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the fifth horseman

So long as no acceptable theory, no intelligent analysis of the conduct of war exists, routine methods will tend to take over even at the highest levels.

Clausewitz[1]

Since time immemorial, soldiers within the Judaeo-Christian heritage have seen themselves standing as a barrier between their people and the savagery beyond, symbolized by the Four Horsemen of the Apocalypse: Conquest, War, Famine, and Pestilence.

For just as long, one of the most subtle and pervasive factors impairing their efforts has been the deadening effect of routine, the natural tendency to allow the rhythms of peacetime to supplant carefully thought-out preparation for war. This was bad enough in Clausewitz's day when many of the activities of garrison duty—close order drill, inspections of equipment and horses, riding—had obvious and direct operational utility. It is incomparably worse in an age when the marvels of science and technology push the realities of war far beyond the experience of ordinary life to rival in stark reality the symbolic horrors of the Apocalypse. Potential for War and Conquest exist in abundance, and even Pestilence has made its debut as an instrument of repression in the hills of Laos and the arid valleys of Afghanistan.

Under such circumstances, routine must be put in its proper place, a difficult task at which we have not always enjoyed spectacular success, as witness the "Dr. Pepper War"[2] in Southeast Asia. Did our strikes against the North tend to go in at ten, two, and four o'clock because that was when the enemy was most vulnerable? Or was it because we lacked the will power to disturb for long our accustomed routine of sortie generation?

Reflection on the deadly persuasiveness of the siren song of peacetime routine and the hazards of yielding to it produced the following, not quite tongue-in-cheek, emendation to The Book of Revelation 6:8.

> **And there went out another horse that was well groomed and immaculately accoutered, properly maintained in accordance with the appropriate directives. He who sat upon him possessed an unblemished record of administrative excellence and a boundless capacity for detail, and in his hand he bore a briefcase. In his unceasing pursuit of perfection, he caused honest soldiers to forget the other horsemen. And his war cry was "Efficiency"; and his name was Routine, and Hell followed after him.**

J.F.G.

Notes

1. *On War*, Paret and Howard, tr., p. 154.
2. From the advertising slogan "Good at ten, two and four."

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WESTERN DETERRENCE: POSTURE AND RATIONALE

GROUP CAPTAIN R. A. MASON, ROYAL AIR FORCE

THE concept of deterrence is as old as man himself. Our modern idea is little changed from that expressed in the Latin word *deterrere:* to prevent an action by someone because of his fear of the consequences. Yet although the idea may be essentially the same, the actions we wish to deter and the scale of the threatened retribution have acquired a destructive power beyond the comprehension of a Caesar. Man now has the capacity not only to destroy his own generation and its environment but to render that environment unsafe for future generations who themselves may have suffered genetically.

I believe that all responsible persons, military professionals, and proponents of unilateral nuclear disarmament view that prospect with abhorrence. They would probably agree that abhorrence alone is not likely to be sufficient to prevent it; that prevention requires realistic action and planning. And they would probably disagree in the assessment of the utility and desirability of different plans. We should therefore keep in mind two underlying thoughts: no one has a monopoly of wisdom on the subject of deterrence and its implications; and no group, however well intentioned, has a monopoly of morality. If we reduce the discussion to factual negations on the one hand or moral absolutes on the other, we not only waste time but abdicate the individual responsibilities that we hold as members of a practicing democracy to ensure that a subject of this magnitude is examined free from both factual and emotional distortion. Thus, I should like to summarize here the perceptions that have led to the adoption by the United Kingdom and NATO of the deterrence posture, explain the constituent parts of alliance deterrence, and make one or two observations on current issues: Trident, cruise missile, Pershing II, and the enhanced radiation weapon or neutron bomb.

DURING World War II some fifty million people died, and large areas of Europe, the Soviet Union, and the Far East were ravaged. Since 1945, an additional ten million may have died, and the misery of modern warfare has been experienced in Southeast Asia, South Asia, Africa, the Middle East, Latin America, and Eastern Europe. Almost all the destruction has been inflicted by so-called conventional weapons. The impact on Beirut of a couple of Israeli aircraft with a handful of bombs readily demonstrates the destructive power of modern weaponry.

At the heart of British thinking about deterrence lie four ideas:

- Nuclear weapons exist, and there is no foreseeable way of disinventing them.
- One could never be certain, whatever guarantees had been given in peacetime, that a nuclear power in war would refrain from using nuclear weapons if the advantages appeared to outweigh the disadvantages.
- Conventional war is not only itself unacceptably destructive but contains the serious risk of escalation to nuclear levels.
- The advent of nuclear weapons has fundamentally changed the nature of war and its role as a military instrument to achieve a political objective. This view was recently expressed as follows: "In the past, wars could be fought and won; with the present nuclear arsenals of East and West that is no longer the case. There would be no winners, only losers."[1]

The roots of our current thinking lie in the immediate postwar years, now increasingly the preserve of the historian rather than the memory. The facts were a Western demobilization and Soviet armies of occupation in Eastern Europe; the Soviet rejection of the Baruch plan for international control of nuclear energy; the redrawing of the boundaries of Western Russia and Eastern Europe; the Soviet attempt to eliminate the embarrassment of West Berlin.

Certainly there was, and is, an almost paranoiac Soviet concern with the security of the Motherland. I have no doubt that the carefully fostered memories of the Great Patriotic War, with some twenty million Soviet dead, induce in the Soviet people both an acceptance of the need for heavy military expenditure and a fear of Western aggression. But there is also the as yet unmodified acceptance of the inevitability of conflict with the West plus a crusading ideology that, however bankrupt, remains the declaratory rationale of Soviet foreign policy.

Regrettably, Soviet foreign diplomacy continues to make full use of the military instrument to achieve its objectives. Indeed, the cynic would observe that it has few other instruments to call on. But of much greater significance to me as a Western airman is that the Soviet gov-

ernment takes great pains to ensure that its military establishment understands that nuclear weapons are as much a part of the war-fighting inventory as the conventional or chemical alternatives. In what at first glance might be seen as a mirror image of the West, Soviet officers learn that the aggressor will use nuclear weapons. Never, to the best of my knowledge, is he taught about Western theories of deterrence and the unacceptability of nuclear warfare as a means to a political objective.

The following extracts are taken from current official Soviet textbooks used in training by officers of the Soviet Armed Forces. First, on the role of military force in diplomacy:

> The Soviet Union and other Socialist countries, by virtue of their increasing military potential, are changing the correlation of military forces in the international arena in favour of the forces of peace and socialism. This is exerting a very sobering effect on extremist circles in imperialist states and is creating favourable conditions for achieving Soviet foreign policy goals in the international arena, based upon the principles of peaceful co-existence.[2]

An observation by Lenin worth noting is that "the character of a war and its success depend chiefly upon the internal regime of the country that goes to war. . . . War is a reflection of the internal policy conducted by the given country before the war."[3] Soviet officers were advised in 1972 that this proposition is important to an understanding of modern war.

While there is certainly an element of deterrence in Soviet military doctrine, though it is never expressed as a philosophy in the same way as in the West, there is equally no doubt that a war-fighting capability is paramount. For example:

> However, attention must be paid to the fact that the military might of the Socialist nations is not viewed as a condition or a means for preventing all wars generally, that is civil, national liberation or in the defence of the sovereignty of peoples. The communists have always recognised that along with reactionary and unjust wars, there are also progressive and just ones.[4]

But perhaps most chilling of all are the routine Soviet comments on what is euphemistically referred to as "the revolution in military affairs," or, more simply, the impact of nuclear weapons on warfare. For example:

> In the arsenal of these weapons which are now represented by a significant number of types of different nuclear devices, the strategic nuclear weapons play the main role. Precisely these weapons have fundamentally altered the nature, content, forms and methods of conducting military actions. Their combat and technical capabilities, given basically in the second chapter of the book, make it possible to draw sufficiently complete and correct conclusions on the destructive force of nuclear weapons which in essence is completely beyond comparison with conventional weapons.
>
> It must be stressed particularly that the basic purpose of strategic nuclear weapons is a simultaneous strike against the enemy strategic nuclear weapons and its military groupings, as well as against the military and economic centres and control centres. The effect of nuclear weapons on the enemy's military and economic potential as well as defence against enemy nuclear strikes comprise the most important task of armed combat under present day conditions. Nuclear weapons are characterized by a great destructive and devastating result as a consequence of the effect of an entire complex of destructive factors including the shockwave, radiant energy, penetrating radiation and fall-out. The use of those weapons has fundamentally altered the nature of combat, the operation and the entire war as a whole. The possibility of quickly achieving not only an operational result directly but also a strategic one comprises the main distinguishing feature of nuclear war. . . . Thus, the spatial boundaries of combat, an operation and the war as a whole, have undergone very substantial changes. This is also the result of military technical progress, and shows the new capabilities of nuclear war.[5]

This quotation is not the product of an extremist fringe or of a surrealistic freelance defense analyst. It is a sober, officially sanctioned pronouncement intended to establish the framework for a comprehensive study by Soviet officers of the implications of using nuclear weapons, by inference in Europe, against Britain and against the rest of the Western alliance.

I cannot emphasize too strongly that I have

no evidence whatever to indicate that the Soviet Union intends to begin a nuclear war either in Europe or anywhere else. But whereas intentions may change and in any event are often difficult to define, the capabilities on which the intentions must depend can, with modern methods of intelligence collection, be very accurately assessed.

Western deterrence rests on the idea that nuclear war not only must be prevented but that in the light of published Soviet views of nuclear war fighting and of manifest Soviet nuclear war-fighting capability, we have to convince them that under no circumstances could a Soviet military commander ever advise his political master that a military victory was feasible. In other words, the Soviet Union must perceive that any military adventure could not succeed without running the risk of incalculable retribution. In competition between East and West, the military instrument must be seen to carry a penalty far outweighing any conceivable advantages.

IF the basic Western idea of deterrence is straightforward, its practical implications, when translated into the nature and size of armed forces, are extremely complex. The posture of Western deterrence is a structure of three tiers: conventional forces, theater nuclear forces, and the so-called strategic forces of the Soviet Union and the United States that are capable of striking each other's heartlands.

As the 1981 British government statement on the Defence Estimate commented:

> The combination of geography and totalitarian direction of resources gives the Soviet Union a massive preponderance in Europe. The Western democracies have enough economic strength to match the East, if their people so chose. But the cost to social and other aims would be huge. . . .[6]

That has been the case since 1945. In an attempt to redress the military imbalance in Europe between East and West, NATO was formed in 1949 as a voluntary association to provide a framework for collective security and provide mutual guarantees of assistance in the event of external aggression.

The inherent paradox of the alliance is that it exists to provide all its members with the freedom of choice to decide whether to stay in it or not; and, if staying in it, how much to contribute from national resources toward the common defense? One may compare these attitudes with those in the Warsaw Pact on occasions when one of the junior members of the latter has been suspected of wishing to withdraw from its voluntary commitments.

As early as 1953, NATO agreed on the size of conventional forces required in Europe to defend against possible Soviet aggression. Those levels were never met, and instead the alliance became increasingly dependent on nuclear weapons to threaten unacceptable retaliation for any Warsaw Pact incursion into allied territory. By the midsixties, however, such a posture was believed to be losing credibility in the face of the Soviets' own tactical and strategic nuclear armory. Consequently, the Western alliance shifted its strategic posture in 1967 from the previous "tripwire" to what is known popularly as flexible response. The position was fully described in the Government Defence White Paper of 1980:

> Flexible response means that NATO should have at its disposal a range of options from which to choose in making an appropriate military response to aggression. In contrast to the former NATO strategy of massive nuclear retaliation, flexible response does not commit us to respond in any pre-ordained way. The aim of the Alliance is to make it very clear to any potential aggressor that he would run a high risk of having inflicted upon his country a degree of damage which no objective could justify. To achieve this, the Alliance must have at its disposal a range of conventional and nuclear military capabilities which could be used in response to an attack. The defence options these provide should not only be militarily effective but also express with unmistakeable force and clarity the Alliance's determination to resist. The step from one level of force to higher ones must not, however, be so severe that an enemy might suppose that the NATO coun-

> tries would be unwilling to take it. NATO, therefore, needs a full range of options extending from a limited response with conventional forces through to a full-scale strategic nuclear strike.[7]

Here we encounter a further paradox in the alliance. We believe that no level of Soviet pressure or outright aggression must leave the West lacking a realistic alternative to surrender. Moreover, we must ensure that the Soviet leadership perceives that to be the case. Therefore, our basic strategy of deterrence must include an ability to deny the Soviets victory at any level of aggression on which they choose to embark. In other words, if we demonstrate our ability to fight a war with nuclear weapons, even though we can see no political objective in so doing, we will help to convince a potential adversary that he could not expect to win one. The paradox lies in the fact that because of Soviet nuclear capability and the embracing by Soviet doctrine of nuclear weapons in war-fighting strategy, the West must itself display a limited nuclear war-fighting capability in response, in order to deter the Soviet Union from embarking on such a course.

THE balance of military strength between East and West can be measured in many ways. Comparative numerical figures can on their own be misleading. Morale, organization, human skills, weapon effectiveness, command and control, leadership, availability of rapid reinforcement and alliance cohesion—all must play a part in the equation. Comparisons of nuclear forces contain their own peculiar irregularities. Warhead numbers, warhead sizes, delivery accuracy, number of launch vehicles, and launch vehicle vulnerability are factors that modify the raw figures. Comparisons are further complicated when the numbers and location of Western forces are published in the open press while similar Soviet information remains a closely guarded state secret. However, a reasonably reliable overall picture can be drawn.

At the Mutual and Balanced Force Reduction talks in Vienna in 1980, the Warsaw Pact claimed to have more than a million men under arms in Eastern Europe excluding the Soviet Union. NATO assessments were about 180,000 men higher.[8] NATO forces in Central Europe number approximately three-quarters of a million. More seriously, the West is outnumbered by some 10,000 in main-battle tanks, by 5000 in artillery pieces, and by 1600 in fixed-wing tactical aircraft.[9] I personally take little consolation in the traditional military aphorism that offensive forces require three times the strength of the defense. Caesar did not, Napoleon did not, Frederick the Great did not, Rommel did not, and Patton did not. Fortunately, perhaps, Zhukov did, and there is no obvious heir to the Pattons and Rommels among the Warsaw Pact leadership.

Behind the Warsaw Pact forces deployed in Eastern Europe, just a couple of hours airlift or one day's rail move from the United Kingdom, are the 67 divisions of the Soviet Army based in the Western districts of the Soviet Union. Conversely, 3000 miles away are the eight United States divisions earmarked to reinforce NATO, while in Western Europe itself we have the various national territorial reserves ready to move out of their daily civilian trades to become professional soldiers overnight; if each national government is able to make a political decision, notify all the reservists, equip and transport them to their allotted defensive positions in the 48 hours generally quoted as the most likely period of warning the West would receive of impending attack.

The next level of confrontation is that of theater nuclear weapons. Here the West has an advantage in numbers of some 30 percent: 1200 missiles and artillery as opposed to 950, which could be used in a battle area or close to it but not in attacks from Western Europe on the Soviet Union and vice versa. Another group, medium range, is difficult to define precisely because of different interpretations of aircraft performance, but NATO has 180 missiles and

700 aircraft that could strike Warsaw Pact targets in Eastern Europe, compared to 650 missiles and 2000 aircraft able to reach deep into Western Europe from Warsaw Pact territory. Since December 1979 the United States has unilaterally withdrawn 1000 nuclear warheads from Europe with no response from the other side.

On the contrary, the Soviet Union has continued to modernize and expand her nuclear delivery systems. In particular, she is deploying new, modernized short-range missiles and has considerably strengthened her tactical air forces in Europe by the addition of fighter-bombers possessing the range to attack most parts of Western Europe at low level, by night, and in all weathers with small, much-more-accurate nuclear bombs. This is not a description of the Backfire, but of the little heralded twin-engined Sukhoi-24 (code-named Fencer by NATO), which is already beginning to complicate still further Western air defense planning. Because it is not a spectacular departure from previous Soviet equipment, because its entry into squadron service has not been accompanied by any presidential declaration, and because the Soviet Union does not publish numerous glossy aviation journals with colored pictures, Fencer has not provoked any outcry in the West. Its presence illustrates the difficulties of establishing a common basis for beginning practical steps in arms reduction.

It is, however, the third group of theater nuclear weapons that are presently catching the attention of both campaigners for nuclear disarmament and Western military staffs. Until the late 1970s, the ability of the Soviet Union to launch nuclear attacks from her own territory against Western Europe depended on some 450 liquid-fueled SS-4-5 inaccurate rockets plus a similar number of subsonic, obsolescent long-range bombers.[10] Since then, the older missiles have begun to be replaced by the well-publicized mobile SS-20, which, according to the International Institute for Strategic Studies sources, has three warheads each of about 150 kt, a range in excess of 3000 miles, and an accuracy of some 150 yards. Approximately 250 are now deployed in the Soviet Union, of which some two-thirds threaten Western Europe, and their number is increasing at the rate of more than one a week. It is an accurate war-fighting weapon that can reach the whole of Western Europe from sites beyond the Urals. In view of the Soviet definition of European Russia as ending at the Urals, the location of these sites is of particular significance for arms control negotiations.

In addition, there is the supersonic Backfire bomber, entering service at the rate of about 30 a year and, from its bases in Western Russia, quite capable of attacking the United Kingdom with standoff nuclear weapons by routes that could bring it in over Southern Ireland.

In keeping with the rationale underlying our deterrent posture, there must be no level at which the Soviet Union might perceive a military advantage sufficient to use either for political pressure or with war-fighting confidence. In all questions of perception in deterrence, it is the perception of the Soviet Union that matters, not ours, and not that of the United States.

At present, no missiles except the French S-2 based in Western Europe have the range to reach the Soviet Union. Seven squadrons of USAF F-111s and the remaining Vulcan aircraft in the Royal Air Force could penetrate the steadily strengthening Soviet air defenses, but a very high proportion of them would be vulnerable to an SS-20 attack on their airfields.

The new Pershing II missile, to replace the older Pershings deployed with the U.S. Army in Germany, could reach the Soviet Union and will have an extremely accurate warhead. Pershing II will deny the Soviet Union any opportunity to seek to wage a nuclear war restricted to Europe without risk of retaliation on the Soviet heartland itself. It is ironic, therefore, that it should be rather the deployment of cruise missile in Western Europe which has provoked both Soviet propaganda and widespread Western antinuclear feeling. Cruise missile is a small, subsonic weapon, which, if

launched from the United Kingdom against the Soviet Union, would fly at perhaps 100 feet at some 500 miles per hour. Even assuming a straight line of flight, the missile would take at least three hours (and probably nearer to five) to reach Soviet territory. This fact is well known in Moscow; I discussed it myself with several members of the Soviet Academy of Sciences in March 1981. There is no way that cruise missile presents a surprise or preemptive threat to the Soviets, and they know it. Under no circumstances could it be thought to be destabilizing unless the Soviet Union intended to attack the West. Then, because of its mobility, it would be difficult to locate and destroy on the ground and, because of its size and height, difficult to destroy in the air. What it does threaten is the obsolescence of Soviet air defenses and enormous expense to develop new protection. That is why it is the target of Soviet propaganda.

The third theater nuclear weapon to make recent headlines is the nuclear device that has been constructed in such a way as to reduce the effects of blast and heat in proportion to those of radiation: hence the name enhanced radiation warhead. There is nothing in such a process beyond the current technical ability of any of the nuclear arm powers. The Soviet Union may have built such weapons or she may not. She has certainly tested them. Since some of her medium-range missiles are known to be armed with nerve gas warheads, she may have concluded that enhanced radiation weapon deployment could be superfluous. On the other hand, a Western nuclear weapon that threatens to kill more invading Russians but reduces damage to European land and buildings greatly strengthens deterrence by reducing still further the prospects for Soviet military success.

I was asked in Moscow if I could envisage any political objective that would justify a nuclear war. My reply was that in an age of nuclear weapons, military aggression of any kind would be a very dangerous political instrument to select. The subject was abruptly changed.

In addition to the first two levels of conventional and theater nuclear force deterrence is the strategic armory of the United States and the United Kingdom. The United States triad of land-based missiles, submarine-launched missiles, and manned bombers has remained basically the same throughout the last decade. Warhead accuracy has been improved, and submarine missile ranges have been increased. Despite the nonratification of SALT II, subsequent deployments have remained within the guidelines agreed on in the talks. The Soviet program, however, has continued. In 1980 the Soviet Union produced 250 new intercontinental ballistic missiles (ICBMs). If the momentum of such production is maintained, it will prove a theoretical threat to destroy 90 percent of all American land-based ICBM forces in a surprise attack while using only a fraction of her own ICBMs.[11]

It is this fear that is driving the United States' thinking toward a new ICBM weapon system, the MX, which would be designed to forestall any Soviet pressure that could be based on such a preemptive and disarming ability. Western interest in such deterrence is or should be self-evident. If the United States should ever be deterred from using her nuclear weapons in defense of Western Europe by the perception of overwhelming Soviet intercontinental nuclear strength, then the bedrock of Western security would indeed be threatened.

In this context we should examine the role of the British independent nuclear deterrent and particularly the decision to go ahead with the Trident system. The four British Trident boats could carry up to 512 independently targetable warheads, and in a period of tension three of them might be expected to be at sea. Again, it is necessary to look at Soviet perceptions. The British weapons, once deployed, are independent of any foreign control even though they could be included in NATO targeting planning. Should the Soviet Union ever come to doubt the credibility of the United States strategic nuclear guarantee to the alliance, the pres-

ence of the British system would "compel them to regard the risks of aggression in Europe as still very grave. This additional element of insurance—the 'second centre of decision'—has been a feature of Alliance deterrence for over 25 years.[12] As far as costs are concerned, we revert to the exchange of value judgments. I suspect that the Soviet Union will be far more thoughtful about 500 nuclear warheads capable of destroying Soviet cities than of a few more Western divisions designed to fight a conventional war on somebody else's territory.

But whereas the proportion of defense funds allocated to Trident will be strongly influenced by military opinion, the allocation of funds to Trident as opposed to those allocated elsewhere in the government's areas of responsibility (housing, employment, schools, social services, etc.) remains the prerogative of the government. It is largely because of the presence of a nuclear deterrent that the British government retains the freedom to make such a choice, and the British people still have the option to get rid of the government if they disagree with the policies which it is pursuing; these are strongly held military beliefs. How much brighter would prospects for arms control be if there were similar opportunities within the countries of the Warsaw Pact.

THERE are one or two factors that impinge on both the positive rationale of deterrence and alternative strategies. For instance, Soviet proposals to discuss a nuclear-weapon-free zone in Europe. Europe extends to the Urals, yet many of the SS-20s are located beyond the Urals. I was left in no doubt while in Moscow that SS-20s beyond Europe, even though targeted on Europe, would be very unlikely to be included in any such negotiations. In a nuclear-free Europe, how would the problem of massive Soviet conventional military strength be resolved? When the Soviet Union believes herself threatened from both East and West, when she depends so heavily on military power as an instrument of policy and for her security in Eastern Europe, how can we negotiate confidently about force reductions in Europe alone? With her interior lines of communication and her massive airlift capability, her forces, including her nuclear weapons, can be switched rapidly from one part of her territories to another. How, when Soviet war-fighting doctrine makes little or no distinction between nuclear and conventional weaponry, would British unilateral renunciation of nuclear weapons make Britain a safer place? Unless, of course, the United Kingdom were to withdraw from NATO as well. That might not be a rational step in the light of modern European history, but arguably it would be honorable. Renunciation of nuclear weapons while continuing to shelter under an American nuclear umbrella, on the other hand, seems to be less than morally principled. Moreover, if we should seek to establish some kind of nuclear weapon-free area anywhere, let us note the example of Scandinavia. The refusal of Norway and Denmark to accept any kind of nuclear weapons on their territory and the neutrality of Sweden and Finland have not inhibited the Soviet Union from amassing the enormous concentration of conventional and nuclear forces just across the border in the Kola Peninsula. As for unilateral gestures and the power of example, we should also remember that our decision to renounce and destroy chemical weapons several years ago provoked no reciprocal response from the Soviet Union.

But none of these are reasons for abandoning attempts to limit and reduce the number of nuclear weapons in the military arsenals. As Roy Dean, Director of the Arms Control and Disarmament Research Unit of the Foreign and Commonwealth Office, recently wrote,

> Much remains to be done, not only to curb the strategic arms race but also to limit theatre nuclear forces on both sides, to ban nuclear weapon tests, to strengthen the non-proliferation regime, to abolish chemical weapons completely, to tackle the problem of conventional forces and weapons,

> to reduce the appallingly high level of world military expenditure, to introduce militarily significant confidence building measures, and much more. The best hopes for progress lie in a measured approach by negotiation.[13]

While these negotiations are taking place, deterrence remains the guarantor of peace in Europe and beyond. Paradoxically, as I have sought to explain, an element in the credibility of the deterrence posture is a demonstrated ability to deny an opponent the military victory of his choice. Such a posture can, and does, attract misunderstanding and criticism in the West because of the inclusion of nuclear weapons within it. Personally, I have no doubt that the Soviet General Staff has no misunderstanding whatsoever. They can see our defensive positions in Central Europe and elsewhere; they can read about our policy changes and reequipment programs; and they fully comprehend the differences between the deterrent and war-fighting strategies.

In the last century, Lord Salisbury observed:

> The policy which invites contempt seldom fails to earn a more substantial punishment. It is rarely permitted to take refuge in the cynical adage that hard words break no bones. Contempt is soon followed by open insult and insult meekly borne draws injury quickly after it.

The sentiment was amplified more recently by Henry Kissinger:

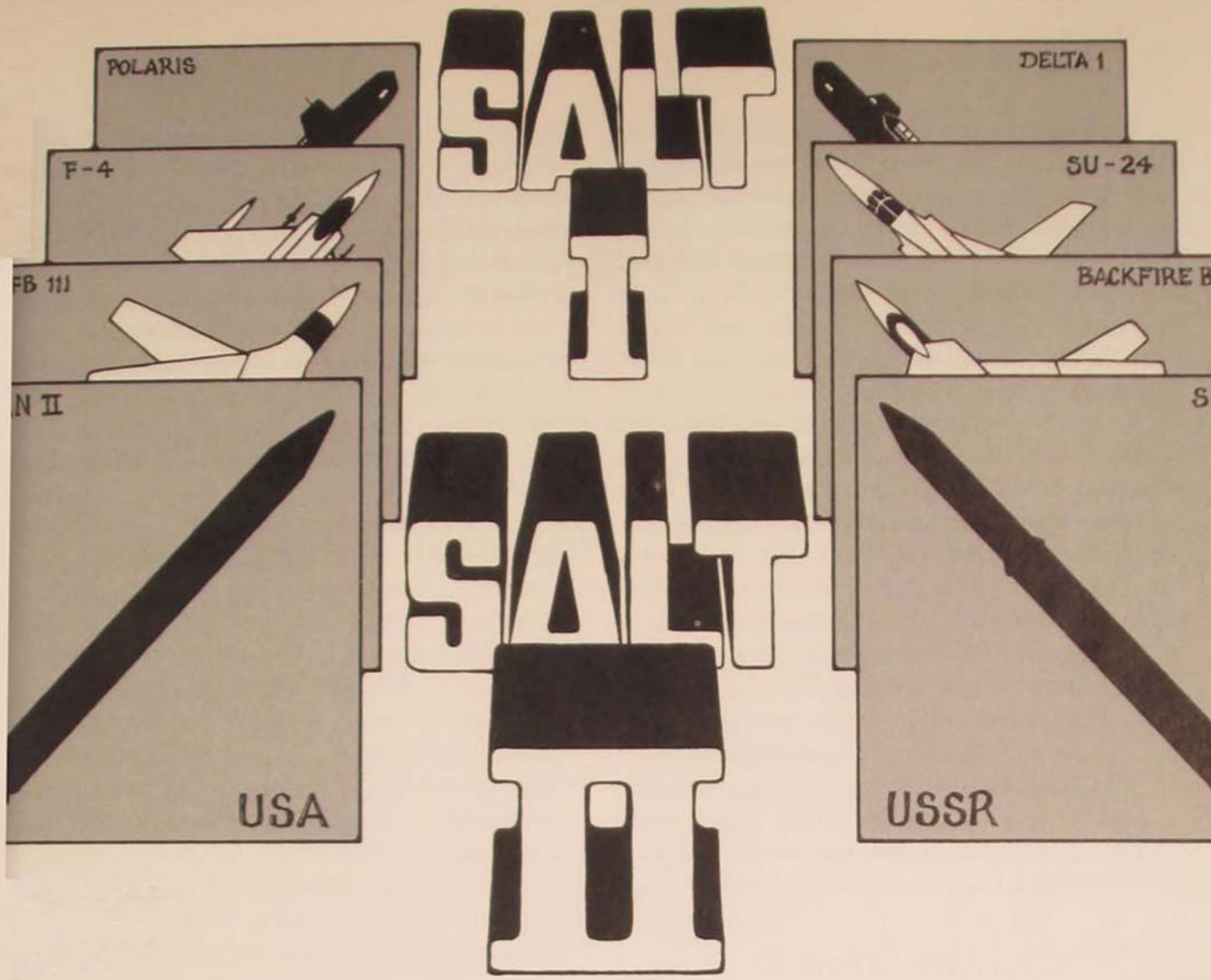
> Throughout history, the political influence of nations has been roughly co-relative to their military power. In the final reckoning weakness has invariably tempted aggression and impotence brings abdication of policy in its train.

Sadly, neutrality is not normally an option to the defenseless. I would leave you with one final thought, expressed most succinctly by Benjamin Franklin: "One sword keeps another in its scabbard."

Bracknell, Berkshire
United Kingdom

Notes

1. Lecture given by the Right Honorable Francis Pym, MC, MP, then Secretary of State for Defence to Government of United Kingdom, at Royal United Services Institution on 16 December 1980.
2. V. M. Kulish, *Military Power and International Relations* (Moscow: International Relations Publishing House, 1972).
3. As quoted in V. I. Lenin, *Marxism, Leninism on War and Army* (Moscow: Progress Publishers, 1972), p. 9.
4. Colonel Ye. I. Rybkin, in *Scientific-Technical Progress and the Revolution in Military Affairs*, vol. 17, The Officers Library Series (Moscow: Military Publishing House of the Ministry of Defence of the U.S.S.R., 1973).
5. Colonel General N. A. Lomov, *Scientific-Technical Progress and the Revolution in Military Affairs*, vol. 17, The Officers Library series (Moscow, 1973), pp. 5-6.
6. *Statement on the Defence Estimates 1981*, CMND. 8212-1 (London: Her Majesty's Stationery Office), p. 13, paragraph 5.
7. *Statement on the Defence Estimates 1980*, vol. 1 (London: Her Majesty's Stationery Office), pp. 8-9.
8. Quoted in Lawrence Freedman, *Arms Control in Europe*, Chatham House papers No. 11 (London: RIIA, 1981), pp. 55-57.
9. *Statement on the Defence Estimates 1981*, p. 17.
10. Quoted in Gregory Treverton, *Nuclear Weapons in Europe*, IISS Adelphi Paper 168, p. 5.
11. Ibid., p. 3.
12. *Statement on the Defence Estimates 1981*, pp. 11-12.
13. *World Today*, July-August 1981, Chatham House (London), pp. 252-53.



THEATER NUCLEAR ARMS CONTROL AND FORWARD-BASED SYSTEMS

JOHN BORAWSKI

A PRINCIPAL component of the U.S. theater nuclear force posture in Europe concerns forward-based systems.[1] This term primarily denotes USAF F-111 and F-4 fighter-bombers and Navy carrier-based A-6 and A-7 aircraft capable, by virtue of their geographic deployment, of delivering nuclear strikes against forces and assets within the western military districts of the Soviet Union. These forward-based systems, coupled with MIRVed Poseidon SLBMs assigned to SACEUR for targeting purposes, allied nuclear-capable delivery vehicles, and the projected NATO force of Pershing II ballistic and Tomahawk ground-launched cruise missiles (and possibly sea-launched cruise missiles in the future), contribute to the central leg of NATO's flexible response triad. The triad consists of conventional, tactical/theater nuclear, and central strategic nuclear forces intended to deter and, if necessary, respond to Warsaw Pact aggression at any level it should occur.

During both the SALT I and SALT II negotiations (1969-79), the U.S.S.R. persistently attempted to effectuate limitations on FBS, which it considers but an extension of U.S. strategic forces along with ICBMs, SLBMs, and B-52 heavy bombers. With equal adamancy, the United States refused to countenance raising the FBS issue in the SALT context. However, now that negotiations specifically focused on U.S. and Soviet intermediate-range (1000-4000 mile range) nuclear forces are under way in Geneva as of 30 November 1981, the West can no longer avoid discussing FBS at the bargaining table, especially if NATO is to succeed in achieving negotiated restraints on the burgeoning Soviet SS-20 IRBM force and the Backfire bomber. What weapon systems will fall within the scope of the talks or the type of arms control restrictions that will be produced, however, are questions that remain far from resolved.

The purpose of this article is to review the role FBS has played in the SALT negotiations and to address the problems likely to be encountered during the INF negotiations.

An Awkard Linkage

Although both the SALT I Interim Agreement on Strategic Offensive Arms and the SALT II Treaty refer, for example, to ICBM launchers in terms of range in excess of the shortest distance between the northeastern border of the continental United States (CONUS) and the northwestern border of the U.S.S.R., or a distance over 5500 km, Moscow has never been entirely satisfied with this definition in a generic sense. Rather, the Soviets understand *strategic* to include any weapon that can impact upon their territory. Thus, just as the U.S.S.R. pressed for removal of foreign military bases and the creation of nuclear-weapon-free zones during the era of massive retaliation, so too during the early period of SALT did it demand offsets for FBS by way of either U.S. withdrawal of the aircraft from Europe or vicarious compensation through being allowed a higher ceiling on strategic nuclear delivery vehicles than that permitted the United States.

Washington, naturally, found this approach totally unacceptable and countered that its nuclear-capable aircraft were intended primarily for the defense of Europe and not for strategic missions inside Soviet territory, and that if Moscow wished to raise that issue, then FBS could not be discussed in isolation from the Soviets' own Eurostrategic forces. In response, Moscow claimed that its bombers and missiles targeted on NATO Europe were irrelevant because they could not reach the United States and, thus, were not strategic.

Although the debate was eventually resolved in favor of the U.S. position in the 20 May 1981 joint communiqué, as Thomas W. Wolfe notes: "the Soviet Union's claim that it deserved compensation for 'geographic and other considerations' [FBS] . . . appears to have been taken partly into account in the differential ceilings of the Interim Agreement favoring the Soviet side of ICBM and SLBM numbers."[2] More specifically, as Joseph J. Kruzel, a member of the SALT I delegation, wrote in 1973: the FBS issue, "more than any other reason, is why there is an interim agreement rather than a permanent treaty on offensive forces."[3]

At SALT II, the Soviets again raised the FBS issue with proposals for the dismantling of U.S. fleet ballistic missile submarine bases at Holy Loch, Scotland, and Rota, Spain (the latter unilaterally deactivated in 1979—forfeiture of a potential bargaining chip?) and for restricting carrier movement in European waters while refusing to consider limits on Soviet theater nuclear forces. Intervention at the highest level during the 1974 Vladivostok summit set aside FBS for the second time, but, as before, not without substantial American concessions: FBS would be excluded from SALT II but at the price of the United States abandoning its quest for a cutback in Soviet heavy SS-9/SS-18 ICBMs, which pose a growing threat to Minuteman, and constraints on the controversial Backfire medium bomber. Furthermore, FBS

also figured in the decision to set the SALT II strategic nuclear delivery vehicles ceiling at 2400 instead of the 1800-2000 ceiling proposed by Secretary of State Cyrus R. Vance in March 1977 as well as being used to defeat renewed attempts at that time to secure limits on the Soviet heavy ICBM arsenal.[4]

Thus, whereas the United States successfully barred FBS from both SALT agreements, certainly, in at least a tacit sense, a linkage was established between SALT and a few hundred United States Air Force and Navy fighter-bombers.[5] The caveat to this background connection, however, concerns a proposal explicitly offering an FBS package advanced by the West on 16 December 1975 at the NATO-Warsaw Pact negotiations on mutual and balanced force reductions in Vienna.

Known as Option III and occasioned by Dutch initiative and U.S. congressional concern over the rationale and security of the American nuclear munitions stockpiled overseas, the plan offered the withdrawal of 29,000 USAREUR troops and 36 Pershing I-A launchers, 54 Phantoms, and 1000 nuclear warheads (tied to obsolescent systems like Sergeant and Honest John SSMs, Nike Hercules SAM, and atomic demolition mines) in exchange for the withdrawal of a five-division tank army from the Group of Soviet Forces in Germany (68,000 troops and 1700 tanks). But instead of acknowledging a tradeoff between armored strength (a Warsaw Pact advantage) and tactical/theater nukes (a NATO advantage in terms of warheads, although the vast majority are tied to systems of under 100-mile range), the Warsaw Pact responded in 1976 with an offer to trade 54 Fitter aircraft of unspecified type (the Soviets deployed at that time both the advanced C/D Su-17/20 and older A Su-7 in Poland and the U.S.S.R.) for 54 Phantoms, an equal but unspecified number of Scud missiles for Pershing launchers, 36 SAM-2 for Nike Hercules, and the withdrawal of an unspecified number of nuclear warheads.

Although Option III was abandoned by NATO in December 1979 in favor of exclusive concentration on manpower reductions (both sides, however, subsequently undertook unilateral partial compliance with Option III's provisions), it is illuminating by way of adumbration for the INF negotiations to note the inequities of the 1976 Warsaw Pact counteroffer. For example, although the Soviets did not specify which generation Fitter they contemplated withdrawing, neither the A nor C/D type is equivalent in capability to the Phantom. The Fitter A is a 20-year-old system, as is the F-4, but of inferior range and payload capacity. The Fitter C/D, introduced over 1973-76, has improved avionics and capability for low-level penetration and delivery of air-to-ground ordnance[6] but falls short of the Phantom's combat radius and payload capacity (a more appropriate match being the MiG-23/27 Flogger).[7] Because the Fitter A was being phased out as part of the Soviet Frontal Aviation modernization program, however, it is plausible that it was this type which the Soviets had in mind for arms control, thus rendering the gesture essentially meaningless.

To be sure, as Army Colonel John G. Keliher, former representative on the U.S. MBFR delegation, argues, regardless of which generation plane would be withdrawn, the geographic disparity could not but work in the Soviet's favor: "Returning the 54 F-4's to Europe would require a long over-water flight involving mid-air refueling. For the Soviets, Fitters based in western Russia could be back into the area literally in a matter of minutes."[8] Of course, the same could be said of any U.S.-Soviet aircraft trade which involved withdrawal to the homeland, illustrating one of the formidable complications attendant on prospects for fashioning an INF regime encompassing FBS, to which we now turn.

Where to Begin

There can be no question that the Soviets will demand inclusion of FBS in an INF

agreement. Although Moscow reportedly conceded to the American position that the Geneva negotiations should be phased (i.e., agreement secured on land-based intermediate-range missiles prior to discussing aircraft and shorter-range systems),[9] as Soviet Foreign Minister Andrei A. Gromyko informed the United Nations General Assembly on 22 September 1981: ". . . the question of limiting medium-range nuclear weapons and those of corresponding *forward-based systems* of the United States should be examined and settled concurrently in an organic interrelation with due account of all factors determining the stragetic situation."[10] In other words, the durability of a first phase INF agreement on Soviet SS-20s, SS-4s, and SS-5s, and U.S. Pershing II and cruise missiles will be directly tied to whether a satisfactory follow-on FBS agreement will obtain. And, as noted in the preceding section, even if the Europe-centered Geneva negotiations had never evolved, no SALT III (or, to employ the new bureaucratic acronym, START—Strategic Arms Reductions Talks) agreement could cover Soviet heavy ICBMs and the Backfire in isolation from FBS.[11] Yet prior to the fashioning of serious proposals, agreement on *counting rules* is obviously fundamental—but what touchstone should be used?

