propeller design). It is the mark of the Wright brothers' genius that they solved the most difficult of these problems by employing a truly scientific approach. Unlike so many other experimenters, they early recognized that securing the necessary lift was a relatively simple problem in comparison with attaining sufficient control to ensure stability in flight. Where most experimenters sought inherent or automatic stability, the Wrights preferred to rely on pilot action, an end they finally achieved by coordinating the motion of their control surfaces, including the warping of the wing or lifting surfaces, to correct for roll. Similarly, instead of accepting the prevailing conception of a propeller as an airscrew boring through the air, the Wright brothers perceptively saw it as an airfoil, a rotary wing, generating a horizontal "lift." To this end, using their crude homemade wind tunnel, they designed efficient propellers in which the configuration of each segment of the blade was optimized for its differential speed from hub revolutions per minute.

Crouch's engaging narrative manages to bring out the constructive contributions, the dead-end experiments, and the many frustrations of vir-

The patent issued to Orville and Wilbur Wright of Dayton, Ohio, on May 22, 1906, for "an alleged new and useful" Flying-Machine

tually all those who dreamed of flight in the years immediately prior to the Wright brothers' success. Here one encounters such figures as James Means, whose *Aeronautical Annual* was a valuable source for the dissemination of knowledge concerning the state of the art; Albert F. Zahm, the first man in the United States to be educated as an aeronautical engineer; and John J. Montgomery, whose gliding experiments may have been marginally successful but deserve to be remembered if for no more than the creative imagination he displayed in designing a test apparatus consisting of a whirling arm submerged in a tank of water to which he added colloidal particles permitting him to study in a controllable environment the behavior of moving airfoils as he sought to master the physics of flight. Other all-but-forgotten men, such as William A. Eddy and Lawrence Hargrave in designing box kites to carry aloft meteorological instruments for the study of the upper atmosphere, also contributed essential information which would eventually help the Wrights on their way to success.

In Crouch's account of the race to be first to fly, the clear protagonist is Octave Chanute, a man generous with financial support to impoverished experimenters, tireless in his role as unofficial clearinghouse for all sorts of aeronautical information, ever ready to encourage any neophyte who seemed to have an interesting idea worth pursuing. Above all, Chanute, unlike so many of the men he fostered, seemed oblivious to the search for personal fame. Like the late great General George C. Marshall, he understood that there is no end to the good a man may accomplish if he is willing to let someone else get the credit.

At the other end of the spectrum in Crouch's account stands the flawed and tragic figure of S. P. Langley, who apparently never sullied his hands with the actual work of construction. Instead, he would appear in his Smithsonian laboratory formally attired in stiff collar, morning coat, and striped pants while imperiously issuing orders to subordinates whose creativ-

ity he stifled and even resented when they turned up with manifestly valuable ideas. His approach was to experiment with scale models, curiously misnamed "aerodromes," which he expected to enlarge to full size when he had acquired sufficient knowledge to justify such a step. Trials on the Potomac River in 1896 of Langley's tandem-wing monoplane models seemed to suggest that successful man flight was within grasp. With the distinguished aeronautical scientist and inventor of the telephone, Alexander Graham Bell, serving as official observer and timekeeper, the quarter-scale model traveled more than 3300 feet before coming to rest.

By circulating Bell's highly laudatory account of the successful flights with powered models, Langley knew he could use the inventor's scientific stature to win financial support for a full-scale, man-carrying airplane. This he proceeded to do. Five days after the outbreak of the Spanish-American War, he secured a government subsidy of \$50,000 on the basis of the military potential of an airplane. Something of Langley's arrogance is implicit in his insistence that he be allowed to retain all rights to the final design even though the War Department was footing the bill and he himself was a public servant. Although he apparently believed that success was just over the horizon, he was actually far from the goal.

Scaling up from his flying model to a man-carrying airplane proved to be far more difficult than Langley had anticipated. While concentrating his energies on achieving sufficient lift and developing an efficient gasoline engine, he largely ignored the all-important problem of control. Furthermore, in his zeal to reduce weight, he trimmed the load-bearing members of his aerodrome until it was structurally unsound. The resulting disaster was virtually inevitable. When Langley finally tested his machine in October 1903, it crashed ig-

The bureaucracy ground slow at the turn of the century: three years and two months from application to grant.

O. & W. WRIGHT.
FLYING MACHINE.

APPLICATION FILED MAR. 23, 1903.

3 SHEETS—SHEET 1.

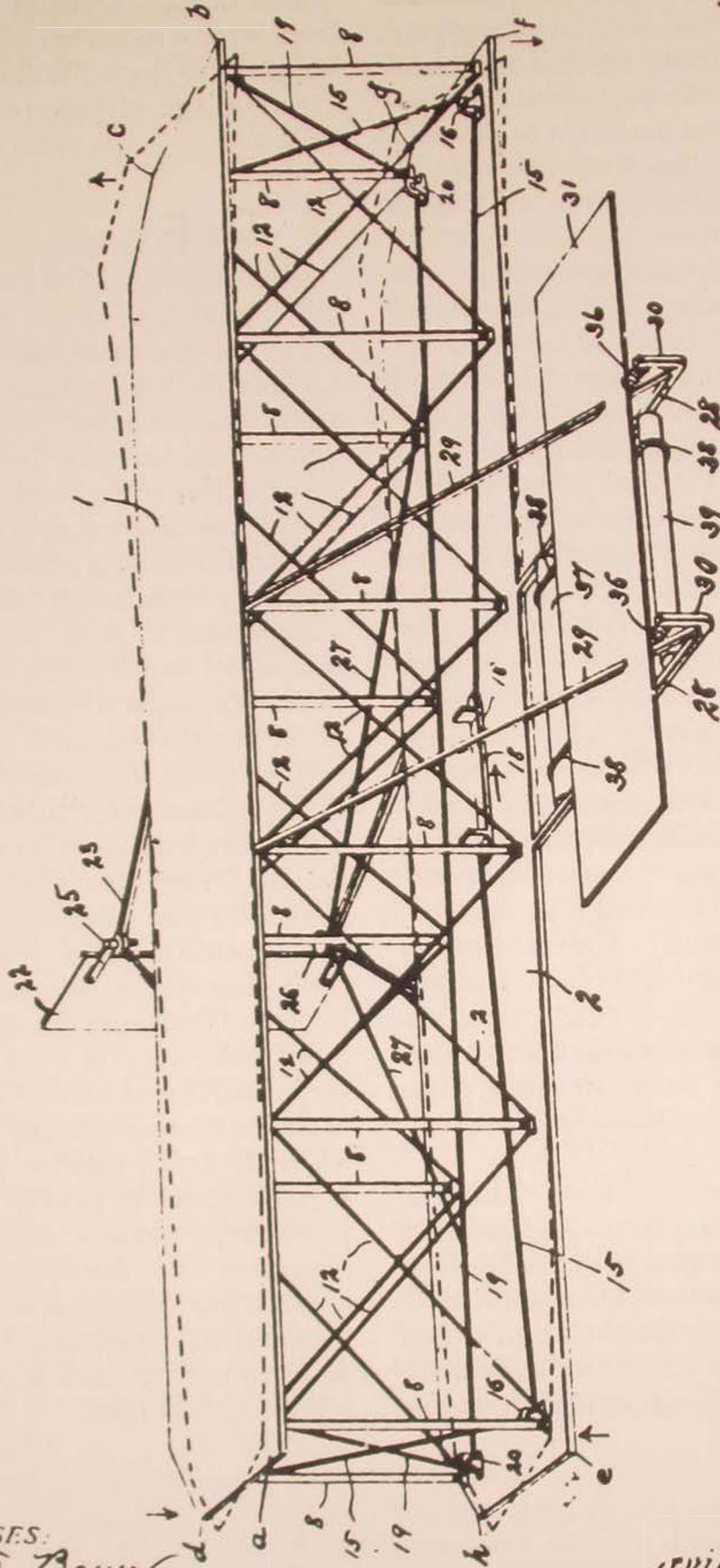


FIG. 1.

WITNESSES:
William F. Bauer.

Irvine Miller

INVENTORS.
Orville Wright
Wilbur Wright

H. S. Fordham
ATTORNEY.

nominously, falling, as one observer put, "like a handful of mortar" from its launching platform. The wave of congressional scorn and media ridicule that followed was to reverberate for years, an active deterrent to any military official with the least inclination to support the development of a promising but yet unproved invention.

The Wright brothers, meanwhile, were rapidly moving toward their goal. To a rare degree they combined a true appreciation of the scientific spirit with the practical know-how acquired in the machine shop of their bicycle business. Spurning outside financial help, they were determined to remain masters of their own project. Further, in contrast to Langley's jealousy of rivals and secretiveness, the Wrights willingly shared scientific data, even with those who might be regarded as competitors. One quality that seemed to characterize the Wrights' work, whether in conducting scientific experiments or in designing some component, was simplicity. The elegance of their work in comparison with the baroque complexity of such efforts as Hiram Maxim's elephantine and utterly abortive aircraft or Octave Chanute's twelve-winged glider won well-nigh universal admiration. As Chanute himself admiringly observed, the Wrights' highly successful and remarkably simple drop-weight catapult launching device had cost only four dollars whereas Langley's defective launching apparatus atop his Potomac houseboat had cost tens of thousands.

Success came to the Wrights on 17 December 1903. True, the first flight went only 120 feet. As Norman Augustine of Martin Marietta Aerospace recently observed, this historic effort could have been accomplished entirely within the length of the main booster rocket of space shuttle *Columbia*. But it was, nonetheless, con-

trolled, manned flight taking off from ground level. What is more, before the day was out the Wrights had flown 852 feet in less than a minute. The age of powered flight had finally begun!

FOR the perceptive reader there is much to be garnered from *A Dream of Wings*: the corrosive influence of selfish desire for credit; the importance of the informal network for communicating scientific ideas; the stultifying impact of public disbelief which translates into journalistic scorn for dreamers of the impossible dream; the baleful effects of congressional unwillingness to recognize the need to support sustained experiment despite repeated disappointments; above all, the importance of maintaining a proper balance between the unfettered and imaginative outreach of the pure scientist on the one hand and the grasp of the practical engineer on the other.

The author was ill-served by the publisher of this volume; there are too many typographical errors as well as words and even lines missing. On the other hand, the book is modestly priced for one so profusely illustrated with well-selected pictures. I would quarrel with the author only at two or three points where he fails to document his allegations. We need better evidence, for example, that the Yale faculty pressured Edson Fessenden Gallaudet to abstain from aeronautical research. Or again, when discussing Gustave Whitehead's highly dubious claims to priority in manned flight, Crouch cites a source from 1901 to support an episode in 1936. But these are minor nitpicks; the work as a whole is not only gracefully written but decidedly stimulating. This excellent, brief, and provocative book is one that Air Force officers should read.

Durham, North Carolina

LATIN AMERICA— QUO VADIS?

DR. BYNUM E. WEATHERS, JR.

THE prevalence of guerrilla warfare and terrorism south of the border and particularly the recent upsurge of violence in Central America have heightened concern over the future of U.S.-Latin American relations in a region traditionally considered safe and secure. The resurgence of U.S. interest in Latin America, so aptly identified by Federico G. Gil as "the cyclical nature of inter-American relations,"¹ has been accompanied by an increased flow of books and periodical materials on the region. It is expected that the proliferation of publications will continue and that the specialist once again will have a heyday until the present cycle spends itself. At least the general public should become more familiar with the area through the mass media, and many may be motivated to scurry to their atlases to pinpoint the locations of unfamiliar names. My purpose here is to examine three of the newer additions to the growing body of Latin Americana.

THE first of these selections concentrates on and is entitled *Latin American Politics and Development*.[†] Prepared as a textbook, it should be welcomed by professors and students alike for its adaptability to different teaching approaches and the well-organized, thematic pattern developed by Howard Wiarda and Harvey Kline. Utilizing a country-by-country approach, 21 political scientists with impressive credentials analyze 19 Latin American republics and the Commonwealth of Puerto

Rico. Major emphasis is placed on historical, governmental, and developmental factors. A concluding chapter examines aspects of commonality in the region and prospects for the future.

Five of the introductory chapters explore major themes used in the treatment of the individual countries: historical development, modernization, interest groups and parties, state structure, and public policy. The ability of the reader to take any one of these themes and relate it to a particular country covered in the text is a rewarding feature of this work.

