AIR UNIVERSITY
review

JULY-AUGUST 1982

The Professional Journal of the United States Air Force

# of armed conflict and forecasting

At press time, a discouragingly large number of nasty armed conflicts command the attention of military professionals throughout the world. The first of these, at least in terms of media exposure in the United States, is winding down—or entering a new phase—in the South Atlantic. The second is approaching a crescendo in the hills of Lebanon. A third, all but ignored by our television commentators of late despite its potentially explosive repercussions, hangs in uneasy suspended animation along the Shatt-al-Arab Channel and the foothills of the Zagros Mountains. A fourth simmers on in El Salvador, modulated perhaps by the striking success of the recent elections, while another grinds on beneath the gray skies of Northern Ireland. Afghanistan's agony has not lessened in recent months, nor has that of Cambodia.

Lessons can be extracted from each of these conflicts by thoughtful military professionals, but the conventional wisdom of the daily news media is of little help in the process. Thus, both a challenge and an opportunity are posed for journals such as ours. We cannot and should not try to compete with the daily or weekly intelligence summaries and news media in topical coverage. But what we can and must do is provide a conceptual framework for analysis.

The table of contents that follows was assembled with this and the changing nature of armed conflict in mind. One point among many which can already be drawn from the first of our conflicts is that strategic mobility—the subject of our lead article by Colonel Alan Gropman—is vital. An allied point, the value of sea power and the nature of the Soviet threat, is made by Dr. Don Chipman. Another which pertains in a sense to the entire list is that cultural understanding is utterly indispensable to understanding war. The flip side of the idea—that cultural *mis*perceptions are inimical to rationally fought wars or rational conclusions to them—is even more pointed. How many Argentines really believed that Britain would go to war over the right of self-determination of 1500 kelpers and sheepherders? How many Britons *really* believed that Argentina was serious in its claim of sovereignty? Dr. Robin Navarro Montgomery approaches this basic issue in a Latin American setting, and Lieutenant Colonel Carl Reddel suggests that our cultural perceptions of the Soviet Union could use some fine tuning. Major John Hasek offers some surprising perceptions of the Polish situation. Nor should advanced technology be forgotten: thoughtful observers in the daily media have commented on the impact of exotic electronic warfare techniques both in the Middle East and the South Atlantic, and the impact of space systems on intelligence gathering and communications has clearly been major. With this in mind, we offer Lieutenant Colonel Dino Lorenzini's and Ronald Humble's respective analyses. Finally, recent applications (and misapplications) of air power are of particular interest to our readers; with this in mind, we offer Lieutenant Colonel William Liggett's analysis of the potential of the long-range combat aircraft in conflicts not unlike those in our text.

Attempting to project useful insight into today's military problems by means of a table of contents that must be selected months before publication is always a challenge. We don't feel that we've done too bad.

J.F.G.

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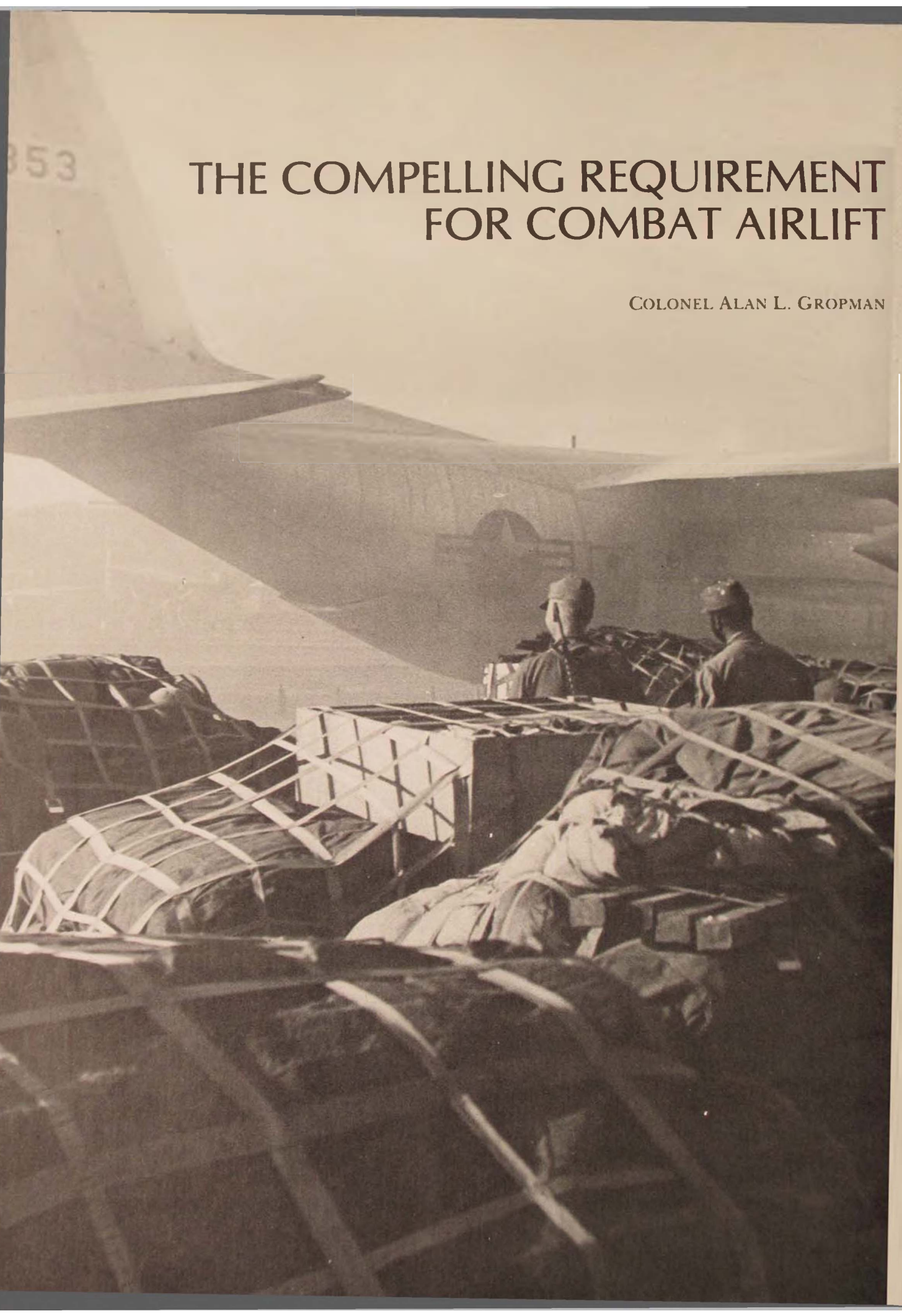
JULY-AUGUST 1982 Vol. XXXIII, No. 5

THE COMPELLING REQUIREMENT FOR COMBAT AIRLIFT

COLONEL ALAN L. GROPMAN



THE REQUIREMENT for combat airlift is grounded in official statements by the national command authorities, threats to United States interests, and the history of international conflict since World War II. To achieve policy objectives, fighting forces must be carried to a potential war or battle site. This may be done by a combination of assets, but carrying a force part of the way—even if it is most of the distance—will not accomplish the political objective. Deterring or winning is the goal of the U.S. military, and the mission, given the guidance of the national leadership, is clear.

The Mission

In his inaugural address President Ronald Reagan warned our adversaries and, in so doing, charged the U.S. Armed Services. He admonished current and future opponents not to mistake American forbearance for a failure of will and pledged action in defense of U.S. security interests. The President implicitly directed the U.S. military to be capable again of supporting neighbors and allies free from foreign domination and to build the strength to win. It is clear that the new administration will seek to defend U.S. interests more assertively than in the most recent past. This restored tenor comes at a time when American interests are expanding in scope, and the United States is becoming increasingly dependent on resources from distant continents. These factors require the U.S. military to place greater emphasis on force projection capabilities than in the past.

Guidance from the Department of Defense and Joint Chiefs of Staff, while more detailed, is equally clear. The Secretary of Defense recognizes that U.S. military forces serve to defend U.S. interests. The most central interests are to maintain both a secure America and ensure that allies and friends do not live under the shadow of overwhelming threat. It is clear that while the basic interest of the United States—the protection of national sovereignty, territory, and

well-being—will continue to dominate military planning, U.S. regional interests (driven by economic, political, and geographic factors) will grow in significance during the next two decades. Essential to protecting U.S. regional interests is the military's role in preventing intimidation.

The Secretary of Defense recognizes that the 1980s will be a decade of global concern principally because of the continuing and massive growth in the military power of the Soviet Union and its demonstrated willingness to project and apply that strength. The disquiet is deepened by our increasing dependence on imported resources (especially petroleum), our access vulnerability, the even greater needs of our allies for raw materials, and indigenous instabilities in key regions that can be exploited by U.S. adversaries. Only the capability to apply force in distant regions in a timely fashion can continue to secure our interests.

Obviously, if this country cannot maintain forces everywhere in the world where U.S. interests can be threatened, it must then acquire the mobility resources to meet global challenges. U.S. forces stationed in Europe and Korea, furthermore, would require massive, rapid reinforcement should U.S. opponents attack with little or no warning, a capability that our adversaries have fashioned well.

Creation of the Rapid Deployment Force underscores the recognition by the Defense Department that the United States and its allies are increasingly vulnerable in locations other than Europe and Korea. The mission of the Rapid Deployment Force is to deploy quickly and employ effectively U.S. military forces wherever needed. Present attention focuses on Southwest Asia because of concentration on petroleum, but the Western Hemisphere is of growing concern, and other areas, such as Africa south of the Sahara, are certain to loom larger in our future. Mobility, while not the only required capability necessary to secure U.S. interests, is a key ingredient in improving the U.S. position in these regions.

Further Defense Department guidance directs the armed forces to develop the mobility capabilities to support concurrently the demands of a worldwide NATO-Warsaw Pact conflict and those of a non-NATO contingency. In building this mobility capability, the Department of Defense requires that the force be able to operate in an austere environment and support airdrop, over-the-beach, and other specialized operations. Execution of the U.S. force projection strategy urgently demands greater stress on combat airlift and fast sealift. The Defense Department recognizes that increased lift requirements have been created by an army that is becoming heavier and bulkier.

The Joint Chiefs of Staff have promulgated a strategy to support the directives of the President and Department of Defense. In building its strategy, the Joint Chiefs direct military forces to deter attacks against vital American interests worldwide, including sources of essential raw materials and associated lines of communication. The military must also be prepared to prevent political and economic coercion of the United States, its allies, and its friends by any enemy. Ultimately the United States must be capable of fighting and winning at any level of intensity. The Joint Chiefs direct the armed services to be visibly capable of rapidly responding to a wide spectrum of contingencies to deter would-be aggressors. They recognize that the key ingredient is a mobility capability to project forces overseas rapidly as well as sustain logistic support, which enables the United States to act independently to protect its vital interests when friendly support is not available or forthcoming.

The Threat

Over the next twenty years, United States regional interests are not likely to remain fixed. The probable shift in our regional interests will come in an era marked by the increased possibility of theater warfare, particularly at the lower levels of conflict in the developing world. This will happen because of increased

Soviet global adventurism, continued ethnic and national rivalries, and increasing population pressures combined with rising political and economic expectations. Often such conflicts will threaten the interests of the United States. Planning, therefore, must take into consideration both the expanding interests of the United States in global politics and economics and the shifting focus of those interests.

Strategists now view the developing world, location of so many of the resources necessary to keep the free world economically sound, as the cockpit of crises for the 1980s and 1990s. If one takes that viewpoint, the geographical proximity of the Soviet Union to countries of the developing world is disconcerting. The geostrategic location of the Soviet Union when combined with their burgeoning force projection capabilities (and the evident willingness to use them) properly causes alarm. This situation suggests that the United States may continue to have a greater need than the Soviet Union for very-long-range airlift capability, but the Soviets are enhancing theirs at a rate greater than the United States. The accompanying chart indicates the degree of geographic asymmetry vis-à-vis the Soviet Union (and it does not treat the increasingly important subject of U.S. strategic mineral deficiencies):

Resources Closer to the U.S.S.R. than to the United States

	of world total	of developing world
	(Percent closer to U.S.S.R)	
land (less Antarctica)	62	69
population	81	82
gross national product	65	67
proven oil reserves	86	90
natural	81	85

Over the last several years, the Soviets have been increasing their capability to move men and materiel into countries in the developing world by sea and air. The Soviets continue to add large cargo aircraft to their fleet, and their sealift capabilities are much greater and more responsive than those of the United States. They have demonstrated their airlift capability, and an apparently increasing propensity to use it in crisis situations, by airlifting military aid to the Middle East and to several African destinations and by transporting Cuban forces and military equipment to Angola and Ethiopia. The airlift to the Middle East in 1973 was a stunning achievement, demonstrating a Soviet capacity previously thought lacking.

Given the new Soviet lift capabilities and their proximity to the Persian Gulf, the heightened threat to the petroleum-producing regions of Southwest Asia is disquieting. The Soviets could surpass the U.S. capability to airlift men and equipment to the region if they could realize a utilization rate for their airlift fleet greater than 18 percent of whatever utilization rate the United States could achieve. If they could equal U.S. utilization rates, they could carry to a war five times the equipment and men the United States could bring to a conflict. Time is as critical a factor in war as any. Distance is a less serious obstacle because of modern mobility capabilities, but time remains unconquerable. It cannot be expanded, accumulated, mortaged, hastened, or retarded. Airlift yields time, and even a cursory examination of crises in the recent past will demonstrate the value of airlift's timeliness.

War is politics by other means, and securing political objectives is the military's reason for being. The examples cited will demonstrate how timely airlift helped secure political objectives in activities all over the globe. In the face of a U.S. manpower shortage that will only worsen over the next decade, enhanced mobility permits the U.S. Armed Services to support the assertive foreign and military policies of the Reagan administration. Because the United States does not have the people or money to position troops and equipment in every country in the world in which it has interests, the United States must rely on a capability to deploy forces rapidly to every inhabited continent to protect its interests and those of its friends and allies.

Continued on page 8

The versatility of the venerable Lockheed C-130 Hercules, a mainstay of USAF airlift after more than a quarter of a century of service, is suggested by the accompanying photographs. The first truly successful turboprop cargo aircraft, the C-130 revolutionized airlift when it entered service in the mid-'50s. Well liked by its aircrews, the C-130, along with the Douglas DC-3 (C-47), is regarded as one of the few universally recognized classics of transport design.

The C-130 (below, without the chin radome) has gone through numerous model changes and modifications and remains in production today. The C-130 (left, unloading Army troops, early in the Vietnam conflict and, top, taxiing for takeoff at Khe Sanh in 1968) has become fixed in the public mind as a familiar symbol of American military presence and purpose.

The C-130's ability to operate in near proximity to—and on occasion within—ground combat areas is symbolized by a C-130 seen on take-off above a U.S. Army M-60 tank in Vietnam (left) and unloading supply pallets during a container delivery system airdrop (above).

The business end of combat airlift: An air commando C-123 loadmaster observes an ammunition pallet bailout over Plei Me (below); a combat air control team watches a C-123 bank away after a supply drop (right).

One should not draw an artificial line between so-called strategic or intertheater airlift and tactical or intratheater airlift. Such a demarcation is too often a false distinction. Combat airlift is indivisible because airlift does more than deploy forces: it fights. That point must be understood in order to put both airlift and sealift in proper perspective. It is not that airlift can deploy some men and equipment to the battle faster than sealift that makes airlift essential, because sealift can deliver much more; it is also that airlift can move equipment and men around the battlefield in response to the demands of combat. Sealift is vital especially for the long-term sustaining of a combat force, but only airlift will permit a small U.S. force to fight outnumbered and win. It was airlift, after all, that allowed U.S. forces in Vietnam to be a mobile fighting force rather than remain static in garrison.

Given the nature of the nuclear capabilities of the two superpowers, furthermore, an open armed clash between Soviet and U.S. forces is not likely (even though possible). What is more probable is the likelihood of U.S. forces' being engaged in assisting friendly governments in putting down coups, insurgencies, or attacks by regional neighbors. Airlift is critical in such low-level conflicts and essential when geog-

Opposite ends of the airlift spectrum: Marines assemble at Guantánamo Bay, Cuba, after unloading from a C-135 (above), and a C-119 drops supplies over Korea in 1951 (below). Not intended primarily as an airlift vehicle, the C-135 has performed well in that capacity over the years. One of the first specialized tactical airlift vehicles to be designed for airdrop requirements, the C-119 entered service shortly after World War II and soldiered on into the mid-1970s.

raphy completely rules out sealift, such as in Chad, Zambia, Zimbabwe, Bolivia, Paraguay, Austria, Laos, and Afghanistan. Sealift is severely restricted by geography in such important countries as Zaire, Jordan, and Iran.

AIRLIFT was essential, for example, in landlocked Berlin in 1948 and 1949. During 15 trying months the United States Air Force and Royal Air Force carried more than 2,225,000 tons of coal, food, raw materials, and consumer goods to sustain the population of Berlin. The aim was more than subsistence, and the goal was achieved. The Soviets gave up the blockade when they became convinced that Berlin could not be taken short of military attack, that the population could be provisioned entirely by air, and that the United States was determined to preserve its political position in Europe. The Berlin Airlift is a prime example of airlift used politically.

The earliest combat use of massive airlift in the post-World War II era was during the Korean War. In that conflict, airlift was crucial in the opening days to evacuate U.S. advisory troops and their dependents and to fly reinforcements into the Pusan area. It was critical to maintain at least a toehold on the country or an invasion would be required. Although not all the troops that were carried into the defensive stronghold were airlifted (most came by sea), substantial numbers were, and for the first few days *all* ammunition sent to Korea went by air because sealift was not available. After the breakout from the Pusan perimeter, which occurred simultaneously with the Inchon landing that was supported by airdrops, airlift supplied the troops as they moved up the Korean peninsula all the way to the Yalu. Airlift also rescued thousands and supported thou-

The Douglas C-54 Skymaster, shown early in the Korean conflict, was the first strategic airlift aircraft. When it entered service with the Air Transport Service in 1943, no other aircraft in the world could match its range, speed, and cargo-carrying characteristics.

sands more as U.N. forces retreated in front of the Chinese. Had it not been for the airlift during the retreat in 1950 and 1951, much more of the armies would have been lost and the tide perhaps permanently turned.

Later in that decade, President Dwight Eisenhower used airlift as a political instrument to deter hostile forces bent on taking over Lebanon. Lebanon's absorption by Syria and Egypt could potentially jeopardize Israel's security and also establish a negative political trend for the entire region. The Muslim population in Lebanon had been encouraged by Radio Cairo to riot against the incumbent regime that favored neutrality in Mideastern affairs. Syria was sending supplies and troops into Lebanon to support insurgent forces hostile to the government.

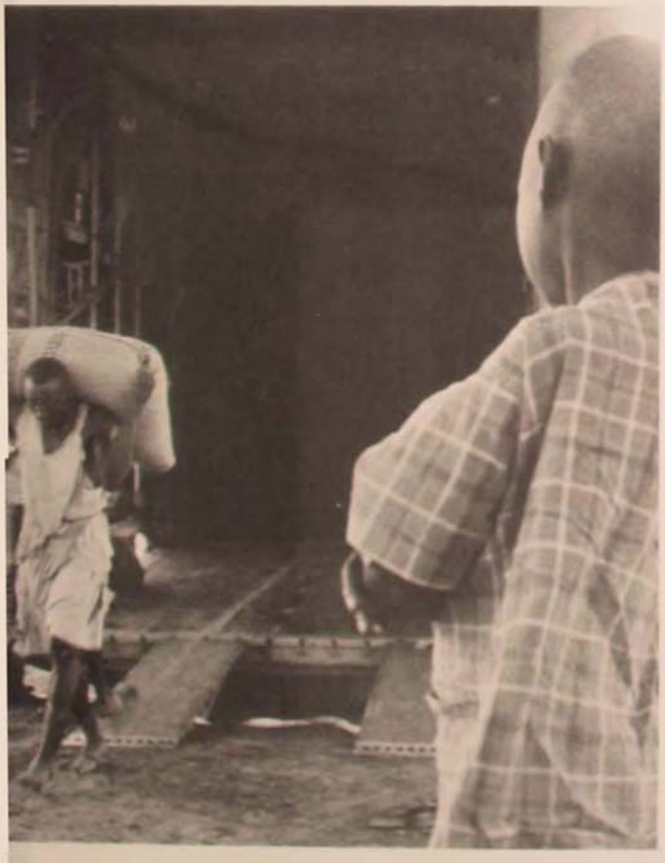
After a violently anti-Western group successfully overthrew the government in Iraq, murdering the king and crown prince, Eisenhower took action. He feared that the loss of Lebanon, too, might lead to the complete elimination of Western influence in the Middle East. He sensed a compelling need to dispel the Arab belief, as he saw it, that Americans were capable only of words. Thus, when invited by the constituted Lebanese government to send troops, he did so.

A small detachment of U.S. Marines from the Sixth Fleet secured Beirut Airport to be followed in the next three days by the airlifting of thousands of American troops from West Germany with tanks and Honest John nuclear artillery. Eventually, the total American force reached 14,000 (half of them airlifted). A consolidated air strike force had been simultaneously airlifted to nearby Turkey to be ready for ground support operations, should such missions be required. Eisenhower, however, did

The humanitarian side of USAF airlift: C-130s hauled relief food and supplies into the drought-stricken nations bordering the Sahara desert in 1973 (in neighboring Mauritania, below, and Mali, facing page).

not think it would be necessary to fight if U.S. actions were seen as decisive and strong. He wanted to show the flag: to demonstrate clearly that the United States was prepared to defend its interests in the Middle East. Political influence, not military victory, was his goal; and he acted out of a clear sense of the strategic value of Persian Gulf oil. It is, of course, impossible to say what might have been the consequences of U.S. inaction, but Arab leaders were suitably impressed and deterred with the decisive build-up of strength. In less than 110 days after the arrival of the first C-130, the troops were removed, having suffered no combat casualties.

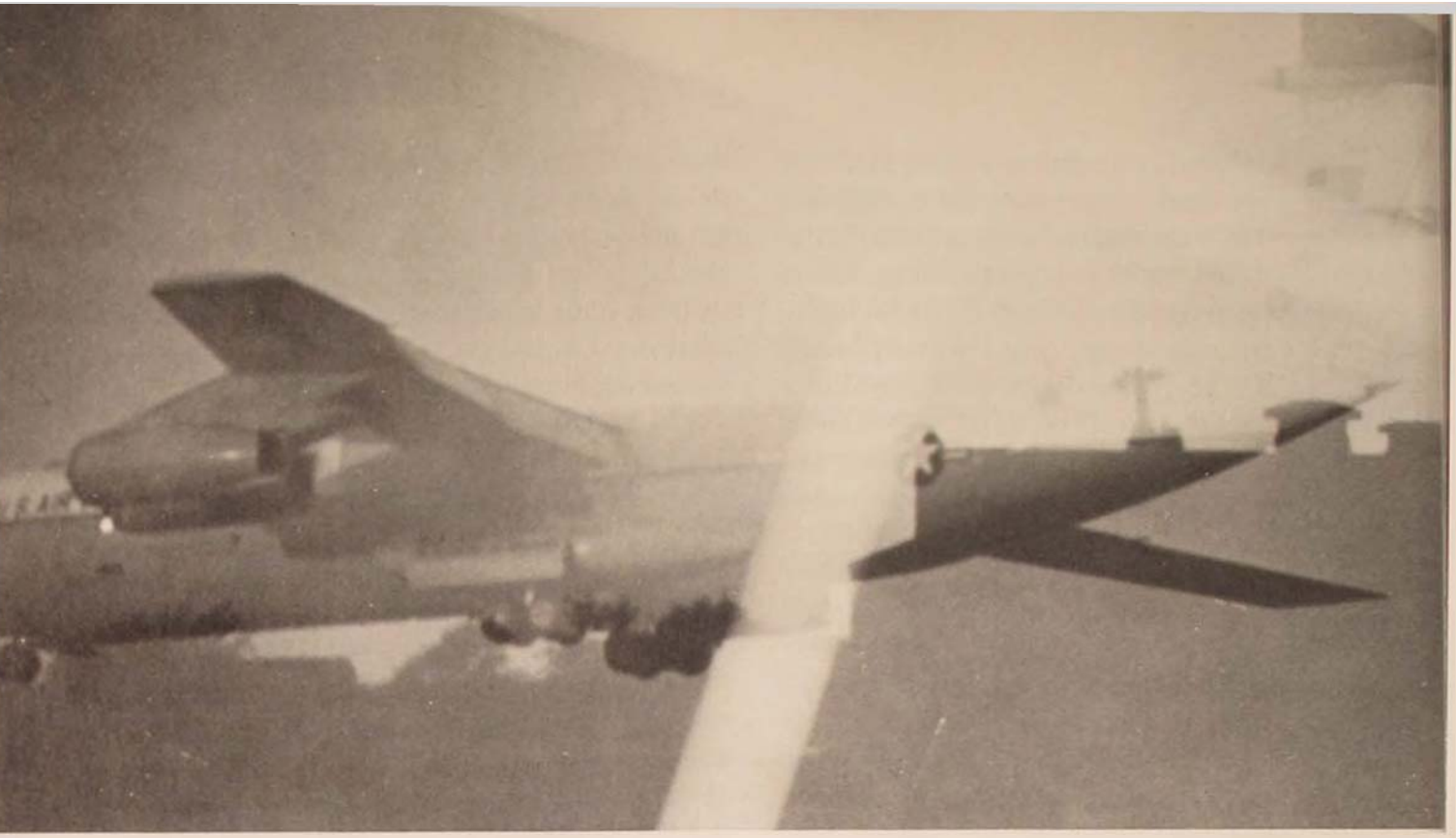
In the next decade President Lyndon Johnson used airlift as a deterrent, similar to Eisenhower's use in Lebanon. A political crisis in the Dominican Repubic flared into revolution in late April 1965, and it appeared that a new Cuba might be created in the Caribbean. In a seven-day period more than 1702 airlift sorties carried elements of the 82d Airborne Division into San Isidro Airport. These American forces were able to stabilize the political situation rapidly and were soon withdrawn. It is significant that in the almost 16 years since that timely reaction by the United States, the political left has been unable to cause major trouble in the Dominican Republic.



Since the end of World War II, U.S. airlifters have been instrumental in moving U.N. forces to keep peace in the Congo several times in the 1960s, in Cyprus in the 1970s, and in the Middle East in the 1960s and '70s. In the Congo in 1960, airlift prevented the possible takeover of the country by hostile forces. In the late 1970s, airlift was again instrumental in preventing the loss of Zaire's (formerly called the Congo) most productive raw-materials-producing area, this time carrying Belgian and French forces to assist the Zairian government.

In all the previous cases, airlift's role was to deploy forces to prevent political loss. In Vietnam, however, airlift from the start of the conflict responded to the tide of battle and contributed constantly to preserving the tenuous hold that the Saigon government had on the country. In an insurgency the ruling government is at a disadvantage because it must appear capable of securing the entire population and thus spreads thin its defensive forces. Insurgents, on the other hand, can mass at the point of their choosing to overwhelm defenders in static positions. Even with a smaller force overall, guerrillas can wreak havoc for extended periods, and—over time—make the government appear impotent. It was airlift that helped hold the Communists at bay for more than a decade, carrying everything imaginable in response to the needs of the forces. The best example of timely missions was during the Tet offensive of 1968, in which airlifters were able to carry as much as 92,500 tons monthly in response to the needs of the battle, and 70 percent of that tonnage was carried by the C-130.

During that protracted countrywide battle, intratheater airlifters repositioned tens of thousands of troops to defeat widespread attacks and routinely delivered by airland, air-



Replacing the reciprocating-engined C-124 in the strategic airlift inventory, the Lockheed C-141 StarLifter seen here entered service in the mid-to late sixties. The C-141 (below, right unloading at Tan Son Nhut in 1968) represented a significant improvement in speed and ease of cargo handling but was unable to accommodate the outsized loads which its slow but capable predecessor could carry. (The discerning eye can pick out an amazing variety of aircraft in the background, from a Continental 707 through A-1Es, 0-1s, and an H-34 to an ancient C-45.)

drop, and extraction thousands of tons of ammunition and supplies to sustain isolated forces. Airlift was essential because the enemy had thoroughly cut the ground lines of communication. Often troops were carried from one small austere airfield to another—missions that the C-141 and C-5 are incapable of performing. The successful repulse of the Communist attack during January, February, and March 1968 is in large measure the product of timely combat airlift.

During the first days of the offensive, Communist forces in II Corps seized the civilian airfield at Ban Me Thuot and threatened the military airfield. Tactical airlifters began an

emergency airlift of ammunition and supplies to the cut-off garrisons, and later troops were lifted directly into the battle to retake the area. In the next days several airlifters made night airdrops to a beleaguered force north of Ban Me Thuot at Kontum that was desperately short of ammunition, saving the position. Also in the central region, Pleiku and Dak To II had been cut off from road resupply and had to be sustained entirely by airlift until air strikes and ground attacks from the government-controlled positions could defeat the enemy.

Activities in IV Corps were similar. Soc Trang was running out of fuel for its helicopter force until tactical airlifters began regular fuel shuttles to keep it supplied. The base was similarly supplied with ammunition. Previously, in the Delta region, the troops had relied overwhelmingly on the road supply, but during Tet this proved impossible, and airlift was there to sustain the force. Soc Trang, Can Tho, Vinh Long, and numerous other fields might have been lost had it not been for the air resupply. The most vicious fighting, however, and the most critical airlift missions came in I Corps.

The enemy reserved its best-equipped and best-trained forces for attacks in the northernmost provinces. Here enormous and prolonged pressure was put on Quang Tri, Hue, and other important cities. Combining airlanding and airdropping the intratheater airlift force sustained beleaguered forces all over I Corps, preventing the permanent loss of any outpost or the capture of any major body of troops. In February alone, intratheater airlifters made 1500 landings at Hue Phu Bai to support the allied troops in their successful attempt to recapture the northern capital. The rapid movement, mostly by C-130s, of a brigade of the 101st Airborne and its equipment from III Corps to I Corps at the outset of the campaign was instrumental in stemming the enemy advance. As the Tet offensive faded out, tactical airlifters helped allied forces pursue the enemy by airdropping munitions and food to troops as they forced the enemy out of the A Shau valley. That area had been the major route for the attack on I Corps cities.

Perhaps the best known airlift mission of the Vietnam War was Khe Sanh. Here 6000 Marines held off an enemy of more than 20,000 for months. Road resupply to Khe Sanh had been impossible since mid-1967, and the enemy began a sustained artillery and ground assault during January 1968, yet the Marines, supplied by air (and supported by air strikes), were able to hold out despite daily assaults on their position.

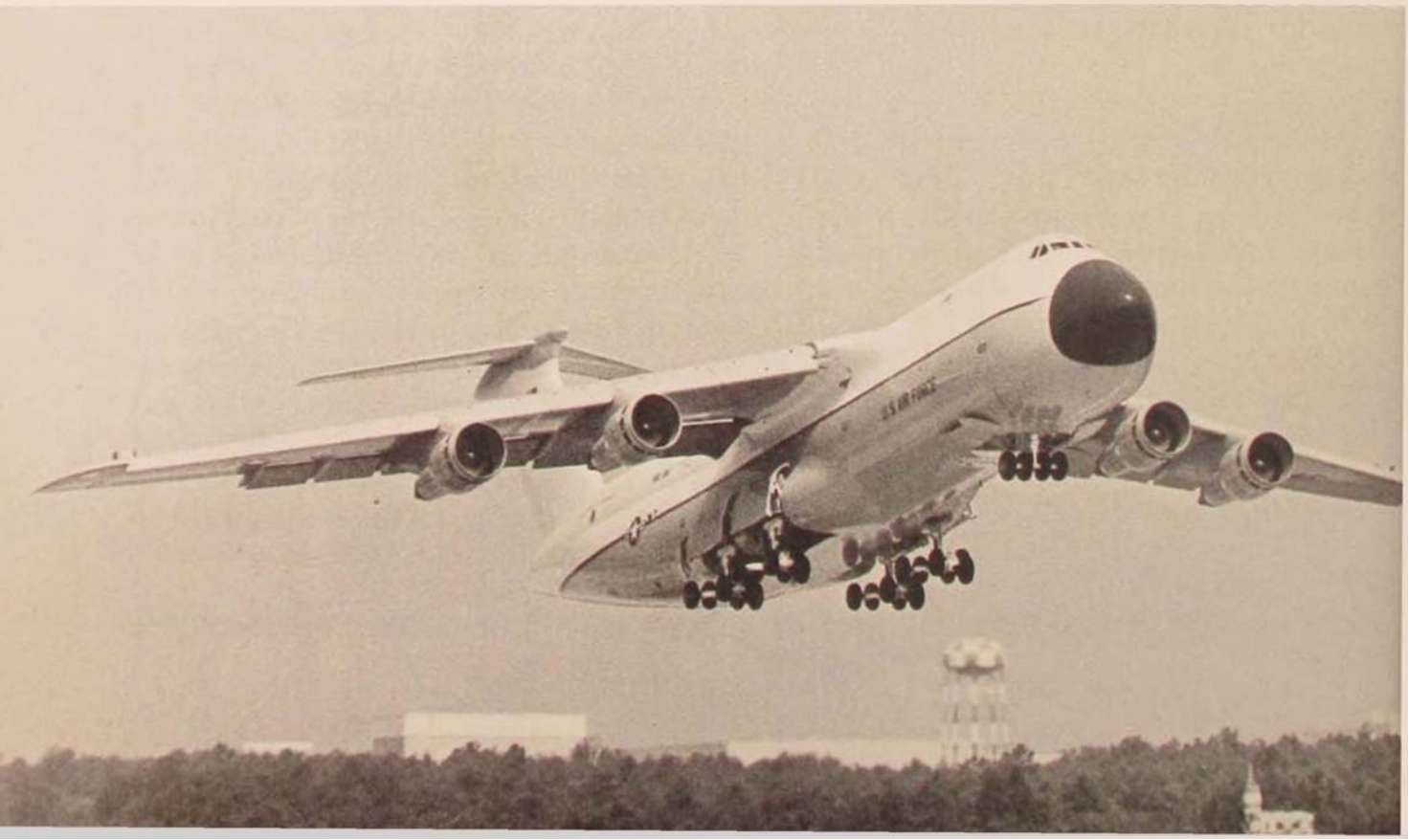
Khe Sanh looms large in the campaign because of the psychological and political success the Viet Minh gained from the defeat and capture of a similar outpost at Dien Bien Phu in 1954. At Khe Sanh the same Vietnamese general was in command, and President Johnson took a direct interest in the daily situation. Intratheater airlifters, mainly C-130s, airlanded until the field was in such poor shape that landing was impossible; they then airdropped and extracted munitions and food into the outpost until the siege was broken three months after it began. It is important to note that while the Marines were almost unreinforcable during the attack, Communist forces, with their extensive road net, were able to bring in reinforcements and replace those who were killed or wounded.

Khe Sanh was only 30 minutes by air from a major aerial port, Da Nang, but that became a long 30 minutes. The airland and extraction missions performed by the C-130 could not have been accomplished by the C-141, then in the inventory, nor the C-5 that arrived later. In other words, getting loads 99.9 percent of the distance from the West Coast of the United States to Khe Sanh accomplished nothing until intratheater airlifters brought the munitions and supplies to the battle. During the last two weeks of February 1968, C-130s delivered by airdrop and extraction 148 tons of critical supplies daily (90 percent of everything reaching Khe Sanh). Khe Sanh would have fallen without such support. From 20 January 1968 until the siege was broken at the end of March,

the U.S. Marines suffered fewer than 200 killed and 1000 wounded, and probably more than 10,000 enemy troops died trying to take the camp.

Similarly, in 1972, intratheater airlifters, mainly C-130s, sustained another beleaguered force, again avoiding the serious political consequences of a major defeat. In that campaign the enemy attacked An Loc in III Corps with the openly stated intent of making the city the seat of government for a "liberated" province. In many ways the lift to An Loc was a greater challenge than Khe Sanh because the force to be supplied was Vietnamese, because there were no U.S. ground controllers to guide the aircraft in foul weather, no USAF detachment on the ground to support the mission, no airstrip within the defended perimeter, and the

Controversial from its inception, under the aegis of Secretary of Defense Robert S. McNamara, the Lockheed C-5 Galaxy represented a quantum leap forward in total cargo capacity and in its ability to handle outsize cargo. The C-5 (right, disgorging an XM-1 Abrams tank in loading tests) is the only free world military aircraft capable of transporting such tanks.



enemy used the entire panoply of antiaircraft artillery including surface-to-air missiles to defeat the lift. For nearly three months, 20,000 defenders at An Loc were supported entirely by air against a sustained Communist attack that included tanks in good tank terrain. Without the C-130 resupply, the garrison of An Loc could not have survived, and the psychological and political implications of a defeat would have been great.

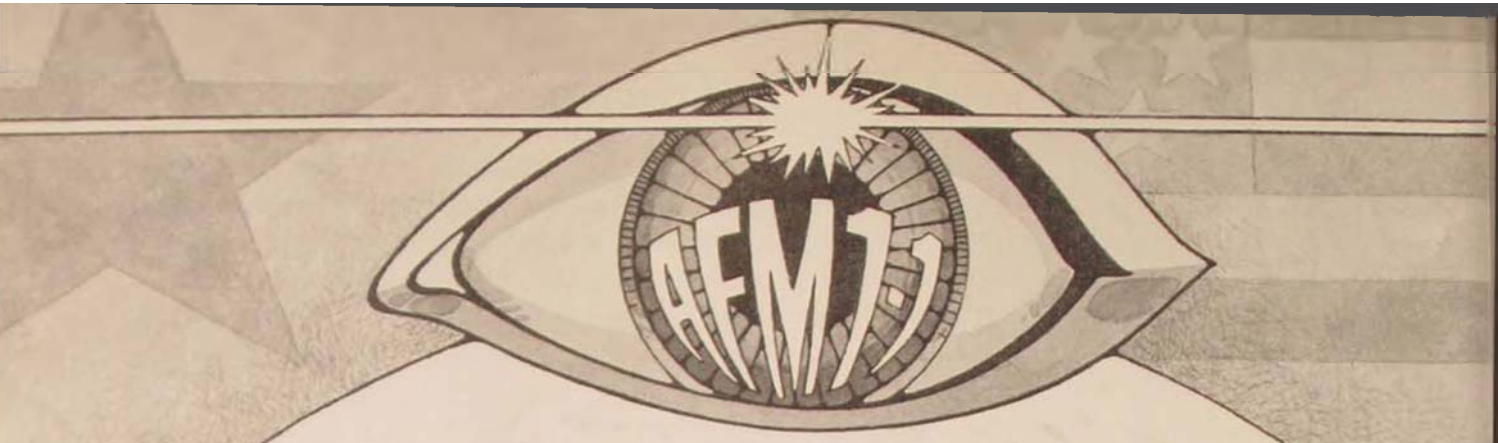
The most dramatic example of timely airlift after Vietnam was the emergency resupply of Israel in 1973. Israel, its armory depleted and its forces pressed on two fronts by enemies supplied by the Soviet Union, was desperate. The first C-5 landed at Lod Airport on 14 October, after the Soviets had already air-delivered about 4000 tons of supplies to Israel's attackers. Between 14 October and mid-November, MAC delivered in 145 C-5 and 422 C-141 sorties more than 22,000 tons of essential military equipment and supplies, and the war ended *before* the first sealift supplies from the United States could reach Israel.

THIS survey has omitted air evacuations of which there were many—Kham Duc, Saigon, Phnom Penh, etc.—and the lifesaving aeromedical evacuations performed by airlifters both in wartime and peace. It has also left out the numerous lifts of men and equipment in response to domestic violence in the United States such as during the civil rights era that demonstrated the federal government's resolve and prevented more widespread bloodshed. Also omitted were the rapid lifts to Korea in response to several provocations such as during the *Pueblo* incident in the late 1960s and the tree-cutting episode in the late 1970s. Airlift also played a major role in the rapid buildup during the Cuban missile crisis. Also not mentioned were the numerous humanitarian lifts that are often used for political purposes, such as carrying Muslim pilgrims to Mecca, disaster relief, and carrying emergency snow removal equipment around the United States during winter crisis, etc. Also omitted were pre-1945 uses of timely airlift, such as the German lifts of Francisco Franco and his troops during the Spanish Civil War and the successful but very costly airborne invasion of Crete.

Given the national guidance, the world into which we are moving, and the experience with successful airlifts in the past, combat airlift is essential. Given the assertiveness of the administration, the Lebanon, Dominican Republic, and Vietnam examples are especially pertinent. the United States needs an enhanced airlift capability because of its far-flung interests, the clear call by the new administration that these interests will be protected, and the demonstrated yields of a capable airlift fleet. But what type of airlift enhancements?

THE United States needs more than air freighters: it needs airlifters that can fight. The C-130, soon to be the only fighting airlifter in the inventory, is an aging aircraft built using 1950s technology, and it is becoming more and more constrained by an army that is becoming heavier and bulkier. While the C-130 can operate into small, austere airfields close to the battle, it cannot lift outsized loads. Enhancing the airlift fleet by building an outsized-capable airlifter that cannot be used in a combat tactical role is a mistake. Building an aircraft that can move cargo into small, austere airfields brings the supplies closer to the battle, vastly expands the number of available airfields, reduces major debarkation airfield congestion, eliminates transshipment of cargo, and compounds the enemy's interdiction problem. An outsized-capable airlifter with tactical capabilities is crucial to support the foreign and military policies of the Reagan administration in the threatening world of today and tomorrow.

National War College



SPACE POWER DOCTRINE

LIEUTENANT COLONEL DINO A. LORENZINI

AN EXAMINATION of space power doctrine should begin with two basic questions: What is military doctrine? What purpose does it serve? The answers to these questions can lead to a better understanding of how military space doctrine fits into an overall plan for our future military activities in space.

Doctrine has been defined as: (1) something that is taught; (2) the body of principles in a branch of knowledge; (3) a system of belief; (4) a principle accepted as valid and authoritative.[1] JCS Publication 1 defines *doctrine* as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application."[2] From these definitions and from common usage, one can deduce that doctrine represents a set of agreed-on principles and practices that are fundamental and authoritative.

I suggest that doctrine is a *shared belief that establishes cohesiveness* within a group or organization and *provides direction* for group activities. As a unifying influence, doctrine serves as a vehicle of communication between advocates of a particular school of thought. Religious groups, political parties, the military services, and most other organizations have some principles or tenets of belief that bind the participants to a common purpose or direction. Once an organization is firmly established, these principles are documented and remain fairly constant. During the formative stages of organizational development, however, doctrinal statements are subject to review and modification.

The development and articulation of doctrine serve as a focal point for discussion, challenge, and group consensus-building. Thus, when new concepts are being formulated, the process of doctrinal development may be more valuable than the product that is finally produced. As a vehicle for discussion and debate, doctrine provides an evolutionary baseline, while inviting creative thought, constructive

criticism, and meaningful discussion. This process clarifies thinking by identifying key ideas, aids understanding by exposing various points of view, and eventually unifies opinion by eliminating weak arguments. Once widespread acceptance is achieved, doctrine establishes a degree of permanence and organizational stability.

In the early years of development of the United States Air Force as a separate service, air power doctrine played a vital role in the establishment of principles, practices, and direction for future military air forces.[3] From these early efforts, fundamental concepts of air superiority, close air support, and battlefield interdiction have evolved. Likewise, space power doctrine promises to provide a similar avenue for the development and deployment of military forces in space.

Assumptions

In the formulation of space power doctrine, several fundamental choices should be clearly stated. Perhaps the most important choice is to establish the precise purpose space power doctrine is intended to serve. Simply stated, this choice can rest between two extremes. *Should space power doctrine define military principles and practices for a world as we would like it to be; or should it define the art of what is militarily possible, unencumbered by treaty restrictions and self-imposed restraints?*

If what we want is a statement of our space objectives or an overall plan for the development of our future space forces, then our space power doctrine should reflect current policies, treaty agreements, and administration guidance. It should be open to modification as policies change, owing to international developments and technological advancements. If, on the other hand, we want a set of irrefutable principles by which we can gauge the effectiveness of our military space systems, operational concepts, organizational elements, and command and control structure, then certainly our space power doctrine should be as comprehensive and unencumbered as possible. Only the limits of our resources, physical constraints, and technological frontiers should restrain our thinking.

Although both versions of space power doctrine are needed in the gradual development of military forces for space, the greater benefit appears to rest now with an unencumbered version. There are several reasons for making this judgment. The first is that policy statements concerning our space goals, objectives, and requirements are provided by other directives and program documents.

Second, if the fundamental tenets of space power are not described in a doctrine manual, they are not likely to be stated anywhere. As previously noted, doctrine development needs an unencumbered, evolutionary communication vehicle to synthesize ideas and consolidate broad-based beliefs.

Third, an unencumbered version of space power doctrine has more continuity than one that is constrained by current defense policies. Basic doctrine becomes a repository for tried and proven principles; defense policies are, of necessity, influenced by short-range objectives and political compromises.

Finally, our national leaders need to gain a basic understanding of: what is militarily possible in space, the strategy choices available, and the expected course of future space weapon development. It is possible to begin the formulation of fundamental space warfare concepts and doctrine that can serve as a primer for the articulation of specific space policy objectives later. Without an overall strategic concept for space, based on what is militarily feasible, our national leaders are denied a sound basis for establishing our most essential space goals, our negotiating objectives, or our space program priorities.

A Conceptual Framework

The application of space power doctrine is differentiated from that of air power doctrine

by the atmospheric boundary above which aircraft cannot fly and below which spacecraft cannot operate.[4] Ballistic missiles and the space shuttle represent systems that operate through the transitional boundary from the lower atmosphere to outer space. They should be included in space power doctrine when their mission terminates in space and should be included in air power doctrine when their mission terminates in the atmosphere or on the earth's surface. Other overlaps exist, just as they do between land, sea, and air, and they should be appropriately defined.

To simplify the following discussion, the unencumbered version of space power doctrine will be referred to as *basic* space power doctrine. The constrained version that follows current administration policies and treaty obligations will be referred to as *operational* space power doctrine. Other terminology, such as environmental and organizational doctrine, could also be used to make the necessary distinction.