According to former Secretary of Defense Harold Brown,[12] USAF has 1000 aircraft apart from the B-52s that are capable of delivering nuclear weapons whereas the Navy maintains about 120 A-6 Intruders and 280 A-7 Corsairs as part of its carrier wings. Within the 1000 figure approximately 324 F-4s and 156 F-111s are based in Western Europe, and two carriers are normally on duty in the Mediterranean with a total of 20 Intruders and 40 Corsairs aboard. In addition, USAF F-16s being deployed in Europe as of January 1982 will also contribute to the theater nuclear force posture. Although only about 30 to 50 percent of the Euro-based force is thought to be actually allocated to the nuclear role,[13] all could accomplish sorties against target areas in the Soviet Union in that role. Further, given appropriate warning, "additional USAF aircraft could fly to Europe and four more carriers could be brought forward. This would roughly double the number of nuclear capable aircraft forward based in a position to strike the Soviet Union."[14] Indeed, as part of the NATO 1978 Long-Term Defense Program, the United States is planning for the capability to triple the number of combat planes in the European theater within seven days and is moving forward with programs to provide shelter and support facilities for rapidly deploying tactical aircraft.[15] Yet as Brown also noted:

> There is a difference, however, in an aircraft having the technical capability to strike the Soviet Union and in having an operational mission to do so. Whether or not these aircraft actually would be utilized to strike the Soviet Union would depend on a number of factors: e.g., how they have trained and their primary mission tasking, mission flight profiles, the provision of external fuel tanks, whether a particular mission is one-way or includes a return, how far forward the aircraft are staged. . . . As importantly, these aircraft are not programed for strikes into the Soviet Union and their training emphasizes use in theater—e.g., Central Europe or Korea. And their use on missions against the U.S.S.R. would divert them from higher primarily shorter range missions.[16]

While the Soviets are not very likely to accept these disclaimers with equanimity, an enormous quantitative gap is nevertheless apparent between U.S. and Soviet dual-capable aircraft at various levels. For example, according to the International Institute for Strategic Studies,[17] if the criterion is set at a 1000 km unrefueled combat radius assuming high-level transit, low-level penetration of air defenses, and average payload, a five-to-one ratio in favor of the Soviet Union obtains with the U.S. total at 176 (156 F-111 E/F and 20 A-6E) and the Soviet total at 980 (65 Tu-22M/-26 Backfire B, 310 Tu-16 Badger, 125 Tu-22 Blinder, 480 Su-24 [Su-19] Fencer). Including 84 F-111D and 60 FB-111A CONUS-based aircraft that might be assumed available to reinforce Europe, the U.S.

total increases to 320. But if one sets the criterion at 400 km combat radius, then the Soviet total jumps to 3095 (adding 500 MiG-23 Flogger D, 700 Su-17 Fitter C/D, 165 Su-7 Fitter A, 750 MiG-21 Fishbed J-N) while the U.S. total, including the aforementioned CONUS-based aircraft, only increases to 684 (adding 40 A-7E and 324 F-4). Even when NATO European allied and French dual-capable aircraft are added, the ratio stands at 3095:1314 in favor of the Warsaw Pact. Given these numbers, coupled with the air defense advantage accruing to the Soviets (the NATO/Warsaw Pact ratio in field SAM launchers stands at 1768:6293 *excluding* the 10,000 SAM launchers of the Soviet strategic air defense force PVO-*strany*), even to suggest that parity can be achieved through negotiation would be absurd.

Combat radius, however, obviously does not afford ideal negotiating guidance, especially given the fact that shorter-range Soviet fighter-bombers could easily be deployed forward in East Germany or Poland and strike a wide target array on NATO soil and return to friendly territory while, for example, "the F-4 would have to be staged close to the FEBA, carry external fuel tanks and fly at an altitude which maximizes its range (in turn making it very vulnerable to intercept) to penetrate into the Soviet Union."[18] Yet if one looks to other criteria, the imbalance in favor of the U.S.S.R. does not diminish. Comparing all Euro-based U.S., allied, and French dual-capable aircraft with comparable Soviet aircraft yields a warhead ratio of 263:122 favoring the U.S.S.R. in terms of arriving warheads (i.e., a measure obtained by factoring the number of available warheads [896:526 favoring the U.S.S.R.] and survivability, reliability, and penetration probabilities). And as Army Lieutenant General Edward L. Rowny informed the Senate Foreign Relations Committee on 12 July 1979, a comparison of U.S. FBS with equivalent Soviet systems yields a Soviet potential destructive power ten times that of the United States and megatonnage 20-25 times as great.[19]

In addition, a complex verification issue manifests itself. How can it be discerned whether a given aircraft is actually allocated to the nuclear role or capable of loading nuclear ordnance within a short time frame? How are the munitions aboard aircraft with internal bomb bays to be verified? What of cruise missiles on external store points with either conventional or nuclear warheads? Certainly the SALT II technique of functionally related observable differences would be of only tangential avail in these cases, and declaratory measures are hardly the foundation for an enduring and stable agreement (or one that would withstand Senate scrutiny). Yet although the Reagan administration has apprised the Soviets that future arms control accords will require on-site inspection and other verification measures beyond "national technical means,"[20] Soviet President Brezhnev has stated, "We are convinced that each side's *own* means guarantee the necessary verification."[21]

Lastly, it should also be observed that given the vast Soviet Frontal Aviation modernization program over the past decade, it is unlikely that Moscow will be willing to grant concessions that would even begin to restore the situation to some semblance of parity or appreciably mitigate the offensive orientation of its frontal aviation. The air threat to NATO Europe has drastically changed from one oriented primarily to air defense toward a posture indicating increasing all-weather, close air support, deep interdiction capabilities, enhanced payload capacity and payload versatility, and improved ECM and range. Indeed, roughly 80 percent of frontal aviation now consists of aircraft introduced over the past ten years. As Secretary Brown warned:

> Because of their ranges and payloads, they give the Soviets—*for the first time*— the capability to attempt deep air superiority and interdiction missions. We would expect them to try, at the outset of an attack, to hit targets such as command centers, nuclear storage sites, airfields supporting nuclear delivery aircraft, stockpiles of ammunition and equipment, and the maritime

> and aerial ports through which reinforcements to Europe might come . . . We continue to expect the Soviets to introduce new design tactical combat aircraft by the mid-1980s.[22]

Although Brown noted that Soviet avionics, munitions, pilot training, and flying time do not approach U.S. requirements, this translates into an arms control qualifier about as smoothly as it engenders occasion for smugness. For as the International Institute for Strategic Studies observes, "the Warsaw Pact's aircraft appear to be better able to survive and penetrate to their targets than NATO's" given the facts "that Soviet aircraft are generally newer than NATO's and that Pact air defences are somewhat denser."[23]

On the other hand, "Combat performance of late model US aircraft, F-14, F-15, and F-16 is markedly superior to the Soviet Flogger, Fitter, and Fencer. . . ."[24] The General Dynamics F-16 is slated to serve in a theater nuclear role. Consideration should also be given to assigning a nuclear ground attack mission to the McDonnell Douglas night, all-weather F-15 Strike Eagle. As Lieutenant Colonel Hiram Hale Burr, Jr. (USAF), rightly suggests: ". . . the F-15 is a tremendous air superiority fighter and at present is assigned only this single mission. . . . Why not buy the bomb racks and air-to-surface munitions and train the pilots for the multimission capability the F-15s inherently possess?"[25] Presumably the McDonnell Douglas multimission F/A-18 Hornet will inherit the nuclear strike mission of the Navy A-7E it has been developed to replace.

It should also be noted that the projected force of 572 Pershing II and ground-launched cruise missiles, with late 1983 initial operational capability, may allow some dual-capable aircraft to be released from early commitment to the nuclear reserve for conventional missions. The GLCMs in particular could assume the fixed targets assigned presently to aircraft so that more aircraft could be used against high priority, time sensitive mobile targets and thus enhance the operational flexibility of the FBS posture.[26] It must be stressed, however, that deployment of these missiles will *not* redress the overall INF imbalance favoring the U.S.S.R. in the absence of additional NATO defense and arms control initiatives.

Prospects

Upon reflection, the following exchange at a congressional hearing succinctly sums up the forward-based system problem:

> Senator Humphrey: As a matter of fact, it would have been to our advantage if both sides had included so-called forward-base systems in SALT II because the Soviets are vastly superior in those systems?
>
> General Haig: Had it been manageable. I think we would have recoiled from the unmanageability of it to some degree.[27]

Because the INF negotiations have begun, the United States can no longer "recoil," yet given the numerical imbalance between U.S. and Soviet dual-capable aircraft, the geographic asymmetry, and verification impediments, a "manageable" solution is not readily conceivable. However, a comprehensive result is probably not desired at least in the initial phases. Therefore, a follow-on accord to a settlement of the politically sensitive issue of intermediate-range land-based missiles might deal only with bombers rather than attempt to cover shorter-range tactical aircraft. For example, according to the data that the U.S. negotiators apparently are using in Geneva,[28] an agreement which covered U.S. F-111s in Britain and West Germany, CONUS-based FB-111s and F-111s, British Vulcan and French Mirage IV bombers, and Soviet Backfires, Badgers, and Blinders would yield almost identical ceilings of approximately 400 aircraft for each side. Although London and Paris are not participating in the negotiations, the Soviets count British and French nuclear forces and allied nuclear-capable delivery vehicles (West German Pershing I short-range ballistic missiles) to support their claim that an overall INF balance exists and are likely to

insist that they be applied toward the American total. Although objections might be raised to including CONUS-based aircraft, in principle inclusion of these aircraft is akin to what the United States is asking of the Soviets in connection with a Phase I intermediate-range nuclear forces agreement, that is, coverage of Soviet SS-20 missiles based in the Far East targeted on the People's Republic of China.[29] Moreover, since the FB-111 and F-111 were excluded from SALT, it is only logical that they are appropriate candidates for the INF negotiations. This rough balance, however, is dramatically upset when the Su-24 Fencer, which has a combat radius only 300 km less than that of the F-111E/F and equal to the Mirage IV A, is added. If the Fencer is excluded, then some form of compensation should be granted to the United States in another area of the agreement such as land- or sea-based forces.

But farther down the combat-radius scale, ceilings do become increasingly unmanageable and the role of potential aircraft candidates for arms control more ambiguous. It would not prove impossible to imagine the sundry sources of casuistry and deadlock that could arise between (and within) the two delegations. Indeed, it is informative to note in this context that although the Soviets consider U.S. F-111s, FB-111s, F-4s, A-6s, and A-7s all eligible for the Geneva negotiations, their own estimates of their forces include only the bombers mentioned above while excluding the almost 3000 Su-17s, Su-24s, and MiG-27s,[30] which obviously is not only a position the United States cannot tolerate but one that casts doubt on whether either side seriously expects the Geneva negotiations to produce agreement across the entire theater nuclear force spectrum.

However, an agreement that exempted tactical aircraft, especially Soviet Frontal Aviation units, would at once prove artificial and inconsonant with other positions the United States has advanced in Geneva. For example, American officials have stated that subsequent agreements must include "collateral restraints" prohibiting increases in the number (and presumably range) of shorter-range Soviet missiles (SS-12, SS-22, SS-N-5) which could, if deployed in and around Eastern Europe, cover a large percentage of targets now covered by the intermediate-range SS-20, SS-4, and SS-5. Otherwise, as Assistant Secretary of Defense Richard Perle stated, an agreement on the latter systems would be "Hopelessly vulnerable to circumvention."[31] Likewise, the Soviets could argue that American plans to deploy several hundred sea-launched cruise missiles on attack submarines[32] and possibly surface units for the U.S. central strategic reserve would circumvent an agreement on ground-launched cruise missiles since those missile platforms will be operating near Soviet territorial waters (and this argument can be used against the Soviets as well in relation to U.S.S.R. cruise-missile submarines and cruisers). By applying this same rationale to aircraft, it could also be said that excluding Soviet shorter-range aircraft would invite circumvention of an accord limiting Backfire and older medium-range bombers since tactical MiGs and Sukhois could be forward-based on short notice near NATO borders and cover targets assigned to bombers based in the U.S.S.R.

One possible solution worth examining would involve not negotiated ceilings, even though no arms control accord can be exactly symmetrical but restricted-deployment zones wherein the basing of certain tactical aircraft would either be forbidden or constrained at a certain level on a permanent or rotational basis. Movement of prohibited aircraft into the zone would justify immediate suppression and automatically give warning of impending aggression. Restrictions on ordnance, nuclear munitions storage sites, forward maintenance facilities, and fuel stocks, among other things, would complicate an aggressor's task, while on-site inspection at airfields could assist in verifying compliance.[33] Although RDZs would not affect the size or ultimate capability of air forces in the same sense reductions, mothballing, and dismantling would, and possibly

hamper conventional readiness unless high-confidence verification could be agreed on to distinguish nuclear-assigned from conventionally assigned aircraft—and probably neither side would prove unequivocally eager to allow intrusive inspection—such zones avoid the arcane technical dilemmas associated with quantitative/qualitative tradeoffs.

IN THE final analysis, however, the United States cannot expect the Kremlin to adopt a philanthropic attitude, and neither side at the INF rounds will have available to it the dilatory tactics that affected the SALT I/II negotiations. Thus, serious thought must be devoted to examining modifications necessary to revitalize the FBS posture so that potential inducements for Soviet concessions are not unilaterally forfeited and so that inflated expectations of the role arms control can play in restraining widely disparate force compositions do not defeat vigorous defense efforts to preserve and enhance the viability of the NATO theater nuclear force posture. Especially in an era that has witnessed an evolution from capabilities limited to mutual assured destruction to increased emphasis on counterforce, it is not at all evident how the deterrence continuum can remain vital and credible given a significant quantitative inferiority in the crucial theater component as well as a narrowing technological gap. As the Geneva negotiations proceed, a spirit of constructive negotiation will be as important as adherence to the realistic principle that "our arms control efforts will be an instrument of, not a replacement for, a coherent allied security policy."[34]

Saint Louis, Missouri

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J. B.

Notes

1. Lieutenant General Edward L. Rowny, former Joint Chiefs of Staff SALT representative and current Chief U.S. Negotiator for Arms Control and Disarmament, testified that FBS is actually a Soviet-inspired designation. "In fact, we used to use another term which never got much currency: 'AROS' [allied regional operational systems]. Somehow FBS caught on because people listened to the Soviet argument more than to ours." U.S., Congress, Senate, *The SALT II Treaty*, Hearings before the Committee on Foreign Relations, 9-12 July 1979, Part I (Washington: GPO, 1979), p. 551.

2. Thomas W. Wolfe, *The SALT Experience*, a RAND Corporation Research Study (Cambridge, Massachusetts: Ballinger, 1979), p. 102.

3. Joseph Kruzel, "SALT II: The Search for a Follow-on Agreement," *Orbis*, Summer 1973, p. 344.

4. Strobe Talbott, *Endgame: The Inside Story of SALT II* (New York: Harper Colophon, 1980), p. 72.

5. ". . . to suggest that the Soviet Union made a concession to exclude forward-based systems is ludicrous because we have excluded all those vastly superior [Soviet] systems." Statement by General Alexander M. Haig, Jr., U.S., Congress, Senate, *Military Implications of the Treaty on the Limitation of Strategic Offensive Arms and Protocol Thereto* (SALT II Treaty), Hearings before the Committee on Armed Services, 23-26 July 1979, Part 1 (Washington: GPO, 1979), p. 383.

6. Statement of Rear Admiral Albert L. Kelln, *Department of Defense Authorization for Appropriations for Fiscal Year 1981*, U.S., Congress, Senate, Hearings before the Committee on Armed Services, 4-6, 11, 13, 14, 18 March; 22 April; 5 June, 1980, Part 4 (Washington: GPO, 1980), p. 1935.

7. Ibid., p. 1947.

8. John G. Keliher, *The Negotiations on Mutual and Balanced Force Reductions: The Search for Arms Control in Central Europe* (New York: Pergamon, 1980), p. 102.

9. "Schmidt Again Defends Plan to Deploy New Missiles in '83," *New York Times*, December 4, 1981, p. 6.

10. "Excerpts from Speech by Gromyko to the U.N.," *New York Times*, September 23, 1981, p. 6. Emphasis added. On 10 February 1982, the Soviet news agency TASS published an outline of the Soviet position at Geneva. The TASS article stated that the U.S.S.R. had proposed a two-thirds reduction of INF by 1990, covering not only U.S. FBS but British and French missiles and aircraft. John F. Burns, "Soviet Publishes an Outline for Missile Cuts in Europe," *New York Times*, February 10, 1982, p. 6. This position has been rejected by the Reagan administration, which instead has advanced the "zero option" plan offering cancellation of Pershing II GLCM deployment if the Soviets dismantle all SS-4, SS-5, and SS-20 missiles.

11. Office of the Secretary of Defense, *mimeo*, undated (ca. 1980), p. 5. My thanks to Walter Slocombe for providing these materials.

12. Statement of Harold Brown, U.S., Congress, Senate, *Military Implications of the Treaty on the Limitation of Strategic Offensive Arms and Protocol Thereto* (SALT II Treaty), Hearings before the Committee on Armed Services, 23-26 July 1979, Part 1 (Washington: GPO, 1979), p. 96.

13. *The Military Balance 1981-1982* (London: IISS, 1981), pp. 128-29.

14. Brown, p. 96.

15. Harold Brown, *DOD Annual Report Fiscal Year 1981* (Washington: GPO, 1980), p. 110.

16. Brown, U.S., Congress, Senate, *Military Implications of the Treaty on the Limitation of Strategic Offensive Arms and Protocol*

Thereto (SALT II Treaty), Hearings before the Committee on Armed Services, 23-26 July 1979, Part 1 (Washington: GPO, 1979).

17. Data derived from *The Military Balance 1981-1982*. Differing estimates exist, however, not only between United States and Soviet negotiators but in Western estimates as well. See Drew Middleton, "Scope of Negotiations Likely to Be a Major Early Issue," *New York Times*, November 30, 1981, pp. 1, 8; Flora Lewis, "A Start on the Nukes," *New York Times*, December 28, 1981, p. 19. Unless otherwise noted, all figures are taken from *The Military Balance*.

18. Brown, U.S., Congress, Senate, *Military Implications of the Treaty on the Limitation of Strategic Offensive Arms and Protocol Thereto* (SALT II Treaty), Hearings before the Committee on Armed Services, 23-26 July 1979, Part 1 (Washington: GPO, 1979).

19. Rowny, p. 560.

20. Leslie H. Gelb, "U.S. Tells Soviet Any Arms Pacts Must Include On-Site Verification," *New York Times*, September 2, 1981, p. 1.

21. "Excerpts from Brezhnev's Answers to a German Magazine," *New York Times*, November 4, 1981, p. 6. Emphasis added.

22. Brown, U.S., Congress, Senate, *Military Implications of the Treaty on the Limitations of Strategic Offensive Arms and Protocol Thereto* (SALT II Treaty), Hearings before the Committee on Armed Services, 23-26 July 1979, Part 1 (Washington: GPO, 1979), p. 103. Emphasis added.

23. *The Military Balance 1981-1982*, p. 127.

24. Kelln, p. 7, note 6.

25. "The Modernization of Soviet Frontal Aviation: What Does It Mean?" *Air University Review*, January-February 1981, p. 33.

26. See for example Organization of the Joint Chiefs of Staff, *United States Military Posture for FY 1982, A Supplement to the Chairman's Overview* (Washington: GPO, 1981), p. 77. Of course, in view of the Soviet air threat, it cannot be taken for granted that diminishing the level of Quick Reaction Alert aircraft to free them for conventional missions will permit NATO the luxury of later "conserving" returning aircraft for a possible nuclear role. The effectiveness of second-strike-capable cruise missiles, further, naturally will depend on their being deployed in sufficiently large numbers and in a survivable basing-mode to saturate defenses. Only 108 Pershing II missiles, with a first-strike capability, are planned. See Lieutenant Colonel Richard L. Hodgkinson, "USAF and Theater Nuclear Warfare: A Proposal," *Air University Review*, September-October 1981, pp. 89-93, and the response by Lieutenant Colonels Donald J. Alberts and Thomas A. Cardwell, pp. 93-97.

27. Haig, p. 420.

28. Middleton, pp. 1, 8.

29. In this regard consider the formulation of the 10 February 1982 Soviet proposal (cited in note 10): the agreement would cover all systems with a combat radius of 620 miles and over "deployed in the territory of Europe and in the adjacent waters or intended for use in Europe." Under this wording, the Soviets could argue the SS-20s targeted on the Far East are not *intended* for use in Europe but claim that CONUS-based U.S. aircraft are intended for such use.

30. Middleton, pp. 1, 8.

31. "Reaching for the Limits," *Time*, December 14, 1981, p. 45.

32. As announced on 2 October 1981 by President Reagan. Richard Halloran, "Reagan Drops Mobile MX Plan, Urges Basing Missiles in Silos; Proposes Building B-1 Bomber," *New York Times*, October 3, 1981, pp. 1, 9.

33. See especially Jonathan Alford, "Confidence-Building Measures," in Jonathan Alford, editor, *The Future of Arms Control: Part III, Confidence-Building Measures*, Adelphi Paper no. 149 (London: IISS, 1979), pp. 10-11.

34. "Arms Control for the 1980's: An American Policy," Address by Secretary Haig before the Foreign Policy Association in New York on 14 July 1981, *Current Policy* no. 292 (Washington: U.S. Department of State, Bureau of Public Affairs, 1981), p. 2.

Glossary

CONUS	continental United States
ECM	electronic countermeasures
FBS	forward-based system
FEBA	forward edge of the battle area
FROD	functionally related observable difference
GLCM	ground-launched cruise missile
GPO	Government Printing Office
ICBM	intercontinental ballistic missile
IISS	International Institute for Strategic Studies
INF	intermediate-range nuclear forces
IRBM	intermediate-range ballistic missile
MBFR	mutual and balanced force reductions
MIRV	multiple independently targetable reentry vehicle
NATO	North Atlantic Treaty Organization
RDZ	restricted-deployment zone
SACEUR	Supreme Allied Commander, Europe
SALT	Strategic Arms Limitation Talks
SAM	surface-to-air missile
SLBM	sea-launched ballistic missile
SNDV	strategic nuclear delivery vehicle
SSM	surface-to-surface missile
START	Strategic Arms Reductions Talks
USAREUR	United States Army, Europe

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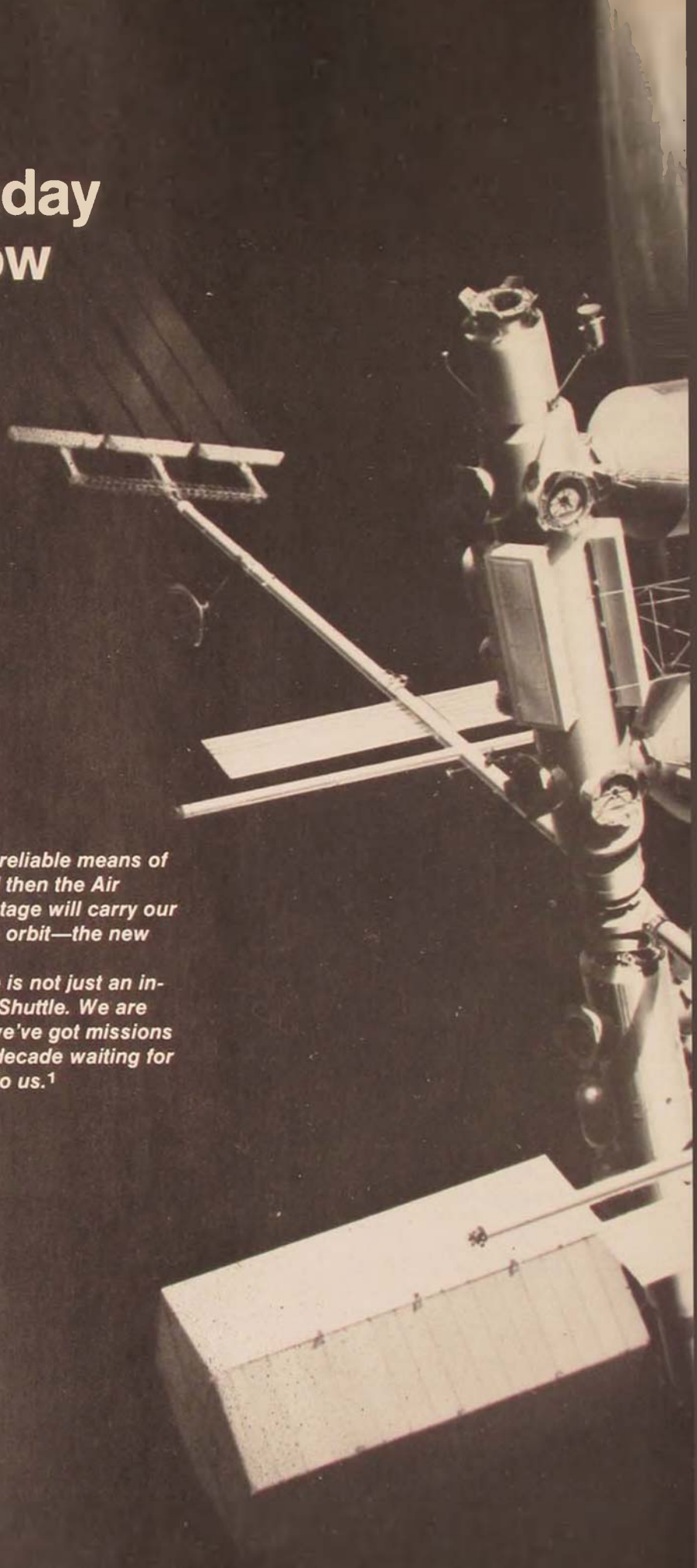

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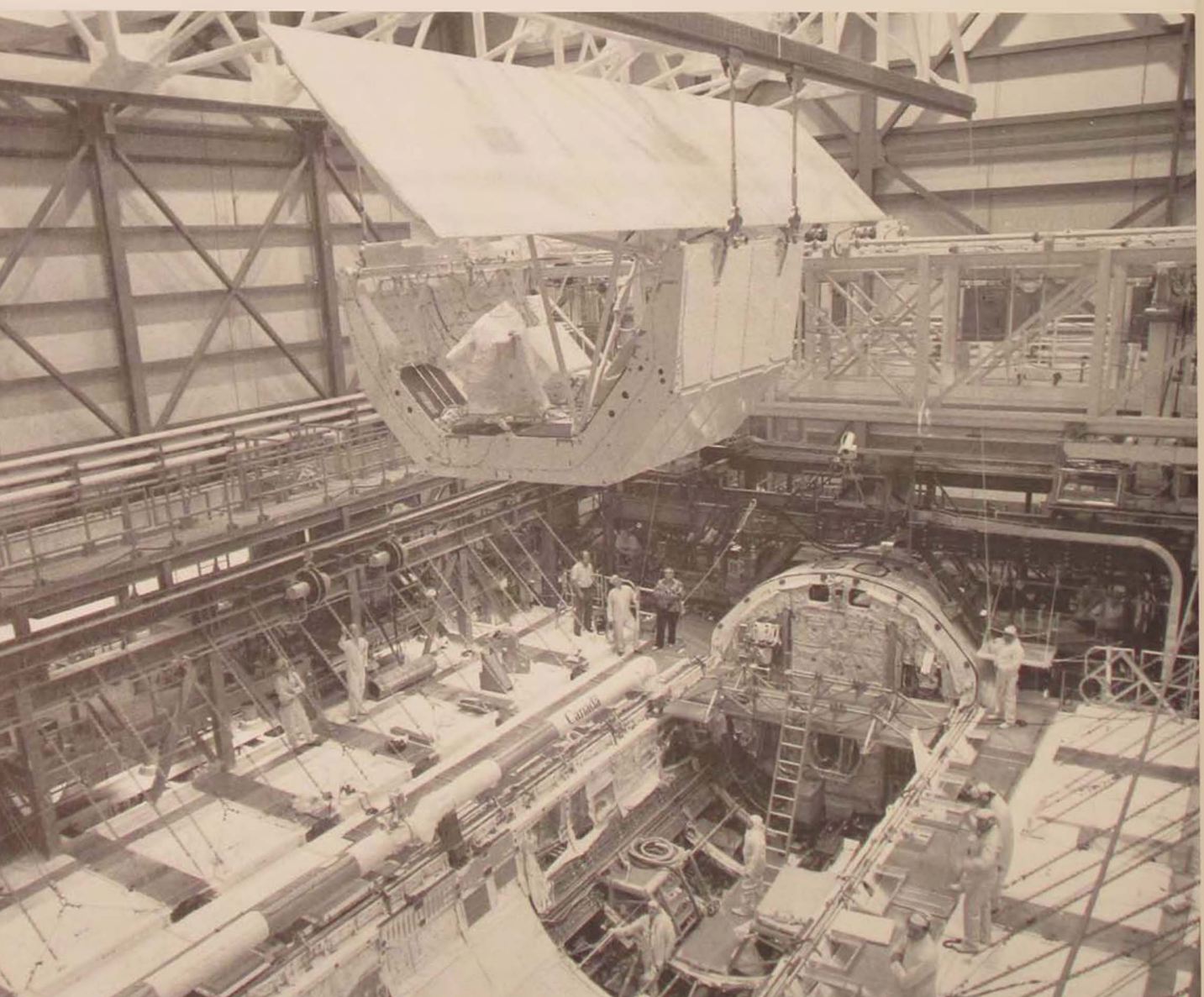
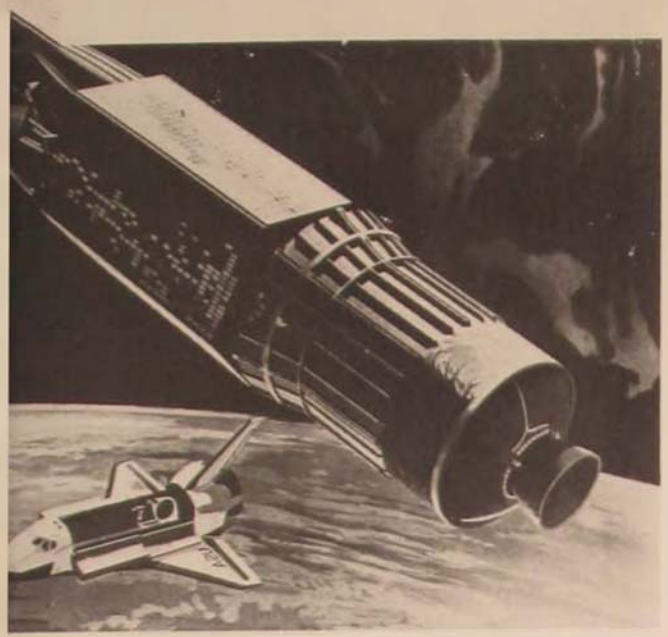




A major Air Force contribution to the shuttle program is the inertial upper stage (IUS), which will accommodate both military and civilian payloads.

IN ONE of his last public statements before assuming command of the Air Force Systems Command, General (then Lieutenant General) Robert T. Marsh told members of the American Astronautical Society why the Space Shuttle is so attractive and important to Air Force and defense planners. Compared to expendable boosters, the Shuttle offers greater reliability and increased payload, weight, and volume capacity. The Shuttle will also provide new capabilities to recover and service spacecraft, conduct on-orbit testing, and assemble large structures in space.

To date, the Space Shuttle has been ostensibly a civilian program. Most of the public sees the Shuttle as a product of the National Aeronautics and Space Administration; NASA programs, processes, launches, and controls all missions. The Department of Defense, however, through the Air Force as executive agent, has a vested and continuing interest in the development and performance of the Space Shuttle—more correctly, the Space Transportation System.

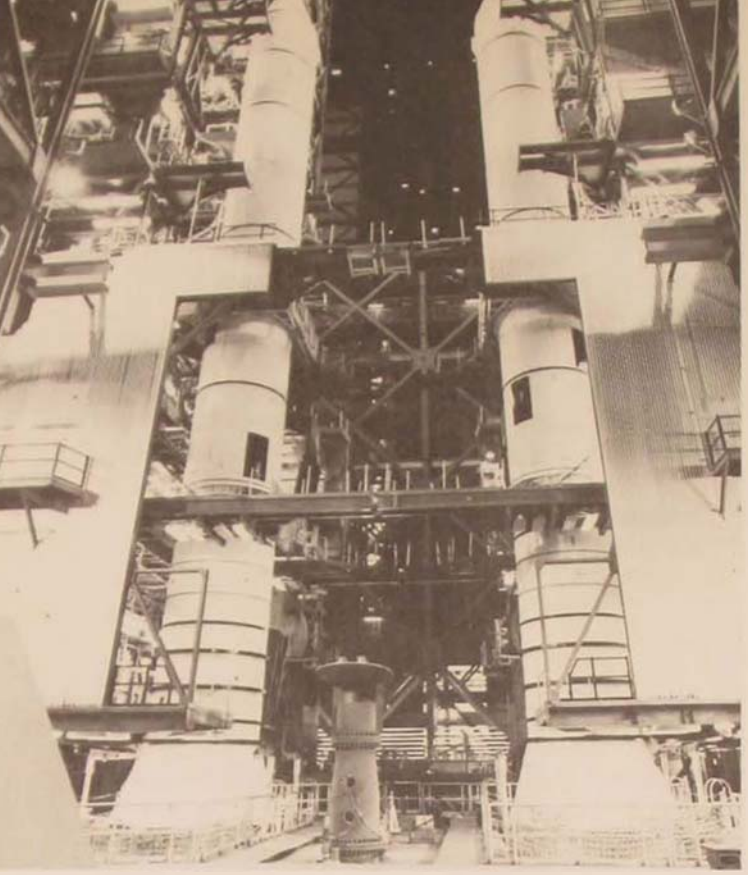
The Space Transportation System (STS) consists of four elements. The first and most familiar element is the Space Shuttle, including the orbiter vehicle, external fuel tank, and solid rocket booster. The second element consists of the complementary upper stages, including the inertial upper stage. Third are the STS ground and airborne support systems. Finally, STS includes application elements, such as the European-developed spacelab.

The United States Air Force participates in and supports every aspect of the STS. Current support includes direct launch and contingency support. Air Force and NASA counterparts also work and train together for both present and future operations. Concurrently, the Air Force is engaged in development and construction activities aimed at expanding STS capabilities in the near future. Finally, the Air Force is continuing to examine applications of the Space Shuttle to future defense missions and needs. This article briefly reviews each of these four areas.[2]

WHEN the Space Shuttle lifts off from Launch Pad 39A at NASA's Kennedy Space Center, Air Force personnel play key roles in preparing and launching the vehicle. The responsibility for Air Force support to the Space Shuttle program is assigned by the Department of Defense to the Commander, Air Force Space Division, Los Angeles AFS, California. Air Force agencies in turn work with NASA in the design, development, test, and operation of the Space Transportation System. One group works with counterparts in NASA ground processing for the Space Shuttle, including vehicle refurbishment and launch and solid rocket booster retrieval and refurbishment. A test and evaluation (T&E) team gathers data for Department of Defense assessment of the Space Transportation System capabilities while acquiring experience with STS hardware and computer systems and procedures.

Beginning in August 1978, the Vandenberg Operations Team, the nucleus of Air Force space operations at Vandenberg AFB, California, participated in verification exercises for the *Enterprise* (officially known as Orbiter Vehicle or OV-101) and launch preparations of *Columbia* (OV-102). Team members occupy positions in the Orbiter Processing Facility, the Vehicle Assembly Building, the Launch Control Center, and on Launch Pad 39A.

The Eastern Space and Missile Center (ESMC) provides a wide range of support directly to Space Shuttle missions. The Center's Safety Office, for example, monitors each flight from launch to orbital insertion to assure the mission follows its planned profile. Deviations from the plan could lead to activation of the flight termination system to reduce the hazard inherent in an errant launch vehicle. ESMC's Eastern Test Range (ETR) sensors—including radar, telemetry, optical, and direct visual



Essential components of the Space Shuttle, before being mated with the Orbiter, are the reusable, solid fuel, strap-on booster rockets (left) and the expendable external fuel tank (right), shown here in its original form, coated with white thermal reflective paint.

observation—provide flight monitoring data to both Air Force and NASA decision-makers. As the lead range for STS missions, the ETR also coordinates, processes, and transfers data from several national ranges to ensure that the most complete and current information is available to mission controllers.

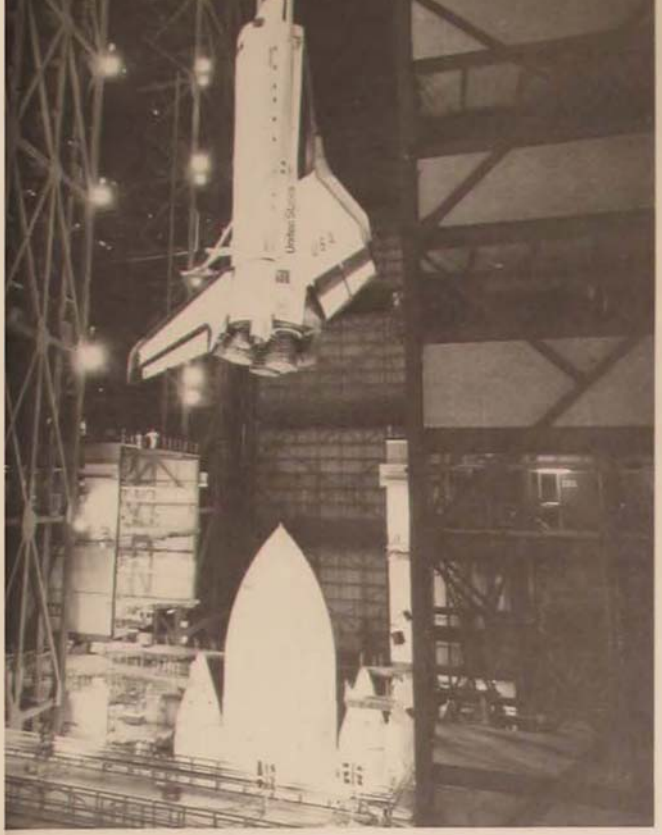
Air Force units also provide direct support, if needed, during any contingency in an STS mission. Air Force and DOD contingency support is coordinated by a twelve-officer organization at Patrick Air Force Base, which oversees personnel planning and coordination and directs rescue, communications, and other resources to meet contingency requirements during launch and recovery phases of STS flights. Their predecessors coordinated DOD rescue and recovery forces during earlier United States manned space flights.

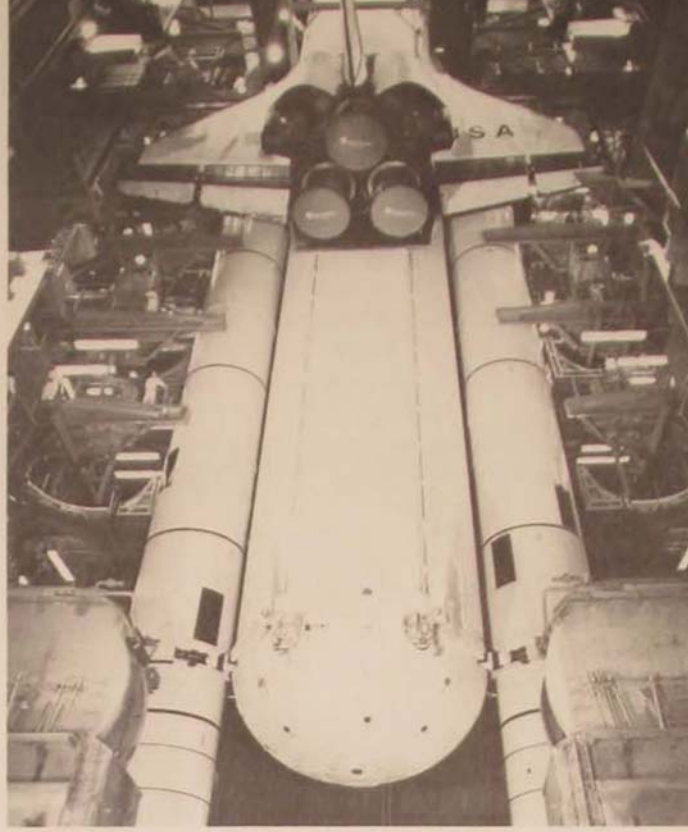
While some Air Force members directly support current STS missions, others are preparing for future responsibilities in training programs. The Vandenberg Team, for instance, combines direct experience with training for future roles. Team members receive on-the-job training in STS launch processing and procedures for future application to DOD missions at Kennedy Space Center and at Vandenberg.

Similarly, the Air Force Manned Space Flight Support Group at Johnson Space Center, Houston, Texas, is training Air Force people for command and control of Space Shuttle flights. The training program will produce specialists in mission handling for flights carrying either civilian or DOD payloads. Ultimately, the Houston group's experience will permit assignment of trained and qualified STS flight controllers to the planned Consolidated Space Operations Center near Colorado Springs, Colorado.

Direct support to STS missions and training for future flights, however, are merely a fraction of Air Force involvement in the Space Shuttle. Less apparent, primarily because so much is still under development, are the considerable financial and time commitments to complementary components of the STS. These Air Force efforts center on the inertial upper stage and the Vandenberg Air Force Base launch complex.

In the inertial upper stage (IUS), the Air Force is working to develop the capability for STS missions





In the final prelaunch mating process, the Columbia is lowered onto her strap-on boosters and external fuel tank prior to the second launch: hoisted in the launching gantry (left) and sliding into place (right), alongside the rocket boosters and fuel tank.

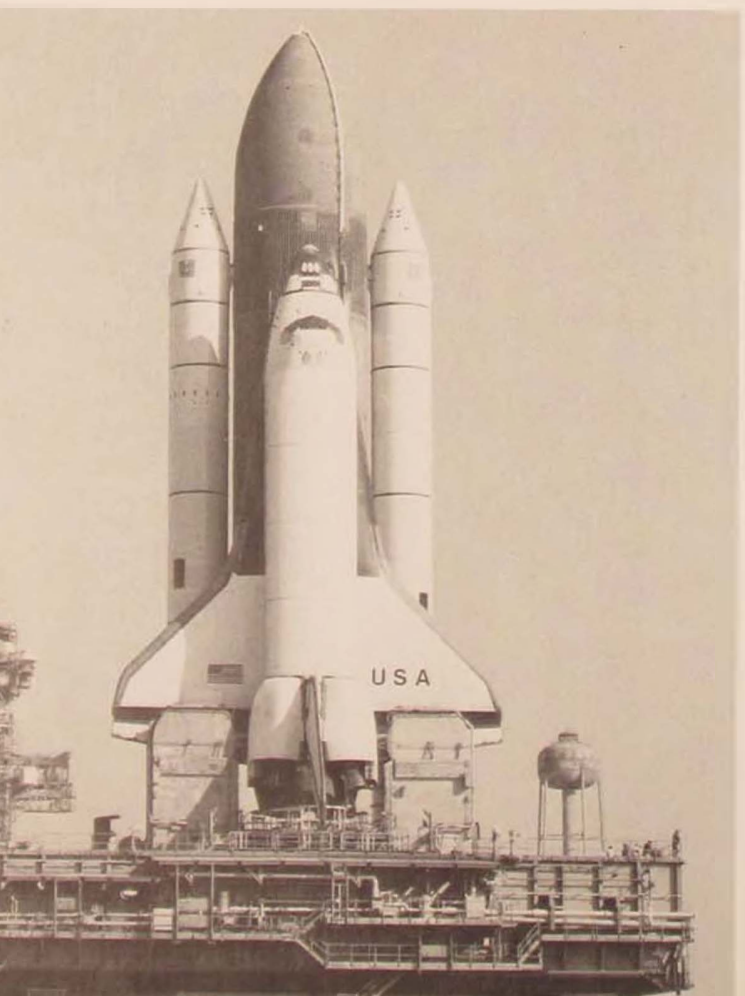
to carry spacecraft destined for high earth orbits. The IUS is designed as a two-stage, solid fuel booster, which can be mated to a spacecraft and loaded in the Shuttle cargo bay. Once in low-earth orbit (about 150 miles), flight crews will release the IUS-spacecraft package from the bay and maneuver the Shuttle a safe distance away. The IUS will be ignited to carry the spacecraft to the desired orbit, potentially a geosynchronous equatorial orbit or an interplanetary trajectory.