A major criticism of the book is the omission of Haiti, Guyana, Surinam, and the newly independent Caribbean Island republics from treatment in the country-by-country coverage. This omission is surprising in view of the editors' observation that "the rise of new Caribbean independence and black power movements" is a significant factor in Latin American politics.² Yet, a chapter on Puerto Rico (*Estado Libre Asociado*) is included and should be considered a bonus in a treatment of the American republics.

The editors observe that "it has been nearly a decade since the last comprehensive, country-by-country textbook on Latin American politics was written."³ It is hoped that one will not have to wait so long for another such treatment in a more comprehensive mode by a similar group of distinguished contributors.

ALTHOUGH textbooks generally are not considered to be popular pastime reading, the second selection should appeal to those whose knowledge of Latin American affairs may be limited but whose appetite for a better understanding and appreciation of the region has been whetted by U.S. adversities and adventures in the Americas to the south.

[†] Howard J. Wiarda and Harvey F. Kline, editors, *Latin American Politics and Development* (Boston: Houghton Mifflin, 1979, \$14.95), 500 pages.

In *The Fractured Continent: Latin America in Close-up*, even the title provides a key to the author's outlook toward the region.† Ambassador Willard Beaulac attempts to diagnose the problems and bind the fractures by exposing the myths and pointing out the mistakes of the past. Beaulac's wide experience in inter-American affairs, acquired in large part through two decades of diplomatic service in Central America, the Caribbean area, and South America, eminently qualifies him for the task at hand.⁴

The Fractured Continent is written in an interesting, easily read, and informative style and offers several inducements to a wide readership. Many of Beaulac's firsthand observations on the Latin American scene not only lend a high degree of credibility to his account but serve also to reinforce his viewpoint on where the United States headed in the wrong direction in its policies toward that region. The book is controversial in opposing policies such as the primacy of human rights, the tolerance of ideological pluralism, and the infusion of massive aid in Latin America. In short, the author offers the probability that the United States, instead of neglect, has "done too much for Latin America—in wrong ways."⁵

In a little more than 200 pages, Beaulac presents a panorama of Latin America from the days of the conquistadors to the present Sandinista regime in Nicaragua. After tracing the emergence of Latin America, he examines the characteristics of contemporary politics, discusses the problems of and prospects for development, and reviews the status of United States-Latin American relations in the context of global affairs. Any one of these topics lends itself to a book-length treatment, but Beaulac skillfully focuses on the most significant aspects of the subject and handles them in a concise

but meaningful manner. He singles out four "isms" as having the most important effect on the politico-economic life of the region: *caudillismo* and militarism, anti-imperialism, nationalism, and Marxism. A separate chapter is devoted to each of these forces.

Of particular interest to the reader, in view of recent developments in Central America, is an epilogue on Nicaragua. Ambassador Beaulac delves into his past associations with and recollections of the elder Somoza and his sons, "Tachito" and Luis, and attempts to rebut the oft-repeated charges of critics and the media in regard to U.S. complicity in placing and maintaining the Somoza regime in power. Beaulac occupied a diplomatic post in Managua from 1929 to 1933, during the time of U.S. intervention and institution of the Nicaraguan constabulary, and knew the elder Somoza in the latter's capacity as Undersecretary of Foreign Relations in the administration of President Moncada. Beaulac's tour of duty there ended in the same year that the U.S. Marines departed and the elder Somoza took over the reigns of government. In the following year, General César Augusto Sandino was assassinated by *Guardia Nacional* members. The author also examines the takeover in Nicaragua by the Sandinistas and criticizes the Organization of American States for its ineffective efforts to resolve the controversy.

Perhaps the major weakness of the book is the author's failure to give specific prescriptions for mending *The Fractured Continent*. A separate chapter summarizing the mistakes of the past and proposing alternative courses of action for the future is conspicuous by its absence: The time for such thinking is now. After the next shattering event occurs, it will probably be too late to come up with the most considered course of action to be taken.

† Willard L. Beaulac, *The Fractured Continent: Latin America in Close-up* (Stanford, California: The Hoover Institution Press, 1980, \$11.95), 232 pages.

THE final selection, *The Cruel Dilemmas of Development*, focuses on Brazil.† Author Sylvia Hewlett, an economics professor, incorporates the results of field research with her expertise as well as advice from such eminent scholars as Celso Furtado, outstanding Brazilian economist, to produce a concise but controversial work. Since it is basically an economic treatise, interest in the contents will be greater for the specialist than the layman and more appropriate for theoretical than applicative pursuits. The book is logically organized and well documented, including chapter notes and a collection of statistical tables in the appendix.

Hewlett has an enviable writing style that enables the reader to comprehend concepts and principles that otherwise might be hopelessly confused. She examines the late development features of the Brazilian structural arrangements in the manner of a case study to illustrate their application to the Third World insofar as an adverse impact on social justice and political freedom is concerned. Her thesis is that the implementation of economic development in late development nondemocratic countries carries with it poverty and repression as built-in characteristics. Specifically, Brazil has been able to accomplish its "economic miracle" only through social and political policies that have violated basic human rights of a large segment of the population. The earlier concept so evident in the Alliance for Progress, which held that economic development would lead to steady improvement in the political and social aspects of society toward a more representative government and a greater concern for public welfare, is rejected.

From the viewpoint of organization, the author initially provides the reader an over-

view of early development in Western Europe and North America and highlights the divergencies between this phase and that experienced by the less-developed nations in the later industrialization period. A historical perspective is given on the Brazilian economy from the colonial era to the present. This is followed by an analysis of three key factors—inflation, the state, and the multinational corporation—which significantly affect the character of economic development in Brazil as well as the Third World. The final section exposes the "cruel" consequences of Brazilian economic development and compares the capitalist with the socialist approach to the modernization process, using the Brazilian and Chinese experiences as models.

Despite the author's claim to the contrary, economic determinism seems to me to be the anvil on which a direct linkage is forged between development and inequity in less-developed countries lacking representative government and an egalitarian society. Specifically in the case of Brazil, as well as Latin America in general, Hewlett's thesis appears to be oversimplified and misleading. Concepts such as democracy, human rights, social justice, political liberty, etc., as understood in North America, take on a different meaning and priority in the Brazilian environment. There these concepts become goals to be attained rather than mandates to be implemented here and now. The author's ethnocentrism and use of emotive terms—such as "cruel dilemmas," "harsh realities," "painful human consequences," "ugly social and political trends"—to describe those aspects of Brazilian society that fail to measure up to Anglo-American standards serve to compound rather than clarify the modernization process and its implications for the future. Finally, the author concludes: "There are no

†Sylvia Ann Hewlett, *The Cruel Dilemmas of Development: Twentieth-Century Brazil* (New York: Basic Books, 1980, \$15.00), 243 pages.

easy routes to the modern world; the choices are extremely painful and will confront nations well into the future." (p. 218) Such an observation is not only vacuous but also recalls the earlier categorization of economics as the "dis-

mal science." One can only hope that the spirit of John Stuart Mill lives on despite attempts of the Malthusian-Ricardo presentiment to rear its ugly head.

*Air University Library
Maxwell AFB, Alabama*

Notes

1. Federico G. Gil, "United States-Latin American Relations in the Changing Mid-70s," *SECOLAS Annals*, March 1976, p. 7.
2. *Ibid.*, p. 1X.
3. *Ibid.*

4. James M. Ethridge and Barbara Kopala, editors, *Contemporary Authors*, vols. 11-12 (Detroit, Michigan: Gale Research Company, 1965), pp. 31-32.

5. *Ibid.*, p. XI.

POTPOURRI

The Fateful Ends and Shades of SALT by Paul H. Nitze, James E. Dougherty, and Francis X. Kane. New York: Crane, Russak & Company, 1979, 137 pages, \$5.95.

This book, a collection of three extended essays by experts in the field of weapons limitation, is a valuable addition to the growing body of literature debating the processes, consequences, and potential results of SALT II and the future of strategic arms negotiations. The authors examine the history of U.S.-U.S.S.R. strategic arms negotiations through SALT II, discuss the growing gap between American and Soviet strategic capabilities, and reflect on possible alternatives to an agreement they perceive as unfavorable to the United States.

James Dougherty, Professor of Political Science at St. Joseph's University, Philadelphia, provides a brief history of negotiations of SALT I and SALT II. His discussion of numbers of missiles, throw-weights, etc., is placed within the larger context of the objectives of the United States and the Soviet Union.

Paul Nitze is the former representative of the Secretary of Defense to the U.S. Delegation to the SALT negotiations from 1969 to 1974. In an in-depth review of technical aspects of the proposed SALT II treaty, he argues that American fears of what might happen if a treaty is not concluded have led us to seek a settlement acceptable to the Soviets, rather than one that adequately fulfills American security needs.

Francis X. Kane, a retired Air Force colonel who has published in this journal, has credentials in both academic and corporate organizations as a planner of future sys-

tems and technologies. In his article he examines American technological developments and their role in arms control. He believes the United States should achieve security through an expanded research and development effort, rather than through reliance on negotiations. According to Dr. Kane, American technological developments in strategic systems ensure stability because they will prevent the Russians from believing that they can gain superiority in strategic weapons. Therefore, the United States should not agree to treaty restrictions on research and development but should use these efforts as a lever in negotiations with the Soviets.

The chief problem with the book is that, like so many other studies on SALT, it concentrates on technical issues of quantity and quality of launch vehicles and warheads at the expense of the larger political goals those weapons exist to support. Dr. Dougherty only briefly touches on political questions; the other two articles never address the fact that national success is as dependent on a realistic appraisal of politics and doctrine as it is on the grasp of numbers and capabilities. Technical questions must be placed within the larger context of national doctrines and goals; it often seems that it is on precisely this point that we are least informed. The book poses as its central question, "How much of what is enough?" For the most part it answers the "how much" portion very well. But for reflections on "Enough to do what?" the reader will be forced to look elsewhere.

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Wings of Gold: How the Aeroplane Developed New Guinea by James Sinclair. Sydney, Australia: Pacific Publications, 1978, 326 pages. Distributed in the U.S.A. by Books Australia, Trumbull, Connecticut, \$37.95.

When one thinks of pre-1941 aviation in New Guinea, a vague image forms of an organization called Guinea Airways, Junkers Ju 52s, and the heroic airlifting, piece by piece, of a huge placer-mining dredge into an otherwise inaccessible corner of the jungle for gold mining. The determined collector of odd facts may recall a name: Bulolo Gold Dredging, Ltd.

There was, indeed, a Guinea Airways, but no Ju 52s: there were Junkers G.31 trimotors, four of them; and five W.34s, one F.13, and a great miscellany of other fascinating airplane types of that "golden age" of aviation. There was not just "a" dredge; during 1931-38, the components of eight dredges were flown into the Wau Valley of New Guinea's Morobe Territory in what was the largest airlift operation in the world prior to World War II.

The goldfields of the Morobe were wholly dependent on airlift—unless one chose to spend weeks on foot to reach the area, all cargo being carried on the heads of native porters. The dredge components constituted dramatic air movements, but they were in fact trifling compared to the daily tonnage that included tractors, trucks, automobiles, hydroelectric plants, all forms of building materials, down to the ordinary constituents of life such as beans and rice to support a scattered population of about 10,000 persons. The operation started in 1931; the Japanese put it out of business in 1942.

On at least one occasion a truck was too large to fit into the Junkers. The chassis was cut in halves and welded together after the two parts had been flown into the Wau. About ten years later this same expedient was used during the Berlin Airlift. One wonders if some veteran of U.S. Fifth Air Force activities in New Guinea remembered this technique from the Aussies.

The remainder of the book involves use of the airplane in other parts of New Guinea: exploration and survey work, oil prospecting, gold seeking beyond the Wau Valley, uses by missionaries and scientific expeditions. The kaleidoscope of airplane types flying through these pages almost staggers the imagination. However, this is not only a good *airplane* book, it is also an outstanding *aviation* book. Not only are the machines here, but also the men who flew them and the difficult world in which they had to operate.

The tightly written and informative text is enhanced by more than 150 excellent photos and three maps. Besides being a rare source of unusual historical information, on more than a few counts this book is an enduring collector's item.

Dr. Richard K. Smith
AIR International
Washington, D.C.