Basic space power doctrine provides the wellspring of concepts and ideas from which policies, strategies, mission requirements, and weapon programs flow. In its formulation, basic space power doctrine should consider such elements as: (1) the basic principles and practices of warfare, (2) the laws of physics and orbital mechanics, (3) the unique environment of space, (4) the evolving space weapon technology, and (5) our resource limitations. Unless we can first establish what is militarily feasible in space, we will have no standard against which to measure the progress of our own space efforts, nor the consequences of what our enemy may choose to do. Thus, we must forecast the general course of military events in space, and then formulate valid principles and practices based on those assumptions. Both defensive and offensive weapons in space should be considered. Basic space power doctrine facilitates the fomulation of an overall strategy for the operation of military forces in space. It can ensure that we are not caught off guard by a more imaginative and more aggressive adversary.

Using basic space power doctrine as the starting point, we can decide exactly what we want to do militarily in space with an awareness of the benefits and risks involved. Thus, in the formulation of our national space policies, we should consider basic space power doctrine in addition to our national interests and objectives and the possible threats to those interests.

Operational space power doctrine spells out the who, what, when, where, and how of our military space activities. It should be consistent with the overall space policy decisions of our national leaders and compatible with our basic space power doctrine. Once our operational space power doctrine has been established, we can make enlightened decisions concerning the space systems, weapon programs, and operational forces needed to carry out our space mission requirements. The process is interactive, involving modification at all levels as our understanding of military space operations increases through additional theory and practice.

The concepts and relationships discussed earlier are illustrated in Figure 1,[5] which shows the flow of ideas from the general and abstract to the more detailed and specific. Without some fundamental concept for the military use of space as documented in a basic space power doctrine manual, we will lack the organizational cohesiveness and sense of direction essential to make and implement timely and effective force planning decisions for space.

Obstacles

Although the vigorous development of basic space power doctrine appears to be a profitable pursuit, there is little evidence to indicate that this process is actually taking place. One reason for avoiding the development of a far-reaching basic space power doctrine is that the idea of combat in and from space is considered to be too provocative. With few exceptions, the official thinking associated with space pro-

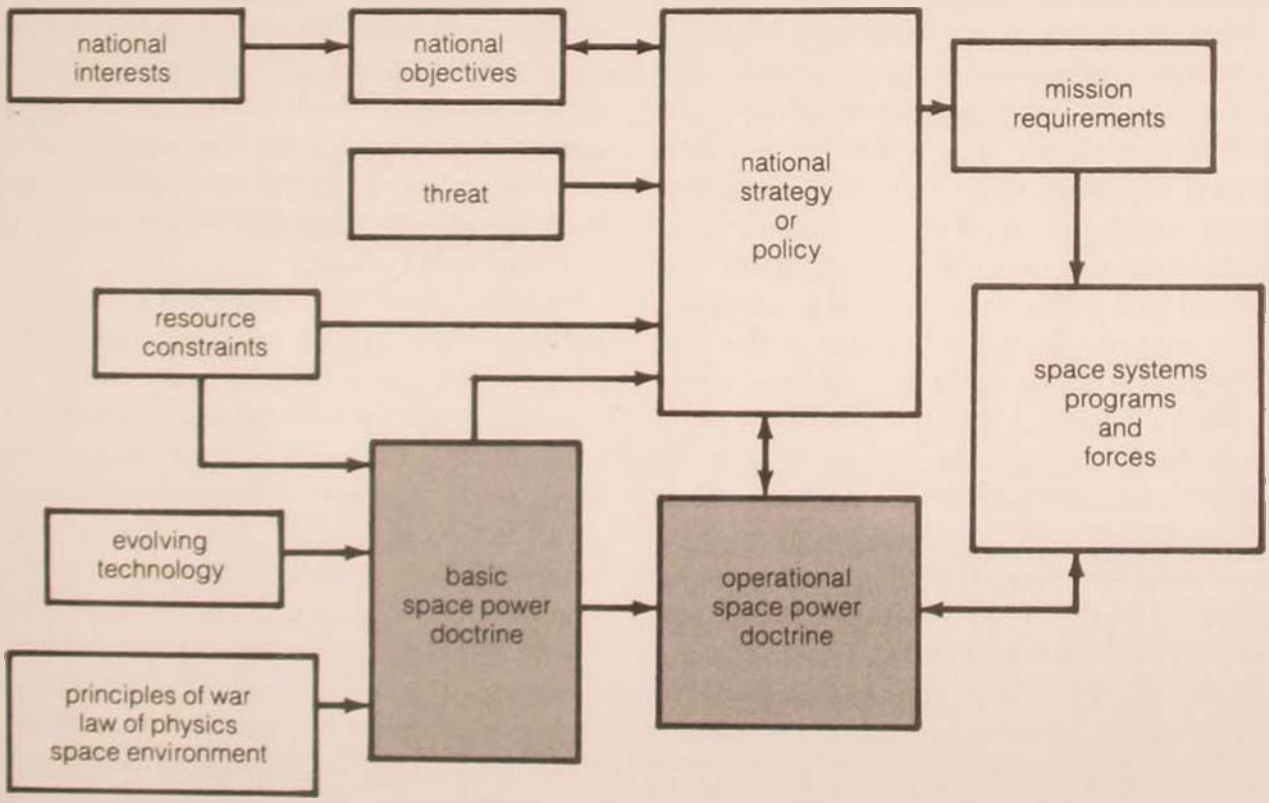
grams has been as an adjunct to conventional land, sea, and air forces. This approach avoids the controversy associated with warfare in space and also preserves well-established service prerogatives. The introduction of offensive weapons into space opens a new arena of combat, one that many would choose to avoid if possible.

In choosing between peace or security in space, the United States has chosen the path of peace. Thus, we prefer to rely on international treaties and arms control agreements that ensure the peaceful use of space, rather than develop military systems that provide the capability to defend our interests in space. The deployment of an active space defense force aimed at the destruction of enemy military capabilities is considered provocative; it introduces new uncertainties and threatens to upset the peace and stability we seek in the world. This choice, however, comes at the expense of national security.

If, instead, we choose security as our first priority, we would be obligated to exploit every avenue of self-defense within our economic and technological capability. Most often, this basic choice, cast in the stark terms of "peace versus security," is not made explicit in the articulation of our defense priorities. Certainly, we would prefer to have it both ways if that were possible.

There are other practical reasons why we have avoided official documentation and debate on the active exploitation of space for military purposes. These reasons deal with cost, politics, and organization. The economic sacrifices that must be made to support a massive military space defense program have been incompatible with our desire to promote the social development and economic welfare of

Figure 1. Conceptual framework for space power doctrine



American citizens. Without the obvious presence of an immediate threat from space, it is almost impossible in our democratic society to galvanize sufficient public opinion to support an expensive, long-range effort to secure our freedom for future generations. Unfortunately, the Soviet Union does not share this difficulty. Deliberate, determined, and consistent military programs requiring considerable consumer sacrifices are possible in a militarily oriented totalitarian society.

Another reason for postponing an open discussion of our military entry into space is the political obstacles that must be overcome. Entrenched bureaucrats are threatened by such drastic changes, and parochial service interests are better served by advancing current roles and missions. Seasoned program advocates continue to push the procurement of traditional aircraft and missile systems, while slowing the development of new space systems that compete for service funding. With seemingly fixed resources to be shared among the four services, there is little margin for the creation of new, esoteric space systems that are certain to generate renewed interservice rivalries. There is much to be said for supporting the status quo and gradual change; however, we may not have the choice of such a luxury if our adversaries select a different set of military objectives. Unlike our experience in previous world wars, the United States can no longer expect to have the time required to react successfully to a technological surprise in space because of the size, complexity, and cost of strategic space systems.[6]

A final obstacle is the lack of a focal point within the Department of Defense for coordinating the concepts, doctrine, and goals of our future military space forces. Division of responsibility among several offices and organizations diffuses support for military space forces while diluting authority, funding, and influence. Without a suitable organization to consolidate key personnel, programs, and funding, there will be no central group to interpret and implement far-reaching space objectives.

STRATEGIC warfare has evolved from defensive dominance associated with trench warfare in World War I to an offensive dominance associated with the nuclear weapons that saw the close of World War II. Since those fateful days of 1945, we have relied more and more on strategic nuclear offensive systems and less on strategic defensive systems. The Anti-Ballistic Missile Treaty sealed the fate of our defensive systems in 1972, when it restricted each of the superpowers to one limited system for the nation's capital and one to protect an intercontinental ballistic missile (ICBM) site. Moving away from strategic defensive systems, the United States has abandoned the Safeguard Antiballistic Missile System that protected our ICBM site and has largely dismantled our Continental Air Defense System. In addition, civil defense measures were abandoned. Instead, we chose to make our cities vulnerable to Soviet nuclear weapons in the belief that they would do the same. This condition of mutual vulnerability still prevails today as each side maintains a precarious balance of overwhelming strategic offensive weapons that deters the other side from using its weapons. Both the United States and the U.S.S.R. have continued to develop and deploy new generations of strategic offensive weapons that provide more warheads, better accuracy, larger yields, and increased survivability.

As the state of technology advances and the stability of the nuclear weapon balance deteriorates, both superpowers must move away from their reliance on offensive weapon systems while at the same time moving toward a more stable condition using defensive weapon systems. This transition over the next twenty years will be most difficult, inasmuch as any significant defensive breakthrough by one side may be countered by an escalation of offensive power by the other side. The evolution of military weaponry has never allowed a status quo condition to exist indefinitely. It is man's nature to pursue the art of the possible, especially

when it concerns military systems.[7]

In considering future strategic defensive systems, we can choose between earth-based, air-based, and space-based systems or a combination of the three. To neglect space-based systems at this time would be shortsighted because of their inherent military advantages. In addition to the wide-area surveillance, early acquisition, and strategic warning functions that are accomplished by current satellite systems, space-based strategic systems can take the battle away from the U.S. homeland and provide early interception and destruction of offensive enemy weapons.

A space weapon system being considered today is the space-based, directed-energy battle station.[8] This hypothetical system would be capable of destroying ICBMs and sea-launched cruise missiles (SLBMs) during their vulnerable boost phase and strategic bombers during transit flight. Such a system, once completed, could degrade the effectiveness of the current generation of strategic systems.

Perhaps even more significant is the fact that once they were placed in orbit, these battle stations could destroy all enemy satellite systems and prevent an opponent from reentering the space arena for any reason. The nation that is able to achieve a space-based global defense system first has the potential for freezing other nations out of the high ground of space, thus achieving total military dominance. Space power doctrine should address these fundamental possibilities for space warfare now in the hope that we can plan more deliberately and prepare more decisively for the uncertain events that lie ahead.

I SUGGEST that basic space power doctrine be separated from the more commonly accepted operational doctrine so that the unconstrained, creative thought process can take place. If basic space power doctrine is to serve as a means for communicating the fundamental tenets of space conflict among our future military space leaders, then the process should begin now by divorcing it from current policy directives. We need to accept the possibility of space warfare and overcome the political and organizational obstacles to the development of unencumbered space power doctrine.

The possible emergence of revolutionary space weapons, such as a directed-energy laser battle station, requires that we look objectively and creatively into the future to develop valid principles and strategies for the exploitation of military forces in this arena of potential conflict. Timely space power doctrine can ensure that we use our limited national resources effectively to provide for the well-being and survival of America throughout the next century.

Naval War College

Notes

1. *Webster's New Collegiate Dictionary*, s. v. "doctrine."

2. JCS Publication 1, *Dictionary of Military and Associated Terms* (Washington: The Joint Chiefs of Staff, June 1979), p. 113.

3. AFM 1-1, *Functions and Basic Doctrine of the United States Air Force*, February 1979, Chapter 6.

4. This definition is contrary to Air Force Manual 1-1, which treats air and space as a continuum in its discussion of *aerospace* power doctrine. In combining *aero* and *space* into a unified doctrine, some unique advantages and limitation of the space environment are overlooked. The characteristics of the space environment and the capabilities of space weapons are sufficiently different from air power doctrine that a distinction should be made. Otherwise, we shall be hampered in our efforts to exploit the unique aspects of the space arena.

5. This diagram is adapted from a more comprehensive framework described by Richmond M. Lloyd and Lieutenant Colonel Dino A. Lorenzini, USAF. See "A Framework for Choosing Defense Forces," *Naval War College Review*, January-February 1981, p. 48.

6. Lieutenant Colonel Dino A. Lorenzini, USAF, and Major Charles L. Fox, USAF, "2001: A U.S. Space Force," *Naval War College Review*, March-April 1981, p. 53.

7. Colonel Trevor N. Dupuy, USA (Ret), *The Evolution of Weapons and Warfare* (Indianapolis, Indiana: Bobbs-Merrill, 1980), p. 287.

8. Clarence Robinson, "Laser Technology Demonstration Proposed," *Aviation Week & Space Technology*, February 16, 1981, pp. 16-19.

THE FUTURE OF THE SOVIET EMPIRE

a historical perspective

LIEUTENANT COLONEL CARL W. REDDEL

HISTORY speaks to people out of their individual and collective experience, out of their education and training in history or lack of it. Nearly everyone has some idea of what history is or should be. And this perception poses a problem if we think of history in too inflexible a way. Probably most

people perceive history in a linear fashion, that is, the idea that history can be described graphically by drawing a line between two points, one point being the past and the other the future with an arrow pointed in the direction of the future, as if to suggest that history has both movement and direction. This approach suggests an eschatological view of history, the idea that history is going someplace, toward the last coming or a Communist utopia.

People do tend to hold such a view of history by being raised, for example, as Christians or as Communists. And various applications or misapplications are made of this view. A political conservative has been described as someone who drives a car down the road by looking continually in the rear view mirror to determine from the past where he is going in the future. One of the brightest historians I have ever read, William Irwin Thompson, once suggested that "history is not a line but a dial,"[1] such as the dial of a clock. And if we stand at the center of the clock of Russian history, more specifically the clock of the history of the Soviet empire, we find that as the hand sweeps around we are facing, in later times or subsequent hours, experiences or confrontations that we thought had been left behind. For example, I believe that if I were a Pole, I would find the full sweep of the hour hand for the eighteenth century, with markings for the partitions of Poland at 1772, 1793, and 1795, in which Russians participated in the destruction of the Polish state, all too similar to the sweep of the hand for the hour of the nineteenth century, during which Poles revolted in 1830-31 and in 1863, and again were put down by Russians.

The sweeping hand on the dial of the clock of the empire would come around again in the tour of the twentieth century, with revolutionary armies sweeping into Poland from the Soviet Union in 1920, and in 1939 less revolutionary but more powerful Soviet armies would again participate in destroying the Polish state. To be sure, it is less than a century since the Bolsheviks first wound the clock of the Soviet empire in 1917, but I believe that if I were a Pole or Hungarian, I might not be as sympathetic to a linear view of history as I would to this view of history as a dial, especially if I were to look to this clock to reveal something about the future of the Soviet empire. I believe this is the view of history that is implicit, if not always explicit, in the thoughts expressed here.

But I suspect that most Americans have come to understand the Soviet empire better in terms of its future strength and weakness, especially as it might affect the United States, say, in five, ten, or twenty years.

Unfortunately, Soviet strength and weakness, like beauty, are often in the eye of the beholder. Or are they? Americans in general understand the Soviet Union and the bases for its behavior only very poorly. Perhaps one of the most recent memorable examples at the highest level of American government was former President Carter's statement following the Soviet invasion of Afghanistan: "It is only now dawning upon the world the magnitude of the action that the Soviets undertook in invading Afghanistan. . . ." He continued that this action ". . . has made a more dramatic change in my opinion of what the Soviets' ultimate goals are than anything they've done in the previous time that I've been in office."[2]

But the former President is not alone. I believe the American people have such a poor understanding of Russian history that they cannot distinguish between Russian and Communist influences in Soviet behavior. Indeed, the former President and his advisors are in the company of Americans at all levels of our society and government, including military professionals.

This lack of understanding of the Russian people and Soviet communism may be significant when addressing the question of the future of the Soviet empire because Communist influences in that society are of relatively recent origin, when considered in the full scope of Russian imperial experience and may be of less significance than is frequently thought unless they are buttressed by the enduring constants of

Russian history. For example, the great size of Russia and its expansive tendencies are not new phenomena. The disintegration of two imperial powers, the Golden Horde and the Byzantine Empire, opened to Muscovite Russia imperial opportunities of its own. And from about the second half of the fifteenth century, ". . . the Great Princes of Moscow began in a tentative manner to claim the imperial title."[3] Within 150 years, Russia became the largest country on the planet and has remained so ever since. The tsars of Russia ruled over the world's largest state from the middle of the seventeenth century on into the twentieth century.

Since 1917, the size of the Soviet Union is as much a function of Russian historical developments as it is a function of Communist aggressiveness. Similarly, the fact that the Union of Soviet Socialist Republics is a multinational state with fifteen distinct national republics and more than sixty nationalities, of which twenty-three had more than a million members in the 1979 census,[4] is not the singular consequence of socialism's international appeal but rather the result of the most rapid overland continental march the world has ever seen, since for 150 years an area the size of modern Holland was added yearly to the Russian empire. Moreover, the Russian political solution to the problem of ruling the world's largest state, which is also a multinational state with diverse peoples, has been authoritarian government, whether under a tsar or a commissar. And those who have read some of Aleksandr Solzhenitsyn's warnings to the West understand that being an anti-Communist Russian does not automatically render an individual sympathetic to the values and institutions of Western democracy.[5]

BRIEFLY, then, major and salient characteristics of the so-called Soviet empire—its tremendous size, its multinational character, and the authoritarian nature of its government—are not solely Communist in their origins. Thus, America's problems and concerns with the Soviet Union would not necessarily disappear if communism somehow no longer existed, a view that a Pole, or a Turk for that matter, would much more readily understand as a result of centuries of direct experience with Russia.

Possessing the world's largest stage on which to act out their national destiny, the Russians, like other nations, have looked for an appropriate script. The first script was received from God himself, with the Tsar of Russia acting as God's agent on earth and Moscow serving as the third and final Rome, following the demise of the Byzantine Empire. When the Tsar of Russia was removed from his throne in 1917, God's script was replaced with man's, with the adoption of a socialist prescription for the future, a script which proposed the realization of a utopia on this earth for not only all the nationalities of the Russian empire but for all of humanity.

With the new socialist script, born out of the historical throes of the Industrial Revolution in the nineteenth century, the Communist leadership possessed the potential of bursting the bonds of the more culturally bound vision of a Russian Orthodox future. This new leadership found the historical advantage of a script that related to the evolution of non-Western peoples' experiencing one phase or another of modernization, which I believe is the essential reason why the romance of the Soviet Union with the Third World has continued for so long. In contrast, Americans suffered the historical disadvantage of a script born out of the eighteenth century and the Enlightenment, which seems to possess for twentieth-century Americans less relevance to the masses of humanity on this planet than Thomas Jefferson once thought.[6] Clearly, the so-called Soviet empire and its international aspirations with their messianic impulse have Russian historical sources every bit as significant (and possibly more significant) than the more contemporary influence of communism.

The purpose of this argument is not, however, to deny the significance of communism in understanding Soviet behavior, either now or in the future, but rather to suggest that any attempt to understand contemporary Soviet behavior without an awareness of the enduring cultural peculiarities, especially those fostered by a long and distinct history, is an exercise in foolhardiness. It also suggests that much of what appears bizarre or extraordinary in Soviet behavior should be first considered in light of Russian history and previous sweeps of the hour hand on the face of the metaphorical clock of Russian imperial history before jumping to the conclusion that communism is the sole or primary source of Soviet behavior. Americans have had and still have serious problems in accepting the impact of different cultures on communism, an example being the length of time necessary for Americans to accept the distinctive interests of Chinese Communists as opposed to Russian Communists. Now that many Americans have recognized the existence of Chinese Communist interests as opposed to or in conflict with Russian Communist interests, they have mistakenly come to see the Chinese Communists as potential friends and allies, an equally egregious error.

The problem is not peculiar to Americans. All peoples are impelled to view the world out of their own value systems and cultures. When other nations do not behave according to the codes that govern our own behavior, we are puzzled, occasionally hurt or insulted, and sometimes frightened. They face the same problem, viewing the world through their own particular cultural lenses. For these reasons, traveling to another society is sometimes like traveling to another planet. In societies as different as the United States and the Soviet Union, this is certainly true.

Yet communism is the contemporary Russian script for the future of the Soviet empire and must be heeded. Indeed, if one speaks with émigrés from the second and third waves of Soviet emigration, they might infer that the historical Russia or the historical influences discussed here no longer exist. To some degree this is true, but the Soviet leadership has learned to its own dismay that erasing a nation's historical past completely is no more likely than the success of an individual in totally erasing his or her past. To injure, harm, transform, and malform—yes, but to remove completely—no.

The superimposition of communism upon Russian culture has left the most extraordinary paradoxes in Soviet life and society. The officially atheistic Soviet society, for example, contains some 45 million practicing Christians, according to a recent estimate by one of the best informed students of Christianity in the Soviet Union.[7] In that industrialized and urban society, essentially rural habits of life have not left a people who have only become more urban than rural in their habitat since the late 1950s. And a Soviet society that probably has fewer functional illiterates than the United States, as well as an impressive educational and scientific establishment, is striking to visitors from the West in its ignorance of the realities of life on much of the rest of the planet.

THE term *Soviet empire* is itself incongruous, for communism has anti-imperialism as one of its basic principles. Yet the Soviet Union constitutes the largest empire in the world today with control over many different national groups, as did the former tsarist empire. To be sure, this empire is based on different ideological principles, but it is still very much a Russian empire in that the Great Russian ethnic group dominates the Communist Party itself and the other ethnic groups within the Soviet Union, as well as the nations that border the Soviet Union.

These ethnic distinctions within the Soviet Union are strikingly real. A Latvian, Lithuanian, Estonian, Georgian, Armenian, Azeri, Kirghiz, Tadzhik, or Uzbek, does not by any means confuse his identity as a Soviet citizen with being a Russian. And for a Hungarian,

the similarities between the Russian suppression of the Revolution of 1849 and the Soviet destruction of the Revolution of 1956 are more impressive than the differences. I suspect that the Russian generals who suppressed the Polish revolts of 1830-31 and 1863, when the Tsar of Russia was also the King of Poland, would find the Polish labor leaders of the 1980s as much a nuisance as the Polish revolutionaries of their own time. For a historian it is striking to find how bitterly and violently anti-Polish many otherwise cultivated and Westernized Russians of the nineteenth century were. And if we were to use H. G. Wells's time machine to transport a Bristish general from the late nineteenth century, when many British leaders thought the Russians had designs on Afghanistan or even on India, to his own club in London in the twentieth century—where no doubt the furnishings would have changed little or not at all—it would be difficult for the general not to say, "I told you so—it was just a matter of time," when he learned of the Soviet invasion of Afghanistan in 1979.

Communism has brought something to the Soviet empire that no Russian tsar was ever able to develop: the military means capable of denying all actual or would-be enemies the opportunity to challenge unilaterally the security of the empire or of the Russian homeland. What a heady wine that is! For the first time in the centuries-long history of the empire centered in Russia, no nation can with impunity challenge or threaten the security of that empire. Since the time of Peter the Great, with the introduction of the first standing army in Europe based on conscription, the Russians have carried an immense burden to sustain the military force believed essential by their leaders, both for its defense and for exerting international influence. This tremendous military strength would be less worrisome today if it were not the case that historically, Russian leaders have been both willing and able to postpone or subordinate the internal problems of the country to what they consider the more significant external tasks. This willingness to deny the needs of its own population in the interests of foreign political or military goals is disturbing when the military means to achieve the ends are seen in conjunction with the Soviets' view of their long-range future.

For communism has provided not only the means to project political and military influence; it has also provided a vision of the future that has the potential of enabling Russians to identify with mankind everywhere, beyond the cultural limitations of the Russian orthodoxy which formed a significant part of the world view of the tsars of Russia. Not only does communism enable Russians to identify with the diverse branches of humanity whatever their cultural dress, it also provides an integrated and comprehensive means of assessing conflict in all of its forms, political, economic, and social. As a military professional I am concerned that the Soviet military professional may not only outgun us, he may outthink us with a superior intellectual construct for the integration of military capability into the waging of civilizational conflict.

A leading student of Soviet affairs has suggested that if American pilots can "outfly and outmaneuver the Soviet fighter pilots," it may not be sufficient, because as he further states, "that is not where the main ballgame is going to be won."[8] The "main ballgame" clearly includes other than purely military factors in determining the outcome of a given contest. To what degree is the American military professional to be a player in this contest? What are the limits on this role? Clearly there are nationally accepted historical, societal, and legal constraints on his role, which are accepted by the American military professional. There is also the unnecessary and dangerous constraint of limited education on the Soviet military resulting in inadequate professional preparation. To carry the analogy further, we might describe the American military today as a team suited up to play ball but driving around town in the team bus unable to locate the ball park.

Indeed, the ballgame may be played, won or lost, and the American military professional may remain a nonplayer.

THE SOVIET military professional views himself as a player in this ballgame, but he envisions a game different from the one the American player anticipates, a game that includes the entire planet and outer space as a playing field. The Soviet player also views it as a game that has no well-defined time period and thinks of the game as involving all of history—past, present, *and* future—with no time-outs. It is also accepted in the Soviet view that although there are general guidelines, the rules of the game will continue to change, so that the measures of victory and defeat will not remain the same. It is also a game that involves everyone, not just those suited up for a game on a given day. It is a game with no visible or foreseeable end, replete with ambiguity. Although the American military professional may also be a player in this game, he is an unwitting one and one who needs to understand better the scope of his task and the nature of the opponent.

The fact that Americans frequently use sporting events for understanding foreign affairs reveals much not only about American national character but also about the limits of our understanding of the times in which we live. Commonly accepted rules, clear definitions of victory and defeat, unwritten codes of behavior for both winners and losers, the norms and values of fair play and decency for players both off and on the playing field—all of these are clearly open to question in the international arena today and may be even more so in the future.

The tremendous irony in all of this is that in the future American military professionals may never participate in the conflict for which they have prepared, because it may have a different definition and execution than that which they understand. Indeed, not only American military professionals but most Americans may live and die without knowingly having been part of a great civilizational contest, in which the potential for military conflict on which people are now being asked to focus may never be the final determinant. Indeed, the irony of focusing too narrowly on the potential military conflict as defined in the West will become tragedy if it serves to distract us nationally and internationally from other issues every bit as essential to winning the conflict.

United States Air Force Academy

Editor's note: This article is based on a paper by Colonel Reddel presented at the National Defense Colloquium on "The Future of the Soviet Empire," at the United States Air Force Academy, 15 April 1981.

Notes

1. William Irwin Thompson, *At the Edge of History: Speculations on the Transformation of Culture* (New York, 1971), p. 81.
2. Dispatch from Washington, D.C., 1 January 1980, by Stephen ynton, "President Rejects Brezhnev Explanation," *International lerald Tribune*, 2 January 1980, p. 1.
3. Richard Pipes, *Russia under the Old Regime* (London, 1974), . 73. Pipes also surveys the expansion of the empire described here nd in the following paragraph (pp. 83-84).
4. Ann Sheehy, "The National Composition of the Population of he USSR According to the Census of 1979," *Radio Liberty Research Bulletin*, RL 123/80, 27 March 1980, Table 1, pp. 10-12.
5. A description of Solzhenitsyn's impatience with the West is und in "The Dark Side of Solzhenitsyn," by George Feifer in *arpers*, May 1980, pp. 49-51, 54-58. Solzhenitsyn defends his views "Misconceptions about Russia Are a Threat to America," *Foreign Affairs*, Spring 1980, pp. 797-834.
6. Shortly before his death, Thomas Jefferson stated his view of e significance of the Declaration of Independence for the history the world:

> May it be to the world, what I believe it will be, (to some parts sooner, to others later, but finally to all,) the signal of arousing men to burst the chains, under which monkish ignorance and superstition have persuaded them to bind themselves, and to assume the blessings and security of self-government. The form which we have substituted restores the free right to the unbounded exercise of freedom and opinion. All eyes are opened or opening to the rights of man. The general spread of the light of science has already laid open to every view the power of truth, that the mass of mankind has not been born with saddles on their backs, nor a favoured few, booted and spurred, ready to ride them legitimately, by the grace of God.

Letter from Thomas Jefferson to Robert Weightman, June 24, 1826, cited in Peter Calvert, *Revolution* (London, 1970), p. 71.

7. William Fletcher, of the University of Kansas, at the 19th Annual Central Slavic Conference, March 13, 1981, in Omaha, Nebraska.
8. Major General George J. Keegan, Jr., USAF (Ret), "The Soviet Threat and Professional Officer Education," *Education Journal*, Fall 1977, pp. 29-32.

ADMIRAL GORSHKOV AND THE SOVIET NAVY

DR. DONALD CHIPMAN

NEVER in peacetime history has a nation expanded its navy as rapidly as have the Soviets in recent years. Every month new submarines, destroyers, and frigates join the Soviet Navy while aircraft carriers, cruisers, and vessels of all types continue to roll out of the Russian shipyards.[1] In contrast, thirty years ago the Soviet Navy was primarily a coastal defensive force with few major surface combatants. Then, in the 1960s and 1970s, the Soviets underwrote an aggressive ship construction program and began deploying their navy to the far corners of the world. Today, some experts believe the United States Navy's "narrow margin of superiority is gone."[2] Others think that the Soviet Navy has the capacity to dominate any maritime environment they choose: surface, subsurface, or air.

Of the various ways to describe the Soviet Navy, one approach is to consider the policies of the most remarkable admiral of our time, Admiral of the Fleet of the Soviet Union, Sergei Gorshkov (b. 1910). Not since Admiral Alfred Thayer Mahan (1840-1914), United States Navy, has any individual so dominated naval policy as has Gorshkov. Gorshkov's ingenuity was in his ability to promote the belief that Russia's future lay at sea. He successfully challenged the conventional dogma that classified Russia as only a land power and supplemented this with his sea power doctrine. With Gorshkov's help, the Soviet military has suddenly developed a keen desire to dominate the maritime frontier.

For more than twenty-five years, Gorshkov has influenced Soviet naval doctrine. (In the same length of time, the United States has had nine different Chiefs of Naval Operations.) In 1956, just after assuming power, Nikita Khrushchev decided to scrap most of the Soviet Navy's

Ever since the successful mining of Haiphong harbor, the Air Force has assumed an increasingly active role in maritime operations. Air Force Manual 1-1, *Functions and Basic Doctrine of the United States Air Force*, states that because of speed, range, and maneuverability of aerospace weapon systems, the Air Force is particularly well suited to conduct a variety of antinaval warfare operations. Specifically, the Air Force is tasked, as a collateral duty, to destroy enemy naval forces, deliver mines, defend friendly naval forces, engage in antisubmarine warfare, and conduct sea surveillance. Although there are many ways to prepare for such maritime missions, a starting point should include an analysis of prospective enemy naval capabilities. The accompanying article provides a baseline analysis of contemporary maritime operations.

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large surface combatants. Soviet Admiral of the Fleet Nikolai G. Kuznetsov disagreed so strongly that he was fired and replaced by Gorshkov.[3] Eventually, Gorshkov survived Khrushchev to become one of the world's foremost strategists and architect of the new assertive Soviet Navy. Although Gorshkov is now more than seventy years old and destined to retire, his ideas will continue to dominate future Soviet naval doctrine and maritime strategy.

Recently Gorshkov's writings appeared in the Soviet Naval Digest, *Morskoi Sbornik*.[4] These articles were followed by one of the most comprehensive naval publications since Mahan's *The Influence of Seapower upon History, 1660-1783* (1918), Gorshkov's book *The Sea Power of the State*.[5] The *Morskoi Sbornik* articles and this book emphasize one constant Gorshkov theme: Russia is a maritime nation, and its destiny will depend upon the seas.

Today, after twenty-five years in which Gorshkov has controlled Soviet naval policies, there is ample evidence of his success. Russian ships are found in all parts of the globe, and their influence on United States military strategy is apparent. Thus it is appropriate to view the Soviet naval threat in terms of Gorshkov's doctrine. His use of Soviet Navy history, his assessment of the constraints challenging his navy, and his outline of the various Soviet naval missions provide a common theme by which to evaluate this new maritime threat.

Soviet Naval History

Like Mahan, Gorshkov used history to demonstrate the necessity for a strong navy. Drawing on various history lessons, Gorshkov suggested that most Russian czars failed to use sea power properly. The exception was Peter the Great, whom Gorshkov credits with the founding of the first Russian fleet. About 1700, Peter decided to build a navy. He hired Dutch and English engineers to construct these first Russian ships. Soon, the Russians were at war with Sweden. In a series of Baltic Sea battles, the Russians successfully drove Sweden from the region.[6] Since Peter was one of the few czars who understood sea power, Gorshkov often quoted him: "Every potentate who has only ground forces has only one hand; yet whoever has a navy, too, has both hands."[7]

After Peter, no czar contributed significantly to Russian naval development. In 1853, for instance, the Russians were defeated by the French and English navies and subsequently forbidden to have a fleet in the Black Sea.[8] Misuse of the navy continued into the twentieth century. In 1904 and 1905, the Japanese overwhelmed the Russians in two major naval battles. Initially, the Japanese surprised and fatally crippled the Russian Pacific Fleet at Port Arthur in the Yellow Sea. Gorshkov researched this surprise attack and included it in his doctrine, calling this a tactic of "The Battle of the First Salvo."[9] In a second battle, the Japanese sank the Russian Baltic Fleet in the Tsushima Strait.[10] Thus concluded Gorshkov, the czars did not understand how to develop or deploy their navy, and they suffered for this deficiency.

With the advent of the Bolshevik Revolution, Gorshkov had to tread lightly, trying to indicate navy deficiencies yet not offend any of the Communist elite. He accomplished this by overlooking naval ineffectiveness and concentrating on the Marxist-Leninist concerns for a strong navy. Since the navy's activities were inconsequential in World War I, Gorshkov had to search for something significant to praise. He decided to stress the loyal Communist theme, pointing out that Russian sailors were the first to join the Bolshevik Revolution. "The cruiser *Aurora* and the minelayers *Amur* and *Khoper*," stated Gorshkov, "took up station in the Neva [river] to bombard the Winter Palace,"[11] proving that the navy was the first military service to join the revolution.

Not until 1937 did the Communists begin rebuilding their navy. At the time, Germany was rearming, and Stalin decided to prepare for war. By the beginning of World War II, the Soviets had one of the world's largest subma-

rine forces.[12] Yet the navy's help was seldom needed, for there were only a few naval battles in the Black Sea area. Often the Soviets would take sailors off the ships, hand them guns, and send them to the army. According to Gorshkov more than 400,000 enlisted personnel and officers were sent to the ground forces, including several naval detachments from the Baltic Sea Fleet, to help defend Leningrad.[13] Gorshkov's leadership was about the only bright light in Soviet naval operations during World War II. With a naval squadron in the Black Sea, he distinguished himself in landings on the Kerch Peninsula and later helped liberate the Ukraine, Romania, Bulgaria, and Hungary.[14] By this time Gorshkov was thirty-one years old and had attained the grade of rear admiral. According to Gorshkov, World War II proved the need for a balanced military, one that included a strong Soviet Navy.[15]

After World War II, there were modest efforts to rebuild the Soviet fleet. Yet with more than 50 percent of the Russian industrial capacity destroyed, these efforts were delayed. Initially, with the help of captured German technology, the Soviets began building some new attack submarines.[16] However, not until the arrival of Khrushchev and the elevation of Gorshkov to Admiral of the Fleet were the plans for a powerful Soviet Navy proposed. Gorshkov's first task was to convince the Communist Party that a powerful navy was not only a necessity, it was a part of the Russian heritage. The Russian land power doctrine, stated Gorshkov, was nothing more than imperialist propaganda designed to keep the Soviet from the seas. Russia has the world's longest maritime frontier, and the Russian people have always loved the sea. It is Soviet manifest destiny, argued Gorshkov, that the nation should go to sea.[17]

So in using the lessons of history, Gorshkov established the fundamental rationale for the development of the current Soviet Navy. The doctrine's seeds were planted, ship designs were drawn, and plans for a powerful Soviet navy were established. Calling his navy "the Faithful Helper of the Army," Gorshkov began the process of convincing the Communist Party of the necessity of building a large fleet. These ideas were soon reinforced when in 1962 the United States Navy blockaded Cuba, denying Russian access. After this, more and more Soviet military funds found their way into naval development.[18]

Soviet Naval Constraints

In thinking through the various challenges for a strong Soviet Navy, Gorshkov faced three basic constraints: ice, chokepoints, and distance. To begin with, most of the Soviet naval fleets are located at high latitudes. The Northern Fleet is located along the Kola Peninsula coast, with a principal port at Murmansk and in the White Sea at Arkhangel. Arkhangel, in particular, is closed with ice for about six months each year. The Baltic Sea Fleet, located at Kronstadt Naval Base and Riga, is also constrained since ice closes these ports about three months a year; at times the ice is so thick that the Russians can drive trucks across it. The Black Sea Fleet, of course, does not have ice problems. The Pacific Fleet, located at Vladivostok and Petropavlovsk, is also clogged with ice for several months each year.[19] Historically, because of these ice problems the Russians have sought warm-water ports.

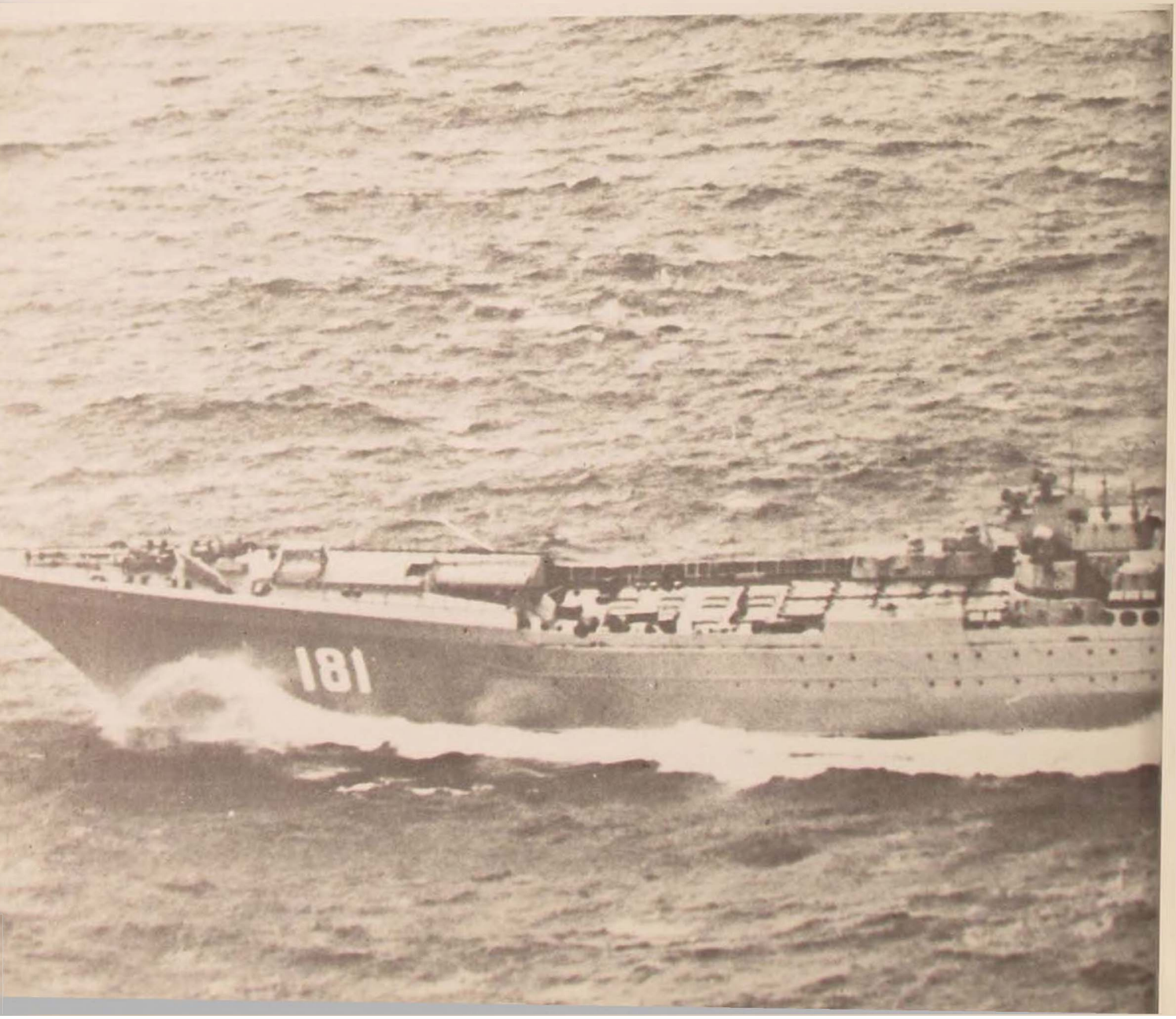
To overcome the ice, Gorshkov has developed one of the world's foremost icebreaker fleets.[20] These ships are diesel powered and break channels into and out of the main ports. Yet despite this capability, ice-clogged ports are a major problem, one not easily corrected.

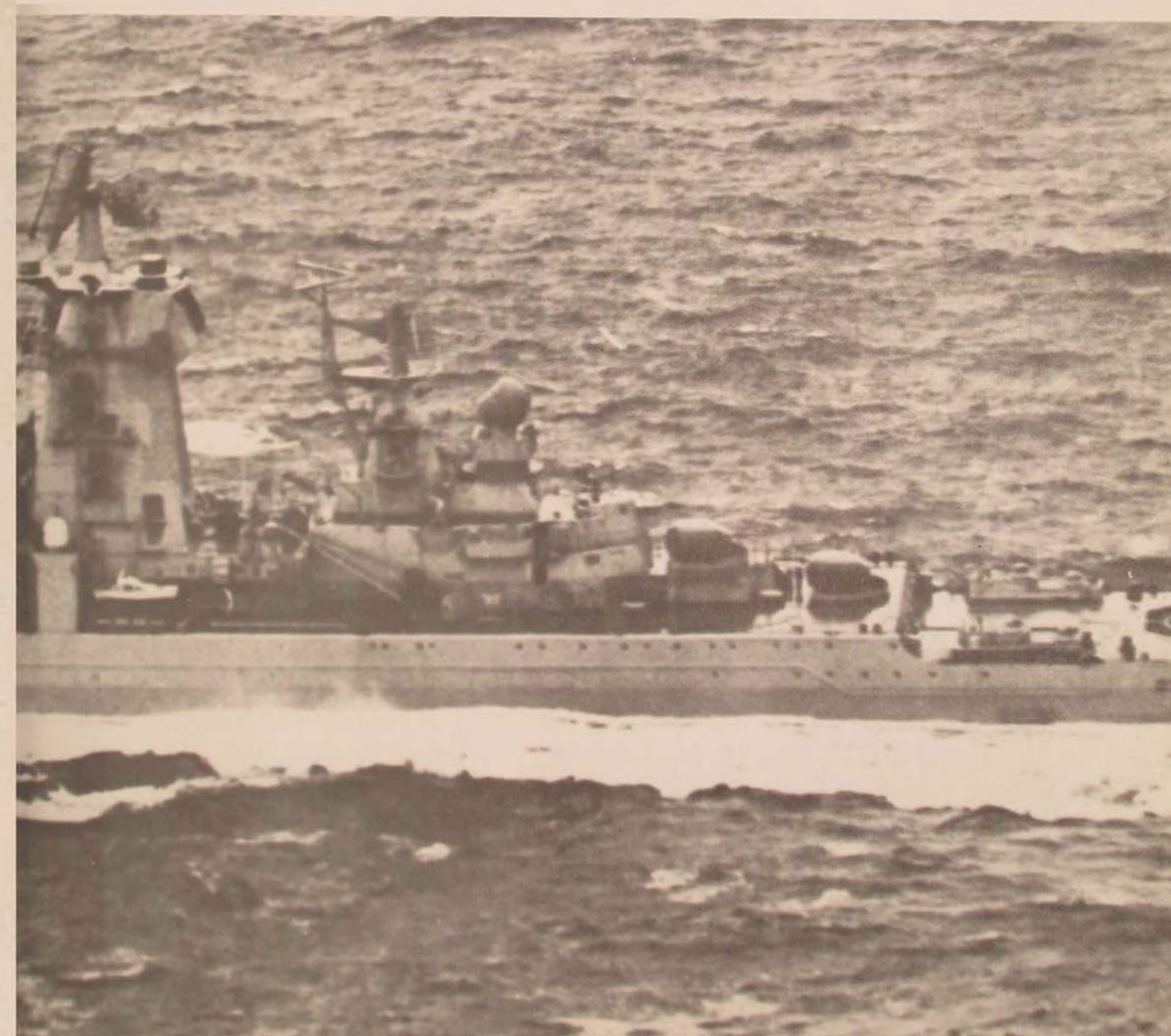
A second major constraint for the Soviet fleets consists of the chokepoints through which Soviet ships must pass. In the Pacific Ocean, just north of the Japanese Islands, lies the La Pérouse Strait, which hinders the Soviet Pacific Fleet's ability to gain access to the ocean. Toward the south of the Japanese Islands lies the Tsushima Strait through which the Soviets

Continued on page 34

Sea Control Mission

As part of its sea control mission, th viet Navy has developed a variety of with antisubmarine warfare capab The Moskva class (left) was the launched in 1967. Its armament inc 18 Kamov Ka-25 Hormone helicc (above). The Kiev class of aircraft c (right) is steam propelled and ret 37,000 tons. The Kirov battle cruise low) is "the most heavily armed mult pose combatant in the Soviet inven





Sea Control Continued

The Kara (left) is one of the newest Soviet cruisers; its gas-turbine engine achieves about 35 knots. The Krivak class of destroyers (below) dates from the early 1970s. It is armed with missiles, rockets, mines, torpedoes for its antisubmarine role.

must pass to move down the China coast. Together these two Pacific chokepoints in time of war could prove to be extremely critical.

In the Atlantic, the Greenland, Iceland, United Kingdom (GIUK) gap is another major chokepoint. Although this area looks porous, in fact, it is well patrolled. Other chokepoints are more confined. The Skagerrak/Kattegat straits, the Turkish straits, Gibraltar, and Suez restrain the Soviets from easy access to the oceans. In time of war these chokepoints could become critical.[21] For instance, during World War I, the United States, working with the British, planted more than 100,000 mines in an area just west of the Skagerrak Strait. This great North Sea mine field effectively contained the German U-boat threat.[22] Today this option is available.