Even though still in development, the IUS promises to help the transition from expendable launch vehicles (ELV) to the STS. In particular, the IUS is intended to form the final stage of the Titan 34D, latest in the Titan family of ELVs. The IUS replaces the transstage in the Titan IIIC. During the STS orbital flight test and initial operating phases, ELVs like the Titan 34D and the Atlas family of boosters will continue to help meet defense requirements in space.

While the IUS remains under development, work is proceeding at Vandenberg AFB to transform part of that base into the nation's West Coast STS launch facility. On North Vandenberg, the 8000-foot runway is being extended to 15,000 feet for Space Shuttle landings. Shuttle processing will take place in the orbiter maintenance and checkout facility with orbital maneuvering system (OMS) pod servicing in a nearby hypergolic maintenance and checkout facility.

In the southwest corner of the Vandenberg complex, 16 miles from the landing site, work is under way to modify existing facilities at Space Launch Complex 6 (SLC-6) to handle the STS. Modifications include reinforcing the mobile service tower (MST), a remainder from the Air Force's manned orbiting laboratory program, and replacing and upgrading the tower's heavy duty crane. Workers will also construct a payload changeout room, which, together with the MST, will move on the pad to assist in stacking the STS components. (At Kennedy Space Center, this stacking takes place on a mobile launch platform inside the vehicle assembly building; the entire assembly is then transported to the launch pad.) Near the pad, other new facilities will handle solid rocket booster segments, as they arrive at Vandenberg AFB by train, and external tanks transported by sea.

In all, STS projects at Vandenberg AFB will in-



Validation of a concept: The Columbia *in repose after her first flight, April 1981 (above), and moving onto Pad 39A at Kennedy Space Center for her third flight in March 1982 (left); note the unpainted auxiliary fuel tank.*

clude nearly 250,000 cubic yards of concrete (enough for 25 miles of four-lane highway) and enough steel to build a 120-story office building. When completed, the Vandenberg AFB facility will complement the Florida launch site, providing a capability for STS launches of military or civilian payloads into polar or retrograde orbits.

Beyond today's direct support and development efforts aimed at expanding STS capabilities in the near future, Air Force officials are already looking toward application of the STS to defense roles. The most recent statement of Air Force doctrine identified space operations as one of the USAF's nine basic operational missions.[3] It remains to be seen how this will ultimately translate into programs. Space Division Commander Lieutenant General Richard C. Henry has noted, "Every spacecraft now being developed by the Space Division is destined to ride into oribit on the Shuttle."[4] These include the

Defense Satellite Communications System (DSCS) and the NAVSTAR Global Positioning System (GPS) satellites.

A 1978 Air Force-sponsored panel, looking at the effect of the Space Shuttle and military man in space on space operations, foresaw Shuttle employment "to assemble large structures in space, to test military space subsystems, to repair valuable spacecraft, to act as a command post during contingencies, and a variety of other evolving man-enhancing missions."[5] The key factor in current planning for STS utilization in space is the extension of existing roles (e.g., communication, navigation) enhancing the capabilities of forces on or near the earth's surface.

FUTURE applications appear to many as "blue sky" or "pipe dreams." Yet, who among those who saw the early Wright brothers' flights would have imagined today's high performance aircraft and huge jet transports? Experience with heavier than air craft suggests, however, that as the STS becomes operational—thanks to Air Force and NASA support and cooperation in development and operations—access to and use of space will become simply a matter of course. As President Carter noted in ceremonies at Kennedy Space Center in October 1978, "Paradoxically, the most exciting thing about the space shuttle is that it will make our use of space in the future routine and perhaps not very exciting. . . ."[6]

Eastern Space and Missile Center
Patrick AFB, Florida

Notes

1. "Making Space Accessible and Practical," presented by Lieutenant General Robert T. Marsh, Commander, Electronic Systems Division, to the October 1980 annual meeting of the American Astronautical Society, Boston, 22 October 1980. Reprinted in the *Supplement to the Air Force Policy Letter for Commanders*, January 1981, pp. 12-13.

2. The general discussion of Air Force support to the Space Transportation System is based on a variety of sources, including the Department of Defense Press Kits for STS-1 and STS-2 and the following: "Space and the Air Force Mission," U.S. Air Force Fact Sheet 80-26; "Department of Defense Role in the Space Transportation System," Headquarters, Space Division Fact Sheet; "Space Shuttle System Operation at Vandenberg Air Force Base," Air Force Space Division Fact Sheet 81-84; and "Vandenberg Space Shuttle Launch Complex," Western Space and Missile Center Fact Sheet.

3. Air Force Manual 1-1, *Functions and Basic Doctrine of the United States Air Force*, 14 February 1979, pp. 2-6 and 2-8.

4. "View from the Top," interview with Lieutenant General Richard C. Henry, Commander, USAF Space Division, in *Military Electronics/Countermeasures*, July 1981, p. 21.

5. "The Air Force in Space," speech by Major General William R. Yost, Director of Space Systems and Command, Control, and Communications, DCS/Research, Development and Acquisition, to the combined meeting of the Dunedin and Tampa (Florida) Air Force Association Chapters, February 1980. Reprinted in the *Supplement to the Air Force Policy Letter for Commanders*, June 1980, p. 20.

6. "Space Policy and Its Implications on Shuttle," a paper by Brigadier General Robert A. Rosenberg and Lieutenant Colonel Wayne L. O'Hern, Jr., presented to the 1979 meeting of the American Aeronautical Society. Reprinted in the *Supplement to the Air Force Policy Letter for Commanders*, January 1980, p. 18.

IRA C. EAKER ESSAY
THIRD-PRIZE WINNER

WHERE HAVE ALL THE MITCHELLS GONE?

LIEUTENANT COLONEL TIMOTHY E. KLINE

Lord God of Hosts, my life is a stewardship in Thy sight . . . I ask unfailing devotion to personal integrity that I may ever remain honorable without compromise.

From the Cadet Prayer,
USAF Academy, 1960

THE lone portrait leans forward at the base of a raised platform where guests and staff take meals in elevated splendor within the Air Force Academy's glass and aluminum centerpiece, Mitchell Hall. The entire wing appears three times daily before the stern glare of that leathery face. That face, more than any other, is the face of air power ascendant—American air power. It is assurance to a budding generation of military aviation specialists that things of the spirit can transcend career considerations; that nation and honor supersede the narrower traits of group conformity and safety that mark the serviceman's routine.

William "Billy" Mitchell seems an ironic professional focal point for a military service characterized today by careful managers on the leading edge of American technology. Yet each of the famous architects of the bright legend that spawned an independent U.S. Air Force rode the shock wave of Mitchell's defiant vision. Henry "Hap" Arnold, Carl "Tooey" Spaatz, Ira C. Eaker—famous disciples of a combat leader whose cashiered career set in motion a triumph he would not live to see. Posthumously he was given the Medal of Honor. In a lucid piece recounting that legacy in detail, army officer Lieutenant Colonel George M. Hall recently wrote of Mitchell: "The individual who responds to the imperatives of honor under circumstances when honor encompasses duty may be tempted to act against the grain of duty when it does not coincide with the same imperatives."[1] Mitchell, in an army uniform, cut across the grain of a tradition that considers "military individualism" a potential spoiler of democracy. Speaking independently, he precipitated an expected reaction by the institutional leadership of the older services.[2] Professor Stanley Falk, in examining the "apparent incompatibility" of the national predilection for

military leaders who are independent heroes while at the same time operatives in a "precise bureaucratic imperative," determined that "individualized values are a threat to the entire range of traditional military norms."[3] Mitchell was the upshot, deliberately and quite legitimately dispatched by a military tribunal that recognized him as a threat to its order and stability. Yet he looms large there, where a thousand and more formative minds can collectively consider his compelling gaze and reflect that rugged countenance. What must the enshrinement of such a noble man mean to those still being nurtured on the rudiments of air power? Should they incline to emulate the principled performance of that exemplar? Could they succeed by doing so?

As it fell from Elijah to Elisha, so the mantle of Mitchell passed smoothly to that next generation of airmen. Those witnesses of his banishment to Fort Sam Houston, Texas; his reversion to the rank of colonel; the dramatic court-martial; and then his resignation were ardent personal boosters. They had stood by Billy Mitchell despite threatened careers. Arnold, Spaatz, Eaker, and even Mitchell's immediate boss, the sagacious General Mason Patrick, backed him fully.[4] Arnold won five stars. Spaatz and Eaker launched an air war in Europe that finally set the Air Force free. Their mentor's words became their own words. "Wars will be won or lost with the military capability possessed when war starts," echoed Eaker.[5] "The nation that hangs its destiny on a false preparation will find itself hopelessly outclassed from the beginning," Mitchell warned long before.[6] The fruitfulness of that first wave of Mitchell adherents was impressive: the combined bomber offensive was their unique achievement. But how potent is that impulse in the Air Force today?

Success models in the new Air Force tend to be managerial. Caution is in the wind. Everyone knows that courage can boost a career only so high. Robin Olds and Charles "Chuck" Yeager are handy examples of such eclipsed glory. They shone brightly, served rather long, and were quietly dismissed by fiat. They were good, solid heroes who each got a star as Mitchell did, but they went home to intact legends, books, talk, conventions, and memory. Of course they balked at times, but neither one was pressed by honor to lift the banner of national unpreparedness as Billy Mitchell was. Their's was another calling. They retain useful personal images of immense benefit to a service that must still justify its existence by wielding a glittering sword born up on wings by men of bone and blood.

The apparent dichotomy in thrust of the Air Force leadership ideal is strange. The officer corps is bound by an effectiveness rating system that emphasizes careful husbanding of resources over boldness and values caution over ardent spirit or daring innovation. Individuals occupying officer billets must wonder whether the familiar Mitchell image is a valid behavior model or whether it is a warning that outspokenness will bring swift and sure retribution.

Since Mitchell, no dissenting military leader has suffered or, for that matter, been offered the forum of a public court-martial.[7] Modern generals are kept in line by a tight infringement of First Amendment freedom of speech rights. Free expression of ideas among military men is understood to disturb civilian control. Major Felix Moran, commenting on the case of Major General John K. Singlaub, USA (Ret), noted: "When civilian supremacy has actually been at stake, administrative actions, such as removal, reassignment, and forced retirement have been taken against the errant officer" in lieu of rigorous enforcement of Article 88, UCMJ, prohibitions of free speech.[8]

The general officer environment now seems so politically precarious that most senior officers must feel wholly submerged in a pervading atmosphere of intimidation. Maureen Mylander examined this situation with bemusement in *The Generals: Making It, Military Style.* Later she would write, "It took me some time to discover that beneath the facade of 'supreme power,' generals themselves act more like fright-

ened little boys than the conspiratorial heavies of *Seven Days in May*."[9] What is it that emasculates modern leadership? Blame an inordinate fear of outspokenness or controversy, other generals with more stars, and civilian bosses who, "even on a whim, can pack a hapless general off to Camp Swampy where, like General Halftrack, he will wait month after month for the message the Pentagon will never send."[10]

Instead of simplifying military life and streamlining military mores, the impact of burgeoning aviation and electronic technologies has brought increasing complexity to the employment of air power. Force application, like the enforcement of discipline, has suffered from "a greater reliance on explanation, expertise, and group consensus"[11] as the Air Force moves farther and farther from the dominance of authoritative leadership. Perhaps the trend to less personal, less vivid leadership was inevitable. Yet the old order gives way grudgingly. We want to stick with comfortable images. Small things such as colorful nicknames brand the halcyon days of that past with a certain bright distinction. Why don't we label modern leaders with affectionate tabs like "Tooey," "Hap," or "Jimmie" Doolittle? What about "Possum" Hansell and "Rosie" O'Donnell?[12] Is it possible the present generation brooks no affection for authority until it proves worthy of admiration in combat? Was it only the infusion of civilian recruits on a massive scale in World War II that boosted informality in such a pronounced way? Nonetheless, they were good times for airmen. Perhaps it is symptomatic that we seem to reverence our leaders less and accuse them of far more distance from reality than they deserve. It may well be true, as Colonel Robert D. Heinl, Jr., observed, that "the uniformed services today are places of agony for the loyal, silent professionals who doggedly hang on and try to keep the ship afloat."[13] If so, the patient performance of duty that marks the modern hierarchy is most praiseworthy. Still, a Billy Mitchell every now and then would provide just the right flavor to make service life more savory. The large, relatively docile officer corps yearns for a cause célèbre to forge a renewed commitment to air power, amid all the promise those colorful words portends.

The Air Force desperately needs a new Mitchell. Not to do battle with the establishment but to provide a vision for air power's future. This need surpasses the requirement for another iteration of computer chips and reaches well beyond bean counting exercises to determine new life expectancies for tired airframes. The sobering reality of knee-jerk reactions to successive revelations of Soviet weaponry has benumbed us all. It is time for a visionary—maybe even a prophet. Someone must articulate a direction for the Air Force from within its most vital constituency, the officer corps. We have rested too long on the pen of Ira C. Eaker. He has been the most widely read airman. He spoke when no one else would speak. His scenario for the future was bleak, pending emergence of a will to contend:

> One day, over the hot line from Moscow, may come this message to our Commander-In-Chief in the White House. "Mr. President, we order you not to interfere with our operations against Israel. Obviously you will comply, for your own Chiefs of Staff will confirm that we have overwhelming military superiority!" If present conditions continue much longer, no President of the United States will have any option but to comply with that ultimatum, amounting to surrender.[14]

General Eaker and company won a costly combat victory providing a place in the sun for air power. Why has the burden of spokesman been thrust on such a valiant standard-bearer for so long? Those who have followed his words in critical editorials over the years may realize now how bold each stroke has been. One should not discount his warnings as being made from the safety of retirement but remember the caution of Maureen Mylander about generals:

> Ultimately he will fade into retirement where—under Title 10, Section 888 of the U.S. Code, threat of court-martial and loss of retirement pay—he will be forbidden to use "contemptuous words" in speech or print against the President, Vice-

President, Congress, Secretary of Defense, Secretary of a Military Department, Secretary of the Treasury, or the Governor or legislature of any state.[15]

Admiring the sagacity and skill of American air power's foremost spokesman comes easy.

Are all the doors of military opinion sealed by the caution of careerism? The few attempts by officers on active duty to counter corporate-style logic or challenge the incoherencies of civilian control have met dismal fates. One of the most poignant of these was an Air War College commandant's attempt to examine critically, in a forum ostensibly protecting his remarks with a nonattribution policy, the folly of high-level management of the air war in Vietnam. Sadly, for Major General Jerry D. Page, remarks to a closed professional audience proved just as damning as a letter to a left-wing daily.[16] He nearly disappeared, except for the *Pueblo* incident, where he emerged briefly as a minor, but positive, actor in that drama. His memory is one that sounds a warning Klaxon to incipient free speakers.

A number of surveys were proffered in the last decade to Air Force Academy graduates electing to depart active duty for the allures of the civilian marketplace. Not the least of their registered complaints involved the integrity of Air Force commanders.[17] Some have suggested these young officers were too easily dismayed by a rigid outlook on officership produced by four years training under the Academy's Honor Code. Such intimations miss the mark widely. In a time of general adherence to situational ethics, it is not surprising that many commanding officers do succumb to disturbing societal norms that the young academy graduates find abhorrent. Repugnance for unethical behavior is matched, however, by disgust for rampant toadyism. Having sat through all those Walter Cronkite-narrated air power films as "doolies," they expected to find a sense of professional certainty in the *real* Air Force. Mitchellism had been a daily fare. To discover that those few in the officer corps who most nearly epitomized that ideal were often subjected to close scrutiny and low effectiveness ratings must have provoked a terrific reaction in many of the most idealistic neophytes. Their pressing question was not "Why are there so many toadies in the service?" They were far more likely to ask "Where have all the Mitchells gone?" Those who serve know how important a single, galvanizing officer of vision and integrity can be in motivating a person's career. Many even know a budding Mitchell, or Spaatz, or Eaker. But how confident are we that such an officer will survive when the slightest divergence can derail a career? The Air Force must preserve a way to the top that permits room for its prophetic nobility to take a stand, suffer a shoot down, and rise like a Phoenix toward a vision like Mitchell's. The alternative? No more Mitchells, no more Eakers, no more certain trumpet for air power.

Hurlburt Field, Florida

Notes

1. Lieutenant Colonel George M. Hall, USA, "When Honor Conflicts with Duty," *Air University Review*, September-October 1980, p. 46.

2. Eaker to Kline, 11 March 1981. General Eaker wrote: "The fact is that General Mitchell welcomed the court-martial as it gave additional publicity to his cause, which was, of course, to obtain a separate Air Force."

3. Stanley L. Falk, "Individualism and Military Leadership," *Air University Review*, July-August 1980, p. 97.

4. Lieutenant General Ira C. Eaker, USAF, "Introduction to Some Observations on Air Power," delivered at the Air Force Academy, 19 October 1978.

5. Ibid.

6. William Mitchell, *Winged Defense* (New York, 1925), p. xv.

7. Alfred F. Hurley, *Billy Mitchell: Crusader for Air Power* (Indiana University Press, 1975). Hurley quotes Mitchell, who viewed his unprecedented trial as a "necessary cog in the wheel of progress, a requisite step in the modernization and rehabilitation of the national defense of the country," p. 105.

8. Major Felix F. Moran, "Free Speech, the Military, and the National Interest," *Air University Review*, May-June 1980, p. 109.

9. Maureen Mylander, "Fear of Generals," *The Nation*, April 12, 1975, p. 429.

10. Ibid.

11. Morris Janowitz, "Prologue to the Second Edition of *The Professional Soldier*," University of Chicago. Working Paper #176, p. 12.

12. A marvelous sketch of endearing wartime personalities was compiled in *Air Force Times*. See Bruce Callander, "The 'Hap'less Nicknames Up in the Air," *Air Force Times*, 9 March 1981, p. 20.

13. Colonel Robert D. Heinl, Jr., "The Collapse of Armed Forces," *Armed Forces Journal*, 7 June 1971, p. 30.

14. Lieutenant General Eaker, "Observations on Air Power."

15. Mylander, p. 429.

16. Page to Kline, 20 April 1981. A full description of the impact of the dramatic incident was drafted by Hanson W. Baldwin for the *New York Times*, January 27, 1967, pp. 1 and 3; February 3, 1967, p. 34; February 7, 1967, p. 25; February 17, 1967, p. 15. For those without access to the *Times*, see article in *U.S. News and World Report*, February 6, 1967 p. 8.

17. USAF Academy Alumni Association Graduate Survey, *Check-Points*, Fall and Winter 1980. Colonel Jock Schwank possesses a detailed compilation of the latest Alumni Association findings. In this regard I suggest interested parties contact the association.

IRA C. EAKER ESSAY COMPETITION

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

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

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

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

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

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

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

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

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

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

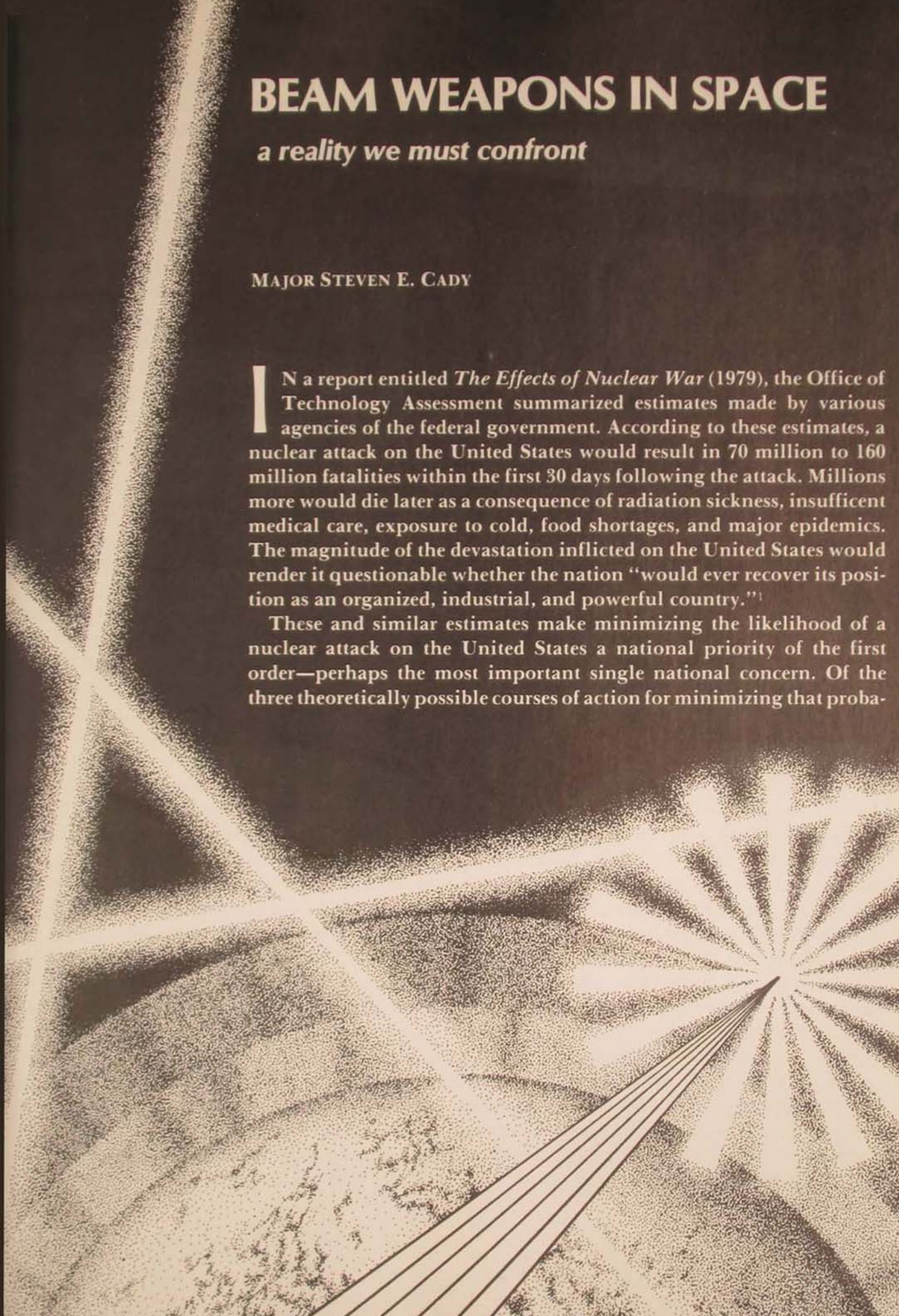
BEAM WEAPONS IN SPACE

a reality we must confront

MAJOR STEVEN E. CADY

IN a report entitled *The Effects of Nuclear War* (1979), the Office of Technology Assessment summarized estimates made by various agencies of the federal government. According to these estimates, a nuclear attack on the United States would result in 70 million to 160 million fatalities within the first 30 days following the attack. Millions more would die later as a consequence of radiation sickness, insufficent medical care, exposure to cold, food shortages, and major epidemics. The magnitude of the devastation inflicted on the United States would render it questionable whether the nation "would ever recover its position as an organized, industrial, and powerful country."[1]

These and similar estimates make minimizing the likelihood of a nuclear attack on the United States a national priority of the first order—perhaps the most important single national concern. Of the three theoretically possible courses of action for minimizing that proba-



bility, only one is both practical and acceptable to Americans. A failure to resist aggression would lead to eventual military, political, and economic domination of the United States by the Soviet Union, with permanent loss of the freedoms so cherished by Americans. A preemptive attack against the Soviet Union, though an almost unimaginable violation of America's national spirit and ideals, might have succeeded in the late 1940s or early 1950s. Today, with the Russian giant in a position at least of military parity vis-à-vis the United States, such an attack would provoke an immediate nuclear counterattack on America, probably equally as destructive as a Soviet first strike.

The only feasible alternative remaining is a policy calculated to deter any would-be aggressor from attacking the United States: that policy symbolized by the motto of the Strategic Air Command, "Peace. . . . is our Profession." Strategic deterrence requires a recognized American capability to inflict unacceptable retaliatory casualties and destruction on any aggressor—including the Soviet Union—combined with a manifest will to use the nation's power, if need be, to visit such punishment on an adversary.

SO-CALLED experts, both within and without the American defense community, have often said that the United States possesses sufficient nuclear power to kill the entire population of the Soviet Union—or even of the whole world—many times over. The nation's deterrent power derived from its nuclear and other military arsenals is, however, probably much lower than most American military personnel assume it to be. Two separate sets of circumstances reinforce each other to justify this conclusion.

First, the United States relies heavily on its putative ability to obtain advance warning of an impending Soviet attack—as a substitute for taking additional necessary steps to assure its survival in case such an attack materializes. However, the customary low-alert status of Soviet forces, a change in which the United States could detect and which helps explain its confidence, could change permanently at any time. Furthermore, history shows that nations are often surprised by their enemies for a variety of reasons: (1) signals of an approaching crisis tend to remain unrecognized amid competing and contradictory signals; (2) aggressors practice deliberate deception to mislead the nations they intend to attack; (3) bureaucratic pressures promote the interpretation of incoming information in such a way as to confirm established policies and theories; and (4) there is a tendency for a nation's political and military leaders to believe that their adversaries share their conceptual framework when, in fact, they do not.[2]

Second, many responsible American leaders, including Department of Defense officials, have—as already indicated—come to accept the myth of an overkill capability on the part of the United States. This myth maintains that the United States has more nuclear power than needed to destroy the entire population of the Soviet Union. Belief in the myth fosters a dangerous complacency. Actually, however, (1) much of the Soviet Union's population is widely dispersed in rural areas, so that such population is almost immune to nuclear attack; (2) after absorbing a Soviet first strike, the number of weapons available to the United States with which to retaliate in a counterstrike would be much smaller than before the strike; (3) the nation's plans for an optimal counterattack would be disrupted by the destruction resulting from the Soviet first strike; and (4) America's present retaliatory plans call for the destruction of economic, political, and military targets, not of the Soviet Union's civilian population as such.[3]

From these considerations, it follows that the Soviet perception of America's deterrent capability is likely to be much less favorable than that of the leaders of the United States. To this fact must be added the possibility or even probability that the Soviet conceptual framework

does not make nuclear war in pursuit of national goals as unthinkable as it is by American standards: Soviet leaders may well be willing to sustain greater population and property losses in the quest for victory than their American counterparts. Moreover, the possibility can never be eliminated entirely that the Soviet Union will, at some future time, make an *irrational* decision to attack the United States, as a consequence of fear, misinformation, overconfidence, or even some accident. Prudence, therefore, mandates the conclusion that the existing situation is incompatible with the greatest possible present and future security of the United States. The situation is not maximally conducive to America's survival as a nation.

The Soviet Challenge

American achievements such as the first landing on the moon by astronauts in July 1969 and the first launching and return of a reusable space shuttle in April 1981 illustrate the awesome potential of American science and technology. However, that potential is being challenged by the Soviet Union, a determined opponent convinced that its national destiny is superior to that of the United States, intensely dedicated to realizing its own purposes, and skeptical of the strength of the corresponding American dedication.

As Lieutenant General Jerome F. O'Malley has pointed out, it was or is the Soviet Union, not the United States, that:

- orbited the first earth satellite of any kind.
- orbited the first manned earth satellite.
- orbited the first manned space station.
- landed the first man-made object on the moon.
- launched the first woman into space.
- developed the first nonnuclear antisatellite (ASAT).
- orbited the first unmanned ferry and space station resupply vehicle.
- has accumulated the most man-hours in space.
- has orbited the longest-duration continuously manned space system.
- has the only operational ASAT.[4]

Although the United States spends more each year on eating out, alcohol, and tobacco than it does on national defense,[5] the Soviet Union spends as much money as it considers necessary on military preparedness. Former Soviet Premier Aleksei N. Kosygin once remarked, "We don't have any contradictions in the Soviet Union between appropriations for space research and the needs of the population."[6] As a consequence, the United States is no longer the strongest nation in the world on land, at sea, or in the air.[7] Comparing the American and Soviet military efforts, the late General George S. Brown, former chairman of the Joint Chiefs of Staff, admitted that, "*in terms of space weapons capability, they* [the Soviets] *are ahead and are likely to continue in the lead for the next several years.*"[8]

These specifics support the general considerations presented earlier, justifying the conclusion that the deterrent power of American strategic forces is insufficient today; it no longer minimizes the probability of a nuclear attack on the United States. Restoring the effectiveness of the deterrent is, therefore, a matter of the greatest possible national importance and urgency.

New Space Technologies

During the first two decades of the space age, both American and Soviet military capabilities in space were limited almost entirely to passive functions such as gathering weather information, facilitating long-distance communication, assisting accurate navigation on and below the earth's surface, and conducting surveillance operations. One purpose of the latter was, and remains, providing the earliest possible warning of a ballistic missile attack actually launched by an enemy nation.

Continued advances in space technology now permit contemplating the possible use of

space for "active" military functions. Spacecraft such as these could be developed:

- Bombardment satellites carrying nuclear weapons directed at enemy earth targets on radio command from ground stations
- Space shuttles capable of snatching enemy satellites out of orbit
- Space shuttles used to mine the orbital paths of enemy satellites, with those satellites exploding when they hit the mines
- Hunter-killer satellites capable of pulling up next to enemy satellites and exploding, destroying the enemy satellites as well as themselves
- Satellites firing laser beams across thousands of miles to destroy enemy satellites, or ground-based enemy missiles immediately after their launch, or selected enemy targets on earth
- Similar satellites firing particle beams—beams of electrons, protons, ions, or neutrons—with the same destructive purposes and effects.

These last two possibilities, involving so-called beam weapons or directed-energy weapons placed aboard satellites, offer a remarkable potential for restoring America's deterrent power. A weapon system capable of destroying all or a high percentage of the missiles launched against the United States in a future war would almost certainly dissuade the Soviet Union from initiating an attack certain to trigger devastating retaliation.

A Question of Legality

Does the United States have the right to loft directed-energy weapons into orbit?

Such weapons could probably be used against enemy targets on earth. It can, therefore, be argued that they would violate one of the provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (also known as the Treaty on Outer Space). Article IV of the Treaty, to which both the United States and the Soviet Union are signatories, states in part that the "parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction . . . or station such weapons in outer space in any other manner."[9] Whether beam weapons aboard satellites would violate the cited provision of the Treaty on Outer Space is a question outside the scope of this article. If, however, the United States perceived placing directed-energy weapons in orbit as essential to its security, it would (under Article XVI) have the option of withdrawing from the Treaty on one year's notice to all other signatories.

More to the point is the fact that, throughout history, great nations wishing to remain great have interpreted principles of law in a manner consistent with their own needs and interests. A preoccupation with the niceties of law would be appropriate in a utopian world. In the real world, which includes adversaries acting entirely on the basis of self-interest, such preoccupation has always been the road to disaster. The United States cannot afford to go down that road—its responsibility is not merely to itself but to all of the free world. The nation is accountable to history and to humanity.

Questions of Practicality

Despite the apparent attractiveness of a beam-weapon system for restoring U.S. deterrent power, serious arguments have been raised, questioning the practicality of such a system. Seven such arguments merit consideration.

Directed-energy weapons are not yet feasible and may never become feasible. This first argument has been leveled against almost every new weapon and other important inventions by those lacking the vision to look to the future and the courage to advance into it boldly. The automobile and airplane were also decried as impractical, or their importance sadly underestimated, in the years immediately following

their invention. A recent Defense Department study has reportedly concluded that there are compelling reasons for initiating an accelerated laser-weapon program:

—Laser-weapon technology now being developed makes existing arsenals of strategic nuclear weapons dangerously vulnerable.

—A constellation of space laser systems would be capable of checkmating a massive intercontinental ballistic missile attack.

—Such systems could also deal effectively with high-altitude aircraft, hostile satellites, and submarine-launched ballistic missiles.

—The systems could perform ancillary military functions, such as interdicting enemy airlift operations, suppressing airborne air defense radar, and destroying aircraft sent up to intercept a friendly bomber penetration.[10]

A more specific version of this first argument points out that the speed of light at which directed-energy weapons function is not enough to make them working weapon systems. It is necessary to determine that the target to be attacked is there; to track the target, keeping the beam on it long enough to stop it or destroy it; and to know when the target has been stopped so that the beam can be switched to another target.

While coping with these problems is a technologically difficult undertaking, there is no particular reason to believe that the problems are insoluble. The sooner the United States begins full-scale work on beam weapons, the sooner it will have a functioning directed-energy system in space.

Laser-weapon technology is in its infancy, so it is necessary to wait for significant design improvements before committing large sums of money to the new weapon system. The fallacy of this second argument is that significant technological advances in laser-beam and particle-beam weapons will be continuous for many years to come. A nation that keeps waiting for the most propitious moment to plunge into the actual development of a new weapon system is going to be preempted by its adversary. As with any other new weapon system, the time is now.

It would be too easy to nullify a space beam-weapon system. The proposed satellites could be countered by means of decoys, electronic jamming, and/or a proliferation of missiles. Furthermore, an expensive laser station in space would itself become the first target of an enemy nation planning an attack. However, it is difficult to see why an extensive system of directed-energy weapons in space would not be able to destroy missiles or satellites sent to attack it. Such an attack would also prompt an immediate nuclear first strike against the attacking nation. As for the general argument, it is in the nature of war for each new weapon to produce countermeasures, against which other countermeasures are developed, and so on in a never-ending cycle. In any adversarial relationship, one side cannot afford to stand still while the other moves ahead, developing and deploying new weapons. In November 1980, the Senate Subcommittee on Science, Technology, and Space concluded that the Soviet Union is expending between three and five times as much money on high-energy laser technology as the United States.[11] We cannot afford to fall farther behind.

The proposed new weapon systems are too expensive. Estimates of the amount needed to make the new systems both operational and effective range from $10 billion to $500 billion. That cost must be measured against the value of America's survival as a free nation. If survival has a greater value, then the money needed for the new weapon systems must be appropriated. Greater efforts can be made to reduce waste and duplication in other defense expenditures, to reduce outlays on less important weapon systems, to decrease government expenditures in the social welfare sector, and to increase federal taxes. Americans should be willing to make some sacrifices—even considerable sacrifices—for the sake of survival.

The Soviet Union would not permit the

United States to install a directed-energy weapon system in space. Any laser satellite, for instance, would be attacked while it was still being assembled in orbit. The possibility must also be entertained that the Soviet Union might launch a ballistic missile attack against the United States in desperation before the new American weapon system made its missiles useless. Since the Soviet Union may well be ahead of the United States in developing such a system, the United States would be establishing parity only by also developing a system. Moreover, other options would be available to the Soviet Union, including a hardening of its strategic systems to make them less vulnerable to beam weapons. Most important, perhaps, the record of the Soviet Union in its foreign and military policy has never been one of rashness: it has avoided or drawn back from confrontations with the United States, as in Cuba and Vietnam, to prevent igniting a nuclear holocaust. It is reasonable to assume that the Soviets would act with similar prudence if the United States opted for directed-energy weapons. The overriding consideration is the certainty that if the United States does not, the Soviet Union will.

Existing weapon treaties may be expanded in coming years specifically to include space-borne directed-energy weapons. Such an expansion, if it materialized, would make the new weapon systems obsolete and the large financial investment in them a loss. However, if these systems provided the United States with a deterrent power needed, affording it a measure of security that it seeks but does not now have, there would be no logical reason for the nation to become a signatory to any agreement outlawing beam weapons in space. Nations do not willingly dispense with what they regard as essentials.

If both the United States and the Soviet Union establish full-fledged beam-weapon systems in space, these systems will cancel one another. What of it? The long-term result will be a kind of mutual invulnerability. The United States would certainly not want to forgo immunity to nuclear attack simply because its chief adversary was similarly immune. The consequence of such an invulnerability might be a shift of strategic emphasis to low-flying cruise missiles or to other weapons against which directed-energy weapons would be largely ineffective. Furthermore, it is likely that, in the years to come, China and other nations will develop significant nuclear capabilities, and the United States needs to protect itself against possible adversaries other than the Soviet Union.

MAJOR General George Keegan, former intelligence chief of the United States Air Force, reports that the Soviet Union has already tested the first particle-beam weapon and the world's largest laser weapon at Sary-Shagan, Kazakhstan (in west-central Asia). The Soviets are, therefore, on their way to an unacceptable superiority over the United States, which "has no choice but to begin an urgent national crash program surpassing anything since the Manhattan Project."[12]

If General Keegan is correct, then there is, indeed, not a moment to be lost: the United States is under a categorical imperative to go all out for a beam-weapon system in space. There are knowledgeable individuals—physicist Bernard T. Feld, editor of the *Bulletin of the Atomic Scientists*, for instance—who dismiss Keegan's warnings as alarmist and unfounded. Yet, with national survival possibly at stake, it is safest to err on the side of conservatism and adopt an alarmist rather than a complacent attitude. As a rule, the United States has had a tendency to underestimate its potential adversaries: Germany and Japan before World War II; Communist China in the postwar years generally, and in the Korean War in particular; Hanoi in the Vietnam War; and the Soviet Union in its scientific, technological, and military progress over the past 30 years. Against this background of habitually discounting the strength, know-how, and hostile intentions of its potential adversaries, the only sensible course

that the United States can follow today is to assume that General Keegan's facts are essentially correct, and embark on the crash program he advocates.

William N. Jackomis, former Strategic Arms Limitation Talks (SALT) negotiator and member of the Defense Nuclear Agency, recently observed that "the Soviets understand military power. They have been increasing their presence throughout the world, and the only way to put that in check is to have a very, very strong military position."[13] To achieve that position, the United States must urgently maximize its deterrent power. Developing an adequate space laser or particle-beam weapon system should help achieve that objective.

There is a certain historic inevitability about man's exploration of space. What he *can* do, he eventually *will* do. Beam weapons can and will be built. The laws of physics do not prohibit them; the constraints of technology and economics make them difficult to develop but certainly not impossible.

Longtime newspaper columnist Stewart Alsop once wrote that:

> . . . man will use the fourth dimension of space as he has used the earth, the sea, the air—to assert his power, to make his will prevail, perhaps to make war on other men. Because this is so, we cannot afford to fall behind in the race for space.[14]

The decision concerning the development and deployment of directed-energy weapons in space must be made in the light of that truism.

Hq USAF

Major Cady's article received Honorable Mention in the first annual Ira C. Eaker Essay Competition.

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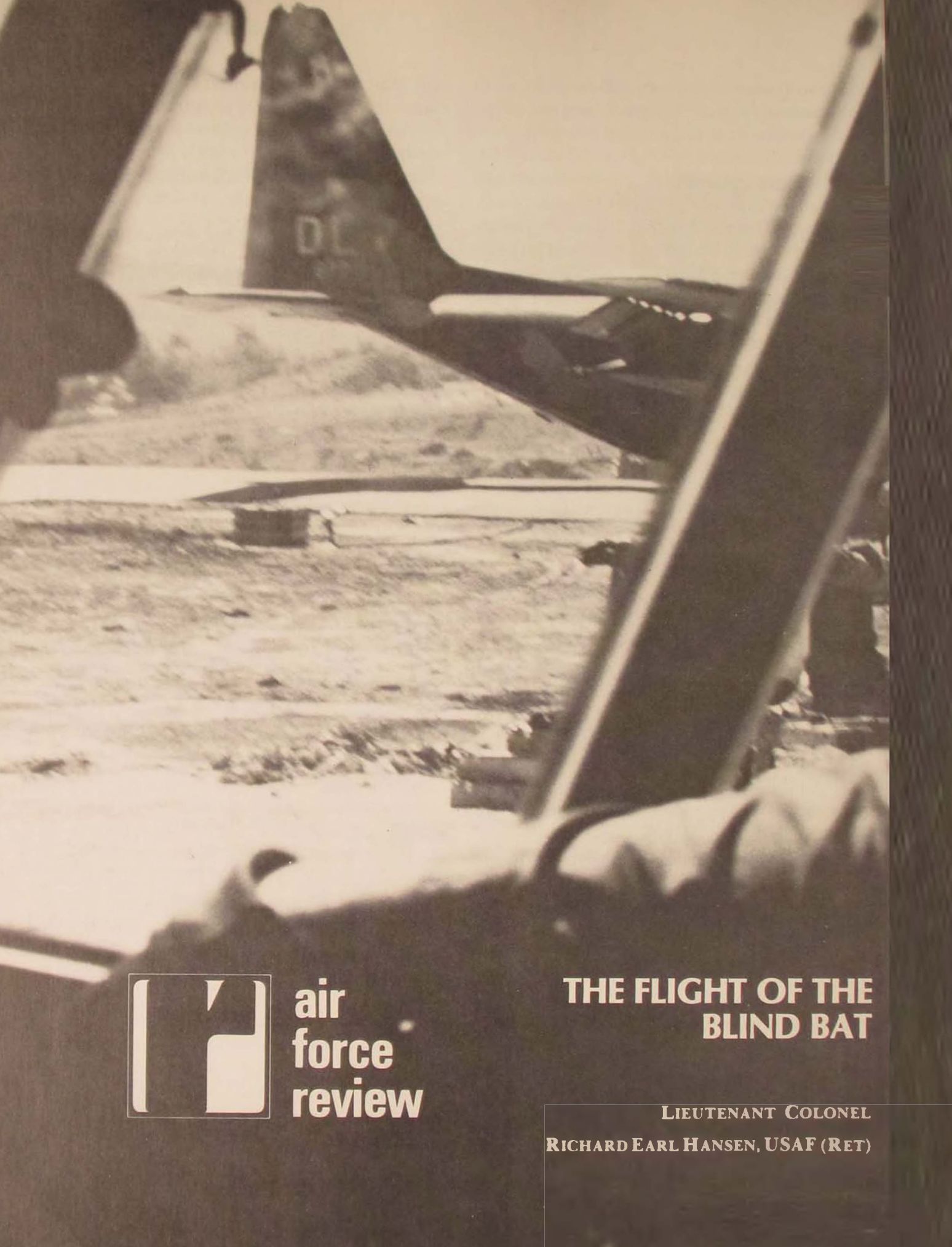


air force review

THE FLIGHT OF THE BLIND BAT

LIEUTENANT COLONEL
RICHARD EARL HANSEN, USAF (RET)

THE heavy flak jacket under the many-pocketed survival vest, together with a web-belt holding a water canteen on one side and a .38 pistol and spare ammunition on the other, made flying the airplane a bit difficult. Parachute straps, buckles, seat belt, shoulder harness further insulted the body and limited mobility in the cockpit.