The Eleventh Hour by General Lewis W. Walt, USMC (Ret). Ottawa, Illinois, and Thornwood, New York: Caroline House Publishers, 1979, 100 pages, \$9.95.

"Lew" Walt was one of the most admired and respected troop-leading Marine generals since the legendary combat hero Lewis B. "Chesty" Puller. A combat veteran of three wars and a former assistant commandant of the Marine Corps, Walt earned two Navy Crosses, two Distinguished Service Medals, the Silver Star, two Purple Hearts, and numerous other decorations in his 34 years as a Marine. He distinguished himself in war, and he has earned equal distinction for his honesty and desire for peace.

The Eleventh Hour is a hardhitting elaboration of the stark reality that the Soviets are superior to the United States in strategic and conventional military power and that the United States faces a potential first-strike nuclear attack in the eighties unless there is a resurgence of courage, national will, and economic policies and a strengthening of American military forces. Walt thinks the U.S. military situation is "grim" and presently faces imminent peril.

Walt sees détente as a psychological ploy to disarm the United States. He accuses politicians of wrapping themselves in a dream world of détente and strategic arms limitations talks and confusing the American people. He holds nothing back in his attacks on politicians and their appeasement policies with respect to the Soviets. He holds those politicians responsible for fat, inefficient government and erosion of the nation's economic base.

Like MacArthur, General Walt believes there is no substitute for victory. He describes his feelings of bitterness for past civilian leadership willing to sacrifice American lives in no-win wars. Politicians and the nation's highest leaders do not stand alone in Walt's accusations: the media, the United Nations, multinational corporations, and the wealthy, arrogant, greedy, and influential Eastern establishment are just as guilty of causing our decline.

General Walt focuses attention on three particular areas of national weakness: strategic and conventional military forces, the economy, and the loss of national will (patriotism). It is his strong belief that a revolution is necessary in America and that this revolution must take place in the heart and mind of each citizen. His theme is to learn from past blunders, correct current problems, and implore Americans to see that their future leaders do not make the same mistakes.

Walt concludes his book with "ten steps toward security"—essential elements for U.S. survival. He describes himself not as a defeatist but as a concerned American citizen with a calling to do what he can to educate the public to the threat and challenge facing the nation and to cry out to all citizens who love freedom more than self to do their share in restoring American strength.

Major C. R. Armstrong, USMC
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Maxwell AFB, Alabama

My Secret War by Richard S. Drury. Fallbrook, California: Aero Publishers, 1979, 224 pages, \$10.95.

With its huge four-bladed propeller, bubble canopy, and tailwheel, the A-1 Skyraider looked as if it belonged in

World War II, not Vietnam. But this old, slow machine did what many of its successors could not do. Its ability to carry heavy ordnance loads, loiter for hours, strike under low ceilings with devastating accuracy, absorb antiaircraft fire, and return home safely marked it as one of the best and most versatile aircraft to serve in Southeast Asia. Almost every pilot who flew the A-1 loved and respected it for its simplicity and effectiveness.

Author Richard Drury, a former A-1 pilot, has chronicled the story of the Skyraider at war in Southeast Asia. He includes accounts of night interdiction sorties, close air support, and rescue missions. The clarity and accuracy of his descriptions of inclement weather, enemy flak, and other flight hazards enhance the realism of the story. Recollection of his reactions to such events as his first combat flight or the death of his roommate add a personal vividness to the book.

Drury's frequent references to personality clashes with his squadron commander constitute a drawback to this otherwise excellent book. These descriptions of negative encounters lead one to believe that Drury may have a personal ax to grind. Intentional or not, these passages detract from the balance and tone of the book. Nevertheless, *My Secret War* is recommended for anyone interested in aviation and particularly for those who flew in Southeast Asia.

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Stalin's Successors by Seweryn Bialer. New York: Cambridge University Press, 1980, 312 pages, \$19.95.

The Twenty-Sixth Congress of the Soviet Communist Party has recently adjourned for another five years. Exactly what the party leaders are thinking with respect to their succession problem is anyone's guess; however, as part of his book, Seweryn Bialer attempts to shed some light on the question.

The Berlin-born Bialer studied in Warsaw, Poland, and, until 1956, he was affiliated with the Institute for Social Sciences. He received his doctorate from Columbia University, where he now serves as professor of political science and as a prominent member of the university's Russian Institute.

Professor Bialer begins this in-depth study of Soviet politics with a discussion of Stalin and the impact of Stalinism on current Soviet leadership and the Soviet political system. Indeed, such current leaders as Brezhnev have been reluctant to loosen their grip on Soviet government because they represent the generation that was "reared, educated, and socialized into the system he [Stalin] created." Because of this reluctance to relinquish power, the Soviets now face a succession problem that many Western analysts feel may lead to serious party unrest and world tension. Bialer presents a somewhat different but plausible view of the manner in which the succession question will be resolved. He suggests that Soviet politics has become more balanced

and more bureaucratic, and top leadership positions are less personalized. Consequently, the author anticipates that the next succession will be characterized by a much greater personnel turnover and increased generational spread among the incumbents. Unlike the past, when only a few of the top leaders were replaced by members of the same age group, future succession will involve many younger people.

Stalin's Successors concludes with a study of problems that will face the future Soviet leaders and ends with an analysis of how they must manage these difficult challenges.

Air Force members interested in the Soviet Union will find this book a must. It is thoroughly researched and well written.

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Changing of the Guard: Power and Leadership in America

by David S. Broder. New York: Simon and Schuster, 1980, 512 pages, \$14.95.

The Changing of the Guard is worthy of the reader's time and effort. David Broder has developed a fascinating study from an extensive series of interviews with some of the nation's new political personalities. He captures, in their own words, the new crosscurrents of government.

Broder shows how the politics of the past twenty years have influenced contemporary politicians. The Kennedy-Johnson, Nixon-Ford, and Carter-Mondale eras shaped their views of the world and the political process. And their political initiation during these various periods has had a long-term impact, which provides the historical context for the book. Broder then stratifies these contemporary politicians into networks (interest groups) and new frontiers. The last group is especially interesting because it represents emerging power groups that range from mayors and city administrators to pollsters and television personalities. Each group adds a new dimension to the changing pattern of American politics.

As these contemporary politicians have moved toward the power centers, the nature of politics has changed. The leaders are well educated and youthful and quite independent. Party loyalty has declined in importance and has therefore become less useful in moving legislation. As a result, the rise of the single issue has caused extreme difficulty in reaching consensus and developing collective legislation. Politics has become a very time-consuming and nonresponsive process, and each politician sees himself as a leader and not a follower.

Where do these changes lead? Broder hopes that they lead to a realization that some American institutions and traditions need to be rebuilt to ensure effective government. As Broder says, "Institutions are human artifacts. What is fundamental is the people who create them and lead them." It is people such as those Broder has profiled who must undertake the task of rebuilding.

The book is excellent and very readable. The author

offers no solutions but acts as an observer of the political scene. The insights presented through the words of people interviewed are superb.

Lieutenant Colonel Steven W. Wolfgram, USA
University of Oregon, Eugene

A World of Men: The Private Sources of American Foreign Policy by Lloyd S. Etheredge. Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1978, 178 pages, \$12.50.

"... Americans who believe children need strict discipline from their parents are more inclined to advocate use of nuclear weapons in international conflicts." Though a bit hazy, the connection becomes a little clearer with careful thought and the benefit of reading this effort by Lloyd Etheredge.

The author believes that "people involved in foreign policy have not been explicitly aware of the personal forces shaping their own thoughts and perceptions" and uses two investigations to support his feelings. The first is based on a questionnaire administered to career foreign service officers at the State Department and supplemented with responses from military students at the National War College and domestic policy specialists working at the Office of Management and Budget. The purpose of this questionnaire was to assess the personality traits, foreign policy positions, and perceptions of the respondents with regard to foreign policy thinking. Differences were found in the thinking of these three groups, but these differences were not as striking as one might have anticipated.

The second set of data was based on a study of presidents and secretaries of state between 1898 and 1968, which appears to indicate that "the personality of the president has in a substantial number of cases . . . tipped the balance decisively for or against the use of force. . . ."

The author is troubled by indications of his study which infer that presidents have erred in the past—errors that have resulted in wars—and that the likelihood for future errors and wars is certainly present. He believes a way to reduce foreign policy mistakes is for top-level decision-makers to become more aware of how one's personality can affect decisions that have major foreign policy implications. I believe that the author's concern, and perhaps his rationale for conducting this study, can be summed as follows: "For reasons I do not understand, the amount of money and effort devoted to the study of how political leaders can learn to be more competent at their jobs is minuscule I mean to imply that the world has a need to develop more thoughtful and wise leaders; that is more pressing than the need to develop impressive and expensive weapons."

Though the inferences derived from the data are not surprising, the study is quite readable and would prove interesting to those with a keen interest in the personality implications of leadership.

Lieutenant Colonel John K. Arnold, USAF
*Air Force Research Associate
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In the Cockpit: Flying the World's Great Aircraft edited by Anthony Robinson. New York: Ziff Davis Publishing Company, 1979, 304 pages, \$29.95.

Occasionally an aviation book appears which is unique in concept and stunning in execution. *In the Cockpit* is such a book. Anthony Robinson has compiled brief chapters on 51 great aircraft. Each chapter contains excellent color photographs, black-and-white action shots, and a full-color profile drawing illustrating a typical paint scheme. Also included are reproductions of many paintings by such artists as Michael Turner and Frank Whooten.

Perhaps the unique feature of the book is the exceptionally detailed cockpit and interior illustration of each aircraft. Model makers will find a wealth of information here. Other readers can appreciate the evolution of cockpit design from the Blériot monoplane to the F-4 Phantom.

The only disappointing part of the book is the variation in quality and content from chapter to chapter—each written by an individual with firsthand experience with the aircraft. Despite shortcomings, the selections are interesting and provide operational aspects not always available in pictorial books.

While one could debate endlessly the choices for the world's greatest aircraft, certainly many of the best are included: Sopwith Camel, DC-3, Spitfire, Zero, B-17, B-51, F-86, Harrier. Viewed as a collection of short stories about exceptional aircraft, the book will provide hours of pleasure for the aviation enthusiast.

Major Michael R. Gallagher, USAF
McGuire AFB, New Jersey

Second Front Now—1943 by Walter Scott Dunn. Tuscaloosa: University of Alabama Press, 1980, 318 pages, \$21.50.

One of the hotly debated questions of the Second World War—both then and now—is whether the invasion of occupied France could have been undertaken earlier than 6 June 1944. Some American military leaders would have liked to launch it as early as 1942, a date that was rejected as premature and in retrospect still seems to have been impossible. Instead, for political reasons—the need to do something—Operation Torch, the invasion of French North Africa, was undertaken. At the expense of an invasion of France in 1943, the Mediterranean Theater was expanded, with Sicily and then Italy itself being invaded.

Arguing that the failure of the Western Allies to undertake the second front before 1944 allowed the Russians to end World War II strongly established in Central Europe—with consequences obvious to this day—author Walter Scott Dunn asserts that the invasion of France not only should have been undertaken in 1943 but that it could readily have been undertaken had invasion forces been concentrated in Great Britain. Dunn cites an abundance of statistics to contend that the Germans were much weaker in France in 1943 than in 1944. On the contrary, the Western Allies had ample manpower, tanks that were a qualitative match for the best that Germany then had in

the West, control of the sea and of the air, and adequate numbers of landing craft. Moreover, thanks to Ultra, the British knew just how weak German forces in the West were.

Some of these assertions will provoke controversy. Was control of the air really secured before the advent of the Mustang? Were the Atlantic sea lanes secured as early as the summer of 1942, the date Dunn advances? Could not the Germans have responded more vigorously than Dunn assumes had a landing in France actually been effected in 1943?

As long as the author supports his arguments with statistics, he makes much sense. Even if some of his points can be challenged, the possibility of a successful 1943 invasion of France is by no means farfetched, and in this he has the support of General Albert C. Wedemeyer, one of the Army's leading planners of the day. However, Dunn cannot resist venturing into the speculative; he advances the theory that since the invasion could have been successfully undertaken in 1943—and was not—there must have been reasons of high policy to account for its postponement. Briefly, Dunn argues that the fundamental reason was political: to allow the war to drag on for another year so that at its end the Soviet Union might face exhaustion and Germany might be so devastated by a massive bombing campaign that it would be militarily impotent for years to come.