The third major constraint is related to the deployment of ships in the Pacific and Atlantic oceans. Once there, the Soviets have trouble replenishing their fleets. Their tendency to build small vessels limits the amount of supplies they can carry and thus the time they stay on station. Many of their larger ships do not have at-sea reload capabilities so they must return to port for supplies. Realizing this as a problem, the Soviets have worked on their sea

replenishment techniques.[23] Recently, a new replenishment-type ship has come on line to help overcome this deficiency. This class of vessel is called the Berezina, a 40,000-ton multipurpose ship with six replenishment stations and helicopter capabilities.[24] Another way in which the Soviets are overcoming this replenishment problem is by acquiring overseas ports. For instance, they can replenish their ships in Cuba, Angola, South Yemen, and in one of the finest harbors in all of the Pacific Ocean, Camranh Bay.[25]

Ice, chokepoints, and distance comprise the basic constraints that Admiral Gorshkov designed his new ships to overcome. Icebreakers help open the winter ports, and ships of the Berezina class offer ways to circumvent the effects of chokepoints and long distance cruises.

Soviet Naval Missions

Within the last few years, the Soviet Navy has increasingly moved away from its coasts to the blue waters of the oceans. In so doing, the Soviets have changed their naval strategy from a basically defensive one to a more assertive forward deployment posture. During the 1960s the first phase of this transformation took place. Initially, the Baltic, Northern, and Black Sea fleets progressively extended their spheres of influence out of their traditional deployment areas. The Black Sea Fleet began deploying into the eastern Mediterranean while the Northern Fleet journeyed into the mid-Atlantic. By the early 1970s, the Soviets were deploying to the Cuban and South African areas and into the Indian Ocean. Thus by the late 1970s, Soviet naval deployment patterns were clearly established.[26]

As the Soviets moved farther from their coasts, there was a subsequent shift in mission priorities. While there are many different ways to label these missions, most would agree that there are four basic types. The first Soviet naval mission is "sea presence," which accounts for the peaceful use of naval ships in foreign areas. The second mission is "sea control," and this involves antisubmarine warfare and interdiction. The third mission encompasses amphibious warfare and is labeled "power projection." The last mission is "deterrence," and it involves the use of ballistic missile submarines.

sea presence mission

Sea presence is the newest of all the various Soviet naval missions. Gorshkov spent a great deal of effort convincing the Communist Party that, unlike the army, the navy is extremely influential during peacetime. In other words, the work of the navy exceeds traditional military roles. As a historian, Gorshkov was well aware of the ways in which the United States used its ships to influence foreign policies.[27] "Speak softly and carry a big stick," Teddy Roosevelt's admonition, became an accepted truism within the Soviet naval hierarchy.

Consequently, with the goal of increasing Soviet prestige abroad, the navy began deploying ships to the coastal waters of other nations. Warships sailed for such ports as Cienfuegos, Cuba; Conakry, Guinea; and Berbera, Somalia. Often Soviet ships would dock in these countries and send their crews ashore to organized sports and other programs. Usually these visits were timed to coincide with some significant military event. For example, a recent Soviet visit to Mozambique just happened to occur about the same time the South Africans announced they were moving fighter aircraft to the common border area.[28] Through these visits, Gorshkov noted, the navy serves as an important instrument of peacetime policy while protecting the U.S.S.R. and supporting national wars of liberation.[29]

A significant part of the sea presence mission is fulfilled by Soviet merchant ships. With more than 1700 merchant ships, most of which are relatively new, the Soviets have opened trade with many other countries. One of the unique features of these merchant ships is their ability to convert to a wartime mission quickly.[30]

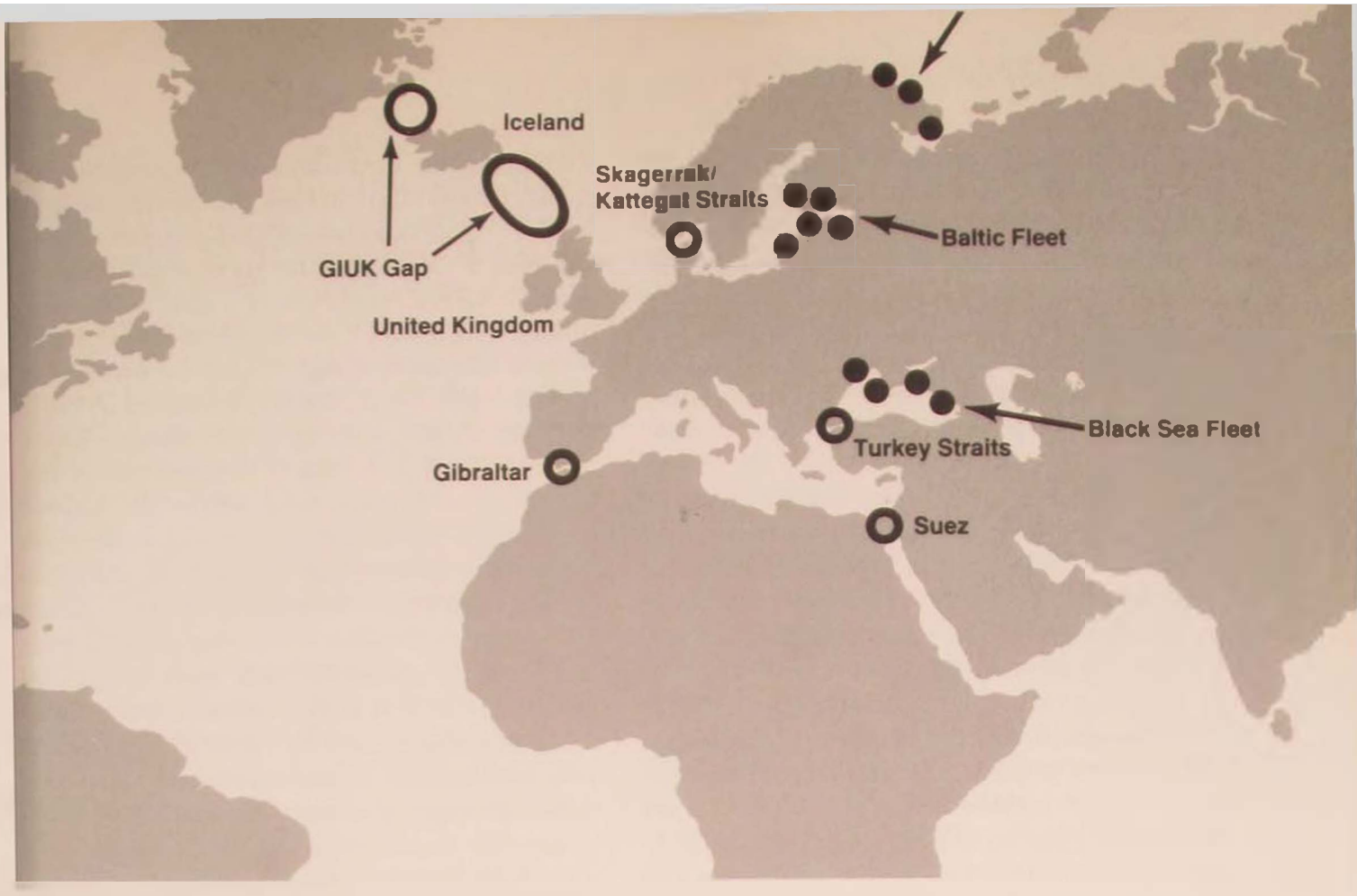
Three basic constraints challenge the range and mobility of the Soviet Navy: ice, chokepoints, and distance. Of the four Soviet fleets, only the Black Sea Fleet has no icing problems. Although the Soviets have developed excellent icebreaker ships, the northern and Pacific Soviet ports are still frequently ice-clogged. Chokepoints along the Soviet periphery could easily limit the Soviet Navy's access to the Atlantic and Pacific and to the Mediterranean Sea. Even if the Soviet fleet had reached the open seas, the vast distances would make resupply a great undertaking at best.

Generally, these ships are small and were constructed to convert to military supply ships if needed. According to Admiral Gorshkov, the merchant fleet is now a major constituent of the Soviet naval force.[31]

Fishing trawlers comprise another element of the sea presence mission. The Soviets have one of the world's largest fishing fleets, with approximately 4000 ocean-going vessels.[32] In terms of tons of fish caught, they rank second to Japan.[33] The Soviets also have fifty or so intelligence-gathering ships, called AGIs, that look very much like the fishing trawlers.[34] These AGIs are often seen monitoring traffic near U.S. Navy bases in Scotland, Spain, and Guam. Frequently, other AGIs are sighted off the East and West coasts of the United States, where they play an active part in relaying intelligence data to the Soviet Union.

Thus, by placing their warships in strategic territorial waters and by using their merchant ships and trawlers, the Soviets influence the daily activities of foreign nations. The overall purpose of the sea presence mission is well summarized in Gorshkov's statement:

> Friendly visits by Soviet seamen offer the opportunity to the people of the countries visited to see for themselves the creativity of the socialist principles in our country, the genuine parity of the people of the Soviet Union and their high cultural level. In our ships they see the achievements of Soviet science, technology and industry. Soviet mariners, from rating to admiral bring to the



people of other countries the truth about our socialist country, our Soviet ideology and culture and our Soviet way of life.[35]

sea control mission

The sea control mission is based on broad Soviet military doctrine and foreign policy objectives. These involve, first of all, the avoidance of war, but if war comes, the Soviets plan to win.[36] Thus Gorshkov has promoted a more assertive navy, one that will move out from the coastlines and into the oceans to challenge the West. The mission of these forward-deploying Soviet ships is to counter the West's sea-based strike force and interdict sea lines of communication. Gorshkov is quite specific in this objective:

> The imperialists are turning the world ocean into an extensive launching-pad, less dangerous in their view to their countries as compared with land, of ballistic missiles, of submarines and carrier aviation trained on the Soviet Union and the countries of the socialist community. And our navy must be capable of standing up to this real threat.[37]

In other words, the Soviets are sending their ships out to gain and maintain command of a large sea area and deny the enemy this extensive launching pad. In this type of mission, argued Gorshkov, the enemy must be countered in the air, on the surface, and below. Thus arose the need to build multipurpose ships with antisubmarine warfare capabilities. In 1967, the first of these ships was completed, the Moskva, followed by a second ship in 1968, the Leningrad. The design resembles a cruiser bow with a carrier stern. The Moskva displaces approximately 17,000 tons and is propelled by steam. It is well armed carrying 18 Ka-25A Hormone helicopters, antisubmarine rockets, torpedoes, and antiaircraft guns. In 1976, a new class of Soviet aircraft carriers was launched. It was the Kiev, followed by a second carrier the Minsk. Unlike earlier carriers, these have angle decks

that stretch the length of the ship. Both are steam propelled and displace approximately 37,000 tons. The Minsk is extremely well armed, with weapons which reach out to over 250 miles. An enemy ship trying to attack the Minsk would have to maneuver through five concentric circles of weapons beginning 250 miles out and continuing to the bow, where 500-rounds-per-second Gatling guns would take effect. As with earlier carriers, the Minsk has a series of weapon systems designed to be effective against enemy ships, submarines, and aircraft. One of the unique aspects of the Minsk is the torpedo tubes on either side of the bow region. Yet, of all the weapons on board, the Yak-36 Forger vertical takeoff and landing (VTOL) aircraft is the most versatile. Usually there are about eighteen Forgers on each aircraft carrier, complementing about the same number of Hormone helicopters. The Forger uses two engines to take off and then a third to cruise out from the ship. Each Forger carries an assortment of rockets, machine guns, bombs, and air-to-surface missiles.[38] Although building aircraft carriers is a relatively new Soviet program, they plan to launch two more within the next few years.

Complementing the aircraft carriers in the sea control mission are the various surface combatants. The newest and most sophisticated of these is the battle cruiser Kirov. This ship is approximately 860 feet long and displaces about 23,000 tons. It is similar to a World War II pocket battleship, and it is nuclear-powered, providing great staying power and long range. It has several weapon systems similar to the Minsk but with a much more advanced surface-to-air antiaircraft capability and surface-to-surface antiship capability. Recently, Rear Admiral Sumner Shapiro, Director of United States Naval Intelligence, had this to say about the Kirov:

> The Kirov is by far, the most heavily armed multipurpose combatant in the Soviet inventory. Its own long-range anti-ship cruise missiles will significantly enhance its ability to strike allied warships.[39]

Smaller than the Kirov are the various Soviet naval cruisers. Late in 1962, the Soviets sent to sea the first Kynda class guided-missile cruiser. On board this ship, the most sophisticated weapon system is the SS-N-3 antiship cruise missile (equivalent to the land-based SA-8) with a 200-mile range. A follow-on Soviet cruiser called the Kresta was launched in 1967. This Kresta class cruiser displayed new Soviet technology. The Kresta-Is were primarily antisurface warfare-oriented while the second generation, the Kresta-IIs assumed more of an antisubmarine role. The weapons on the Kresta-IIs include a sophisticated SS-N-14 antisubmarine missile, torpedoes, twin antiaircraft missiles, and a helicopter. Aside from the Kresta, one of the newest Soviet cruisers is the Kara. This ship is propelled by a gas-turbine engine, which is capable of approximately thirty-five knots. In terms of weapons, it carries approximately the same systems as the Kresta-IIs.[40]

The use of destroyers in the sea control mission centers around the Soviet's Kashin and Krivak vessels. In the late sixties, the gas-turbine, guided-missile destroyers, the Kashins, were launched. With antiaircraft missiles, antisubmarine rockets, torpedoes, and mines, pound for pound these ships were considered some of the most heavily armed vessels afloat. With gas-turbine engines the Kashins were capable of moving through the seas at 35 knots. The Kashin class was followed by the Krivak class, which was launched in the early 1970s. Unlike the Kashins, this ship does not have the bow-mounted antiship missile launchers. Instead it is configured for an antisubmarine mission carrying various antisubmarine missiles, rockets, mines, and torpedoes.[41] Reports indicate that the Soviets have launched two very powerful new destroyers called the Sovremennyy class and the Udaloy class.[42]

While destroyers, cruisers, and aircraft carriers conduct their functions on the surface, attack submarines and cruise missile submarines complement these ships with their subsurface activities. The Soviets operate about 190 attack

submarines, most of which are diesel-electric powered, providing quiet maneuverability. About a third of these attack submarines are nuclear powered. The November, Echo, Victor, Foxtrot, and Tango classes are their primary attack submarines. The principal weapons are the antisubmarine and antiship torpedoes. Some of the newer vessels have rocket-propelled antisubmarine weapons.[43] Recently the Soviets launched a new class of attack submarine, the Alfa. Although little is known about the Alfa, reports indicate that it is built of titanium alloy and has an underwater speed greater than that of any submarine in the world. One U.S. naval officer claimed that when an Alfa submarine came down off the coast of Greenland, he tried to intercept it but was left standing behind. "She walked away from us," he commented. "We estimate her speed at around 50 knots submerged and she can dive to 2000 to 3000 feet."[44]

A second type of submarine used in the sea control mission is the cruise missile submarine. The Charlie class is the newest of these, and it is nuclear powered. Its weapon systems consist of eight short-range, 60-nautical-mile antiship cruise missiles that are fired while submerged. Its underwater launch capability makes this craft one of the most potent antiship submarines in the Soviet Navy.[45] Lately the Soviets have built an extremely large guided-missile submarine capable of launching 24 antiship missiles, with a range of approximately 250 miles.[46] Like the Charlie class, these missiles are fired while the ship is submerged. The classification of this new submarine is Oscar. With their Oscar, Charlie, and Alfa submarines, the Soviets have approximately 260 vessels to provide submerged sea-control capability.[47]

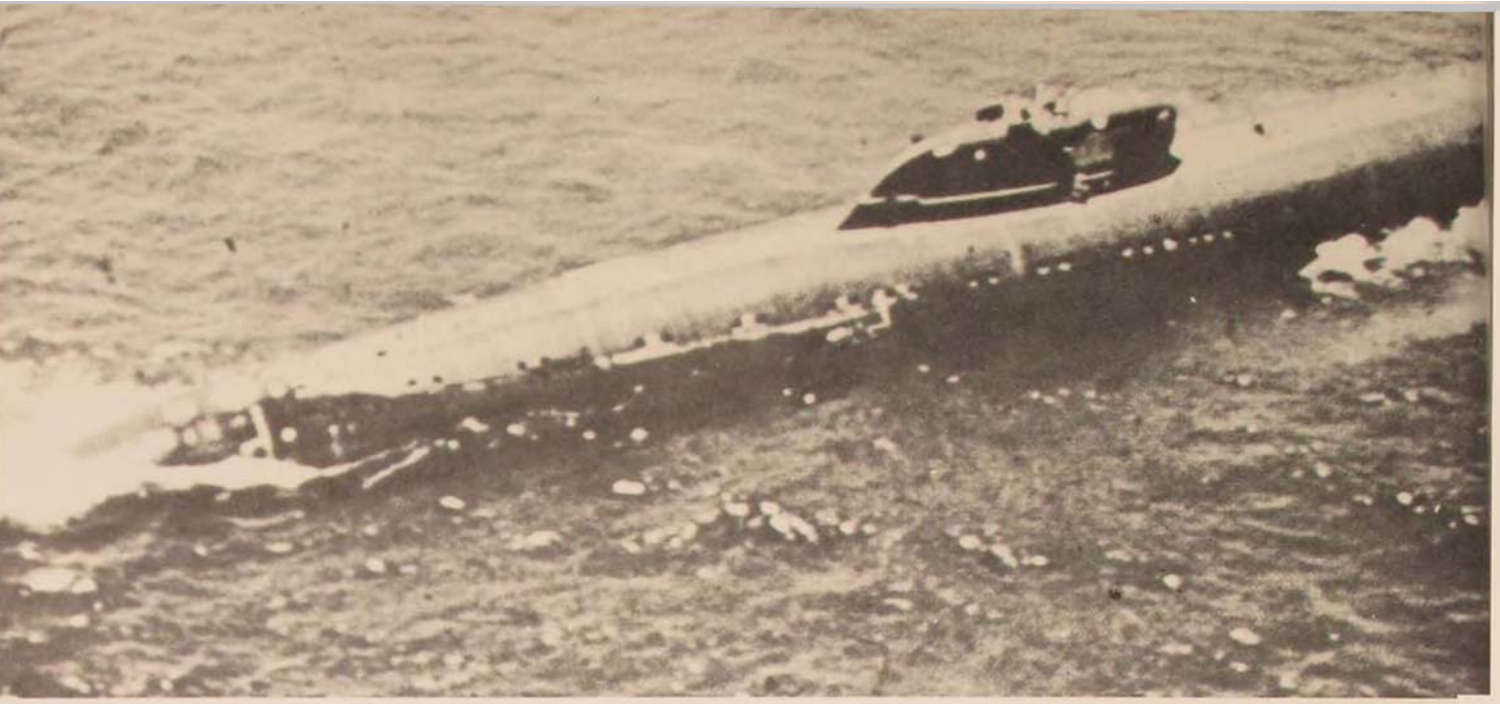
Complementing both the surface and subsurface elements, the Soviets possess several classes of naval aviation capabilities. The Tu-95 Bear-D, for instance, is used for long-range reconnaissance. It is a turboprop aircraft and quite often flies on trips to Cuba, Camranh Bay, and West Africa. In addition, the Soviets use the Il-38 May for maritime antisubmarine patrol. The prime strike force in the Soviet naval aviation consists of some 290 Tu-16/Badger aircraft that are fitted with antiship cruise missiles with an effective range of about 150 miles.[48] As the Badgers are retired from the navy, the Soviets are replacing them with the new Backfire bombers. The twinjet Backfire is a supersonic aircraft with variable swing-wing configuration. Recently, several Backfires joined the Pacific Fleet in Vladivostok. This aircraft carries a very sophisticated air-to-surface antiship cruise missile with an effective range of approximately 300 nautical miles. With refueling capabilities this aircraft can fly up to 2500 nautical miles out into the Atlantic or Pacific.[49]

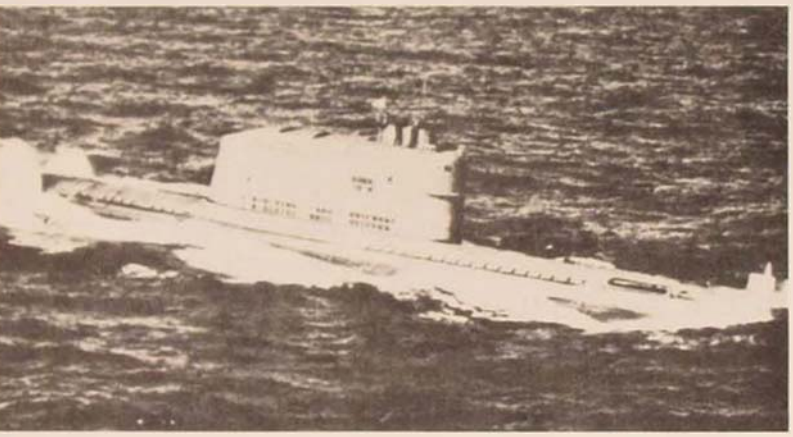
Thus, with the surface combatants, submarines, and naval aircraft, the Soviets are quite capable of seeking out enemy forces and destroying them. In a conflict, the West's aircraft carriers and ballistic submarines are the prime targets. Although the Soviets have spent a great deal of money on developing antisubmarine techniques, most naval experts believe they do not have the capability to pinpoint U.S. submarines. Yet each year, as the Soviets launch sophisticated weapon systems such as the Kirov, Oscar, and Alfa, the technological gap narrows.

power projection

The power projection mission is a function of the naval infantry's capabilities. As a student of history, Admiral Gorshkov was impressed with the United States Marine Corps assaults at Saipan, Guadalcanal, Okinawa, and Iwo Jima. Yet in comparison to the United States Marine Corps, which numbers approximately 180,000, the 12,000-man Soviet Naval Infantry is small. There is, however, at least one naval infantry regiment on each of the major Soviet fleets.[50]

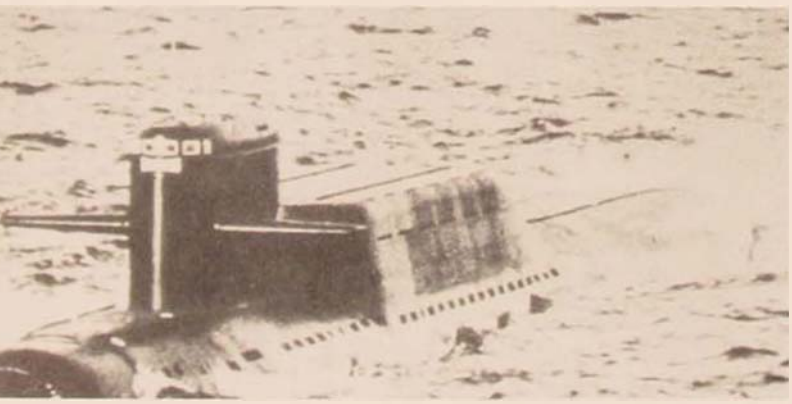
In contrast to its United States counterpart, the Soviet Naval Infantry has very little staying power or organic firepower. If naval infantry were committed to combat, it would have to be



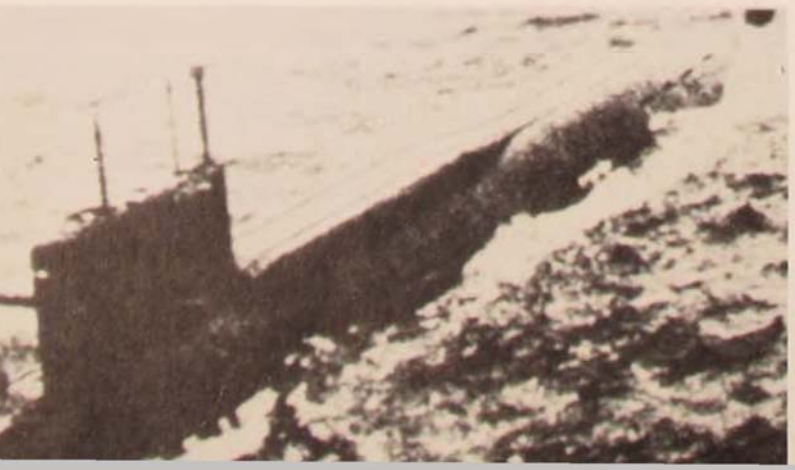


Soviet Submarines

The Charlie class submarine (above) is nuclear powered and the newest of the cruise missile submarines. It carries eight short-range (60-nautical-mile) anti-ship cruise missiles, which can fire while submerged.



The Soviet ballistic missile submarine dates from the early 1960s. The Hotel (below) and Golf (upper left) class submarines are used as theater nuclear weapons; each carries three SS-N-5 missiles. Delta (left) and Yankee (bottom left) class ballistic missile submarines are larger and date from the late '60s. Both are nuclear powered and carry 16 SS-N-6 nuclear-tipped missiles. The Yankee can range about 1600 miles whereas the Delta has about a 4200-mile limit. The Soviets probably have seventy ballistic missile submarines.



reinforced within four or five days. Soviet doctrine indicates that the naval infantry is intended to be used as shock troops spearheading an assault, closely followed by the ground forces.[51] Recent reports of Soviet Naval Infantry exercises in the Kuril Islands north of Japan confirm the speculation that the prime targets of these troops are shores bordering the various chokepoints.[52]

Complementing the Soviet Naval Infantry are the amphibious assault ships. The Alligator tank landing ship is a typical vessel used for this power projection mission. Propelled by diesel, this ship is relatively small, displacing about 4500 tons. In 1978, the Soviets launched a new amphibious ship, the Ivan Rogov. It is twice the size of the earlier ships and can launch amphibious vehicles from its open bow doors. In addition, it carries helicopters. Among the various small assault landing vehicles to launch from the bow are the hovercrafts, such as the Aist, which can carry the naval infantry ashore at speeds of fifty knots.[53]

The small naval infantry is one of the few elements of the Soviet military that are not powerful. In a conflict, these troops would most likely be sent ashore to capture the Dardanelles or the Kattegat straits and then wait for rapid reinforcement. Yet with the arrival of the Ivan Rogov, there are indications that Gorshkov is planning to strengthen the power projection mission.

deterrence

Of all the Soviet naval missions, deterrence is by far the most important, according to Gorshkov. In his book he labels the deterrence mission as "fleets against shore" and has this to say:

> The traditional operations of fleet against fleet which, since ancient times, have been characteristic of the struggle against sea communications of the opposing sides, are now being used in a new, decisive sphere—operations of a fleet against shore. This trend in the operational and strategic use of the fleet is becoming increasingly prominent and assuming the features of the main field of operations of a fleet, governing all others at all operational levels.[54]

This total reliance on the submarine-launched ballistic missile (SLBM) began in earnest during the early 1960s according to Michael MccGwire, authority on the Soviet Navy. In a sense, the rapid buildup of the Soviet ballistic missile fleet began as a reaction to the deployment of Polaris submarines by the United States. The Soviets and the West define deterrence somewhat differently. The Soviets hope their ballistic capabilities will be sufficient to dissuade an aggressor, which, of course, is deterrence in the traditional sense. But a crucial distinction lies in the Soviets' belief that if war should come, their armed forces must recover from an initial strike and fight on for a victory. In such a scenario, submarine forces would play a significant role.[55]

Basically, current Soviet ballistic missile submarines are categorized as either theater nuclear or intercontinental nuclear. The first category centers on the older ballistic missile submarines while the latter includes the newest vessels. During the early 1960s, the Soviets began building the Hotel and Golf class ballistic missile submarines. Initially, these submarines had to surface to launch their missiles. After some modification, these submarines became capable of submerged launchings. The Hotel class submarine was first built in 1958. It is nuclear-powered and carries three SS-N-5 missiles. Following the Hotel, the Soviets built the Golf class submarine. It is diesel-powered and also carries three SS-N-5 missiles. The effective range of these SLBMs is about 700 miles. With this short range, the Golf and Hotel would have to transit undetected through the GIUK gap. To avoid this, the Soviets use the Golf and Hotel class submarines as theater nuclear weapons. That is, these submarines are assigned targets in the European area, thereby nullifying the need to transit any chokepoint. From their patrols in the southern Baltic and southern Norwegian Sea, the Hotel and Golf subma-

rines become an effective theater nuclear force.[56]

In the late 1960s the Soviets began launching a series of larger ballistic missile submarines called the Yankees and Deltas. In the period between 1968 and 1977, the Soviets placed a priority on submarine construction. Each year they constructed approximately ten new submarines, of which six were ballistic missile submarines.[57] The first of these vessels were the Yankee class submarines. The Yankee is nuclear-powered and carries sixteen SS-N-6 missiles. Each missile is nuclear-tipped and has an approximate range of 1600 miles. The follow-on class of submarines constructed in the early 1970s was the Delta. The Delta is nuclear-powered and carries sixteen SS-N-8 missiles, each with multiple independently targeted reentry vehicles and a range of approximately 4200 miles. This means that the Delta can sail undetected off the Kola Peninsula coast or in the Okhotsk Sea and target practically any part of North America.[58] According to *Jane's Fighting Ships, 1980-81*, the Soviets have about seventy ballistic missile submarines of all classes.[59]

Even with seventy ballistic missile submarines, the Soviets have not slowed down their construction program. Reports indicate they are building the world's largest ballistic missile submarine, the Typhoon. Estimates indicate that the Typhoon will displace about 25,000 tons, making it more than twice the size of the Delta class submarines. In addition, this submarine will carry 20 long-range missiles, each with a multiple independently targeted warhead. The effectiveness of this new submarine, comments Admiral Shapiro, is enhanced by the

Soviet Naval Aviation

The turboprop Tu-95 Bear-D aircraft is used for long-range reconnaissance flights, as far afield as West Africa, Camranh Bay, and Castro's Cuba.

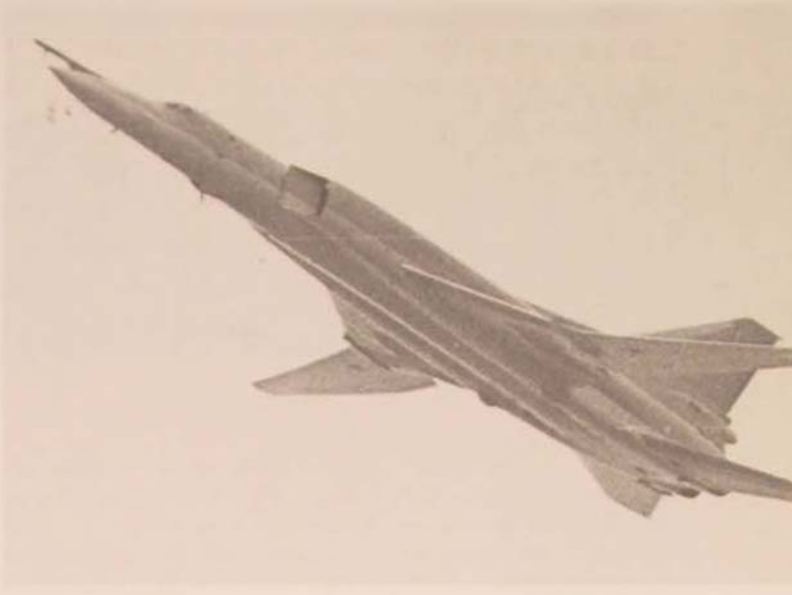
fact that it, like the Delta, can operate in the security of the Soviet home waters.[60]

When the Delta, Yankee, and Typhoon are evaluated in conjunction with the Soviets' land-based missiles, the effectiveness of their strike capabilities is quite impressive. Their theater nuclear and intercontinental nuclear capabilities comprise the basic functions of the deterrence mission.

Soviet naval personnel

Weapons without manpower are useless so it would be well to consider those who operate the Soviet weapon systems. Like their American counterpart, the Soviet naval officer is well trained and highly skilled. Typically he is a volunteer, carefully selected, and professionally motivated. When he qualifies, the young officer is educated in either surface-warfare subjects or naval-engineering courses. The engineering officer is rather specialized, while the surface warfare officer performs the line functions. Naval aviators are trained by the Soviet Air Force. After completing basic training, the surface warfare officer joins a ship, where he will earn his specialty rating by standing watch and learning his division duties. His responsibilities to his sailors consist of teaching them the technical specialties, their ship duties, and caring for their ideological well-being. Thus, working as a manager, technician, instructor, and loyal Communist Party member, the junior officer is quite busy during his first sea duty tour.

To gain command, the midlevel officer must broaden his career from a specialist to a generalist through a series of sea tours with the fleets, serving in different professional capacities. If he is selected for command, he will first serve as an executive officer and then succeed to command. Certification for command comes after a series of ship-handling tests. At one time or another, most senior officers attend the war college, Grechko Naval Academy, where undoubtedly they study about the American naval



The Il-38 May (top), an antisubmarine maritime patrol aircraft, became more evident during the midseventies. . . . The variable-geometry, twin-jet bomber, the Backfire (middle), is replacing the Badger in the Soviet naval aviation inventory. . . . The Yak-36 Forger (bottom), a VTOL aircraft, is part of the weaponry of the Minsk-class aircraft carriers. About 18 Forgers are on each carrier, well armed with rockets, machine guns, bombs, air-to-surface missiles.

threat. Overall the officer corps is technically competent, well motivated, and a formidable adversary.[61]

Enlisted personnel are usually drafted from various Soviet Union regions. Typically, the Soviet sailor is a conscript with limited training and little career motivation. He begins his tour by attending a nine-week basic training course, after which he is sent to sea to learn shipboard skills. At sea, the Soviet sailor's life is strictly regimented and closely supervised. While many of the new Soviet ships provide fair living conditions, they are not known for their comfort or habitability. On shipboard, time is specifically planned. For instance, idle chitchat, card playing, or other frivolous activities are curtailed in favor of political lectures by the ship's propagandist. From early morning through the night, the Soviet sailor's day is completely scheduled:

> Reveille is at 0600 followed by calisthenics at 0630; breakfast at 0700 and turn-to or political classes from 0800 until 1300 when lunch is served. Following the noon meal, the crew turns-to until dinner at 1800. Between 1800 and taps at 2300, either more political lessons, ship's work or "constructive" recreational time is scheduled.[62]

The technical skills of the enlisted sailor are quite limited. Each sailor is usually responsible for only one shipboard task, such as maintaining a specific piece of equipment or painting the bow. Advancement comes after a specific time in service and is automatic. For the first year of the three-year hitch, the sailor is paid about $10 a month, while in his last year he may make about $30 a month. With low pay and few privileges, only about 10 percent of the enlisted force reenlist. For those who do, the rank of michman (warrant officer) becomes a goal. With the constant rotation of sailors, senior enlisted personnel are in chronically short

The Berezina-class multipurpose ship weighs 40,000 tons. Its primary role is as a replenishment ship, resupplying Soviet naval ships far from their home ports on the Soviet landmass.

In support of its naval infantry program, the Soviets launched the Ivan Rogov-class amphibious ship (above) in 1978. It carries helicopters and can launch amphibious vehicles from its bow doors. . . . The hovercraft Aist (left) can carry naval infantry (marines) at a speed of fifty knots.

supply.[63] This lack of technically qualified senior enlisted personnel is one of the few weaknesses of an otherwise strong Soviet naval force.

WHAT, then, is the purpose of this rapid peacetime buildup of Soviet naval power? Sir John Moore, editor of *Jane's Fighting Ships, 1980-81*, had this to say:

> It is hardly surprising that the USSR, a determined state, with increasingly imperialistic ambitions, has watched the process of American self-immolation with the same satisfaction that it has the industrial dismemberment that has followed in the wake of labour and management upheavals in Western countries. Although suffering from its own internal problems, economic, demographic and agricultural, the Soviet Union has maintained a basic aim of world domination which allows an impressive continuity in military planning.[64]

Indeed, Admiral Gorshkov is quite explicit in defining naval operational goals: "The sea

power of our country is directed at ensuring favorable conditions for building communism. . . ."[65] Sooner or later, he argued, the United States will have to realize they no longer control the seas.

In terms of numbers, the Soviet Navy compares favorably with the U.S. Navy. Discounting the NATO allies, the United States has only about half the ships the Soviets possess. The Soviets outnumber the United States in surface combatants, attack submarines, and ballistic missile submarines. Yet, as Supreme Allied Commander, Atlantic Command, Admiral Harry D. Train II has pointed out, numbers alone are only part of the assessment. The Soviet Navy is deficient in several categories. In comparison to the United States, the Soviets' naval aviation is vulnerable. They have fewer aircraft carriers providing little or no sea-based tactical air support, while their land-based planes have limited flexibility. Second, while the United States Navy can sustain combat operations at sea for long periods of time, the Soviets cannot. Third, without long-range staying power, the Soviet power projection mission is limited.[66] In the Soviets' anti-submarine programs, they are apparently lagging in acoustical detection capabilities but are attempting to make up the deficiency with space-based optical and radar systems. Reports indicate they have not made much progress here.[67]

Yet added all together, the Soviet Navy remains a sea power of great magnitude. If past Soviet naval developments continue into the future, their navy will be increasingly involved in maritime operations around the world. Into the 1980s there are signs of no letup in the Soviet shipbuilding program. Certainly the Soviet acceptance of Gorshkov's theoretical doctrine of sea power substantiates previous naval policies and will sustain these efforts for decades. Indeed, Admiral Gorshkov emerges as a twentieth-century Mahan, "the articulate advocate of seapower as a vital, indispensable, attribute of real power status."[68] And just as the U.S. Air Force was called on to perform maritime operations in Vietnam, there is an increasing probability that our Air Force will be needed to counter this growing Soviet naval threat, also.

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Notes

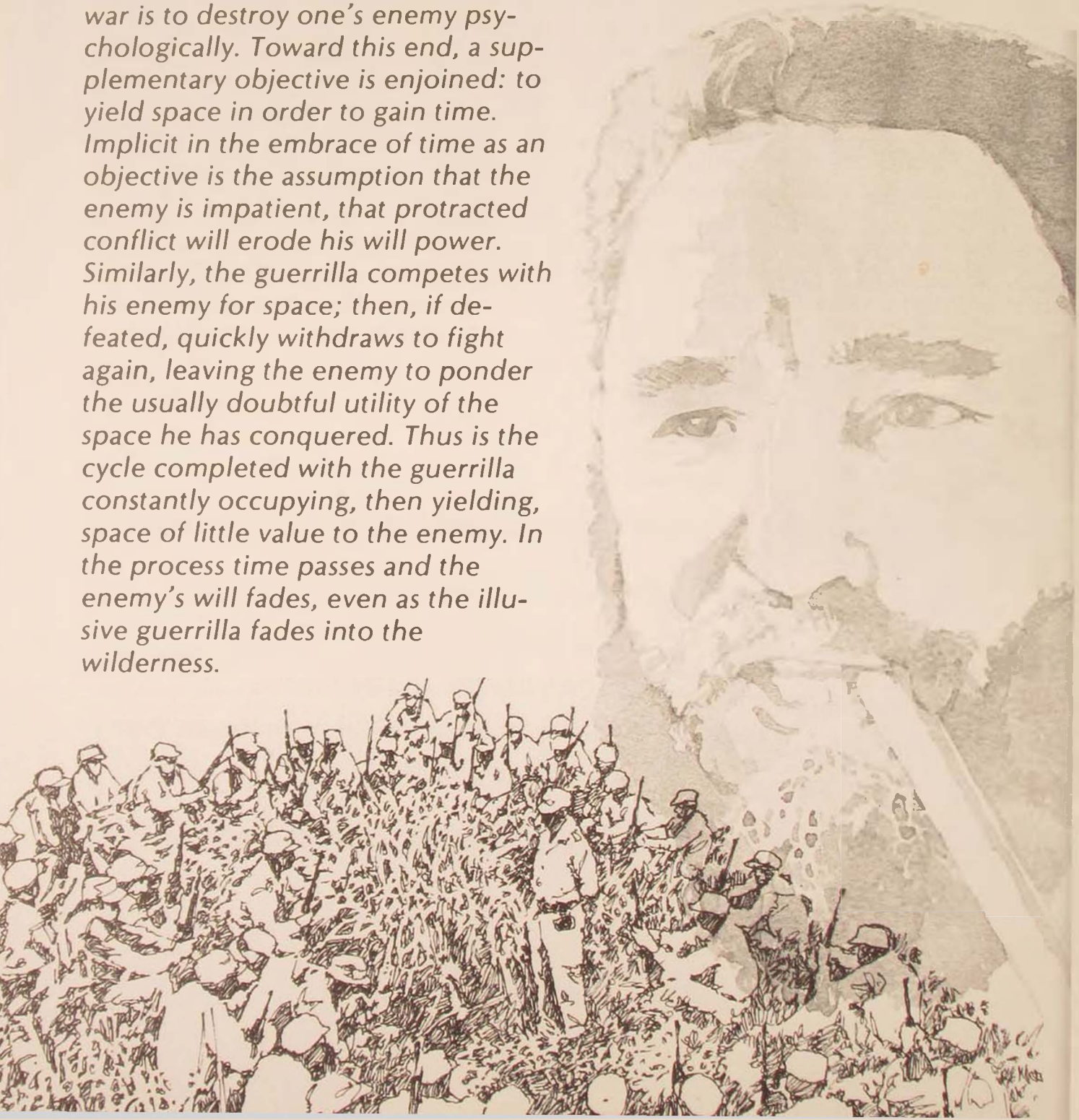
1. The NATO designation for the Soviet aircraft carriers Leningrad and Kiev is antisubmarine cruisers.
2. "U.S. Has Lost Sea Superiority, Navy Men Say," *Washington Star*, February 6, 1981, p. 3.
3. Nikita Khrushchev, *Khrushchev Remembers* (New York, 1974), pp. 28-34.
4. Herbert Preston, editor, in Sergei G. Gorshkov, *Red Star Rising at Sea* (Annapolis, Maryland, 1974).
5. S. G. Gorshkov, *The Sea Power of the State* (Annapolis, Maryland, 1979).
6. Rear Admiral E. M. Eller, USN (Ret), "Russia's Road to the Sea, Peter I to Napoleon," in *Red Star Rising at Sea*, pp. 11-21.
7. Michael W. Cramer, "Admiral of the Fleet of the Soviet Union, An Operation Code and Thematic Analysis," unpublished document (Monterey, California: Naval Postgraduate School, 1975), p. 116.
8. Gorshkov, p. 81.
9. Cramer, p. 94.
10. Gorshkov, p. 91.
11. Gorshkov, p. 125.
12. Vice Admiral J. F. Calvert, USN (Ret), "The Soviet Navy Rebuilds, 1928-41," in *Red Star Rising at Sea*, pp. 65-75.
13. See "The Soviet Navy in the Great Patriotic War," in *Red Star Rising at Sea*, pp. 89-96.
14. Ibid., p. 95.
15. Gorshkov, p. 148.
16. Don East, "The Evolution of the Soviet Navy as an Instrument of Foreign Policy," unpublished report (Maxwell AFB, Alabama: Air Command and Staff College, 1980), p. 20.
17. Eller, p. 22.
18. Cramer, p. 60.
19. David Fairhall, *Russian Seapower: An Account of Its Present Strength and Strategy* (Boston, 1971), p. 18.
20. John Moore, editor, *Jane's Fighting Ships, 1980-81* (New York, 1980), p. 537.
21. Admiral Harry D. Train, USN, "Sea Link 80 Remarks," paper presented before the Sea Link 1980 Conference, Annapolis, Maryland, June 19, 1980. Admiral Train is the Supreme Allied Commander, Atlantic.
22. E. P. Potter, *Illustrated History of the United States Navy* (New York, 1971), p. 142.
23. Office of the Chief of Naval Operations, *Understanding Soviet Naval Developments* (Washington, D.C., 1978), p. 22. Hereafter referred to as Chief of Naval Operations.

24. Keith A. Dunn, "Power Projection or Influence: Soviet Capabilities for the 1980s," *Naval War College Review*, September-October 1980, pp. 31-47.
25. "U.S. Naval Buildup Is Challenging Soviet Advances in Asia and Africa," *New York Times*, April 19, 1981, p. 1.
26. Michael McGwire, "The Rationale for the Development of Soviet Seapower," United States Naval Institute *Proceedings*, May 1980, pp. 155-83.
27. Gorshkov, pp. 245-53.
28. "Soviets Send Warships to Mozambique," *Chicago Tribune*, February 24, 1981, p. 12.
29. Gorshkov, p. 39.
30. Chief of Naval Operations, pp. 51-53.
31. Gorshkov, p. 39.
32. Moore, pp. 123-55.
33. Chief of Naval Operations, p. 55.
34. Moore, pp. 521-22.
35. Gorshkov, p. 252.
36. McGwire, pp. 155-83.
37. Gorshkov, p. 280.
38. Chief of Naval Operations, p. 21.
39. Stephen Webbe, "Soviet Navy a Growing Challenge to West," *Christian Science Monitor*, March 3, 1981, p. 6.
40. Chief of Naval Operations, pp. 80-91.
41. Ibid., pp. 85-90.
42. "Soviets at Sea: New Ships for Distant Bases," *New York Times*, January 25, 1981, p. 3.
43. Chief of Naval Operations, p. 33.
44. "Soviets Planning Advances in Maritime Capabilities," *Aviation Week & Space Technology*, March 16, 1981, p. 18. Hereafter referred to as "Soviets Planning Advances."
45. William Ruhe, "Soviet Navy Threatens Mideast," *Defense Electronics*, February 1981, pp. 75-80.
46. "Soviets Planning Advances," p. 18.
47. Chief of Naval Operations, pp. 33-34.
48. Ibid., pp. 99-100.
49. Clarence A. Robinson, Jr., "Soviet Moves Spark Defense Support," *Aviation Week & Space Technology*, January 21, 1980, pp. 74-91.
50. Chief of Naval Operations, p. 37.
51. Dunn, pp. 31-47.
52. Robinson, p. 81.
53. Moore, pp. 513-17.
54. Gorshkov, pp. 221-22.
55. McGwire, pp. 155-83.
56. Floyd Kennedy, "Theater Nuclear Encirclement, Soviet SLBMs Targeted on Western Europe," *National Defense*, February 1980, pp. 42-45.
57. McGwire, pp. 155-83.
58. Chief of Naval Operations, pp. 35-36.
59. Moore, pp. 123-55.
60. Webbe, p. 4.
61. Chief of Naval Operations, pp. 41-45.
62. Don Wheeler, "Life in the Soviet Navy," *All Hands*, May 1977, pp. 20-25.
63. Chief of Naval Operations, pp. 41-45.
64. Moore, p. 123.
65. Gorshkov, p. 284.
66. Train, pp. 1-9.
67. McGwire, pp. 155-83.
68. Elmo R. Zumwalt, Jr., "Introduction," in *Red Star Rising at Sea*, pp. 1-2.