We lined up on the runway in the heavy black afterburner smoke that lingered from the flight of F-4s preceding us. With tower clearance, we accelerated, and I felt the surge of

thrust against my back while charging down the narrow runway at Ubon Royal Thai Air Base (RTAB) that evening in June 1970. Into the darkening sky to the east, climbing to cruise altitude, we contemplated the mission ahead. Would this be a night of easy pickings and light flak, or would it be one of "those nights"?

Ordnance was a relatively insignificant part of the aircraft's gross weight. Fuel took up the major portion, for this would be an extended mission. The "frag" (our fragment of the daily theater Air Operations Order) directed us, as one of six similar aircraft, to put in more than six hours over the target zone, with nearly an hour each inbound and recovering.

Ground radar called, turning us toward the north. Soon our camouflaged bird with its dull-painted underside, all lights now extinguished, crossed the friendly line into "bad-guy" territory on its specialized mission. Over the target area, we would be joined and work with several other aircraft on the night strikes. Those planes' underwing pylons would be hung like Christmas trees with assorted bombs, rockets, napalm, and other nasty stuff. The targets? They would be the trucks, armored vehicles, and transshipment storage points of military equipment for the North Vietnamese forces. This particular war materiel was not moving south to the Viet Cong, but rather, it was moving west to the North Vietnamese invaders engaged in another part of the war in Southeast Asia. This segment of the war was along heavily traveled Route 7 and its tributaries, the main supply route through northern Laos, known as the Barrel Roll operations area. To the south, in the panhandle of Laos, other aircraft like ours would be working this night in the operations area called Steel Tiger along the north-south routes that supplied the war hardware to the Viet Cong insurgents and North Vietnamese invaders in the Republic of South Vietnam.

What, you ask, is a four-engine turboprop C-130A doing in a strike mission over North Vietnamese-dominated Laotian territory? The answer is that this was only one of six that would fly this night, had flown for several years, and would fly every night for many months hence. Everybody called the mission by its call sign, Blind Bat, but formally it was known in the Seventh/Thirteenth Air Force's combined plan as a strike control and reconnaissance mission (SCAR). In crew jargon and informally, the mission was described as a night FAC (forward air controller), directing the night air strikes of fighters and attack aircraft of the Navy and Marine Corps as well as the Air Force. But operationally it was simply Blind Bat.

> On 3 April 1965 an Air Force C-130—equipped with flares and accompanied by two B-57's—flew a night mission over routes 12, 23, and 121 in the southern panhandle of Laos. The crews of the three aircraft searched for Communist vehicles and other enemy targets moving down the Ho Chi Minh trail toward South Vietnam and Cambodia. The mission marked the beginning of Operation Steel Tiger. . . .[1]

Some pilots and crew liked the mission and its sense of accomplishment; others hated and dreaded it, and some managed to avoid the duty for more routine tasks. One thing for certain, it was not an ordinary "trash-hauling" mission within the borders of South Vietnam (usually considered the province of the A-model), although some of the normal tasks of C-130 air resupply, such as those into heavily besieged Khe Sanh and An Hoa, can hardly be called a piece of cake.

On this soft, tropical night late in the war, I had taken the place of a pilot on duty not including flying (DNIF). Since the mission called for flying unpressurized over the mountains for many hours, respiratory ailments and ear infections took a toll.

As an instructor pilot and the newly installed squadron commander of the 21st Tactical Airlift Squadron, I needed to become intimately familiar with all the missions my squadron crews would be asked to fly. I was to get my "dollar ride" tonight on an OJT flight with a pilot already knowledgeable in these highly

specialized duties. Pilots acted as the forward air controllers on these missions, and the success of the strikes depended on proper briefing and control of the fighters. The Detachment Operations Officer solved the problem by scheduling an experienced copilot, one who had acted as FAC on many previous missions.

The Blind Bat detachment complement came from the 374th Tactical Airlift Wing (TAW). The wing was stationed on the island of Okinawa in the Ryukyu Islands chain southwest of Japan, six flying hours from Ubon RTAB, Thailand. Similarly, all ground and aircrews as well as aircraft were taken from the 374th TAW for rotational duty to Blind Bat.

Personnel who elected to volunteer for full duty at Ubon were welcomed for continuity but were not rewarded with the shortened overseas tour of one year as were those troops assigned directly to duty in Vietnam and certain other parts of Southeast Asia. The only benefits accruing to volunteers were the known schedules and enhanced opportunities for R&R. They continued to serve the eighteen months unaccompanied tour prescribed for Okinawa.

Ground crews, maintenance personnel, and certain cargo handlers were also supplied by the 374th TAW, but all other support functions

Tools of the trade: flares stacked alongside C-130As await onloading for the night's festivities. The flares were intensely combustible, and an internal fire, once started, would almost immediately be uncontrollable, a fact of which Blind Bat crews were acutely aware.

came from the host base operated by the tactical fighter wing at Ubon. The mission was alien to the operation of the fighter wing, and its fighter planes were seldom, if ever, controlled by Blind Bat on strikes. Its fighters were mainly assigned day bombing or air superiority missions generally in North Vietnam. As a consequence, the fighter wing felt little in common with the Blind Bat people. They were generally tolerated as "those C-130 guys," a breed mainly looked down on with scorn by the fighter pilots. In spite of these social and professional differences, the combat support group at Ubon furnished most adequate assistance in housing, messing, medical, finance, ordnance, logistics, flight line, and other areas to the letter of their written support agreement. That the Blind Bats were able to furnish needed airlift to the fighter wing at crucial times did not hurt the relationship, however.

The rolling mountains and sharp upthrusts of the karst formations common to this part of Asia fell behind us as we cruised at 20,000 feet in pressurized comfort. With the assigned work zone coming up, the drill was to contact the airborne battlefield command and control center (ABCCC) "Alleycat" aircraft to check in and advise them that we were in their area for our night FAC operations. The ABCCC aircraft was another C-130 especially outfitted as an on-the-scene airborne command post to coordinate strike and, if necessary, rescue operations in their area of responsibility. They gave us, this night, no priority missions over our published frag.

With this formality over, we began the unpleasant part of the mission: depressurizing so we could begin operations. The rush of humid tropical air even as we descended through 12,000 gave every member of the crew a special whiff of the intense effort ahead. It was a sort of olfactory warning to the nervous system, and each of us felt his senses keyed up to the combat level.

The cargo deck with its pallets of flares and markers and the tailgate dispensing mechanism engaged the attention of the loadmasters, who would soon be loading and releasing these pyrotechnic devices. Jettison mechanisms for dumping the load were carefully checked lest one of the flares that burn at metal-melting temperatures should malfunction and ignite to hang up in the launching chute. Two types of pyrotechnics were carried on all Blind Bats: target-marker flares, which burn with a bright light for many minutes like a railroad fusee; and illuminating flares, which descend by parachute, providing high intensity light on the terrain below.

The navigator, who now would be the observer, readied his bicycle seat mount in the paratroop door usually on the starboard side. From this perch, he would use a night observation device (NOD) to scan the roads and trails for North Vietnamese traffic that would be the targets for the fighters.

The NOD amplified the available light, then magnified it much like a rifle's telescopic sight only with a wider angle of view. I found it to be an astonishingly effective device. By naked eye from the same vantage point, nothing but the shadows of terrain features could be seen, except, maybe, under a full moon. But with the NOD, the same terrain was as visible as morning daylight, and the roads, trails, rivers, vehicles, truck parks, and storage areas were plainly visible. This, of course, was not the case for the strike aircraft pilots, who could see only the shadows. In contradiction to its moniker, Blind Bat provided them with their eyes.

Now unpressurized, the tailgate of our C-130A lowered for dispensing flares and markers, we descended farther to the operating altitude governed by the local high terrain and regulated to keep us just above the reach of small caliber weapons. The navigator for the first stint at the NOD got strapped in position and readied his night scope for surveillance.

This night's frag told us that intelligence gained from the previous day's photo missions of Laos pointed to the existence of a munitions storage area on Route 7 between Muong Soui

and Ban Ban. Its location had been scrubbed down to a forested area on the eastern edge of the Plain of Jars, just west of and enclosed by a fork of the road. This ammo dump, plus any opportune road traffic, would be the objects of our forward air control activities this night.

We set up an orbit to the right on the selected altitude and settled in for our night's work. The copilot made the contact with the first fighters that we would control: two Navy A-4s. They might have been from carriers out in the Gulf of Tonkin or from the overloaded base at Da Nang in the north of South Vietnam. Navy aircraft always seemed to have more than the average time over the target. Although they were fast movers, they were exceptionally diligent and skillful, while others seemed lackluster giving only perfunctory performances in striving to get their bombs on the targets. The Navy strike aircraft were always welcome arrivals in the night's work. Personally, having been a fighter pilot in World War II in the Pacific, I would hate to trade places with the pilots of the A-4s, roaring along at about 300 knots and practically blind at night, down among those steep pyramids, obelisks and spires of limestone karst so typical of the Laotian countryside. It has to be the ultimate fighter pilot's nightmare, one that would make you wake up with sweaty palms and a queasy feeling in the stomach. The A-4s made two passes each with bombs, then worked the target over with their guns, and before long were gone.

Later, we were told by "Alleycat" that our next strike aircraft would be an A-1; we could tell from the call sign. It was an ancient, Navy-developed, piston-banger bird, and actually huge for a single-engine attack aircraft, now flown by the Air Force. The A-1 carried a tremendous load of explosive ordnance and hundreds of rounds of "twenty mike mike," 20 mm cannon shells. It also carried plenty of fuel to stay in the target area to get familiar with the night's aiming points and to exploit the unexpected: those opportune events that always occur in war. Tonight, this A-1 was not to disappoint us on any of these counts, even though the longer over the target the greater the probability of his taking battle damage. Blind Bat was able to aid in preventing this. By noting from its better vantage the locations of originating antiaircraft artillery (AAA) fire, the FAC can change the axes of attack to place intervening ridges in the way and minimize the effectiveness of that particular battery's fire.

The inbound A-1 was briefed by the FAC on the general terrain, the weather, escape routes, location of friendlies, known AAA, and the specifics of the target itself. At the same time, or shortly thereafter, the Blind Bat would make a run over the target using much the same aiming techniques as for resupply container drops to place marker flares in such a way as to make unambiguous the FAC's later description of the run-in to be made by the fighter-bomber.

For example, this ammo dump, located in the hollow of a split in the east-west road, was marked by one long-burning flare laid on the ground due south and two more were left burning about the same distance to the north of the target. Describing it to the A-1 pilot, the FAC explained to him that he should make his run west to east, perpendicular to the line between the single flare on the south and the group of two to the north, placing his ordnance midway between them.

After the delivery of the bombs, the NOD operator would conduct bomb damage assessment (BDA). Scanners would report any secondaries (explosions subsequent to the bomb bursts themselves indicating target damage) or any persistent fires started. If these existed, placement of ordnance, in part, was simplified. The attacker could then lay his bombs in the vicinity, with the near certainty that other lucrative targets were sharing the same concealment.

Occasionally, it was necessary to try eliminating a particularly nasty and harassing gun battery, so as to minimize risk on later bomb runs. Although the AAA fire this night was especially active, lighting up the sky like a fireworks extravaganza, it was not very accu-

rate. Neither the A-1 nor our Blind Bat was greatly hazarded. As others who flew these missions can attest, those North Vietnamese on Route 7 in Laos were lousy gunners, even though they threw a lot of iron at us.

After the second bomb run, one of the loadmaster scanners spotted a fire in the target area and this information was relayed to the A-1 pilot. Using the fire as his aiming point (the NOD confirmed that it was a burning truck), the pilot executed several subsequent runs from differing axes of attack. On the last of these runs, we spotted what we always hoped to see: multiple secondaries! The A-1 had laid its bombs right in the heart of the suspected ammunition area of the invaders.

This strike raised a hornet's nest of antiaircraft fire from the surrounding hills, where previously silent batteries opened up with the heavy stuff. You could tell it by the bluish-white blast down at the gun tubes followed by the eye-popping airbursts like looking into a camera flash many times multiplied. The 37 mm batteries hosed the lower altitudes, where the A-1 was dusting them off with the explosive shells of his "twenty mike mike." Up where we orbited, the heavy stuff would burst mostly above and behind us, but it did not make us feel any better knowing that those shells were going through our altitude unseen to get up there. We moved the location of our orbit.

Previous crews had reported the strange phenomenon of "hail" falling from clear skies that could only be the antiaircraft burst shrapnel pelting the tops of their aircraft. Minor incidents of flak damage requiring sheet metal repairs were not unusual, but one C-130A and crew vanished in a fireball in the heavily defended area on the trail near Mu Gia pass.

Soon, the A-1, having expended all its ordnance, asked for preliminary strike BDA and broke for home base. Things quieted down at the AA batteries, but we had already logged their locations as best we could for the intelligence debriefing. No more flights of attack aircraft arrived, which was good, because the weather had begun to worsen. At the end of our briefed time on station, we headed back to Ubon.

INEVITABLE questions crop up from the recounting of this not atypical Blind Bat mission from a war now more than a decade gone. Why was the C-130 strike and reconnaissance mission set up in the first place? Logistics movements of the North Vietnamese invaders were mostly at night to avoid daylight exposure to more certain and accurate attack. As a consequence, the pressure had to be kept on these resupply convoys round-the-clock. A ready answer was to continue fighter attacks throughout the hours of darkness. The problem was that our fighters and attack aircraft in those days were not equipped to locate their own targets and so needed nighttime assistance. An aircraft of long endurance—one with a stable platform for observation and multiple crew positions, one with carrying capacity for the needed flares and markers as well as their accurate dispensing—was the requirement. The C-130 A-model was early on the airlift scene in Southeast Asia (B and E modifications would follow), and it was a logical choice. The mission remained with the "A."

In another vein and looking ahead, will those skills and the same type of strike control and reconnaissance mission likely be needed in the future? Many of the new generation fighter-bomber and attack aircraft have their own target acquisition equipment, giving them a reconnaissance and strike capability. However, there is also the strong possibility that in a major proximate conflict many previous-generation aircraft will be thrown into battle. Most of these do not have the precision navigational gear, the target acquisition radars, or infrared imaging to make night strikes, and some form of SCAR aircraft will be needed as a night team member. New technology coming into service in the form of the AWACs (airborne warning and control system) aircraft, the TR-1 standoff

recce, and the like may permanently obviate the necessity for future C-130 Blind Bats. However, it remains a cheap and ready solution in a pinch.

If the C-130s could put flares and markers with relative precision in the vicinity of targets visible to observers with night scopes, one may ask why not put explosive ordnance on board to destroy those targets? Would not this save immense expenditures of fighter fuel, bombs, ammo, and crews? First, the unique combat environment in which Blind Bat operated must be emphasized. It was the same that obtained over most of Southeast Asia (excluding North Vietnam of course), and we tend to overlook it in too many discussions—that is, we had complete air superiority. This permitted *both* the C-130A Blind Bats *and* the strike aircraft they controlled to operate in target areas with impunity from air attack.

Further, radar gun-laying is becoming the norm these days, and, missiles cover the airspace from the ground up, knowing neither night nor day. The environment has become more hazardous by an order of magnitude. In answer to the question, there was and is a C-130 that carried its own explosive armament and did a tremendously successful job in Southeast Asia. It was called "Specter," a C-130 fitted with side-firing cannon up to forty millimeter, enhanced by highly developed NODs plus infrared and other detection devices to locate and destroy ground targets. The problem is that it too must operate in tomorrow's conflict that may *not* include local air superiority and will *certainly* include precision antiaircraft guns and missiles.

Looking back on the flights of the Blind Bat, it can be said that the A-model C-130, the oldest in the inventory, provided a vital link in the continuous harassment and destruction of the flow of North Vietnamese war materiel to the Viet Cong insurgents in South Vietnam and to their own invading forces in Laos, Cambodia, and South Vietnam.

The crews and aircraft of the 374th Tactical Airlift Wing, in addition to the assault airlift of troops and supplies, performed a tactical, warfighting job. Incidentally, no crews were trained in the mission before their arrival in the theater. In fact, few in the continental United States (CONUS) or even in the Southeast Asia theater knew of its existence, and the Blind Bat contribution has been buried in obscure unit histories.

Colonel Noble F. Greenhill, Commander of the 374th TAW when it ended its Blind Bat operation in 1971, made a point of disputing the basis for award of decorations to airlift aircrews.[2] He noted that, among other criteria, "combat" aircrews were awarded combat medals on the basis of many fewer missions than were required of airlifters. What Colonel Greenhill did not include was that for several years, night after night, his C-130A aircrews flew missions against the North Vietnamese such as the hazardous Blind Bat night forward air controllers over the Ho Chi Minh trails.

Prattville, Alabama

Acknowledgment

I am indebted to Lieutenant Colonel William Baugh, USAF (Ret), for many of the details in this account of the Blind Bat story.

R.E.H.

Notes

1. Carl Berger, editor, *The United States Air Force in Southeast Asia, 1961-1973* (Washington: Office of Air Force History, 1977), p. 100. See also pp. 104, 105, 115, and 226. Facing page 100 is a color photograph captioned, "A flare is readied for drop during a night mission." It shows a loadmaster placing a flare or marker in the chute near the port paratroop door of a C-130. The scene is typical of, but not identified as, a Blind Bat C-130A.

2. Colonel Noble F. Greenhill, USAF, *End of Tour Report* (December 1967-June 1971) (Maxwell Air Force Base, Alabama: Albert F. Simpson Historical Research Center of the United States Air Force, File K 717 131).

military affairs abroad

TO SAVE THE PILOT'S LIFE— SOVIET AIR RESCUE SERVICE

LIEUTENANT COLONEL JOHNNIE H. HALL

THE conflict in Southeast Asia prompted the growth and development of the Aerospace Rescue and Recovery Service (ARRS) of the Military Airlift Command. The successful recovery of aircrews in combat in Vietnam was enhanced by improved rescue helicopters and tactics that integrated command and control aircraft, strike aircraft, and recovery helicopters. "Of those who ejected successfully, reached the ground alive, and established radio contact, more than 80% were recovered."[1] Today ARRS continues to train and maintain its combat readiness as a vital part of combat support operations because we learned that "combat rescue saves fighting resources."[2] Has this use of the helicopter in a rescue role in Vietnam been as apparent to the Soviets as was the use of the helicopter in airmobile operations?

Although not as widely publicized as their airmobile forces, the Soviets have an established and active air rescue service. Their air

rescue service appears to fit the description provided in their *Soviet Military Encyclopedia:*

> 59. *Aviatsionnaya Poiskova-Spasatel'Naya Sluzhba* (air rescue service). A special service that organizes and conducts search and rescue of crews and passengers on piloted airborne platforms. Its missions are: to search, to render assistance, and to evacuate crews and passengers on airborne platforms in distress; to provide crews with emergency rescue equipment and equipment for self-aid and mutual aid; to train the flight crews how to act during a forced landing or abandonment of an airborne aircraft and to use emergency rescue equipment; to organize a notification system of airborne platforms in distress and the sequence for transmitting and receiving distress signals. Search and rescue operations are performed by airplanes, helicopters, ships, vessels, and ground facilities equipped with radar search apparatus and rescue equipment, by ground search teams, and by parachute landing groups. Search and evacuation of cosmonauts and descending spacecraft modules can also be entrusted to the air service. For example, the United States has an aerospace rescue service intended for search and evacuation of astronauts and spacecraft as well as for search, rescue, and evacuation of the crews and passengers of aircraft in distress.[3]

The Soviets have only recently started to publish significant information about their air rescue service. The fact that military and civilian aircraft losses are not reported[4] means that most of the information on the air rescue service comes from reports and articles on training procedures and training exercises.

"To Save the Pilot's Life," by Lieutenant Colonel G. Serebrennikov, published in the October 1971 *Soviet Military Review*, has been the starting point for my research. Colonel Serebrennikov discusses ejection and parachute training in Soviet Air Force units. When describing the survival kit, he points out that a chemical dye that colors the water ". . . helps the air rescue service crews locate the pilot."[5] He indicates that all Soviet Air Force units have a special parachute rescue service that provides annual egress-type training and supervises the parachute static training and the parachute jumps made by the pilots. Colonel Serebrennikov further states that "at regular intervals air force units conduct complex drills to teach the pilots the elements of the procedures from ejection to landing and operations by search and rescue teams and aircraft."[6]

Using the definition of the Soviet air rescue service quoted earlier and the tasks of this special parachute rescue service found in Soviet Air Force units, I aimed my research at defining what survival equipment was provided and what survival techniques were taught to Soviet Air Force crew members, what aircraft and helicopters were used by the air rescue service, where air rescue service fits into the Soviet military organization, how the Soviet air rescue service would execute a rescue mission to recover a downed pilot, and what operational techniques they used. Underlying all my effort was an attempt to determine the combat rescue role, if any, of the Soviet air rescue service.

Survival Equipment and Training

In the book *MiG Pilot*, Lieutenant Viktor Belenko tells of an event that occurred prior to his defection in 1976:

> Sometime back a pilot had parachuted from a disabled plane into a remote wilderness, where he eventually died of privation and hunger. Hunters who came upon the skeleton many months later found a diary in which the pilot recorded his suffering and complained about the lack of any equipment that might have enabled him to survive in the wilderness. The last entry read, "Thank you, Party, for taking such good care of Soviet pilots." Soon combat pilots were issued pistols and their aircraft equipped with survival kits containing food, water, medicine, fishing gear, flares, matches, a mirror, and shark repellant.[7]

These initial survival kits were a permanent issue-type item. However, after a pilot used his pistol to commit murder, the pistols were recalled and only issued for the duration of the flight.[8] Lieutenant Belenko does not provide an accurate time reference of the first survival kit issued to Soviet pilots, but in 1970 a Soviet

article discussed survival kits in ejection-equipped aircraft and described the contents as follows:

> The emergency ration includes food, medicines, radio, flares, and other means. A desert version includes a supply of water too. If the pilot is to fly over the sea, he will inevitably wear a life jacket carrying a special chemical dye that colours the water around the pilot in bright colours.[9]

In 1978, V. Volovich, candidate of medical science (and a prolific writer on survival equipment and training) described a survival kit that was very sophisticated compared to the one described by Lieutenant Belenko:

> The personal suvival kit—the NAZ—has great significance to autonomous survival. It contains a radio set and signaling resources which help the pilot to establish communication quickly and transmit his location when search airplanes and helicopters arrive.[10]

The NAZ, a "pilot's portable emergency supply kit,"[11] comes in a land and water version. If over water, the life raft is inflated after ejection. A distress signal from an emergency beacon is also activated upon bail out. The emergency beacon can be turned off, and then the pilot selects two-way operations. "The emergency radio (receiver-transmitter) operates in the USW [ultra short wave] band and permits contacting search aircraft and helicopters at a distance of 70 km. . . ."[12] The NAZ* includes a PSND signal cartridge (day-night flare), grenade dischargers which propel a light signal 100 meters into the air, and uranin powder which is used as a sea dye marker or a snow dye marker. The food ration contains 3500 calories along with an average water supply of 2.5 liters. Water distillation kits for ocean and sandy soil are included along with a solar water-film condenser. Matches, fuel tablets, fishing gear, cartridges for personal weapon, compass, light filter glasses, mosquito netting, plastic canteen, and a blade-saw knife make up the other miscellaneous items. The medical kit has iodine, bandages, etc., with ". . . drugs for self-help colds, gastrointestinal illnesses and injuries and decontamination means."[13] Volovich ends his discussion of the NAZ with an observation that pilots must know how to use the equipment and that they are taught ". . . in classes so that they can overcome any difficulties."[14]

What we would call emergency egress and bail out (parachute) training is the responsibility of the parachute rescue service, the PDS. The Soviet Air Force units place great emphasis on procedures and actual parachute jumps, all led and supervised by the parachute rescue service in the Soviet Air Force unit.[15]

> The fliers study the design, functioning and principle action of the survival aids during classes. They are also taught the rules governing the use of these means. After the pilots pass a test in theory they are permitted to train on a ground ejection seat trainer (developing 8-12g). Here the pilots get a taste of impact loads during ejection developed by explosive charge. They acquire habits essential for the recovery procedure during ejection (removal of the canopy, firing the seat charge) and after ejection (opening the clasps of the strapping system, abandoning the seat and simulation of opening of the main parachute).[16]

Although the primary training emphasis in published articles is on the ejection and egress followed by a parachute descent, it appears that the responsibility for teaching proper use of the NAZ and its contents is also the responsibility of the parachute rescue service. I found no other organization or training structure for teaching use of the NAZ after successful bail out. The Soviets have also publicized the extensive survival training their cosmonauts receive to prepare for the contingency of a wilderness landing where they might have to live off the land until a rescue team could reach them. Cosmonauts were pictured using the signaling devices and being picked up by hoist from an Mi-8 helicopter (NATO designation Hip).[17]

Volovich, who writes extensively on survival

*It is unclear whether or not the NAZ includes a mirror. However, V. Volovich states that the mirror is a daytime signal.

techniques,* presents the same type of basic survival information that is familiar to U.S. Air Force crew members.[19] However, in an article on air crew survival, Volovich also discusses training. "If an aircrew is to acquire the skills of using survival gear and rescue resources, it must undergo training."[20] Citing an incident of a Soviet pilot who took too long to secure himself to the hoist cable, he faults the training. Without openly criticizing the survival equipment training program, a three-stage program is advocated. The first stage is familiarization with operational areas, survival gear, and the information on search and rescue resources. The second stage consists of hands-on training and hoist training with nets, chairs, and belts. During the third stage, the air crew would practice in natural surroundings after a simulated force landing.[21]

Much of the survival information published by Volovich seems to be information that air crews should know and receive during annual survival refresher-type training along with their parachute training. In addition, Volovich implies that a better survival training program is needed. My inference may be influenced by the bias in information I had available. The bias was in favor of the fighter pilot. Since the Soviet fighter pilot gets much more coverage in articles, it is difficult to be confident of the quality of survival training that transport and helicopter air crews receive. Based on the increased information available from Soviet military writers during the last five years, it is safe to say that Soviet concern with survival and recovery of pilots who eject or crash land successfully has increased.

Air Rescue Service Aircraft and Helicopters

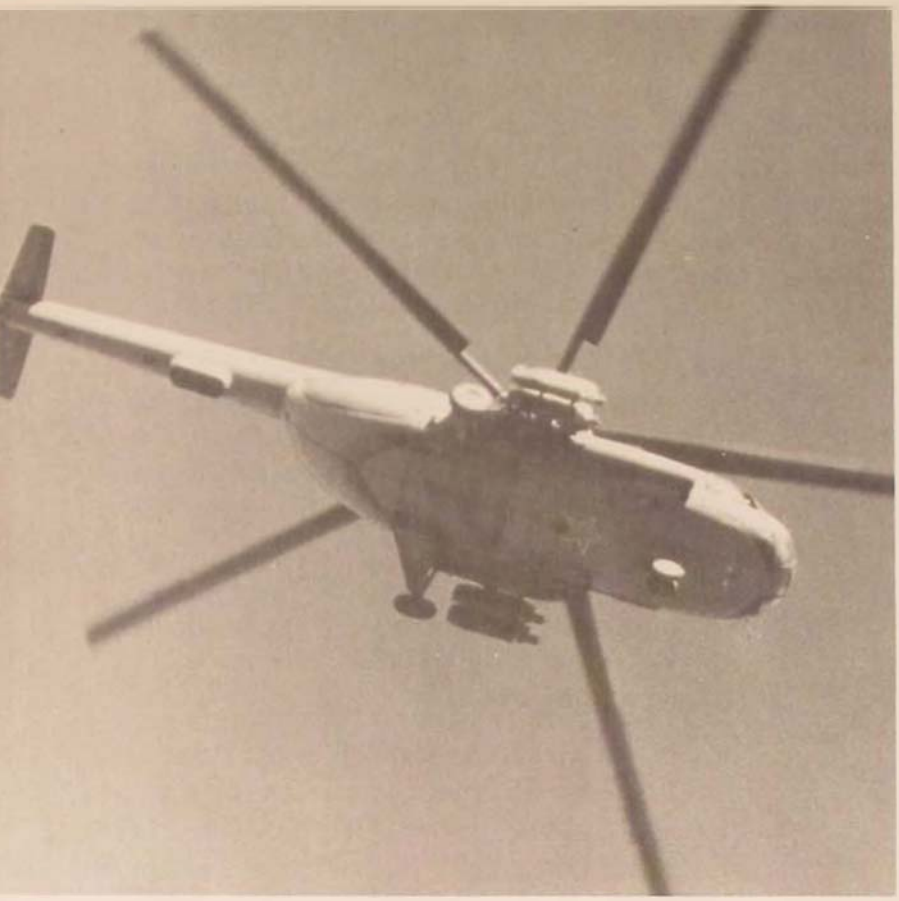
My research into the aircraft and helicopters used by the Soviet air rescue service produced nothing conclusive about the aircraft used, but all indications point to the Mi-8 as the helicopter recovery vehicle. The Mi-8 has been photographed providing training for cosmonauts and performing humanitarian rescue and resupply during flooding in western Byelorussia. These photographs have appeared in *Soviet Life*.[22] A rescue hoist is part of the Mi-8 equipment:

> The multipurpose Mi-8 helicopter has won recognition of specialists in many countries, thanks to its excellent performance characteristics and simplicity of operation. It can be used for carrying passengers . . . for executing rescue operations whereby people or cargoes are picked up with the machine hovering in the air. The Mi-8 is an all-weather helicopter which can fly at any time of the day or night.[23]

The Mi-8 is a twin-engined transport helicopter with five main rotor blades and three tail rotor blades. It has nonretractable gear with a steerable twin-wheel nose gear. It is all-weather with rotor blade, engine, and wind screen deicing. The Mi-8 can accommodate 24 passengers or 12 litters along with the crew of three, two pilots and a flight engineer. It is equipped with a winch to aid in loading cargo, and an electrically operated hoist can be installed in the doorway for hoist recoveries. As a luxury item, the heating system can be exchanged for a full air-conditioning system. The Mi-8 is fully instrumented and has a four-axis autopilot. Standard communication equipment includes a high-frequency transceiver, very high-frequency transceiver, radio altimeter, and an automatic radio compass. Normal range is 289 miles with a normal hovering ceiling out-of-ground effect of 2625 feet. The Mi-8 is a heavily armed helicopter.[24] It appears that any available helicopter can be pressed into the rescue role, depending on the circumstances; and many helicopter pilots fly a variety of missions ranging from attack to rescue.[25]

The Mi-8 is comparable in speed and hover capability to the HH-3E but approximately 20

*V. Volovich has published articles on desert-survival techniques, Taiga (wilderness) techniques, and use of the NAZ (survival kit).[18]



A Soviet Mi-8 Hip (left), equipped with external stores, can be fitted with an electrically operated rescue hoist above the left cabin door. Hips can be used as gunships, transports, or rescue helicopters. . . . Afghan freedom fighters stand triumphant over a downed Mi-4 Hound helicopter (below). The Mi-4 entered production in 1952 and is comparable to the Sikorsky H-19, which left the USAF inventory in the early sixties.

percent heavier. The HH-3E, Jolly Green, is equipped for air refueling, thus making its range far exceed that of the Mi-8. Our HH-53, Super Jolly, also air refuelable, exceeds the Mi-8 in speed and hover capability. The Mi-8 can be much more heavily armed than can the ARRS Jollys. Although the Soviet air rescue helicopter is very capable, the specialized development such as seen in the HH-53 is lacking.

Even more lacking in the Soviet air rescue service is a comparable aircraft to perform high altitude search and command and control missions. An early 1975 article discussed the use of the An-14 (NATO designation, Clod) as the search vehicle equipped with special homing equipment. The An-14 is 20 knots slower than the Mi-8 and 150 knots slower than the HC-130H used by ARRS.[26] The An-14 was mentioned in only one article; other articles discussed transport aircraft with special homing equipment, but no specific designations were given. I found many references to an aircraft on alert along with a helicopter, but I could not reach any conclusions about what types of aircraft were being used today by the air rescue service. However, the An-14 is inferior in all respects (speed, search equipment, navigation capability, and command and control capability), to the HC-130.

Soviet Air Rescue Service Organization

I had difficulty determining exactly where the air rescue service fits into the Soviet Air Force organization. Although helicopters belong to Transport Aviation and Frontal Aviation, there is not a specific designation for air rescue service or for a search and rescue squadron:

> The Soviets have organized their combat rotorcraft into Independent Helicopter Regiments which number two to three per Tactical Air Army (TAA). Four are located in Eastern Europe while the remainder are located in each Soviet military district.[27]

Usually, helicopter regiments have assault and transport squadrons. The Tactical Air Army can be tailored for specific missions; thus, there is no specific organizational structure.[28]

> All TAA [Tactical Air Army] aircraft are VVS [Soviet Air Forces] assets employed in a direct support role. This integrated role with a subordinate helicopter command relationship is consistent with Soviet doctrine combined arms operations. This task organization is structured to take full advantage of the helicopter's mobility and speed to achieve the ground commander's objective.[29]

The transport helicopter, in a direct support role as outlined earlier, appears to be subject to the desires of the Commander of the Air Army (or subordinate commanders) as to how an air rescue service will be organized and how it will function. Soviet articles have discussed a "search and rescue squadron" in the Central Asian Military District, while an article from the Moscow Air Defense District uses the generic term "unit." The regiments responsible for air rescue appear to have some flexibility in their organization to accomplish what appears to be a support mission of rescue. Although referring to SAR as a collateral mission, the previously referenced article indicated a requirement for both fixed-wing and rotary-wing resources to be on alert. I have no evidence as to how the fixed-wing assets are organized or from where they are tasked. The secrecy associated with aircraft incidents and the tailoring of the Tactical Air Army obscure the Soviet air rescue service organization.

The helicopter regiment designates a transport squadron (or crews from a transport squadron) to develop search and rescue expertise and operate some number of rescue-configured Mi-8 helicopters. The crews provide rescue alert coverage for military flying and civilian disasters. The fixed-wing complement is probably allocated by the Military District commander from airlift forces available to him. The fixed-wing assets provide high altitude search and control capabilities while sharing alert with the helicopters.

Soviet Air Rescue Operations

In describing a helicopter rescue training mission, Captain Yu Soldatenko writes, "The fighting men of the search and rescue service* are ready to come to the aid of persons in trouble whenever they receive the distress signal, in any weather, at any time of the night or day."[30] After that introduction, Captain Soldatenko describes a simulated distress message from a pilot to the command post followed by a helicopter search and rescue mission. The air rescue crew, carrying an emergency surgery brigade, was launched to an estimated ejection point. With low clouds and reduced visibility (one-half to three-quarter miles), the air rescue squadron commander proceeded toward the area and picked up the beacon of the downed pilots. En route the emergency medical care brigade (a neurosurgeon, an anesthesiologist, and an internist) set up anesthetic equipment and heart stimulation instruments. Approaching the area, guided by the directional finding compass, the air rescue helicopter descended through the clouds. After spotting a signal flare, the rescue helicopter recovered the pilots by hovering.

> A special seat was lowered from the helicopter on a winch-operated line. The flight engineer quickly made the necessary switches on the control panel to operate the winch and lift the victims on board. Rescue work in the hover regime lasted just a minute.[31]

Although this air rescue squadron was recognized as having outstanding knowledge of the combat equipment and its use, the narrative gave no hint of any simulation of combat or use of combat equipment. No further mention was made of the medical care brigade after the pickup. Captain Soldatenko did state that the medical care brigade had performed operations and provided various medical treatments in the past. He also pointed out that the downed pilots were played by two experienced parachute jumpers with the rank of warrant officer in the Soviet Army.[32]

While that exercise in the Central Asian Military District was accomplished with a single helicopter, the next example of air rescue involved a helicopter and a SAR (search and rescue) team and took place in the Moscow Air Defense District:

> . . . even if there is an unforeseen emergency situation, the airmen must be sure that somebody will immediately come to their assistance. While flights are in progress, a SAR aircraft or helicopter is on alert at the airfield.[33]

Launched from alert, the air rescue helicopter crew used direction-finding equipment to proceed directly to the area with the training mission of locating the survivors. The survivors' parachute canopies had been arranged as a triangle to signal a need for food and warm clothing. Quickly spotting the panel, the air rescue commander relayed the information to the command post and then ". . . skillfully guide[d] the regiment's SAR team to the site. . . ."

> The unit pays a great deal of attention to improving the expertise of the crews participating in SAR operations. Special drills and training sessions are conducted on a regular basis here. The airmen learn to locate the site of an "accident" accurately and quickly and they learn to make a skilled assessment of it. During their training, the trainees acquire skills for rendering first aid. For example, they must be able to make an improvised lean-to out of the materials at hand and they must be able to prepare hot food.[34]

These "airmen" may be members of a rescue group that is a part of the Soviet air rescue service. Some support is provided by Volovich:

> Today's search and rescue service is outfitted with sophisticated resources ensuring a quick search for disaster victims and delivery of rescue groups [SAR team] to the place of the incident to render assistance [first aid, build lean-to, prepare hot food] and evacuate the group.[35]

Engineer-Colonel V. Frolov described a rescue

*Due to the various ways to translate or interpret Russian into a common U.S. military language, *air rescue* and *search and rescue* are interchangeable. Based on the Soviet encyclopedia's translation, I have used air rescue to provide continuity.

group as being composed of a doctor and two experienced parachute jumpers.* Frolov's article was about a sea rescue in which a helicopter dropped an inflatable boat to the downed pilots, and then the rescue group jumped down to help them. All were recovered by the helicopter using the winch.[36]

The third type of air rescue mission is one in which fixed-wing aircraft provide high-altitude electrical search while the helicopter provides low-altitude visual (and electronic) search. This training exercise, reported by Lieutenant Colonel I. Osokin, began with a distress call to the command post. The search and rescue airplane was launched from a nearby field where it was on alert. Poor visibility and cloudy weather were reported by the airplane, which had climbed above the weather. The airplane located the beacon and provided coordinates to the helicopter. Because of poor visibility, the helicopter experienced navigation difficulties and arrived later than it should. Colonel Osokin described the homing capabilities of both the airplane and the helicopter used to locate the survivors' position. He discussed the relationship between altitude and ability to receive the beacon signal. Visual search was reported as best at an altitude of 200 to 300 meters, and night visual search was conducted using special lights at an altitude of approximately 250 meters.[37]

Colonel Osokin went to great lengths to explain how the helicopter could be directed to the survivors' position by homing on the airplane's radio signal transmitted when the airplane flies over the survivors' position. This homing procedure works in weather conditions, day or night. Helicopter crews are required to familiarize themselves with the area so they can land anywhere at night in all weather conditions.[38]

These four search and rescue training exercises present nothing new or surprising, but they do outline some standard characteristics of the Soviet air rescue service units portrayed. The aircraft radio direction-finding equipment and the helicopter recovery procedures seem similar enough to be part of a larger air rescue service. There is no indication of how these air rescue forces would be used, if used at all, in a combat role. Most likely they will be used as existing conditions permit.

BEFORE drawing any conclusions about Soviet air rescue, one must remember that we are dependent for information on what the Soviets have cleared for release in journals for the free world. The recent increase in the number of articles indicates a desire to gain a favorable public image from the humanitarian efforts as well as provide confidence and motivation for Soviet Air Force aviators.

Traditionally, each Soviet military aircraft's crew is charged to assist (and to rescue, if possible) the downed crew of a friendly aircraft. However, Military Districts' Aviation Commands probably establish, organize, and task the air rescue forces from the Tactical Air Army helicopter regiments and from the airlift forces. The recovery helicopter, the Mi-8, is quite capable of performing the rescue role. The exact position of the Soviet air rescue service in the military organization within the Military District is obscured. It is part of the Military Districts' Aviation Command structure.