It is useless to deal with an argument such as this, for as the author himself acknowledges, it is highly speculative and not supported by evidence. One can only advise readers to get a copy of *Second Front Now—1943* and read this provocative book for themselves.

Dr. Lloyd J. Graybar
Eastern Kentucky University, Richmond

Life in the Universe: The Ultimate Limits to Growth edited by William A. Gale. Boulder, Colorado: Westview Press, 1979, 117 pages, \$12.50.

Far from a pessimistic assessment, as the title might imply, this book is an upbeat collection of articles on short- and long-term space development and exploitation. The authors are widely recognized experts in their respective fields: space program planning, political science, planetary science, physics, etc.

Life in the Universe emphasizes the prospects for extraterrestrial humanization and settlement of space. It proceeds in five neatly encapsulated sections, each detailing where the civilian space program is going and how closely the needed technology is being approached.

The first of the five areas discusses the increasing reality of space industrialization—what it is and how it will benefit man. The second area concerns the retrieval and use of space materials such as asteroids for man in space and on earth. Since no intelligent assessment of the first two areas could be complete without an overview of the legal, political, military, and practical problems, the third article provides this. In many ways, the high point of the book is this thought-provoking analysis, showing that man's technol-

ogy may be more suitable than man's society for the leap into space. Next, the long-range growth potential of humanity in the solar system and beyond is explored and modeled. Last is a sober reminder that there is a morality involved in spreading humanity through the universe, whether or not other intelligence is encountered.

These are not the pipe dreams of starry-eyed science fiction writers. These articles, delivered at a symposium of the American Association for the Advancement of Science, represent some realistic, achievable, necessary goals. Some parts of these discussions will be in hand in five years, while others may not be for five hundred years.

So where is the applicability to the military man in all this? It is axiomatic that as the civilian community exploits a new frontier, the military will eventually and inexorably follow. As the civilian community encroaches on "the high untrespassed sanctity of space," the usefulness of these new areas for nonaggressive, permissible, and appropriate military functions will become clear. As General Hap Arnold once remarked, "Doctrine should lead technology." *Life in the Universe* presents an interesting view of technology close at hand for the use of space.

Captain L. Parker Temple, USAF
Luke AFB, Arizona

Marines and Helicopters, 1962-1973 by Lieutenant Colonel William R. Fails, USMC. Washington: History and Museums Division, Headquarters U.S. Marine Corps, 1978, illustrations, index, 262 pages, \$5.50 paper.

Preceded by an earlier volume covering Marine helicopters from 1946 to 1962, this book successfully treats the post-Korean period of helicopter infancy to the Vietnam era of helicopter maturity. The author parallels the transition of Marine helicopter design with the evolution of employment tactics and pilot training. The requirement for early Vietnam participation in operation Shufly by unarmed helicopters is contrasted with the eventual introduction of Marine armed attack helicopters in support of full-scale offensive combat in the closing months of the Vietnam War.

The book covers the issues embroiling the acquisition of current Marine helicopters. The CH-46, CH-53, UH-1, and AH-1 are tracked from concept to procurement, with emphasis on design requirements, force sizing, funding constraints, and development problems. Also, pilot shortages, single service training, amphibious ship platforms, and future helicopter requirements are put in their proper perspective in this period of rapid change.

This historical account is well written and easy to read. The narrative presents helicopter evolution supported by participants who influenced its development. Aside from individual pilot and engineer contributions, a strong flavor of leadership is blended throughout this history. The Marines who did the flying and led the way for the successful evolution of Marine helicopter aviation are given full treatment. To complete his effort, the author includes an appendix of aircraft characteristics.

Although a book for Marines about Marines, the work

will be enjoyed by anyone interested in helicopters. Technically competent, historically accurate, and interestingly descriptive, *Marines and Helicopters, 1962-1973* is a fine account of one service's effort to establish the helicopter as a permanent fixture for military employment.

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80 Plus by Charles E. Hanst. New York: Carlton Press, 1979, 143 pages and photographs, \$6.95.

In *80 Plus* Charles Hanst recounts his personal involvement in many years of aviation. From his training at Call Field in 1917 through military service in World War II and subsequent work in the Civil Aeronautics Administration and the Federal Aviation Administration until 1965, Hanst details a life devoted to aviation and its spirit. The book provides personal insights into the untried (and oftentimes humorous) aspects of early flight. It is filled with impressions of airplanes, airports, and the people who operated them from the perspective of an unheralded pioneer in aviation. Hanst, who earned pilot license #1853 on 31 July 1918, was, at one time or another, a military aviator, barnstorming pilot, flying instructor, commanding officer, airline pilot, airport manager, and government airport consultant.

Although at first glance the book may appear to be a short catalogue of unimportant events, it is both readable and enjoyable, thanks to the wit, wisdom, and humor of the author. Although Hanst claims to be an "aviation nobody," his contributions to early flight have been recognized by the Southeastern Airport Manager's Association, which has established an annual scholarship in aviation management at Auburn University in his name. For the reader who enjoys the romance of early aviation, this book should bring real pleasure.

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Inflation and Stabilisation in Latin America by Rosemary Thorp and Laurence Whitehead, editors. New York: Holmes & Meier, 1979, 285 pages, \$34.50.

In the 1930s democracies around the world felt the severe impact of the Great Depression. Many were swept away under the tidal wave of economic distress. In its wake authoritarian governments arose, and even where democracy survived, it felt shaken. Franklin D. Roosevelt recognized this crisis and hailed the New Deal as proof that democracy can weather an economic catastrophe.

Now another great wave of economic distress is swelling, as the contributors to *Inflation and Stabilisation in Latin America* have indicated. Of the six case studies on contemporary Latin American economies, only those of Mexico and Brazil show any clear signs of better times ahead. But even what stability these two countries enjoy relates directly

to the bullishness of North American investors who have poured money into Mexico and Brazil. This in itself has inhibited the freedom of Mexican and Brazilian leaders to make purely national policy decisions, and North American investment has only slowed economic distress. Brazil's economy, for example, has sunk into a depression since 1977.

The economies of Uruguay, Peru, Argentina, and Chile approach despair. The inflation rate in these four countries is often at 100 percent annually, but sometimes the rate soars above 200 percent, particularly in Chile. The military dictatorship in Uruguay has tried to open its economy to foreign trade and investment, but the policy of an "open economy" has not rescued Uruguay from the swirling currents of economic distress. Laurence Whitehead, in his study of Chile, indicates that the Allende regime did suffer from an "invisible blockade" from the Nixon administration, but the real causes of economic mayhem were internal. Guido Di Tella finds the Argentine economy in a similar state of chaos. In 1973 the Argentine inflation rate hit 100 percent, and the military leadership reluctantly decided to invite Juan Perón back to his homeland; the military hoped especially that Perón would control the unruly labor unions. Since the death of Perón, Argentina's economic and political situations have worsened. Politically no group seems in control. In Peru, where the government has traditionally followed a laissez-faire policy, foreign investors refuse to bail out Peru's sinking economy unless the Andean nation follows guidelines of the International Monetary Fund (IMF).

Perhaps the most revealing feature of these studies is the impact of economic intervention in Latin America by the IMF: "... the importance of the Fund's assistance has always consisted less in the volume of resources it could provide, than in the 'conditionality' it could attach to its assistance. . . ." (p. 10)

Many readers will find these essays difficult to understand. A glossary would have been useful because relatively few are conversant with the jargon of economists. Despite these limitations the six essays will prove useful to scholars and general readers alike.

Thomas O. Ott
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Understanding the Soviet Navy: A Handbook by Robert B. Bathurst. Newport, Rhode Island: Naval War College Press, 1979, 173 pages.

The title of Robert Bathurst's book promises more than it delivers in that he largely omits such key topics as Soviet shipbuilding trends and deployment patterns. An analysis of these subjects is essential in gaining a full understanding of the Soviet Navy. The book might more appropriately have been entitled *The Application of Marxist/Leninist Concepts to the Soviet Navy*. A complete analytical work on the Soviet Navy has not yet been written, but Bathurst's book dovetails nicely with other recent publications to provide a good overview of this complex subject. *Understanding the Soviet Navy* is primarily a history of the Impe-

rial Russian/Soviet navies and review of current tactics and strategic doctrine as motivated by Marxist/Leninist theory. In a nutshell, it focuses on Soviet naval developments through Soviet ideology. In analyzing Soviet naval tactics and doctrine, the author wisely avoids the trap of "offensive" and "defensive" labels that have marred previous works on the subject.

The book is arranged for an easy and interesting evening's reading. It is divided into three parts, and each part is subdivided into three chapters. The footnotes exhibit good range and selection and are grouped by chapter at the end of the book. A selected bibliography of other periodicals and books on the Soviet Navy is included, but unfortunately there is no index for the analytical reader.

The first part of the book clearly correlates the employment of the Soviet Navy with the denial of critical raw materials to the industrialized Western nations. In this regard, the author makes a good case for increased use of the Soviet Navy and the merchant fleet in a foreign policy role.

Part two, entitled "The Russian Experience," succinctly summarizes the roles of the Imperial Russian and Soviet navies through World War II. The final chapter in this part provides an excellent analysis of Soviet naval and paramilitary organizations employed to build a maritime following among Russian youth. Also included is a rare inside look at day-to-day working conditions within the Soviet Navy and the collective's role in promoting discipline, motivation, and obligation to the Motherland.

Part three, "Organization for War," begins with an excellent chapter on Soviet military thought. It also contains discussions of the extensive formal education program, a description of the naval periodical *Morskoy Sbornik*, and the role of the political officer in the Soviet Navy.

Understanding the Soviet Navy should be required reading for serious students of the Soviet Navy because it provides a basis for better understanding of such recent works as Newton B. Dismuke and James M. McConnell's *Soviet Naval Diplomacy* and Michael McCWire's and John McDonnell's *Soviet Naval Influence: Domestic and Foreign Dimensions*.

Commander Don C. East, U.S. Navy
Rota, Spain

The Third Century: America as a Post-Industrial Society edited by Seymour Martin Lipset. Stanford, California: Hoover Institution Press, 1979, 417 pages, \$7.95 paper.

At the end of his introductory chapter to this impressive collection of essays, editor Seymour M. Lipset, one of the nation's eminent social scientists, succinctly states the purpose that led sixteen colleagues to contribute to the work. "I hope," Lipset writes, "the essays in this volume will help us understand where we are heading as we move into America's third century." The essays he has collected and edited, arising from a Stanford University lecture series, go a long way toward helping the reader understand the complex world in which Americans live and how forces

from the past and present may have an impact on the future.

Although Lipset apparently imposed no rigid methodology on his essayists, each of whom has written on a different aspect of or group within American society, their approaches are similar. Each attempts to interpret and organize, in a careful and thoughtful way, his or her special subject area and to project, at least into the near future, how "postindustrial society" will treat and be treated by different forces.

The subject coverage is broad. The authors look at American structures (e.g., the "prophylactic" presidency, academia, the mass media), demographic trends, and different subgroups within American society (e.g., labor, Catholics, blacks, women). The treatments are thoughtful, stimulating, and provocative. The reader cannot avoid being intellectually challenged by individual contributions and the totality.

Inevitably, in any such anthology there is some variation in quality among the essays. Some are absolutely first rate: Kingsley Davis's "The Continuing Demographic Revolution in Industrial Societies," Orlando Patterson's "The Black Community: Is There a Future?" and Stanley Rothman's "The Media in Post-Industrial Society" stand out. The weakest articles are Andrew Greeley's overview of American Catholicism (which comes across as something of a polemic) and Alex Inkeles's study of American "national character" (which appears inconclusive). Unfortunately, Inkeles's article is the last, letting the reader down at the end.

The Third Century is neither light nor easy reading, but it is intellectually satisfying. It is the kind of book that should be read one essay at a sitting. For the reader with a serious commitment to understanding American society, Lipset has provided a real service.

Dr. Donald M. Snow
University of Alabama, Tuscaloosa

Friendly Fascism: The New Face of Power in America by Bertram Gross. New York: M. Evans and Company, 1980, 410 pages, \$15.00.

Forget creeping socialism; creeping fascism threatens American liberties today! So believes Bertram Gross, and he relentlessly develops his thesis—buttressing it with every fact, figure, and fable drifting across America today. And, horror of horrors, he could be right.