PSYCHOLOGICAL WARFARE AND THE LATIN AMERICAN CRISIS

DR. ROBIN NAVARRO MONTGOMERY

The primary objective of guerrilla war is to destroy one's enemy psychologically. Toward this end, a supplementary objective is enjoined: to yield space in order to gain time. Implicit in the embrace of time as an objective is the assumption that the enemy is impatient, that protracted conflict will erode his will power. Similarly, the guerrilla competes with his enemy for space; then, if defeated, quickly withdraws to fight again, leaving the enemy to ponder the usually doubtful utility of the space he has conquered. Thus is the cycle completed with the guerrilla constantly occupying, then yielding, space of little value to the enemy. In the process time passes and the enemy's will fades, even as the illusive guerrilla fades into the wilderness.



THE military components of guerrilla strategy center around three stages: strategic defense, stalemate, and the strategic offensive.[1] As of this writing, the guerrillas in El Salvador appear to be in the early phases of the final stage while those in Guatemala are approaching the second stage of stalemate. Earlier phases are apparent in Honduras, Costa Rica, Colombia, and Peru. In Nicaragua, former guerrillas are consolidating their victory gained over the Anastasio Somoza regime in July 1979.

To one degree or another, a common denominator in all these guerrilla scenarios is Cuban involvement. Nor is this a novel situation. Since the early phases of the Vietnam War, Fidel Castro has played a dominant role as United States adversary. He formally allied his country to North Vietnam in the middle sixties and played a forceful role in bringing the United States to its first defeat. The role which Castro played so well was psychological. He capitalized on and helped galvanize domestic dissent in the United States against the war through such measures as media propaganda and providing training and indoctrination for radical forces like the Weathermen. Following Castro's advice, various cadres of revolutionaries taunted the U.S. government with public statements of their intent to create a fortress America, unmasking what they asserted to be the latent fascism of the United States political establishment.[2] Evidence that some segments of the U.S. government took the bait dangled by the verbal and physical actions of the radical forces is seen in former President Richard Nixon's belief, expressed during the David Frost interviews, that he was engaged in a war on the home front. Nixon's forceful response to domestic terrorism through wiretapping and other measures augmented his loss of credibility—and his presidency.

It is the purpose of this article to explore various facets of United States vulnerability in the face of the psychological warfare aspects of Castroism. Suggestions will follow as to how the United States may better foster a counter-psychological warfare strategy of its own. Basically, the model for this proposed strategy lies in former President John Kennedy's "battle for the hearts and minds" approach, a model which Castro himself has followed to a large extent. A major innovation of this study is the call for a primary focus on United States and Latin American intellectuals as conveyors of a psychological strategy. Inherent in the thrust of this proposal is the belief that the legitimacy of Castro in Latin America is derived to a large extent from his perceptual affinity with basic currents of intellectual thought in Latin America.

THE inattentiveness of the United States to the psychological dimensions of strategy is in part attributable to the parochialism of much of the intellectual community in the United States, which is reflected to a large extent in network coverage of crisis areas via television from Vietnam to Zimbabwe, Nicaragua, and El Salvador. The roots of this parochialism lie in the prism of empiricism through which events in these places are viewed. By definition, a belief that the origin or knowledge lies in observable phenomena outside of man, empiricism forms the underpinning for the dominant intellectual frame of reference in the United States, that of objectivism. Objectivity places primary significance on observed phenomena along with a preoccupation with pragmatism or obeisance to the practical. Practically, in this sense, a mind-set is derived from the basic assumption of empiricial thought that controlled, objective observation of phenomena will yield the rational laws of nature.

Natural law assumes rationality and morality as essential features of man. It is in order to encourage the flowering of man's rational and moral potential that the peculiar institutions of bourgeois democracy have been devised. One component of those institutions, civil rights, is a linear descendent of the natural law concept of natural rights. In the current vernacular,

natural rights is referred to as human rights.

The intellectual roots of human rights politics, then, lie in the moralistic-rationalistic assumptions of natural law theory. It is from this perspective that the moral outrage which much of the media-intellectual complex foists upon authoritarian governments such as those in much of Latin America derives. Inherent in this moral outrage is the parochialism that demands conformity to its own standards. When members of the media-intellectual complex hurl human rights barbs at Latin Americans, however, they enter an intellectual matrix which historically has proved alien—even hostile—to the very nature of these barbs. Efforts to export United States objectivism to Latin America have consistently met repulsion due to the alien mixture of objectivism with Latin American subjectivism. History records that even Simon Bolívar, the great liberator of northern South America from Spain, had to learn this lesson the hard way. As he lay dying, Bolívar is reputed to have lamented that he had plowed the sea like those other frustrated idealists, Jesus Christ and Don Quixote.

Bolívar had attempted to prepare the people he had freed from Spain in the early nineteenth century for democracy as he envisioned it to exist in the United States. The general took as a basic premise that democracy depended on an enlightened citizenry, a situation that he felt did not generally prevail in the Latin America of his time. Consequently, as an interim measure, he advocated political systems which limited participation to a minority of the public. For example, he suggested a lifetime presidency and official censors charged with the duty of inculcating in society values and rationality consonant with democracy.[3]

Bolívar carved for himself an impossible task. Centuries of Spanish oppression followed by more than a decade of revolution had left most Latin Americans psychologically disoriented, rootless, and susceptible to political demigods, proponents of quick and easy solutions. The political vacuum was filled by the caudillos, strong men hungry for power, who filled the public craving for order without waiting for Bolívar's laborious state-of-mind approach to reach fruition, creating the necessary mental base for democracy. Indeed, in many cases influential citizens whose views approximated Bolívar's but whose patience and will were inferior to his invited the caudillos to impose order through force.

Bolívar, himself, eventually gave up the battle, dying a frustrated man. Nor was Bolívar the only leader of consummate will who gave up the task. José de San Martín, the grand leader of liberation forces in southern South America, believed the situation called for a constitutional monarchy while awaiting the inculcation of democratic values and knowledge. San Martín soon retired to Europe, as frustrated as Bolívar.[4]

Compounding his frustration had been Bolívar's perception of the United States as "that land of freedom and home of civic virtue."[5] On another occasion he had written that "as long as our countrymen do not acquire the abilities and political virtues that distinguish our brothers of the north, wholly popular systems, far from working to our advantage, will, I greatly fear, bring about our downfall."[6]

Assessing the problems of Latin America from the perspective of the United States, Thomas Jefferson, too, shared the forebodings of Bolívar and San Martín:

> I wish I could give better hopes of our southern brethren. Their achievement of their independence from Spain is no longer a question, but it is a very serious one. What will become of them? Ignorance and bigotry, like other insanities, are incapable of self-government. They will fall under military despotisms, and become the murderous tools of the ambitions of their respective Bonapartes.[7]

It was this very consonance of views between people such as Jefferson on the one hand and Bolívar and San Martín on the other which festered into the sore that would burst around the turn of the twentieth century with the rise

to prominence of Rubén Darío, a poet born in Nicaragua in 1867. When Darío met death in 1916, he left behind a legacy to which scholars of Latin American literature have referred as modernism: it is, essentially, an emphasis on themes native to Latin America and its Indian and Hispanic heritage over those of European and United States origin. One of Darío's works that provided a catharsis for Latin American intellectuals was his "Letanía de nuestro Señor Don Quixote." In this classic poem, the master Darío magically united Latin America with its Hispanic roots. Immersed in the trappings of Miguel de Cervantes's immortal character, Don Quixote, Latin Americans could take an apocalyptic leap out of the haunting shadow of what was for them a stale preoccupation with the stoicism inherent in objective analysis. With such references to Don Quixote as "one to whom classic glories were scarcely from law and reason," and with homage to the same Quixote who, "crowned with the golden helmet of illusion no one has been able to conquer," Darío cast reason in the classic Western mold to the backwaters of intellectual fashion in Latin America while catalyzing a decided tilt toward subjective or intuitive analysis.[8] In the process, he augmented trends already apparent throughout Latin America which would become evident in the works of such scholars as José Vasconcelos and Octavio Paz of Mexico, Frantz Fanon from Martinique, and José Martí of Cuba.[9]

Martí, a contemporary of Rubén Darío, stated in his classic essay, "Nuestra América," that most Latin Americans, relegated to centuries of ignorance under Spain, were unrealistically expected by various intellectuals in the aftermath of revolt against the mother country to suddenly take on the rationality characteristic of Europe and the United States in pursuance of democracy. This, Martí held to be absurd. He prophesied that Latin America's poor downtrodden masses, possessors of subconscious truth untainted by objective reason, would one day rise in revolt, ushering in an era characterized by sociopolitical patterns consonant with the true heart of Latin America.[10]

Known as the father of the Cuban Revolution, José Martí left a philosophical legacy that is reflected in elements of Castroism. Before analyzing those elements, it should be established that the subjectivism of the Castroists not only exhibits similarities to the views of Martí and others already mentioned but that it also has roots in Latin America's indigenous Marxist tradition. From his writings in the 1920s, the late José Carlos Mariátegui of Peru, the most notable of Latin America's Marxists before Castro, bequeathed to Castroism the insight that "Neither reason nor science can satisfy completely the need for the infinite that exists in man . . . only myth has the rare power of filling the depths of his being . . . an irrational mythos of some sort—is an undeniable concomitant of the human condition."[11] In Castroism, irrationality is reflected in the glorification of subjectivity in its most pronounced form, armed struggle, along with a concomitant revulsion of the objectivity inherent in political strategies placing a high value on reasoned compromise.

Fidel Castro collaborated with the French intellectual, Régis Debray, in the latter's book *Revolution in the Revolution?* published in 1967. Debray's basic premise was the myth that the Latin American oligarchies, whether democratic or dictatorial, were evil while Castro and his armed revolutionaries were good. He then proceeded to attack those who challenged his premise. His special targets were the honest revisionists who, attempting to compromise with their situation, claimed that armed struggle was unsuited to their countries. Debray attempted to woo revolutionaries away from the revisionists' approach and toward armed struggle.

Debray's general approach was to attack two fundamental, interrelated principles of the revisionist position. One of these was the Clausewitzian concept that war was only one of several tactics of any given government or politi-

cal group among a basically political continuum of actions. Debray was concerned that practical application of this concept would result in placing too much control in an urban-based political vanguard at the expense of armed cadres in the countryside. He believed the urban-based political vanguard to be a security risk. He argued that urban groups were vulnerable to capture during liaison attempts in the city. Debray found that the urban environment distorted the political vanguard's perception of information — information considered germane might be totally irrelevant in the rural environment. Additionally, dependency on directions from the city induced a lack of self-sufficiency in the guerrilla; he developed a passive character, an inferiority complex.

The city vanguard's tendency to engage a popular front strategy which called for constant political maneuvering with allied, but alien, partners constituted the second principle of the revisionists which Debray attacked. He argued that the popular front necessitated compromise tactics that created a tendency for the vanguard to forget the urgency of the guerrilla situation and become soft. Debray called this phenomenon "urban embourgeoisment." Those who sought to gain their goals through reasonable negotiations, then, were in Debray's view inferior to the guerrilla who gave vent to his passion for violence with little pause for objective analysis.

Debray then described the uniqueness of the Latin American situation within the context of the broad thrust of communist theory. He believed a political vanguard, as advocated by Lenin, Mao, and Ho Chi Minh, to be inappropriate in Latin America because, unlike the U.S.S.R., China, and North Vietnam, Latin America's existing Communist parties were not linked from their inception with the armed struggle; purely objective theoretical training was no substitute for the purifying catharsis of armed conflict on the scene.[12]

Debray developed his argument by moving through several loop-holes in the Communist theory that the Soviets had created. One of these appeared in their debates with the Chinese when the Soviets disagreed with Mao's contention that the Communist Party should gain control of the first stage of a revolution. This position enabled the U.S.S.R. to label Castro a "revolutionary democrat." Debray agreed with the U.S.S.R. that the party should not be immediately involved. It was his contention that armed cadres should preempt the party.

Debray then took advantage of a second Soviet loophole. Moscow had placed the mantle of legitimacy on Castro's party in 1965 when he changed its name from the United Party of the Socialist Revolution to the Cuban Communist Party. That party, however, came under the domination of Castro's 26th of July Movement; therefore, if Castro and his original revolutionary followers were a legitimate communist vanguard, he could, in turn, place the mantle of legitimacy on the armed cadres in other countries which copied his style.[13]

The cult of personality in the caudillo-like adoration from the masses which Castro demands is strongly reminiscent of Hitler.

In light of the Debray-Castro interpretation of these two loopholes, it is proper for Castro-supported guerrilla forces seeking their goals through armed struggle to be labeled *communists*, whatever they might call themselves. Furthermore, it follows that communists, in the Castroist connotation of the term, are those whose prestige and power relate directly to an uncompromising embrace of subjectivism wedded to a disdain of objective reason. This attachment to subjectivism, in turn, puts Castroist communism in the philosophical mainstream of Latin America's intellectuals, as summarized earlier. Among much of Latin

America's idealistic youth, acclaim for Castroism continues to be ignited through its identity with the legacy of its great practitioner Ernesto "Che" Guevara's Quixote-like struggle against both the capitalist and the pragmatism — or penchant for compromise — of the communist establishment.

Operating from a guerrilla *foco* (base of operations) in Bolivia which he established in 1966, the legendary Che, who had once been outranked only by Castro in the Cuban revolutionary movement, attempted to create "two, three, many Vietnams" in Latin America. Even as Debray's book reached the final stages of publication in late December 1966, Guevara engaged the Bolivian Communist Party leader, Mario Monje, in a dramatic debate that indicated a similarity of views between Che and Debray while marking a decline in the traditional Communist Party's hegemony over the left.

Che belittled Monje's objective of fighting only for limited national aims and called for Latin American revolution on a continental scale. Whereas Monje believed Latin American countries exhibited various degrees of revolutionary potential, Guevara proclaimed that broadly similar objective conditions obtained in all the hemisphere and that Castro's revolution in Cuba provided the true model for all would-be revolutionaries on how to exploit those objective conditions; he declared that military cadres were more capable of creating subjective conditions for revolution than the traditional Communist vanguard that Monje exemplified.[14]

Che's rebuttal, the "Grito de Murillo," only formalized the atmosphere of derision that permeated relations between the followers of Che and those of Monje. As a result, desertions from Guevara weakened his forces. Acting on information from these deserters, U.S. Green Berets began training Bolivians in appropriate counterinsurgency techniques in April 1967. These forces trapped and mortally wounded Che the following October.

Far from fading into oblivion, Guevara's death made him a martyr to the cause of armed struggle. In 1969, the Brazilian, Carlos Marighela, published *Manual of the Urban Guerrilla*, an immediate best seller among those concerned with violent revolution. Marighela's basic premises reflected Guevara's views. He argued for revolution on a continental scale, labeled U.S. imperialism and the U.S.-dominated Latin American oligarchies the primary and secondary enemy, respectively, and argued that the main struggle should appear in the rural areas. It was on the last point that a tactical modification of Guevara's views ensued: adapting his strategy to the vastness of Brazilian territory and the consequent diminished likelihood of outside assistance, Margihela called for preliminary guerrilla forays in the cities as a practical measure to gain monetary resources and experience. Having proved themselves under fire in the urban sphere, selected guerrilla vanguards could then move to the country to engage the primary battle.[15]

Marighela's urban emphasis, then, coupled with Che's defeat in the countryside, set the stage for Castroism's continental and world revolution against U.S. imperialism from the environment of the city. Simultaneously, the Tupamaro guerrillas of Uruguay were harvesting the Guevara legacy, as summarized by Professor Donald Hodges:

> Although the original application of Che's Bolivarian strategy was to Bolivia and Brazil, the Tupamaros' Roundtable of May 1970 effectively transformed Uruguay into a third radiating center of a Latin American Vietnam; the Roundtable led directly to an escalation of guerrilla activity in both Argentina and Uruguay; to the smuggling of arms into neighboring Paraguay . . . to the financing by the Tupamaros of both the Chilean MIR and the Bolivian ELN (the remnants of Che's foco) for the purpose of escalating armed actions in those countries. A general commitment to Che's Vietnam strategy is likewise evident in the case of several other guerrilla movements that did not participate in the Roundtable.[16]

The heirs of Che unleashed terror in Ar-

gentina through the loose coalition of two guerrilla organizations, the Montoneros and the People's Revolutionary Army, ERP. The periodical, *Latin America*, claimed in its November 28, 1975, issue that the "ERP remains an essentially military operation conceived in the last analysis in terms set out by Régis Debray in *Revolution in the Revolution?* . . . all their urban operations were designed as preparations for establishing a rural base."

By December of 1981 the U.S. Department of State could report that,

> Unlike Che Guevara's attempts during the 1960's, Cuban subversion today is backed by an extensive secret intelligence and training apparatus, modern military forces, and a large and sophisticated propaganda network. . . . a major difference from the 1960's is that, instead of throwing up obstacles, the Soviet Union generally has backed Cuban efforts.[17]

Solid Soviet support surfaced in the late seventies when, after intervening and at least qualified successes of Cuban forces in Angola and Ethiopia, Cuban-supported and -trained guerrillas—the Sandinistas—obtained power through armed struggle in Nicaragua. On the eve of that victory, Thomas Borge, the only surviving member of the original leadership of the Sandinista movement of the early sixties inspired by Castro's then recent revolutionary victory in Cuba, made a prediction: He asserted that a Sandinista victory would herald the "revolutionary transformation of Central America . . . and upset the correlation of forces in Latin America."[18] When in the immediate aftermath of the Sandinista victory, Régis Debray met the press in Nicaragua with Mario Eduardo Firmenich, a leader of the Montoneros, reporters on the scene recorded the parting statement of the revolutionaries to one another: "See you in Guatemala and El Salvador."[19]*

As it did during the Nicaraguan Revolution, Cuban radio propaganda continues to lend encouragement to Central American revolutionaries through a heavy infusion of poetry and song in praise of the noble guerrilla. Similarly, the Cuban media continue to glorify the poet as harbinger of subjective truth through frequent reminders of José Martí's title, father of the Cuban Revolution. Through his preference for armed revolutionaries over objective vanguard forces, Castro has projected an image reminiscent of Darío's version of Don Quixote, thereby identifying with the Hispanic ideal of freedom.

Another side of Castro's strategy relates to his portrayal of the United States and U.S. values as, in effect, contrary to those of the noble Quixote. Many U.S. government officials and intellectuals play the role in which Castro has cast them. Particularly ironic is the fact that many intellectuals who inveigh the loudest in favor of reasoned, negotiated solutions to conflicts such as in El Salvador are Castro apologists; the irony lies in the rational nature of their appeal to guerrilla leaders whose very legitimacy derives from their disdain of bourgeois objectivity. It is more than coincidental that those least interested in elections in El Salvador—unless they could have been guaranteed of victory—have been the Castro-oriented guerrillas.

IF one accepts the thesis of this study that what success Castro has enjoyed in Latin America is due, in large measure, to his attention to the literary and philosophical state of mind of his audience, it follows that United States policymakers should consider enjoining battle in those same literary and philosophical realms. Such a policy could entail a critique showing that a Castro-type system in practice does not really live up to the ideals of Quixote. The freedom with which Castro attempts to identify is in fact an illusion. Instead of freeing the poet in man to soar like Quixote, far from

*It should be noted that evidence is emerging that the guerrillas in Guatemala "have abandoned the delusions of the Guevarist foco theory and have concentrated on building firmer political bases among the populace." See Richard Feinberg, "Central America: No Easy Answers," *Foreign Affairs*, Summer 1981, pp. 1121-46.

the constraints of the State, Castroism enslaves one's spirit to the State. Empirical confirmation of this is seen in the revulsion of Castro's Cuba, which led Che Guevara to seek subjective fulfillment in the jungles of Bolivia in true Quixote fashion. The figurative swords of Che, though aimed directly against the windmills of the communist establishment in Bolivia, were pointed obliquely at the stultification of imagination seeping into Castro's entourage.

Instead of epitomizing the liberal ideal of free thought, Castroism advances conservative reactionism: it approximates Spanish Colonialism complete with the Spanish Inquisition, along with more than a sprinkling of the Nazi brand of fascism. Nazism and Spanish Colonialism are united in the abhorrence of critical thought among Castro and his guerrilla cohorts, which leads them ceremoniously to execute deviants from the principle of duty overall. As in the inquisition, many of these executions occur after the victim has repented of his sins. The preoccupation with death, heroism, and martyrdom is symptomatic of a traditional Latin American fatalism similar in many respects, to elements of Nazism. The guerrilla society, whether in the stage of insurgency or in control of the government, is also militarized, divided into various brigades. The cult of personality in the caudillo-like adoration from the masses which Castro demands is strongly reminiscent of Hitler.[20]

Freedom under such circumstances flows not from soaring like Quixote above the rabble but by identifying with and conforming to the vulgarities of the mob. In a Castroist system—as in Nazi Germany—the highest form of treason lies in retrieving and communicating messages from one's inner, and real, self which do not conform to truth as interpreted by the State. The supreme irony of Castro's Cuba, from which emanates so much "antifascist" propaganda, is that Castro himself is one of the foremost proponents of the active ideology in today's world that most closely resembles the radical—or Nazi brand—of fascism!

Inculcation of these ideological components of a psychological warfare strategy requires several practical changes in U. S. policy. One of these would involve inviting teachers, writers, poets, and philosophers, both from the United States and abroad, to U.S. defense consortiums and educating them to the relationship of such fields as poetry and philosophy to national security. "In Spanish America the intellectual component—the influence generated by teachers, philosophers, and men of letters—weighs much more heavily than it does in the United States."[21] The point may be demonstrated in several ways: the concept in Latin America, alien to the U.S. mind, of national universities; the prevalence of part-time university teachers, which blurs the distinction between academia and the general public; the greater impact of students on Latin American society and politics; and the considerable number of thinkers and literary men who have gained high office in these nations.[22]

. . . the tendency of the U.S. media to lay the primary blame automatically on the United States for lack of successful negotiations in places like El Salvador puts the U.S. government on the defensive to the advantage of guerrillas who, as we have seen, actually have little interest in negotiations.

High priority should also be given to educating United States and Latin American journalists of the press, television, and radio to their inadvertent but critical role in their respective country's defense establishments. From a psychological warfare perspective, their role is comparable to both the general in the strategy planning room and the soldier on the front

lines of battle for Latin America's mind. For example, the tendency of the U.S. media to lay the primary blame automatically on the United States for lack of successful negotiations in places like El Salvador puts the U.S. government on the defensive to the advantage of guerrillas who, as we have seen, actually have little interest in negotiations. Also, current efforts to fashion a "Radio Free Cuba" and emphasize more anti-Castro propaganda in the Voice of America broadcasts should be encouraged. In addition, Cuba's blatant violation of the air waves of neighboring countries should be given maximum publicity.[23]

Another overdue change which would enhance U.S. capability for psychological warfare would be a reversal of the trend away from training foreign military personnel in the United States. Those numbers declined by two-thirds over the last decade while foreign military personnel trained in the U.S.S.R. increased tenfold.[24] Repercussions of this trend have been serious; it partially accounted for U.S. timidity in the face of the Sandinista drive for power in Nicaragua in 1979. Enrollment in the United States Army's School of the Americas in Panama had dropped from an average of 1700 per year for 1974-76 to 901 for 1977. Only a vigorous recruitment drive kept the figure above 700 in 1978, when no students registered from Guatemala, El Salvador, Mexico, Brazil, Chile, Haiti, or Uruguay.[25]

United States direct influence on the Latin American military has declined dramatically since it successfully countered Castro's Latin American forays in the early sixties through a military civic action policy, combining military force with a diplomatic and economic offensive aimed at influencing the Latin American's state of mind. Even before the death of Che Guevara in 1967, the United States had begun to phase out the policy. In the seventies and early eighties, Castro opted for essentially this same policy with which the United States had earlier weakened his appeal. He has been rushing teachers, doctors, engineers—and even priests—to susceptible clients such as Guyana, Grenada, and Nicaragua, along with proferring them assurances of military security.

IN order to reemphasize psychological warfare in Latin America the United States must initiate a positive tone, continuing to cultivate the military hierarchies in Latin American countries as the Reagan administration currently appears to be doing. The immediate focus in Central America should be on salvaging the remnants of the Central American Defense Council, CONDECA, weakened by the Nicaraguan Revolution. There is cause for optimism since, due to the Sandinista victory in Nicaragua and the chaos in El Salvador, Central American regimes are now in a receptive mood to cooperate to head off a Castro-supported war of national liberation against them. For example, on 19 January 1982, Honduras, Costa Rica, and El Salvador birthed the Central American Democratic Community "to defend their values and seek the support of other democratic states." The "other democratic states" of Venezuela, Colombia, and the United States responded on 27 January, agreeing to meet regularly with the three Central American allies.[26]

Another positive sign for the Reagan administration is the "Declaration of San José" of February 1982. Forty-five delegates representing twenty-two nations of the Americas convened in the Costa Rican capital to fashion an official statement reflecting affinity with the views of the United States President. For example, the declaration maintained in part that "it is false to attribute present political agitation solely to internal economic causes; subversion and terrorism are of foreign origin, supported by the communist regimes of Soviet Russia and Cuba." Furthermore, the declaration stated that "international pressure groups and communications media, 'acting in good or bad faith,' have twisted facts and given a distorted picture of Central American reality.[27]

THE United States thus has many positive factors from which to mold an effective psychological offensive in Latin America. What is needed is a spark, a catalyst. One means to ignite that spark is to emphasize the role of the Latin American business and military community in combining economic development and propaganda with military security, in conjunction with visits to U.S. defense consortiums of journalists, poets, philosphers and the like from the United States and Latin America. The United States can again compete successfully with Cuba for Latin America's state of mind and, if handled properly, it can do so without raising the phobia of "no more Vietnams."

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Notes

1. John Pustay, *Counterinsurgency Warfare* (New York: The Free Press, 1965), pp. 25 ff; E. L. Katzenbach, "The Time, Space, and Will," in T. N. Greene, *The Guerrilla and How to Fight Him* (New York: Praeger, 1962), pp. 11-21.

2. See for example, Georgie Anne Geyer and Keyes Beech, "Cuba, School fo US Radicals," nos. 5, 6, 7, *Chicago Daily News-Sun Times*, quoted in the *Houston Chronicle*, October 16, 18, 20, 1970; and *Cuba's Renewed Support for Violence in the Hemisphere*, a research paper presented to the Sub-Committee on Western Hemisphere Affairs, Senate Foreign Relations Committee, Washington, D.C., December 14, 1981, p. 6.

3. See Bolivar's letter, "Message to the Congress of Bolivia," May 25, 1826, in Harold Bierch, Jr., editor; Vicente Lecuna, compiler, *Selected Writings of Bolivar* (New York: The Colonial Press, 1951), vol. II, pp. 596-606.

4. Victor Andres Belaunde, *Bolivar and the Political Thought of the Spanish American Revolution* (New York: Octagon Books, 1967), pp. 188-94.

5. Bolivar, "Essay on Public Education," (1825 or 1826), *Selected Writings of Bolivar*, vol. II, pp. 555-60.

6. From Bolivar's "Jamaica Letter," September 6, 1815, in ibid., vol. I, pp. 103-22.

7. *Jefferson's Correspondense*, vol. IV, p. 304.

8. For a discussion of modernism followed by a sampling of Dario's poetry, including the poem quoted, see Margarita and Ernesto Da Cal, editors, *Literatura Del Siglo XX* (New York: Holt, Rinehart & Winston, 1955), pp. 289-301.

9. See, for example, Stephen Homick, "Soledad y Communión: Octavio Paz y el desarrollo de la idea Mexicana de la historia," *Cuadernos Americanos* (Mexico, D. F.), January-February 1980, pp. 99-114 and Frantz Fanon, *The Wretched of the Earth* (New York: Grove Press, 1963).

10. José Martí, "Nuestra América," *Cuadernos Americanos*, November-December 1979, pp. 67-74.

11. Martin Stabb, *In Quest of Identity* (Chapel Hill: University of North Carolina Press, 1967), pp. 114-15.

12. Régis Debray, *Revolution in the Revolution?* translated by Bobby Ortiz (New York: Grove Press, 1967) and Bruce Jackson, *Castro, The Kremlin and Communism* (Baltimore: Johns Hopkins Press, 1969). See Robin N. Montgomery, *Cuban Shadow over the Southern Cones* (Austin: Tyler Publishing Co., 1977), pp. 75-76.

13. Montgomery, pp. 76-77.

14. Richard Gott, *Guerrilla Movements in Latin America* (Garden City, New York: Doubleday, 1971), p. 433.

15. Donald Hodges, *The Latin American Revolution: Politics and Strategy from Apro-Marxism to Guevarism* (New York: William Morrow, 1974), pp. 187-93.

16. Ibid., p. 215.

17. *Cuba's Renewed Support for Violence in the Hemisphere*, pp. 2, 8.

18. *Times of the Americas*, 4 October 1978, p. 4.

19. James N. Goodsell, "Nicaragua: War for Export?" *Christian Science Monitor*, July 25, 1979, p. 1; Alan Riding, "A Reporter's Notebook: Managua Relaxes," *New York Times*, July 23, 1979, p. A3.

20. My views on Castro as a reactionary figure are similar to those found in H. C. F. Mansilla, "Violencia e identidad. Un estudio critico-ideologico sobre el movimiento guerrillero latino-americano," *Cuadernos Americanos*, March-April 1980, pp. 14-40.

21. Stabb, p. 3.

22. Ibid., pp. 3-4.

23. "Local Radiomen Plan Defense of Airwaves," *The Tico Times* (Costa Rica), February 26, 1982, p. 8.

24. Anthony Cordesman, "US and Soviet Competition in Arms Exports and Military Assistance," *Armed Forces Journal*, August 1981, pp. 65-68, 70-72.

25. Alan Riding, "Latin America Turning Away from US Military Guidance," *New York Times*, July 1, 1978, p. A2.

26. "Democracy and Security in the Caribbean Basin," statement by Thomas O. Enders, Assistant Secretary of State for Inter-American Affairs, before the Sub-Committe on Western Hemisphere Affairs, Senate Foreign Relations Committee, February 1, 1982.

27. "Businessmen Call for Continental Aid for Region," *The Tico Times*, February 26, 1982, p. 8.

air force review

A UNIFORM NATIONAL AIR-CARGO SYSTEM

Do we need it?

PAUL D. TUCK

Victory is the beautiful, bright-colored flower. Transport is the stem without which it could never have blossomed.

Winston Churchill
The River War, 1899

BEFORE THE DEVELOPMENT of the Air Force's 463L Materials-Handling System, individual pieces of cargo were floor-loaded by hand. However, as aircraft grew in size and productivity, cargo-handling and aircraft-loading efficiency were upgraded. The changes involved areas like the in-plane air-cargo systems, materials-handling equipment (MHE), and containers and pallet net combinations, known as unit-load devices (ULDs). Military and civil transport aircraft were originally handled in the same way. But significant differences between the two airlift systems have evolved over the years. These differences recently led to the expression by the Department of Defense of a requirement for increased interoperability between military and civil air-cargo systems.[1]

The reverses that the United States and the free world have suffered in the Middle East, Africa, and Central America during the last decade have served to intensify our nation's urgent need for availability, on short notice, of a standardized airlift system for rapid deployment of cargo and troops, especially to remote areas.

The current airlift components of our system are the United States Air Force Military Airlift Command (MAC) and the Civil Reserve Air Fleet (CRAF) and their aircraft, ground-support equipment, services, and personnel. During peacetime, the two airlift agencies have differing needs and interests. During conflict, they have the same mission: to move war materials rapidly to the conflict area or areas. The military system relies heavily on the 88″ X 108″ pallets of the 463L Materials-Handling System. The civil system relies to a greater extent on containers and the 88″ or 96″ X 125″ civil pallets.

There is also a lack of compatibility between military transport aircraft and civil aircraft. The 108″ gauge rail systems in military aircraft (designed to handle pallets with a secondary function of airdrop) are not adjustable. On the other hand, the civil rail systems are adjustable, so as to accommodate varying sizes of pallets and other unit-load devices.[2]

Advances in the development of transport aircraft have historically paced development of complementary ground systems. This portion of the military materials-handling equipment specifically designed for the 463L system will not rise high enough to reach the upper decks of the newer wide-bodied aircraft, and civil cargo loaders generally cannot be lowered to interface with the truck-bed height of military aircraft.[3] However, the Air Force is procuring additional commercial equipment to meet wide-body needs.

Although interoperability needs to be improved, a modest level of interoperability does presently exist. Civil cargo-capable aircraft can accept 463L system pallets, but military aircraft cannot accept civil pallets. This level of civil interoperability results from airline responsibility under CRAF contracts; the carrier's need to interline (i.e., transport ULDs of varying dimensions between *different* airlines); and the need to transfer ULDs between different types of aircraft within individual airlines.[4]

If unit-load devices were fully interchangeable between civil and military aircraft, the total number of ULDs required by the two airlift systems could be reduced. At present, MAC provides 463L system pallets for both their military aircraft and civil contract aircraft operating in support of military operations. The pallets and containers owned or leased by the CRAF carriers represent additional resources that are largely disregarded for military airlift, even when civil-contract aircraft are used.

Essentially the same situation prevails with respect to the materials-handling equipment. MAC furnishes the MHE to service its organic military aircraft and has historically furnished

the cargo loaders (and loading crews) when civil cargo-capable aircraft operate through military airfields.

If MHE interoperability were to be enhanced, the purchase and maintenance of duplicate sets of civil and military MHE could be avoided, or at least substantially reduced.[5] Aircraft productivity is directly influenced by the number and type of ULDs used. For example, the stretched DC-8 can transport eighteen 463L system 88" X 108" pallets, or eighteen 88" X 125" civil pallets. The DC-8 productivity in cargo carried is increased about 11 percent when civil, rather than military, pallets are used.[6]

Early collaboration between military and civil planners during the design phase could help in exploring the design of interoperability into in-plane air-cargo systems, MHE, and ULDs. For example:

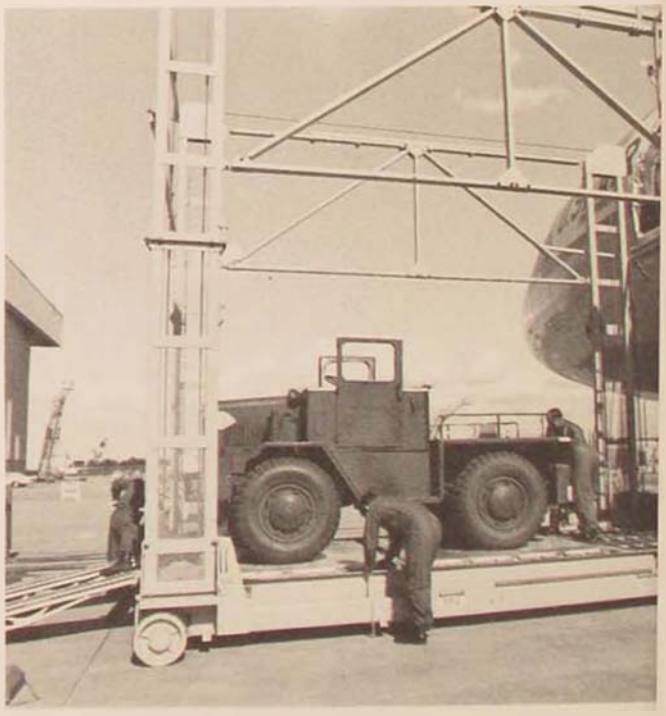
- Future military transports might be designed with slightly higher cargo decks and civil-cargo loaders with a lower profile so the civil loader could service the military aircraft.
- Adjustable-gauge rail systems in military aircraft and the installation of end locks could result in use of civil ULDs and constitute an additional resource that is largely untapped.
- New Air Force cargo loaders might be designed to reach the main decks of wide bodies.

As we rely more on civil carriers during contingency operations, this planning could greatly enhance the overall productivity of joint civil and military systems.

The major segments and aircraft types, whether cargo or passenger (Pax) aircraft, and the number of aircraft in each stage of the Civil Reserve Air Fleet are shown in Table I. The domestic CRAF is based primarily on the need for wartime expansion of the Air Force Logistics Airlift (LOGAIR) and the Navy Quick Transportation (QUICKTRANS) peacetime-cargo airlift.

LOGAIR and QUICKTRANS are airlift systems operated by civil carriers under contract to airlift traffic between major facilities of the

The KC-10A military tanker cargo aircraft has essentially the same main deck in-plane cargo system as the DC-10 civil convertible, including side guide rails and end locks. It can also handle a civil air-cargo pallet.



The Cochran Airport Systems 316A Elevator loads a partially disassembled flightline tug.

services. The Alaskan CRAF was formally established in January 1968 to support unique requirements, such as the distant early warning (DEW) line. The short-range international CRAF provides the airlift for inter-island operations and between the continental United States (CONUS) and such areas as the Caribbean, Greenland, Alaska, and Iceland.

The long-range international CRAF augments the Military Airlift Command. Plans provide for three incremental activation stages based on airlift needs:

Stage I consists of 46 long-range aircraft that can be activated during a surge by the Commander in Chief, Military Airlift Command (CINCMAC).

Stage II consists of 101 aircraft and can be activated during an emergency by the Secretary of Defense.

Stage III contains 392 aircraft (including those in Stages I and II) that can be activated during full mobilization only after a national emergency has been declared by the President or Congress.

The response time for activation of Stages I and II is 24 hours; for Stage III, it is 48 hours.

Of the total CRAF inventory of 392 aircraft, there are 258 wide-bodies (205 passenger; and 53 cargo). The letter "F" means a pure freighter, specifically designed and built to carry freight. "C" stands for convertible, an aircraft that can be configured to carry passengers and/or cargo. "QC" means quick change (from cargo configuration to passenger or vice versa). The CRAF inventory changes from time to time for such reasons as sale, lease, loss, or receipt of new aircraft.[7]

During peacetime, the needs and interests of the military and civil airlift systems are different; in wartime, they are almost identical. The military 463L system relies heavily on the 88" X 108" pallet; the civil system relies more on con-

Table I. Major segments of the Civil Reserve Air Fleet, the number and type of aircraft in each segment, and the number of aircraft in each stage

			Stages of CRAF		
Segment and aircraft types	**Cargo**	**Pax**	**I**	**II**	**III**
Domestic 3 DC-9-30CF, 13 L-188C, 12 L-100-30	28			28	28
Alaskan 5 B-737-200C, 2 L-188C, 5 L-100-30	12				12
Short-range international 14 B-727 QC, 14 DC-8-50	28				28
Long-range international-passenger 10 DC-8 114 B-747, 20 L-1011, 71 DC-10		10 205*	2	20	215
Long-range international-cargo B-707 DC-8 14 B-747-100F, 17 B-747-200F, 5 B-747-200C 4 DC-10-10C, 13 DC-10-30C	9 47 36* 17*		44	53	109
*Denotes Wide Bodies (53 cargo, 205 passengers)	**CRAF Total**		**46**	**101**	**392**

tainers and the 88″ or 96″ X 125″ pallets.

Military aircraft (except the KC-10A) cannot carry civil pallets or standard containers unless the containers are lashed to 463L system pallets; civil aircraft can accommodate military pallets, since their rails can be adjusted to gauges of varying widths.

In civil-airlift operations, pallets and containers are routinely intermixed. The in-plane air-cargo systems as well as the materials-handling equipment, scarcely "know" the difference between pallets and containers. Military 463L MHE will not reach the upper decks of wide-bodied aircraft and, in general, civil-cargo loaders cannot be lowered to the truck-bed height of military aircraft. The C-130/C-141/C-5 all engage the notches in the 463L system pallets at the outboard edges by locks in the rail system; civil aircraft normally restrain pallets by guide rails at the outboard edges and by end locks (latches) forward and aft.[8] The 40K-Transporter Loader is the principal military loader used for loading/offloading military aircraft. Characteristics of the 40K-Transporter Loader are as follows:

characteristics			feet	inches
lifting capability — 40,000 pounds	elevating height	max	13	0
		min	3	4
lifting/lowering speed — feet per minute (FPM) — 10	platform length		41	5
number of 463L system pallets accommodated— 5	platform width		10	0

The family of 25, 40, and 55K-loaders is not usable for wide-bodied aircraft because of insufficient lifting height. The K-loaders are normally used in conjunction with loaded 463L system military pallets and aircraft rail systems. The 40K has roller conveyers on the deck. However, the floor is not powered: pallets or other cargo must be pushed or winched between the loader and aircraft decks. The 40K does not have side-transfer capability.

A one-man cab is located at the left front corner of the deck of the 40K-Transporter Loader. Two hydraulically operating folding links raise and lower the deck and provide fore-and-aft tilt. Four small hydraulic cylinders roll the deck from side-to-side. The 40K loader has been in use about 17 years.

The 463L system pallet's outer dimensions measure 108″ wide, 88″ long, and 2¼″ thick. It has a nominal weight of 290 pounds. The 463L system pallet is used in conjunction with three webbed restraint nets (two side and one top) that weigh an additional 65 pounds, for a total of 355 pounds for the pallet/nets combination.

The top and bottom pallet surfaces are both flat and smooth. The pallet edges are equipped with rails that are indented every ten inches on center, thereby permitting an interface with the locks in the aircraft-restraint rails. Pallet restraint within the aircraft is normally accomplished only along the 88-inch dimension, since it is oriented laterally in the 108-inch dimension. Vertical restraint is provided by the aircraft restraint rails and a floor-mounted roller-conveyer system, while fore and aft restraint is provided by the aircraft-restraint rail locks inserted into the pallet-rail indentations.

Cargo-restraint devices may be attached to the twenty-two 7500-pound tie-down rings located symmetrically around the pallet perimeter (6 along each 108″ side and 5 along each 88″ side). The rigid structural design consists of a balsa-wood core and aluminum-alloy skin. The principal unitization device for military-airlift operations has a theoretical loading volume of 528 cubic feet and can carry a maximum weight of 10,000 pounds.

Prior to the 463L system pallet, individual pieces of cargo were handled manually when aircraft were bulk loaded. Of particular importance is the fact that 463L system pallets can be built up during lulls in the cargo-terminal workload. They can then be quickly placed aboard departing aircraft at any time. In one

The 40K-Transporter Loader can elevate a maximum load of 40,000 pounds to a height of 13 feet.

sense, when building up pallets, one is actually loading the aircraft.[9]

The C-141 was the first military transport to have the military aircraft rail-and-roller conveyer system built in as an integral part of the new aircraft. The C-130 aircraft was retrofitted. The C-5 and other cargo-capable, wide-bodied aircraft also have a rail-and-roller conveyer system. The military rail system provides a means of guiding and final positioning of pallets within the aircraft and locking the pallets in place for restraint. It is also a key to mass airdrop procedures. Civil aircraft normally have side guides and end locks positioned fore and aft of unit-load devices for restraint.

The civil systems do not engage notches in the 463L system pallets as military rails and locks do. The military rail system is not adjustable. The gauge is 108" in the C-130, C-141, and C-5. The civil systems are adjustable and can handle the military pallet as well as civil ULDs. Military aircraft (except the KC-10A) cannot handle civil ULDs without some type of modification or use of "slave" pallets.

The Food and Machinery Corporation Model MDL (Main-Deck Loader) is a typical civil loader and is the most widely used for servicing wide-bodied aircraft worldwide. Its characteristics and capability are as follows:

characteristics			feet	inches
lifting capability: main platform, 40,000 pounds; bridge, 15,000 pounds	main platform height	max	18	4
		min	1	7
lift/lower speed: 45 fpm*	bridge height	max	18	4
		min	8	4
conveying speed: 60 fpm*				
engine: 391 cid** V-8 industrial gasoline (diesel engine optional)	main platform length		23	3
	main platform width		10	8
ULD capacity: The main platform can accommodate one 8 X 8 X 20-foot container or two 8 X 8-foot X 125" containers or pallets transversely or longitudinally	bridge length		14	2
	bridge width		10	8

*fpm = feet per minute
**cid = cubic-inch displacement

In addition to servicing the main decks of wide-bodies—as well as the DC-8, B-707, and B-737 cargo-capable aircraft—the Main-Deck Loader (MDL) can also be used for loading/off-loading the forward and mid-lower lobes of the B-747. The DC-10/L-1011 aircraft, with forward lower-lobe cargo doors capable of accept-

ing standard cargo pallets (as opposed to narrower containers like LD-3s) can also be serviced with the MDL. Some DC-10 and L-1011 aircraft forward lower-lobe cargo doors are too narrow to accept standard pallets.[10]

Air Force-owned transporter loaders, such as the 40K, reach only to a height of 13 feet. That is too low for the main deck of wide-bodies, which range from 16 to 18 feet. Elevators are used only to lift or lower cargo to and from the aircraft's main deck. Mobile loaders differ from elevators in that they raise cargo by a scissors mechanism rather than by platform and corner posts. Like elevators, however, they are not designed to transport cargo.

The 13 (25,000-pound lifting capability) elevators and the 29 (40,000-pound capability) elevators have been delivered to the Air Force. (See Table II.) A contract has not been let for the 40 additional elevators and 16 lower-lobe loaders.

The loading doors and main-cargo decks of wide-bodied aircraft are very high, necessitating the use of specialized equipment. If materials-handling equipment interoperability can be achieved between military and civil aircraft, costs such as the $10 million can be avoided, or at least reduced.