Air rescue service procedures for recovering downed pilots appear normal. One item stands out, however, and that is the highly qualified medical team that accompanies the rescue helicopter, a luxury indeed in any nation. The parachute rescue service, common to all Soviet Air Force units, is responsible for training flight crews in ejection, parachuting, and survival. The base command post provides launch and mission control for the air rescue service. Included in the air rescue service are parachute landing groups that provide medical aid and assistance to the downed crew members. All of the missions of the Soviet air rescue service, as

*The rescue mission that Captain Soldatenko reported used parachute jumpers to play the role of downed pilots.

outlined by the *Soviet Military Encyclopedia*, *are being performed by the air rescue service.*

The positive influence to morale and spirit when a unit's pilots are successfully rescued in a combat environment is hard to quantify, but the return of an experienced pilot is clearly measurable. The Soviet Air Force may be experiencing some of these positive influences in Afghanistan today. The Soviets certainly have an air rescue service organization to provide a combat recovery capability in operations such as Afghanistan. The first Soviet military pilot given the highest award of the "Hero of the Soviet Union" in Afghanistan was a helicopter pilot who rescued his comrades from a downed helicopter in a combat situation. Whether they have dedicated the resources to provide rescue coverage for Afghan forces remains to be seen. The secrecy of their activities in Afghanistan prevents the free flow of information that would confirm or deny, at the unclassified level, that the air rescue service is part of the Soviet forces deployed in Afghanistan.

Although not nearly so advanced as our Aerospace Rescue and Recovery Service, the Soviet air rescue service has a potential for use in combat. The Soviet Air Force armed helicopters could provide short-range escort that would be extremely effective. The availability of combat escort and a functional air rescue service that is presently supporting military and civilian emergency recoveries makes Soviet combat rescue feasible, and, as noted earlier, apparently a part of combat activities in Afghanistan. It is possible to extrapolate a Soviet combat rescue capability that would be well-suited for a European conflict, but to do so at this time would be conjecture.

Air War College
Maxwell AFB, Alabama

Notes

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AIR UNIVERSITY REVIEW AWARDS PROGRAM

Lieutenant Colonel Donald R. Baucom, USAF, has been selected by the Air University Review Awards Committee to receive the annual award for writing the outstanding article to appear in the *Review* for 1980-81. His article, "Technological War: Reality and the American Myth," was previously designated outstanding in the September-October 1981 issue. The other bimonthly winners for 1980-81 were Lieutenant Colonel Robert S. Fairweather, Jr., USA, "A New Model for Land Warfare: The Firepower Dominance Concept," November-December 1980; Dr. Daniel S. Papp of the Georgia Institute of Technology, Atlanta, "Soviet Perceptions of the Strategic Balance," January-February 1981; Colonel Thomas A. Fabyanic, USAF, "The Grammar and Logic of Conflict," March-April 1981; Colonel Richard M. Suter, USAF, "Janus: Concept for a Multipurpose Fighter," May-June 1981; and Lieutenant Colonel Donald J. Alberts, USAF, "An Alternative View of Air Interdiction," July-August 1981.

in my opinion

REFLECTIONS ON WINNING, LOSING, AND NEITHER

DR. JONATHAN G. MARK

I was an AFROTC student during the period of the Vietnam War on a campus that had an active antiwar movement. It was an exciting but distressing time to attend college. There were times when it was inadvisable to wear a uniform on campus. The harrassment could be intense because the political atmosphere was so highly charged by the time I graduated and went on active duty, I felt I had already been through a campaign of sorts.

But when I left active duty four years later and returned to the campus for graduate school, the Vietnam War was over and so was the campus unrest. Since then, as a graduate student and later as an instructor of undergraduate students in American government courses, I have tried to watch the campus closely for signs of student reaction to the contemporary political environment. I have developed an interest in the way students react to such issues as compul-

sory military service because I think that their reaction can be reflective of what the rest of the country thinks about these issues.

As a reserve officer involved in undergraduate education, I have had an excellent opportunity to observe today's college-age youth. Some of my observations follow.

No one has been drafted for nine years, but to many students the prospect of being drafted for service in a future war is real and disconcerting. They seem to know that we live in a dangerous world and that it is the young who are always called on to fight. But despite what I read about rising ROTC enrollments and the end of the Vietnam syndrome, I believe that the bulk of today's students would oppose a return to the draft on principle. The reason is still the Vietnam experience.

In class we discuss the presidency, foreign policymaking, and inevitably the War Powers Resolution of 1973 that formally limits the President's personal power to make war. The best written and most interesting of the freshman American government textbooks dwell extensively on the problems experienced by postwar American presidents in their role of Commander in Chief. The impression created by these readings is that our postwar presidents have been less than masterful in the foreign policy arena and that the country has, on occasions such as Vietnam, paid a high price for their failures.

Vietnam is more than just history to these students because they fear that history may repeat itself. They do not lack patriotism or loyalty or any other virtue, so far as I can tell, but because of Vietnam, they do seem to be short on confidence in our current national leadership. They feel that civilian leaders of the Vietnam era lacked the skill to avoid war or to win it, and they want to be convinced that the leadership gap of the postwar years has been permanently closed.

Many students today feel that Vietnam was a fool's errand for their older brothers—that the really smart guys found a way to get out of serving. Others feel that their older brothers had no choice but to serve, yet they were misused in the process. These seem to be among the main reasons why there are still strong reservations on campus about compulsory military service. But these reservations also reduce interest in serving in the all-volunteer forces of today, particularly in the combat arms. Such service is largely shunned by college-trained youth—among our most qualified potential soldiers and officers—not because it is difficult or possibly dangerous work but because doubts remain about the quality and intentions of our top civilian leadership. Most of all, students seem to wonder if our nation will get involved in another war that the top leadership has less than complete interest in winning.

As we move through the 1980s, there may be opportunities or obligations to use military power to achieve political ends. But even if the nation has left behind the Vietnam syndrome, it still seems premature to assume that the nation is ready to use conscripted manpower to produce an outcome in another country which is again less than decisive in military terms. It seems clear to the students that achieving a decisive military outcome was never the main objective in Vietnam. The main objective seems

to have centered on restoring the political status quo in another country. For good reason or bad, the students still do not understand what this kind of thing has to do with the defense of the United States or why they might be involved in such a campaign someday.

What they do understand, and speak clearly about, is the distinct difference between winning and losing; that getting killed when your side does not really want to win can seem pretty senseless. Soon the debate will build around the question of whether we should scrap the all-volunteer policy and return to the draft. But military service of any kind seems tied to the leadership question. To many students there is the notion of a contract about military service. If they are sent to war, they want to know that our civilian leaders intend to win, not recklessly, but decisively. If they are sent to war, they want to know that the need will be clear and unambiguous. On no account will there be enthusiasm on campus for a war that seeks to achieve political-military objectives which are either poorly defined or militarily inconclusive in nature. The experience of the Vietnam veterans makes this a certainty.

Most Vietnam veterans have now passed through college, but they have more than left their mark. I say "passed through" because some of them seemed unable to collect their wits sufficiently while they were there to construct a degree program of any kind. As a graduate student and college instructor, I have known dozens of them, and they generally fit into two categories: veterans of the combat arms and veterans of all other types of Southeast Asia service. There is no doubt that veterans who saw heavy action are different from those who did not. While veterans without service in the combat arms seemed generally able to get on with their lives, the others so often were to be the lost souls of campus life. Many of them apparently have not been able to draw a line between the past and the present; they either write passionate poetry about love or they love to start barroom brawls. But in the end, they are just passing through.

The younger students, without any kind of military experience, normally do not know what to make of the lost souls. But the smarter, more sensitive students sometimes think they see a connection between the anger in some veterans and Southeast Asia service in the combat arms. Sometimes they think such a veteran was attracted to this type of service because he had always been a fighter or because he had once been a young man with something to prove about himself. But more often they think that the veteran learned all he ever knew about fighting in the service and that he was still fighting years later because he did not know how to stop.

There are still a few Vietnam veterans on campus. Some, the most distressed, seem to carry around feelings of personal failure about the way the Vietnam War was fought and ended. In Vietnam, there was a conflict between the winning tradition of the American military services and the apparent objectives of the American civilian leadership. The leadership sought at most the preservation of American pride and honor—a worthy goal but not one immediately essential to the survival of the American way of life and one which, in any case, was not focused firmly enough on winning.

As a result, some Vietnam veterans may feel personally responsible for the way the war turned out. Their younger brothers hold them blameless, but the effect that military experience has had on the lives of these men is widely known on campus. I suspect that their impact has been at least as strong in other sectors of American life. The veterans have had an effect that tends to inhibit the natural urge to serve in those who follow.

THE end of the Vietnam syndrome does not mean that we have wiped the slate clean of the past—that Vietnam never happened—only that we no longer choose to be fascinated

and inhibited by our own recent history. We can and should proceed with confidence that we have the ability to protect American interests around the world with military force if necessary. But what is written on that slate is that many young Americans will always resist the opportunity to fight for the kind of objectives apparently sought in Vietnam.

Our civilian leadership continues to carry a burden. It is the burden of translating American interests into policies that reflect the values young Americans instinctively want to defend. When students sense that this process is complete, they will have renewed enthusiasm for military service. To draft them, before the process is complete, would be to risk repeating errors in a period of history when the price of failure could be higher.

The campus is now quiet. Occasionally someone organizes a rally against some aspect of American foreign policy or against draft registration. But few people ever show up. Now is a waiting time. The students are waiting to see what we have learned.

Tulsa Junior College, Oklahoma

FEEDBACK . . . A UNIQUE KEY TO LEADERSHIP

LIEUTENANT COLONEL HENRY A. STALEY

WE have been wringing our hands for the past decade over the decline of personal integrity and the slow slide of professionalsm down the slope toward occupationalism. Most of our precommissioning and professional military education (PME) institutions devote blocks of instruction to integrity, leadership, professionalism, officership, and the like. Periodic conferences and symposia bemoan the apparent lack of professionalism among the troops. Specific definitions are seldom forthcoming, but the emotionally soggy words *professionalism, leadership, integrity, officership,* etc., make for good press. Merely mouthing the words seems to give some leaders the sense they are actually doing something constructive to mend the tattered fabric of our profession.

Written or spoken words rarely lead to significant *behavioral change* unless those communications are consistently supported with action. Our integrity, our professionalism, and our officership erode a little every time we see the leadership pull a fast one, act inconsistently, or fail to meet that seldom defined ideal. For me, that "ideal" conjures up a definite mental picture. I see an officer who has the strength of character to be humble and the wisdom to be reasonably suspicious of "gut reactions." I see someone who sincerely values the opinions of others and considers many alternative paths to the objective. Even when time limits full consideration of all paths, I see an officer who never stops trying to find them. I see an officer who is intellectually stimulated by open debate.

Above all, I see a person who is acutely aware of that almost "mystical isolation from reality" that slowly and insidiously overtakes a leader as he or she advances in rank. I am critical of that isolation because it is one of the underlying causes of the perceived decline in integrity, officership, and professionalism. I formerly blamed staffs for isolating their decision-makers, but the more I have studied and re-

flected on the matter, the more I am convinced that the staffs are really powerless to correct the problem. They have become their own worst enemy.

I learned long ago never to criticize without offering alternatives for improvement. Therefore, I will introduce my suggestion by mentioning a grassroots activity that occurs in thousands of situations throughout the Air Force every day. It plays an important role in all human relationships. It is called *feedback*. But the type of feedback *usually* provided by staff officers brings multiple injuries to our profession every hour of every day: it is "death by a thousand cuts."

Allow me to set the stage on which this hourly drama unfolds. . . .

> Psychologists and sociologists tell us that we were drawn to military careers for a variety of complex reasons: three of them are our needs for order, conformity, and authority. (Some would substitute "a father figure" for authority.) Add to these needs a precommissioning regimen that stresses "yessir, nosir, no excuse, sir," and we tend to create a majority of fawning officers who become emotionally frazzled at the mere suggestion of disagreeing with anyone in the authority chain.

I won't belabor this truism since we have all witnessed our share of yes men—careerists, opportunists, manipulators, etc. You may be one of these types yourself. In fact, we are all members of that overwhelming brotherhood and sisterhood to some extent.

Is there something wrong here? Am I suggesting that we should overcome our basic natures? Should we resist those aspects of USAF training and education that reinforce the "yessir, yessir, three bags full" mentality?

Yes! There *is* something wrong here, and you can sense it. And, yes, I am suggesting we overcome the traditional approach. But, first, let's return to that hourly drama.

> The staff assembles (collectively or individually) and, if fortunate, they are allowed to comment —to give their views on "Issue X." Being bright troops, they intuitively sniff out the atmosphere. "What's the boss really after here?" "Does he/she want to support 'Issue X'?"
>
> Most of the staff members will slant their comments so that they agree with the perceived objectives of the decision-maker (leader). There may be conventional recognition of opposing viewpoints, but it will most likely be written or spoken in a less than emphatic fashion. Thus, armed with the "supportive wisdom" of his or her staff, the decision-maker rides off into the sunset toward another calamity, another success, or another nonproductive but expensive rearrangement of the status quo.
>
> End of hourly drama.

On the other hand, a truly effective leader —here comes the "bottom line"—literally squeezes, begs, demands, and cajoles the staff to provide all the reasons "Issue X" may or may *not* be logical. Equal emphasis is given the position that runs counter to the decision-maker's personal viewpoint. A truly effective leader understands the basic character of the corps — the basic need to "yessir, yessir, three bags . . ." ad nauseam. And in understanding it, he overcomes it through personal action. How many times have you heard these comments from a decision-maker?

> Now, (insert your own name here), I know what you wrote on "Issue X," but I think you're hedging. Tell me what you really think. Tell me which side of the log you'd roll off if the decision were yours. The Air Force is paying you to think and render judgments based on your expertise —it does not pay you to flatter me. Now let's have it without the honey.

You haven't heard a conversation like that very often, have you?

A truly effective leader has the strength of character to realize that his or her intuitive judgment is usually a poor substitute for the collective wisdom of the staff. And, in those rare cases when intuitive judgment *is* best, listening to the viewpoints of the opposition will neither weaken a sound intuitive decision nor strengthen a poor one.

A truly effective leader's success will hinge in no small part on frequent and meaningful reward for honest feedback. This reward can be as

informal as, "Thanks for that candid and provocative viewpoint," or as formal as specific comments on Officer Effectiveness Reports in the blocks labeled Judgment and Decisions, Leadership, Communications (Oral and/or Written), or Professional Qualities.

A truly effective leader realizes that "fighting for feedback" really is a fight, a personal battle. Staff members will resist it; their eyes will dart from right to left furtively looking for escape hatches and rat holes. After all, this is a new experience. It short circuits all of their subservience training and career survival wisdom. They will sense ulterior motives on the part of the decision-maker. An effective leader must struggle doggedly against these initial reactions. In other words, a true leader must *lead.*

There is obviously no grand design or complex conspiracy aimed at shielding leaders from bad news or contrary viewpoints, but the effect is almost the same. What I am suggesting is really quite simple. It requires no great intellect, creative genius, or long string of classic leadership traits. It takes only a personal commitment by the leader to demand and reward honest feedback. And, unlike many of the complex leadership/followership issues we read about, the responsibility for effective or ineffective feedback rests squarely on the leader's shoulders.

Some people (including myself) suggest that our precommissioning and PME systems should approach officership training and education from a more enlightened perspective—that we should, among other things, nurture a more questioning, creative, and assertive approach in our professional programs. Instead of preaching "yessir, yessir, three bags full, . . ." we should be teaching "yessir, we can probably do what you ask, but the costs will be. . . ." Indeed, until a decision-maker actually decides, the staff officer should be compelled by his or her professional integrity to render a thorough, "no-punches-pulled" assessment of every staff issue.

Until that time comes (if ever), the key to opening the lock to honest feedback waits in the pocket of every leader. The truly effective leader will reach for it.

Air Command and Staff College
Maxwell AFB, Alabama

The United States Army War College, the United States Army Center of Military History, and the United States Army Military History Institute will sponsor an international symposium on the subject, "The Impact of Unsuccessful Military Campaigns on Military Institutions, 1860-1980," to be held at the United States Army War College, Carlisle Barracks, Pennsylvania, 1-4 August 1982.

Separate sessions are planned for the following subdivisions of the theme: The Nineteenth Century, The Far East and Suez, Europe: 1918-1942, and Vietnam.

Requests for registration materials and other communications regarding the symposium should be sent to: Lieutenant Colonel Charles R. Shrader, USA, 1982 Symposium Coordinator, U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania 17013.

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.

WHY NOT VLRs, NOW?

Lieutenant Colonel William A. Barry

THE significance of Dr. Roger A. Beaumont's article "Between Two Stools: Very Long-Range Aircraft in Sea Control," in the September-October 1981 issue of the *Review*, has been fittingly escalated by the recent announcement that naval priorities are to get increased funding under the Reagan administration. One gets the impression from reading press clips of the announcement that only the U.S. Navy and its carrier-dominated forces can be relied on to take part in missions involving enemy ships. Dr. Beaumont has raised the valid point that there may be another way of combating the Soviet Union's growing surface fleet other than sailing in harm's way all the way to the approaches of Murmansk.

We are constantly stressing the technological superiority of the West in comparison with the U.S.S.R., so what is wrong with using a U.S. version of the Backfire bomber to threaten Soviet surface vessels with a variety of high technology, standoff weapons? Based in the continental United States or on the territory of friendly and allied states, such a land-based force might restrict the advance of the Soviet Navy's surface combatants long before such ships were capable of interdicting vital Western sea lines of communication. The alternative is to continue to invest up to $17 billion in each carrier task group designed to do the same job.

It is not simply a question of carriers or no carriers. It is more a case of designing forces economically to suit a given strategy and area. The aircraft carrier proved its worth in World War II as a power projection force. There are still a number of areas on the earth's surface that the United States has decreed as vital to its national interest but in which we have no allies or cannot arrange basing for sufficient air assets to put military teeth behind our diplomatic pronouncements. In these areas, U.S. Navy carriers retain a valid mission, and we should continue to press along with the Navy for the largest and most modern of sea forces necessary to ensure successful operations in these waters. In other world regions, however, the Navy's present mission is likely to be one of force protection rather than force projection, and here the glorious tradition of carrier-launched naval air may have been overtaken by modern technology.

An example of this is the Navy's own land-based fleet of Orion antisubmarine warfare air-

craft, which do a superb job against Soviet submarines from bases on both coasts of the United States and from scattered overseas locations. They have replaced the World War II airborne submarine hunters whose impressive performance against German U-boats Dr. Beaumont catalogued in his article.

Unfortunately, no such glittering historical tradition can be invoked in the name of reestablishing a U.S. very long-range (VLR) force with a primary mission of attacking enemy surface ships. In the 1920-30s, the peacetime U.S. Army Air Force proved it could sink anchored dreadnoughts and find civilian liners far at sea. In so doing the AAF won a role in coastal defense that in turn provided a rationale for development of the B-17 bomber. In wartime the B-17 became a fabled workhorse of the strategic bombing campaign in Europe, but its record as a naval bomber was less than spectacular. On the random occasions when B-17s were able to find the Japanese ships they were sent against, few successful bombings were achieved.

Thus, no invocation of a previously effective U.S. VLR antisurface ship force can be made in partial justification of establishing a new one. The case for a modern VLR force must be made on the basis of technological advancement and economic efficiency. Vast areas of the globe that in World War II required carrier-launched air in order to ensure continuing air cover over them can today be protected by the longer range aircraft which more than thirty years of technological advancement have made possible. Furthermore, aerial refueling can extend aircraft time on station to the limits of crew endurance over these same areas. Modern reconnaissance systems, both airborne and space-based, can provide near real-time tracking of enemy vessels so that open ocean searching for assigned targets will no longer be necessary. Similarly, standoff weapons, electronic countermeasures, and smart bombs have increased the vulnerability of large naval ships to air attack. Consequently, a much better case can be made for VLRs since Japanese vessels last dodged the high-altitude attacks of B-17s.

Advances in technology alone should suggest the impartial examination of the use of VLRs in an antishipping role for the present day. The assignment of a high priority to the mission of engaging the Soviet fleet well outside of areas considered vital to ourselves and our allies only increases the case for such an examination. In a time of growing Soviet naval strength, our own continuing fiscal restraints require that our future force structures be increasingly based on deriving maximum military potential from available technology at the least possible cost. Past organizational structures and roles, no matter how gloriously embellished or strictly defined, should not establish inflexible parameters within which we must build those future forces. If there is a priority need to engage the Red Fleet deep in its own waters, it does not follow automatically that the U.S. Navy and its existing force structure are the only or even the best method of going about the task. Ongoing political, economic, and technological developments add increasing weight to Dr. Beaumont's argument in favor of a U.S. VLR force with a sea-control mission.

Hq SAC

Lieutenant Colonel William A. Barry (USAFA; M.A., University of Notre Dame) is Chief, Political-Economic Division, Headquarters Strategic Air Command, Offutt AFB, Nebraska.

ROLLING THUNDER RECONSIDERED

Alfred P. Rubin

WHILE W. Hays Parks's case study creates a false impression of military-civilian split in the Department of Defense regarding Rolling Thunder, it is absolutely correct in pointing out the utility of legal input to policy at all levels.* However, "Rolling Thunder and the Law of War" raises questions that need serious consideration, particularly by those who think international law is a mere technical specialty that can be ignored without significant political or military consequences.

Having been a civilian in the Pentagon in 1961-67 (with a little military experience beforehand) and a lawyer for Assistant Secretary of Defense/International Security Affairs (ASD/ISA) particularly charged with responsibilities for our Southeast Asian entanglements in 1963-65, I have very mixed feelings about parts of the article. The law is no doubt sound. The criticism of civilian leadership is a bit too harsh, particularly when it implies an absence of military input to key decisions. In fact, no lawyers, civilian or military, were consulted about Rolling Thunder to my knowledge. My first reaction when I heard of it was that it was surpassingly foolish from both a legal and political point of view.

International Security Affairs is also condemned with rather too broad a brush. If I remember correctly, about half or more of the ISA people involved in our Vietnam entanglements were military, seconded from the services and maintaining back-channel, if not front-channel, communication with their home services. I heard as much nonsense from them as from the civilians.

Thus, in my opinion the problem was never lack of military input but unwillingness at all levels, military and civilian, to listen to anybody, military or civilian, who had any insights that the leadership, military and civilian, was uncomfortable hearing. The implication that the Air Force Chief of Staff and the Joint Chiefs did not have a direct channel to the President through which their unhappiness could have been expressed is patently false. And I am not aware that they consulted their lawyers either; certainly no rumor of such a consultation reached me, as it should have if the military lawyers were exercising their usual diligence in marshaling allies within the bureaucracy to back a request for reconsideration of Presidential policy.

There is ample blame to spread around without singling out civilians in McNamara's Pentagon, and I would place it first on the military leaders who obeyed orders without using the levers at their command to make the countercase and press it in the usual way. One of the facts of political life in the United States is the subordination of military to civilian leadership, but to balance the picture, the bureaucracy is available to military as well as civilian leadership to assure that the final decision is based on an expert evaluation of the facts. When the top civilian leadership fails to use its expert resources, the top military leadership is at fault for not leaping into the gap.

There is an even deeper problem that Parks correctly hints at, but, by properly focusing his article on a narrow issue, he does not bring it fully out in the open. That is the relationship between the law of war and broad national policy. In my opinion, military strategists, civilian and military, who draw up plans in disregard of the law of war as it impinges on major policy decisions, like the fundamental decision to resort to bombing at all in Vietnam or, to put it in current terms, the fundamental decision to prepare for some sorts of chemical or nuclear warfare, are begging for disaster when they regard international law, particularly the law of

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

war, as unimportant. The disaster comes from the loss of contact with the broad constituency that elects congressmen and ultimately controls policy through control of public money. Unless that constituency is satisfied that the overall policy is "legal," its implementation gets caught in a political web in which "morality" becomes the issue. The issue does not disappear when strategists disregard it; it is reflected in elections (like the recent "nuclear freeze" votes in Vermont, which must be noted by the congressional delegation from Vermont and elsewhere) and ultimately in appropriations and statutory restrictions on military action.

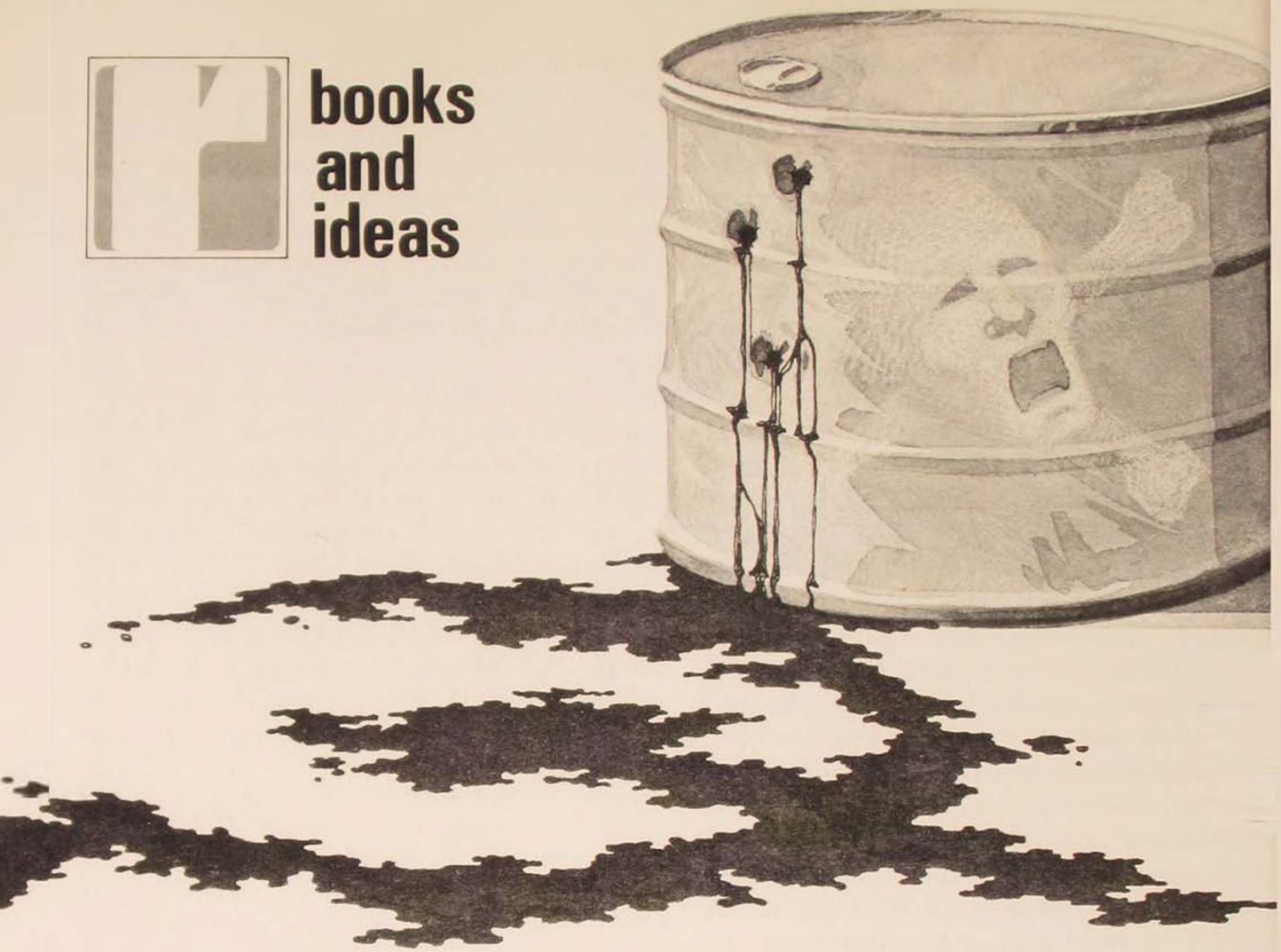
If most international lawyers were convinced that some aspect of military policy reflected military considerations in disregard of the fundamental rules of "necessity," etc., set out so well by Parks in his article (which is extraordinarily clear and convincing on these points), then to plow ahead with that policy is to beg for congressional repudiation. That is not the way to safeguard our national security. In fact, in the Vietnam situation I doubt that the preponderance of lawyers was convinced of the illegality of much that we were doing, but the refusal to "make the case" left the dissenters unrebutted. And when parts of the case were finally made, the papers came out weak and argumentatively unconvincing. I suspect that was a result of many years of disregard by the civilian and military leadership of the need to hire international lawyers who are better than technicians to write adversary briefs in support of decisions made in disregard of the law. It is a sign of evils to come that the Office of the Assistant General Counsel (International Affairs) in the Department of Defense—ISA's international lawyers—was abolished by the Carter administration and has not been reconstituted. The office was not strong, but it is hardly strengthened by being abolished.

And Parks is absolutely correct, in my opinion, in pointing out that attention to the law at the start would have shown there to be much greater scope for military operations than was perceived by an ignorant leadership, military and civilian.

Naval War College

Alfred P. Rubin is Charles H. Stockton Professor of International Law at the Naval War College, Newport, Rhode Island.

books and ideas



DEATH FROM ABOVE . . . RUSSIAN STYLE

MAJOR WILLIAM A. BUCKINGHAM, JR.

IN THE mid-1970s Sterling Seagrave became intrigued with the reports he heard concerning poison gas being used against the hill people of Laos. This interest led to the investigation that produced *Yellow Rain*, which is partly about the American "bugs and gas" establishment and the fraud Seagrave claims it has committed on the American people.† However, as the title indicates, most of his effort is directed at the evidence of Soviet use of chemi-

†Sterling Seagrave, *Yellow Rain: A Journey through the Terror of Chemical Warfare* (New York: M. Evans and Co., 1981. $11.95), 316 pages.

cal and new biotoxin weapons in clandestine assassinations as well as during recent wars in Yemen, Afghanistan, and Indochina.

Seagrave has had considerable experience in Indochina, which proved valuable to him in researching allegations of Soviet chemical warfare in Laos. He is the son of the famous Burma surgeon, Dr. Gordon S. Seagrave, and he spent much of his early life in Southeast Asia. After working for the *Washington Post*, Sterling Seagrave served as a foreign correspondent in the Far East for nearly ten years.

In forming an opinion about the credibility of a work, one of the first things I do is to find a section I know something about to see how well the author has handled that subject. If the author has done a credible job on matters about which I am knowledgeable, then I may be able to trust his work on those subjects with which I am not so familiar. Unfortunately, Seagrave failed this test. His sections on the American use of herbicides in Southeast Asia, a subject I have studied for several years, are filled with exaggerations, unsupported charges, and plain inaccuracies.

A few examples will illustrate this. Seagrave says that almost as much herbicide was used in Cambodia as in South Vietnam. (p. 104) The only allegations of herbicide spraying by the United States in Cambodia of which I am aware consisted of a few cases of suspected herbicide drift from nearby targets in South Vietnam and perhaps a wayward planeload or two in areas where the border was difficult to discern. He also claims that cacodylic acid, formulated as Agent Blue and sprayed on crops, was recognized from the outset as being highly toxic. (p. 99) He further claims that 500,000 acres of cropland were "eliminated." (p. 104) In fact, cacodylic acid has little or no toxicity through the skin, and one must *drink* one ounce or more to produce lethal effects. Agent Blue rapidly lost its potency as a herbicide on contact with the soil, and cropland sprayed with it could be replanted in a matter of days. In his discussion of possible environmental and health damage from Agent Orange, Seagrave accepts the most extreme charges and speculations as fact while ignoring the preponderance of medical and scientific research which contradicts his positions. (pp. 104-07) In general, Seagrave's treatment of the U.S. experience with chemical weapons and herbicides, while bringing out some relevant and valid points, consists of far too many inflammatory statements and unsupported (and unsupportable) charges. These liberties will cause the careful reader to suspect that what he has to say about the Soviet Union's use of chemical weapons and biotoxins may also be exaggerated.

However, Seagrave is not alone in concluding that the U.S.S.R., either directly or through proxies, has in recent years not only been developing and stockpiling but also employing lethal chemicals and biotoxins in warfare in violation of treaties prohibiting the use of such weapons. The State Department in November charged that samples of foliage from Cambodia and yellow powder dropped from aircraft in Laos contained abnormally high levels of poisonous mycotoxins and constituted proof that lethal toxin weapons had been used in those two countries. Mycotoxins are produced by molds which are not indigenous to Southeast Asia but quite common on grain in the Soviet Union. Several outbreaks of poisoning from contaminated grain have occurred in the U.S.S.R., and Soviet scientists have published a good deal of research on these molds, including how the molds can best be grown artificially. An ABC news documentary in December reported on the independent analysis of another sample of yellow powder allegedly dropped from an airplane on the Hmong people in the mountains of Laos. This sample contained four different mycotoxins along with a man-made compound, polyethylene glycol, which could not have occurred naturally. The polyethylene glycol would help the mycotoxins to spread and penetrate body tissues, and this suggests strongly that someone had used these deadly poisons as a weapon against the Hmong.

Considering the level of Vietnamese and Laotian sophistication in chemical weaponry and the fact that the Soviet Union is the main supplier of these two countries' armed forces, along with additional evidence reported by Seagrave and others, one is drawn to the conclusion that the U.S.S.R. is behind the use of chemical weapons in Southeast Asia. There are similar indications from Afghanistan and the fighting in Yemen in the 1960s.

WHAT should the United States, and its military leaders in particular, make of all of this? Perhaps the Soviet "bugs and gas" establishment is using the remote mountains of Afghanistan and Southeast Asia to test operationally some of its newer weapons and determine their actual effects in warfare. Would the U.S.S.R. show more reluctance to use such weapons against, say, NATO forces in Europe? The chemicals found in Southeast Asia and suspected by Seagrave and others of having been employed in Yemen and Afghanistan are third-generation superpoisons, a step beyond the nerve agents against which most American defensive equipment is designed to work. Would current protective devices and decontamination procedures handle mycotoxins? Furthermore, might some strategists in the Soviet Union consider biotoxins and other chemical and biological weapons as a potential weapon of mass destruction that might be used for strategic purposes? Have we examined what form a chemical or biological attack against the United States might take and what defensive measures might be appropriate? Have we considered the possibility of an attacker's using chemical and biological weapons in conjunction with nuclear weapons that would disrupt the health care infrastructure? Another disturbing possibility is the proliferation of chemical or biological weapons to other countries or even terrorists. Producing them, while not easy, probably would be much less difficult than acquiring nuclear weapons.

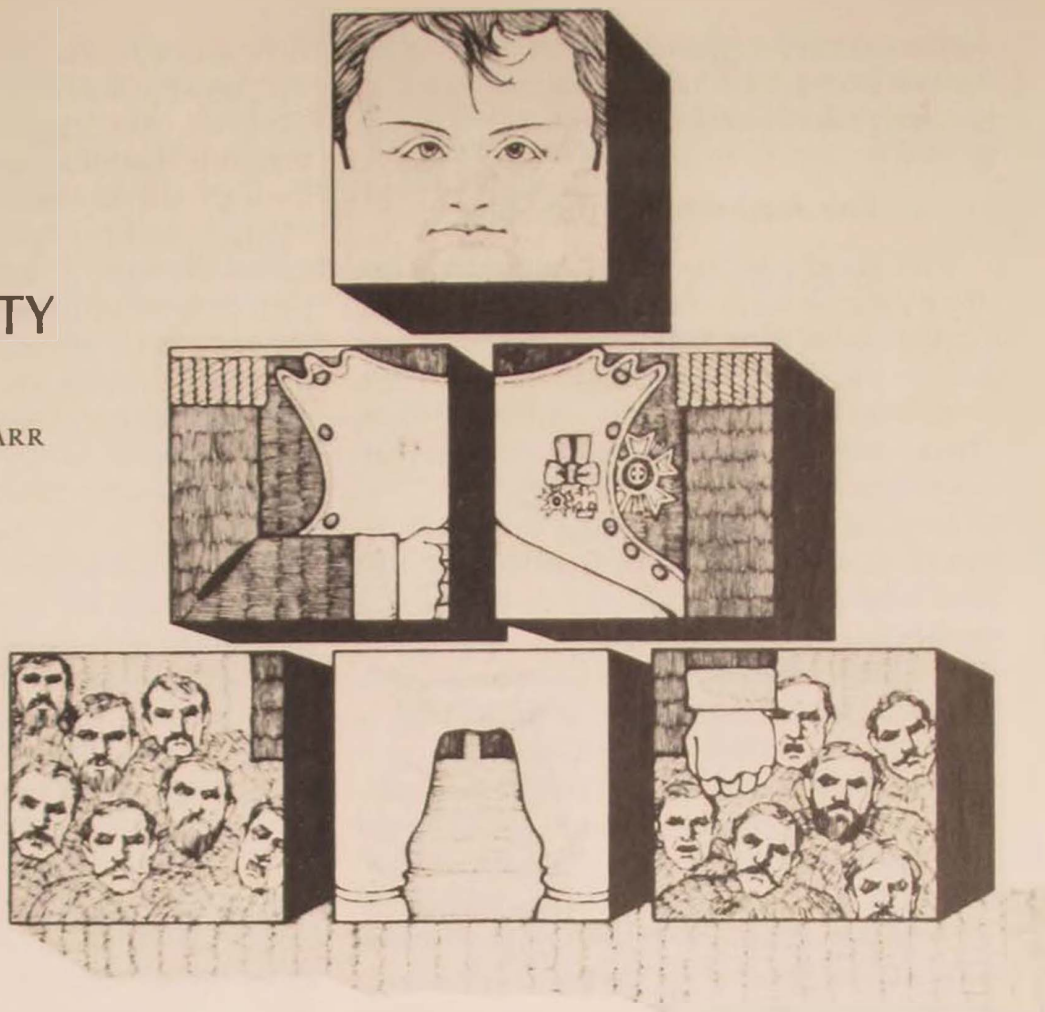
Perhaps a more disturbing question that Seagrave's book should raise concerns the amount of trust the United States can safely place in the Soviet Union as a partner in negotiations and international agreements. One can speculate that American reluctance to pursue and publicize charges of Soviet use of chemical weapons and biotoxins, especially during the previous Carter administration, may have been motivated by precisely this consideration. If the U.S.S.R. will violate as long-standing an international treaty as the one outlawing the use of chemical weapons, how can one have any confidence that the Soviets will live up to the terms of the SALT treaties, the Helsinki accords, or any other of the multitude of agreements negotiated since the beginning of the era of détente in the late 1960s? Does the current Soviet leadership, like Lenin, believe that treaties are only made to bind the other side and that they may be broken whenever there is a unilateral advantage to be gained?

In spite of some reservations, I recommend *Yellow Rain* to anyone interested in learning more about chemical warfare and especially recent Soviet activities in this area. The book has several good sections on the history of this subject, going back to World War I, and parts of Seagrave's discussion of the strange poisons used in Afghanistan, Southeast Asia, and possibly Yemen, read like a good detective story. The controversy is one that will probably not fade away, and *Yellow Rain* will provide a good introduction for the reader who desires a deeper familiarity with these issues.

U.S. Air Force Academy, Colorado

AUTHORITY

DR. CURTIS W. TARR



THE assassination attempts on President Ronald Reagan and Pope John Paul II and the slaying of Anwar Sadat cause us to think about the role of authority in modern life. Looking about us, we see examples of traditional authority crumbling, from the near anarchy of the sixties to the guerrilla movement of the Third World. No organization, not even the military, seems exempt from an erosion of authority; on difficult days, leaders wonder about the future, and some must recall John Stuart Mill's warning that "obedience is the first lesson of civilization."

WHAT is authority? Does it still have force today? *Authority* may be defined as the power to enforce obedience or influence action, opinion, or belief. Even superficial study of the subject makes clear two expressions of authority. In one, a person gains authority by legal right, such as that held by the governor of a state, or the president of a university, or the commander of a military unit. This sometimes is called de jure authority, as contrasted with de facto authority, that which an individual earns by his presence, fitness, excellence, character, or charisma: Lech Walesa of Poland is a current example.

Most traditional leaders have de jure authority awarded by the state or an organization chartered by the state. But the best of these leaders augment that with de facto authority as well. Dynamic commanders such as Alexander and Caesar clearly did so with impressive natural talent reminiscent of Homer. The de facto

leader has a following dependent either on his success or on his faith in himself and his ability to convey that confidence to others.

The Authority of the State

The Greeks believed that authority came from the gods (as in the case of Homer) or God (in the case of Plato) and that others must submit to the designated ruler or be punished. Sophocles summed up that conviction when Creon said ". . . whomsoever the city may appoint, that man must be obeyed."[1]

In Judaism, from the earliest time, men believed that authority came from God. It was God who chose Moses to lead the children of Israel back to the promised land, and it was God who gave Moses the Ten Commandments. God directed Samuel to visit with the sons of Jesse and select David as the King of Israel.[2]

In the New Testament, we find Jesus acting on God's authority.[3] Paul, in his letter to the Romans, noted that authority came from God to those who govern and that citizens should be subject to their rulers.[4] This thought evolved into a Christian concept that earthly authorities were commissioned by God to rule, leading to a justification for the divine right of kings.

The Protestant revolution, preaching the equal priesthood of all believers, shattered this concept beyond repair. God might be talking to the king, but for a variety of reasons the king might be hard of hearing. Society needed a new doctrine to defend the authority of the state. It came in the idea of a social compact.

The Greeks talked about a contract between the individual and the government. Socrates would not flee to avoid death because he felt obligated to accept punishment where previously he had enjoyed benefits.[5] In a more recent setting, three philosophers held similar views of a contract where man gave up his position in the state of nature to secure for himself certain advantages as he joined other people to form a government.