Of all the "isms" man has endured, the logic of fascism eludes one most. Not only does it deny human equality, it elevates human inequality to a lofty ideal. The state becomes the be-all, do-all, end-all; the crowning creation of underserving, mindless masses; a larger-than-life monster with an insatiable appetite for human beings. "For the fascist," as Benito Mussolini told us, "everything is in the state, and nothing human or spiritual exists, much less has value, outside the state." How can such an anathema possibly be a threat to American traditional values?

Gross provides a plausible if not totally convincing answer. "It would be supermodern and multi-ethnic," so he tells

us, "as American as Madison Avenue, executive lunches, credit cards, and apple pie." Its coming would be heralded by precious few signs. Already, "the majority of people have little part in the decisions that affect their families, workplaces, schools, neighborhoods, towns, cities, country, and the world." The coming of friendly fascism is merely a matter of certain undesirable trends continuing until, one day, Americans awaken to find themselves living in a Kafkaesque world—unable to understand it and, worse, unable to do anything about it.

As repudiation, one could remind the author that "mass man" has never had much to say about the institutions that regulate his life. Volumes of data tell us just how good we have it compared to our counterparts of only a few years ago. But this author, whose credentials are unimpeachable, undoubtedly knows this. Further, he tells us with great panache something every serious student of politics already knows: *Authority is being centralized within an ever shrinking elite much faster than institutions to control and ameliorate it can be developed.* And therein lies the way to friendly fascism. Recommended reading.

Major E. Lee Thompson, USAF
Air Command and Staff College
Maxwell AFB Alabama

America's Military Past: A Guide to Information Sources by Jack C. Lane. Detroit, Michigan: Gale Research Company, 1980, 280 pages.

This is a capable and, for most purposes, a complete bibliography of United States air and land military history sources. By design, there are no naval sources included, which leaves the graduate student in military history without a good one-volume source book. This collection, however, is a boon to the "air-land" history specialist.

Professor Lane has indeed completed a helpful text—there are 1743 annotated sources plus another 32 in the addendum. I therefore commend this volume to scholars and students of the U.S. military past.

Major Theodore M. Kluz, USAF
Gunter AFS, Alabama

Argonauts to Astronauts: An Unconventional History of Discovery by Mauricio Obregón. New York: Harper & Row, 1980, 205 pages, \$15.00.

Exploration is the epitome of adventure. This truism is supported in the earliest of written records, many of which document mankind's history of discovery. Voyages into unknown seas are immortalized in classic logs like Homer's *Iliad*, which describes both the fruits and the hazards of such endeavors. Mauricio Obregón has carefully analyzed selected epics in an attempt to determine if authentic explorations (albeit slightly exaggerated) are being described. To verify his analysis, Obregón charted and sailed the routes of the Argonauts, Odysseus, the Vikings, the Muslims, and Ferdinand Magellan. Obregón's observations and vali-

dations of these early explorations of the sea constitute more than 80 percent of the book. His analyses and personal validation of these routes lead to his conclusion that the epics are factual though embellished records of exploration. The remainder of the book reviews the history of exploration by aircraft in about five pages, concluding with a superficial summary of man's explorations in space.

Argonauts to Astronauts is an easy-to-read review of selected records of exploration. Scholia are artfully used throughout the text. Amusingly, in addition to interjecting the author personally into the book, the scholia convey the message that he is a frustrated explorer who relieves his anxieties by retracing the steps of early sea and air explorers. It makes interesting reading.

Lieutenant Colonel Carl A. Forbrich, Jr., USAF
Eglin AFB, Florida

Thunder on the Right: The "New Right" and the Politics of Resentment by Alan Crawford. New York: Pantheon Books, 1980, 381 pages, \$13.95.

There is a legitimate conservative tradition in America that most military find congenial. Within recent years, however, a "New Right" has risen, a radicalized, disciplined, well-financed political network competing with the conservative tradition for domination of American politics. Capitalizing on the passions behind single-issue causes such as busing, women's lib, gay rights, gun control, abolition of capital punishment, and the loss of the Panama Canal, the New Right is not conservative but extremist. Lacking a positive program, it feeds on social protest, discontent, anger, and insecurity. Leaders of the New Right are generally white middle class who use their new power to tilt elections, veto legislation, and, eventually, control the presidency.

Alan Crawford, former leader of the Young Americans for Freedom, editor of their publication, *The New Guard*, assistant editor of *Conservative Digest*, and former aide to Senator James L. Buckley, is alarmed at the inroads of the New Right as a political force in America at the expense of legitimate moderate liberals and true conservatives, whatever their political party. *Thunder on the Right* is a rich source of data on the internal workings behind the political organization: the political action committees, think tanks, women's and youth auxiliaries, lobbies, tax-exempt foundations, and the fund-raising apparatus. The abuses in manipulating public opinion and milking the system under the guise of fundraising are troubling. For example, California's Howard Jarvis of Proposition 13 fame raised \$115,000 for Senator Barry M. Goldwater in 1964, without his knowledge, and \$57,453 for Senator S. I. Hayakawa in 1976, not a penny of which reached either senator.

If the reader is distressed to learn how little of the funds from state and national campaigns generally reach the office-seeker, he may resolve never again to contribute without clear knowledge of the destination of his offerings. If so, Crawford's effort will be worthwhile.

Dr. Paul R. Schratz
Homosassa, Florida

Years of Estrangement: American Relations with the Soviet Union 1933-1941 by Thomas R. Maddux. Tallahassee: Florida State University Press, 1980, ix, 238 pages, \$15.00.

American relations with the Soviet Union have continued to be a subject of debate and fascination for the general public. Thomas Maddux's *Years of Estrangement* deals with the pre-1941 period of that relationship. The years 1933 to 1941, Maddux contends, provide an explanation of American attitudes and the shaping of Franklin D. Roosevelt's diplomacy toward the Soviet Union while, conversely, shaping Joseph Stalin's perceptions and attitudes toward Roosevelt and United States foreign policy. In examining the events of those years, the author determined that "Roosevelt revealed his strengths and weaknesses as a diplomat. . . ." (p. vii)

FDR proved he understood the challenges of the 1930s, the ineffective American policies, and how to manipulate American public opinion. At the same time, Maddux alleges, FDR's understanding of Stalin and Soviet foreign policy was superficial, resulting in fruitless negotiations and dangerous flaws in Roosevelt's techniques of diplomacy. Indeed, Maddux concludes that the differences of opinion between the President and State Department specialists over FDR's exaggerated hopes for the postwar world, cooperation with Stalin, and the lack of a firm hand in dealing with Russia led to the cold war. "The cold war was to be a part of the legacy of this failure by Roosevelt and his advisors to coordinate their views." (p. 162)

Dr. Robert G. Mangrum
Howard Payne University
Brownwood, Texas

Mr. Kipling's Army by Byron Farwell. New York: W. W. Norton and Company 1981, 256 pages, \$13.95.

This book is a first-rate study of the life-style of the British Army during the pre-World War I period. Byron Farwell provides an interesting picture of the British soldier and officer, but after reading the book, one realizes that the "good ole days" were not so good.

The British officer is described as a shallow individual. He was interested in sport, the excitement of battle, and had little time for anything else. His life was tied, as was that of all soldiers, to the regiment. Anything beyond that narrow world held little of importance. Promotion was based on influence and wealth. They lived in a caste society. If its rules were violated, the officer who committed the infringement was ostracized. Farwell relates the tale of one such man who spent more than ten years in a regiment during which time no one spoke to him except in the line of duty.

The life of the soldier was even a gloomier lot. Education was not emphasized; until the late 1800s, 85 percent of the soldiers were illiterate. There was also a strong caste system, separating the men from the noncommissioned officers. The wives of the men lived in the barracks along with their children—it must have been a hectic world, indeed.

Much of a soldier's time was spent away from his family and country, for the Empire was far-flung. General Garnet Wolseley spent only fourteen months during a seven-year period with his family. His wife reported that most of his visits were occupied with riding to the hounds. In 1868, of 110 regiments, only 47 were stationed in England. The Somerset Light Infantry battalion spent 111 years outside of the country. Finally, retirement was a sad period. Pensions were small, and career soldiers were often reduced to penury; many were forced to beg from the regiments, of which they had formerly been key NCOs.

Mr. Kipling's Army is well worth reading. In it lie the antecedents of our own armed forces. It is full of anecdotes that provide interest and could be of value both to the historian and the public speaker.

Lieutenant Colonel Steven W. Wolfgram, USA
University of Oregon, Eugene

Jimmy Doolittle, Master of the Calculated Risk by Carroll V. Glines. New York: Van Nostrand Reinhold Company, 1980, 202 pages, \$4.95.

Colonel Carroll Glines, former Air Force test pilot and information officer, labels Jimmy Doolittle "master of the calculated risk" because he combined the traits of the daredevil with those of the engineer. He always took a methodical, scientific approach to flying to get results, but he never gave the public the impression that he had first put in hours of careful calculation and practice. Unknown to many people, the main reason for his desire to push back the speed barriers was to improve man's knowledge about airplanes and their potential for military and commercial use.

Glines provides a behind-the-scenes description of the fantastic feats and accomplishments of Doolittle and insight into the personal philosophy of this aviation pioneer and truly great American. The public Doolittle (colorful, adventuresome, courageous) is well known for his aerial conquests as a daredevil stunt flyer, trophy-winning aerial pilot, and winner of the Medal of Honor. Equally famous within the profession were his contributions to commercial and military aviation as a pioneer of high octane aviation gasoline, instrument flying, and delivery of mail and passengers by airplane.

"Doolittle personally pushed back the frontiers of aeronautical knowledge with his forward steps," says Glines. Doolittle's philosophy that every man's purpose is to serve his fellow man and leave the earth a better place, coupled with his ability, drive, and determination, made him an international hero. In describing Doolittle's character, the author includes Doolittle's seven-point creed, a pattern of personal values that he set and followed and a creed that he challenges all Americans to follow in assuring national survival.

This paperback edition is easy to read, informative, full of military and aviation history, and strong on insights into the character and motivations of the protagonist. It includes but goes beyond the significant events in Doolittle's life to explain why this elder statesman is still active in the

industry that continues to seek his counsel and guidance in every phase of aviation and aerospace science.

This great American has made tremendous contributions to his country as a military aviation hero and pioneer in commercial aviation. I highly recommend this book and further study of this living legend to the military professional.

Major C. R. Armstrong, USMC
Air Command and Staff College
Maxwell AFB, Alabama

In the Absence of Power: Governing America by Haynes Johnson. New York: Viking Press, 1980, 339 pages, \$12.95.

Both critics and admirers of Jimmy Carter will find reinforcement for their views in this balanced appraisal of President Carter's first three years in the White House.

Haynes Johnson, a long-time Washington newsman and 1966 Pulitzer Prize winner for his coverage of Selma and the civil rights movement, has produced a fast-paced yet insightful look at presidential politics from 1977 to 1980. Noting that Carter is the only genuine "outsider" to win the presidency in this century, Johnson takes revealing snapshots of the quality of change in the government, in Washington itself, and in the country that Carter had to deal with. Much of it is familiar, but Johnson has an unerring aim for the eye-catching statistic or characterization. The bureaucracy is a "ten-ton marshmallow"; the Department of Health, Education, and Welfare, in one week, issued regulations twice as wordy as *War and Peace*; in the first five days of July 1977, American motorists used more oil and gas than the U.S. Army did in the entire year of 1944. Carter was elected President of the United States, but 65,000,000 eligible voters cast no ballot at all. Nevertheless, the new administration looked forward to doing good things.

The second half of the book recounts, year by year through July 1979, the accomplishments and disappointments of the Carter administration.

Johnson began research for the book as a detached observer watching "one president struggle with the unyielding problems of his times." He finished the book feeling he had "witnessed a tragedy." The administration never quite melded the wish to find comprehensive solutions with the absolute requirement to concentrate on a few basic things. Three years into the term, the team was still making the same little mistakes, personal misjudgments, and failing to see how the public saw things. For many, the Carter administration had simply become irrelevant, and largely, Johnson writes, because of self-inflicted wounds.