Materials-handling equipment is installed at air installations worldwide for loading the main decks of wide-bodied aircraft. Such equipment is controlled by civil agencies such as the airline industry as well as by activities like the U.S. Air Force, airport authorities, and airport-service companies.[11]

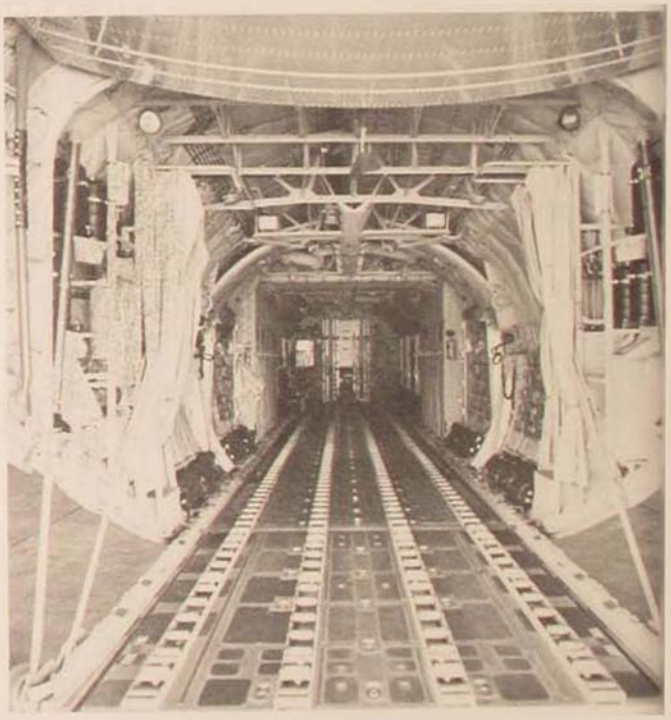
The 463L system loaders are suitable for loading commercial freighters (where enough lift height is available, as on the B-707/DC-8). However, the typical civil loader is incompatible with the military freighter. The cab/engine complex generally fits under the commercial aircraft, whose cargo floor height is higher due to its low-wing configuration. The military transport floor is low to the ground and impedes the passage of the loader cab beneath the cargo ramp, thus preventing the interface of the equipment to the aircraft.[12] The overal MHE requirements could be reduced substantially if more interoperability could be achieved thereby eliminating duplicate sets of MHE.

Table II. Air Force materials-handling equipment programmed for loading and offloading wide-bodied aircraf

type of loaders	number	time frame	lifting capability (lb)	$ cost (millions)
elevators	13	on hand	25,000	1.0
elevators	29	on hand	40,000	3.4
elevators	40*	FY82, 84	40,000	4.0
lower-lobe	16*	FY82, 84	15,000	1.6
totals	98			$10.0

*Tentative quantities pending requirement validation

The DC-8-63CF (convertible freighter) aircraft can transport 18 loaded 463L systen

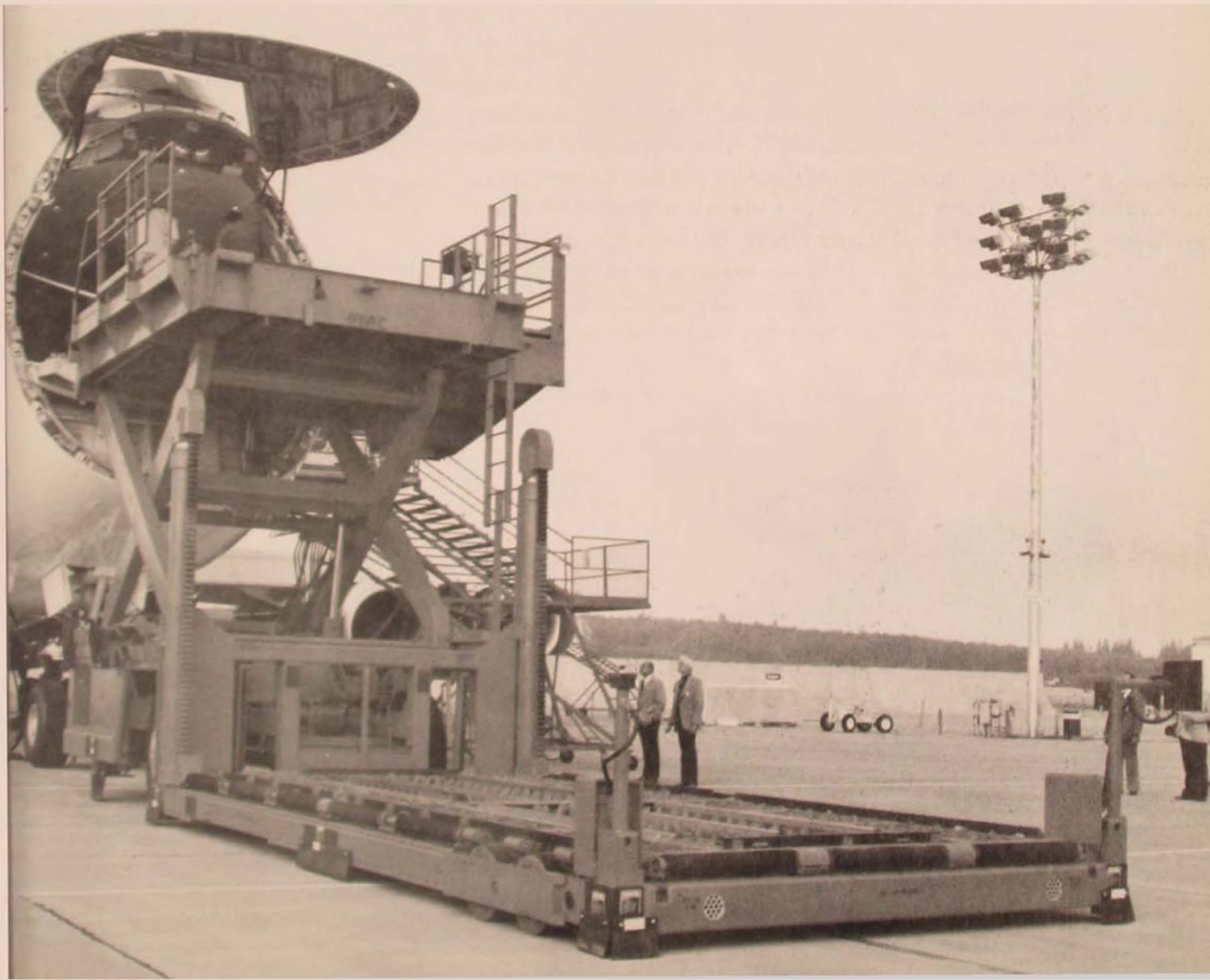


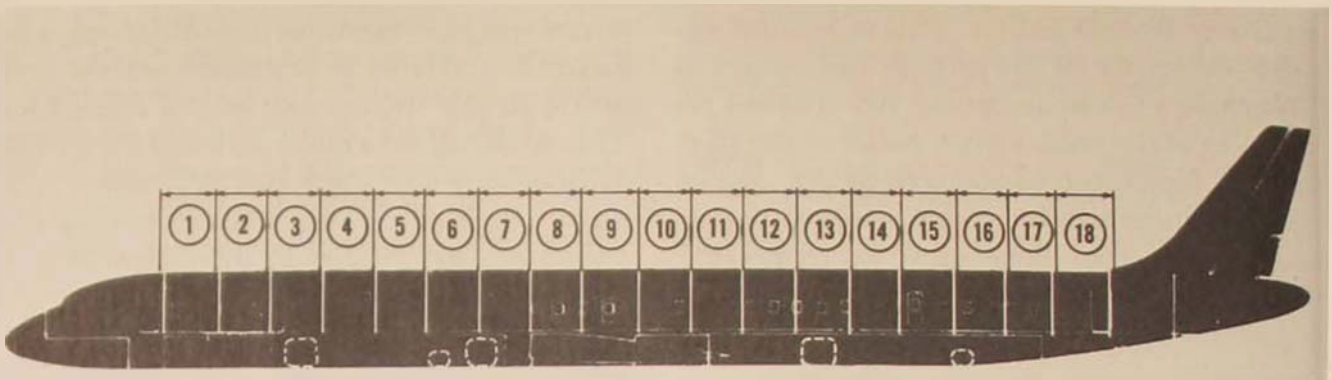
The rail and roller conveyer system (above) was built in the C-141 StarLifter, the first military transport so equippe . . . The Food and Machinery Corporation mobile load (facing page) is known as the Model MDL (Main-Dec Loader). This civil loader accommodates wide-bodie transports, lifting 40,000 pounds to a height of 18 fe

pallets or 18 civil pallets. This is possible because the gauge of the aircraft rail system is adjustable and can accept the 108" greatest dimension of the 463L system pallet or the 125" greatest dimension of the civil pallet. An increase in main-cabin volume of about 11 percent results from the use of the civil 125" pallets, which is undoubtedly the primary reason why civil airlines use them. Over and above the increase in productivity that results from the use of larger-size civil pallets, they also weigh less than the 463L system pallets. The 463L system pallet and nets weigh a total of 355 pounds; the civil 88" X 125" pallet and net, 284 pounds; and the civil 96" X 125" pallet and net, 298 pounds.

(As a point of interest, the C-130 and C-141 aircraft cargo-compartment width is only a few inches too narrow to accommodate the civil-air-cargo 125" pallet with lateral orientation. This subtle dimensional deficiency may have substantially kept these civil derivatives out of major trunk carrier fleets because of their inability to carry efficiently the prime DC-8/B-707 freighter unit-load devices.)

Since civil and military aviation pursue somewhat different roles, it is unlikely that their areas of responsibility will ever completely coincide.[13] For example, the military has a requirement for inflight offloading of cargo and troops (airdrop), while the civil carriers have little, if any, interest in airdrop capability. However, a measure of interoperability exists between civil and military air because





	CUBIC FEET
MAIN CABIN VOLUME	10,035
18 PALLETS - 88" x 108"	7,324
18 PALLETS - 88" x 125"	8,142

DC-8-63CF fuselage pallet positions, showing how increased airlift capability can be achieved by using civil 88" X 125" pallets instead of the 463L 88" X 108" pallets.

Air-cargo transport history goes back to the first decades of manned flight. Manual loading was the only way in the late twenties when the Douglas C-1 flew from Clover Field at Santa Monica, California.

U.S. civil-air carrier, cargo-capable aircraft can accept 463L system pallets, but military aircraft, except for the KC-10A, cannot accept civil pallets. The civil capability of the KC-10A exists because the aircraft is a military adaptation of the DC-10 convertible.

This civil-interoperability capability results from airline responsibility in conjunction with CRAF, the carriers' need to interline ULDs of varying dimensions, and the carriers' need to transfer ULDs between different transport aircraft within individual airlines.

The civil wide- and narrow-bodied aircraft are able to adjust the gauge of their rail systems. Military aircraft have not had this capability in the past.

Certain structural and functional differences between the military 463L system and various civil cargo-handling systems constrain the full amalgamation of the two systems. Yet, civil industry and the military have considerable potential for increased interoperability.

EVERY effort should be made to pursue commonality, especially when new transport aircraft, materials-handling equipment, or unit-load devices are designed and when both military and civil interests can benefit and neither is counterproductively impacted. Such cooperation would be consistent with the Department of Defense guidance (concerning the development of the proposed C-X/C-17 military transport) which indicated: "Cargo handling and container/pallet restraint systems will be compatible with appropriate civil and military systems."

Hq USAF

Notes

1. W. Graham Claytor, Jr., Deputy Secretary of Defense in the approved C-X (C-17) Mission Element Needs Statement (MENS), 28 November 1980.
2. Lieutenant Roger W. Roberts, "A Comparison of Military and Civil Air Cargo Systems" (Monterey, California: Naval Postgraduate School, September 1979).
3. H. F. Morrison and C. B. Wright Society of Automotive Engineers, Inc., Technical Paper 69033, "Advanced Cargo Handling Systems," October 1969, p. 1.
4. Letter from the Douglas Aircraft Company, Long Beach, California, to Hq USAF/SAGM, 29 May 1980, signed by Ralph L. Merrill.
5. "Increased Standardization Would Reduce Costs of Ground Support Equipment for Military Aircraft," Comptroller General Report to Congress, 7 February 1980.
6. World Airways Introduces the Super DC-8-63CF, Brochure, Douglas Aircraft Company, Long Beach, California (undated).
7. Military Airlift Command, "Monthly Civil Reserve Air Fleet (CRAF) Capability Summary," Scott AFB, Illinois, 1 December 1981.
8. Assistant Chief of Staff, Studies and Analyses, Hq USAF, "Interoperability of Military and Civil Air-Cargo Systems (SABER READINESS — LIMA)," February 1981.
9. *463L Materials-Handling Equipment System*, Technical Manual, T.O. #36M-1-141 (Air Force Logistics Command, Robins AFB, Georgia, November 1974).
10. Letter from FMC Corporation, Airline Equipment Division, San Jose, California, to Hq USAF/SAGM, 27 October 1981.
11. *747 Cargo Facility and Equipment Planning Document D6-30108* (Seattle, Washington, July 1981).
12. Letters from Lockheed-Georgia Company, Marietta, Georgia, to Hq USAF/SAGM, 11 June and 20 August 1980.
13. John F. Shea, Hq Military Airlift Command, "Route to Airlift Mobility through Partnership (RAMPART)," (AIAA Paper 80-0934), May 1980.

IRA C. EAKER ESSAY COMPETITION

The deadline for the second annual Ira C. Eaker Essay Competition has been reached, and the winners will be announced in our November-December issue. We appreciate the interest shown in this annual competition since its inception in 1981.

The Editor

military affairs abroad

THE RESTORATION OF CONTROL IN POLAND

MAJOR JOHN HASEK, THE ROYAL CANADIAN REGIMENT

THE ABSENCE of Russian armor in the streets of Warsaw and the dearth of film coverage from Poland since the military takeover bear witness to the great sophistication and refinement achieved by the Russians in their methods of control since the invasion of Czechoslovakia in 1968.[1] This time there were to be no dramatic images of indigenous youth crying defiance at invading tanks.

There was not the slightest chance that the Russians would permit any real measure of freedom in Poland. The name of the Warsaw Treaty Organization and the location of the Headquarters in Warsaw are no mere happenstance.

The command and control of the Pact forces are integrated to a degree unknown in the West, and, in effect, the Russians would fight their war in Europe from Warsaw. To them, the security and control of Poland are therefore of paramount importance. Their faith in the Polish military and in General Wojciech Jaruzelski's ability to reestablish control must indeed have been great.

An examination of Jaruzelski, and of Poland in his lifetime, should provide some essential clues as to why the Kremlin's card for invasion has not been played and may not have to be. On 9 February 1981, when General Jaruzelski became the Prime Minister of Poland, he was the first professional officer to assume the top governmental position in a Warsaw Pact country since the consolidation of Moscow's hold on its satellites. He also retained the post of Defense Minister, and thus combined control of the bureaucratic apparatus with that of the defense establishment.[2] From this firm base he was in an ideal position to execute the smooth and rapid military takeover in the waning days of 1981. When the man's background is examined together with the manipulation of Polish affairs by Moscow since 1939, the chances of all this being mere coincidence are simply too slim to be seriously regarded.

Although the future of Poland after World War II was probably sealed by the Yalta agreement, armed resistance, nevertheless, reached civil war proportions in the period after 1945, before the Communists managed to consolidate their hold on Poland.[3] Immediately after this, at a time when other satellite armies were undergoing Sovietization and Stalinization under the leadership of indigenous officers, a Russian, Marshal Konstantin Rokossovsky[4] was installed as Commander in Chief and Minister of Defense in Poland.[5] Under the Soviet overseer many of the officers who fought against the Germans were purged, tried, and sentenced to long prison terms. When Rokossovsky left after half a decade, although it was a time of de-Sovietization as well as de-Stalinization, it may be taken for granted that he left the Polish military safe for Soviet interests. It was then, in 1956, that the 33-year-old Jaruzelski became the youngest general officer in the Polish army. Clearly, his perceived suitability to the regime as well as to Moscow's grand designs must have been truly outstanding for him to reach general officer rank at an age rare in wartime armies and unprecedented in advanced, peacetime forces.

Wojciech Jaruzelski was born into a family of provincial landed gentry in 1923. He attended a Jesuit boarding school, where he remained until his part of Poland was occupied by the Red Army as a result of the Russo-German nonaggression agreement of 1939. The official résumé is blank about his next four years, but they were almost certainly spent in the Soviet Union. When his official biography resumes, the 20-year-old youth is in the U.S.S.R. as an officer cadet in the embryo Soviet-sponsored Polish army.

The first Polish army formed on Soviet soil was eventually called the "Anders Army," after General Wladyslaw Anders, a prewar soldier and originally an officer in the Imperial Russian Army.[6] This army consisted mainly of troops who had served in the Polish army before the war. Stalin attempted to deploy it in penny packets so as to minimize its future political impact. Eventually, the Anders Army ended up fighting under the British in the Middle East, physically preserved but effectively removed from a position where it could directly influence matters in Poland. After the war those Poles who had fought alongside the Western allies were not permitted to rejoin the army.[7] Meanwhile, the Russians had massacred great numbers of the old Polish officer corps. The discovery of the corpses of over four thousand officers in the Katyn Forest[8] by the Germans led to the Polish Government-in-Exile demanding an International Red Cross investigation. This provided the Soviet Union with the excuse that it had been looking for to break off relations with the London-based

Government-in-Exile. Now Moscow was ready to form a new army, led for the most part by Red Army officers, which Stalin intended to be his tool for the eventual domination of Poland.[9] This army also took its name from its commander, General Zygmunt Berling, and became the "Berling Army." It was into this army that Jaruzelski was commissioned.

The Berling Army fought on the eastern front as part of Rokossovsky's Army Group. It was Rokossovsky who encouraged the Polish Home Army, consisting of those Poles who remained in Poland to continue the resistance against the Germans on the home front, to start the Warsaw uprising. And it was Rokossovsky's Army Group which sat for five weeks on the eastern bank of the Vistula while the home army, containing yet more of the bravest of the Polish patriots, bled to death, waiting vainly for support from the Red Army.

In the immediate postwar period, Jaruzelski fought against fellow Polish soldiers of the anti-Communist partisan forces. In the middle of this period of internecine strife, which lasted into 1948, he formally joined the Polish Communist Party. In the following few years, while the majority of the Polish officers who had fought against the Germans were being purged, Jaruzelski's career blossomed. He was selected for the Higher Infantry School and then for the General Staff Academy, a must for those destined for very senior rank. He graduated from the latter institution with honors in 1955.

The year of Jaruzelski's promotion to general officer rank, in 1956, was also the year that the Polish army was de-Stalinized. His elevation at this time tends to identify him with the liberal winds blowing through Poland and the army. Some of the "liberal" officers may well have been anti-Soviet, and there were even rumors to the effect that some of the elements of the Polish army, together with some workers, were preparing to resist a possible Soviet invasion. However, it must be remembered that this new, gentler breeze had started blowing from the same old easterly direction.

In 1957 Jaruzelski was given command of a mechanized division and then in 1960 appointed as the head of the Main Political Administration of the Polish Armed Forces. In 1962, in addition to retaining the post of Chief Political Commissar, he also became the Deputy Minister of Defense. In 1964 he became Chief of the General Staff while retaining the post of Deputy Minister. In 1968 he became the Minister of National Defense, a post which he has retained ever since. His rise in the party has kept pace with his military promotions: he became a member of the Central Committee in 1964, a Candidate Member of the Polish Politburo in late 1970, and finally a full member in December of 1971. The latter post he holds to this day.

Jaruzelski is most likely not simply a puppet of the Kremlin, a mole whose sole motivation is that of Soviet hegemony; it is undoubtedly much more subtle and complicated than that. He must, to begin with, be a superb politician of the bureaucratic kind. There are, for instance, examples of his behavior which can be used as evidence of either a late blossoming of an independent spirit or of the independence given by the certainty of higher protection. During the mass strikes on the Baltic coast in December of 1970, it is reported that Jaruzelski refused to comply with Wladyslaw Gomulka's orders to deploy regular army troops against the striking workers. The troops were deployed by General Korczynski, one of the partisan faction, a strongly nationalist group. This group was quickly swept away, and Gomulka fell from power, to be replaced by Edward Gierek and his administration. Jaruzelski was once again on the winning side and was rewarded with the two political promotions that brought him to full membership in the Polish Politburo.

The summer of 1976 and the food riots again saw Jaruzelski insisting that the army not be used in suppressing the Polish workers. The popularity of the army and of General Jaruzelski grew, while that of the rest of the party leadership, whose corruption was becoming

increasingly widely known, kept decreasing. In the late summer of 1980 it was again Jaruzelski, this time with the support of Stanislaw Kania, the General Secretary of the Central Committee, who insisted on a political solution, instead of sending in the troops. Gierek was replaced by Kania a few days later.

Jaruzelski was resented by the hardliners in the Polish communist establishment. There were even attacks on Jaruzelski and Kania in the Soviet press during early 1981. All this helped add to the popularity that Jaruzelski had built up with the Polish people and made the imposition of martial law that much easier later in the year. The widely publicized Warsaw Pact exercises, heralded by the Western press as the prelude to an invasion, were also a part of this psychological preparation.

The military takeover has effectively shut off the great majority of resistance in Poland, or at least appears to have done so. There still is resistance, but it does not receive the nourishment of universal condemnation of the military regime or of much Western protest. This is partly because the Soviet hand has been concealed, but more than that, it is because of the effectiveness of the censorship imposed by the regime. The modern public has become conditioned to television as the prime carrier of "evidence." Seeing is believing to such an extent that written news alone cannot carry a story for any length of time, or with any great influence. The cameras have been stilled by sophisticated Polish censors, and Solidarity's great fight has disappeared from the front pages and TV screens alike.

For the time being, Soviet strategists appear to have achieved their aims, but before Solidarity there was the Catholic Church. The long-term struggle in Poland is not for democracy or for freer trade unions; it is between the Roman Catholic Church and the secular church of Russian communism, and ultimately it is for the survival of the Poles as a nation.[10]

Toronto, Ontario, Canada

Notes

1. Poland and Czechoslovakia, of course, present different cases. Their differing commitment to democracy, their degree of nationalism, and their approach to religion as well as their relative proximity to the U.S.S.R. all serve to add to the difference.

2. By the late summer of 1981, in addition to the Defense Ministry, the key departments of Interior, Local Government, and Mining were all headed by military officers. Also, the military representation on the Central Committee elected in July of 1981 was double that of the Congress in February 1980. (Much of the data on Jaruzelski in this essay is from an article by Andrzej Korbonski, "The Dilemmas of Civil-Military Relations in Contemporary Poland: 1945-1981." *Armed Forces and Society*, Fall 1981. Professor Korbonski comes to rather different conclusions than I do, but he did not have the benefit of hindsight after the military takeover.)

3. The security forces fighting against the various resistance movements numbered between three and four hundred thousand. Wholesale executions were frequent, and tens of thousands were imprisoned. Richard Hiscocks, *Poland, Bridge for the Abyss? An Interpretation of Developments in Post-War Poland* (London: Oxford University Press, 1963), p. 102.

4. Marshal Konstantin Rokossovsky was a Russian of Polish descent. His role in modern Poland is reminiscent of another Polish Russian, Count Novosiltsov or Nowosiltsow, who ruled Poland on Russia's behalf during the early nineteenth century and "who was the incarnation of all the hostility of the Tsarist bureaucracy against the constitutional liberties of the kingdom." Oskar Halecki, *A History of Poland* (New York: Roy Publishers, 1943), p. 230. The traffic in terror was not only one way, for it was a Polish communist, Feliks Dzierzynski, who organized the first, and still unsurpassed for savagery, Soviet secret police for Lenin. In recognition of this, the Feliks Dzierzynski Military Academy was founded in 1951 by Rokossovsky to make the Polish army "a politically reliable instrument." See Hans Roos, *A History of Modern Poland* (London: Eyre and Spottiswoode, 1966), p. 234.

5. Rokossovsky "had Polish officers of the pre-war army removed from all high commands and once again replaced by Soviet ones; four [Polish] generals . . . were prosecuted in a 'show trial.'" Roos, p. 234.

6. Ibid, p. 49.

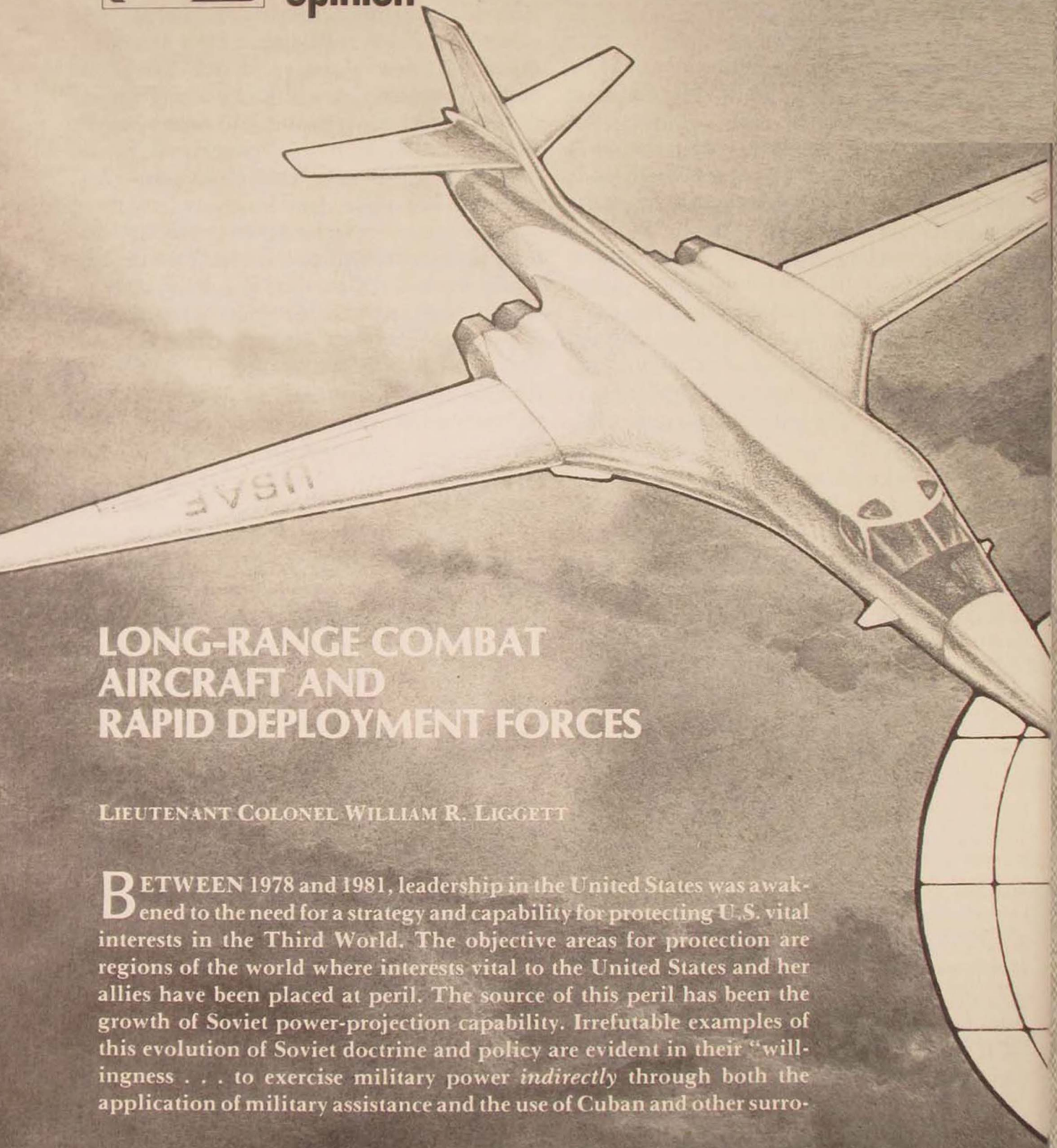
7. *Area Handbook for Poland* (Washington: U.S. Government Printing Office, 1973).

8. Louis FitzGibbon, *Katyn Massacre* (London: Corgi Books, 1971).

9. To what extent these soldiers of Stalin still permeate the senior ranks of the Polish army would be interesting to know. In 1973, when I was serving with the Canadian contingent of the International Commission for the Control and Supervision of the Ceasefire in Vietnam, the colonel commanding the Polish contingent in my region boasted of having been an infantryman at the fall of Berlin.

10. As a result of the genocide by the Germans and the Russians during the Second World War and the shift westward of Poland's borders, "the population was more homogeneous both racially and in religious faith. Between the Wars about 10 million of the inhabitants of Poland were not Poles, including 5 to 6 million Ukrainians and some 3 million Jews, while the ethnic minorities now number . . . only slightly over half a million. Whereas in 1931 about 75% of Polish citizens were Catholics . . . after the War nearly 98%." Hiscocks, p. 94.

in my opinion



LONG-RANGE COMBAT AIRCRAFT AND RAPID DEPLOYMENT FORCES

LIEUTENANT COLONEL WILLIAM R. LIGGETT

BETWEEN 1978 and 1981, leadership in the United States was awakened to the need for a strategy and capability for protecting U.S. vital interests in the Third World. The objective areas for protection are regions of the world where interests vital to the United States and her allies have been placed at peril. The source of this peril has been the growth of Soviet power-projection capability. Irrefutable examples of this evolution of Soviet doctrine and policy are evident in their "willingness . . . to exercise military power *indirectly* through both the application of military assistance and the use of Cuban and other surro-

gates in parts of Latin America and Africa, and even *directly* in the December 1979 invasion and continuing occupation of Afghanistan. . . ." This invasion and occupation are ". . . the first offensive combat use of Soviet military forces outside the borders of the Warsaw pact since World War II."[1]

The instrument of this U.S. strategy for the protection of vital interests is the Rapid Deployment Joint Task Force (RDJTF), which is an organizational structure for the command of armed forces drawn from conventional units of all the services. The exact makeup of the rapid deployment forces (RDF) will be based on the nature of the conflict. "While the potential missions of the rapid deployment forces are global, in practice most of the planning and programming has focused on Southwest Asia."[2]

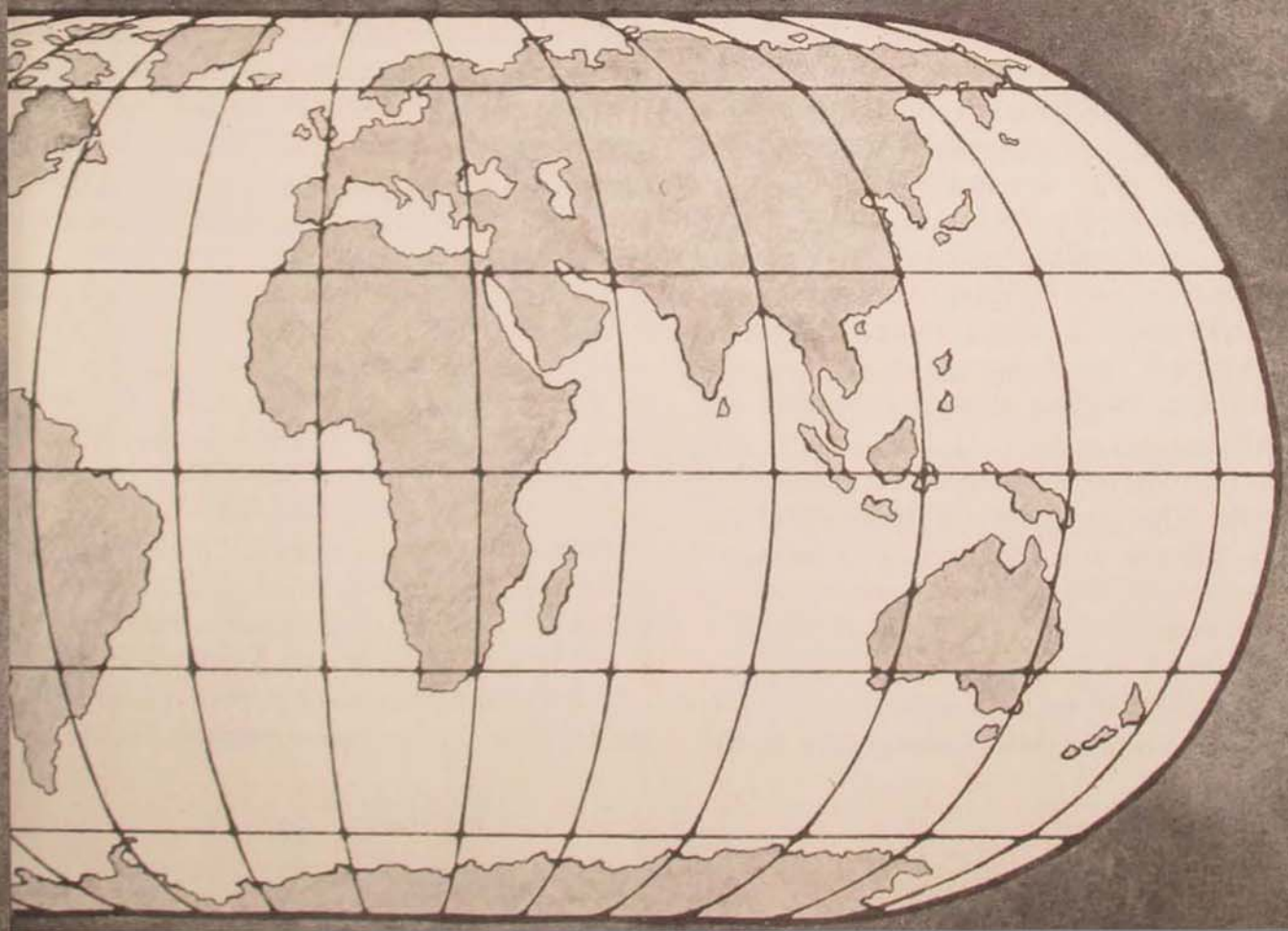
Speaking of the RDF task, Major General Larry D. Welch,* then Deputy Chief of Staff for Operations, Tactical Air Command, cited four problems that almost axiomatically will be central to countering Soviet intervention:

- The theater will probably be a long way from the United States.
- The primary reason for counterintervention will be the protection of critical and vulnerable assets or interests.
- The available infrastructure to support U.S. combat systems will be greatly lacking.
- The Soviets will be operating in close proximity to home bases and along convenient lines of communication, the geostrategic advantage.[3]

In keeping with General Welch's criteria, the vulnerability of oil resources in Southwest Asia has been labeled a vital national interest by the Carter administration and confirmed in the same status by President Reagan.[4] A strategy for securing such a vital interest, an RDF strategy, must encompass the principles of deterrence, force projection, and war fighting.

The United States has been in the business of deploying forces around the globe for many years.[5] But such an endeavor in the 1980s has

*Major General Welch is now commander of Ninth Air Force (TAC) and thereby the commander of the air component of the RDJTF.



been complicated by the criticality of resource supplies and turbulence in the Third World. Also contributing to the problem are the nearly unbridled Soviet policies wrought by nuclear parity and unprecedented conventional force buildups, coupled to the geographical proximity advantage and new projection capability available to the Soviets.

Deterrence, force projection, and war fighting are the components of the strategy to defend U.S. vital interests in the Third World. Deterrence relates basically to the credibility or believability that a force could and would be used effectively. The visibility of a force is also a plus in deterrence: A force that can demonstrate presence has increased credibility.

The problems of force projection are responsiveness, logistics, and basing. Quick reaction could be vital to prevent interveners from gaining tactical or strategic advantage. Untimely U.S. response might cause a need for greater forces later on or result in escalation to general war.[6] The Soviets are not going to give us notice of when and where they are going to move. Unfortunately, our intelligence and the willingness to react on our intelligence have cloudy records. Logistically, if the theater is Southwest Asia, then our line of communications (LOC) is about 8000 miles by air and 12,000 miles around the African continent. United States access to en route ports and bases has become more and more restricted.[7] Logistical supply will be difficult and vital due to the high intensity of war in open country. And, as General Welch pointed out, the in-theater bases and infrastructure for supporting combat operations or even drinking water requirements are severely lacking.

War fighting is broken down into the ability to bring effective firepower to bear on the enemy, sustain that firepower, and maintain reasonable attrition rates.

Given these elements of the required strategy—deterrence, force projection, and war fighting—it falls to the planner to propose requisite forces. "Conventional forces" solutions to the strategy for projecting U.S. military force in the counterintervention role employ Army, Navy, Marine, and tactical air force (TAF) elements. It is not within the scope of this article to discuss these elements. However, by definition, the RDF is made up of forces from all the armed services; by design they complement and support one another. I will focus on generic long-range combat aircraft (LRCA) and how they should play a prominent role in the counterintervention mission of the RDF.

FOR an aircraft to qualify as an LRCA in the generic sense, it "must be able to fly long distances, to carry large, diversified weapons loads, to provide self-contained capability for target acquisition and weapons delivery, to defend itself reasonably well against sophisticated air defenses and, most importantly, to provide on-scene, human judgment throughout the mission."[8] The B-52 is an LRCA, albeit 18 to 25 years old. Congress issued a mandate for definition of a new "multipurpose bomber" in August 1980 that may well be the next LRCA.[9] The B-1, canceled by President Carter in 1977 but nevertheless funded for research and development every year since, is an LRCA design. President Reagan in 1981 specified the development of a B-1 variant, the B-1B, and called for the first squadron to be operational in 1986. Congress is acting on the administration's B-1B proposal at this printing.

Also, in 1980, the Strategic Air Command (SAC) developed and exercised a Strategic Projection Force (SPF) that would support the RDF with a package of intelligence, reconnaissance, command, control, and communications and, most important, a B-52H LRCA force for the RDF mission.[10] In November 1981 six B-52Hs flew 30-hour conventional bombing missions in support of the Bright Star 82 exercise in Egypt, taking off from and returning to their home bases in North Dakota. Each bomber released 27 conventional 500-pound bombs on the 15,000-mile nonstop, round trip flight and

was supported by several inflight refuelings.[11]

"That two presidents—Jimmy Carter and Ronald Reagan—have reassigned some of the B-52s formerly reserved for . . . nuclear strikes to protecting Persian Gulf oil dramatizes how priorities have changed as the world scramble for resources heats up."[12] Also, this reassignment shows a growing realization of how an LRCA force is uniquely suited to the counter-intervention role.

Deterrence, according to AFM 1-1, *Functions and Basic Doctrine of the United States Air Force*, "stems from the perception by other nations of our capability, intent, and will. Therefore, we can deter conflict only if a potential adversary perceives that, of all the conceivable options, armed conflict is unacceptable because of our military potential and our will to use it."[13] Deterrence of Soviet actions in areas peripheral to the Soviet Union or elsewhere in the Third World is far different from strategic nuclear deterrence. Where the latter is served by equivalent nuclear forces, intervention is deterred by a *combination* of strategic nuclear, theater nuclear, and conventional forces.[14] LRCA is unique because it serves across this entire spectrum. However, given current trends in nuclear symmetry, it is at the conventional level that LRCA can dramatically improve U.S. capability.

> Neither political leverage or effective deterrence can be gained from military power that is too destructive to be suitable for a contingency that requires neatly limited application, or from military forces that are too far away to make a timely response.[15]

Deterrence is further served because the lethal payload of the LRCA and the presence of "a man in the loop [provides] the unique advantage of the [LRCA] over other systems . . . escalation control and keeping the nuclear threshold high."[16] General Ellis, until 1981 the Commander in Chief of Strategic Air Command, was quoted by the *Washington Post* to this effect:

> The last thing we want to do . . . is to be the one who has to initiate nuclear weapons to salvage a force. With airpower you don't set yourself on a beachhead immediately and get yourself in a position where you may have to use nuclear weapons . . . sending [LRCA] rather than troops to the Gulf would widen the firebreak between conventional and nuclear war.[17]

An LRCA is highly visible and mobile; it is an established symbol of national resolve. Due to its long range and flexibility, even continental United States (CONUS) basing allows employment of the LRCA anywhere in the world.[18] General Ellis said: ". . . sending [LRCA] to the trouble spot in the first hours of a crisis might be enough to freeze the Soviet military. Bombs might not have to be dropped at all, as long as will and ability to do so were demonstrated. . . ."[19]

The LRCA particularly contributes to the "intent" factor of deterrence. It is a saber that is feasibly rattled, the prime example of this was our response to the Cuban missile crisis.[20] The deployment of LRCA to forward bases or merely the placing on alert of CONUS-based LRCA with conventional weapons would be highly visible and therefore credible ways of saying clearly that there are significant risks and penalties incumbent to an intervention by the Soviets and that the United States is prepared to respond with appropriate levels of force. General Ellis has described this feature of alert posturing and deployment as giving "decision-makers an option to apply force in the signal giving mode." It lets the Soviets know that they are "getting into one of our vital interests."[21]

Force Projection. The three legs of force projection are responsiveness, logistics supportability, and basing. The Joint Chiefs of Staff (JCS) listed two considerations relative to force projection:

> . . . US airlift and sealift capabilities are insufficient for the rapid deployment of large forces to remote areas. This is a critical deficiency, for meeting and deterring threats require an ability to embrace forces before a crisis escalates into conflict. . . . US access to a number of regions around the world has become increasingly uncertain. A diminished overseas basing structure,

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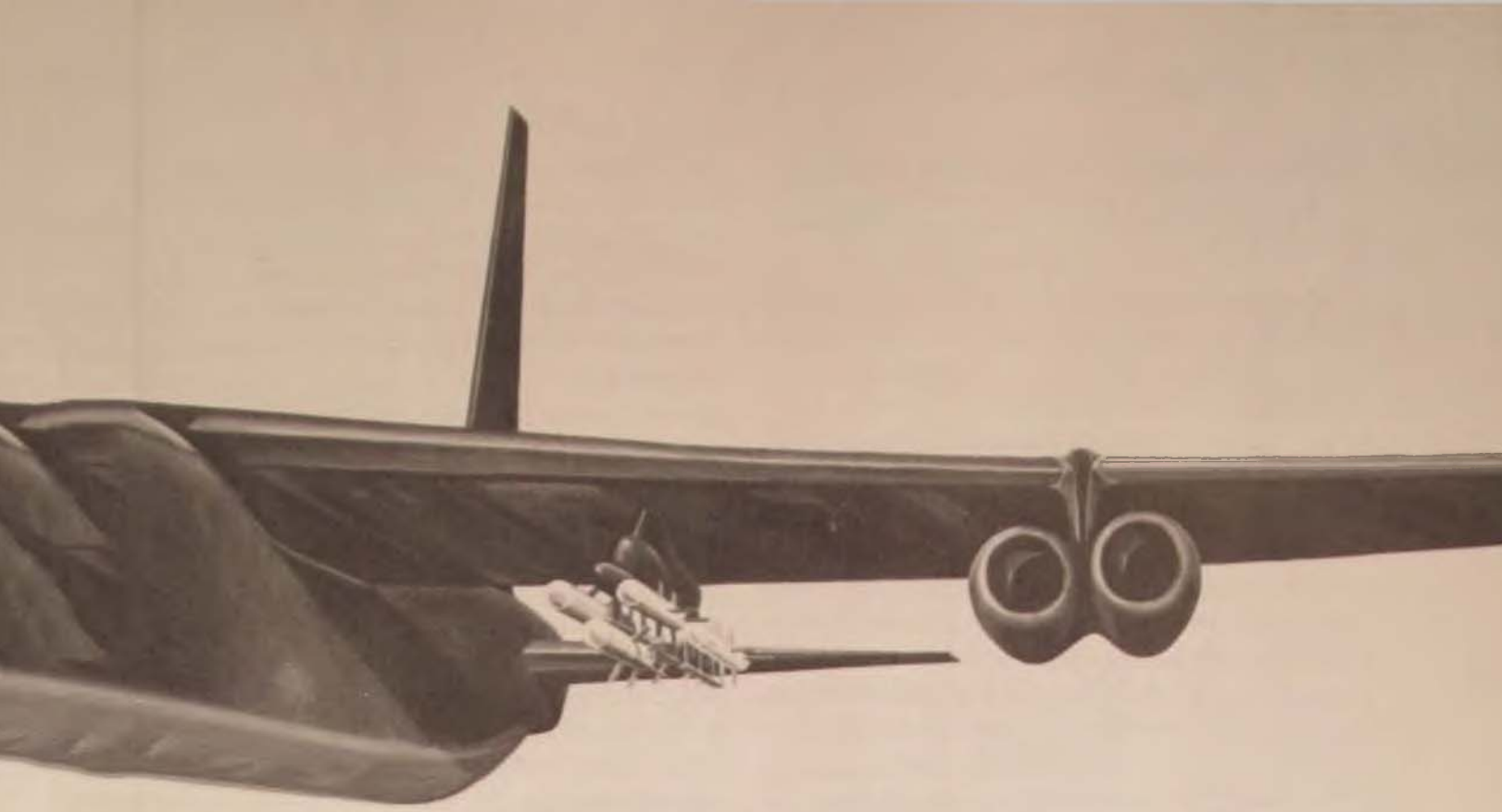


In a second quarter century of service, B-52s support the Rapid Deployment Force in a variety of ways. Flying on extended missions, they can harass enemy sea lines of communication with Harpoon antishipping missiles. The venerable and versatile B-52 has the range to circle the globe to put conventional 500- and 750-pound bombs on target from high altitude or from low-level runs beneath enemy radar.

> fewer overflight and staging rights, and reduced opportunities for pre-positioning war materials make the deployment and support of combat forces at great distances more difficult than it was.[22]

The long range of the LRCA contributes to all three legs of force projection and concurrently assuages the JCS considerations discussed earlier. Because it can go to combat from CONUS bases or deploy to support bases well away from the theater, the LRCA can be responsive, supportable, and based with ease.

Regional basing arrangements for strategic bomber forces are ongoing. At the present time, bombs and fuel for possible contingency operations are stockpiled in Europe and Guam.[23] An agreement with the Australian government has made the Royal Australian Air Force Base at Darwin available for B-52 staging.[24]

General Ellis summed up advantages of LRCA for force projection in a discussion of the B-52:

> [Its] long unrefueled range . . . allows the B-52 to effectively operate farther from the hostile fighter threat area. Because it can be based outside of the immediate battle area, it will not compete for limited airfield and basing facilities with shorter-range aircraft or other US and allied forces. In addition the B-52 will not tax already heavily committed . . . air refueling resources.[25]

War Fighting. The components of war fighting are effective firepower, sustainability, and the maintenance of reasonable attrition rates (combat survivability). The firepower of an LRCA is enormous. In Southeast Asia, the B-52D routinely dropped bomb loads of 108 general-purpose bombs and had a maximum payload capability of 60,000 pounds. The LRCA proposed by President Reagan as the near-term multipurpose bomber (B-1B) could carry 84 bombs internally. The maximum payload could be more than 100,000 pounds.[26] "No other [current] weapon system can match the B-52 in delivering concentrated conventional firepower. In the opening hours of hostilities, B-52s can quickly and effectively assist in disrupting enemy actions."[27] An LRCA force might be the only force the United States can project in the opening hours of an invasion "to blunt the massive armored spearhead attack, which is a key element of Soviet theater war-fighting doctrine."[28] Two LRCA forces could be employed, one from CONUS basing for opening strikes, while another is deploying to regional prepositioned material bases that are peripheral to the intervention theater. Southeast Asia proved the LRCA (B-52) capable of sustained, round-the-clock attack.