English philosopher Thomas Hobbes (1588-1679) found the state of nature really a state of war between individuals, the worst possible existence. Any government would be better than this state of nature to Hobbes, who lived through the hardship of dramatic political changes. Hobbes concluded that man abandoned the state of nature to form a covenant with others like himself who wanted to ensure the laws of nature (namely, justice, modesty, mercy, the fulfillment of the Golden Rule), putting aside the normal passions of partiality, pride, and revenge. In making this covenant, individuals submitted their wills to one will, either expressed by a man or an assembly that became the sovereign. Doing so, they created the Leviathan, the "mortal god to which we owe, under the immortal God, our peace and defence." Once made, this covenant could not be broken; the sovereign would become absolute as ruler and judge.[6]

John Locke (1632-1704), another English philosopher with somewhat different political experiences, found the state of nature one of freedom. Locke believed that since God created all men and since all men were servants of God to do his business, then each man should be restrained from invading the rights of others. The law of nature put in each man's hands the power of punishing transgressors of the law because a transgressor lives by a different rule from that of reason that God gives to mankind. Man in nature is uncertain, and men give up that uncertainty to form governments that will preserve the individual's property and provide that which nature could not offer, a known and unbiased judge. This government must be supreme, but it may not take away life, liberty, or property.[7]

The baton then passed to a brilliant French writer, born in Switzerland and impressed with the democracy of a city-state. Jean Jacques Rousseau (1712-1778) saw men giving up the freedom of nature to form an association that would protect the individual and his goods. For the union to be perfect, the individual must surrender completely, putting himself under

the supreme direction of the common will. This contract brings people together to form a sovereign. Since the people decide, they never can do so in a way that is contrary to their will. If anyone refuses to obey the common will, he can be forced to do so: this is being forced to be free. Each person must give the sovereign that part of his goods, powers, and liberty that it is important for the community to control, but it is up to the sovereign to make a judgment of how much each individual must relinquish.[8] Thus, Rousseau became the father of the French Revolution and later of the absolute state.

The thread of development for the modern state divides here, with Georg Wilhelm Friedrich Hegel and Karl Marx leading in one direction. Another thread leads through English liberalism, where John Stuart Mill (1806-1873) noted that the most conspicuous feature in the history of Greece, Rome, and England was the struggle between authority and liberty. First liberty meant protection against the tyranny of rulers, ensured by setting constitutional checks on the ruler's power. But later, people realized that better rulers would be those who served at the will of the people and thus temporarily. This concept produced a clamor for rulers identified with the interest and will of the people. Yet the democracy thus established also had dangers hidden in the tyranny of prevailing opinion and feeling, an attempt by the majority to stamp out dissent.[9]

Many of these ideas impressed our Founding Fathers, working before Mill. Alexander Hamilton understood government to be a social contract, but he feared the tyranny of the majority, as did other Federalists. Thomas Jefferson, more impressed with the will of the people, changed Locke's natural rights in the Declaration of Independence to "life, liberty, and the pursuit of happiness." To protect the individual against the tyranny of the majority, the Founding Fathers relied on the separation of executive, legislative, and judicial powers, each acting under the terms of a constitution that included guarantees of individual rights.

Some of these ideas seem strangely modern. Throughout history, as Mill observed, authority and liberty have clashed. The question was how they could be balanced without sacrificing one to the other.

Opposition to Authority

Challenges to authority are as old as thoughts about it. One recalls in mythology how men, usually without success, struggled against the gods. The haunting theme of *Antigone* is that the state cannot be supreme over a person's higher calling. Plato argued for temperance and wisdom in rulers.[10] Aristotle called for rule by the virtuous and for moderation by princes, inferring that it was wrong to rule without justice.[11] Augustine defended the absolute necessity for justice in governance. In fact, without justice, a kingdom is but a great robbery.[12] Implicit in these thoughts is the right of rebellion against injustice.

Even Hobbes, who defended absolute and undivided supreme authority, believed that some natural rights could not be relinquished: a man could not be expected to give up his life since he entered into the compact to protect it. When the sovereign cannot protect him, the individual no longer is bound to his contract.[13] Locke argued that the state is formed to protect life, liberty, and property. When it cannot or does not do so, then the contract is broken, and people, the ultimate judge, are justified in forming a new government.[14] Thus Locke defended the Glorious Revolution in England in 1688 and became one of the philosophers of the American Revolution.

In American society, we have accepted the proposition that a person's highest loyalty in the extreme case need not be to the state and its laws. People have the right to criticize the government, hence the freedom of the press and the right of assembly. It was his belief in the necessity to defend a higher moral ground that caused Henry Thoreau to refuse to pay his taxes and thereby to spend a night in the Con-

cord jail. His protest, expressed so well in his essay on "Civil Disobedience," was against what he termed an unjust war with Mexico. A fundamental difference of opinion caused the Civil War that nearly tore apart our nation. America has experienced considerable protest against nearly every war in our history, even during World War II although it was expressed quietly.

In the 1960s, young people took violent exception to our nation's policies. Martin Luther King wrote his stirring "Letter from a Birmingham Jail," the keystone declaration of the movement for equal rights and opportunity. Conscientious objection, a solid part of our national tradition, meets the individual's requirement to put the dictates of one's faith above those of the state. Thus some undermining of authority is inherent in the American political tradition.

Preserving Authority

The earliest writers recognized that authority depended on the sanctions that the ruler or state could impose. Aeschylus echoed for others the idea, "Who is virtuous except he fear?"[15] Sophocles attributes to Menelaus the idea that license to insult the state or act against it soon will cause it to fail.[16] Aristotle noted that without force the king could not administer his kingdom.[17] Plutarch, writing on Cleomenes, noted that reverence for the leader depends on fear. The Old Testament writers took it for granted that those who disobeyed God would be punished.

The social compact philosophers realized that after man left his state of nature to associate with a government, he abandoned his power to resist; thereafter, he had to submit himself to the sovereign or be punished. Hamilton stated the case forthrightly in *The Federalist:* "laws must have sanctions." Later he added, "The hope of impunity is a strong incitement to sedition. . . ."[18]

But in our day, the traditional sanctions (e.g., death, imprisonment, fines, bodily punishment) either no longer exist or have lost much of their force because of sparing use. Some erosion of sanctions has come through neglect. In the quest for a reasonable balance between authority and freedom, our society has swung far in the direction of freedom, usually under the assumption that authority ultimately was not threatened. Now many people wonder if that is the case.

If any kind of social compact exists today, it is different from that imagined by those who described a man's transition away from a state of nature. It is a compact into which individuals are born and almost daily to which they give assent. Thus governments gain authority in a free society so long as they operate within the limits established by the people. Thereby leaders have the authority to command.

But compliance does not always follow; in fact, most of the commands given by authorities in modern society are disregarded or disobeyed. Have we reached a crisis? Is it possible for us to organize our society to ensure the order on which we have built our complicated civilization? Can we salvage de jure authority as an active force in our society?

Tolstoy on Leadership

Before pursuing that argument, let us consider novelist Leo Tolstoy's thoughts on the subject. After he had completed his monumental work, *War and Peace*, Tolstoy asked himself why millions of soldiers had followed Napoleon into Russia. He noted that people believe events are caused by commands, but they are aware of only the events that follow the commands that are carried out, and they forget the multitude of commands that are not honored. Tolstoy concluded that those who submit to orders are the cause of events that happen. In other words, it is the act of submission that gives the force to authority.[19]

Chester Barnard took this same point and expanded it to a definition: *authority* is the

character of a communication in a formal organization that causes one to accept it and to take appropriate action. Thus acceptance of an order is confirmation of authority.[20] One may have the justification to issue an order, but only assent gives power to the interchange.

Barnard believed that a person can and will accept a communication as authoritative when he understands it, when he believes it is consistent with the purpose of the organization as he understands them, when the order is compatible with his own interests, and when he can comply.[21] Thus a leader should not undermine his effectiveness by giving orders that are not understandable or might be considered disloyal, or by asking his subordinates to do things they cannot possibly accomplish. But in the area of personal interest, it is evident that some orders may find a ready audience, others clearly a hostile audience, and many, perhaps most, will fall in a neutral zone, subject to influence. The function of the organization, particularly the informal organization, is to apply pressure to shift a person's neutrality into acceptance.[22]

HOW is one influenced to accept or reject a command? The answer to this question begins with the traditional sanctions, but it is much longer. A definitive list of the pros and cons would depend on the command and the nature of the individual to whom it is given. But certainly important in swaying those uncommitted are the natural talents of leadership that enhance de facto authority.

Let us take an example of the President giving a command to the Chief of Staff of the Air Force. Only in the most unusual combination of circumstances would the Chief of Staff fail to comply with the President's wishes. Why? Because there is a strong tradition that military leaders follow orders of the Commander in Chief, that our government is one of civilian control, and that there are laws controlling this situation. Of course, there would be other powerful factors involved. A chief of staff who refused to obey such an order would almost surely be remembered unfavorably in history. He would lose professional friends, he would become the object of scorn for the remainder of his life, his wife would lose friends and associations, his life-style would suffer. Obviously, the list goes on.

Now let us shift our concern to a young man in the ghetto, apprehended by a policeman in the act of stealing. He is one of 20 doing the same, in the heat of a riot. The policeman orders these youths to drop the stolen goods and disperse. The youth knows the policeman cannot catch all 20 boys going different directions, and he realizes that the policeman does not recognize him. So he runs away with the watches in his pocket. Why? He does not view the act as wrong. The youth does not honor a tradition of obeying the policeman if he can get away with refusal. His friends all do the same; in fact his successful theft will enhance his reputation among his associates. His parents will never know. None of the adult authority-figures in his life will know. What will he do before the judge? There is little chance he will ever see a judge.

In a third case, the nation asks young men to register for selective service. For one young man, a feeling of neutrality at the outset may be replaced by guilt associated with patriotism if he does not register, conflicting with a desire to help prevent war by refusing. His parents, his love of history, his desire to obey the law, his fear of punishment if he does not—all may reinforce his patriotism. But a television special, a close associate who has decided to profess conscientious objection, and a draft counselor may augment his pacifism. Ultimately he must submit to one set of pressures or the other.

The social contract in some form may continue to explain how governments gain authority to act. It is from government that other institutions derive their authority, be it the armed forces created by law or corporations chartered by a state and under laws that are

both state and federal. But increasingly, in modern society, the authority to give orders is separated from the means to enforce obedience.

The long history of mankind at last has come to the day when the individual is unique and to a remarkable degree free. He holds in his will the power to uphold authority or negate it. In a sense, every command or order or law sets up a new opportunity for a contract where the person given direction complies because, after weighing the implications (consciously or not), he decides that it is best for him that he does so. As sanctions diminish, it becomes easier for him to refuse. As traditions fade, he is under less pressure to uphold them. As publicity undermines our leaders by revealing their every weakness or mistake or foible, de facto authority becomes much more difficult to maintain.

As the process of authority changes in contemporary perception, so does the basis for cooperation in modern society. A person may work with enthusiasm if he fears he will lose his job, or his raise, or his promotion. How can we wrest equal enthusiasm from citizens or employees without using fear as a sanction?

It grows increasingly apparent that people are more inclined to cooperate when they are accepted as individuals. People no longer want to be considered impersonally, merely as resources, commodities, or assets. This awareness of self is putting the authoritarian style of management in a free society into the dustbin of history, simply because the society no longer will support an authoritarian leader without sufficient reinforcement. Thus the leader today must appeal to individuals rather than masses or even groups, somehow conveying the understanding that the leader really cares for the concerns of the individual.

In a working situation, care can be expressed by enlisting and considering seriously the suggestions of employees to improve productivity or quality or conditions of the work place or to reduce accidents. Thus we witness the growing acceptance of quality circles, participative management, and management by consensus. These techniques work well in some places and fail in others, possibly because of improper introduction and support. Many of these techniques of modern management are not new, having been used effectively, if partially, by leaders throughout history.[23]

Similar cooperation can be attained in institutions outside of business. The techniques to promote it are nearly the same. Every good leader with a bright staff has used participative management for centuries. Gaining a consensus, where that is possible, has always been good management where the organization does not have to pay too great a price for delay or the implications of the decision. The final consensus on unification of the armed services, made in 1947 prior to passage of the National Security Act, is a case in point. The same techniques are justified where there are honest differences on weapon systems, budget allocations, organization, or human problems. The concept of participative management is not confined to operations at the highest echelons. It can be most effective in the operating unit. Some of the best commanders of all time have used it.

But is there anything else to do? Certainly there is. Our institutions must be strengthened so that they command new respect. We must think again of patriotism, of the rewards of a life of service. We must revere those who courageously have gone before us. Military organizations must be led by officers who are proud of the military traditions, who depend on discipline, who give reasonable orders and expect that subordinates carry them out, who apply sanctions appropriate to offenses soon after the process of justice has determined guilt.

AUTHORITY still is a force in our lives. It takes new skills and dedication to give it force.

Moline, Illinois

Notes

1. Sophocles, *Antigone*.
2. Exodus 3-4; Exodus 34:28 and Deuteronomy 4:13; I Samuel 16.
3. Matthew 28:18, Mark 2:10, and John 5:30 and 12:49 are examples.
4. Romans 13:1.
5. Plato, *Crito*.
6. Thomas Hobbes, *Leviathan*, Part I, Chapters 10, 14-18. Leviathan, in Hebrew mythology, was the aquatic dragon of chaos, overthrown by God and symbolic of the final triumph of God over his enemies and his final sovereignty.
7. John Locke, "A Letter Concerning Toleration" and *Concerning Civil Government*, Second Essay, Chapters 1, 2, 4, 6-9, 12-19.
8. Jean Jacques Rousseau, *The Social Contract*, Books 1 and 2.
9. John Stuart Mill, *On Liberty*, Chapter 1.
10. Plato, *Laws*, Book 4.
11. Aristotle, *Politics*, Book 1.
12. Augustine, *City of God*, Book 2, Chapter 21; Book 4, Chapter 4.
13. Hobbes, *Leviathan*, Chapter 14.
14. Locke, Chapter 18.
15. Aeschylus, *Eumenides*.
16. Sophocles, *Ajax*.
17. Aristotle, *Politics*, Book 3.
18. *The Federalist*, Numbers 15 and 27.
19. Leo Tolstoy, *War and Peace*, Second Epilogue, Chapters 5-7.
20. Chester Barnard, *The Functions of the Executive* (1938), p. 163.
21. Ibid., pp. 165-66.
22. Ibid., pp. 167-70.
23. For earlier awareness of the problem, see Elton Mayo, *The Social Problems of an Industrial Civilization* (1945), particularly pp. 68-86, and F. J. Roothlisberger and William J. Dickson, *Management and the Worker* (1939). Helpful in describing an industrial approach to modern cooperation is William Ouchi, *Theory Z: How American Business Can Meet the Japanese Challenge* (1981); Charles G. Burck, "Working Smarter," a series in *Fortune*, especially June 15, 1981, pp. 68-73, and July 27, 1981, pp. 62-69; and Robert R. Blake and Jane S. Mouton, "Increasing Productivity through Behavioral Science," *Personnel*, May-June 1981.

REFLECTION AND PREPARATION

nuclear strategy and the future

LIEUTENANT COLONEL DENNIS M. DREW

THE CONSUMMATE ADVOCATE of sea power, Alfred Thayer Mahan is generally regarded as one of the premier strategists produced by the United States. He receives much of the credit for the building of the modern American Navy, a navy that flourished while other services of the American military establishment languished before and after World War I. Despite Mahan's brilliance, one must wonder how much of his phenomenal success was due to timing rather than brilliance of thought. He preached the gospel of naval expansion at the most ideal of times. The United States was ready to look outward to achieve greatness. The western frontier was conquered by 1890 (or so says historian Frederick Jackson Turner), the trials of the Civil War and Reconstruction were in the past, and the uncivilized world beckoned Americans with promises of riches and power. Timing was important to the recognition and acceptance of Mahan's ideas near the turn of the century.

Mahan may seem to have little to do with a new book on nuclear strategy. But Dr. Donald M. Snow's *Nuclear Strategy in a Dynamic World* benefits from the same fortunate timing that helped propel Mahan to prominence.† A confluence of technical developments has produced what may be the most significant juncture yet seen in the nuclear age. For the past three-and-a-half decades, deliberations about nuclear war and its deterrence have rested on

†**Donald M. Snow, *Nuclear Strategy in a Dynamic World* (Tuscaloosa: University of Alabama Press, 1981, $25.00 cloth, $10.95 paper), 284 pages.**

the basic assumption that there was no effective defense, in the traditional sense, against nuclear weapons. Today, increasing missile accuracy and reliability offer the possibility of at least partially disarming first strikes by nuclear aggressors. Much more ominously, the rapid development of laser and charged particle beam technology suggests that truly effective defense against nuclear weapons may be a reality in the not-too-distant future. If this eventuates, what then becomes of the elaborate deterrence doctrines based on a defenseless balance of terror?

The course of reasoning about nuclear war and deterrence has been tortuous. In the early years of the nuclear era, the situation seemed clear-cut. Only the United States possessed nuclear weapons, and thus we could use them with impunity if we desired. Even after we were shocked by the rapid development of Soviet nuclear capability, threats to our survival seemed somehow farfetched because the Soviets lacked an effective delivery capability. Even though the Soviets had developed their own nuclear "genie," John Foster Dulles continued to threaten massive retaliation for Soviet international transgressions.

In 1957, Sputnik's extraterrestrial beeps signaled an end to America's impregnable position and forced a reassessment of our nuclear doctrine. The subsequent doctrinal debate (over a period of about five years) is now looked on as the "Golden Age" of seminal literature on nuclear war and deterrence. Henry Kissinger, Bernard Brodie, Herman Kahn, and other lesser lights essentially hammered out the foundation for the way we think today about nuclear weapons, nuclear war, and deterrence.

In the 20 years following Sputnik and the "Golden Age," form has changed but not substance. The bottom line in deterrence remains assured destruction with both superpowers poised to strike, each holding the other's population hostage. Both sides have sought alternatives to the extremes of surrender or Armageddon. Improved guidance systems, miniaturization, and improved command and control capabilities have enabled both sides to contemplate striking at small, hard military targets heretofore invulnerable. These same technologies allowed us to plan for surgical nuclear strikes and nuclear demonstrations of resolve known under the rubric "limited nuclear options." But, in the final analysis, deterrence still depended on the assuredness of retaliatory destruction because there remained no defense.

Within the frustrating struggle for viable nuclear options were the technological seeds which at fruition could make the changes wrought by Sputnik pale by comparison. Increasing hard-target kill capability combined with multiple independently targetable reentry vehicle technology raises the possibility of first strikes that could partially disarm an enemy and limit retaliatory capability. In this light, discussion of the possibility of actually winning a nuclear war in a meaningful sense began to appear in the literature, spurred on, perhaps, by the discovery that Soviet military literature concentrated more on nuclear combat than on nuclear war deterrence. However, the possibility of partially disarming first strikes and Soviet concern with nuclear combat are far from the most disturbing trends.

The most significant future changes in nuclear doctrine may well be brought about by weapons reminiscent of Buck Rogers. Laser and charged particle beam technology offer the possibility of truly effective defensive systems. For example, energy transfer weapons in orbit could destroy enemy missiles shortly after liftoff. Unlike more conventional antiballistic missile systems that shoot a "bullet with a bullet," energy transfer weapons would not run out of ammunition and would face simpler targeting problems because their munitions travel at the speed of light.

If these new technologies reach fruition, and there is no reason to think that they will not, serious questions must be faced that strike at the heart of our nuclear doctrine. If truly effective defenses exist, can there be winners as well

as losers in a nuclear war? If so, what deters? If these new weapons allow us to calculate the possibilities of winning and losing, how do we prevent miscalculation? What does such a situation mean to international stability and crisis management at lower conflict levels? Finally, will the advent of effective defensive systems mean that the established nuclear doctrine based on the opposite premise is of no value? Must we face such an ominous future with no guidance?

As if the problems fostered by rampant technological development were not enough, recent political developments also foreshadow a radically different future. The proliferation of nuclear technology offers the possibility, if not probability, that the nuclear weapons club will be greatly expanded. The notion of nuclear weapons in the hands of radical governments, traditional enemies in the Third World, and terrorists is indeed chilling. Yet, the probability of such a situation is quite high. Mixed in with all of these factors is the continuing effort to reduce the danger and bring order out of chaos. Strategic Arms Limitation Talks/Treaties, Nuclear Non-Proliferation Treaties, Nuclear Test-Ban Treaties, etc. represent just some of the efforts to bring order and stability to a threatening future.

Clearly, we are in a period of crisis, the outcome of which could determine our survival—and this brings us back to the superb timing of Dr. Snow's book. It is high time to review how and why we have reached such a critical juncture and attempt to analyze the consequences of decisions that will shortly be forced upon us. Dr. Snow tackles this challenge with exhaustive documentation, superb logic, and a systems analysis approach that produces a clear and complete picture.

Dr. Snow uses a deceptively simple model as an analysis tool. Combining internal and external environmental factors plus technological developments, he examines their interrelationships and their impacts on the development of strategic doctrine. The result is twofold. First, he produces a detailed tapestry weaving together the varied threads that comprise the present state of affairs. As a consequence the careful reader achieves understanding, not just knowledge. Second, Dr. Snow's successful demonstration of his model's utility in analyzing the past and present indicates that the model can also be an invaluable tool for analyzing the possible consequences of future decisions. In an area as complex as nuclear strategy, it is essential that individual issues—complex as they may be—not be viewed in isolation. The total context of the situation must be considered as well as the total context of the consequences of any decision.

Dr. Snow is particularly adept when analyzing those issues that, for Americans, have become heavily laden with emotion. His dispassionate discussions are a refreshing and enlightening relief from much of the popular rhetoric. This balanced approach is particularly welcome in his discussion of diverging U.S./U.S.S.R. views on nuclear war. In recent years, a shrill alarm has risen from a chorus of Western defense intellectuals concerning the Soviet emphasis on nuclear combat rather than deterrence. While acknowledging the combative Soviet theme, Snow brings a wider array of Soviet literature into play which tends to balance the perspective. Dr. Snow sums it up with a most telling statement:

> If the United States feels comfortable in the belief that it deters a Soviet nuclear attack . . . by the threat of massive destruction, and the Soviet Union feels it dampens American nuclear aggressive intentions . . . by offering the prospect of sure defeat, the end result, mutual deterrence, may be what counts most. (p. 138)

Nuclear arms control is another emotion-laden area to which Dr. Snow brings refreshing logic. Of particular note in this area is his inclusion of nuclear proliferation and an explanation of problems in the nuclear balance created by the addition of more nuclear-armed states. Dr. Snow brings new perspective to the entire issue of proliferation when he comments

that, "one tends to view it as a matter of concern *after* one joins the nuclear club." (Emphasis added.)

Dr. Snow's final chapter, which peers into the future, may be the most thought-provoking. He prefaces this final segment by reminding the reader that "the purpose of the strategic nuclear system remains the prevention of nuclear war." With that as a starting point, he presents a clear analysis of the major problems that must be faced in the 1980s in order to achieve that fundamental purpose and finishes by applying his analysis model to these same problems.

The golden age of nuclear strategy literature was spawned by the incredible technological changes that produced a sense of vulnerability and apprehension. Developments in the past few years have resurrected these same fears. Whether the recent outpouring of nuclear strategy literature will someday be considered a second Golden Age is a matter of conjecture. In any case, Dr. Snow's work stands out as a most important effort produced at a most important time. Like Mahan, Dr. Snow benefits from good timing—he has also produced a work of substance and lasting value. Must reading!

Air Command and Staff College
Maxwell AFB, Alabama

VIEWING FLOWERS FROM HORSEBACK

DR. GERALD W. BERKLEY

China is the *major country in the world, and U.S.-China relations will be absolutely vital to us for the next century.*[1]

SO SAID one of President Reagan's advisers in defense of Secretary of State Alexander M. Haig's invitation to the People's Republic of China (PRC) to come shopping in the United States for military hardware. Although the remark is unquestionably an exercise in overstatement, it is indicative of China's growing importance in international affairs.

This increasing prominence and the PRC's concomitant "opening" after Mao's death in 1976 have given rise to several works by Westerners on the subject of "the Chinese." The task they have undertaken is, as one of them acknowledged in an earlier publication, like "viewing flowers from horseback."[2] The reference is to an old Chinese saying (not Confucian) which means that a person is near enough to notice and make limited observations but not close enough to examine with great care.

The problems in writing accurately about "the Chinese" as in writing about "the Americans" are enormous.[3] One is the fact that China, as a geographical entity, is continental in size and exhibits an incredible range of ethnic, linguistic, and regional variations. Within any given region there is a pronounced gulf between the world view and life patterns of the urbanites and the peasantry. Even within city dwellers or peasants of one area, as in any grouping of human beings anywhere, attitudes and behaviors vary according to personality, character, age, sex, and sociopolitical relationships.

A second difficulty is that the Chinese Westerners encounter are, for the most part, individuals who have been metamorphosed in the

process of the encounter. By coming in contact with Westerners, they encounter a new environment and a process of hybridization sets in. No longer Chinese pure and simple, they become Chinese who have interacted with Westerners, and their responses, as a result, are colored by this.

THE first problem—China's incredible diversity—is, unfortunately, often dealt with by reducing a great variety of people to a few who are highly visible and easily labeled. This is the case, in varying degrees, with two recent works, one by David Bonavia† and the other by John Fraser. †† Of the two, Bonavia is the more experienced. A journalist with the *Times* (London), he was their correspondent in Moscow from 1969 to 1972 and in Peking from 1972 to 1973. Since that time he has also served as special correspondent on China for the *Far Eastern Economic Review* in Hong Kong.

In *The Chinese*, David Bonavia set about the formidable task of presenting "a realistic picture of life in the PRC." Beginning with the acknowledgment that no generalization about a nation and its typical attitudes can be true of all its people, he proceeds to do a remarkably creditable job of presenting the variegated fabric of life for the majority of the Chinese. His well-written coverage of topics such as "face," sex, medical care, the legal system, and education reflect his knowledge of things Chinese. Yet on several occasions he does lapse into sweeping generalizations, such as presenting the Chinese as totally purposeful—functionality being their sole guiding principle—and when he paints Chinese children as completely docile.

One very interesting issue Bonavia deals with is violence. In the PRC, violence is rarely sanctioned. It is not admired for its own sake as it often is in the West. In fact, in China violence is often reacted to with revulsion and contempt, whereas in the West, because of our *macho* tradition, we often glorify it.

John Fraser was picked in 1976 as the successor to Ross Munro, the Toronto *Globe and Mail's* correspondent in Peking. Fraser not only had no background in Chinese affairs, he had never even been in a Communist country. He arrived in the PRC in December 1977, where his initial reaction was to superimpose Western fantasies on China; he had come to Shangrila—"a land of almost complete perfection." This euphoria, however, was short-lived, and Fraser proceeded to go full circle to an Orwellian approach to the PRC.[1] To be sure this is a fairly common reaction, but usually a balance is soon reached. Unfortunately, with John Fraser this equilibrium never came.

His book reveals an utter dislike, and often total misunderstanding, of the political system in the PRC. He sees the leadership as uniformly despising the people and manipulating them for their own ends of seizing or holding power. The average Chinese is presented as being constantly tormented by totalitarianism. Chinese life-style, which Fraser relegates to the last 50 pages of *The Chinese: Portrait of a People*, is treated in gross generalizations—a consequence of Fraser's superficiality. The only portion of this work that can be recommended is Fraser's coverage of "the foreign expert." His account of Sidney Rittenberg, "the most notorious foreign expert of all," is first-rate.

THE second dilemma in writing about "the Chinese"—learning about them from Chinese who have experienced metamorphosis as a result of contact with Westerners—is particularly prevalent when using the thousands

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†David Bonavia, *The Chinese* (New York: Lippincott & Crowell, 1980, $12.95), 290 pages.

††John Fraser, *The Chinese: Portrait of a People* (New York: Summit Books, 1980, $14.95), 463 pages.

of refugees in Hong Kong who sell their stories to Westerners.[5] Fortunately, however, over the years the interview process has been sufficiently refined to the point where it is possible to obtain valuable insights into "the Chinese." Proof of this is B. Michael Frolic's excellent collection of stories culled from some 200 interviews.†

Frolic, who teaches politics at York University in Toronto, was originally in Russian Studies. Disillusionment with the Soviet brand of socialism during a 1965 stay in Moscow led to his exploration of the PRC. The result was two "three-week wonder tours," a year of interviewing at the Universities Service Centre in Hong Kong and an appointment as First Secretary in the Canadian Embassy in Peking from July 1974 to September 1975.

During his time in Hong Kong, Frolic and his two Chinese research assistants conducted extensive interviews. The stories they heard were extremely rich and vivid and resulted in the book's sixteen revealing and informative narratives. The impressions that emerge from reading these candid, devastating, and frequently funny stories include a people imbued with a strong, underlying patriotism; the rather widespread existence of corruption, cynicism, and hypocrisy; a government reluctant to force its will on the population except on issues that involve political power; the presence of considerable respect for Mao Zedong; and the fact that even in China women are not free from sexual harassment on the job.

While many of these revelations are also noted by Bonavia, Frolic provides more of a feel for the texture of Chinese society. His work is also easier and more enjoyable to read and covers often overlooked sections of "the Chinese," such as overseas Chinese who have returned to the motherland and the some 400 million non-Han Chinese.

This latter topic is the focus of the story entitled "Frontier Town," which is the account of a former resident of Shanghai who was relocated to the province of Qinghai, in the northern part of the Tibetan highlands. In this area the minority groups outnumber the Han Chinese. Because of the strategic significance of the area, efforts have been made by the government to secure the loyalties of the Tibetans and to populate the region with more Han Chinese. This was the reason for dispatching the former translator from Shanghai to the town of Genghe. During the narration of his story, it becomes clear that the government, rather than pursuing a policy of deculturation as Fraser claims, was actually affording considerable protection to the traditional Tibetan life-style and was, in fact, extremely careful in its maintenance of good relations with the Tibetans. One item which fascinated the youth from Shanghai was the fact that Tibetan women had a great deal more sexual freedom than their Han counterparts.

MANY of the qualities, such as humor and impartiality, evident in Frolic's book are also found in *Watch Out for the Foreign Guests!* by Orville Schell.†† He combines Frolic's academic background with Bonavia's journalistic talent; Schell did Ph.D. work in Chinese Studies at Berkeley and has written for *The New Yorker*, *Life*, and *Atlantic Monthly*.

In 1975 Schell went to the PRC for the first time. While there he worked on a model commune (Dazhai) and in a factory in Shanghai. The result of that visit was presented in *In the People's Republic* (Vintage, 1977). During 1978 and 1979 he returned for short periods. Of these visits he remarks that it was "like entering a different country." Whereas in 1975 he expe-

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†B. Michael Frolic, *Portraits of Life in Revolutionary China* (Cambridge: Harvard University Press, 1980, $15.00), 278 pages.

††Orville Schell, *Watch Out for the Foreign Guests! China Encounters the West* (New York: Pantheon Books, 1980, $8.95), 178 pages.

rienced "the unexplained refusal of the Chinese people themselves to open up to their 'foreign friend'," by 1978 and 1979 the Chinese (almost exclusively urban intellectuals) actually approached him in the streets and expressed interest in Western life and customs.

If this turning toward the West and the accompanying willingness to pour out stories of their lives and hopes for the future that Schell experienced is indicative of future relations, it may be possible to begin "viewing the flowers" from much closer proximity. What it did in Schell's case was result in some remarkable disclosures. The most memorable is the author's encounter with Benefit-the-People Wang (Wang Zaomin), a soldier in the People's Liberation Army and a pimp. Wang and his friends, including New Nation Li (Li Xinquo), operated out of a Western-style back-alley dive, the Peace Cafe. Schell returned there on several occasions, fascinated by the overt decadence that was nonexistent before Mao's death.

This experience and others like it were to Schell indicators of Chinese society in the first stages of cataclysmic change. The metamorphosis caused by Chinese coming into contact with the West had begun within the PRC itself. Wang, Li, and others "were trying to construct a crude replication of the West from the little they knew about it."

To Schell and most individuals in the China field this infatuation with Western ways and goods is very disturbing. What attracted many Westerners into Chinese studies was the PRC independence, her self-sufficiency, her position as the model of socialist purity and promise, and her open defiance of the West. Until 1976 China was aloof and unapproachable—exotic, tantalizing, forbidden fruit. In part the reason for this was that Mao had feared that Western wealth and power would overwhelm the Chinese people. He worried that they would be intimidated and that their self-esteem would be crippled. From what Schell observed, Mao may have been correct, and, if so, the end result could well be the drastic alteration of "the Chinese."

Auburn University at Montgomery, Alabama

Notes

1. *Newsweek*, June 29, 1981, p. 18.

2. B. Michael Frolic, "Wide-eyed in Peking: A Diplomat's Diary," *New York Times Magazine*, January 11, 1976.

3. Perhaps the most successful account of the people of an entire nation is Edwin O. Reischauer's *The Japanese* (Cambridge: Harvard University Press, 1977). One of the reasons for this success is the remarkable homogeneity of the Japanese, a trait the Chinese do not share.

4. A contrast should be made here between Fraser and Simon Leys. Leys, author of *Chinese Shadows* (New York: Viking Press, 1977) and *Broken Images* (New York: St. Martin's Press, 1980), also writes with an Orwellian approach to the PRC, but he does so with erudition and passion. These two qualities are missing in Fraser's work.

5. Other problems encountered in using Hong Kong refugees are the limited data base—most of the refugees are from urban areas in Southeast China—and embellishment—refugees who are being paid to tell their story often add to them to create more interest and, hence, increase the market value.

Potpourri

The Horse Soldier, 1776-1943, The United States Cavalryman: His Uniforms, Arms, Accoutrements, and Equipments by Randy Steffen. Norman: University of Oklahoma Press, 1977-79, 4 volumes, 857 pages, each volume indexed, $25.00 per volume.

Old troopers used to insist that the horse cavalry had been a way of life, not just another branch of the Army. Randy Steffen captures the essence of that spirit in *The Horse Soldier*. Its title notwithstanding, however, this four-volume work is not a history of mounted warfare; rather, it is a pictorial record of the evolution of cavalry uniforms, weapons, and equipment. The author's scrupulous attention to detail in his artwork and the accompanying descriptive narrative will delight the most exacting antiquarian. Historians, too, may find *The Horse Soldier* useful but more as a collection of primary source material than a definitive account of the mounted service. For instance, Steffen devotes far more space to the relative merits of Grimsley and McClellan saddles than to the leaders, campaigns, and battles that earned the U.S. Cavalry its place in history.

For professional readers the work can serve two ends; emotional and educational. Officers of appropriate age, temperament, and background will thrill to the nostalgic revival of half-forgotten images—red and white guidons dancing on the breeze, the rhythmic clop of hooves on pavement, the soft grunting nicker of recognition, the pungent scent of horse sweat mingled with saddle soap, the sheer ecstasy of man and mount in total communion. In his prints and drawings Steffen evokes these sensations with a skill reminiscent of Remington and Schreyvogel.

Less sentimental military readers can discern lessons of current relevance. In part *The Horse Soldier* is the story of a combat arm which, in the face of chronic starvation budgets and the unending hostility of sister branches, established and maintained standards of professional excellence that are still unmatched. Yet it is also the story of once-progressive leaders who eventually turned reactionary and condemned their branch to oblivion by attempting to defy change, or so it seemed at the time.

After every vestige of the horse cavalry had been expunged, it became necessary to resurrect the dead, at least in part. Defenders and enemies of the branch had been equally blind to a critical point: The cavalry had indeed been a way of life, transcending bowlegged colonels and slow-moving "oatburners." It had uniquely personified the spirit of mounted warfare, a way of thinking and fighting which, though born of the horse cavalry, was independent of any particular vehicle whether four-legged, wheeled, tracked, or winged. The means of transport was a mere function of technology; the spirit was what counted, and that could be transmitted from one generation of soldiers to the next only by tangible reminders of the past. So now the red and white guidons are back, along with troops and squadrons and the beloved crossed sabers. In the lush pastures of Fiddler's Green, the shades of William Washington, Charlie May, John Buford, Jeb Stuart, and George Patton must be enjoying a well-deserved horse-laugh.

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

Underwater Warfare in the Age of Sail by Alex Roland. Bloomington: Indiana University Press, 1978, 237 pages, $16.50.

Sadly for students of warfare and military technology, *Underwater Warfare in the Age of Sail* does not fulfill the promise of its title. Rather than a history of submarine technology and underwater operations, the book is primarily an account of the *idea* of the submarine from the point of view of its principal American protagonists. Beginning with the semilegendary Cornelius Drebbel, court astrologer to Elizabeth I of England, Alex Roland traces the intellectual genealogy of the vision of warfare waged from beneath the waves through Robert Boyle, Denis Papin, David Bushnell, Robert Fulton, and Samuel Colt, leading up to the development of submarine mines or "torpedoes" in America, their employment during the Civil War, particularly in conjunction with steam-powered, semisubmersible torpedo boats by the Confederacy, and the intellectual reaction of the military hierarchy to them.

Though Roland's thesis contains much of interest, the operational and technological aspects of submarine development receive only sketchy treatment. It is thus difficult to agree with his conclusion that the development of submarine warfare before 1865 was seriously retarded by irrational rejection of the frightening and unfamiliar by naval hierarchies and that "the technological ceiling was [only] another practical factor, but not an especially important one." (p. 180) In fact, the wherewithal to build an operationally usable submarine was utterly lacking for another two decades.

Consider the career of the Confederacy's only true submarine, the *H. L. Hunley*, the first ever to sink an enemy ship in battle, a saga of which Roland is apparently unaware. Recognizing the impossibility of steam power underwater, the inventor of the *Hunley* apparently envisioned electrical propulsion. But electric motors and batteries were still far in the future, so he turned to the only alternative, a hand-cranked propeller. After killing two crews in training (it was made of a locomotive boiler, uncompartmentalized, and with no provisions for blowing ballast; in a word, a deathtrap) the *Hunley* drove a spar torpedo into the U.S. steam sloop *Housatonic* off Charleston in February of 1864, destroying her target, herself, and

her crew. Given this graphic illustration of the limitations of state-of-the-art technology, it is not surprising that naval leaders put few resources into submarine construction.

The frustrations of underwater warfare's visionaries, so effectively described by Roland, were undoubtedly real, but their attribution, *deus ex machina*, to a posited military resistance to innovation and conservatism of thought misses the point.

J.F.G.

Money and Monetary Policy in Independent Nations by Ralph C. Bryant. Washington: Brookings Institution, 1980, 584 pages, $29.95 cloth, $12.95 paper.

This treatise on the theory of economic policy rejects the separatist tradition that has typically separated the analyses of the domestic and external aspects and challenges conventional answers to all the controversial questions about monetary policy, domestic and external. Author Ralph Bryant integrates domestic and international considerations into a single analytical framework and decision-making procedure. Two main themes and their international interrelationships run through the analysis. One is the consequence of increasing economic interdependence for the autonomy of monetary policy and hence for the ability of a nation's policymakers to achieve national macroeconomic objectives. The other is the role that the national money stock, somehow defined, should play in the formulation and implementation of monetary policy.

Money and Monetary Policy in Independent Nations is not concerned primarily with economic policy in the United States and is not directed exclusively at an American audience. The analytical framework developed here, if appropriately adapted to specific circumstances and institutions, has relevance for central banks and national governments more generally. (The publisher shares the author's hope that the study will find its way into the hands of many non-American readers.)

Because of its focus on policy decision, the work is in the tradiuon of Brookings research, but it is also more theoretical and technical than their usual output.

Bryant may not be an inspired writer but he is an honest one—and within limits, an exceptional theoretical craftsman.

Dr. Joseph S. Roucek
Bridgeport, Connecticut

Artillery in Color: 1920-1963 by Ian Hogg. New York: Arco Publishing, Inc., 1980, 187 pages, $7.95.

This text is excellent and provides the reader with a compact yet detailed analysis of the development of field artillery from the end of World War I through the immediate post-World War II period. Ian Hogg, a renowned authority on artillery, emphasizes that artillery is still one of the most effective weapons on the modern battlefield because it is not limited by weather or visibility—artillery shells are immune to the effects of electronic countermeasures. He also concludes that successful weapon development must include not only the efforts of the engineer-inventor but also the "sobering influence of technical experts." The intended user of a weapon system must play a key role in its early developmental stages lest the project go astray, as happened during World War II in Germany with Conders's 15cm *Hochdruckpumpe*, a remarkable but utterly impractical weapon.

The illustrations, which constitute approximately a third of the book's pages, are one of its strengths but also have caused problems of organization and placement. These superb drawings by Peter Sarson and Tony Bryan are not organized chronologically with the text nor is the text annotated with the location of illustrations for weapons mentioned in the narrative. The condensed data table in the appendix is, however, keyed to the illustrations by plate number. Other minor defects are that the pages of illustrations do not have page numbers yet are included in the body of the text, and the inset illustrations of projectiles on plates 41, 46, 71, and 72 do not contain an accompanying description. The only suggested improvement in the drawings themselves would be to make them to scale relative to each other and present a three position (side, front, and top) view of each artillery piece.

Overall, the book is excellent and serves as a solid introduction to the study of artillery of the 1920-63 time period.

Major Robert J. Scauzillo, USAF
Mountain Home AFB, Idaho

German Uniforms of the Third Reich: 1933-1945 by Brian Leigh Davis and Pierre Turner. New York: Arco Publishers, Inc., 1980, $11.95 cloth, $7.95 paper.

This book contains excellent full-color illustrations of 240 uniforms of the Third Reich by Pierre Turner plus detailed descriptions of each drawing by Brian Leigh Davis. Although not every uniform worn by military, paramilitary, or civil organizations in Germany during the twelve-year period of the Reich is covered in this work, it will certainly serve as an excellent starting point for readers interested in the subject. The study is divided into three general areas: (1) uniforms worn by members of the Nationalist Socialist Party and its affiliated organizations, (2) uniforms of organizations considered to be combat units or having police-like functions, and (3) uniforms of those officials who governed, administered, or supervised everyday functions in lands controlled by the Reich.