The promise of Jimmy Carter's presidency was not fulfilled, Johnson concludes. Hard decisions can no longer be avoided, and, he adds, "Only a president can articulate a national purpose and explain national issues, and in our system only a president can serve as public educator for the nation."

Dr. James H. Buck
University of Georgia

Fighter Tactics and Strategy 1914-1970 by Edward H. Sims, second edition. Fallbrook, California: Aero Publishers, Inc., 1980, 266 pages, \$12.95.

For the avid student of air power, specifically its counterair aspects, *Fighter Tactics and Strategy 1914-1970* provides one the opportunity to relive vicariously many of the most thrilling moments in four wars. So vivid is the detail that the imaginative reader can almost hear the wind in the wires of his trusty Spad scout biplane or look across the long nose of this throbbing, powerful P-51 and see the contrails of B-17s headed for Berlin.

Using his own World War II experience as a fighter pilot in Europe, Edward Sims has put together a masterful collection of interviews with many of the world's foremost living fighter pilots. He establishes beyond a doubt that fighters will always be an essential element of any future conflict short of total nuclear war. For the hands-on buff, the fascinating visits with men like Mustang pilot John C. Meyer (later General, Vice Chief of Staff, and SAC Commander) and famous German pilot Erich Hartmann, the leading ace with 352 kills, lend credence to today's fighter tactics of surprise, speed, and situation.

The book is a second edition, published eight years after the original. I feel that the author's failure to update and finish his analysis of the total Vietnam experience is a major flaw—an error that leaves the reader with an unfulfilled feeling. He could have discussed night escort tactics of B-52s in late 1972, and conclusions about F-111 operations would have been favorably different if Sims had reviewed their activities of 1972.

Additionally, the Vietnam effort spanned the period from 1964 to 1973, longer than any of the three previous wars, but it gets only superficial treatment. The subject of fighters deserves better. Furthermore, I submit that the quantum leap forward in counterair capability provided by the introduction of the F-15, the F-16, the aggressor squadron program, and Red Flag exercises demands in-depth discussion.

To gain an appreciation of the early history, colorful tradition, and, of course, some tactics, I recommend the book, but I cannot give it total endorsement for the aforementioned reasons. There are better analyses that are unclassified and available to all.

Major Stuart W. Maas, USAF
Offutt AFB, Nebraska

The Horn of Africa in Continuing Crisis by Colin Legum and Bill Lee. New York: Africana Publishing, 1979, 166 pages, \$9.75 paper.

Among current topics of politico-military research, the dynamics of developing African nations commands a considerable following. Colin Legum, editor of *Africa Contemporary Record*, and Bill Lee examine these forces in *The Horn of Africa in Continuing Crisis*.

This work incorporates three main sections: domestic and international problems in Ethiopia, the Somali Democratic Republic, the Republic of Djibouti, and the Democratic Republic of the Sudan; a major treatise on Cuba's

role in Africa; and a section of significant documents relevant to these nations.

For too long planners of the Great Power nations have considered only their own perceptions and goals in formulating policy toward Third World and developing nations. It is time to include relevant and current background of the nation itself in such analyses, and authors Legum and Lee present an incredibly significant amount in their book.

Although interesting in its own right, the section dealing with Cuba is more inclusive than just the Horn of Africa. This particular study by Legum and Zdenek Cervenska seems to be included here as an afterthought and would best be considered elsewhere.

In toto, the book is a myriad of facts and statistics, inculcating careful insights that can serve only to enhance the background of those who study policy development in Third World, and in particular, Horn of Africa nations.

Marion Leighton's recent monograph, "The Soviet Threat to NATO's Northern Flank," published as an Agenda Paper by the National Strategy Information Center, serves as a demanding study of NATO's potentially weakest front in any European conflagration. Leighton, an accomplished scholar of Soviet affairs, reviews not only current and hypothetical military scenarios of the region but carefully incorporates Soviet political attacks toward Nordic nations and their effects on the potentialities of any future conflict.

Case-by-case studies of the Nordic nations are conducted, particularly vis-à-vis the Soviet Union. Too often, students of military affairs neglect indigenous political developments in computations of conflict resolution. Such domestic policies are in fact considered, as well as their effects on military outcomes.

The author is critical of Soviet "bullying" techniques used, she believes, to intimidate Nordic nations into allowing the Soviet Union to extract concession after concession without instigating military conflict, including numerous examples. Further, Leighton exposes the buildup of Soviet offensive, versus defensive, capacities in the North, and criticizes President Carter's indecisive and oft-perceived "abandonment" policies toward NATO-member nations.

The book is rapid reading, authoritative, and highly recommended.

Robert S. Hopkins III
Blacksburg, Virginia

GI Guinea Pigs: How the Pentagon Exposed Our Troops to Dangers More Deadly Than War: Agent Orange and Atomic Radiation by Michael Uhl and Tod Ensign. New York: Playboy Enterprises, Inc., 1980, 256 pages, \$9.95.

Reading Michael Uhl and Tod Ensign's *GI Guinea Pigs* truly tested my objectivity. This book addresses a controversial topic: the purported radiation poisoning of soldiers, sailors, and airmen by above-ground nuclear tests and chemical poisoning by the use of defoliants and herbicides in the Vietnam War. The controversy surrounds

the fact that, years later when possibly related health defects appear, these men have been denied veterans benefits and service-connected disability. It is a sad and unfortunate story: one that must be investigated and addressed.

The objectivity of authors Uhl and Ensign was tested as well; unfortunately, they succumb to biased reporting. Do not read *GI Guinea Pigs* with the idea of encountering a scholarly approach to a pressing social problem; this book resorts to journalistic sensationalism. Still it is well researched (from one side) and current, but the authors lose a significant amount of effectiveness in the latter part of the book when they resort to an attack of anti-Vietnam War demagoguery. The issue of the use of Agent Orange is best addressed separately from the war; the authors disagree, and their cause has suffered.

Does *GI Guinea Pigs* have a message for those professional military members who would read the *Air University Review*? Yes, but it is well hidden. Today we appreciate that our most important resource is the work force, our people. We, as commanders, supervisors, first sergeants, most know the dangers that our people encounter. Our business is a hazardous one; we cannot afford to expose our people to needless and reckless dangers. The requirement to "Damn the torpedoes! Go ahead!" is rare; we must not make it commonplace.

I mentioned at the start of this review that objectivity is difficult to maintain. Consider the problem of the veteran of honorable and faithful service who, years later, believes that his ill health was caused by exposure to radiation or chemical poisoning while on active duty. When those in authority refuse to accept his claim for service-connected disability, his objectivity is strained, understandably so.

Captain David J. Boyles, USAF
Hill AFB, Utah

Battle of Wits: A History of Psychology and the Deception in Modern Warfare by David Owen. New York: Crane-Russak, 1978, 207 pages, \$14.95.

"Scepticism is the mother of security," Frederick the Great once counseled. Had this advice been more closely heeded by his twentieth-century countrymen, *Battle of Wits* might never have been written, at least in English. This entertaining book's subtitle is "A History of Psychology and the Deception in Modern Warfare," but as David Owen points out, it is basically "a story of British ingenuity pitted against the wits of German adversaries." The United States is cited primarily for the resolution of the satellite cameras and for falling for the Wagnerian last-stand-in-the-Bavarian-Alps story just when Berlin and present-day East Germany lay before us ripe for picking.

Owen, a British journalist and television writer, touches only briefly on the code-breaking successes that have only recently been recognized as major factors in World War II. Instead, he concentrates on the variety of ruses used to make the enemy attack the wrong target, defend the wrong ground, take the wrong route, or misestimate our strength. The examples he covers include disguising trucks as tanks

and vice versa, developing radar chaff, routing an Italian garrison at Siwa Oasis with a night airborne attack carried out entirely with mannequins and fireworks, constructing huge fake pipeline systems and pumping stations (ostensibly for water in North Africa and oil across the channel from Calais), and the convincing loss of information on the disposition of imaginary troops to doubt-agents. In between, he tells of the elaborate "white propaganda" radio war, in which the object was to convince enemy troops they were listening to one of their own stations—an elaborate and expensive proposition merely to insert a seed or two of doubt every week.

Of course, real-life enemies are seldom as foolish as textbook enemies. German engineers dammed a stream near Hamburg at one point to produce a lake shaped very much like the Aussen-Alster in the heart of the city. A night raid by 344 British bombers, guided by downlooking radar sets displaying prominent terrain features, soon pulverized the engineers' little project, and forest for miles around it, but Hamburg escaped unscathed. The zenith of this battle of wits (or perhaps the nadir) may have been reached when the Italians actually raided a dummy airfield with dummy bombs carrying rude slogans in English!

Battle of Wits makes engaging bedtime reading. Though it is hardly a laundry list of ideas for the modern commander, it does make one wonder about present-day parallels. One would be better equipped to follow up on these musings in the morning if the author had provided source references for the entertaining tales he tells.

Major Frederick J. Manning, USA
USA Medical Research Unit-Europe

Communism in Eastern Europe edited by Teresa Rakowska-Harmstone and Andrew Gyorgy. Bloomington: Indiana University Press, 1979, 338 pages + index, \$17.50.

Filling a need for a comprehensive general textbook concerning Eastern Europe is *Communism in Eastern Europe* edited by Teresa Rakowska-Harmstone and Andrew Gyorgy. The volume addresses the area as a distinct geographical, regional, and political concept. Included are chapters on each of the eight countries comprising Eastern Europe, plus four chapters dealing with the region's place in the world perspective, the region's economies, Eurocommunism and Nationalism, and integration.

Since 1945 the region has been for the U.S.S.R. "simultaneously a defense *glacis*; a springboard for possible expansion westward; an ideological legitimization of her universal pretensions; a laboratory for the application of the Soviet model of development; a reservoir of human, natural, and economic resources to be exploited . . . ; a collection of diplomatic pawns . . . ; and a source of psychological . . . comfort." (p. 9) Additionally, Eastern Europe is a cultural bridge between the U.S.S.R. and Western Europe. The work observes that the states of Eastern Europe "resent being viewed as extensions of the Soviet system and increasingly perceive themselves as permanent entities, pursuing roads to socialism separate, distinct and away from Soviet

Communism and towards the positions of Eurocommunist parties in Western Europe." (p. 34) This volume will help provide the military leader with an understanding of those nations traditionally considered behind the Iron Curtain.

Dr. Robert G. Mangrum
Howard Payne University
Brownwood, Texas

The Origins of the Cold War in the Near East: Great Power Conflict and Diplomacy in Iran, Turkey, and Greece by Bruce Robellet Kuniholm. Princeton, New Jersey: Princeton University Press, 1980, xxiii + 485 pages, \$27.50 cloth, \$10.50 paper.

In this superb study, Bruce Kuniholm argues that historians searching for the origins of the Cold War have, by concentrating their attention on East-West differences concerning Eastern Europe, looked in the wrong place. Sequence and significance are not the same thing: that these disputes occurred first does not mean that they were first in importance. Instead, he contends, a series of later crises involving the countries of the "Northern Tier"—Greece, Turkey, and Iran—were required to turn quarreling allies into implacable enemies. The Cold War could not begin until the United States went beyond rhetorical to diplomatic and military opposition to Soviet expansion, and this happened along the Northern Tier late in 1946 and early in 1947, not in Eastern Europe in 1945.

Kuniholm sees Soviet-American confrontation on the Northern Tier as a continuation of the centuries-old struggle for power between Russia and Great Britain in the region. The Second World War altered the terms of this conflict. Moscow took advantage of opportunities the war provided to gain a foothold in northern Iran, to pressure the Turks for territorial concessions and revision of the Montreux Convention, and to exploit long-standing schisms within Greek society. Great Britain, weakened by the war, could no longer resist. The United States, hitherto an innocent—Kuniholm would say naïve—bystander, realized only slowly that it had interests at stake. Having learned in Eastern Europe how not to deal with the Russians, it now learned from crises along the Northern Tier how it should respond to Soviet expansion. The Truman Doctrine ended American aloofness, and the nation embraced political and military containment of the Soviet Union. Once the United States actively confronted the Soviets, Kuniholm argues, the traditional struggle for power took on a different character because both sides perceived it in ideological, and hence universal, terms. What had begun as another round in the traditional diplomatic competition in the Near East had escalated into a global struggle between world views.