Concerning attrition, the LRCA can expect a difficult but negotiable threat environment. Though Soviet ground mobile antiair systems and defensive aircraft are formidable, the combat arena should not resemble the more heavily defended areas of the Soviet Union. The LRCA, by definition, is night and all-weather capable. These are envelopes to be exploited because of attendant reduction in enemy defense capability and the need to deprive the enemy of sanctuary in these conditions. When tactical air force (TAF) elements join the theater, their predominantly visual capability will blend well with LRCA night capabilities.[29] Also, the TAF, using the defense suppression capabilities developed since the Israeli 1973 experience along the Suez, can further enable the LRCA attack.

SAC considers the B-52 viable in the counter-intervention role:

> The defense system of the B-52H and its ability to move into a hostile environment at an altitude of less than 500 feet are expected to effectively protect the bombers from air defenses known to exist in the Middle East and Southwest Asia regions.[30]

Further, vulnerability is reduced by the 2500-mile plus unrefueled combat radius of the B-52H or future LRCA which allows for secure basing well away from enemy offensive counterair.[31]

Summarizing the war-fighting aspect, the aim of an LRCA projection force is to be able to put debilitating firepower on the field forces and supporting elements of an intervening power "with lightning speed, perhaps as a precursor to the operations of the Rapid Deployment Force" and later in support of RDF ground elements.[32]

SINCE the 1960s, when U.S. strategy changed from massive retaliation to flexible response, military forces have been faced with a mismatch between the strategy consonant to national security policy and available forces. This asymmetry has been exacerbated by false economies, post-Vietnam retrenchments, and the severe requirements endemic to Southwest Asia. The credible strategy required by the United States, due to weight of world position and vital interests, must be supported by substantial improvements and sustained procurement.[33] While the Strategic Projection Force is ready to go today, force modernization is important to stay relevant to the threat. The new LRCA (B-1B) projected for the 1986-87 time frame should be procured.

In addition to airframe procurement, the development and application of enhanced-lethality munitions are of primary importance for employment of LRCA in support of RDF. Lethality combines destructiveness with accuracy and is the ultimate arbiter of weapon-system effectiveness. The LRCA assigned to the RDF today are armed with general-purpose bombs that have evolved only slightly since World War II. The accuracy and destructiveness of general-purpose bombs on a B-52H do not meet the requisite lethality criteria, particularly when cost-exchange and cost-to-deliver ratios are factored.

Rather than the past practice of delivering massive munitions loads from many LRCAs on a few targets, the LRCA of the near-future should dispense many lethal weapons on many targets with requisite accuracy.

The concepts of standoff delivery systems and common dispensers of terminally guided submunitions, with both high-altitude/high-speed vertical attack systems and slower-speed/low-altitude, medium-to-long-range cruise missile systems, have great potential and should be exploited.

It is critical that enhanced-lethality munitions especially for airfield denial, the destruction of massed armor, and the neutralization of point targets like command posts, bridges, and bunkers be developed and established in the tactical doctrine of LRCA that support the RDF.

Beyond the 1980s, a prognosis of the threat, the availability of stealth and other technologies, and the age of the B-52 force will demand further LRCA force procurement. An advanced technology bomber (ATB) should be forecast for LRCA roles in the 1990s.

A strong case can be made for the development of a nonnuclear LRCA in the 1990s. Since World War II, we have built bomber aircraft optimized for the strategic nuclear bomber role: The B-47, B-52, B-58, B-70, and B-1 are examples of this design. Yet in Korea and Vietnam strategic bomber aircraft were used in the conventional role. Current wisdom says that in this era and the foreseeable future nonnuclear firepower will remain the type most likely used.[34] The Soviet Union's growing conventional power-projection capabilities and the emerging military strength of Third World nations are strong indicators that conflicts are likely to remain beneath the nuclear threshold.

There are four main problems with the employment of strategic nuclear aircraft in the conventional role. First, they are not optimized for the conventional role. This has led in the past to inefficiency and untimely modification.

Second, there are political difficulties with staging, basing, and employment of aircraft identified as nuclear capable because of the stigma surrounding their nuclear association.

Third, diversion of such aircraft detracts from the single integrated operational plan (SIOP), the U.S. strategic nuclear strike plan. The SIOP is the primary operating sphere and contribution to deterrence of strategic nuclear aircraft.

The fourth problem is related to the third but brings the Strategic Arms Limitation Talks (SALT) consideration into the equation. Since strategic nuclear delivery vehicles have been accountable in SALT totals, the fact that the

United States and the Soviets have agreed to the basic principle of ". . . significant and substantial reductions in the numbers of strategic offensive arms. . . ." could raise a difficult dilemma.[35] This dilemma would come about as SALT totals, including the number of LRCA, are reduced. In this situation, a diversion from the SIOP-dedicated force for application in conventional RDF support would become ever more critical and therefore more reluctantly pursued. Such a diminishment would endanger SIOP effectiveness; and because of their criticality to SIOP, the credibility of U.S. willingness to use LRCA in support of RDF would also be in peril.

These four problems have in the past constrained the use and effectiveness of LRCA in a conventional role. That these problems will hinder LRCA in support of RDF is axiomatic. Conversely, a nonnuclear LRCA would eliminate the four problems that accompany reliance on nuclear LRCA for RDF conventional support. Whether solely nonnuclear or dual capable, strategic prudence mandates continued development of LRCA that can fully support the RDF strategy.

THE FOREMOST strategy and employment problem in the U.S. defense establishment is the RDF. Secretary of Defense Caspar W. Weinberger was quoted in *U.S. News and World Report:*

> . . . we certainly may find ourselves in a situation in the years ahead where the Soviet Union is an energy-importing nation and where we must resist any aggressive move toward the gulf as quickly and as forcefully as we can. In order to do that effectively, America must have the ability to project force rapidly into that area and to sustain and reinforce it.[36]

The United States needs a credible force to deter (and, if necessary, counter) intervention by the Soviets or their surrogates. Vital interests of the United States have been declared to be endangered in Southwest Asia; and though undeclared, vital interests are no less endangered in Africa.

A variety of methods has been proposed by political, service, and weapon systems advocates, and all come up short against the requirements of the precarious theaters involved. Lieutenant General Kelly H. Burke, Air Force Deputy Chief of Staff, Research, Development and Acquisition, summed up the case for long-range combat aircraft:

> . . . in a time when our interests are increasingly intertwined with the rest of the world . . . LRCA would provide the quickest and, in some cases, the only means to mount a rapid show of force or, if required, to bring that force to bear against any target—anywhere—within 24 hours and return to fight again.[37]

Hq USAF

Notes

1. Harold Brown, *Department of Defense Annual Report Fiscal Year 1982* (Washington: GPO, January 1981), p. 19.
2. Ibid., p. 81.
3. Major General Larry D. Welch, Deputy Chief of Staff Operations, Tactical Air Command, Langley AFB, Virginia, interview, 22 January 1981.
4. George C. Wilson, "Anytime Anywhere: A New Conventional Role for B-52 Bombers," *Washington Post*, March 31, 1981, p. 16.
5. Harold Brown, "What Are U.S. Interests?" *Supplement to the Air Force Policy Letter for Commanders*, May 1980, pp. 2-10.
6. Captain Donald J. Hall, "A Strategic Force for Use in Less Than General War Situations," Research Report, Air Command and Staff College, 1965, p. 13.
7. Lieutenant General Kelly H. Burke, "The Strategic Triad in the '80s," *Supplement to the Air Force Policy Letter for Commanders*, April 1980, p. 28.
8. Ibid.
9. Clarence A. Robinson, Jr., "Multipurpose Bomber Advances," *Aviation Week & Space Technology*, August 4, 1980, p. 16.
10. General Richard H. Ellis, "Elements of SAC Preparedness," *Supplement to the Air Force Policy Letter for Commanders*, December 1980, p. 12.
11. "B-52s Bomb Egyptian Desert," *Air Force Times*, December 7, 1981, p. 38.
12. Wilson, p. 16.
13. Air Force Manual 1-1, *Functions and Basic Doctrine of the United States Air Force* (Washington: GPO, 1981), p. 1-7.
14. Ibid.
15. Lloyd Norman, "US Defense Priorities," *AEI Foreign Policy and Defense Review*, vol. 1, no. 3, 1979, p. 21.
16. General Richard H. Ellis, "SAC Looks at the '80s," *Supple-*

ment to the Air Force Policy Letter for Commanders, February 1980, p. 25.
17. Wilson, p. 6.
18. Ellis, "SAC Looks at the '80s," p. 25.
19. Wilson, p. 16.
20. Elie Abel, *The Missile Crisis* (Philadelphia, 1966), p. 97; Jeremy J. Stone, "The Strategic Role of United States Bombers," in *The Use of Force, International Politics and Foreign Policy*, Robert J. Art and Kenneth Walt, editors (Boston, 1971), p. 344.
21. Wilson, p. 16.
22. The Organization of the Joint Chiefs of Staff, *United States Military Posture for FY 1982* (Washington: GPO, 1981), p. 43.
23. Howard Silber, "B-52s Able to Speed to Mideast Hot Spots," *Omaha World-Herald*, January 25, 1981, p. 1.
24. Ellis, "SAC Looks at the '80s," p. 60.
25. Ellis, "Elements of SAC Preparedness," p. 12.
26. "Expedited Effort Expected for Bomber," *Aviation Week & Space Technology*, March 23, 1981, p. 21.
27. Ellis, "Elements of SAC Preparedness," p. 12.
28. Burke, p. 27.
29. Silber, p. 1.
30. Ibid.
31. Wilson, p. 16.
32. Ellis, "Elements of SAC Preparedness," pp. 8-14.
33. General David C. Jones, "An Overview . . ." of the *United States Military Posture for FY 1982* (Washington: GPO, 1981), pp. vi-vii.
34. Harold Brown, *Department of Defense Annual Report Fiscal Year 1981* (Washington: GPO, January 1980), p. 97.
35. U.S. Department of State, *SALT II Agreement*, Selected Documents No. 12B, 1979, p. 58.
36. "What's Being Done about Waste in the Pentagon," *U.S. News and World Report*, April 13, 1981, p. 46.
37. Burke, p. 28.

SPACE WARFARE IN PERSPECTIVE

RONALD D. HUMBLE

THE strategic military significance of the space environment has been recognized by farsighted individuals for at least the past four decades. During and after World War II, Eugen Sänger envisioned the development of manned antipodal rocket bombers and various other military space systems,[1] while in the 1950s Wernher von Braun advocated the construction of manned U.S. space stations armed with nuclear weapons.[2] Space futurists such as Dandridge M. Cole[3] and Michael Golovine[4] have predicted the militarization of strategic areas of space within the Earth-Moon system which dominates this system, the so-called Panama Hypothesis of Space. Today, the military use of space is still at a relatively preliminary stage, but certain rapidly developing technologies are making very probable the realization of some aspects of the militarization of space that were foreseen by these earlier visionaries. These technological developments may well augur the beginnings of a great revolution in the history of warfare.

Such technological developments are necessitating the implementation by the United States and other Western nations of a cohesive, coordinated space doctrine that considers space in accordance with its true strategic value. Military decision-makers and planners must begin to think in such radical new terms if they are to utilize to the maximum this ultimate "high ground" for the defense of the West.

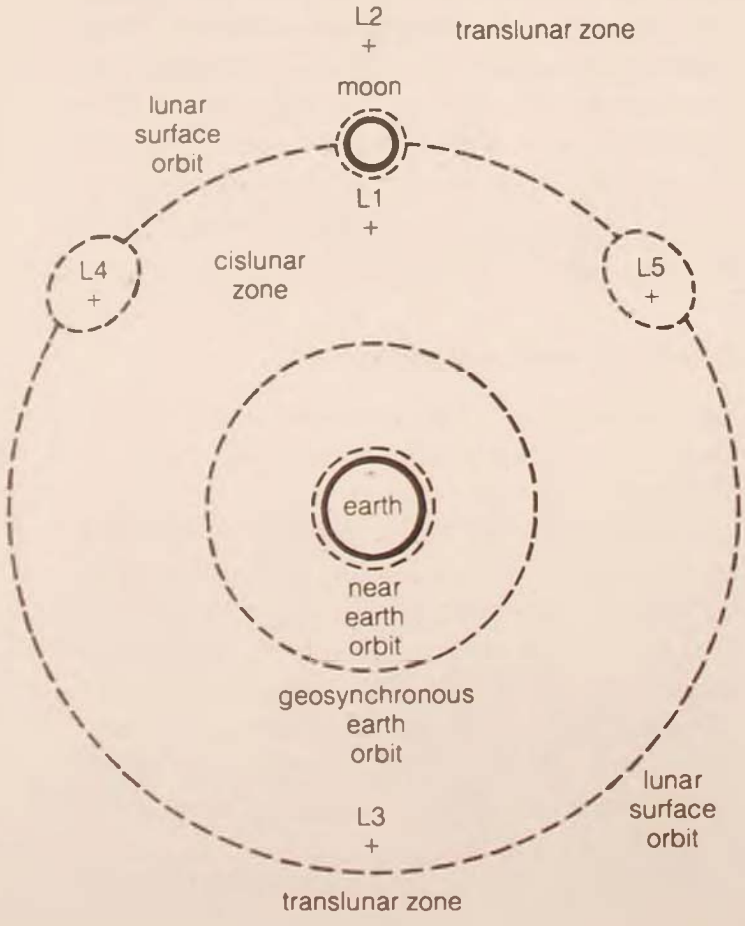
the tactical space environment

The tactical space environment of the Earth-Moon system can be conceptualized as a series of *gravity well zones* that are somewhat analogous to terrestrial hills, promontories, and mountains in that much effort and energy must be initially expended to situate forces in such locations. Once attained, however, these positions can be used to dominate the terrain below with relative ease. Figure 1 illustrates in two-dimensional form the gravity well zones of the Earth-Moon system, which are in reality three-dimensional spheres.

During the next two decades, military space

activities and the development of various commercial space enterprises (or "space industrialization") will be primarily restricted to this system. Possible military missions in this tactical environment include direct intervention on the Earth's surface from space, regulation of the flow of space traffic, protection of military and industrial space facilities, denial of strategic areas of space to others (such as choice satellite orbits at Geosynchronous Earth Orbit and the various Lagrangian points at which objects revolve with the same period as the gravitational Earth-Moon system and thus remain effectively stationary), and various surveillance, reconnaissance, navigation, command, control, and communication functions.

Figure 1. The tactical space environment of the Earth-Moon system (generalized and not to scale). L1, L2, L3, L4, and L5 indicate Lagrangian libration points; orbits of stable equilibrium are shown for L4 and L5.



Near-Earth Orbit (NEO) or aerospace extends 50 to 200 kilometers above the Earth's surface, incorporating the mesosphere and the lower edge of the ionosphere in an intermediate region where aerodynamics and ballistics interact or succeed each other. In the short term, NEO will remain the primary location for the deployment of manned and unmanned military systems[5] and probable major space industrialization facilities such as a manned space operations center (SOC).[6] It is through this zone that ballistic missiles must proceed during and after their boost phase and are most vulnerable to antiballistic missile (ABM) systems. However, minimum long-range effects from nuclear explosions are found at altitudes between 50 and 150 kilometers: above 50 kilometers, the mechanical effects of shockwave pressures almost disappear as a consequence of the relatively low air density; below 150 kilometers, the air density is still high enough to reduce the range of corpuscular radiation through dispersion and absorption so that the long-range thermal effect is also not maximum.[7] Therefore, even very powerful nuclear devises in the megaton range must be detonated at relatively close proximity to their intended target at NEO to be effective, although electromagnetic pulse (EMP) effects could seriously disrupt unhardened electronic systems at long-range distances. Nevertheless, targets at NEO, compared to those at higher gravity well zones, are relatively vulnerable to Earth-based intervention because of an inherently short warning time available for the implementation of countermeasures and the minimal amount of energy that the enemy must expend to reach this zone. Conversely, a weapon system such as a fractional orbital bombardment system (FOBS) at NEO could attack targets on Earth with a minimum of warning.

The cislunar zone consists of all space between NEO and Lunar Surface Orbit (LSO), including Geosynchronous Earth Orbit (GEO). GEO is presently utilized extensively for the positioning of satellites in a stationary orbit

relative to the Earth's surface rotation and will take on an even greater significance if space industrialization projects such as large space platforms and solar satellite power systems are feasible during the next several decades. The cislunar zone provides military systems situated here the defensive option of a longer reaction time to implement countermeasures against Earth- or NEO-based intervention.

LSO consists of the zone of space where the Moon orbits the Earth, including Near Lunar Orbit (NLO) or the space immediately surrounding the Moon.The translunar zone is comprised of the space from LSO to approximately one million kilometers from the Earth's surface, where the solar gravity well begins to predominate and includes the five Lagrangian points. These final zones will attain increasing military significance as the process of space industrialization evolves. Eventually the Moon and Lagrangian points could be used to dominate the entire Earth-Moon system.

technological developments

Military space systems that are currently available to several nations include satellites for various sensoring and communication purposes and ballistic missiles: intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs). The recent, successful launch by the United States of its space shuttle transportation system will markedly reduce the cost of placing large objects in NEO. The United States is also developing a two-stage antisatellite missile that utilizes only its kinetic energy to disable its target and will be launched from fighter aircraft or possibly prepositioned at NEO. Until 1971, the Soviet Union pursued a vigorous program to develop a FOBS and is currently perfecting hunter-killer antisatellite satellites.[8] These satellites will function as giant nuclear grenades encased in jackets of shrapnel and detonate by command or remote sensing. Also, the Soviet manned Salyut 6 space station is undoubtedly being used for covert military purposes. The use of exoatmospheric missiles in an ABM role and a system for the distribution of chaff in the path of a ballistic missile or satellite are two other technological concepts that may soon be operational.

However, several other technological concepts that may profoundly affect the future of military space operations have now reached, or are about to reach, the critical point that separates theory from practice; that point is known to technological forecasters as the Hahn-Strassmann point of technological development.[9]

Both the United States and the Soviet Union are currently allocating significant resources for the development of directed-energy beam weapons. Continuous wave, high-energy chemical laser "battle stations" may be situated either at NEO or GEO by the 1990s.[10] This weapon system would initially be deployed in a primarily antisatellite role, but eventual technical improvements and the use of larger, more powerful lasers would allow such battle stations to engage and incapacitate ballistic missiles and their multiple independently targeted reentry vehicle (MIRVed) warheads, cruise missiles, aircraft, surface and submersible ships, and ground targets. For detecting and tracking targets, these battle stations would utilize synthetic aperture radar and ultraviolet/infrared optical probes, while possible space-based power sources include nuclear reactors, solar collectors, and pulsed plasma MHD (magnetohydrodynamic) generators.[11] Possible weaknesses of such a weapon system may include the thermal blooming and turbulence of the laser beam when used through the atmosphere, defraction and tracking jitter, and the enemy use of such countermeasures as electronic countermeasures (ECM) warfare, the hardening of target surfaces using ablative, absorptive, and reflective materials, target maneuverability, and a simple proliferation of targets (launch vehicles, MIRVed warheads, and dummy targets). A careful consideration and integration of system design may negate most of these problems, while the use of hunter-killer satellites as an

active enemy countermeasure could be practically discounted because of each battle station's inherent capability to destroy such targets at long-range distances up to thousands of kilometers. A possible alternative battle-station system design would employ ground-based lasers coupled with space-based relay mirrors. This system would have the advantages of larger available power supplies with unlimited run times, the use of smaller optical mirrors, a relative ease of deployment and maintenance, and a possible dual-role as a space propulsion system.

Very compact, space-based laser battle stations could be developed by the use of laser devices pumped by small, low-yield nuclear devices that would produce pulsed x-ray laser beams at extremely high levels of power.[12] Each of these battle stations could be used only once but would, essentially, direct the energy of a small nuclear explosion into narrow, multiple beams of coherent x-ray radiation that would be capable of literally evaporating targets. Such x-ray lasers would be able to penetrate atmospheric layers more efficiently than chemical high-energy lasers, while enemy hardening countermeasures would provide an ineffective defense. The relatively small size of each such battle station would allow it to be delivered to NEO by large boosters, such as Titan III and MX, or in volume by space shuttle. This system could be prepositioned in space or deployed in times of crisis. The integrated use of x-ray and chemical high-energy laser battle stations in conjunction with exoatmospheric ABM missiles could possibly provide a significant layered ABM defense by the 1990s and would, at the very least, force a costly redevelopment of strategic enemy-offensive capabilities.

A small, fully reusable, one- or two-man space fighter may be developed for the USAF during the next decade; various designs are now being considered.[13] In concept this vehicle would appear to be similar to the abortive USAF/Boeing X-20 Dyna-Soar, and compared to the current U.S. space shuttle, it would be much smaller and less costly, more flexible in terms of orbital capabilities, and less complicated in terms of maintenance and launch preparations. The space fighter could be drop-launched to NEO from a large aircraft such as a Boeing 747 or a Lockheed C-5A, launched directly on a large booster, or several could be delivered in a single space shuttle payload. Unlike the present space shuttle, the space fighter would have an NEO orbit-to-orbit maneuvering capability and would be able to reach higher orbits such as GEO after a refueling rendezvous with a space shuttle fuel tanker. After its mission was completed, the space fighter would proceed directly to a horizontal landing on a conventional runway. Possible missions and capabilities include being a weapon platform for directed-energy and projectile weapons, satellite inspection and destruction, an ABM role, "stealth" reconnaissance/intelligence flights over enemy territory at altitudes too high for aircraft and too low for satellites, the provision of security for industrial space facilities, the repair and maintenance of satellites and other space-based weapon systems, a space "rescue vehicle" role, and a limited logistics capability for NEO and cislunar space. The current Soviet space shuttle program apparently involves a vehicle of this nature, which may be operational in the near future.[14]

The future development of large-scale civilian and military space projects will necessitate the development of a heavy lift vehicle (HLV) to transport larger payloads to NEO than the current U.S. space shuttle is capable of and a reusable manned orbital transfer vehicle (MOTV) to ferry large cargo loads from NEO to other gravity well zones. It seems probable that the HLV design will be an up-rated version of the current space shuttle transportation system, while various designs are now feasible for the MOTV that could utilize chemical, nuclear, and solar-electric propulsion systems.

Other important technological developments that could possibly become operational during

the next two decades include charged and neutral particle beam weapon systems,[15] hypervelocity missiles that are accelerated either from space-based linear synchronous motors (or mass drivers) or from ground-based artillery-rocket systems such as were developed by the U.S./Canadian Project HARP, and even the use of "planetoid bombs" as a Strangelovian doomsday device. While this last idea may be considered by some to be completely preposterous, it is well to consider that it was suggested almost twenty years ago that planetoid massing some 7 x 10^{12} pounds and capable of devastating entire nations with an impact energy equivalent to millions of megatons of TNT could be directed to a predetermined spot on Earth by a manned space expedition utilizing Apollo-level technology and a reasonable amount of nuclear explosives.[16]

strategic considerations

Eugen Sänger envisaged a future development of space by man in which ". . . the military will install a weapons complex consisting of transport and reconnaissance systems and of offensive and defensive installations of such efficiency that as long as they exist war on earth will be impossible."[17] A more recent analysis of the potentially revolutionary impact of space warfare predicts:

> An orbital conflict (to establish saliency) might be oddly reminiscent of feudal wars in the Middle Ages. The mass of the population, allies and even "uncommitted" nations would be the burghers and villeins; helpless spectators of the clash of machines in space without any possibility of influencing the final outcome. More, in accordance with such a medieval archetype, the fate of large communities would be decided by a comparatively small though technologically and industrially ascendant group.[18]

However, it is crucial that a number of important, interrelated strategic issues be considered today that will have direct impact on the future military and industrial development of space:

- The relationships of the Test-ban Treaty of 1963, the Outer Space Treaty of 1967, the SALT negotiations, current international efforts toward the development of a "space law," and international relations in general to current and potential developments in the military use of space;
- The question of whether the emerging capabilities of space warfare are an evolutionary military development and should be exploited as force multipliers, additives, and levers in support of the current strategic doctrine of mutual assured destruction (MAD),*or* whether these capabilities will collectively constitute a true revolution in the history of warfare that necessitates a new strategic space doctrine;
- The question of the utility of the United States allocating a $70-$80 billion expenditure[19] for the next decade for the development and upgrading of strategic weapon systems intended to indefinitely continue the MAD doctrine *if* this doctrine will soon be made obsolete;
- The development of an overall synergism between Western military and civilian space programs that would greatly expedite space industrialization by the deployment of dual-role space systems such as SOCs, HLVs, and MOTVs—such a synergism presently exists in the Soviet space program;
- The development of a specialized space command or space force for operational military and civilian space missions that would allow organizations such as NASA and USAF Systems Command to resume their original primary mission of research and development;[20]
- The question of the exact status of the future of manned spaceflight[21] and whether reliance should be placed on increasingly sophisticated automated systems or a "man-in-the-loop" should be emphasized.

WHILE the constraints of technology, economics, and politics will make difficult the militarization and industrialization of space, it can be safely assumed that this will eventually be accomplished by someone. Western military de-

cision-makers and planners would be wise to consider carefully the implicit meaning of the closing words of the Soviet cosmonauts Vladimir Lebedev and Yuri Gagarin in their book *Survival in Space:*

> There has to be persistence, determination, and selfless devotion to the goal. It is these that will help the highly educated and physically strong to conquer space, for space will submit only to the strong.[22]

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Notes

1. Eugen Sänger, *Space Flight* (New York, 1965).
2. Jonathan Norton Leonard, *Flight into Space* (London, 1957), pp. 183-84.
3. Dandridge M. Cole, *Strategic Areas in Space—The Panama Theory* (Los Angeles: Institute of Aerospace Studies, 1962).
4. Michael Golovine, *Conflict in Space* (London, 1962).
5. Major E. M. Fitzgerald, "The Command of Space," *Journal of the Royal United Services Institute for Defence Studies*, March 1981, pp. 36-38.
6. Clarke Covington and Robert O. Piland, "Space Operations Center: The Next Goal for Manned Space Flight?" *Astronautics and Aeronautics*, September 1980, pp. 30-37.
7. Sänger, pp. 140-41.
8. "Soviets Launch Second Satellite Intercept in Nine Months," *Aviation Week & Space Technology*, February 9, 1981, pp. 28-29; "Soviets Test Another Killer Satellite," *Aviation Week & Space Technology*, March 23, 1981, pp. 22-23.
9. So-named after the experiment that physicists Otto Hahn and Fritz Strassmann conducted in 1938, which confirmed the previously purely theoretical concept of nuclear fission.
10. Clarence A. Robinson, Jr., "Space-Based Laser Battle Stations Seen," *Aviation Week & Space Technology*, December 8, 1980, pp. 36-40; David Tonge, "The 'Space Beam' Race," *World Press Review*, December 1980, p. 51; Clarence A. Robinson, Jr., "Laser Technology Demonstration Proposed," *Aviation Week & Space Technology*, February 16, 1981, pp. 16-19; Monte Davis, "Is There a Laser Gap?" *Discover*, March 1981, pp. 62-66; Clarence A. Robinson, Jr., "Need Cited for High-Energy Lasers," *Aviation Week & Space Technology*, March 16, 1981, pp. 19-20; Clarence A. Robinson, Jr., "Technical Survey: Beam Weapons Technology Expanding," *Aviation Week & Space Technology*, May 25, 1981, pp. 40-71; Colonel W. C. Weston, "A Look Ahead at North American Air Defence in the Eighties and Beyond," *Canadian Defence Quarterly*, vol. 10, no. 4, 1981, pp. 6-12.
11. National Aeronautics and Space Administration, *A Forecast of Space Technology 1980-2000* (Washington: Scientific and Technical Information Office, 1976), pp. 4-25—4-27; "Pulsed Electrical Power Generation Studied," *Aviation Week & Space Technology*, April 27, 1981, p. 181.
12. Clarence A. Robinson, Jr., "Advance Made on High-Energy Laser," *Aviation Week & Space Technology*, February 23, 1981, pp. 25-27.
13. Lieutenant General Daniel O. Graham, USA (Ret), "Toward a New U.S. Strategy: Bold Strokes Rather Than Increments," *Strategic Review*, Spring 1981, pp. 9-16; Erwin J. Bulban, "Tactical Missile System Studied by Sandia, DARPA," *Aviation Week & Space Technology*, January 5, 1981, pp. 64-65; Dave Dooling, "Once More—The New 'High Ground'," *Astronautics and Aeronautics*, April 1981, pp. 4-12; Robert Salkeld, Rudi Beichel, and Robert Skulsky, "A Reusable Space Vehicle for Direct Descent from High Orbits," *Astronautics and Aeronautics*, April 1981, pp.46-47; Robinson, "Technical Survey: Beam Weapons Technology Expanding," pp. 40-47.
14. Lieutenant Colonel Carl A. Forbrich, Jr., "The Soviet Space Shuttle Program," *Air University Review*, May-June 1980, pp. 55-62.
15. Captain H. P. Smith, "Charged Particle Beam Weapons," *Canadian Defence Quarterly*, vol. 7, no. 4, 1978, pp. 16-18; Robinson, "Technical Survey: Beam Weapons Technology Expanding," pp. 55-60.
16. Dandridge M. Cole and Donald W. Cox, *Islands in Space* (Philadelphia, 1964), pp. 122-33 and pp. 152-59.
17. Sanger, p. 132.
18. Fitzgerald, p. 38.
19. Graham, p. 14.
20. Colonel Morgan W. Sanborn, "National Military Space Doctrine," *Air University Review*, January-February 1977, pp. 75-79.
21. Congressman Cecil Heftel, "A Space Policy for the 1980s—and Beyond," *Air University Review*, November-December 1980, pp. 2-16.
22. Vladimir Lebedev and Yuri Gagarin, *Survival in Space* (Toronto, 1969), p. 166.

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 TECHNOLOGICAL WAR

Dr. Benson D. Adams

ALTHOUGH I agree with the premise, reasoning, thrust, and conclusions of Lieutenant Colonel Donald R. Baucom's article, "Technological War: Reality and the American Myth" in the September-October 1981 issue of the *Air University Review*, I disagree with his interpretation of General Bernard Schriever's statement quoted as the article epigraph, which Baucom apparently believes is typical and indicative of the attitude that fosters the problem of the technological myth of which he writes. As will become apparent, I believe this is an important point since the author's interpretation of Schriever's remark to support his thesis could have very profound negative strategic and technological consequences for the United States and the United States Air Force far beyond what Colonel Baucom might imagine.

General Schriever, in this statement of 1960, was one of the first to recognize the critically important and central role that technology came to play in post-World War II strategy. This is different from Baucom's thesis, for which he incorrectly, in my judgment, uses Schriever's quotation to illustrate how we have become enamored with technology, ". . . as the key to military success at the expense of other elements that have traditionally played a major role in military victory, such as superior combat leaders, skilled and dedicated fighting men, willingness to sacrifice, and sound strategy." What General Schriever was saying[1] (I am interpreting since I never met or served with him, although I worked closely with several members of his Air Force Systems Command staff in the early and mid-1960s), which was to find its fullest expression in the Winter-Spring 1962-63 issue of the *Review*,[2] was that technology had become an indispensable and integral element of power and strategy in the post-World War II period, just as industrial and economic means had formed the basis for strategy and international relations after the nineteenth-century industrial revolutions.

General Schriever was arguing that the United States had to acquire scientific and technological knowledge and emphasize military research and development at least through prototype development at a faster and more regular pace than the U.S.S.R. in order that we never (1) be faced with a disadvantageous technological surprise that could upset the balance of

power; (2) negate an advantage that we possessed; (3) deny ourselves an advantage. This is what was called the technological conflict, and we cannot afford to lose this conflict. We *could* lose if the antitechnology ideas of the erstwhile military reform movement and Colonel Baucom's thesis are allowed to prevail without an appreciation that the acquisition of technological knowledge for our security must be balanced with a more judicious and sensible application and incorporation of those ideas in future weapon systems.

The disease that has befallen us — and which Colonel Baucom laments — comes not only from the view expounded by General Schriever but from those responsible for weapon development and acquisition who do not understand or care to understand war, strategy, or the role played in both by technology. Their attitude holds that more technology is better even to the point of making weapons less effective and useful so long as they incorporate the latest technology. This attitude has to be guarded against; however, any diminution of our basic and applied research efforts must also be guarded against so that we do not fall behind in scientific and technological knowledge.

As a matter of interest, in 1951 Arthur C. Clarke wrote a short story called "Superiority," which portrays the same problem that Colonel Baucom has written about, but in a more dramatic manner. I recommend it to you.

Washington, D.C.

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Notes

1. Lieutenant General Bernard A. Schriever, USAF, "The Operational Urgency of R&D," *Air University Quarterly Review*, Winter and Spring 1960-61, pp. 229-36.

2. General Bernard A. Schriever, "The Role of Management in Technological Conflict," *Air University Quarterly Review*, Winter and Spring 1962-63, pp. 19-29.

MORE ON TECHNOLOGICAL WAR

Colonel William R. O'Rourke, Jr.

LIEUTENANT COLONEL Donald R. Baucom has raised interesting points about the impact of technology on war. Technology, with all its ambiguities, is certainly intriguing. It is immune to ideology, inexorable in application, yet unpredictable in its outcome. However, it is not mythical in its impact on the process of waging war.

To the soldier contemplating or engaged in combat, nothing is more important than belief in the effectiveness of his weapon. It is the nature of man when he prepares for fighting to seek an advantage beyond a positive purpose. The better weapon offers an increased chance for survival and victory. In times of peace, better weapons sometimes present easier alternatives to hard training, discipline, and risk-taking. When these alternatives are taken, however, the fault lies with the soldier, not the weapon or the technology it embodies. For these reasons, I cannot accept the idea that technology detracts in any way from the role of combat leaders. To be sure, some of our twentieth-century leaders, to their great discredit, did not

think through the implications of new technology on the battlefield and, as a result, were educated at great cost in men and materiel—Patton's disbelief in the role and effectiveness of air power being a good example.

The U. S. military profession does not overemphasize technology; we misapply it. Technology cannot be competitive with superior leadership, willingness to sacrifice, and risk-taking. These factors are decidedly human; courage or cowardice are in no way analogous to muzzle velocity or mach number.

The American attitude toward technology tends to exaggerate its importance, but this exaggeration is only for public consumption and is not reflected in military application. In fact, the military attitude toward technology is quite the opposite. My favorite example of this is *Wampanoag*, a steam vessel that could have put the United States a full generation ahead of all navies if it had been employed. Unfortunately, a Navy board composed of experienced Navy combat leaders and seamen found in 1869 that

> lounging through the watches of a steamer, or acting as a fireman and coal heaver, will not produce in a seaman that combination of boldness, strength, and skill which characterized the American sailor of an elder day; and the habitual exercise by an officer of a command, the execution of which is not under his own eye, is a poor substitute for the school of observation, promptness and command found only on the deck of a sailing vessel.

The U.S. military has had many *Wampanoags* in its history — swept-wing jet fighters after World War II and precision-guided munitions (PGMs) after Korea are but two Air Force examples. Yes, PGMs! We need more today because they work and are much more effective than conventional weapons. This is factual technology, not myth. Unfortunately, PGMs cost a great deal of money, and we cannot really afford to buy all we need in the near term and still modernize our force structure. So we end up in the preposterous position of having late twentieth-century aircraft carrying nineteenth-century ordnance. However, this is an indictment of what is practical and not an indictment of technology.

Colonel Baucom expressed concern about the "legions of managers, engineers, technicians, and bureaucrats" and their displacement of the true soldiers. He is asking a fundamental question—who will do our fighting and dying? The same people who have always done the fighting and dying. As President Lincoln reminded us:

> Human nature will not change. In any future great national trial, compared with the men of this, we shall have as weak and as strong, as silly and as wise, as bad and as good.

Things are not really that different today, and no peacetime army prepares its soldiers for the ultimate reality of combat.

Our times of peace are periods to prepare for war. It is during these times that managers, engineers, and technicians structure the machines of war and, in many ways, establish parameters for how the war will be conducted. Many of these men are warriors at heart, and

> . . . when the blast of war blows in our ears,
> Then imitate the action of the tiger;
> Stiffen the sinews, summon up the blood, . . .
>
> Shakespeare, *Henry V*, III.1

Until that time, however, there is no way to distinguish between those who will and those who lack the moral fiber.

Colonel Baucom also lamented the declining role that military leaders play in national strategic thinking. This is regrettable, but there are very clear reasons why this is so. Technology expanded the spatial aspects of war, and after World War II, military expertise significantly and profoundly lagged behind weapon development. Lacking traditionally empirical evidence for the quantum jumps in weaponry, there was a shift to theoretical postulations on weapon effects, application, and strategic meaning. Naturally, the nuclear weapon produced the ultimate schism between military expe-

rience and strategic thinking. In this type of environment, game theory prevailed over campaign ribbons, and war strategy became a matter of firepower equations subject to presumed rational laws of marginal analysis. Unfortunately, we military professionals had no alternative construct that factored in leadership, courage, unit integrity, etc. These are the troublesome qualitative factors that tend to be ignored, especially when the ultimate measure of merit is the dollar.

Perhaps military expertise will never be restored to a position of prominence in strategic matters. Nevertheless, professional soldiers must endeavor to influence these matters with integrity and consistency — something we have not always done! Too much effort has been devoted to preserving traditional service roles, and much that could be done by the military in providing wise counsel is clouded in parochial jargon that tends to confuse issues and delay decisions. The whole process of developing military options is burdened with consensus thinking and compromise. Internal bargaining receives disproportionate attention—sometimes at the sacrifice of substance. In this environment, services tend to exaggerate their positions to achieve bargaining advantage. Diogenes would have an equally long search today were he in search of a truly "purple suited" military professional. In this particularly acute problem area, I do not see the matter of technology in any way operative. I see human failings: careerism and self-serving interest.

Finally, Colonel Baucom attempted to establish a relationship between technology and lethality on the battlefield. The approach reminded me of Stalin's infamous comment that "one man's death is a tragedy; a million deaths is a statistic." I believe the analysis ignored important psychological and ideological factors in postulating technology's influence on lethality.

Surely we must recognize the significant influence on the territorial imperative. Clausewitz recognized it in his analysis of Napoleon's 1812 battle of Moscow: "The effectiveness of resisting to the last had not yet been discovered." Men will fight against all odds and expose themselves to casualty when they perceive a threat to their homeland. Was not this type of influence present with the Germans, French, and British to a greater extent than with the Americans in World War I and World War II?

Ideological influences also have a tremendous impact on casualties. The "death before dishonor" ideology of the Japanese soldier immediately comes to mind—the death charges of Korean and Chinese soldiers in like manner. One did not need high technology to kill soldiers who were inviting slaughter and were not in a true sense engaged in combat.

Both psychological and ideological factors were heavily involved in the Vietnam and Middle East wars. I am not sure what long-term lessons, if any, we can learn from these conflicts. I am convinced that we have already made too much over our Vietnam experience. Vietnam was not a failure of technology! It was a failure of leadership and purpose. There is also an abundance of analysis on the Middle East wars, and some believe that the intensity of the battlefield is an accurate analogue for what we might expect in Europe. Sir John Hackett's popular fiction, *The Third World War*, tends to reinforce this belief, and I am astonished that it is widely accepted as being most factual in its portrayal of the next European war—were there to be one. I remain unconvinced. The situation is quite different in Europe, and it will not start and inflame through miscalculation for the simple reason that there is too much at risk.

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MORE ROLLING THUNDER

Dr. Henri Meyrowitz

AS a non-American civilian lawyer, I cannot blame the American government for having considered the Vietnam War a *limited war* and, consequently, to have chosen not to take advantage of all the options that, as W. Hays Parks so relevantly shows, international law in force at the time placed at its disposal.* For political reasons, considering not only the specific nature of the conflict but also American and international opinions, the United States preferred to stay *below* the level of conflict the law of war permitted.

From this position adopted by the American government, one issue has resulted that I think should be emphasized: Since the administration did not pretend that the restrictions kept during the air operations against North Vietnam were *imposed by international law*, this practice cannot be considered as a legally relevant precedent. Although Mr. Parks did not come to this conclusion explicitly, I think that it is implied in his discussion.

Here, then, are some observations concerning specific points expanded in the article:

• Page 6, left column, line 6: "lawful targets, such as political offices responsible for the direction of the war, . . ."

The nature of such "offices" as *lawful targets*, in accordance with the law of war in force at the time, is certain. Even though Additional Protocol I is, in this regard, obscure and silent, I believe that the law has not been changed concerning this point. However, one must be very careful to distinguish between, on one hand, the intrinsic nature of the "military objective," i.e., the definition of lawful target, and, on the other hand, the legality of the attack itself.

• Page 16, left column: The "military necessity" concept is, as Mr. Parks wrote, compatible with the "principle of war of *economy of force*," but it should not be confused with the latter. This is pointed out clearly in the passage quoted from AFM 110-31,* which defines, quite correctly, "military necessity as justifying 'measures of regulated force *not forbidden by international law* which are indispensable for securing the prompt submission of the enemy, with the least possible expenditures of economic and human resources.'" (Italics added.) This means that the international law of war can *restrict or limit* the use of means meeting the requirements of the principle of "economy of force." These restrictions or limitations add to those that result from the principle of economy of force; in any case, they prevail over the latter.

• Page 16, right column, first paragraph: In my opinion this definition of *lawful targets* expresses correctly the status of the law of war in force at the time, i.e., before the development of this law by Additional Protocol I. The latter has, in its definition of military objectives, put aside the idea of the "war effort," Article 52, paragraph 2, substituting for it the "effective contribution to military action."

In the list of items that were considered as military objectives or that could be considered as being military objectives before 1977, Mr. Parks mentioned "b. Industry (war supporting/import/*export*)." (Italics added.) With respect to this last category of items, I know very well that the thesis of their inclusion as military objectives has been held since the American Civil War by American authors, but this doctrine was not accepted internationally. One cannot transpose to the field of the law of land warfare the rules which are applicable—and which continue to be in force under Protocol I!—with regard to blockade. It is evident that export goods are excluded from the definition

*W. Hays Parks, "Rolling Thunder and the Law of War," *Air University Review*, January-February 1982, pp. 2-23.

*Air Force Manual 110-31, *International Law—The Conduct of Armed Conflict and Air Operations.*

of military objectives in Article 52, paragraph 2, of the Protocol.

• Page 17, left column, lines 3-4: "... a legitimate target may be attacked wherever it is located." This was without doubt the law in force at the time of the Vietnam War, and Protocol I has maintained this principle. But, as I have already stressed, one should not identify *lawful target of attack* with *lawful attack*. In accordance with Article 51, paragraph 5*b* of Protocol I, the attack of a military target is not permitted, being "considered as indiscriminate," if it

> may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

In other words, the targets in question remain in all circumstances military objectives, subject to attack; however, the attacks should be made under lawful conditions. According to Lieutenant Colonel A. P. V. Rogers, U.K. Land Forces: "Even attacks on military objects may be unlawful if the rule of proportionality is violated." (*Military Law and Law of War Review*, No. 1/2, 1980, Addendum.) This rule should be considered as having already been in force prior to Protocol I.

• Page 19, right column: "Casualties among civilians working in a facility that is a legitimate target cannot prevent attack on that facility; their injury or death as a result of the attack of that target is an occupational hazard and the exclusive responsibility of the defender."

This is undoubtedly right; I would go even further than Mr. Parks: I think that, even under the rules of Protocol I, the "incidental loss of civilian life, injury to civilians" sustained by *these* people does not constitute loss of human lives among the civilian population, nor does it constitute injuries to civilians that are counted in the assessment of the incidental civilian casualties and damage "which would be *excessive* in relation to the concrete and direct military advantage anticipated."

• Pages 19-20:

> Individuals supporting the war effort by moving military supplies and personnel down lines of communication into South Vietnam or repairing the roads and bridges making up those LOCs were taking a direct part in the hostilities and therefore were subject to attack.

The inclusion of civilians "moving military supplies" to people "taking a direct part in the hostilities," in my opinion, corresponds indeed to the status of the law in force before 1977. But I have strong doubts that this also was applicable to the civilians "repairing the roads and bridges making up those LOCs." (On the other hand, it was of course lawful to attack the *work itself* being repaired, in spite of the civilian presence.)

• Page 20, left column: "The law of war ... expects each [party] to act in good faith with respect to the minimization of collateral civilian casualties. To the extent that the defender elects to disregard the law of war, he is responsible for the civilian casualties that flow from his actions."

I agree with the conclusion but not with the premise. The status of the law in this matter, as it was in force at the time of the Vietnam War, has not been modified by Protocol I. According to it, the side that exposes its civilian population to an enemy attack acts in a manner that has to be condemned but does not constitute an unlawful act under the law of war.

It goes without saying—and Mr. Parks is absolutely right—that that side should be responsible for the losses sustained by the civilians thus exposed.