The superb illustrations are keyed to correspondingly numbered paragraphs in the text. In addition, there is an index that catalogues the uniforms by organization and individuals. One chart compares ranks of the British and U.S. armies, the German Army, and the Germany Navy. A second chart compares the ranks of the NS Flieger Korps (Flying Corps), the Reichsluftschutzbund (German Air-Raid Protection Association), the Technische Nothilfe (Technical Emergency Help Organization), and the Organization Todt. Author Brian L. Davis has written numerous books on the uniforms of the German Armed Forces, and

illustrator Pierre Turner is a well-known and respected military artist. This work is highly recommended.

Major Robert Scauzillo, USAF
Mountain Home AFB, Idaho

The Battle of Leyte Gulf by Adrian Stewart. New York: Charles Scribner's Sons, 1980, 214 pages, $14.95.

Some might argue that advances made in both strategic and tactical weaponry in the last three decades have rendered naval battles, like the Leyte Gulf confrontation, obsolete—quaint military episodes important only to the nostalgic or to those interested in the evolution of man's war-making abilities. Adrian Stewart, English attorney and military writer, would not agree.

His *Battle of Leyte Gulf*, based exclusively on secondary works, provides a lively examination of what has frequently been called the last major naval battle of World War II. The hard-fought conflict resulted in the decimation of the Japanese fleet: Twenty-six vessels with more than 300,000 total tonnage were destroyed. The United States lost just six ships of only 37,000 tons. The Japanese defeat, of course, facilitated the recapture of the Philippines a few months later.

Leyte Gulf was the first battle in which the Japanese employed the kamikaze. Stewart is at his best in his description of the history, nature, and function of these suicide planes. He differs with those who would write off the use of kamikazes as a mere desperation move. To the contrary, he argues, the use of kamikazes was in the best Japanese warrior tradition and was tactically sound.

Stewart finds many heroes among the victors and a "goat" on each side. He indicts Admiral Takeo Kurita for vacillation when there was a probability of spectacular victory. Singled out for particular derision is Admiral William Halsey, who Stewart accuses of grossly underestimating the enemy; this misreading could have been disastrous for the American fleet had Kurita followed up on the advantage Halsey's negligence provided him.

The book is quick reading for those interested in an overview of the Leyte Gulf battle, but it is unscholarly and overlooks other recent studies.

Dr. Stephen D. Bodayla
Marycrest College
Davenport, Iowa

Marxism: For and Against by Robert L. Heilbroner. New York: Norton & Company, Toronto: George J. McLeod, 1980, 186 pages, $9.95.

This book is a rather irrelevant discussion of a trivial subject. I do not suggest that Marxism is irrelevant or trivial either as an important force in the modern world or as a historical phenomenon, but Robert Heilbroner does not deal with Marxism in any sense that is significant in today's world. Essentially, *Marxism For and Against* is an interpretation of what Marx really meant to say or how he should be understood. The reader gets a little lecture on the dialectic approach to philosophy (which Marx took from Hegel) and a summary of the materialist, or economic, interpretation of history (which was fairly common during and after the French Revolution). Marx, of course, combined the two and came up with an interesting approach; but everyone knows this, and one would be better off simply to read the *Communist Manifesto* or *Das Kapital*. There have been so many interpreters of Marx that his original ideas are often lost in the debate.

The only insight in the book that I do not remember reading elsewhere has to do with an explanation of what Marx meant by the "fetishism of commodities," and this little explanation on the "socioanalysis of capitalism" is brilliant; but it may not be true, and even if it is, it would be relevant only to the phenomenon of nineteenth-century capitalism.

Like most intellectual Marxists, Heilbroner believes that not only can modern civilization be understood by applying Marxist insights to the study of history but also that, writ large, a study of economic forces and contradictions can tell us in some general way about the future. Most social scientists today do not believe this. History, whether we try to organize it through the theories of Hegel, Toynbee, von Ranke, or even Marx, tells us precious little about the present and virtually nothing about the future. History, like art, is best studied for its own sake.

The book on Marxism that is really needed is not one that tries to reinterpret what Marx actually meant but one that tries to explain what it means in today's world as a social and political movement or force in the underdeveloped world, in Europe, in China, Latin America, and so forth. It is no criticism of Dr. Heilbroner that he has not written such a book. He tries to write about ideas, but, as in most discussions of intellectual history, he tries to explain contemporary economic, political, and social phenomena, such as political freedom or the multinational corporation, in historical terms (Marxist, in this case) like exploitation or bourgeois liberalism. Trends in modern civilization, technology, management, bureaucracy, trade, communications, diversified ownership, and welfare politics have simply made these old concepts ridiculous, but, worst of all, they are intellectually misleading when it comes to explanation of our present conditions.

Lieutenant Colonel Michael J. Collins, USAF
Air Command and Staff College
Maxwell AFB, Alabama

China's Global Role by John Franklin Copper. Stanford, California: Hoover Institution Press of Stanford University, 1980, 181 pages, $8.95 paper.

John Franklin Copper, Associate Professor of International Studies at Southwestern University, Memphis, Tennessee, has written what he describes as "An Analysis of Peking's National Power Capabilities in the Context of an Evolving International System." *China's Global Role* is succinct, well written, and well documented. In fact, Copper's book is larded with more than 75 tables in which the student of Chinese affairs can discover, for example, that

China is the thirteenth leading nation in publication of significant scientific journals. (The number is 660, compared with 6000 published in the United States, which is—in that category, at least—#1.)

Copper's book is not mere numerology. Although the book contains little of value for those of us who like to reflect on such Bismarckian imponderables as national character, it is based on a view of the six elements of power: geography and population, natural resources, economic strength, military power, politics and diplomacy, and science and technology. Copper concludes that China "is still a poor country . . . [which] does not even look impressive when compared to India." (p. 136) Of the four types of influence a nation can wield (strategic military, conventional military, economic, and political), China is strong only in conventional military power, he says—and then only in areas that are contiguous with China. His principal conclusions: "In the ingredients of power that will be more important in the future, China is weakest"; (p. 140) and "China will not attain superpower satus." (p. 149)

The book is balanced and logically argued. Students of world politics and of military affairs will find *China's Global Role* a useful reference.

Dr. James H. Toner
Norwich University
Northfield, Vermont

A Choice of Catastrophes by Isaac Asimov. New York: Simon and Schuster, 1979, 377 pages, $11.95.

Is our weather undergoing a drastic transition? Are we moving in the direction of another ice age or an uncontrollable drought? These are only a few of the many disasters that might impact our lives in the future. Renowned popular science writer Isaac Asimov examines these questions and numerous others that may perplex us in the years ahead.

Ranging from a change in the universe to man-initiated wars, this book examines many natural events that could end human life on earth. The author divides the possibilities into five separate categories of magnitude and then evaluates the probability that each will occur. He concludes that problems of energy depletion, overpopulation, and war are much more likely to get us than a large chunk of antimatter from deep space.

A Choice of Catastrophes is well written and easily understood, as one expects from Asimov. It will provide several hours of thoughtful reading on problems beyond our control and those we should be concerned about today.

Captain Don Rightmyer, USAF
Soviet Awareness Group
Bolling AFB, D.C.

Sea Power and Strategy in the Indian Ocean by Alvin J. Cottrell and Associates. Beverly Hills, California: Sage Publications, 1981, 148 pages, $17.50.

For too long, military force structure planning has been dominated by the needs of NATO defense with the hope that such forces could be reprogrammed on short notice for use elsewhere in lesser contingencies. *Sea Power and Strategy in the Indian Ocean* is an addition to the discussion of U.S. strategic priorities at a time when increased consideration is at last being given to non-NATO military requirements. The authors, two distinguished military scholars and two retired U.S. Navy flag officers, argue strongly that Western military planners and students of military policy must pay closer attention to the crucial Persian Gulf area from which so much oil comes and to the vulnerable sea lanes through which it flows. (Indeed, the book might more appropriately be titled *Sea Power and Strategy in the Persian Gulf.)* The argument is not a new one, but the authors give it new life with details of the history and politics of the region and a reconsideration of Alfred Thayer Mahan.

The introduction by Admiral Thomas H. Moorer makes the expected but accurate observation that the United States is an island nation, heavily dependent upon the sea. At the moment our greatest security problem is maintaining access to Persian Gulf oil resources. We are not now able to ensure this access comfortably and must borrow from other commitments to keep forces in the area. In the best section of the book, Geoffrey Kemp relates the interesting historical tale of the spice trade and draws some parallels with the present situation with regard to oil. Of more relevance, he updates Mahan with an emphasis on technology and logistics and discusses some trends that could complicate the situation in the region. Robert Hanks and Alvin Cottrell discuss the strategic importance of the Strait of Hormuz and the ease with which it could be interdicted, arguing that our European allies should assume more of the burden of Mediterranean defense and North Atlantic Ocean escort so that U.S. forces could be released for duties in areas such as the Persian Gulf. They discuss neither how to convince the Europeans to do this nor the certain unwillingness of the U.S. Navy to remove itself from its preferred "power projection" mission against aggressor forces on the NATO flanks. One hopes that the authors are correct, however, in their assumption that the U.S. Navy would withdraw to the Western Mediterranean at the outset of a full-scale war in Europe to avoid the expected massive Soviet air attacks. In the final section, Moorer and Cottrell argue strongly for a permanent U.S. presence in the area, including a carrier task force and access rights for shore facilities.

In all, the book is convincing on the need for an augmented U.S. military capability in the region. An interesting addendum would be a discussion of the extra strain this will be to a Navy that is already strained to cover existing commitments. With only twelve deployable carriers, deployed four at a time in a peacetime one-in-three rotation cycle, a permanent Indian Ocean carrier task force will require one-fourth of the readily available carrier assets. Additionally, there will be an adverse impact on crew morale and the already critical personnel retention problem due to long and arduous deployments in an area with an unhospitable climate and poor liberty ports.

Readers interested in a greater appreciation of the importance of geography, technology, and logistics in maintaining

military power in this vital region will find this book of particular interest.

Professor John A. Williams
Department of Political Science
Loyola University of Chicago

Boris Pasternak: His Life and Art by Guy de Mallac. Norman: University of Oklahoma Press, 1981, 449 pages, $24.95.

As prominent as are the name and the work of Boris Pasternak in the Western world, it may come as something of a surprise to the nonspecialist to learn how scant the biographical studies of him are. But it is not so strange if we consider the matter thoughtfully, for though he was never, not even as a child, far from the limelight, during long periods of his life he lived in a kind of contrived obscurity. For example, he published only translations from 1934 to 1943, and there is nothing like a complete collection of his voluminous correspondence. Hence the subject is not conventionally accessible. Guy de Mallac worked on the book for about twenty years. In the early 1960s, he had some assistance from Pasternak's relatives and from others who knew him. Thus this is the most ambitious study of its kind to date in English.

Pasternak's first chosen career was that of musician—some of his compositions are published here—and he studied under Scriabin. In 1908, he abandoned music for philosophy and, before World War I, studied at the University of Marburg. There he abandoned philosophy for poetry, to which he remained faithful. By the mid-1920s he already had an enormous reputation and was esteemed by such outstanding Russian poets as Tsvetaeva, Anna Akhmatova, Mandelstam, and Mayakovski. In addition, he was privileged to have the respect and patronage of Nikolai Bukharin. He enjoyed a curious—and only partial—immunity relative to other writers of his achievements during the purges of the 1930s, a state of affairs perhaps attributable to his sensitive letter of condolence to Stalin on the death of Stalin's second wife (Svetlana's mother) in November 1932. He exerted himself none too prudently in behalf of his less fortunate colleagues—interceding for them, sending them money—and not always effectively.

In 1946, after two rather lackluster marriages, he met the great love of his life, Olga Ivinskaia. They were impassioned literary collaborators as well as lovers. At the height of the great cultural purge following World War II, the Zhdanovshchina, Ivinskaia was arrested and sent for three and one-half years to a hard labor camp. After Pasternak's death in 1960, she was sent back to the Gulag, this time with her daughter (not his). Yet in a style so characteristic of the Russian "superfluous man" *intelligent* described and personified by Turgenev, and true to the Hamlet theme so prominent in his own work — his translation of Shakespeare and his poem "Hamlet" — he did not leave his own rather philistine second wife to live with Ivinskaia or call her to his home as he lay dying.

The account of *Dr. Zhivago* and the Nobel Prize is fascinating. Readers will be surprised to learn that Dag Hammarskjold, U.N. secretary-general and a member of the Nobel selection committee, queried John Foster Dulles and Andrei Gromyko on the advisability of selecting Pasternak.

This study is a noble and generally successful effort to write a preliminary biography of a man whose prominence outdistances the documentation available on his life. The book has some serious shortcomings, however. For example, the question of Pasternak's parents' attitudes toward the revolution, their history of going first to Germany and then to England, though without any conspicuous trouble with the Soviet regime, requires explanation, and yet the author seems unaware of it.

The volume is copiously documented and has an abundance of excellent photographs, a full bibliography, and a detailed index.

Dr. Hugh A. Ragsdale
University of Alabama, Tuscaloosa

Economic Interaction in the Pacific Basin edited by Lawrence B. Krause and Sueo Sekiguchi. Washington: Brookings Institution, 1980, 269 pages, $14.95 cloth, $5.95 paper.

Critical international issues such as stagflation; oil production and allocation; car, steel, footwear and textile imports; gyrating monetary exchange rates; and stark unemployment with its dire socioeconomic consequences are and will be in the forefront of domestic and international news and concern. Economic issues underpin key politico-military matters of relevance to *Review* readers, most of whom have served or will serve in one of the five countries (Japan, Republic of Korea, Thailand, The Philippines, Australia) whose economies are analyzed in this volume along with that of the United States. The editors are well qualified and matched: Lawrence B. Krause is a Senior Fellow at The Brookings Institution and Sueo Sekiguchi is a Senior Economist at the Japan Economic Research Center. They and the various chapter authors very professionally analyze and depict the interrelated economic issues of the Pacific basin in an era of economic turbulence and instability.

Each of these economies is quite different in terms of population, self-sufficiency in natural resources, degree of industrialization, percentage of gross national product devoted to defense spending, etc. The economic relationships of the other five nations with the United States are similarly very varied. These comparisons are adroitly sketched and provide a logical background for the editors' recommendation for a Pacific basin regional economic commission.

This is not light reading but will be of direct interest to readers involved in politico-military and intelligence analyses and planning. For the more casual reader, a scanning of the table of contents and several key chapters will provide some flavor of the scope and relevance of the various economic issues to all Americans—particularly given the political, military and economic interrelationships of these six Pacific basin countries.

Lieutenant Colonel John A. Hurley, USAFR
Hq USAF

Vietnam from Cease-Fire to Capitulation by Colonel William E. Le Gro. Washington: U.S. Army Center of Military History, 1981, 180 pages, $5.50.

The demise of the government of South Vietnam in April 1975 and the long-range ramifications of it undoubtedly will be a continuing topic of conversation and study for statesmen, politicians, and historians. Many questions are being asked, and will continue to be asked, about whether the South Vietnamese forces were viable, the efficacy of the 1973 Paris agreement as well as the abrupt cutoff of all military aid to Saigon by the U.S. Congress. Colonel William E. Le Gro, an infantryman who had extensive service in East and Southeast Asia and specialized in these areas in graduate school at American University, attempts to answer these complex questions by outlining the military and political situation from the January 1973 cease-fire to the April 1975 collapse of the South Vietnamese government.

After summarizing the military situation in South Vietnam before the cease-fire and discussing the U.S. organization to implement it, Colonel Le Gro traces with considerable detail the numerous North Vietnamese cease-fire violations and resultant campaigns in each of the four military regions. To acquire his data, Colonel Le Gro not only relied on such sources as RVNAF JGS reports, studies, and assessments but also frequently consulted with former South Vietnamese military figures who reviewed and commented on his findings.

Contrary to the widespread impression left by much of the American media, *Vietnam from Cease-Fire to Capitulation* illustrates many examples of combat effectiveness on the part of the South Vietnamese military. In his closing chapter, Colonel Le Gro notes that "unit for unit and man for man, the combat forces of South Vietnam repeatedly proved themselves superior to their adversaries." He noted, however, "inspired civil and military leadership at the highest levels and unflagging American moral and material support" were two crucial elements that were missing. Despite the lack of leadership, Colonel Le Gro feels that continued American support for an indefinite time would have made the difference and that a new generation of South Vietnamese "probably could have produced the leadership to institute the reforms so badly needed."

Whether one agrees with the latter conclusion does not detract from the book's well-documented story of this little-known, albeit recent, period in South Vietnam's history. The work serves as a testimonial to the shortsightedness of U.S. political leaders who chose to make a stand against Communist aggression in a highly untenable area and then abandoned it to these same adversaries when it proved to be a difficult undertaking. It is all the more tragic when one considers the U.S. taxpayers' untold investment of national treasure and thousands of wasted lives—not to mention the legacy of a seriously ailing economy that the war helped create.

From the standpoint of a historian, the book would have been enhanced had the author employed specific footnotes instead of a "Note on Sources" at the end of each chapter. Moreover, the lack of an index limits its utility, as the myriad of names and places cannot be readily referenced in its present form. Aside from these minor criticisms, the book is well written and contains a number of helpful maps and tables. It should prove to be of great value to persons interested in this unfortunate but important segment of history.

Dr. James C. Hasdorff
Maxwell AFB, Alabama

The Allies on the Rhine, 1945-1950 By Elena Skrjabina, translated and edited by Norman Luxemburg. Carbondale: Southern Illinois University Press, 1980, 159 pages, $12.95.

Born in Novgorod, U.S.S.R., Elena Skrjabina, now a Professor of Russian at the University of Iowa, grew up in Leningrad, where she was pursuing graduate studies in French literature when the Germans attacked in 1941. Her firsthand experiences and eyewitness accounts of those tumultuous years of World War II have been chronicled in a trilogy of volumes which in diary form present the uniquely human perspective of a Russian wife and mother.

The first volume, *Siege and Survival*, dealt with the ordeals of the Leningrad blockade. In her second volume, *After Leningrad*, Skrjabina recounted her experiences in the Caucasus under German occupation and her subsequent transfer with the retreating German army to a work camp on the Rhine. This final volume of the series begins with her liberation by American forces and demonstrates that, while clearly preferable to the horrors of war, this "new occupation" contained its own special dangers. The threat of rape by drunken American soldiers, the danger of forced repatriation to the Soviet Union, the robbery and pillaging by bands of foreign laborers set free by the liberating troops—all served to continue the ordeal of personal suffering.

Covering the period from 27 March 1945 to 30 May 1950, the diary of Elena Skrjabina helps keep alive some of the memories of that largely forgotten period, the Allied occupation of Germany. Her final entry, written after her emigration from war-torn Europe, signaled the start of a new life for Elena and her son Yuri. "We have just passed the Statue of Liberty."

Lieutenant Colonel Dallace L. Meehan, USAF
Air Command and Staff College
Maxwell AFB, Alabama

Egypt's Uncertain Revolution under Nasser and Sadat by Raymond William Baker. Cambridge, Massachusetts: Harvard University Press, 1978, 246 pages, $16.00.

Professor Raymond Baker's book presents, in a concise and lucid manner, the perennial Egyptian drama of political and economic survival. It is thorough, replete with information from a wide variety of sources, well written, and balanced. Without being doctrinaire, Baker remains engaged to the last page with his subject, which gives his arguments their compelling authority. His historical perspective refreshes. He maintains an admirable control over

his documentation. My only complaint is that he does not have to justify his analysis by making it theoretically acceptable to social scientists. Hence, the six basic propositions of social theory set forth in the introduction, on which Professor Baker structures his "conceptual scheme, methodological assumptions," and "logical substructure," couched as they are in high academic jargon, are entirely superfluous. His analysis stands on the rigors of his reasoning alone, which should be sufficient to defend him from the petty snipings of the Guild.

Ostensibly, Professor Baker divides his book into two parts. The first part deals with Egypt under Nasser and the second with Egypt under Sadat. The subject is invariably the same: an appraisal of Nasserism in both its conservative and liberal guise as a nonideological response to the problems of nation-building. Ideology, the author remarks, was viewed as a threat to the unity of Nasser's Free Officer Movement rather than as an instrument to augment their power. (p. 32) Based as it was in a narrow Egyptian nationalism, Nasserism served the need to make Egyptian weight felt in Pan-Arab councils. This made Nasser attractive to both the East and the West, thus propelling Egypt politically into the arena of global politics. But although Nasserism did successfully garner resources for Egypt from foreign policy involvements (p. 46)—the idea was not lost on Sadat—nevertheless, Nasserism remained bankrupt, seeking in the notion of a military role as revolutionary Pan-Arab vanguard the legitimization of the myth of its popular roots when in reality Nasserism possessed none at all. Only an untrustworthy army guaranteed power and the possibility to create a mandate system of rule, the single political mechanism most characteristic of modern Egypt. (p. 52) Alienating Egypt's traditional bureaucracy and technocracy, Nasser's new military elite was unable—one might say unavailable given the magnitude of its internal contradictions—to transform Egypt.

It was these conditions, and because of the inability of the United Arab Republic to create Pan-Arab unity by bringing Iraq into the 1958 union between Egypt and Syria, that caused Nasser to exercise even more control over his dwindling political and domestic resources in the name of Arab socialism. But what kind of socialism? It was a socialism that stifled the bureaucracy by proliferating it, that succeeded marvelously well in burying underneath the technocrats so vitally needed for national development. Under this Egyptian-Arab socialism nonideological formation of technocrats or bureaucrats was permitted to take place. All that technocrats possessed, argues the author, was technocracy itself, which they possessed as their own private property, thereby minimizing the difference between socialism or capitalism. (p. 83) Technology substituted itself for the social revolution with the reluctant help of the regime. The military under Nasser was simply not willing to broach any interference in its basically étatist position. Outside of the military no political system based on organisms of popular will or ideology were institutionalized. Call the elite socialist or capitalist, or whatever you will, the military that ruled Egypt ruled the country not as a political organization but as a mobilizer of domestic opinion that moved Egypt left to right, "from a tilt toward the Soviet Union on a global level and a reliance on political mobilization rather than administrative means to spur the economy at home" to an alternative "which relied on an American connection and implied technocratic control of a retrenched economy with discipline enforced by a streamlined security apparatus." (p. 90) In the final analysis, one joined the powers that are to maintain one's few privileges in an unstable environment.

If this was truly the case of Sadat's Egypt as it was for Nasser's, then can we expect the Egyptian-Israeli peace treaty to survive the likelihood of such continuing instability? This is the implication of Professor Baker's thesis and will surely haunt the thoughts of anyone who takes the time to read his excellent study.

Dr. Lewis Wade
Air University Library
Maxwell AFB, Alabama

Dunkirk: The Patriotic Myth by Nicholas Harman. New York: Simon and Schuster, 1980, 271 pages, $12.95.

Nemesis at Potsdam: The Anglo-Americans and the Expulsion of the Germans: Background, Execution, Consequences by Alfred M. de Zayas. Foreword by Robert Murphy. Revised Edition. London: Routledge & Kegan Paul, 1979, 268 pages, £3.75, $9.50 paper.

Wars are not won by defeats, but British journalist Nicholas Harman argues that they can be won by myths. Dunkirk is his example. Writing in a brisk, anecdotal, and rather debunking style, Harman examines the gross failure of the British Expeditionary Force and the resultant evacuation at Dunkirk—an evacuation based not only on courage, skill, and considerable luck but also on Britain's deliberate deception of her French ally and her own people.

The author is at his best in describing the day-to-day incidents of Dunkirk, and these events often showed the French in a far better light than the British. All too often, Harman points out, the British forces displayed all the worst characteristics of a beaten army. He is correct in his assessment of the quite minor role played by British civilians and their famous small boats. Most of the troops were evacuated by the British navy from the east mole that protected the harbor, not private craft operating off the beaches. Nor did the government inform the British people of the events across the channel until the evacuation was close to completion. Clearly, this is not the stuff of *Mrs. Miniver* or *Snow Goose*.

Once the book leaves the perimeter of Dunkirk, it is less successful. More than occasionally the writing is glib and misleading, as in the discussion of alliance politics, the phony war period, and the German invasion of 1940—nor is it always accurate. Former Hurricane pilots will be surprised to learn that they flew "all-metal" fighters. (p. 66)

Another evacuation—much less famous but far more massive—is the subject of *Nemesis at Potsdam*. As the Third Reich staggered and finally expired, approximately fifteen million ethnic Germans fled from the victorious Russian army or were forcibly expelled from the Sudetenland, Poland, or the east German territories—Pomerania, Silesia, East Prussia, and Eastern Brandenburg—that would

be added to postwar Poland. Of these refugees, perhaps two million died of starvation, disease, brutality, or Allied indifference. Many were women and children. Their sin was being German.

The author, Alfred de Zayas, a graduate of Harvard Law School who took his historical training in West Germany, poignantly recalls the horrors of this migration. In condemning the wartime and postwar conferences that accepted the concept of population transfers, however, he turns his study into a lawyer's presentation, marshaling the evidence against the Allies for their selfish and pragmatic callousness and rarely attempting to understand the geopolitical realities that produced this tragedy. In his moral indignation, de Zayas concludes that "it was undoubtedly Anglo-American adherence to the principle of population transfers that made the catastrophe of 1945-8 possible." (p. 184)

Nowhere does the author explain how Anglo-American leaders could have mollified or halted Soviet determination to change the political and ethnic borders of eastern Europe. What economic, diplomatic, or military pressures should have been considered? What sanctions enforced? What threats shouted? What was the likelihood of their success? Here de Zayas is mute. Much less important but still bothersome, the author fails to explain the reason for this revised edition; with the exception of two additional and inconsequential paragraphs in the acknowledgments and two changed endnotes, this volume seems to be little different from the first edition.

Despite these and other weaknesses, this study remains an important reminder that—as with the boat people of Vietnam—the horrors of war linger long after the last gun falls silent.

Dr. Calvin L. Christman
Cedar Valley College
Dallas, Texas

Inequality in an Age of Decline by Paul Blumberg. New York: Oxford University Press, 1980, 290 pages, $12.95.

Economic issues, formerly considered esoteric and dry, are highly relevant to the *Review*'s readership as these issues will shape the priorities, missions, and capabilities of national defense for years to come. *Inequality in an Age of Decline* very succinctly and starkly depicts some of the problems encountered in an America that seems to have had its economic engine falter or stall at the same time that demands for increased governmental spending in every segment of the federal budget have stridently increased.

Professor Paul Blumberg is well qualified to write such a trenchant and hard-hitting book as he is a sociologist at the City University of New York and well versed in the individual and group dynamics of today's "what's in it for me" psyche. As a sociologist, he is able to identify and describe the changing socioeconomic values and dynamics in a society that is fast becoming service- not production-oriented.

This excellent book portrays the various forces that have led to the intense competition within the United States *not* to contribute to the production of a bigger "pie" but rather to get a bigger part of what regrettably is a shrinking "pie." In particular, the book describes such factors as the deindustrialization of America, the decline of the United States as an exporter, changing values, and the consequences for our future. Unemployment; inflation; rising energy costs; export-import policy disputes; deteriorating railroads, highways, and bridges; declining productivity; possible plant shutdowns; public employee strikes and restiveness—all are now too familiar a part of the daily news diet.

These new forces are well sketched by Professor Blumberg and will directly affect the personal and professional lives of all *Review* readers in areas as diverse as future military pay and benefits increases; fund availability for defense programs; the value systems of new recruits and, ultimately, when and where military force may have to be employed abroad to protect American interests, many of which are economically based. This eminently readable and disturbing book is a "must-read" item and one that will probably be widely discussed during the present administration.

Lieutenant Colonel John A. Hurley, USAFR
Alexandria, Virginia

Managing Stress: A Businessperson's Guide by Jere E. Yates. New York: AMACOM, 1979, 165 pages, $12.95.

Occasionally, a management subject comes into vogue. Most of these subjects are transitory in nature and do little, if anything, to add significantly to our existing body of knowledge. However, once in a rare while a subject comes along that is truly important and offers a dramatic, long-term impact—one that literally changes our way of thinking and acting. Stress appears to be such a subject.

Management authors have been quick to jump on the "stress bandwagon." The shelves in bookstores and libraries are overflowing with volumes and volumes on how to deal with stress. Some of these books offer a fresh insight into the subject. Unfortunately, more often than not, the books appear to be published more for their marketability than for any new knowledge they provide. These books simply rehash information already published in other forms. *Managing Stress* falls into the latter category.

This is not an indictment of Yates's motives in publishing his work, merely a comment on his results. This is not to say that rehashing an important subject is not worthwhile, but the interested reader should know that the book offers little, if any, new information or approaches for dealing with stress. It is a shame, too, because Yates's credentials are impeccable; he holds a Ph.D. from Boston University and is Professor of Organizational Behavior and Management at Pepperdine University, specializing in stress management.

Despite the fact that the book is not a pioneering effort, it does have merit. It is an excellent primer on the subject, extremely well suited to the busy executive who has not had time to keep up with the latest information on managerial stress. It offers, in an exceptionally readable and relatively short book, a comprehensive look at what is known about, and accepted methods for dealing with, stress. And, I suppose, the importance of the subject matter dictates that the wider the selection the more people who are apt to be

reached. Still, $12.95 for (re)hash, even in these inflationary times, seems excessive.

Chief Master Sergeant Mark Topper, USAF
USAF Senior NCO Academy
Gunter AFS, Alabama

To the Marianas: War in the Central Pacific, 1944 by Edwin P. Hoyt. New York: Van Nostrand Reinhold, 1980, 292 pages, $12.95.

As allies of the victors, the Japanese suffered only one casualty during World War I. Yet at the Versailles peace conference they were rewarded with League of Nations' mandates over the Marshall, Caroline, and Marianas island groups. In a separate pact, concluded in 1921, the United States recognized those mandates in exchange for the right to put a cable through Yap Island. (The United States never ratified the Versailles Treaty, thus necessitating the separate accord.) In World War II America paid dearly for the mandates so matter-of-factly accepted two decades earlier.

In this sequel to his *Storm over the Gilberts* (1978), Edwin P. Hoyt, a military historian and journalism instructor at the University of Hawaii, argues that the costly experience of the Gilberts helped the United States military better prepare for the Marianas undertaking. Yet persistent squabbling between the Army and the Marine Corps leadership and the courageous resistance of the Japanese forces rendered the Marianas a difficult and costly campaign.

The hard-fought victory in the Marianas brought about a fundamental change in American strategy in the Pacific theater. Previously, the Pacific Ocean Command, under Admiral Chester Nimitz, had been given the lead in the war against Japan with General Douglas MacArthur's Southwest Pacific Command in a support role. In July 1944, President Franklin Roosevelt became convinced that MacArthur's plan to retake the Philippines made more sense both militarily and politically than did the planned move against Japanese-occupied China. The campaign against the Marianas had demonstrated that larger land masses could not be readily taken by the techniques used previously by the Marine Corps on smaller islands. Instead, a slow army advance along a broad front appeared to have the greatest hope of success. From this juncture, Roosevelt concluded, MacArthur and the Army would take the lead in the war in the Pacific with the Philippines as the near-term objective. The Navy would be relegated to a support position.

Hoyt's study is crisply written and insightful. It would be of value to anyone interested in the Pacific conflict and the myriad problems inherent therein.

Dr. Stephen D. Bodayla
Marycrest College
Davenport, Iowa

The Negotiations on Mutual and Balanced Force Reductions: The Search for Arms Control in Central Europe by John G. Keliher. New York: Pergamon Press, 1980, 204 pages, $25.00.

A long-overdue and thorough treatment of the Vienna-based Mutual and Balanced Force Reductions (MBFR) negotiations has finally emerged. In analyzing the historical antecedents and political maneuvering, as well as the detailed and complex reductions proposals themselves, Colonel John Keliher has done a great service for both the academic community and the military profession. While there has been a flood of writings on Strategic Arms Limitation Talks (SALT) issues, there has been a conspicuous absence of scholarly efforts to review and assess the objectives, problems, and prospects of these talks (nicknamed by some wags as the "Vienna Waltz").

Keliher begins by setting the Central European arms control issue in the context of historical Soviet policy toward Germany. He then traces the ebb and flow and the flip and flop of the two sides' proposals and counterproposals through the years. It is an enlightening story. Three decades ago the Soviet view gave priority to arms control measures that would result in a neutralized, militarily weak Germany. The West rejected such arms control approaches and sought instead an overall European settlement with an ultimate goal of a free, reunified German state. Over the years the rearming of the Federal Republic of Germany and its integration into NATO resulted in an almost complete reversal of East and West policy emphasis. By the mid-1960s, the Soviet emphasis shifted from neutralization of Germany to a desire for "European recognition of the status quo in Central Europe, i.e., recognition of Soviet hegemony." And, of course, the West was very much interested in explicit arms control measures under the twin pressures of Vietnam and growing Soviet theater forces.

Most of *The Negotiations on Mutual and Balanced Force Reductions* is devoted to careful and scholarly examination of the proposals of both sides since 1973. There is a tendency toward detail that will delight the arms control researcher but which may be quickly skimmed by those seeking only to understand the principal objectives, the recurrent obstacles, and the future prospects. His last chapter, "Does MBFR Have a Future?" is particularly noteworthy for its incisive coverage of "Why No Treaty?" and on the merits/demerits of alternative approaches.

Colonel Keliher's twin attributes of scholarship and experience (four years in MBFR duties and membership on the U.S. Delegation in Vienna) have resulted in a work of remarkable value to the arms control field.

Colonel William J. Barlow, USAF
Hq USAF

The Role of the Military in Chilean Politics, 1810-1980 by Bynum E. Weathers, Jr. (Maxwell AFB, Alabama: Air University Library, 1980), 230 pages.

Undoubtedly the military has been both a stabilizing and a disruptive force in Latin American politics. Dr. Bynum E. Weathers ably demonstrates this in his study of the Chilean military establishment.

In *The Role of the Military in Chilean Politics, 1810-1980*, Weathers analyzes contemporary Chile and the regime of General Augusto Pinochet. This military strongman has ruled oppressively, even sending DINA (secret service) agents around the world to assassinate Chileans in exile whom Pinochet considers dangerous to his military dictatorship. The murder of Orlando Letelier del Solar in the United States was a prime example of this. Weathers also effectively describes the role of the United States in the overthrow of Salvador Allende, the Marxist President whose regime was showered with cascading economic and political problems. Allende's failures provided the occasion for Pinochet to overthrow civilian rule in Chile.

Weathers might have improved his work were there less narration and more analysis of Chile's military. Certainly he could have strengthened his study with more analysis of the cause-effect relationship between social origins of Chilean military officials and their actions. Does, for example, John J. Johnson's thesis that Latin American military establishments are becoming radicalized because officers are coming from the lower classes in increasing numbers apply to Chile? I find it curious that Weathers makes no mention of Johnson's *The Military and Society in Latin America* (1964). Despite these few blemishes, Weathers's study provides a useful survey of the Chilean military over the past 170 years.

Dr. Thomas O. Ott
University of North Alabama, Florence

Research Guide to Current Military and Strategic Affairs by William M. Arkin. Washington: Institute for Policy Studies, 1981, 160 pages, $7.95 paper.

William Arkin, a graduate student at Georgetown University, has assembled a reasonably useful guide to the sources of information needed by those researching politico-military affairs. The experienced researcher will probably find the information "old hat" and thus of limited utility. On the other hand, those less experienced will find the extensive work done by the author to be useful and a great timesaver. In addition, the data listed may suggest to the novice sources of information that would otherwise go untapped.

Several of Arkin's compilations will prove exceptionally helpful to the inexperienced researcher. For example, his treatment of the defense budget cycle (even though somewhat askew in recent years), along with a complete listing of congressional committees and subcommittees concerned with military affairs, will be especially valuable in following the labyrinthine trail of military appropriations. Arkin also provides details on how to use the Freedom of Information Act to obtain materials from reluctant bureaucrats.

Despite the undeniable value of this volume to many doing research in the area of international security and politico-military affairs, I must make mention of several reservations I have about the volume. The first has to do with the title. According to Arkin, the book is concerned with military and strategic affairs. The title further pollutes the already garbled semantics of defense-related literature, caused in no small part by the misuse of language by self-anointed civilian "experts." Is there a difference between "military" and "strategic" affairs, or is one a subset of the other, or is the title simply creative puffery? I suspect puffery is closest to the truth.

The second concern also has to do with the use of language, language that conveys a hidden meaning. In Chapter IV, Part D, Arkin accurately reveals many sources of information concerning those engaged in supplying equipment to the Department of Defense. Unfortunately, he chose to call this chapter "The Military-Industrial Complex," a term that has a distinctly pejorative connotation. Perhaps the pejorative connotation would not stand out quite so clearly if the last six pages of this paperback volume were not filled with advertisements for other Institute for Policy Studies books that are obviously antimilitary. Titles such as *Resurgent Militarism*, *Toward World Security: A Program for Disarmament*, and *Dubious Specter: A Skeptical Look at the Soviet Nuclear Threat* make the viewpoint of IPS (and perhaps the author of this volume) quite clear.

Lieutenant Colonel Dennis M. Drew, USAF
Air Command and Staff College
Maxwell AFB, Alabama

War and Hope: The Case for Cambodia by Prince Norodom Sihanouk. New York: Pantheon Books, 1980, 166 pages, $10.95.

In the introduction to this plaintive appeal from Cambodia's former chief of state, William Shawcross maintains that "eventually the destruction of Cambodia will be recognized as one of the great crimes of the twentieth century." Shawcross recounts that Prince Norodom Sihanouk at one point contended that former President Nixon and Henry Kissinger were responsible for the plight of Cambodia. Sihanouk is more restrained in this volume, however, contending principally that if Cambodia is to be preserved an international conference must be convened to deal with the myriad problems—and with the wrenching human tragedy—of Cambodia.

Kissinger and Shawcross have hotly disputed the facts of Cambodia's death-agony. But, in one sense, Cambodia's story can briefly be told. Norodom Sihanouk had become King of Cambodia in 1941 at the age of eighteen. Under one title or another, he maintained his power until 18 March 1970, when he was overthrown. He was succeeded by the pro-U.S. Premier Lon Nol, who, on 9 October 1970, proclaimed the Khmer Republic. The United States provided heavy military aid to Lon Nol, who demanded the removal of 40,000 North Vietnam troops. American aid continued until 15 August 1973, when the Congress effectively ended U.S. military action in Indochina.

On 1 April 1975, President Lon Nol had fled the country, leaving the government in the hands of Premier Long Boret. Khmer Rouge (Communist) troops captured Phnom Penh on 17 April, and Long Boret was executed by a Communist firing squad. Although estimates place the figure of deaths during the 1970-75 war at about 100,000,

the torture of Cambodia had just begun.

The country's name was changed to Democratic Kampuchea, and a new President, Khieu Samphan, emerged. Before long, Prime Minister Pol Pot seemed to consolidate most of the power. The hapless Sihanouk, who had been in exile in Peking, returned to Phnom Penh in September 1975 for the first time since the 1970 coup that had toppled him. Sihanouk was held under house arrest from 1976 until he was freed by Pol Pot in 1979. From his house arrest in the royal palace, Sihanouk was able to observe many of the acts of barbarous cruelty which mark the Pol Pot regime as arguably one of the most horrible and heinous governments in world history. Some of Sihanouk's descriptions of the guards' acts of cruelty to animals alone are enough to cause the reader to wonder how anyone could sink to such depths of depravity.

One can only speculate at the thousands of Cambodians who were slaughtered in a new holocaust, the proportions of which are not yet known. In April 1978 President Carter denounced Cambodia as "the worst violator of human rights in the world today." And, on 12 October 1978, Senator George McGovern, hardly a usual proponent of the employment of American military power, suggested that force be sent to Cambodia to overthrow the government because of the massacre of its people (1978 *Facts on File*, pp. 794, A2). In what McGovern properly called "a clear case of genocide," Democratic Kampuchea was murdering on the order of 2.5 million of its countrymen. Sihanouk testifies that Pol Pot was an admirer of Hitler, and the gruesome figures testify to Sihanouk's accuracy in his description of the new Cambodian regime.

In 1977-78 war developed along Cambodia's borders with Vietnam and Laos. On 25 December 1978, Vietnam launched a full-scale invasion of Cambodia, leading, on 7 January 1979, to the capture of Phnom Penh. Heng Samrin, a dissident Khmer Rouge supported by Vietnamese troops, now consolidated power. Civil war—and the awful suffering of the Cambodian people—continued. Sihanouk appeared before the United Nations both to protest the Vietnamese invasion of his country and to denounce Pol Pot, whose representative he was at first supposed to be. The problems of war, of refugees, of starvation continue.

Sihanouk is no particular friend of the United States. He talks, for example, of his fight against "American imperialism"; his other book was entitled *My War with the CIA*. The author is fond of describing himself in the third person—as "Sihanouk." He admits that ". . . I would not be able to survive without the generosity . . . of the People's Republic of China." (p. 61) Still, Sihanouk's contentions that Cambodia should be "100 percent neutral," "pacifist," and "open" seem to offer the only hope to this ravaged land.

This is an imperfect and rather self-serving book. Shawcross's judgment that the crucial evidence about culpability for the Cambodian nightmare will never be gathered in only one place is doubtless true. Sihanouk's book represents only a partial view of Cambodia's recent, tortured past, but it is worth reading and pondering.

Dr. James H. Toner
Norwich University
Northfield, Vermont

The Evolution of Weapons and Warfare by Trevor N. Dupuy. New York: Bobbs-Merrill Co., 1980, 350 pages, $14.95.

This study is perhaps Trevor N. Dupuy's finest work. Using his vast knowledge of military history, the author skillfully condenses the information contained in his previous fifty or so works into a remarkable one-volume account of the relationship between technology and warfare. This history of weapons and warfare has been divided into three principal areas: The Age of Muscle, The Age of Gunpowder, and The Age of Technological Change. Within these three broad divisions, eighteen significant weapon developments and nineteen major advances in technology are discussed, covering the period from the Macedonian phalanx to the advent of ballistic missiles.