Kuniholm's study has many strengths. He has researched widely in official records, manuscript collections, and printed sources. Interviews with former officials and his own keen sense for the interplay between personality and bureaucracy combine in a detailed and fascinating account of how American policy evolved. In treating the Northern Tier as a unit, Kuniholm provides broader insights than

would be possible from a study of a single country, yet he does not neglect differences among the three nations. He provides the best account in print of the Iranian crisis, his treatment of events in Azerbaijan is a classic case study of the tactics of Soviet penetration, and his almost Hobbesian description of wartime Greece is vivid and moving.

The book's single weakness is an unresolved tension between the causal importance of ideology and traditional power struggles. Most of Kuniholm's argument stresses the importance of the traditional rivalry between Britain and Russia as a cause of the Cold War in the Near East. He also suggests that this regional struggle was more important in shaping the global Cold War than earlier disputes in Eastern Europe were. But if, as he also argues, the distinctive character of the Cold War stemmed from ideology, one is left wondering which was more important: ideology or the traditional balance of power. Were regional disputes (whether in Eastern Europe or the Near East) the causes of the Cold War, or merely the occasions for it? Still, this is an excellent work, indispensable for anyone interested in America's relations with the Near East.

Daniel F. Harrington, Historian
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The United States and Six Atlantic Outposts: The Military and Economic Considerations by Edward W. Chester. Port Washington, New York: Kennikat Press, 1980, 260 pages, \$17.50.

During World War II, the United States acquired bases on six islands or island groups: the Bahamas, Jamaica, Bermuda, Iceland, Greenland, and the Azores. Since the acquisition of rights on these islands preceded formal American entry into the war except for the Azores, these bases reflect the importance the United States attached to preventing German victory in the Atlantic and of the willingness of the Roosevelt administration to conduct an undeclared naval war in 1940. These islands, to varying degrees, continued to have military roles throughout the war. Generally, if these islands enter standard American histories at all, it is in conjunction with the wartime bases. Yet, American contact with the six began long before and continued after the conflict. In *The United States and Six Atlantic Outposts*, Edward W. Chester, an associate professor of history of the University of Texas at Arlington, has sought to examine the relationships over the entire period of American contact.

While examining the islands in turn, Chester devotes roughly half of each essay to the period before World War II. As the subtitle suggests, military and economic relations with the United States form the core of his study, but he provides a needed backdrop of local history as well. In a concluding chapter, Chester briefly compares the experiences of the six islands with each other and with the histories of Cuba, Haiti, and the Dominican Republic during their periods of American occupation. He does not discuss comparisons with the American insular pos-

sessions or with areas surrounding American military bases in Europe or Asia.

In compiling information on the six, Chester has examined a wide variety of secondary works, island newspapers, the *Foreign Relations* series, and State Department records. Surprisingly, he has not made much use of Navy Department records. Yet the Navy has been a major agent of American contact, particularly in the nineteenth century.

Placing the more famous wartime period in the context of ongoing relations is certainly worthwhile. Unfortunately, the book is not a complete success and seems to lack a common sense of purpose to bind the separate chapters together. In part, no doubt, anything but artificial unity is impossible to achieve among islands that share only the fragile tie of American occupation. In addition, Chester has perhaps followed his sources into areas that while interesting are clearly tangential to his overall concern. While he has, as he notes, accumulated a mass of material, some of it could have been eliminated or at least compressed. It is difficult to understand just why the "Don't Tread on Me" flag of the American Revolution deserves the attention it gets or what major economic or military significance there is in Mark Twain's visit to Bermuda.

Chester does recognize the need for some theoretical framework; he suggests that his book will permit "judging the validity of the so-called 'cocacolonization' thesis" of American cultural/economic penetration of the islands. (p. x) Yet he does not pursue this idea. Similarly, his concluding chapter does show a recognition of the need for comparisons and generalizations but stops after superficial observations.

Overall, *The United States and Six Atlantic Outposts* provides a useful, readily available introduction to the history of American contact with each of the islands. It is not, however, as successful as it might have been.

Frederick S. Harrod
U.S. Naval Academy

Broca's Brain: Reflections on the Romance of Science by Carl Sagan. New York: Random House, 1979, 347 pages, \$14.95.

Broca's Brain could win an award for having the most inappropriate title among best-sellers in 1979, and its subtitle, *Reflections on the Romance of Science*, hardly lends unity to a book whose essays have in common only that Carl Sagan is their author. Still, Sagan need not apologize. Although vaguely masked under an obscure title and abstract theme, Sagan's is a compendium of profound intellectual discourse.

Boldly taking on the cosmos, God, and humankind, the work begins with an essay paying tribute to its namesake, French brain surgeon, Paul Broca. From there the author goes on to praise Albert Einstein and the power of technology. Refuting several popular concepts about extra-terrestrial contacts, Sagan thoroughly destroys Immanuel Velikovsky's hypothesis relating astrological causes to bib-

lical effects. Then he toys with Norman Bloom's arithmetic attempts to prove the existence of God through what Sagan characterizes as mere "numerical coincidences."

Even if Sagan angers some readers with his attack on "Star Trek," his enlightened discussion of the literary genre of science fiction is both informative and expert. In fact, science fiction influenced Sagan to enter the field of astronomy. He also offers an exposition on recent explorations of the solar system in which he renders an eloquent defense of our space program.

Sagan next examines problems of naming the solar system's constituents, the search for life on other planets, the importance of Titan to biological discovery, the climatology of the planets, and the science of meteorites. He follows these with his weakest piece, one on the speed of travel, then praises Robert Goddard's contribution to rocket technology, examines the subject of astrophysics, gives an exciting account of robot know-how, goes over 75 years of technological growth, and delves into the fascinating topic of our search for extraterrestrial intelligence.

Unconvinced that God exists, Sagan says: "We see a universe that does not exclude a traditional Western or Eastern God, but that does not require one either." In his closing pieces, the author supports J. Richard Gott's theory that we live in a "closed universe" whose ultimate end will be a "cosmic fireball," and concludes with a chapter that strikes an analogy between cosmology and the process of human birth.

Broca's Brain fails to qualify as a book in the traditional sense, but the lack of a coherent whole does not prevent its parts from being brilliantly illuminating. Sagan proves once more that the cosmos is his habitat. Put his book on your reading list.

Lieutenant Colonel David C. Whitlock, USAF
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USAF Academy

Arabs in the Jewish State: Israel's Control of a National Minority by Ian Lustick. Austin: University of Texas Press, 1980, 385 pages, \$19.95 cloth, \$10.95 paper.

To the literature that treats the complex relationship of the Arab minority in Israel to the Jewish majority, we must now add Ian Lustick's excellent work, *Arabs in the Jewish State: Israel's Control of a National Minority*. Previous works written by the Arabs, such as Sabri Jiryis's *The Arabs in Israel*,* have been characterized by an exhortatory tone that first brought to public attention the essentialities of a situation, the existence of which many Zionists until that time were loath to recognize. Professor Lustick, with an almost disarming candor, not only accepts the reality of what the world outside Israel had already come to know but, by telling us in what way the Arabs of Israel have been

brought under control, adds a new dimension to our understanding of the problem.

And yet one must register a note of surprise, for the subject of the book and its stated purpose do not seem, despite the author's protestations to the contrary, to be complementary. Written by a scholar who claims to have Israel's best interests at heart, the book—as Professor Lustick openly admits—cannot help damaging those interests since it is abundantly clear to me at least that no amount of justification in the name of acceptable, objective, and neutral scientific goals, of a clarification of basic issues, or of a clearing of the air of myths will obscure the implications of this study. My purpose, however, is not to put the author on the couch. Suffice it to say that Professor Lustick's book exhibits all the hallmarks of that incremental crisis which appears more and more to be at the root of a growing estrangement between liberal Jewry and the Zionist state.

Throughout his exposition Professor Lustick maintains much to his credit a scrupulous intellectual balance. The facts are presented in an easily comprehensible analytic framework, and there is no recourse to argue theoretical points at the reader's expense. As a preface to his argument, Lustick states that the failure of Israeli Arabs to organize themselves into an autonomous national community is due to the exercise of a highly efficient system of control over them and then places this state of affairs within the context of the historical development of the Zionist idea of an Arab minority. He proceeds immediately to review the literature of control, choosing a model that emphasizes the synergistic relationship existing among the three components of control—segmentation, dependence, and cooptation—to the structural, institutional, and programmatic levels of his analysis.

To say the least, the body of the book, which is mostly illustrative of this analytical construct, is an embarrassment of riches. Lustick draws on all sources: official and nonofficial statistics, journalistic and scholarly appraisals, archival materials and interviews, both in English and Hebrew, to document the utter frustrations of the Arabs of Israel in obtaining coequal status with the Jews. The one organization that arose to challenge the prevailing situation has been the Israeli Communist Party (RAKAH), but it has failed, claims the author, to serve as a focus for Arab national aspirations in the Jewish state.

It is plain from this study that, in the context of changing political circumstances, the consequences for Arabs and Jews alike could be disastrous. If Israel, for example, were to annex the West Bank and Gaza out of desperation with the Egyptians over a negotiated settlement, the resulting increase of the numbers of Arab citizens to 40-45 percent of the total population would demand even stricter, more repressive controls. On the other hand, as the author points out, the creation of a sovereign West Bank state, inasmuch as it could not help exercising an irresistible political attraction on the Arabs in Israel, would occasion much the same reaction. On this very ominous note Professor Lustick rests his case.

Dr. Lewis Ware
Air University Library
Maxwell AFB, Alabama

* See *Air University Review*, January-February 1979, p. 100.

Roosevelt and China: The White House Story. "The President and U.S. Aid to China—1944" by George M. Elsey. Wilmington, Delaware: Michael Glazier, Inc., 1979, 180 pages, \$22.50.

This is an unusual book. On reading the title, one is apt to anticipate much more than he will get. It is not really "the White House story" of Roosevelt and Chiang Kai-shek policies. Rather, it is a limited study of FDR and the Generalissimo by an obscure staff officer in the White House map room and secretariat, through whose fingers passed some documents on the President and certain phases of China policy in 1944.

George Elsey, and Riley Sunderland in his commentary, makes much of the fact that Roosevelt encouraged Generals Stilwell, Chennault, Hurley, and others to write him directly, outside of channels. Both fail to recognize that such correspondence strongly tends toward special pleading. For instance, Chennault, General "Hap" Arnold's "black sheep," made the amazing claim in October 1942 in a letter to Roosevelt that he could knock Japan out of the war "probably in six months" with 147 aircraft, only 42 of which were bombers. (The final assault on Japan required 14,847 aircraft and 2 atomic bombs.) Chennault also gratuitously criticized Stilwell to the President for his lack of knowledge of either strategy or air power.

Chiang Kai-shek was happy to furnish to FDR those recommendations by his American commanders which supported his own interests, but in no sense could this be considered a commitment. FDR himself was notoriously devious in correspondence with individuals, using this means to obtain alternate views on policy issues.

Elsey makes much of Chiang Kai-shek's commitment to support the Burma campaign, wholly overlooking that it was promise and not performance. Chiang's precarious position against both the Japanese and the Maoists made it unlikely that he would seriously contemplate sending his best troops outside the country, for that, to him, was a questionable campaign in Burma.

Elsey's source materials are scant. He cites only the White House minutes of the Cairo conference, 82 personal letters, and one JCS letter to the President. The official papers of the President, State, and JCS documents were not consulted. Hinted to be a "fragment of authorized biography," there is no indication that FDR accepted or concurred in the study. Roosevelt made no comment other than to identify the study as a "Lend Lease report," which it is not. Lend Lease is mentioned only in the forwarding endorsement, not in the text.

The reader can do far better with his money than to purchase this 65-page typescript with six unintelligible maps.

Dr. Paul H. Schratz
Homosassa, Florida

Interval Training for Lifetime Fitness by Edward L. Fox, Donald K. Mathews, and Jeffrey Bairstow. New York: The Dial Press, 1980, 194 pages, \$8.95.

Interval training is more fun and a great deal safer than a "knockdown-dragout-push-to-the-limit" program for fitness. All human activity requires either aerobic or anaerobic effort on the part of one's muscle system. The ten-kilometer jogger needs aerobic fitness at 95 percent while the golfer needs a 90 percent anaerobic fitness ratio for the healthiest performance. Once you have chosen the effort that pertains to your program, the authors can give you a balanced interval training plan to set your desired level. Obviously, five-mile runs are not for everybody.