Paris, France

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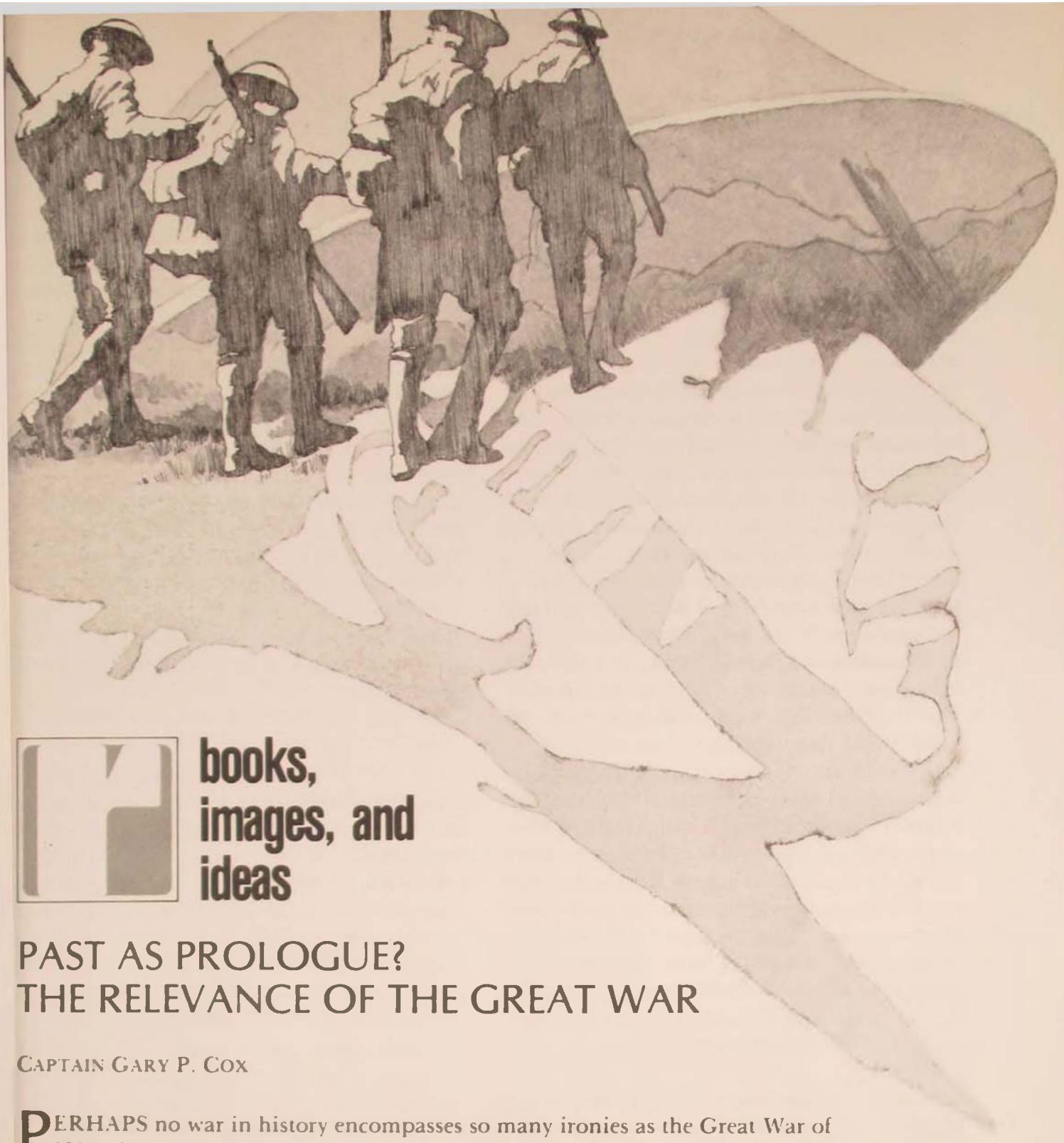
Editor's Note: Translated from the French by Lia May Patterson.



books, images, and ideas

PAST AS PROLOGUE? THE RELEVANCE OF THE GREAT WAR

CAPTAIN GARY P. COX

PERHAPS no war in history encompasses so many ironies as the Great War of 1914-18.[1] Begun as an Austrian attempt to "chastise" Serbia, it grew to involve all the great powers of the globe and many peripheral nations as well. World War I began in a beautiful summer of European hopes and nationalistic fervor and ended in a winter of disillusion and despair. Fought by the greatest war machines ever assembled, the conflict stagnated into a gridiron-like struggle in which progress was measured in yards gained and in casualties inflicted (at least on the Western Front). When the war began, Europe's autocratic royal houses, related by blood and

intermarriage, secure in their centuries-old positions, held sway over the continent. Yet the war for which they connived, or the war in which they acquiesced, or the war into which they blundered (depending on one's interpretation) swallowed up Hapsburg, Romanoff, and Hohenzollern alike.

There is a further irony about the Great War, however, that lingers to this day: While the War of 1914-18 continues to elicit volume after volume of analysis and debate from historians and aficionados, the war itself is generally neglected by the military professional.[2] Although intensively studied in the immediate postwar years, the conflict was soon forgotten by scholar-soldiers, who found themselves confronted with new technologies that produced startling tactical and strategic innovations. Following World War II, in the rush to understand blitzkrieg, carrier warfare, and strategic bombing, the lessons of World War I were shunted aside. This neglect is unfortunate, for at least three examples come quickly to mind which illustrate the Great War's continuing relevance for soldiers and statesmen as well as scholars.

One example of this relevance is highlighted in the controversy over the war's outbreak. Endlessly debated though this issue has been, the central fact that seems to emerge from the ink-stained scholarly battlefield of the last sixty years is that no power wanted a general European war or even imagined what that war might be like.[3] Certainly, the manner in which that war broke out is especially significant for today, when a similar miscalculation, blunder, or foolishly taken risk could launch a third world war.[4]

From a purely military point of view, the war offers the spectacle of great armies marching into battle equipped with modern weaponry whose utilization and impact were only imperfectly understood. Similar problems may afflict today's planner: after all, no one has yet fought on the "automated battlefield," launched or survived the strikes of tactical nuclear weapons, tried to penetrate the Soviet's most sophisticated mobile surface-to-air missile/antiaircraft artillery envelope, or used laser weapons in combat. Most military professionals have ideas as to what this environment will be like, but for now, no one really knows.

Finally, and perhaps most ominously, certain examples of modern combat, most notably the 1973 Arab-Israeli War, seem to indicate that the lethality of the modern conventional battlefield for men and machines may equal or even exceed the abattoir of 1914-18.[5] It is extremely unlikely that the addition of nuclear, chemical, or biological weapons will lessen this lethality. For these three reasons at least, the Great War remains a fertile if unplowed field of study for the military professional. Three recently published books address different aspects of this war, all of which hold interest for the soldier and scholar.

PERHAPS the first priority in attempting to analyze and understand a conflict like the Great War is to consider the causes for its outbreak. As exhaustively assessed as these causes have been, the stream of dispassionate analysis and impassioned polemic has continued in monograph after monograph. In addition to the traditional question of "war guilt," these works have often addressed the "lessons" of the 1914 crisis as well. After all, a major concern ought to be to try to prevent the recurrence of such a catastrophe. Unhappily, Professor Arno Mayer's *The Persistence of the Old Regime*,† gives little aid or comfort to those seeking such guidance. Rather, Mayer claims that it is the socioeconomic structure of pre-Great War Europe and its dominance by

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† Arno J. Mayer, ***The Persistence of the Old Regime*** **(New York: Pantheon Books, 1981, $16.95), 368 pages.**

the *anciens régimes* that led to war. Mayer argues that for too long historians have concentrated on the "advance of . . . the bourgeoisie and professional middle class, of liberal civil society, [and] of democratic political society" and have ignored the "forces of inertia and resistance that slowed the waning of the old order," (p. 4) This old order, composed of hereditary and privileged nobilities, the Church, the military, and such members of the bourgeoisie that could be co-opted, bears the responsibility for the catastrophe. "The Great War was an expression of the decline and fall of the old order fighting to prolong its life rather than of the explosive rise of industrial capitalism bent on imposing its primacy." (p. 4)

As a critique from the Left, this book possesses the immense utility of forcing the reader to reexamine many traditional ideas and beliefs. It is difficult, for example, to quarrel with Mayer's assertion of the persistence and dominance of the old regime in pre-Great War Europe. (See pp. 102-09) France, perhaps, is the one country in which the idea of the old regime's dominance is not entirely convincing.

Much more questionable, however, is Mayer's delineation of the responsibility of this old order for the deluge. He sees war increasingly used as a lever in domestic politics rather than a rational tool of diplomacy, and he reminds us that domestic problems form a critical backdrop to the debacle of 1914. (p. 305) There is certainly evidence to support this assertion: Britain alone, for example, faced in 1914 political crises over the future of Ireland, the women's suffrage movement, and mounting demands by the labor unions.[6] By volume's end, however, the reader is confronted in essence with yet another conspiracy theory: "the governors of the major powers . . . marched over the precipice of war with their eyes wide open, with calculating heads, and exempt from mass pressures . . . determined to maintain or recapture an idealized world of yesterday." (p. 322) Thus the elites combined with their henchmen, the bourgeoisie, to subdue the proletariat, the only group that showed a "marked disposition" to "resist impressment." (p. 323)

It is certainly possible to apply Mayer's thesis to the world situation today—on both sides of the Iron Curtain. Those who walk in terror of our military-industrial complex, for example, usually point to the Soviet boogieman as a threat at budget time and in the continuing debate over domestic and foreign policy issues. On the other hand, whether one agrees with speculations on the decline of the Soviet regime or not,[7] these speculations certainly raise the question: to what lengths might the Kremlin go, confronted with a declining hegemony and convinced of the possibly irretrievable nature of its plight, to maintain its power?[8] Given Mayer's sympathy for the Bolshevik revolution, this scenario is ironic indeed! (p. 3)

Mayer's work is nonetheless a fascinating synthesis, a tour de force. Its provocative thesis will engage—perhaps even enrage—some readers. But for the student or professional seeking to broaden his understanding of this period, the book is a must.

WHEN the war came—and again there is that eerie parallel to the ideas of today—most believed it would be violent, destructive, and over by Christmas. Just as today there seems to be a general consensus that a war in Europe would be violent but short—because of NATO's lack of reserves, because of the expected disintegration of the Soviet bloc, and a variety of other reasons—so the generation of 1914 expected that improved transport, greatly magnified firepower, and the crush of mass armies would result in a speedy decision. Unlike today, however, both sides were convinced of their superiority and the certainty of their victory. "Both sides were confident that their causes were just, that their armies were invincible, and that their consequent victories would be glorious, overwhelming, and practically immediate."[9]

Such was the resilience of modern societies,

however, that these bright hopes turned to hideous nightmares of a war without end. As the impact of the conflict intensified on European society, one expedient after another was utilized in an attempt to break the deadlock: from tactical innovations, like poison gas and the creeping barrage, to bold and ruthless strategic initiatives, like the Dardanelles landings, the Allied blockade of the Central Powers and their response, unrestricted submarine warfare. By 1918, the war thus resembled a poker game among rivals where something has gone horribly wrong: instead of the customary modest pot, the lifesavings of each player had been wagered in a series of steady and ultimately ferocious raises. On both sides of the table sat "players" who felt they held the winning cards. For the Germans, this trump card was the collapse of Russia and her imminent withdrawal from the war. The Allied winning hand was the vast potential assured their cause by America's entry into the war.

It is at this point of balance that John Toland's book *No Man's Land* begins.† The work is typically Toland: a detailed, absorbing, yet fast-paced look at the last tumultuous year of the war, from the Kaiser and his entourage to the exploits of America's "Lost Battalion." This work is popular history in the best sense of the word.

Certain themes are highlighted by Toland's account. Emerging clearly from the narrative are the tremendous difficulties of forging and maintaining multinational coalitions. It was only the specter of absolute defeat by Ludendorff, for example, that finally prompted the Western Powers to appoint a general-in-chief in 1918. And French Marshal Ferdinand Foch, part mystic, part cheerleader, part conglomerate head, spent much of his time cajoling his alleged subordinates to undertake a desired course of action. Nor were relations any rosier between the Allied governments, especially after the entrance of the United States into the war. The high-minded, and at times high-handed, idealism of Woodrow Wilson clashed with the aims of David Lloyd George and Georges Clemenceau. The "Grand Alliance" of World War II seems a model of unity and cooperation by comparison, perhaps as a result of lessons learned from the Great War.

A second and related theme was the distrust manifest between political and military leaders. In some cases this distrust was simply the clash of personalities, republican Dreyfusard Clemenceau versus conservative Catholic Foch, for example; in others, most notably the profound antipathy between Britain's field commander Sir Douglas Haig and Lloyd George, the issues were both personal dislike and professional disagreement. The results of these clashes were almost fatal for the war effort. (pp. 1-10)

No Man's Land also forcefully points out the Great War's role as the crucible of modern history. Although the book's focus is the Western Front, Toland does steal a glance at Russia. The birth pains of the Bolshevik revolution are recounted; Lenin and Trotsky make their first appearance on the world scene. Nor are they alone. A number of the twentieth century's most important figures served their apprenticeship in this conflict: Americans like Franklin D. Roosevelt, George Patton, George Marshall, and Douglas MacArthur; Europeans, like Winston Churchill, Adolf Hitler, and Tito. Toland also reminds us of the costs and consequences of this struggle. With numerous personal accounts and some truly horrifying pictures, *No Man's Land* illustrates another aspect of this crucible, the price modern war exacts from its participants.

No Man's Land is not a work of analysis. Scholars will mutter that no really new ground has been broken and criticize its neglect of the war's other theaters. Nevertheless, the book's

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† John Toland, *No Man's Land: 1918—The Last Year of the Great War* (Garden City, New York: Doubleday & Company, 1980, $17.95), 651 pages.

pace and extensive coverage of Western Europe make it an immensely readable introduction to a critical year of the world's history.

IN *To Win a War: 1918, The Year of Victory*, John Terraine takes an analytical look at the reasons for the Allied victory.† In many respects this book promises to spark just as much debate as Mayer's work, for Terraine's controversial thesis will probably elicit swift rejoinders and, one would hope, some judicious reevaluation of the whole Western Front business.

For over twenty years, Terraine has waged a lonely, almost-solitary battle in defense of Douglas Haig and his overall command of the British Expeditionary Force (BEF). Many have regarded this defense as an exercise of intellectual eccentricity—a paragon of bulldog British stubbornness in the face of almost universal opprobrium.

The case *against* Haig is certainly well known to students of the war: the offhand remark about the uselessness of machine guns and the increasing utility of cavalry; the "hash" he made of maneuvers while commanding in 1912; his allegedly political marriage; his correspondence with the king during the early stages of the war, voicing dissatisfaction with the BEF's first commander, Sir John French; his responsibility for the terrible battle of the Somme, where Britain suffered more than 59,000 casualties in a single day, almost 20,000 dead outright; the terrible battles of attrition around Ypres in 1917, summed up in the one haunting word, Passchendaele.[10] If all this is not convincing enough, Haig's reputation was pilloried after the war by both J. F. C. Fuller and Sir Basil Liddell Hart as well as by a younger generation of British military historians who followed in the footsteps of Fuller and Liddell Hart in the 1950s and 1960s.[11]

With the quantity and quality of the opposition, Terraine's efforts might seem to be a forlorn hope. Nothing could be further from the truth, however. Terraine focuses on the final campaign of 1918, the last victorious Hundred Days, which, he argues, is "virtually an unknown story." (p. xv) Terraine asserts that this great campaign has been ignored in Britain because of the antipathy between her political and military leadership. Because the war was won on the Western Front—an arena whose staggering consumption of men and material earned the fear and suspicion of Prime Minister Lloyd George—and was won by a man whom Lloyd George detested, the victory made nonsense of many of the prime minister's "cherished strategies and . . . [threw] an unpleasant light on many of his policies. So he tried to pretend that it had not happened—and was supported in this by all those who, for reasons of their own, emotional or doctrinaire, saw the Western Front and its generals as villains of history." (p. xvi) Terraine adds that this deliberate belittling of the achievements of 1918 also added fuel to the myth that the German army had not been defeated on the battlefield but stabbed in the back by Communists and Jews at home.

Terraine thus has carved out for himself a formidable arena for combat. Yet in point after penetrating point, he treats and dismisses many of the traditional arguments about the 1918 campaign. Why not a negotiated peace? Terraine points to Germany's brutal treatment of Soviet Russia at Brest Litovsk and the belt-tightening it produced among the Allies. (pp. 21-22) Why not avoid the Western Front altogether and knock Germany's "props," her allies, out of the war? Terraine notes that Germany was in fact *the* prop of Austria-Hungary, Turkey, and Bulgaria. The Western Front was thus the decisive theater of the war; once Germany was defeated there, her "props" col-

†John Terraine, *To Win a War: 1918, The Year of Victory* (Garden City, New York: Doubleday & Company, 1981, $14.95), 268 pages.

lapsed one after another. (pp. 104 and 130) Terraine suggests that those like Pétain, who advocated waiting on the "Americans and the tanks," might have had a long wait. America gave the Allies a tremendous psychological boost, but no tanks, no artillery, and a raw, ill-trained army unprepared for the Western Front. (pp. 5-6) As for "the tanks," Terraine stresses that although a magnificent invention, they were hardly war-winners. Slow and vulnerable to enemy fire, tanks were marvelous against entrenched infantry, but they took terrible losses to men and machines. On 8 August 1918, the BEF took 414 tanks into battle against the German lines around Amiens; by 12 August, only six tanks were still operational. (pp. 96-97)

Others have argued various aspects of Terraine's contentions before. The volume remains compelling, however, because of his impressive synthesis and integration of the 1918 campaign as a logical follow-on to the bloody fighting of previous years. Terraine yields not an inch to his opponents in this thoughtful reassessment.

For the professional student of war, *To Win a War* has a heightened relevance. Let us suppose that, as in 1914, contrary to prevailing opinion, a conventional war breaks out in Europe today. Let us extend this 1914 analogy a little further, and suppose that this war does not end in a matter of days, either with Soviet tanks on the Channel or the collapse of the Russian empire. Much has been written about our logistical capabilities and problems in a conventional war in Europe. Much less has been written about our psychological or moral capabilities to sustain such a war. If, like the original BEF in 1914, our professional armed forces in Europe should be crippled by losses, are our reserve forces prepared to endure and defeat the enemy? Is our society capable of sustaining such a conflict? Somehow the generations of 1914 just managed to sustain their war. Book after book has attempted to analyze these men and women. They have been labeled naïve idealists; fools; tools of the elites; poltroons. For whatever reason, they maintained their cohesion to the end. Could we do the same?

THESE three books provide an excellent introduction to a fascinating and critical era of world history. *The Persistence of the Old Regime*, *No Man's Land*, and *To Win a War* all deserve to be read, studied, and debated. They offer much food for thought for today's scholars—and today's soldiers.

USAF Academy, Colorado

Notes

1. It is in the works of Professor Paul Fussell that I first considered the ironies of the Great War. See Fussell's *The Great War and Modern Memory* (New York: Oxford University Press, 1977).

2. In addition to a continuing flow of books, new civilian publications about the Great War include a new journal, *Der Angriff*, and a British journal of a new society devoted to the study of World War I, the "Western Front Association." Unhappily, military publications list only a trickle of articles, as a quick perusal of the *Air University Library Index to Military Periodicals* will confirm. One bright spot is Army Command and General Staff College's new publication, the *Leavenworth Papers*, which has listed both "German Tactical Doctrine Changes in World War I" and "Chemical Warfare: The Integrated Battlefield 1917-1918" as subjects for upcoming issues.

3. Standard accounts of the war's outbreak are legion. One that still displays admirable balance *and* readability is Sidney B. Fay's *The Origins of the World War*, 2d ed. rev. (New York: The Free Press, 1966). For a later and more contentious look at the war and its origins, see D. J. Goodspeed, *The German Wars, 1914-1945* (Boston: Houghton Mifflin Company, 1977).

4. See Miles Kahler, "Rumors of War: The 1914 Analogy," in *Foreign Affairs*, Winter 1979/80, pp. 374-96; also General Sir John Hackett et al., *The Third World War: August 1985* (New York: Macmillan, 1978).

5. Israeli losses for the Yom Kippur War have been put at 2412 dead and 508 missing in Edward Luttwak and Dan Horowitz, *The Israeli Army* (New York: Harper & Row, 1975), p. 397. In *three weeks* of fighting the Israelis lost approximately one percent of their total mobilization base (put at about 270,000).

6. For a discussion of England's domestic crises, see George Dangerfield, *The Strange Death of Liberal England, 1910-1914* (New York: Perigee Books, 1980).

7. See, for example, the interview with Secretary of State Alexander Haig, "The Soviet Union Shows Clear Signs of Historic Decline," in *U.S. News and World Report*, May 18, 1981, pp. 28-30.

8. Such, in essence, was the underlying thesis of Hackett's *The Third World War*.

9. Barrie Pitt, *1918—The Last Act* (New York: Ballantine Books, 1963), p. 17.

10. For a summary of the case against Haig, see Leon Wolff, *In Flanders Fields* (New York: Ballantine Books, 1964), pp. 40-44.

11. See, for example, both Wolff and Pitt.

REDS: IDEALISM, REVOLUTION, AND REALITY

FIRST LIEUTENANT MARVIN R. FRANKLIN

FOR historians, students of the Russian Revolution, and the American left, and for those of us who are concerned with the role of history in making the Soviet Union what it is, *Reds* is an important motion picture. Like *Dr. Zhivago*, the picture is set against one of the great upheavals of modern history: the Russian Revolution. But *Reds* is as much about the American radical left in the early part of this century as it is about the Bolshevik Revolution of 1917. It is especially about John Reed, the author of *Ten Days That Shook the World*, who was a member of the radical left, a superb journalist, and the only American buried in the Kremlin wall. Finally, one cannot help believing that *Reds* is an exploration of the experiences of the American left with its star, director, producer, and principal writer, Warren Beatty.

Beatty has put together an extraordinary cast for *Reds:* Diane Keaton plays feminist political activist Louise Bryant; Jack Nicholson portrays playwright Eugene O'Neill; Gene Hackman is Reed's drunken editor; and Maureen Stapleton won an Academy Award for her characterization of Emma Goldman. As an added stroke, the movie, three years in the making, is interspersed with interviews of Reed's still-living contemporaries: among them novelist Henry Miller, historian Will Durant, political activist Roger Baldwin, entertainer George Jessel, confidantes Dora Russell and writer Rebecca West, and journalist Adela Rogers St. Johns. Miller, Durant, and Jessel have since died.

How true a picture of reality does *Reds* portray? We must begin with John Reed the man. Reed was born in Portland, Oregon, in 1887, and earned a degree in journalism at Harvard. He was an energetic journalist who, during the Mexican Revolution, won acclaim for his coverage of Pancho Villa's escapades. Reed was, however, more than a newspaperman; he was a dissident, a middle-class radical opposed to the establishment into which he was born. In 1915 Reed met Louise Bryant, a spirited woman of leftist political persuasion who left her husband to follow Reed to New York's Greenwich Village, a gathering place for the avant-garde. There Reed became involved with Big Bill Haywood, the leader of the Industrial Workers of the World (IWW), better known as "Wobblies." The Wobblies wanted a single, large union as opposed to numerous craft unions that constituted Samuel Gompers's more conservative American Federation of Labor (A.F.ofL.). Reed believed in direct action to secure social justice through strikes and boycotts with the overthrow of capitalism as the ultimate end. The IWW was met with police repression, and Reed ended up in jail, charged with fomenting subversive labor activity. Reed did not break with the establishment until after the Presidential election of 1916. In that election he supported President Woodrow Wilson because of his opposition to American entry into the European war, a war Reed felt was enriching capitalist arms makers.

When the United States entered the war in 1917, Reed's radicalism accelerated as he and Bryant went to Europe as correspondents. The war, though bloody, proved mechanical and dull, lacking the excitement Reed craved. When Reed and Bryant moved on to cover the Russian Revolution, they found excitement aplenty, as they were caught up in events that brought the Bolsheviks to power in 1917. Reed went beyond being a sympathetic observer to become an active participant in the Communist takeover. Here *Reds* captures the excitement of the old empire falling before the force of a new order establishing its place in history. At last Reed had found the revolution he sought; his dream of workers' supplanting the capitalist

order seemed on the verge of realization.

Reed returned home to write about events in Russia and to work for a revolution in America. But the country was in the grips of a "Red scare," a hysteria resulting in part from the rise of communism in Russia, in part from the activities of the Wobblies and other leftist groups, and in part from postwar demographic changes. This was the time of Attorney General A. Mitchell Palmer's crusade against left-wing groups. Leftists of all stripes were harassed, and radical aliens like Emma Goldman were deported. Ironically, the communists in America were too few in number to be a threat. Furthermore, the Communist Party, like the party in Russia, was split over methods for bringing about the workers' revolution.

In 1919, amidst the internal controversy among American communists, Reed founded the radical Communist Labor Party. Shortly thereafter, under federal indictment for subversion, Reed sneaked out of the country on a forged passport and made his way back to Russia to seek recognition for his more radical faction of the U.S. party from the Communist International (Comintern). But the excitement of the Revolution had passed, and Reed found the already-large bureaucracy, complete with a secret police to impose its will on Party and people, obdurate.

The Soviets not only refused to support Reed's radicalism, they suggested that the American communists patch up their differences and press ahead. Arguments with party ideologue Grigori Zinoviev over the role of the A.F.ofL. proved more disheartening when the Russian insisted that the bourgeois union be incorporated into a reunited Communist Party in America. Reed—at least in Warren Beatty's version—threatened to resign from the Party but decided that a trip to Baku in the south of Russia for a Comintern conference might give him time to reflect before making a final decision. But the effort to rekindle his spirit went afoul when Zinoviev distorted Reed's speeches, substituting for the word *revolution* the Islamic term for *holy war*, thus cynically reducing the implied level of commitment that the American felt revolutionaries must have. Who knows what might have happened to Reed had his life not been claimed in 1920 by typhus—ironically a disease generated by the ravishes of revolution and civil war.

Reds depicts these events with considerable, though hardly total, accuracy. The affair between Reed and Louise Bryant has been given disproportionate attention for dramatic effect. Louise Bryant was an interesting character. Diane Keaton brought a depth to the character that may not have been present in the real person. Certainly Keaton did not portray Bryant as one of the bright-eyed naifs she has played in numerous Woody Allen pictures.

Reed was not a student of Russian history, political philosophy, or social economics; indeed, he spoke little Russian. He was a dilettante driven by idealism. Had he survived to the late twenties or thirties and remained in Soviet Russia, it is very likely he would have been stood ignominiously against the wall in the Lubyanka Prison rather than buried with honors in the wall of the Kremlin. While Reed's idealism is of the sort that is indispensable for making a revolution, it is, ironically, the kind of idealism that is intolerable to the postrevolutionary communist society.

Reds is a good complement to Reed's book, *Ten Days That Shook the World.* Both display Reed's prejudices and temperament. The two complement each other in giving us the feel of revolution. For those ready to investigate the fascinating events surrounding the Russian Revolution, however, another eyewitness account is recommended: Nikolai N. Sukhanov's *The Russian Revolution 1917* offers a more complete perspective on the upheaval.*

*For additional reading see: Edward H. Carr's *The Bolshevik Revolution: 1917-1923* (1950) and William H. Chamberlin's *The Russian Revolution* (1953) are standard works. No study of the Bolshevik rise to power can be complete without reading Leon Trotsky's monumental work, *The History of the Russian Revolution* (1932).

Most of us will disagree with John Reed's political convictions. Nevertheless, we can admire his commitment, which is in reality the point Warren Beatty is trying to make about Reed—and by extension, in all probability, about himself and his political experiences. Since 1776, the world has experienced many revolutions, and they are sure to continue. Perhaps those who find ideals worth living and dying for, as did Reed, Trotsky, Zinoviev along with many others, are among this planet's most fortunate.

Maxwell AFB, Alabama

THE PINK PLAN: A FRESH PERSPECTIVE

MAJOR JAMES R. AUBREY

THE BOLD LETTERS above the portal leading into the Air Force Academy's cadet area read "Bring Me Men." One can hardly read this challenge today without thinking of the irony, that women also arrive. Six years have now passed since the first woman cadet walked under the sign, probably feeling like Dante when warned to "Abandon all hope . . ." at the gate of Hell. The women of the USAF Academy's first integrated class may not have experienced infernal tortures, but Judith Stiehm's book *Bring Me Men and Women* makes clear that their journey, in its own way, was as perilous as Dante's.†

Dr. Stiehm, a political science professor, also heads the Program for the Study of Women and Men in Society at the University of Southern California, and her book examines the Academy as an institution affected in particularly visible ways by social change. Her observations are reliable, but *Bring Me Men and Women* is not merely a fact-finding report. Indeed, the book's strength is her willingness to interpret what she sees, to hazard explanations, and to shape the materials around ideas, as she does in the chapter about the faculty, called "Immune Intellects." One of my male colleagues finds the feminist drift of her analysis and comments irritating, but Stiehm's approach is basically descriptive, not evaluative. Her descriptions may occasionally make Academy graduates feel like members of some lost tribe being watched by a curious anthropologist; for example, she describes basic cadet training as "shared jeopardy to unify the survivors of what is essentially an individual and group trial by ordeal." (p. 57) But to me her point of view—from the outside, both as a civilian and as a woman—

†**Judith Hicks Stiehm, *Bring Me Men and Women: Mandated Change at the U.S. Air Force Academy* (Berkeley and Los Angeles: University of California Press, 1981, $19.95), 343 pages.**

provides a fresh perspective, one not readily available in discussions at the officers' club. Indeed, a valuable sense of detachment might have been lost if a blue-suited "tribal member" had undertaken this study. *Bring Me Men and Women* is a stimulating book, responsibly written and interesting to read.

On one level, *Bring Me Men and Women* does serve as a factual report of a year at the Air Force Academy, 1976-77, complete with photographs, statistics, and even an appendix explaining Air Force ranks to uninitiated readers. The book is also history, an attempt to understand the separate forces, inside and outside the military, which intersected that year. I was surprised to learn, for example, that Jacqueline Cochran, now a premier role model for women cadets, strongly opposed admitting women to the academies.* She testified before Congress in 1974 that women graduates would—and should—leave the military to "get married, maintain a home and raise a family." The 1975 legislation opening the academies to women passed in spite of Jackie Cochran's efforts, not with the support one might have expected.

On another level, *Bring Me Men and Women* is like those perennial feature articles about the Academy in the Sunday supplement. Stiehm has a journalist's knack for eliciting candid statements from her interviewees, including the cadet who expressed resentment over the fact that women's uniforms had no belt buckles to keep polished, or the major who turned Jackie Cochran's worry on its head with the remark, "The kind of women we *want* in the Air Force are the kind who will get married and leave."

Bring Me Men and Women is also a case study in management psychology. The book's subtitle, *Mandated Change at the U.S. Air Force Academy*, suggests Stiehm's fascination with how an almost exclusively male institution went about solving problems that arose from external pressures, some of which ran counter to basic institutional assumptions. Some changes were minor adaptations to unanticipated problems, such as the discovery that women on the obstacle course, when they leaped for the rope over a pool of water, fell "in extremely hazardous ways, never before seen with men cadets." The solution: walk-through instruction about unfamiliar swing-and-release movements—and a deeper pool. Another unanticipated problem involved a need to change the procedures used in the athletic department for measuring fat to determine when a cadet is overweight. The most important developments and decisions, it turned out, were some of those made well before the women arrived, and the evolution of the Academy's "pink plan" from 1972-76 constitutes a considerable part of Stiehm's book.

Unlike West Point or Annapolis, the Air Force Academy was working on a contingency plan for admitting women four years before the plans were needed. I have always supposed that Air Force preparedness resulted in fewer problems, perhaps even in greater success, but it seems that I have supposed wrong. The Air Force sense of "enthusiastic purpose" (Stiehm's phrase) did have a certain public relations value: no doubt Air Force women received a warmer welcome than women at Annapolis or West Point, where compliance was sober. Why, then, would the cadets exchanged between the Air Force, Naval, and Military academies in 1976 seem to agree that "women's integration went least well at the Air Force Academy, where they perceived the greatest resentment and lack of acceptance by male cadets"? Stiehm points out that the Air Force women were more numerous and more highly visible in the skirts they were required to wear much of the time. Perhaps, too, she points out, the institutional support for the view that women had a right to be there may have led Air Force cadets to believe they faced a more serious demand for change in their institution than did their West Point and

*Jacqueline Cochran's Women's Airforce Service Pilot's memorabilia are on prominent display in the cadet social center, and her death occasioned a memorial retreat ceremony at the Academy, complete with jet flyby.

Annapolis counterparts. But the most important difference may have been that the Air Force women cadets lived in a separate wing of one cadet dormitory, segregated by privacy doors and unavailable for some of the most intense training in uniform wear and military knowledge, conducted by upperclassmen in the hallways of the various squadrons. At West Point and Annapolis, the women's rooms were scattered throughout the dormitories, leading women initially to feel isolated from one another but resulting in quick acceptance—or at least toleration—by the men. In the Air Force dorms, however, the isolation of women fed the males' initial resentment and led them to worry over possibly unequal standards behind the closed doors, to the point that a short-notice dispersal of the women to rooms in their squadrons had to take place at the end of the fall semester. The problems with a separate area for women had turned out to be worse than potential problems with coed dorms.

Air Force planners in 1972 seem to have agreed from the outset that "young women's and young men's bedrooms simply should not be side by side." Perhaps, Stiehm suggests, the Air Force emphasis on public relations had led to an overconcern with avoiding potentially embarrassing incidents. Possibly the nature of the change was so radical that the conservative, male planners had difficulty envisioning a truly integrated cadet wing. Anything less would turn out to be intolerable, but something less became inevitable with the 1975 decision to use 15 women lieutenants as surrogate upperclassmen, called Air Training Officers (ATOs). Even during the first semester, when the women lived together, the ATOs did not have command authority or primary responsibility for training over the women cadets. Once the women were dispersed, the ATOs became even more nearly superfluous and were phased out after the second semester.

The careful Academy planning, it seems, had perversely worked against success. Why? Stiehm has some ideas. The ATO concept had been used from 1954 to 1957 with the first male cadets, when the Air Force Academy had no upperclassmen. In 1972, planners had assumed that women cadets would be organized separately, as women in the Air Force then were, and would need their own upperclassmen. By 1976, however, the separate Women in the Air Force structure had become obsolete, yet there were the ATOs, trained and in place, waiting for a role that no longer had its counterpart in the "real" Air Force. "Had the Air Force *not* planned so early," Stiehm notes, "had it waited until Congress actually passed the legislation [admitting women], it would have had a more integrated force as its example, one which would probably have led planners to a more integrated program." (p. 113) The lesson here may be to reexamine, periodically, the assumptions that underlie plans and which, in some ways, are more important than the plans themselves.

Probably no amount of planning could have made the change smooth. I still remember the dozens of freshman English essays I received from male cadets in 1975, full of reasons why women should never be admitted to the Academy. I received almost none on their behalf. The thinking in those papers was often simplistic (the typical writer's vision blurred after he had unleashed the argument that redesigning latrines would be too expensive), but feelings ran quite deep. My straw polls showed that four out of five cadets were opposed to integrating women, and I suspect some of those not opposed wanted to appear tolerant (it was a humanities course, after all). One reason my students had trouble articulating their opposition may have been that they could not imagine that women might want to subject themselves to the training that the writers themselves were enduring only with difficulty. Another unspoken reason may have been a wish to keep the cadet wing as "exclusive" as possible. Getting an appointment is competitive, of course, and many applicants consider the Academy's exclusivity to be one of its attractions.

Basic cadet training nurtures the idea that

cadets belong to an elite group, and only those with "the right stuff" will graduate with distinction. The dark side to exclusivity, however, is that only by excluding someone else can it be maintained. The Army paratrooper needs the uninitiated footsoldier to point at and call a "straight leg" in order to feel a part of the airborne elite. That is harmless enough. But we use the unflattering term "ostracism" to describe the exclusion of a candidate from a fraternity with a black ball. And, while no one in the 1970s would have publicly endorsed exclusivity based on race, many were quick to defend exclusion of women from the academies based on their sex, arguing like the general quoted in *Bring Me Men and Women* that the legislation admitting them was "just another step taken for political reasons that will tend to weaken our combat capability." (p. 1) It is true that in 1975 the ratification drive for the Equal Rights Amendment was a steamroller, and some congressmen may have been merely stepping out of its way. But we need to examine how much of the widespread military skepticism about admitting women to the academies, like the continuing skepticism about using women in combat, may reflect a wish by males to maintain their own feeling of exclusivity, a feeling that may unconsciously help men define themselves in terms of what women are not capable of doing.

Whether women belong at the academies is by no means a dead issue. In mid-1981, the Defense Advisory Committee on the Status of Women in the Services announced its opposition to repeal of the legislation that admitted women to the academies; I infer that repeal has its advocates, too. Male cadets seem much more willing to accept female cadets as peers now than they did in 1976, but acceptance is not total. In spring of 1981, Lieutenant General Kenneth L. Tallman, then Superintendent, when asked what he saw as the Academy's biggest problem, replied, "sexual harassment." His concern was reassuring, but the prominence he gave the issue suggests that working with and living next door to women classmates does not necessarily reform male-chauvinist cadets. Stiehm points out that males in their late teens and early twenties seem to have special difficulty accepting women as truly equal, but one can observe easily enough that working alongside a woman officer does not necessarily raise the unleavened consciousness of a male colleague in his thirties or forties, either. One of the prevalent arguments against integrated billeting at the Academy before 1976 was that male chivalry would make training of women by men impossible. Training proved not to be impossible, after all, but any social problem involving chivalry—a value especially cherished in the military—is not going to disappear quickly and is not going to limit itself to cadets. Stiehm may be right to wonder about women's prospects for long-range success in an organization that generally approves their being denied routine access to the Air Force's most valued role—fighter pilot.

THE THOUGHT of using women routinely in combat is not new, nor is skepticism over the idea. Even in his vision of the ideal republic, Plato anticipated that men would laugh at women in physical training for guardianship of the state, yet Plato went on to advocate selection of guardians—and rulers, for that matter—strictly on the basis of merit, without regard to sex. Some two thousand years later, as we consider putting that ideal into practice, we still encounter fairly widespread insistence that combat is an exclusively male province. If "combat capability" were the only issue, and if only men were capable, probably no one would advocate using women in combat. The issues are more complicated, however. Sophisticated weapons make physical differences less and less important, while some psychological differences are changing along with society.

Those issues form the briar patch into which Stiehm throws herself in the last chapter,

which she describes as her "headiest speculation." She does not speculate about precisely what effect women may be having on the military, or even about whether Jackie Cochran may have been right to assume that women academy graduates will lack staying power. What Stiehm does is to reflect on reasons women have been excluded from combat, reasons varying from male need for an audience to fear that women combatants may inspire enemy males to superhuman efforts. To me, her most troubling observation has to do more with a general effect the combat exclusion may be having. As long as women are thought to be somehow incapable of fighting—and current laws give considerable status to that thought—women will not be taken seriously as contenders for public office or corporate management, for those leadership roles require assertive, combative instincts. Are women considered ineligible because they lack those instincts, or just thought to lack the instincts because they have always been ineligible? Stiehm believes it is no accident that women have not participated much in government since they received the vote some fifty years ago, since they have lacked the recognition of full citizenship implied by eligibility for combat, which she reminds us is "the state's unique function, the exercise of society's legitimate force." Before women can acquire equal social opportunity, then, they may have to acquire equal social responsibility. To the extent that military women accept this principle but remain ineligible to serve in combat, Air Force managers must be prepared to understand that Air Force women not only will lack certain crucial career opportunities, they also will have a fundamental social grievance.

USAF Academy

The Department of History at the U.S. Air Force Academy will host its Tenth Military History Symposium on 20-22 October 1982. The theme is "The Home Front and War in the Twentieth Century," and session topics include: the task of forging national unity and mobilizing public opinion in total war; the mobilization of men, money, and materiel for total war; the social effects of war on civil liberties, civil rights, and the role of women; and the interplay between limited war and domestic politics.

The Twenty-fifth Harmon Memorial Lecture, the symposium keynote address, will be presented by Professor John Morton Blum of Yale University. Professor Blum will speak on the impact of World War II on American society.

For additional information please contact Major James R. W. Titus, Department of History, U.S. Air Force Academy, Colorado 80840.

POTPOURRI

The Art of Leadership in War: The Royal Navy from the Age of Nelson to the End of World War II by John Horsfield. Westport, Connecticut: Greenwood Press, 1980, 239 pages, $25.00.

This small book is a gem. John Horsfield, an English lawyer turned U.S. professor of history, traces the thread of leadership in the Royal Navy from the Napoleonic Wars to World War II. Concentrating on St. Vincent, Nelson, and Collingwood at the turn of the eighteenth century and Jellicoe, Beatty, Keyes, and Cunningham in the twentieth, but not forgetting the lesser lights in between, Horsfield points out those leadership qualities peculiar to the age and those that are universal. He tries to answer the questions: what special qualities were possessed by England's great admirals and what factors accounted for their successes.

His most fascinating chapter discusses Horatio Nelson, the one-armed, one-eyed, little man whom Montgomery described as the greatest naval commander of all time. Of him, the soldier said: "There was nothing he would not do for those who served under him; there was nothing his captains and sailors would not dare for him." Horsfield, too, concentrates on Nelson's devotion to *all* his men, not just to his social equals. He also succinctly describes the battered admiral's "tactical perception and ability to communicate that perception rapidly. He had the gift of making his captains think it was their own ideas they were being encouraged to execute." All very reminiscent of Elizabeth Longford's description in *Wellington: The Years of the Sword* of the only meeting between Nelson and Wellington: "It would be interesting to know whether Nelson also gave Wellington a clue to his secret as a leader—the delightful impression of consultation, of welcoming advice, of taking the younger colleague into his confidence and spontaneously disclosing what he hoped to achieve." Unfortunately, for his successors, perhaps, Nelson set the standard by which they have all been judged.

After the glorious achievements of Nelson and his band of brothers, the long Victorian peace descended on the Royal Navy and the resulting stultification of ideas and the rigidity of its doctrine, despite the change from sail to steam, is crisply described. Arguing that "the clock stopped in 1805 . . ." and that "the world appeared to take it [i.e., the Royal Navy] at its own inflated self-assessment," there was just the simple and complacent belief that the great tradition would see the Senior Service through. In fact, of course, the Royal Navy did what all military arms do in peace time: it concentrated on detail, "spit and polish," and emphasized unquestioning respect for authority and especially seniority. To make his point, Horsfield describes the disaster in 1893, when HMS *Camperdown*, taking part in a series of turning maneuvers at high speed, ran down a sister ship with enormous loss of life. At the court martial, the three most senior officers aboard said that they knew the admiral's (Sir George Tryon) orders would lead to an inevitable collision, and yet they obeyed them ("Theirs not to reason why, Theirs but to do and die"). In this fascinating section, the author gets to the roots of the uniformity and orthodoxy that were so prevalent in the late nineteenth-century Royal Navy.

After dealing clearly with the World War I admirals and, in particular, the still-being-discussed Battle of Jutland, the book concludes with a sympathetic pen picture of Admiral Sir Andrew Cunningham, whose great victory at Matapan in March 1941 did so much to restore not only British morale but also showed that his generation had liberated themselves from the rigidities of World War I and before. Using aircraft, radar, and much improvisation, Cunningham's fleet hung on in the Mediterranean under very difficult circumstances. Horsfield maintains that the Nelson spirit returned at last with Cunningham, and the latter was always able to show that "correct mixture of calculation of risk and aggression of the kind Nelson had so brilliantly displayed."

Lacing his book with amusing stories (e.g., "Cunningham had the common Anglo-Saxon distaste of General Charles de Gaulle and appreciated Eisenhower's description of him looking like a shark that had been hauled up out of the water and left to die"), and providing as extensive a set of footnotes (35 pages) and bibliography (25 pages) as any enthusiast could need, Horsfield has added a significant and very readable volume to the literature on leadership. It is well worth attention.

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Oceania and the United States: An Analysis of U.S. Interests and Policy in the South Pacific by John C. Dorrance. Washington: The National Defense University, Monograph Series No. 80-6, 1980, 92 pages.

The title of this monograph is a bit of a misnomer. While it does analyze United States interests and policy in the South Pacific, it also contains an excellent summary description and assessment of the region's peoples, culture, modern history, political aspirations, and economic assets. These latter characteristics may give the monograph enduring value because it is an easy-to-read, brief, general reference work on the region.

John Dorrance does a good job of outlining and assessing the rather reluctant U.S. historical involvement in the South Pacific. He makes the reader aware that the United States has deeper legitimate security, political, and economic interests in the region than our policymakers appear to have perceived in the past. He also makes clear that some of our traditional allies have similar interests that should be pursued by them with our encouragement. He urges that

the United States take cognizance of these interests and act accordingly. He also makes a case for accelerated decolonization of the region.

Some of Dorrance's observations (continuing colonial status, lack of U.S. involvement) have been partially overtaken by events (some of the component territories have become independent, and others are scheduled to achieve independence; and the U.S. presence and responsiveness to the needs and aspirations of the region have increased since the monograph was written). Nevertheless, Dorrance's basic analysis of U.S. security, political, and economic interests in the region remains valid. The monograph is excellent background reading for persons who will work in or with the region or pursue in-depth study of it.

Ambassador Maurice D. Bean
State Department Advisor to the Commander, Air University

Japan: Profile of a Postindustrial Power by Ardath W. Burks. Boulder, Colorado: Westview Press, 1981, 260 pages, $22.00 cloth, $9.50 paper.

"In the twenty-first century we should all be Japanese!" This statement could serve as a grossly simplified conclusion to Ezra F. Vogel's *Japan as Number One: Lessons for America* (1979). Ardath Burks, a senior professor of Asian studies at Rutgers, effectively challenges this assumption that Japan could serve as a completely transferable model for other postindustrial powers. He does this with a wide-ranging and interesting presentation of Japan's extraordinary development into an industrial power.

Burks begins with a chapter on the ways landscape has influenced modernization. The unique geographical factors are Japan's land scarcity, burgeoning population, and an almost total lack of all vital minerals for industry. Chapters 2 and 3 survey Japan's exceptional history and culture. The point Burks makes here is how traditional Japanese values changed to allow for the creation of a modern Japan. Chapter 4, entitled "Modernization," argues that traditional Japan, which emphasized group loyalty, group coherence, decision-making by consensus, and obligations to the group, made possible the smooth and swift transition to modernization.

In the balance of the book, Burks, in very readable fashion, traces Japan's evolution from modern to "beyond modern." He reasons that Japan is "beyond modern" by virtue of the facts that (1) the majority of the labor force is employed in the tertiary (highly skilled tasks and services) sector, rather than in the agricultural or industrial sectors; (2) the tertiary sector generates a larger proportion of the gross national product than the other two sectors; and (3) the level of capital and mass consumption is such that a move from a labor-intensive or capital-intensive stage to a knowledge-intensive stage is possible.

By way of conclusion Burks again observes that because of substantial difference in geography, tradition, culture, ethnic composition, and ethos, Japan's success in achieving postindustrial superpower status cannot serve as a model for other countries. He does, however, moderate this by noting how Japan's experiences with some of the effects of postindustrialization, such as the shift in economic emphasis, qualitative changes in social structure, and political issues that transcend class lines of the industrial age and traditional political parties, offer an interesting and potentially rewarding case study.

Dr. Gerald W. Berkley
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Albatros D.Va: German Fighter of World War I by Roger C. Mikesh. Washington, D.C.: Smithsonian Institution Press, 1980, 120 pages, $7.95.