Surprisingly, perhaps to many contemporary military men and operations research analysts, the author concludes that changes in military technology and weapons have *not* invalidated previous lessons learned from the study of warfare. For Dupuy, the essential nature of warfare has not changed because wars are still fought by nations and men of opposing points of view and man has not basically changed. The increase in the potential destructiveness of today's weapons is still subject to the same basic considerations of past warfare: adoption of weaponry by the military establishment and integration of that weaponry into existing tactics and strategy or, if necessary, the evolution of new tactics and strategy. The author further demonstrates that as weapons have increased in their potential for destruction, fewer soldiers have been killed in combat and that sound, imaginative thinking is far more significant in warfare than any new weapon or weapon system. The remainder of Dupuy's conclusions are presented in the appendix, appropriately entitled Distillation, and should be required reading at the various war colleges.

The importance of this book is perhaps best summarized in the author's opening statement.

> I have become increasingly concerned by the lack of attention to historical experience in military analysis, and in the formulation of military policy, doctrine and plans in the United States, a concern that has been intensified by realization that our most likely opponent in a future war—the armed forces of the Soviet Union—have been, and continue to be, greatly influenced by their intensive study of modern military history. If this book in any way contributes to increased recognition on the part of senior Pentagon officials in and out of uniform of the essentially evolutionary nature of warfare (no matter how revolutionary new weapons and technology may be), recognition that modern warfare always will be an extrapolation from past warfare, and realization that some aspects of war never change, then it will have accomplished its purpose. (p. vii)

Major Robert J. Scauzillo, USAF
Mountain Home AFB, Idaho

Jack: The Struggles of John F. Kennedy by Herbert S. Parmet. New York: Dial Press, 1980, 586 pages, $14.95.

Jack: The Struggles of John F. Kennedy is so thorough in detail, it is often repetitive, but the repetitions serve a purpose. Herbert Parmet, a professor of history, has lectured extensively on American politics and personages. Combining his habit for exhaustive research with sharp glimpses and insights into the people and times of John F. Kennedy, he paints a human portrait of the pre-Presidential man. Parmet develops a total character, not just to be scrutinized but understood. This holistic profile becomes a drawing rich and multicolored against a panorama of persons and places. The book is a basketful of facts, figures, and quotations, reading like a novel.

If you like the feel of across-the-fence talk—about the Kennedys, the Bouviers, the Auchinclosses—you'll love this volume, for Parmet's narration fills out as a very gossipy tome. In the end, the pages are crowded with minutiae, bringing the curtain down on Kennedy's decision to run for the presidency, a rather strange place to close if one is discussing *Jack Agonistes* in the ultimate sense.

Ultimately, this vast array of data yields a deeper look at the unconscious conflict between Jack's idealism and his father's pragmatism. He was not the son who was supposed to be president; he was shy and bookish, suited to be a professor or a writer. But older brother Joe died in flames, so as second son, Jack took the public role in spite of injury, illness, and disease.

Some of the book's more revealing observations are those reflecting Kennedy's conservative points of view which often opposed Democratic Party thinking. Another significant insight concerns his pride, bravado, and unwillingness to accept the truth about his health. At one time he was a dying man, long before the shots rang out in Dallas.

Kennedy's Pulitzer Prize-winning *Profiles in Courage* emerges as a work of several people, even though the book was primarily his responsibility. Though Ted Sorensen nurtured it and made it strong, in the end, Kennedy could and did take the credit for it.

It is fascinating to see again and again how Kennedy in the 1950s was discussing issues that are very much alive in the eighties — the economy, war, peace . . . He was chided and derided for his ideas then. They are more popular now.

Finally, for military readers, the PT 109 story is well known, of course, but the theme of the event as presented in *Jack* is a universal one, one worth meditating on: War is often a huge coincidence.

Dr. Porter J. Crow
Miami Education Consortium
Miami, Florida

Doolittle's Tokyo Raiders by Carroll V. Glines, Jr. New York: Van Nostrand Reinhold Co., 1981, 449 pages, $8.95.

The republication of Carroll V. Glines's *Doolittle's Tokyo Raiders* in a paperbound volume is welcome, indeed. There are many, both military and civilian, for whom the raid on Tokyo early in World War II remains a dim memory. To others, born after the war, it may simply be unknown.

Several weeks after the Japanese attack on Pearl Harbor, President Franklin D. Roosevelt emphasized to General George C. Marshall, Army Chief of Staff, and Lieutenant General Henry H. "Hap" Arnold, Chief, Army Air Forces (AAF), that he desired an air strike against the Japanese home islands as soon as possible.

Admiral Ernest J. King, Chief of Naval Operations, had thought of the idea of using a Navy carrier to transport Army planes. General Arnold originated the idea of having AAF medium bombers actually take off from the deck of a carrier.

The entire operation, with its extraordinarily complex planning, would be carried out jointly by the Army Air Forces and the Navy. Admiral King assigned Captain Donald B. Duncan the task of determining the feasibility of launching Army medium bombers from a carrier. Duncan felt that the North American B-25 was the only bomber that could be used. He also thought that the carrier *Hornet* would be the best carrier to use in the proposed operation. Duncan would coordinate the Navy's logistical planning.

Arnold chose Lieutenant Colonel James H. "Jimmy" Doolittle to supervise the AAF tasks of modifying the planes and training the crews. Doolittle was a crack pilot—holder of an imposing number of aviation records—who was also an innovator and a man who possessed obvious leadership attributes. Having succeeded in convincing Arnold that he was also the man to lead the raid, Doolittle knew that if the planned attack were to succeed his men must surprise the Japanese. Arnold assigned the project the highest priority. Just as Arnold deliberately and confidently picked Doolittle, so the latter chose his men and assigned his crews carefully.

Doolittle's crews underwent intensive training, primarily getting used to lifting the B-25s off in an extraordinarily short distance. No detail was too small to be considered.

Glines builds the drama during planning and training prior to describing the attack on Tokyo of 18 April 1942. The carrier *Hornet*, under the command of Captain Marc Mitscher, managed to achieve surprise.

Doolittle and his men succeeded in their mission, flying from their bombing runs on Tokyo to the Chinese mainland. However, one crew was captured by the Japanese in China, and three of those men were subsequently executed. Another, Lieutenant Robert L. Hite, survived 40 months imprisonment in Japan.

After bringing the attackers over Tokyo, Glines recreates the raid through the eyes of each participating crew. Prior to letting the raiders describe the operation for themselves, the reader may have wanted Glines to reveal the damage caused by the raid, but he subsequently presents this information.

The damage, though relatively light, nonetheless proved a great shock to Japanese morale. Their air space had been penetrated and their homeland bombed. Admiral William F. "Bull" Halsey termed the Tokyo raid one of the most courageous and daring operations in military history.

He was correct. Today, one retrospectively ponders the satisfaction and even the glory of a remarkably difficult military operation (a joint operation, let it be remembered)

that was brilliantly planned and well executed. There are a number of lessons to be learned from this page in history.

Herman S. Wolk
Bolling AFB, D.C.

Bowman Hendry McCalla: A Fighting Sailor by Paolo E. Coletta. Washington: University Press of America, 1979. 199 pages, $10.25.

If Bradley A. Fiske was the Douglas MacArthur of the turn-of-the-century American Navy, Bowman Hendry McCalla was its George Patton. The admiral loved a good fight, but he unfortunately did not always confine his attacks to the enemies of his country. In his first command at sea, he slashed a drunken sailor with his sword and was court-martialed and "beached" for three years. Restored to duty, he quarreled with his commanding officer and brawled with a civilian contractor. Luckily, the Spanish-American War intervened to give McCalla a more suitable outlet for his combativeness, and he served with distinction in Cuba and the Philippines. His finest hour came during the Boxer Rebellion of 1900, when he commanded the U.S. Navy contingent in the expedition sent to rescue the legation in Peking—an episode that, incidentally, features the best writing in the book.

Author Paolo E. Coletta admits that McCalla was only a "minor major figure," and indeed he was. Still, his career is not without interest as an object lesson in the value of self-control.

Daniel F. Harrington
Hq Strategic Air Command
Offutt AFB, Nebraska

Anti-Personnel Weapons by Stockholm International Peace Research Institute, New York: Crane, Russak & Co., 1979. 299 pages, $26.50.

Dr. Malvern Lumsden, a Research Fellow of the Stockholm International Peace Research Institute (SIPRI) wrote this book as a contribution to SIPRI's "ongoing efforts to prohibit or restrict the use of some of the more inhumane and indiscriminate . . . (anti-personnel) weapons." It was clearly a laudable and noble intent, and Lumsden presents a scholarly and thorough attempt to grapple with the complex and seemingly insoluble problem.

In the first two chapters he gives a historical account of antipersonnel weapons from mankind's earliest recorded attempts at warfare to Vietnam. Chapters 3 to 8 contain the bulk of the material, and they deal with wounds, small arms, fragmentation, blast, delayed-action, and state-of-the-art weaponry. The last chapter and its appendixes contain an account of the development of laws of war on antipersonnel weapons and the proceedings and results of recent international conferences, including the United Nations, on the subject of inhumane and indiscriminate weapons.

Anti-Personnel Weapons contains a wealth of factual technical information with dozens of tables, figures, and illustrations to document the data on a wide variety of subjects. For example, one table lists the world's principal manufacturers of military small arms ammunition, another indexes U.S. cluster bombs and dispenser munitions, and still another identifies U.S. aircraft with an antipersonnel role used in Vietnam. All these facts and figures tend to make cover-to-cover reading quite boring, thus its value lies more in its ability to give specific information rather than to be a general overview or critique of antipersonnel weapons.

The United States receives more than an equitable share of criticism for using these types of weapons, probably because the U.S. military has been involved in more combat since World War II than other nations. Furthermore, the United States is freer with its dissemination of information, as a matter of national policy, than some other nations, most notably the Soviet Union. Thus the author made use of what was most available—information on U.S. weapons. The nature of guerrilla warfare in Southeast Asia also made the development of new types of antipersonnel weapons necessary, but they were certainly not developed and procured to be used capriciously or indiscriminately, as is repeatedly implied throughout the book.

Overall, SIPRI, an independent organ of a neutral country, has not produced an independent, neutral tome but rather a biased and slanted one. The institute was founded in 1966 to commemorate 150 years of peace in Sweden; SIPRI receives its financing from the Swedish Parliament.

Major James H. Smith, USAF
Offutt AFB, Nebraska

Make the Kaiser Dance: Living Memories of a Forgotten War by Henry Berry. Garden City, New York: Doubleday, 1978. 455 pages, $10.95.

Henry Berry says he decided to write *Make the Kaiser Dance* because an English acquaintance told him he had not known that the United States was in World War I. Seeking "a new literary approach to the war" (p. xv) Berry decided to let almost all of his source material be interviews with 100 selected World War I Doughboy veterans. Almost every interviewee expressed fear that his memory was dim but invariably recounted events in crystal clear detail. One could only remember the taste of food eaten in the Argonne. Another's "eyes lit up—it was almost as if he was once again moving North from the Marne." (p. 272) The ex-Doughboys or Yanks—though they were first called Sammies after Uncle Sam—averaged 82 years in age when interviewed: the oldest was 93. Asked if he would do it all again, one replied "Hell no . . . not for a million dollars. . . . but I won't take a million dollars for having done it." (p. 25) One of the things that rankled the Doughboys was "the famous remark, 'Lafayette, we are here'. . . . One of them summed up the feeling. . . . 'O.K., . . . we've paid off that old fart, Lafayette. What Frog son-of-a-bitch do we owe now?' " (p. 153)

Their recollections ranged from some having been driven to battlefields in Parisian taxicabs to having been in line so close to the enemy that they defecated on shovels and tried to sling the dung over. Another man amusingly related a tale about the enemies yelling "back and forth. . . . One night when this Heinie kept yelling, 'Gott mit uns, Gott mit uns,' (God is with *us*) finally one of our boys yelled back, 'We've got mittens too, you silly bastard. Shut up.' " (p. 154)

They often contrasted the Doughboy with the GI of World War II: the World War I boys had a great deal more "unit spirit" (p. 101) . . . "the country seemed so much younger then" (p. 102) . . . the Doughboy sang more (p. 406). . . . perhaps "the Hinky Dinky tune [with myriad, often lewd, variation] was sung by more American soldiers than any other tune in the history of the Republic." (p. 410) Two men told of making a lot of talks at high schools—"we don't want these youngsters to forget what we did, . . ." (p. 293)—and "until we start talking, they can't believe any of the boys from 1918 are left. Why, the WW II veterans are old men to these kids." (p. 292)

Make the Kaiser Dance is a pastiche with no particular structure; there is no real point in reading it save for diversion and the experience of poignance. The best story is the recounting of Charlie Kinsloving's quip on being incapable of making a requested impromptu speech: "I find I have nothing to say, and that's really unusual, because my father is a bishop and my mother is a woman." (p. 269) While this book would have been improved if it had been cut some in length and better edited, it is in places as much fun as Kinsloving's famous joke—and about as substantive.

Dr. Herman M. Hattaway
University of Missouri, Kansas City

The Secretary of Defense by Douglas Kinnard, Brigadier General, USA (Ret). Lexington: The University Press of Kentucky, 1980. 264 pages, $19.50.

Dr. Douglas Kinnard has written an excellent volume focusing on the Office of the Secretary of Defense from its establishment in the National Security Act of 1947 through the late 1970s when Harold Brown occupied the office. The book contains six chapters and two appendixes.

Of the fourteen defense secretaries, four were major forces in shaping the office as it currently functions: James V. Forrestal, Robert S. McNamara, Melvin R. Laird, and James R. Schlesinger. Individual chapters present in-depth analyses of the political and military circumstances, both domestic and foreign, to which each of these secretaries was subject as well as events and policies that they played a role in shaping. A fifth major chapter focuses on the Eisenhower years, with some attention devoted to defense secretaries Charles E. Wilson and Neil H. McElroy. However, partly because of his background as a military commander, ". . . Eisenhower performed, in many ways, as his own secretary of defense." (p. 193) Therefore, Eisenhower himself is the key focus of the second chapter.

The concluding chapter is a recap of the major events and personalities discussed in more depth earlier in the book. The first appendix provides brief background information on each of the fourteen secretaries. The second appendix is a summary chart of the national security leadership since World War II, listing the secretaries of defense and state, the Chairmen of the Joint Chiefs of Staff, as well as the four service chiefs. A brief, selected bibliography is also included.

Dr. Kinnard's political and military analyses of the thirty-year period are both systematic and interesting. He also examines the major personalities who shaped emerging events while discussing the dynamics of their relationships with each other. However, an in-depth examination of the psychodynamics of each secretary, is beyond the scope of this book. Therefore, we are given only modest psychological profiles of the key personalities who shaped the defense secretary's office.

The book does provide sufficient detail to interest those concerned with management and organizations, although that is not a notable strength of the book. The issues of decision-making, planning, and authority are implicitly interwoven into the fabric of Kinnard's political and military analysis.

It is fascinating to see McNamara emerge in this book as the powerful civilian leader who employed sophisticated managerial techniques for information processing and decision-making. We see Laird emerge as a skilled liaison and negotiator with Congress. Finally, Schlesinger becomes the able, though blunt and abrasive, spokesperson for the Department of Defense as well as an insightful and tough-minded strategic, entrepreneurial decision-maker. For the management scholar, these are among the quite interesting underlying themes, though they are never fully developed because of Kinnard's own concern for major political and military themes.

In summary, this is a very compelling book, especially for those with a political science or military orientation. It is especially appropriate for those interested in evenhanded analysis as opposed to those seeking evaluations and judgments of events or persons.

Dr. James C. Quick
University of Texas at Arlington

The United States in the 1980s edited by Peter Duignan and Alvin Rabushka. Stanford, California: Hoover Institution Publication 228, 1980, 868 pages, $20.00.

The United States in the 1980s is a much-needed volume of essays analyzing many of the major problems facing the United States as it enters the decade of the 1980s, evaluating the options available and recommending solutions. The theme of the essays is sobering, yet upbeat. On the one hand, the United States has entered an age of limits and limited government, with a correspondingly limited ability to solve the problems facing it. On the other, the volume offers guidelines for achieving sensible solutions to a variety of both domestic and international problems.

Domestic issues surveyed by the book include economic policies, taxation, welfare reform, Social Security, energy options, environmental policies, higher education, and others. International issues examined include arms control, the Soviet view of global nuclear conflict, intelligence operations, foreign aid, world energy sources, international business, and others. The book presents the view that no single problem can be understood in isolation from all others: an analysis of each problem illuminates other, related problems.

Essays analyzing the relative power of the United States and the Soviet Union are, in a way, the most important ones in the book. One of them emphasizes the grim fact that the Soviet Union, unlike the United States, believes that it is possible to win a thermonuclear war and is preparing itself to do so. Another essay asserts that the Kremlin is prepared to pursue the empire-building road of conquest and domination and points out that the United States is now negotiating with the Soviet Union from a position of weakness. Since the process of negotiation has itself contributed to America's present inferiority, the United States ought to wake up to reality and discontinue negotiations; unless it redresses this dangerous imbalance of power, it will lose the freedom to choose between different options in dealing with other problems. Many military men will agree wholeheartedly with such views.

All in all, *The United States in the 1980s* presents an extremely intelligent analysis of the major problems confronting the nation in the years just ahead. The future of the United States would be brightened substantially if its leaders, irrespective of party, chose to follow the trenchant advice offered here.

Major Steven E. Cady, USAF
Hq USAF

Coming Alive: China after Mao by Roger Garside. New York: McGraw-Hill, 1981, 458 pages, $12.95.

Mao Zedong "was a man in the mold of Tamerlane" and his review of Red Guards at Tian An Men in the summer of 1966 reminded one "of Hitler's Nuremberg rallies." Similar statements are often found in books on Mao and the People's Republic of China (PRC) that were published in the West before President Nixon's visit in 1972. In fact, one book that appeared in 1963 actually bears the title *Mao Tse-tung, Emperor of the Blue Ants*. Unfortunately, the quotes in the opening sentence came not from that book but from Roger Garside's *Coming Alive*.

Garside's work, however, is not exclusively one that portrays Maoist China in the most denigrating terms, for its primary focus is post-Mao China. What the author has done is paint pre- and post-Maoist China in almost purely black and white terms. Before Mao's death the PRC was in "the straitjacket of Soviet-style totalitarianism." Since 1976 a system has emerged "that will allow the vitality and humanity of the Chinese people to flourish again."

Needless to say this is a vast oversimplification. The primary cause for such a shallow interpretation is Garside's lack of academic grounding in the China field. His "expertise" comes almost solely from two tours of service (1968-70 and 1976-78) in the British Embassy in Peking. Had he given himself the benefit of course work in contemporary Chinese politics, he would have discovered that Deng Xiaoping and his followers currently in power and Mao Zedong shared the same ultimate goal for China. Both were working for the benefit of the Chinese people. Where they differed was that Mao gave priority to achieving an egalitarian society whereas Deng supports modernization first. Conflict arose between the two because in underdeveloped countries such as the PRC these objectives are, regretfully, incompatible. To achieve rapid modernization requires the creation of a technocratic elite and the diverting of resources to the urban areas. Both of these acts are antagonistic to the creation of an egalitarian society. Another fact Garside would have come to appreciate had he done his homework is recognition of the incredibly vast improvements that have occurred in the PRC under the leadership of Mao. Awareness of these achievements would certainly have caused Garside to recognize that Mao does not deserve to be placed in the same category as Tamerlane.

To be sure *Coming Alive* is not without merit. The coverage of dissident Wei Jingsheng and the accounts of the Tian An Men incident and the arrest of the Gang of Four are impressive. Taken as a whole, however, this book cannot be recommended.

Dr. Gerald W. Berkley
Auburn University at Montgomery, Alabama

Bomber Command: The Myths and Reality of the Strategic Bombing Offensive 1939-45 by Max Hastings. New York: Dial Press, 1979, 399 pages, $12.95.

Bomber Command is a first-rate study and deserves a great deal of reflection. "Bomber" Harris was a captive of a strategic bombing dogma that by 1943 was shown by all the facts to be a violation of economy of force. It was an extremely wasteful exercise and through six years of war proved what the bomber could not accomplish.

Journalist Max Hastings wants military professionals to take a long, clear, unjaundiced look at the strategic bombing campaign. He claims that Bomber Command took the cream of British youth and a disproportionate amount of resources for the results gained.

As to area bombing, pinpoint targeting, dispersing industry in suburban locations, nuclear warheads, and the other great controversies, we are left to our own devices. It is clear that strategic bombing remains an effective cog in the whole combat wheel. To those who claim it cannot do everything, I say remember the *something* that it can do. Airmen need to read Hastings and conclude for themselves.

Major Theodore M. Kluz, USAF
Air Force Journal of Logistics
Gunter AFS, Alabama

Handbook of Soviet Lunar and Planetary Exploration by Nicholas L. Johnson. Volume 49, Science and Tech-

nology Series, San Diego, California: Univelt, Inc., 1979, 276 pages, $35.00 cloth, $25.00 paper.

Soviet space exploration since the launch of the first earth satellite in 1957 has been doggedly persistent. Much to the dismay of space technologists, *Sputnik I* was followed by one Soviet space spectacular after another. In this book the author focuses on Soviet lunar and planetary explorations to date and highlights the outstanding aspects of each mission. Incidentally, readers will find the title to be brutally indicative of the style and content of the book—it is a handbook. In the preface Nicholas Johnson supports this with the statement that "great care has been taken to present in this volume only the facts as they now appear." On the other hand, the facts are substantiated by a varied, fairly complete, and up-to-date reference bibliography ranging from 44 to 136 citations in each section of the book.

The book is divided into four sections: Exploration of the Moon—Luna Series; Exploration of the Moon—Zond Series; Exploration of Venus; and Exploration of Mars. In these sections the reader is marched through every launch in the exploration test series. Specifications are reported for each spacecraft as well as for each of the scientific instruments carried aboard, and detailed highlights (sketches, photographs, and data) from each mission are included. The author has necessarily been selective in reporting the major technical findings from these missions.

Three appendixes are included to summarize some of the more important technical data related to Soviet exploration of the moon and planets. The first describes Soviet launch vehicles, the second identifies Soviet launch facilities, and the third lists a wide range of technical details not included in the text about the lunar and planetary missions.

A relatively balanced view of the Soviet program to explore the moon and planets is presented by the author. Predominantly Soviet references are cited for technical details. Remaining references are American and British, which compare Soviet data with data obtained in U.S. space exploration programs. No items of technical controversy are identified in the book.

Johnson has achieved his objective of writing a handbook of Soviet lunar and planetary exploration. He summarizes a spectacular list of Russian firsts in these space explorations. They range from the first lunar and planetary flyby probes to the first man-made probes to land on the moon, Venus, and Mars. Though the book is dry reading in the usual sense, the technical reader will find it an interesting, broad-brush summary of Soviet lunar and planetary explorations. Sovietologists who read this book can only come to the conclusion that the Soviets are committed to space exploration and are methodically pursuing an intensive technical program of space research. What they specifically plan to do with this knowledge is anyone's guess.

Colonel Carl A. Forbrich, USAF
Eglin AFB, Florida

The B-24 Liberator by Martin Bowman. Chicago, Illinois: Rand McNally & Co., 1980, 128 pages, $14.95.

Many books have been published on aircraft, especially those of the 1939-45 war. Although fighter aircraft have been the most popular subject, bombers have not been neglected. Of the many bombers of that war, the British Lancaster and American B-17 have received the most attention, then and now. Yet more consolidated B-24 Liberators were built than any other U.S. aircraft, but this bomber has not received coverage equivalent to its numbers or value to the war effort. Martin Bowman's book is an effort to remedy the situation. He is well qualified to write such a book, having written a history of the Second Air Division, the USAAF unit that bombed Germany from Britain with B-24s.

Like most recent aircraft books, *The B-24 Liberator* relies extensively on oral accounts of crew members. It is lavishly illustrated with clear photographs, more than six pages of which are in color, and is printed in a large format. Bowman's book holds its own on these three points and is clearly ahead on a fourth: The author provides broad coverage of the "Lib" beyond its well-known bombing role, from its duty in antisubmarine warfare, to dropping agents behind German lines, to its use by the U.S. Navy. This approach strikingly indicates the wide geographical range and job versatility of the four-engine aircraft.

Yet the book can only be rated average. The B-24's story is too complex and vast to be told adequately in 127 pages shared with so many illustrations, and the attempt to show the scope of the plane's employment results in an unbalanced and fragmented account. Bowman does not compare the Lib's service in the various theaters or various roles to indicate its overall value. Finally, he does not tell of the aircraft's faults or the criticisms that were made of it. Lieutenant General Jimmy Doolittle, for example, wanted to exchange all the Eighth Air Force's B-24s for B-17s because he rated the former an inferior combat bomber. That is not to say that the B-24 was not a successful aircraft; it was, but it had its faults and critics like all aircraft. Why can't we, some 35 years alter World War II, tell the unvarnished truth?

Therefore, while this book is probably as good as the others on the aircraft, it is no better. For those who flew the Liberator or for those who have not seen the other books, Bowman's effort is worth seeing. Few others will wish to do more than just browse through it, though, for, in short, it is just another World War II aircraft book.

Dr. Kenneth Werrell
Airpower Research Institute
Maxwell AFB, Alabama

Britain's Economic Performance edited by Richard E. Caves and Lawrence B. Krause. Washington: Brookings Institution, 1980, 388 pages, $7.95 paper, $18.95 cloth.
Britain's Oil by Guy Arnold. North Pomfret, Vermont: Hamish Hamilton, 1979, 368 pages, $25.00.

Both books immediately take the eye with their glossy, red, white and royal blue dust jackets. *Britain's Economic Performance* attempts to answer the perennial question:

Why does British industrial productivity lag behind that of the rest of the industrialized world? Is it the fault of the trade unions or of those famed financial institutions? Is it the infamous British tax system? It also touches on what many hope will be the key to escape: North Sea oil. *Britain's Oil* takes this latter gift from the gods and argues that its exploitation is the biggest event for British industry since the coming of the railways in a previous queen's reign and that its impact on the British economy will be just as significant.

Britain's Economic Performance, essentially six papers originally presented at a May 1979 conference in Ditchley, England, by the Brookings Institution and the National Institute for Economic and Social Research in England, is a follow-up to a previous Brookings study that looked closely at economic, structural, and policy issues.[1] The most interesting paper in the new book is by Richard E. Caves, a Harvard economics professor. Calling his work, unglamorously, "Productivity Differences among Industries," Caves presents a statistical comparison between British and U.S. industry and, while making the point that the core of Britain's problem is poor productivity, gives interesting insights into industrial practices in both countries. He also lays at least some bogies to rest. For example, although the British government is often blamed for too much intervention, there are many faster-growing industrial nations where government intervention is more extensive. Similarly, there are many countries where the individual tax burden for the higher executives is greater—"anyway British productivity was growing slowly long before there were high taxes." (p. 139)

And again "whatever may be said of British labour relations, the proportion of working time lost to strikes is less in Britain than in the United States. . . ." (p. 140) Caves concludes that Britain's disappointing performance is more likely to be due to the institutional nature of British society and a reluctance to change ingrained habits, both social and industrial. As a stranger in the United States, I can agree with the author when he says "the mutual tolerance that makes the daily life in Britain so attractive to many foreigners indeed prompts an acquiescence in things as they are and a willingness to cope with imperfection rather than make a scene. (p. 141) This tolerance plays into the hands of those who resist change because they have something to lose from it." (p. 141) The British, he says, place little value on making money. But, quoting a British observer, Caves concludes that what does persist is a social pecking order that "has less to do with merely making money than in almost any other Western society." (p. 141) There is much detail in this book; most of it is clearly presented for the layman, but there is sufficient meat for the professional economist to enjoy.

If the Brookings product is slightly dry—and certainly unpleasant reading for an Englishman—Guy Arnold's exciting story of the discovery and development of Britain's oil is well worth attention. Many analysts feel that the North Sea is the most profitable oil area in the world. Arnold, a freelance writer, lecturer, and broadcaster, whose previous books have encompassed the jungles of Borneo on the one hand and the politics of Kenya on the other, illuminates more than just Britain's oil bonanza. Examining the multinational companies, the politicians and civil servants in Whitehall, the rural communities in Scotland, and the industry that is creating, in the rigs and platforms, the largest structures in the history of mankind (many are over 600,000 tons in weight), he asks, of everyone, the central question: In whose interest is the oil being manipulated? His story should appeal to an American audience. Through foresight and initiative, by 1978 more than 50 percent of North Sea oil production was controlled by U.S. companies. The conflict of interests between these and the British oil companies and the Westminster governments, and that between governments in power and those in opposition, sheds light on a real-life drama that is being played out in the most capital-intensive and dangerous industry anywhere. Britain, Arnold maintains, was slow to appreciate the opportunities. When she did, she rushed the speed of development to provide revenue to assist her mismanaged economy. By 1980, Britain had become self-sufficient in oil.

Knowing the North Sea as I do, I would hesitate to say that even the mighty effort that Arnold describes so well has tamed it. Nevertheless, the story of the last decade is fascinating and reassuring, despite the author's strictures. His book, at $25.00 a copy, may have limited appeal; however, as the threat of interruption of the oil supply continues to hang like a Damoclean sword over the industrialized nations, those close to government and industry will find it an absorbing read.

Wing Commander Nigel B. Baldwin, RAF
Air Command and Staff College
Maxwell AFB, Alabama

Note

1. Richard E. Caves, *Britain's Economic Prospects* (Washington Brookings Institution, 1968).

Economic Stabilization in Developing Countries edited by William R. Cline and Sidney Weintraub. Washington: Brookings Institution, 1981. 517 pages, $26.95 cloth, $11.95 paper.

In the global inflation of the 1970s, commodity price increases, OPEC-engineered oil price hikes, and, in some instances, domestic socioeconomic programs contributed to economic instability among the world's developing nations. In an effort to stabilize their economies, these nations attempted to correct excessive balance-of-payments deficits and reduce the rate of domestic-inspired inflation, both of which were politically sensitive issues.

These economic problems were addressed in a conference held at the Brookings Institution, Washington, D.C. in October 1979. Sponsored by the State Department's Office of External Research, the conference brought together leading academicians, government ministers, private bankers, and representatives of international agencies. The conference proceedings comprise this volume.

As a result of the varied presentations, William R. Cline and Sidney Weintraub offered several conclusions regarding attempts to handle economic instability in developing nations: inflation proved a more troublesome problem

than balance of payments; greater emphasis was given to internal rather than external causes of economic instability; the chances for achieving success in current stabilization programs was directly related to previous efforts; and early action was essential, as delay only exacerbated the problems.

Private international banking institutions were credited for their assistance in meeting the needs of developing nations caused by OPEC price increases. These same banks, however, were criticized for their lack of caution regarding long-term credits. The International Monetary Fund (IMF) was criticized for its lack of flexibility in response to political constraints in borrowing countries.

Five nations, all working under difficult political constraints, were presented as models of developing nations in dealing with economic instability. Difficulties in Mexico during the 1970s were not caused by external forces but rather by long-term domestic factors such as inequitable income distribution, lack of essential services, and ever-increasing underemployment and unemployment. President Luis Echeverria followed the stringent IMF requirements to stabilize the economy without harshly affecting the country's neediest. Peru was presented as another model of domestic-inspired instability. In 1977, Peru was on the verge of bankruptcy caused by nine years of government fiscal mismanagement and vast expenditures not matched by income. Application of IMF's requirements brought recovery to Peru but at an income loss, particularly among the nation's neediest.

The economy of Tanzania was disrupted by a severe drought, causing a loss of agricultural export income. As a socialist-democratic country, Tanzania refused to accept the harsh impositions of the IMF and therefore sought and gained assistance from the World Bank and private institutions.

Instability in Pakistan was the result of both external and domestic factors. Drought, higher oil prices, and separation from East Pakistan worsened an already poor situation brought about by government spending for military and social programs. Government-sponsored currency devaluation and income distribution, along with OPEC financial assistance, returned Pakistan to economic stability.

Despite various anti-inflationary efforts that included price controls, monetary restraint, and a liberal import policy, Korea continued to experience high inflation rates during the latter half of the decade.

These five models clearly demonstrate that broad generalizations, regarding both the causes and cures of economic instability, cannot be applied to developing countries.

The volume makes an important contribution to the literature of developing countries. However, it is not recommended for those unfamiliar with the language of economics.

Dr. Thomas M. Leonard
University of North Florida, Jacksonville

The Pictorial History of the Flying Tigers by Larry M. Pistole. Orange, Virginia: Moss Publications, 1981. 288 pages + bibliography and four appendixes. $29.95. (Available from the author, P.O. Box 400, Kennesaw, Georgia 30144.)

Written by a man who probably knows more about the human side of the Flying Tigers' story than anyone else, this fascinating compilation of photographs, after-action reports, personal accounts, and unit historical data falls somewhere between a photo album and pure source documentation.

Originating in the author's acquaintance with most of the surviving members of Chennault's American Volunteer Group (AVG)—his father was a member—this well-produced volume contains the most impressive and surely the most complete photographic coverage of the Flying Tigers ever published or likely to be published. It is short on text and much of the message is in the photo captions, but this is not a serious drawback. Where AVG members and activities are concerned, Larry Pistole has taken pains to ensure accuracy in the captions; the numerous photos tell their own story, supplemented by short personal accounts, reproductions of contemporary press clippings and selected pilots' after-action reports. The connecting passages—describing the AVG's recruitment, organization, training, short but glorious combat career, and disbandment, though lacking the usual scholarly apparatus—are based on research and interviews with survivors. They effectively convey the flavor of the Flying Tigers' experience.

The vintage photographs, many of them snapshots of less than optimum quality, are remarkably clear, and the sixteen pages of color photography are impressive. The author deserves credit for having the persistence to publish privately, avoiding the compromises a commercial publisher would have insisted on. For those interested in a single chapter of aviation history, *The Pictorial History of the Flying Tigers* is well worth the price.

J.F.G.

World Power Trends and U.S. Foreign Policy for the 1980s by Ray S. Cline. Boulder, Colorado: Westview Press, 1980. 228 pages. $20.00 cloth. $8.95 paper.

Ray Cline, a former intelligence specialist in the Central Intelligence Agency and State Department and presently director of studies at Georgetown University Center for Strategic and International Studies, has written several earlier works on military subjects, foreign policy, and political strategy. An updated revision of one of these works, *World Power Trends and U.S. Foreign Policy for the 1980s* is an assessment of the global balance of power with reference to geography, population size, economic strength, military capabilities, strategic purpose, and national will.

The author uses a formula describing elements of international power to provide a systematic approach for studying the world balance of power. Cline's unique and original formula, $Pp = (C + E + M) \times (S + W)$, states that the *perceived power* of a nation equals *critical mass* (population and territory), *economic capability*, and *military strength* multiplied by *strategic purpose* and *will* to

pursue national strategy. The formula provides an overall scale to show specific strengths and weaknesses of nations.

By plugging perceived power weights into the formula, Cline develops a consolidated list showing that the United States ranks second to the Soviet Union. He credits this ranking to a lack of national cohesion and a derogation of strategic purpose and will. He describes U.S. foreign policy as a policy of vacillation and passivity in the face of international conflicts and expresses the belief that it is reactive and designed in response to situations created by other nations. Because of such a muddled strategy, the United States has lost its position of dominance in the world balance of power.

To boost the strength of this country, the author recommends a strategic blueprint in the form of an "All-Oceans Alliance" of nations with similar goals. The alliance of 22 nations could produce twice the power of totalitarian (Communist) nations. Cline believes the United States should make the arrangements with nations interested in an alliance. Failure to implement such strategy could result in further gradual decline in U.S. power status, perhaps not in the Western Hemisphere but certainly as a world superpower.

The author's approach to the study of our defense and foreign policy in relation to that of other powers is realistic and worthy of consideration by the professional military officer.

Major C. R. Armstrong, USMC
Air Command and Staff College
Maxwell AFB, Alabama

AWARD

The Air University Review Awards Committee has selected "The Strategic Value of Space-Based Laser Weapons" by Dr. Barry J. Smernoff as the outstanding article in the March-April 1982 issue of the *Review*.

the contributors

Group Captain R. A. Mason, RAF, C.B.E. (M.A., Kings College, London), is Director of Defence Studies for the Royal Air Force at the RAF Staff College, Bracknell, England. He is a member of the Council of the Royal United Services Institute for Defence Studies and a member of the International Institute for Strategic Studies. Group Captain Mason is a regular lecturer on air power and defence policy subjects at universities and military colleges in the United Kingdom, North America, and Europe. He has taught at the USAF Academy and has published numerous articles in journals on both sides of the Atlantic, including the *Review*. He is a graduate of the USAF Air War College and the Royal Air Force Staff College.

Major James P. Moore (B.A., Indiana University; M.A., Ph.D., University of Denver) is Director of Public Affairs, Eastern Space and Missile Center, Patrick AFB, Florida. He has served as Assistant Director of Public Affairs and Course Director in Military Studies at the USAF Academy and as a staff information officer with the Secretary of the Air Force Office of Information. Major Moore is author of *Good Neighbors: Fundamentals of Military Community Relations* and a Distinguished Graduate of Air Command and Staff College.

Major Steven E. Cady (B.A., Texas Lutheran College; M.S., University of Southern California) is Deputy Chief, Regular and Reserve General Officer Division, General Officer Matters, Hq USAF. He has served in the Office of the Joint Chiefs of Staff and as executive officer and electronic warfare officer at Loring AFB, Maine. Major Cady has published articles in the *Review* and other military journals and won Honorable Mention in the first Ira C. Eaker Essay Competition.

John Borawski (B.A., Duke University), a former research assistant at the International Institute for Strategic Studies in London, is a third-year law student at Washington University in Saint Louis. His articles and commentaries have appeared in *Orbis, The Washington Quarterly, Foreign Affairs, Survival, Parameters,* and *The Bulletin of the Atomic Scientists.*

Lieutenant Colonel Timothy E. Kline (USAFA; M.A., Louisiana State University) is Chief, Operations Branch and Fighter Weapons Tactics, Hurlburt Field, Florida. He was previously assigned to the 18th Tactical Fighter Wing (F-4) and a faculty member at the USAF Academy and Air Command and Staff College. Colonel Kline is a Distinguished Graduate of Air Command and Staff College and Third-prize Winner in the first Ira C. Eaker Essay Competition.

Lieutenant Colonel Richard Earl Hansen, USAF (Ret) (B.A., University of Minnesota; M.A., Syracuse University), is a freelance writer on technical subjects and politico-military affairs. He flew in combat in three wars during a 35-year career, piloting fighters, bombers, and airlift aircraft. Colonel Hansen's articles have appeared in numerous professional journals including the *Review*, where he served as Associate Editor before his retirement.

Lieutenant Colonel Johnnie H. Hall (USAFA; M.A., Troy State University) is Chief, National Security Forum at the Air War College. His previous assignments include plans and tactical officer at McClellan AFB, California, and operations officer at Osan AB, Korea. Colonel Hall is a graduate of Squadron Officer School, Air Command and Staff College, and Air War College.

Major Jonathan G. Mark, USAFR (B.A., University of Texas; M.A., University of Pennsylvania; Ph.D., University of Oklahoma), a political science instructor at Tulsa Junior College, Oklahoma, is currently assigned to an Air Force Reserve Mobilization Augmentee position within the Air Force Intelligence Service Reserve program and operations and training officer for Detached Training Site 12 of AFIS/RE at Tinker AFB, Oklahoma.

Lieutenant Colonel Henry A. Staley (B.S., Miami University; M.P.S., Auburn University) is Chief, Staff Communications and Research Division, Air Command and Staff College. His previous assignments include Squadron Commander for the 432d Supply Squadron, Udorn RTAFB, Thailand. Colonel Staley is author of *Tongue and Quill* and a previous contributor to the *Review*.

Major William A. Buckingham, Jr. (USAFA; M.A., Ph.D., Ohio State University), is Associate Professor of Political Science at the USAF Academy. He was previously a historian in the Office of Air Force History. Major Buckingham is author of *Operation Ranch Hand: The Air Force and Herbicides in Southeast Asia, 1961-1971*.

Dr. Curtis W. Tarr (Ph.D., Stanford University) is Vice-President of Management and Development for Deere & Company, Moline, Illinois. He spent five years in the federal government as Assistant Secretary of the Air Force, Manpower and Reserve Affairs; Director, Selective Service System; Under Secretary of State for Security Assistance, and Acting Deputy Under Secretary of State for Management. Before going to Washington, he was President of Lawrence University, Appleton, Wisconsin. Dr. Tarr is author of *By the Numbers: The Reform of the Selective Service System, 1970-1972* and numerous articles in professional journals, including the *Review*.

Lieutenant Colonel Dennis M. Drew (B.A., Willamette University; M.S., University of Wyoming) is Chief, Warfare Studies Division, Air Command and Staff College. He has served as missile combat crew commander and wing missile staff officer and at Hq SAC with duties on the CINCSAC Battle Staff. Colonel Drew is a graduate of Squadron Officer School and Air War College and a Distinguished Graduate of Air Command and Staff College. He is a previous contributor to the *Review* and was the Second-prize Winner in the first Ira C. Eaker Essay Competition.

Gerald W. Berkley (B.A., Oklahoma City University; M.A., University of Hawaii; Ph.D., University of Hong Kong) is Assistant Professor of History, Auburn University at Montgomery, Alabama. He has taught and lectured at the University of Maryland, Arkansas State University, Chinese University of Hong Kong, University of Hawaii, American Institute for Foreign Study, and Oklahoma City University. He has published numerous articles and book reviews.

attention

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