This book is one of many new fitness books, but I found it especially useful because the authors have made sense of physiology, avoided the usual homilies, and provided useful exercise information.

Fitness is a necessity in our profession; choosing the most healthful program is an individual prerogative. *Interval Training for Lifetime Fitness* will assist you in making that choice.

Major Theodore M. Kluz, USAF
Gunter AFS, Alabama

P-47 Thunderbolt at War by William N. Hess. New York: Charles Scribner's Sons, 1980, 159 pages, \$17.50.

A particular kind of aircraft book seems to be in vogue these days, as it has been for the past ten years or so. It is long on illustrations, short on text, and printed in a large format that helps explain its expense. Typical of this genre is William Hess's *P-47 Thunderbolt at War*. The pictures are great, numerous, clear, and large, including four pages in color. Less than half of the pages contain text, and some of these are only partly filled.

In this reissue of a 1976 volume, Hess covers the development, testing, and combat of one of the most important American fighter aircraft of World War II. He uses a chronological approach and includes many pilots' reports. Although the Pacific, China, Burma, and Mediterranean theaters are covered, the emphasis is on the European theater and primarily on the Eighth Air Force. Regrettably, Hess does not use footnotes, a bibliography, or the official USAF credits for World War II; thus some of the scores he lists for the Thunderbolt aces are in error.

In short, then, this is a well-illustrated but average book on one of America's most famous and successful fighters. While it makes fine browsing for all and is suitable for a beginner, it is not for the student or serious reader.

Dr. Kenneth P. Werrell
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Thunderbolt: A Documentary History of the Republic P-47 by Roger Freeman. New York: Charles Scribner's Sons, 1979, 152 pages, \$14.95.

Thunderbolt is a documentary history of the Republic P-47, and Roger Freeman presents virtually everything

one would expect: origins, development and flight test, operational experience, and tactics. In addition to the expected, the book includes several imaginative and informative sections, including extensive comments by several fighter pilots who flew the "Jug" in combat. The pilots' comments certainly attest to the sturdiness and firepower of the Thunderbolt but provide little to indicate the Thunderbolt's superiority over the Mustang. A chapter is devoted to engineering and performance data, supplemented by photographs, of every major Thunderbolt variation. Perhaps the single most interesting feature of the book is an illustration comparing the size of the Thunderbolt to its major competitors—friend and foe—such as the FW-190, Me 109, P-51, and the Zero. These profile drawings leave little doubt that the Thunderbolt was unsurpassed in bulk by any other single-engine, propeller-driven fighter in World War II. Sections are also included on production details (15,683 built), the Pratt & Whitney R-2800 Double Wasp powerplant, and a listing of operational squadrons equipped with the Thunderbolt. The only shortcoming of this book is the minimal documentation of the detailed research which obviously went into its preparation.

Major Michael R. Gallagher, USAF
McGuire AFB, New Jersey

Decline of an Empire: The Soviet Socialist Republic in Revolt by Helene C. D'Encausse. New York: Harper Row, 1979, 304 pages, \$10.95.

This very dispassionate and timely book provides a starting point for those who must think beyond the first battles and on to the final campaigns that will probably seek to overthrow the predatory Soviet State, the U.S.S.R. Far too many people continue to think of the Soviet Union as being one vast, monolithic, integrated state impervious to outside influence. It is not, and *Decline of an Empire* highlights important aspects of the conglomeration of almost 100 distinct nations and peoples making up the U.S.S.R. Often speaking diverse languages, this half of the Soviet-controlled population (Uzbeks, Tadzhiks, Kazakhs, Ukrainians, Byelorussians, etc.) actively retain diverse aspirations and rising expectations. The motivation for this undying nationalistic spirit is rooted in the fundamental desire of these peoples to achieve some degree of independence and self-determination or, in short, to live their own lives with minimal interference from a central authority (Moscow). Helene D'Encausse analyzes aspects of the national consciousness of each major ethnic group in terms of language, economic situation, religion, culture, heritage, and tradition. Her information reinforces what Russian dissidents such as Andrei Sakharov and Aleksandr Solzhenitsyn and others have been saying during this past decade: The fires of nationalism have yet to be extinguished, and the dream of independence still lingers on among a majority of the Soviet-dominated peoples (as well, I might add, among the Warsaw Pact satellite nations).

The Bolsheviks with Lenin and Trotsky cleverly exploited this spirit through the use of lies and false propaganda to

overthrow the czarist government and consolidate the October Revolution of 1917. Roughly a quarter-century later in 1941, invading German armies were initially greeted enthusiastically throughout the western and southwestern U.S.S.R. as liberators by a totally disillusioned peoples. Unfortunately for the German army, Hitler's demonic mind and intoxication with military success caused him to abandon the then brilliant opportunity to use the highly motivated anti-Stalinist ethnic groups against the Soviet apparatus. Confronted with the false alternative of German domination, these same peoples later waged a particularly vicious and highly successful guerrilla campaign against the Germans, which proved to be a contributing factor to the latter's ultimate defeat in Russia.

Helene C. D'Encausse, Professor and Director of the U.S.S.R. Studies Section at the Institute of Political Sciences in Paris, has provided some very useful light by which a future victory may be seen.

Lieutenant Colonel Sewall H. Menzel, USA
Lima, Peru

China Facts and Figures Annual, Volume II edited by John L. Scherer. Gulf Breeze, Florida: Academic International Press, 1979, 243 pages, \$35.00.

From the names of the military commanders and political commissars of China's eleven military regions to the locations and capacities of China's major seaports, *China Facts and Figures Annual* seems to have it all. In fact, this compendium contains perhaps the most complete collection of information on the People's Republic of China available today. Compiled from generally accessible open sources, editor John Scherer brings together in one volume data developed by a wide variety of news agencies, private groups, and government organizations. Thus, the user will find the Central Intelligence Agency's analysis of China's economic indicators juxtaposed with China's "30-Point Directive for Industrial Development" as reported in *Peking Informers*. The result is a source book which, in its organization, tries to anticipate and answer the most commonly raised questions about China.

The book is divided topically into twelve parts: government, Communist Party, armed forces, demography, the economy, agriculture, trade and aid, transportation, communications, institutions, health, education, and welfare, and special topics. Each division contains lists, tables, diagrams, and narrative summaries that represent in a concise format the available information pertinent to the subject. For example, the section on the Chinese armed forces contains, among other things, a breakdown of Chinese military personnel strengths by individual services, defense expenditures in billions of dollars for the years 1967 to 1976, and ten tables listing typical personnel strengths and equipment authorizations for ground force units of various sizes. In addition, the book presents a current estimate of the Chinese order of battle coupled with estimates of China's growth potential in several key weapon systems (e.g., fighter aircraft). An interesting addition in this section is a short article entitled "The Ten

Major Principles of Military Operations," which was published in March 1978 in the *Peking Review*. This diversity of useful information makes *China Facts and Figures Annual* a valuable research tool for both the casually curious and the avid China watcher and an excellent source book for any government agency or business that requires specific data on the People's Republic of China.

Major Charles L. Aldrich, USAF
Ent AFB, Colorado

Handbook of Soviet Manned Space Flight by Nicholas L. Johnson. Vol. 48, Science and Technology Series, San Diego, California: Univelt, Inc., 1980, 474 pages, \$45.00 cloth, \$35.00 paper.

The Soviet space program introduced space exploration to mankind. The first earth satellite, *Sputnik 1*, was placed in orbit on 4 October 1957, and the first manned space flight on 12 April 1961 had Soviet cosmonaut Yuri A. Gagarin at the controls. These two events constitute the keystone elements of the Soviet unmanned and manned space programs. Nicholas Johnson previously documented the Soviet unmanned space program,¹ and with this companion volume he describes the Soviet manned space program. The handbook approach and writing style are used in both volumes. Indeed, the foreword and several appendixes are identical in both books.

Johnson presents the Soviet manned space program in five sections focusing on each of the Soviet manned spacecraft: Vostok, Voskhod, Soyuz, Salyut Space Station, and Soyuz-Salyut missions. Each space vehicle is described in technical detail, including the scientific instrument packages installed for the space experiments in each mission. Evolutionary changes in each vehicle are also explained. Finally, the launch of each exploration test series is described, including a summary of the major mission accomplishments.

Three appendixes are included, to provide important technical data related to Soviet space exploration. The first describes Soviet launch vehicles, the second discusses Soviet launch facilities, and the third presents other technical information relative to Soviet manned missions.

Bibliographical references are complete and current. Documentation of technical details is obtained primarily from Soviet references but also draws from American and British technical literature. The author has purposefully not editorialized the facts in areas of technical controver-

sy. Where controversy exists, he has indicated this to the reader.

As with his first book on the Soviet space program, the author here achieves another authoritative handbook. Soviet manned space spectaculars are exhaustively highlighted, including the first man in space, the first walk in space, the first crew transfer between spacecraft, and the first scientific space stations manned for extended periods of time. In 1926, Tsiolkovskiy, the founder and prophet of Soviet astronautics, stated that their ideological objective was eventually to colonize the entire solar system. The reader is inescapably led to the conclusion that manned space exploration is a Soviet commitment to attain this objective.

Lieutenant Colonel Carl A. Forbrich, USAF
Eglin AFB, Florida

Note

1. Nicholas L. Johnson, *Handbook of Soviet Lunar and Planetary Exploration*, vol. 47, Science and Technology Series (San Diego California: Univelt, Inc., 1979).

We Led the Way: Darby's Rangers by William O. Darby and William H. Baumer. San Rafael, California: Presidio Press, 1980, 198 pages, \$14.95.

The word *Ranger* in the context of World War II lends an air of bravado and adventure, but what did they really do? Colonel William O. Darby, commander of the Ranger Force during the war, wrote his personal memoirs in cooperation with his West Point classmate, General William H. Baumer.

The U.S. Rangers were created in 1942 at the direction of Chief of Staff General George C. Marshall to form a commando organization. Trained as a unit in northern Scotland, fifty of the Rangers saw action in the raid on Dieppe followed by large unit actions in North Africa, Sicily, and Italy. Darby does not cover the activities of Ranger units that were not under his command.

We Led the Way is an interesting, clearly written account of the Rangers' activities under Darby's tutelage and command. The perspectives provided by General Baumer add the broader context in which Darby's men fought and the significance of their actions. The result is a worthwhile coverage of the role played by the Rangers in the Mediterranean campaigns.

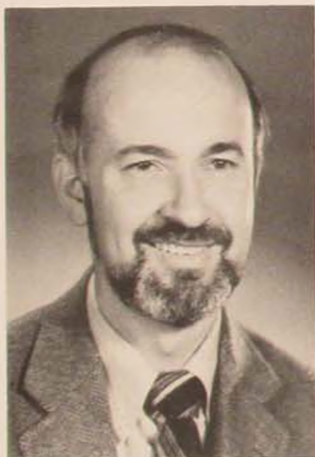
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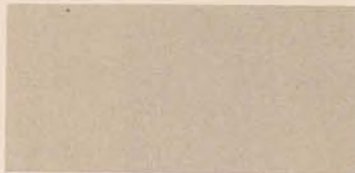


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The Air University Review Awards Committee has selected "Of Trees and Leaves: A New View of Doctrine" by Lieutenant Colonel Dennis M. Drew, USAF, as the outstanding article in the January-February 1982 issue of the *Review*.

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attention

The *Air University Review* is the professional journal of the United States Air Force and serves as an open forum for exploratory discussion. Its purpose is to present innovative thinking concerning Air Force doctrine, strategy, tactics, and related national defense matters. The *Review* should not be construed as representing policies of the Department of Defense, the Air Force, Air Training Command, or Air University. Rather, the contents reflect the authors' ideas and do not necessarily bear official sanction. Thoughtful and informed contributions are always welcomed.

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Printed by Government Printing Office. Address subscriptions to Superintendent of Documents, GPO, Washington, DC 20402; yearly \$16.00 domestic, \$20.00 foreign; single copy \$3.25 domestic, \$4.10 foreign, Air Force Recurring Publication 50-2. Authority to publish this periodical automatically expires on 30 January 1984 unless its continuance is authorized by the approving authority prior to that date. Distribution: reader-per-copy ratio is one to every ten USAF personnel, military or civilian.



The Professional Journal of the United States Air Force