For all that has been written about World War I air combat, a critical dimension of particular relevance to air power professionals has been generally ignored. How, in nuts and bolts detail, were the aircraft of 1914-18 built and flown? This nicely produced volume, based on the National Air and Space Museum's reconstruction of a rare example of one of the most important and aesthetically beautiful fighters of World War I, is devoted to just that question.

The results are often surprising. Consider the engine starting sequence . . . and don't even *think* procedures; "procedures," as we understand them, were unknown to Albatros operators. Engine start required superb maintenance, a magician's sleight of hand, and pilot/mechanic coordination guaranteed to water the eyes of the most blasé pilot or maintenance troop, for the Albatros fuel system was nightmarish in its complexity. First, the mechanic charged the primer cups atop each of the eight cylinders with a gasoline/benzine mixture; he then mounted a step-ladder to reposition the camshaft to "pressure relief" by means of a lever atop the cylinder block; climbing down, he pulled the prop through six revolutions, drawing a measured amount of the starting mixture into each cylinder. Ensuring that the cylinders were precisely aligned in "start" position, he remounted his ladder and repositioned the camshaft to "run." Meanwhile, the pilot set up his switches and pressurized the emergency/starting fuel system with his wobble pump; he then moved the magneto switch from "off" to "start," accompanied by shouts of *aus* and *frei* back and forth so as not to amputate the mechanic's arm or blow up the engine. The pilot then briskly cranked the starting magneto. This was the moment of truth. If the engine fired, he quickly reconfigured the fuel system to "normal," going from emergency to primary throttle in the process. The mechanic jumped clear, secured his ladder, and stood by to assist in taxiing!

This is only one dish in a multicourse banquet. Consider the cryptic comment that the airspeed indicator was rarely installed since the sound of the windstream gave better stall warning! In addition, we have full pictorial coverage of the lost art of stitching and doping cotton fabric onto wooden ribs and longerons. Enough!

Lavishly illustrated, intelligently edited, and well written, this is a technologically definitive and artistically impressive book. The human interest in the preservation and restoration of "Stropp"—the proper name of the story's hero, Albatros D.Va D. 7161/17—is an enjoyable bonus.

For those with a love of flying, fine craftsmanship, and beautiful aircraft—Stropp may be getting on in years, but she *is* beautiful . . . this book is a must. And don't ask me why I think she's a she; go to the National Air and Space Museum and see for yourself.

J.F.G

NATO's Strategic Options—Arms Control and Defense by David S. Yost. New York: Pergamon Press, 1981, 258 pages, $30.00.

Numerous issues related to the very essence and core of NATO's raison d'être have again moved dramatically to the forefront of U.S. national security policy deliberations. Issues such as the deployment of ground-launched cruise missiles and neutron weapons, antitank defense, command and control, NATO's role outside the NATO geographic area, the role of the U.S. strategic nuclear umbrella, coordination with French armed forces, and intra-NATO strains over military budgeting all must be addressed and resolved in the face of the highly significant threat posed by the Warsaw Pact. Fast-breaking events such as the U.S.S.R.'s invasion of Afghanistan and the more drawn-out Polish scenario underline the need for NATO to "have its act together" at the very time that internal political and socio-economic pressures (particularly among the younger generation) in NATO member countries are causing many to wonder if NATO is still needed or even relevant.

David Yost has assembled 13 significant essays grouped under such major headings as the Context for Defense Decisions, Arms Control, Specific Defense Options, and Political Dimensions and Future Research. The essays, by a blue-ribbon group of contributors, are very readable and lift the reader above the nitty-gritty of tactics and weaponry although I would have preferred some additional attention to nonnuclear alternatives.

NATO's Strategic Options is well buttressed with footnotes, bibliographic notes, and a comprehensive index. It is highly recommended though rather expensive reading.

Lieutenant Colonel John A. Hurley, USAFR
Alexandria, Virginia

The SS: Alibi of a Nation, 1922-1945 by Gerald Reitlinger. Foreword by Martin Gilbert. Englewood Cliffs, New Jersey: Prentice-Hall, 1981, 502 pages, $17.50.

Study of the SS (*Schutzstaffel*, the Nazi Party's elite military/police unit) has become a growth industry. Academicians and popularizers produce button-by-button descriptions of its uniforms, illustrated histories of its concentration camps, and footnoted analyses of its administrative agencies. Few of these works fail to acknowledge Gerald Reitlinger's seminal volume, first published in 1956. Its insights and conclusions remain perceptive and convincing. Reitlinger concentrates on analyzing the place of the SS in the Nazi system. From a party police force, it developed by 1944 into a jungle of overlapping and competing bureaus. Heinrich Himmler's eagerness to enlarge the SS sphere of influence, in fact, limited that influence by multiplying functions at the expense of focus. Far from becoming a private army, for example, the Waffen-SS assimilated more and more closely to the Wehrmacht as the war progressed. Himmler was no more a conspirator than he was a warlord. Reitlinger's presentation of the relationship between the SS and the German resistance shows an organization and a leader able to profit neither by crushing conspiracies against Hitler nor by letting them run their course.

This is essentially a work of political history. Reitlinger's concentration on bureaucratic infighting at the expense of SS ideologies leads him to underestimate the uniqueness of the SS. Himmler's organization was something more than one among the satrapies of a disorganized Third Reich. But Reitlinger also demonstrates that the SS, despite its pretensions, never became an omnipotent terror organization holding Germany and Europe in thrall. It was a formidable instrument of destruction but a feeble alibi for a nation.

Dr. Dennis E. Showalter
Colorado College, Colorado Springs

The Fall of Fortress Europe 1943-1945 by Albert Seaton. New York: Holmes & Meier, 1981, 218 pages, $24.50.

> He who defends everything defends nothing.
>
> Ritter von Leeb

Albert Seaton makes the same observation. Indeed, it becomes the central theme of *The Fall of Fortress Europe 1943-1945*.

Hitler visualized himself as a *Fieldherr* (Warlord) in the manner of Frederick the Great. He had combined the political, economic, and military direction of the Third Reich into one person—himself. This put him in conflict with himself since these spheres required coordination and compromise which Hitler the military commander in chief could not make with Hitler the politician and so on.

Seaton does an adroit job of showing the failure of the Third Reich to develop concepts beyond campaign plans of limited scope; hence they had no overall supreme plan for direction of the war. This led to a situation where the Germans won great tactical victories from 1939 to 1942 but only extended their strategic vulnerability.

Hitler's policy of trying to hold everything everywhere that he had occupied led to gross extension of force and weakening of the strategically critical fronts. Hence, after the failure of "Citadel," the Kursk-Orel battle in July 1943, tactical defeats compounded the strategic failures until "Fortress Europe" was overrun totally.

Sir Basil Liddell Hart, the British military historian, defined history as "an objective search for the truth." He added, "and victory usually belongs to the victor for the first hundred years." Seaton did not have a hundred years of hindsight, only 36, but his book reflects a valid search for the truth.

For the casual reader, this book will be both interesting and entertaining. For the strategist or military professionals, it contains many points and insights that should be helpful in understanding the defense dilemma faced by the United States and NATO in opposing the spread of world communism and Soviet aggression.

Major General George B. Pickett, Jr., USA (Ret)
Montgomery, Alabama

MiG Master: The Story of the F-8 Crusader by Barrett Tillman. Annapolis, Maryland: The Nautical and Aviation Publishing Company of America, 1980, 224 pages, $17.50.

This is an often pithy, once-over-lightly history of the Navy's F8U jet fighter that sketches the airplane's development and focuses on its combat use in Vietnam 1964-68. The F8U is unusual in that it was the last single-engine, single-seat fighter built in the United States. The Navy's specification was issued in September 1952, a prototype contract signed in June 1953; its first flight was in March 1955, and the first productions started reaching squadrons after January 1956. Between 1955 and 1965 the Navy bought some 1200 F8Us in nine variants; it was retired from Navy service in 1976.

Air Force readers may be fascinated to learn about the little-known F8U-3, apparently a follow-on development of the F8U (and that is exactly how it was supposed to appear) but in fact a wholly new fighter with a mach 2.6 capability. In 1958 the U.S. Navy had in the F8U-3 and the new F4H Phantom the two finest fighter planes in the world. The fact that the Navy could concurrently develop two such extraordinary airplanes, and with a minimum of fuss, strongly suggests that there was some wisdom at large in the airplane procurement of the late 1950s which has long since been witlessly discarded.

Unfortunately, the Navy could not buy both. Here occurred a little appreciated turning point in fighter plane philosophy. There was an angry and bitter fly-off competition between the "Dash 3" and the Phantom. The Navy decided on two engines instead of one; two men in the cockpit instead of one; and an all-missile armament, namely the Phantom.

The high performance F8U-3 sat on the shelf, its development costs all paid for. Did the Air Force seize this opportunity to procure a nominally free fighter plane? No, instead it devoted new resources toward the development of a tactical fighter that became the F-111.

There is a wealth of interesting and often useful information in these pages. The data are nevertheless badly flawed by a failure to give the airplanes' weights. Fuel capacities are not given, nor even wing area. Incredibly enough, the expression "thrust-to-weight ratio" is used nowhere in the text. Potential purchasers may be irked by the use of extraordinary wide margins to pad out an essentially 150-page book to these 224 pages. For all these caveats, most readers should be more than satisfied by the "good story" aspects of this book, and they are many. Only when one attempts to use it as a source of information to achieve a substantial understanding of the machine are one's furies excited. However, this is to date the only book about the F8U, an unusually good airplane whose development certainly has some lessons for our times.

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Washington, D.C.

Living Safely in a Polluted World: How to Protect Yourself and Your Children from Chemicals in Your Food and Environment by Richard Mackarness. New York: Stein and Day, 1981, 216 pages, $11.95.

For airmen and officers who would command their own biological destinies, *Living Safely in a Polluted World* considers the possible increase of illness caused by maladaptive or hypersensitive reactions to our chemicalized environment.

Richard Mackarness, a doctor of preventive medicine, is careful to include a number of well-qualified physicians in this pioneering work dealing with clinical ecology or environmental medicine. Case histories are used to illustrate instances of food allergies and responses (symptoms) of humans to other allergens such as gases, sprays, smokes, engine fumes, solvents, and polishes. Food addiction and adulteration, masking, and iatrogenic disease are interesting concepts possibly related to migraine headaches, arthritis, and other conditions. Long-term toxicity relating to chronic changes of the renal and hepatic systems is linked to accumulation of chemicals that affect unique biochemical pathways and the possible onset of disease.

The essential message is directed toward recognition of misdiagnosed physical and mental disease and provision of methods to clear undesirable levels of chemicals from the body to eliminate symptoms and increase vitality, concentration capability, and mental health.

> . . . Veterinarians and farmers look to diet and other aspects of the physical surroundings when an animal is off color, but humans are sometimes overlooked or treated for more conventional diseases in relation to actual adaptive breakdown in the face of food habits and accumulation of other physical substances from the environment. . . .

This book is *enviromical*. For some time I have been trying to teach Air Force students that there is an increasingly important relationship between pollution, energy use, the environment, and human health. Before the end of this decade, the economic factors will possibly magnify these relationships relative to freedom and national survival. The offsetting factors will be invention, adaptation, education, and increased concern.

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The Origin of the Strategic Cruise Missile by Ronald Huisken. New York: Praeger, 1981, 202 pages, $23.95.

The cruise missile's remarkable accuracy, long range, small size, and relatively low price make it one of the wonder weapons of the 1980s. It may well turn out to be the revolutionary strategic system of this decade and the next. While considerable material on the cruise missile has appeared in both open and classified literature, this is the first book-length treatment.

Ronald Huisken, an Australian, traces the weapon's complex story and attempts to put it into context. He has conducted extensive research, shifting through a mountain of articles and government documents dealing with the weapon. His book is divided into two parts, one on the how of development, the other on the why. Unfortunately, the reader is not alerted to this organizational scheme until he finishes the first part of the book and begins the second part on page 98. But the chief faults of the book are even more serious organizational problems and the conclusions.

The Origin of the Strategic Cruise Missile is organized topically so that some territory is covered several times, thus adding confusion to an already difficult subject. A cynic might suspect that the book is a direct publication of the author's Ph.D. dissertation, without reorganization and editing or consideration for the somewhat wider and different audience such a book should address.

A more serious flaw is the weakness of the Huisken's conclusions. In the second part, the author examines several possible reasons why the cruise missile was developed. He concludes that each of these traditional reasons is inadequate to explain what occurred. After admitting that no one explanation remained dominant throughout and that the story is multifaceted, Huisken puts forth another explanation. He asserts

> that the proposal to develop the strategic cruise missile was in essence psychologically motivated: to strengthen the signal to the Soviet Union that the United States would vigorously contest any Soviet bid for strategic superiority, and to help alleviate internal anxieties that the United States had lost its self-confidence and will to compete. (p. 190)

This is clearly a factor. However, to imply, as Huisken does, that it is the single or even a primary cause is simplistic and refutable. Different factors played shifting roles at various times, resulting in a confusing and complex pattern of causation befitting this simple weapon's tortuous path of development.

On the one hand, Huisken's extensive research makes this book a good starting point for those studying the cruise missile. Both author and publisher are to be particularly commended for including extensive footnotes, which greatly enhance the book's value. On the other hand, the book does not deliver on the promise implicit in the title and considerable research. It is little more than a narrative, a poorly organized one at that, with rather simplistic conclusions and thus greatly limited in value. Alas, despite Huisken's valiant attempt, the riddle of the cruise missile's development has yet to be satisfactorily unraveled.

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Covering Islam: How the Media and the Experts Determine How We See the Rest of the World by Edward W. Said. New York: Pantheon Books, 1981, 176 pages, $10.95.

This is yet another book in the wake of the Iranian revolution and American hostage crisis. Public affairs and intelligence officers alike may want to check this one out.

Edward Said, an English professor at Columbia University and author of a 1978 study on Orientalism, maintains that the official media interpretation of Islam does not help us understand what Islam is really all about. In other words, the U.S. media coverage is a cover up. The official interpretation of what has been going on in Iran is what America's resident experts in business, government, academia, and the media tell us. They simply divide the world neatly into "Orient against the Occident" with the resulting stereotyped impression of Islam that invites confrontation—"us against them." Instead, our goals should be "coexistence and community."

There is a fine line between news and propaganda, but Said does not draw it for us. After all, it should be noted that America's first confrontational contacts with Islam were with the Barbary pirates. The Federalists shelled out some $10 million in tribute and ransom to various deys and pashas along the Mediterranean coast of Africa. Only after the War of 1812 could we use military force to exact peace without tribute. In those days nobody wanted to understand what Islam was all about.

Outwardly, the book is scholarly and presents a closely reasoned case against the American media coverage of Islam. However, devoting only one or two paragraphs on how the media coverage became more critical of the official view of the hostage crisis is not exactly total fairness on the author's part. Be that as it may, he makes us think.

Dr. W. R. "Bill" McClintock
Hq Tactical Communications Division
Langley AFB, Virginia

Building the Future Order: The Search for Peace in an Interdependent World by Kurt Waldheim, edited by Robert L. Schiffer. New York: Free Press, 1980, 262 pages, $12.95.

With publication timed to coincide with the 35th anniversary of the founding of the United Nations, Robert Schiffer, a member of the Executive Office of the U.N. Secretary-General, has put together various speeches and reports made by Kurt Waldheim since his assumption of office as Secretary-General in December 1971.

The collection makes no pretense to be either definitive or comprehensive. The editor seeks to suggest the extent to which the United Nations is involved in some way in practically every major global problem. Organized thematically into nine parts (e.g., "To Have Succeeding Generations," "The Dignity and Worth of the Human Person," and "Harmonizing the Actions of Nations"), the many short chapters are too much like a Whitman's sampler and

often consist of statements taken from a variety of reports over the years, forced into an artificial coherence.

As an anniversary tribute there is some merit here, but little useful scholarly substance.

Dr. James H. Buck
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The Third Indochina Conflict edited by David W. Elliott. Boulder, Colorado: Westview Press, 1981, 247 pages, $18.50.

In *The Third Indochina Conflict*, David Elliott has compiled essays from scholars who attended both the 1979 meeting of the Association for Asian Studies and the Conference on the Third Indochina Conflict held later that year. The six contributors represent diverse and impressive backgrounds. Their analysis of the complex relationships of the nations of Indochina is based on experience as interviewers, news correspondents, researchers, and advisors for both government and private research institutes (CIA, Rand, etc.), as well as academic study in this area of politics.

In the introduction, Elliott states that "there seems to be an iron law regulating events in Indochina: nothing is ever simple, and things can always get worse." He goes on to explain that the First Indochina War was fought by the French from 1945 until 1954, the Second War involved the United States from 1959 to 1975, and the Third commenced immediately on the victory of the revolutions in Vietnam, Kampuchea (Cambodia), and Laos in 1975. Elliott's book attempts to "examine the causes and consequences of the Third Indochina Conflict."

The authors trace the Vietnam-Kampuchean border war to a French governor-general's drawing of an administrative boundary between the two countries in the 1930s. However, now the border issue is almost irrelevant because, according to the authors, the real issue has become one of ideology. They point out that Vietnam's Communist Party is a descendent of the Party of the 1930s, while Kampuchea's Communist Party is a product of the 1960s and 1970s. More important, communist Kampuchea is adamant that it remain independent and apart from any communist bloc.

The authors provide a detailed study of the Sino-Vietnamese relationship. Included in this study is the dispute over certain islands, the treatment of Chinese citizens living in the Northern provinces of Vietnam, the "Boat People," China's response to the Kampuchean border dispute, and, finally, the emergence of a Soviet-Vietnamese relationship with China as Vietnam's main and immediate enemy. (Vietnam claims that China and the United States are determined to prevent Vietnam from becoming a model of socialism in Southeast Asia.)

China sees her role today as one of resistance to Soviet expansion in Asia. She considers Vietnam the "Cuba of Asia" and warns all of Asia to watch the tiger at the rear door (Russia) while pushing the wolf (America) out the front door. China believes that "Asia belongs to Asian people" and that all efforts "in quest of hegemony, worldwide or regional, are destined to fail in the end." The book concludes with an analysis of the strategic triangle (China, Russia, and America) and its impact on Indochina, for as Elliott says in the closing pages: "The tragedy of the Third Indochina Conflict is that everyone lost and no one gained. . . "

Although *The Third Indochina Conflict* was obviously written for the serious student of that region, the less initiated can still come away with a new appreciation for the complexity of Indochina politics (a task made more difficult by lack of a small glossary and a simple regional map). Even so, most military readers will find *The Third Indochina Conflict* challenging, thought-provoking, and informative.

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Maxwell AFB, Alabama

War of Ideas: The U.S. Propaganda Campaign in Vietnam by Robert W. Chandler. Boulder, Colorado: Westview Press, 1981, 301 pages, $28.50.

While many books have been written about America's military involvement in Vietnam, comparatively few of them deal in depth with the psychological side of the struggle. This is interesting since most military commanders who served there admit that selling the Saigon government to the people — South Vietnamese and Vietcong alike — was at least as important as winning military victories. Robert Chandler's *War of Ideas* helps fill some of these gaps in the published record of the war.

Well researched and skillfully written, the book analyzes the U.S.-directed propaganda campaign, covering everything from broad-based organizational inadequacies to problems encountered in the use of specific phraseology. More than ninety-five examples of printed materials actually used in Vietnam give the reader a firsthand look at this psychological warfare program. Chandler, a Vietnam veteran and an international politico-military affairs officer in the Pentagon, is very well equipped to judge the U.S. endeavor.

Although its conclusion, that the psychological campaign failed, is scarcely surprising to anyone even faintly informed about American efforts in Southeast Asia, the study's major value lies in its critique of American methodology and its pinpointing of the numerous lessons that the United States can learn by way of negative example. Faulted primarily are U.S. attempts to act as a surrogate for Saigon without having field personnel adequately trained in either psychological warfare or the Vietnamese language and culture: "The weakest link in the psychological operations campaign existed precisely where proficiency was required most."

Although Chandler argues that American achievements were limited, he discounts neither the validity of U.S. objectives nor the inherent value of psychological warfare — especially in a counterinsurgency context. If the deficiencies in American methodology can be overcome, psychological operations may yet prove the key in future insurgen-

cies to motivating significant numbers of people to support a legitimate government.

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The Fall of South Vietnam: Statements by Vietnamese Military and Civilian Leaders by Stephen T. Hosmer, Konrad Kellen, and Brian M. Jenkins. New York: Crane, Russak & Co., 1980. $14.50.

Although typical in carrying out the oft-repeated theme that ignorance was a root cause of the disaster resulting from the American adventure in Vietnam, this book is nevertheless unique. It presents a hitherto unexplored facet of the story: the period between the Paris agreements and the fall of Saigon as seen through the eyes of senior Government of Vietnam (GVN) officials. The study thus offers a novel and unalloyed, if somewhat jaundiced, perspective of the final phases of the debacle.

Much of the report consists of a timeworn litany of American and Vietnamese sins and blunders, but it also contains new and disconcerting insights that challenge several cherished presumptions Americans have been using to salve their consciences since the downfall. For example, *The Fall of South Vietnam* makes it clear that some Army of the Republic of Vietnam and Vietnamese Air Force units fought valiantly right up to the bitter end and that most of the South Vietnamese people did not welcome a Communist takeover, their contempt for the GVN notwithstanding. In a word, the book raises the haunting possibility that greater wisdom, patience, and integrity on the part of both allies might have produced a different outcome.

The Fall of South Vietnam creates serious interpretative problems. The reader must determine for himself, with little help from the authors, how accurately and completely the summarized views of the South Vietnamese officials reflected reality; however, these shortcomings do not negate the value of the book. Studying it will better equip the professional officer to respond to the counsel of a perceptive "old Vietnam hand," Major General Edward Lansdale: "Let us not be so ignorant next time—and history teaches us that there surely will be a next time." The current course of world events eloquently vindicates the timeliness of that plea.

Colonel James L. Morrison, Jr., USA (Ret)
York College of Pennsylvania, York

In Defiance of the Law: The Standing-Army Controversy, the Two Constitutions and the Coming of the American Revolution by John Phillip Reid. Chapel Hill: University of North Carolina Press, 1981, 287 pages, $20.00.

John Phillip Reid has written a book on the place of the British Army in the constitutional and ideological debate that preceded the war for American independence. Reid's subject is an important one. Arguments concerning the role of military forces in a free society are as important today as they were in the seventeenth and eighteenth centuries. Indeed, issues raised during those earlier centuries reappeared during the controversy over universal military training and most recently on both sides of the debate over the all-volunteer army.

Unfortunately, Reid's book is seriously marred by his inattention to the writing of historians who, as a group, he frequently and unjustly criticizes. He has all but ignored the last fifteen years of historical scholarship. Neither his footnotes nor his bibliography evidence his having consulted essential works by J. G. A. Pocock and J. R. Western. Furthermore, Reid makes scant use of those acclaimed works that he does cite by Bernard Bailyn, Lois Schwoerer, and John Shy. He also argues, erroneously, throughout *In Defiance of the Law* that historians have overlooked, misunderstood, and misinterpreted the questions that he addresses. One example suffices:

> The [American Whigs and their English forefathers] shared a manner of speaking that misleads historians who mistake constitutional alarm for paranoiac exaggeration. (p. 153)

No one familiar with the historical scholarship of the past fifteen years can levy the charge that historians are so misled.

Reid has adduced some good evidence, and he makes some valid though not new points. He also makes some serious errors, not the least of which is his argument that standing armies were "unconstitutional in legal theory." (p. 89) The valid points result from Reid's research. The errors of fact and interpretation result from his apparent unwillingness to use the work of others who have mined the same sources. Thus he has produced a work which I cannot recommend to the general reader.

Dr. J. Todd White
Oak Ridge, Tennessee

The War of 1812 in the Champlain Valley by Allan S. Everest. Syracuse, New York: Syracuse University Press, 1981, 239 pages, $15.00.

Professor Allan S. Everest is an old hand at the history of the New York-Canadian frontier, having written studies of the special border relationship ranging from the American Revolution to the Prohibition era. In this latest, well-written book he attempts to clarify the Anglo-American clash of arms on Lake Champlain during the War of 1812. His first three chapters provide some needed background on the history of this major waterway. Its currents had carried the American Revolutionary Army north to Quebec in 1775 and had transported General Guy Carleton's flotilla south to Crown Point the following year. Also at-

tracted to its shores were hundreds of New York and Vermont settlers between the War of Independence and the War of 1812.

Peace in the area came to an end on 18 June 1812 when Congress declared war on Great Britain after a decade of bitter disputes over the freedom of American vessels to pass unmolested in the North Atlantic. News of the action was greeted uneasily in the Champlain region. Even without war, it was all Lieutenant General George Prevost, Governor of Canada, could do to maintain unity in a province where British rule received only grudging acceptance from the French Canadians of Quebec and from the expatriate American pioneers of Ontario. South of the border, neither New York nor Vermont had well-trained militias, and nowhere in the entire Champlain Valley were there any usable fortifications.

The course of war on the lake was inconclusive. During the first winter, the American army under the command of Major General Henry Dearborn arrived too late in the season to sustain an invasion of Lower Canada; and as they awaited spring, pneumonia, diarrhea, measles, and typhus ravaged the troops. During the summers of 1813 and 1814, control of Champlain seesawed back and forth on the outcome of naval and land skirmishes. Finally, in September 1814, American ships commanded by Lieutenant Thomas Macdonough dislodged the British from their temporary stronghold at Plattsburg, New York, by which time an armistice was at hand.

The War of 1812 in the Champlain Valley, well documented with end-notes and a bibliography, leaves for future scholars of military, New York, and Canadian history many interesting avenues of research. Professor Everest has opened a promising chapter in War of 1812 historiography. More work must be undertaken, however, before the significance of the Lake Champlain campaigns can be fully judged.

Dr. Michael H. Gorn
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Coping with Bereavement from Death or Divorce by W. Keith Hafer. Englewood Cliffs, New Jersey: Prentice-Hall, 1981, 97 pages, $12.95 cloth, $4.95 paper.

Most marriages end through death or divorce. In either instance, the loss of a loved one can cause overpowering grief. Everyone who has maintained a close and loving relationship with another person needs to be prepared to deal with bereavement.

Military life can be especially precarious for the familial relationship. Frequent moves, financial problems, long working hours, separations, and, on occasion, early death from accident or combat are only some of the dangers facing military families. *Coping with Bereavement from Death or Divorce* is an excellent starting point for learning how to cope with suffering caused by the loss of a spouse. Dr. W. Keith Hafer offers valuable suggestions for adjusting to an ended marriage. Furthermore, his alternatives to wallowing in misery are good ones.

The brevity of this book is both a weakness and a strength. It is a weakness in that Hafer fails to deal wi some problems and deals too briefly with others. He a sumes that the network which provides support for t widow widower or new divorcee is more extensive than may be. Because most people do not want to dwell death, the sympathy that is readily available at the time death soon disappears. Unfortunately, the realities of dea may not hit the bereaved one until weeks or even mont after the funeral. It is then that the widow or widower w most need the support of friends. Because friends will ha long since put that death behind them, the needed suppo may not be forthcoming.

The loss of a loved one through divorce is apt to be a ego-shattering experience, particularly for those for who the divorce was unwanted. The jilted person cannot lay h or her bereavement to the will of God, the tragic course disease, the scourge of war, or the misfortune of accident. sense of guilt and the loss of confidence can be staggerin Furthermore, support for a divorcee may be tenuous, d pending on such variables as the religion of one's friend location, and age.

The shortness of *Coping with Bereavement* can also b plus. Those suffering from personal loss may find it diffi cult to concentrate on reading a lengthy book. This, the is the book to pick up.

Overcoming grief caused by death or divorce has to i volve positive steps on the part of the bereaved. Learni how to deal with personal loss and grief is a vital part being in the military. I recommend this book for anyo experiencing loss through death or divorce.

F.H.

Brezhnev: Soviet Politician by Paul J. Murphy. Jefferso North Carolina: McFarland and Company, 1981, 3 pages, $24.95.

More than just another biography of another Soviet p litical leader, *Brezhnev: Soviet Politician* by Paul J. Murp is quite a timely study that examines Leonid Brezhnev rise to power in one of the world's most complex and sti largely closed political systems. In particular, while Brez nev's career is in itself interesting, the book is most valuab for the insight it provides into the question of succession Kremlin leadership. Murphy takes the position that co flict is the principal element of Soviet politics, resulting a continuous process of rivalry, struggle, and intrigu Brezhnev, an exemplary example of this process, possess "the right mixture of tenacious energy, drive, cunnin discipline, ruthlessness, concealment . . . [and] above all ambition."

Acknowledging that political biography, and in partic lar Soviet political biography, must often contain concl sions based on fragmentary and imprecise evidence, Murp does, indeed, frequently rely on personal opinion a judgment to develop his study. He clearly identifies h own speculations, however, and, while other analys might not agree with all of them, they do not detract fro the overall value of the book.

Of special interest is the author's excellent treatment of Nikita Khrushchev's consolidation of power after the death of Stalin. Khrushchev's successful bid to forestall an intricate Kremlin plot to overthrow him in 1957, and, finally, his eventual demise as a result of still another episode of Kremlin intrigue. Naturally, Brezhnev's role in all of these events is the focus here, and Murphy clearly shatters the view widely held in the West that Brezhnev was not regarded as a serious contender for Kremlin leadership. Then, of course, the relentless manner in which he marshaled his own political forces until all semblance of collective leadership gave way to the eventual emergence of still another *vozhd* or supreme, incontestable, and infallible leader is a veritable case study in the dynamics of Soviet politics.

Appearing at a time when Brezhnev's advanced age and poor health are catching up with him, Murphy's book sheds needed light on the impending succession struggle certain to beset the Kremlin in the not too distant future. In fact, the struggle has in all probability already begun.

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Brassey's Infantry Weapons of the World edited by Major General John Owen, Second Edition. New York: Crane, Russak & Co., 1979, 480 pages, $56.50.

The team of experts that prepared this encyclopedic volume was headed by Major General John Owen, formerly a Royal Marine, who has had extensive operational experience as a commando during many campaigns around the world.

This second edition of *Brassey's Infantry Weapons of the World* is a marked improvement over the original book that appeared in 1975. Not only has the number of pages increased by approximately 50 percent but the scope of the book has also been broadened to include infantry support vehicles and Warsaw Pact weapons being supplied to guerilla and terrorist groups. The contents have been updated, and the introduction has been expanded to include a discussion of basic ballistics, principles of small arms operation, the relationship between bullet mass and impact velocity in determining wound ballistics, and, finally, a compact analysis of interior and exterior ballistics.

The book also discusses future trends for the 1980s in the development of infantry weapons and small arms ammunition. It is organized topically by type of weapon and contains numerous photographs to support the excellent technical descriptions.

This work is essential reading for the professional who must be knowledgeable of infantry weapons worldwide or for the individual who studies weapons as a hobby.

Major Robert J. Scauzillo, USAF
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Aviation Psychology by Stanley N. Roscoe et al. Ames, Iowa: University of Iowa Press, 1980, 304 pages, $16.50.

Aviation Psychology is a collection of articles by Stanley Roscoe and 17 other contributors grouped under several major headings. After a brief historical sketch of the roots of aviation psychology, Roscoe provides definitions and a reprint of an absolutely exceptional technical report by Alexander C. Williams, who, according to Roscoe, is the "Father of Aviation Psychology." Roscoe then skillfully guides us through sections on controls and displays; perceptual phenomena; aptitudes, abilities, and performance; training; and research lessons learned from the study of aviation psychology. The reference list is both extensive and impressive and provides the basis for many hours of follow-up study.

Aviation Psychology is valuable because it is broad in scope. Despite Roscoe's contention that "the book is not intended as a comprehensive treatment of aviation psychology research and application," it provides an excellent sampling of this field of research. The book is also very well grounded and integrated theoretically. The use of a systems model and presentation of a theoretical and methodological base tie articles together that could otherwise have been disjointed and hard to follow. Finally, the book is readable. This is a most important attribute — people will read the book, even if they are not primarily interested in aviation psychology. The book *is* also technical but well worth reading. Its comprehensiveness, documentation, theoretical orientation, and readability form an impressive combination. If you have only one aviation psychology book on your shelf, this should be it.

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Duties beyond Borders: On the Limits and Possibilities of Ethical International Politics by Stanley Hoffmann. Syracuse, New York: Syracuse University Press, 1981, xiv + 252 pages, $18.00 cloth, $9.95 paper.

Almost everyone would like to see relationships between nations carried out under a canopy of decency, rationality, and ethical behavior. However, many students and practitioners of international relationships take a more misanthropic or cynical view of world intercourse, somewhat suggestive of Katz's law, which holds that "nations and people deal on a rational level when everything else fails." Political realists criticized Jimmy Carter's failing attempt to produce a more ethical American political framework. Stanley Hoffmann criticized Carter's moral program for a lack of coherence, a program where several goals such as nonproliferation, restraints on arms sales, better North-South relationships, etc. produced "more of the kinds of collisions one observes in pinball machines, than of the ordering of priorities one expects of statecraft." (p. 196)

President Carter's experiment with national ethics notwithstanding, Hoffmann advocates ethical action in international politics and points out a tenuous and entangled course for its implementation. His resulting package of ingredients would include a Machiavellian framework—but with a more purposeful construction; a cosmopolitan,

tolerant, enlightened, and nonnationalistic practitioner; and a direction that would bend between the hard points of the moral norms and the political realities whipsaw.

Somehow Hoffmann's book excited me, doing so in spite of the sometimes confusing, often stultifying and inaccessible writing style asociated with a dialectic method of analysis. The philosophical style of inquiry is more understandable given the fact that the five chapters or essays were based on a series of special lectures given at Syracuse University.

Airmen would find the second chapter, "The Use of Force," especially interesting because Hoffmann says "the use of force in international affairs is obviously the greatest obstacle to moral behavior. . . ." (p. 45) He draws on numerous historical examples in this chapter, as he does elsewhere, to further illustrate his carefully qualified position, examining subjects such as massive bombing, ethics and a soldier's duty, and nuclear bombing employment. (pp. 45-53) He toys with approval of the neutron bomb as an ethical weapon but is afraid that the breaching of the nuclear taboo would unleash further nuclear experimentation; besides, nonnuclear weapons can be used where we might employ neutron bombs.

Academically oriented, *Duties beyond Borders* is not for everyone; but anyone serious about the role of morality in a nuclear age will find plenty of ingestive material, maybe more than bargained for. Sometimes I wondered if this volume was just an intellectual exercise; a one-page statement of how a statesman should act would pretty much represent the applicable lesson in *Duties beyond Borders*. And that has been done elsewhere. The heavy employment of historical examples to show where ethical and moral styles could be better employed is interesting but like shutting the gate after the sheep got out. In fact, employment of ethics requires such a consummate skill, I wonder how useful past examples might be for future employment. Thus, it is all right to analyze historical events but another thing to predict how a particular personal or national behavior will put the nation on the correct path.

Dr. Daniel R. Mortensen
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Bolling AFB, D.C.

Soviet Dissent in Historical Perspective by Marshall S. Shatz. Cambridge, England: Cambridge University Press, 1981, 214 pages, $19.95.

Dissent in Russia is not confined to the October Revolution and the post-Stalin era of the Soviet Union. Indeed, dissent has grown and developed throughout recent centuries, and *Soviet Dissent in Historical Perspective* presents that growth in chronological focus.

Marshall Shatz clearly states in the preface that this book was written for the nonspecialist, those new to the study of Russia and the Soviet Union. It meets that goal in a clearly written and enjoyable style. The twelve-page introduction alone is well worth the price of the book. Here the author sets the stage for the belief that the Soviet Union today is little different from the Russia of previous centuries. Much of present Soviet society and the way things work there have been that way since much earlier than 1917.

The main narrative develops in great detail the place and function of dissent in Soviet affairs today. The overall topic is certainly narrow in reader appeal, but the general introduction should be read by anyone who wants to get a grasp of what makes Russia tick.

Captain Don Rightmyer, USAF
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The Literature of Terrorism: A Selectively Annotated Bibliography by Edward F. Mickolus. Westport, Connecticut: Greenwood Press, 1980, 553 pages, $55.00.

Transnational Terrorism: A Chronology of Events, 1968-1979 by Edward F. Mickolus. Westport, Connecticut: Greenwood Press, 1980, 967 pages, $75.00.

Central Intelligence Agency intelligence analyst Edward F. Mickolus has provided students of terrorism with a monument of information in this two-volume reference set. Given the burgeoning incidence of terrorist activity in the world, which he meticulously and lucidly chronicles, and the Reagan administration's public commitment to finding effective means for dealing with terrorist acts, this set has a timeliness which, when combined with the uniformly high quality of the material presented, guarantees that it will be extensively used.

Neither volume is a book you sit down and read for pleasure. Rather, both are research resources of great value in studying terrorism. *The Literature of Terrorism* provides short summaries of 3890 articles, books, and reports on the subject, including useful author and title indexes. This impressive undertaking is organized both geographically and functionally to aid the researcher. As its subtitle suggests, *Transnational Terrorism* is a chronicle of terrorist incidents over an eleven-year period. Altogether 3329 incidents are reported in summary form ranging from a paragraph to several pages in length. The introductory chapter provides summary tabularization of the data, and the author promises that a "clean" computerized data set (called ITERATE) will be available soon for researchers.

These two volumes clearly represent a significant research source in an area that is poorly understood but clearly a national priority. No military or civilian research library should be without them.

Dr. Donald M. Snow
University of Alabama, Tuscaloosa

Gavin by Bradley Biggs. Hamden, Connecticut: Archon Books, 1980, 182 pages, $17.50.

Military commanders who believe that policies established and pursued by their superiors run counter to the nation's best interests face a difficult dilemma. Although these officers may try to change policies, they must support the legal (and moral) decisions given them. Of course, a

commander may resign and work for changes as a civilian, but few ranking generals or admirals in our military history have chosen this alternative. Most dissenting flag officers have argued that they could contribute more by remaining and working within the military. (Many critics, however, consider most senior officers too attached to rank and position to resign, and the few who did so over policy decisions during the Vietnam War supports this view.) U.S. Army General James M. Gavin found himself in such a situation several times, and Bradley Biggs, an admirer who served under Gavin, uses this theme in his short biography.

Biggs describes Gavin as an innovative achiever and combat commander who often disagreed with top military and civilian leaders after World War II. Gavin believed the United States needed a mobile and modernized army, but Truman's economic plan offered no room for expansion. Within the military, Gavin resisted the growing reliance on atomic warfare before the Korean War and the ensuing Eisenhower policy of massive retaliation. Finally Gavin's frustrations peaked with the Army's refusal to develop fully the potential of the Jupiter missile in 1957, thereby allowing the Soviet Union to enter space first. According to Biggs, Gavin planned to retire in March 1958, but his request was strangely held up by a staff officer. Meanwhile, a congressional committee invited Gavin to testify on the missile program and asked his views on the organization of the Department of Defense. Gavin, the author relates, held to his integrity and, to the surprise of everyone, faulted the existing arrangement and suggested that the JCS be abolished in favor of a staff system working directly under the Secretary of Defense. Naturally, most observers incorrectly interpreted his retirement soon after as a direct result of his testimony. Tired of duty in Washington and feeling his effectiveness blunted, Gavin left the army for a successful business career and later an ambassadorship to France.

Biggs's brief work, unfortunately, does not measure up to his subject. Writing in a very forward but uninspiring prose, the author hits only the highpoints of Gavin's career. He relies heavily on personal interviews with Gavin and with those who worked with the general. Biggs's text is burdened with extensive quotes, and his tone is uncritical. What might prove more interesting to many readers—for example, Gavin's position and activities during the Vietnam War—are thinly presented. The reader will put this volume down knowing more about Gavin's career, but he will lack a solid understanding of the man. Without this critical dimension to biography, the work goes wanting. Biggs, however, does add to our short list of military biography; and he does raise, in a historical context, the important issue of a commander's loyalty and integrity in a nation strongly committed to civilian control. We owe the author a debt for explaining how Gavin handled this problem.

Lieutenant Colonel Harry R. Borowski, USAF
U. S. Air Force Academy, Colorado

Knowledge and Decisions by Thomas Sowell. New York: Basic Books, 1980. 420 pages. $18.50.

Knowledge and Decisions is no ordinary book about decision-making. This series of ingeniously crafted essays in defense of individual freedom definitely grabs reader attention.

Thomas Sowell, Professor of Economics at the University of California at Los Angeles and author of several works dealing with broad social problems, clearly describes, without graphs, diagrams, or mathematics, the basic analytic tools of economics and applies them with sharp insight. He concludes that knowledge can be enormously costly, that the coordinated use of scattered bits of knowledge is perhaps "*the* basic problem" of any society.

Establishing the grounds for discussion with chapters on knowledge, decision-making, and economic, social and political tradeoffs, Sowell devotes the second half of his work to application of these ideas to trends in history, economics, law, and politics. He asserts that processes have to be understood and thought of in terms of their actual mechanics, not characterized, as is often the case, by their hoped-for results. This discipline can avoid confusion about "profit-making enterprises," "social justice," and "civil rights." He concludes, not surprisingly, that the major twentieth-century trend in economics has been to "third party (government) intervention" in many forms under many ideologies.

As to political trends, Sowell is particularly trenchant in telling how intellectuals (especially social scientists) try to supersede not only the political processes but also the cognitive processes; how they appeal to a higher moral code for which they are axiomatically custodians; how they seek what the people *would* want, if only they knew better—all in the name of democracy.

Discussing current military trends, Sowell states that our position has deteriorated because decision-making units, acting rationally in their own interests, have traded defense for welfare. This relative decline has been mostly self-imposed. Comparing the contemporary scene with Roman times, Sowell says that "both zealotry and the power were concentrated precisely in those particular intellectuals who dealt in nonverifiable theories—religious theories in the case of Rome; 'social justice' in the contemporary."

One wonders whether individual and social interests can become congruent to the extent that rational decision-making for the common good is possible. But Sowell is, in his final words, optimistic. He thinks the public has had enough.

Dr. James H. Buck
University of Georgia, Athens

The Fourth and Richest Reich: How the Germans Conquered the Postwar World by Edwin Hartrich. New York: Macmillan, 1980. 302 pages, $12.95.

With defeat at the end of World War II, Hitler led Germany and its people into the abyss of total military and economic collapse. What remained held little hope for ever being more than a third- or fourth-class nation in the world community. Out of that chaos, West Germany rose to be

the third-ranking economic power in the world and *the* richest in cash reserves. The story of the *Wirtschaftswunder* (economic miracle) that transformed war-torn Germany is the subject of this book.

Edwin Hartrich was an American journalist who observed Germany on the European scene from the interwar period of the 1930s to present day. He also served as an industrial consultant to such noted companies as Krupp.

The Fourth and Richest Reich opens in the closing days of the war as Allied military governments assumed control of the German cities and countryside. The first three years were grim as everyone struggled for survival and to make some semblance of order from the rubble, the displaced persons, and the survivors of the war's ravages. Hartrich feels that the abolition of rationing and the decontrol of wages and prices by economic leader Ludwig Erhard in 1948 marked the true beginning of Germany's recovery. The new economic system that developed was *Soziale Markwirtschaft*, or "capitalism with a conscience." Aided in its growth by the U.S. military governor, General Lucius D. Clay, and numerous German political and economic leaders through the years, German society witnessed a rebuilding of both the country and the economy that defied all predictions. The result is a Germany that has finally realized the *lebensraum* sought by the Kaiser and Hitler but by economic rather than military means.

This book is a very interesting and well-written look at Germany's last thirty-five years and the significance of ecopolitics in the 1980s. It is recommended to anyone wanting to know more about the mechanisms of world power and strength in action today.

Captain Don Rightmyer, USAF
Soviet Awareness Group
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Lebanon in Crisis: Participants and Issues edited by P. Edward Haley and Lewis W. Snider. Syracuse, New York: Syracuse University Press, 1979, 323 pages, $18.00 cloth, $7.95 paper.

Compendia of the sort that collect articles on important international issues can be an embarrassment of riches. On the other hand, such books may also suffer from an impoverishment of design and execution that inheres in like productions. Despite the weight of considerable expertise contained within, *Lebanon in Crisis* errs more on the side of this inherent vice than it does on the side of evident virtue.

The scope of the inquiry is very ambitious; the editors wish to be definitive, to have the last word. There is nothing wrong, I suppose, in wanting to have the last word, if only for the sad fact that the last word, especially in the case of Lebanon and the complexity of issues which inform its internal and external relationships, is virtually impossible. The articles, therefore, attempt to be exhaustive in content and, as a result, tend to repeat information, albeit skewed to the perspective of the individual writer. A noticeable lack of the theoretical prevails throughout. Were it not for Halim Barakat's contribution on the social context of the civil war in which he points out that the war erupted among political groups contending for the right to determine the direction of systemic change, there might have been no attention devoted to theory at all.

In a word, *Lebanon in Crisis* is a disappointing book. It has dubious value for the specialist and may, at the very least, confuse the casual reader.

Dr. Lewis Ware
Air University Library
Maxwell AFB, Alabama

AWARD

The Air University Review Awards Committee has selected "Western Deterrence: Posture and Rationale," by Group Captain R. A. Mason, Royal Air Force, as the outstanding article in the May-June 1982 issue of the *Review*.

the contributors

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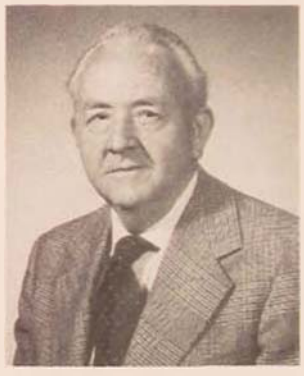

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attention

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.

Address manuscripts to Editor, *Air University Review*, Bldg 1211, Maxwell AFB, AL 36112. *Review* telephone listings are AUTOVON 875-2773 and commercial 205-293-2773. Manuscripts should be submitted in duplicate. Military authors should enclose a short biographical sketch, including present and previous assignment, academic and professional military education; nonmilitary writers should indicate comparable information.

Printed by Government Printing Office. Address subscriptions to Superintendent of Documents, GPO, Washington, DC 20402; yearly $18.00 domestic, $22.50 foreign; single copy $3.75 domestic, $4.70 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

AIR UNIVERSITY review

SEPTEMBER-OCTOBER 1982